DAT-PL-162/04-01

TESTING
No. L0570

TEST REPORT

REPORT NUMBER: I11GC5907-FCC-SAR

ON

Type of Equipment: WCDMA/GSM（GPRS） Dual-Mode Digital Mobile Phone
Type of Designation: F953
Manufacturer: ZTE CORPORATION

ACCORDING TO

FCC Part 2.1093: Radiofrequency radiation exposure evaluation: portable devices, Oct-1-2009
FCC OET Bulletin 65 Supplement C (Edition 01-01): Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions

China Telecommunication Technology Labs.

Month date, year
June 2, 2011

Signature

He Guili
Director

FCC ID:	Q78-F953
Report Date:	2011-06-02
Test Firm Name:	China Telecommunication Technology Labs
Registration Number:	840587

Statement

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Part 2.1093. The sample tested was found to comply with the requirements defined in the applied rules.

Table of Contents

1. General Information

1.1 Notes

All reported tests were carried out on a sample equipment to demonstrate limited compliance with the requirements of FCC CFR 47 Part 2.1093.

The test results of this test report relate exclusively to the item(s) tested as specified in section 2.

The following deviations from, additions to, or exclusions from the test specifications have been made. See Annex G.

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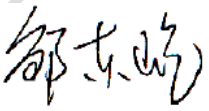
Signature: 

1.3 Testing Laboratory information

1.3.1 Location

Name:	China Telecommunication Technology Labs.
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1.3.2 Details of accreditation status

Accredited by:	DATech Deutsche Akkreditierungsstelle Technik in der TGA GmbH（German Accreditation Body for Technology in the TGA）
Lab number:	DA7130
DAR Registration number:	DAT-PL-162/04-01
Accredited by:	CNAS (China National Accreditation Service for Conformity Assessment)
Registration number:	CNAS L0570
Standard:	ISO/IEC 17025:2005

1.3.3 Test location, where different from section 1.3.1

Name:	------
Address:	------

1.4 Details of applicant or manufacturer

1.4.1 Applicant

Name:	ZTE CORPORATION
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1.4.2 Manufacturer (if different from applicant in section 1.4.1)

Name:	--
Address:	--

1.4.3 Manufactory (if different from applicant in section 1.4.1)

Name:	--
Address:	--

2 Test Item

2.1 General Information

Manufacturer: ZTE CORPORATION
Name: WCDMA/GSM（GPRS） Dual-Mode Digital Mobile Phone
Model Number: F953
IMEI Number: --
Serial Number: 867726000000010
Production Status: Product
Receipt date of test item: 2011-05-03

2.2 Outline of EUT

EUT is a WCDMA/GSM dual mode mobile phone supporting GSM/GPRS/EGPRS 850/900/1800/1900 bands and WCDMA/HSDPA 850/2100 bands(FDD I/V). For GPRS and EGPRS, the multi-class is 12 with maximum 4 up timeslots.
Upon the applicant's request, only GSM/GPRS/EGPRS 850/1900 bands and WCDMA/HSDPA FDD V band are tested.

2.3 Modifications Incorporated in EUT

The EUT has not been modified from what is described by the brand name and unique type identification stated above.

2.4 Equipment Configuration

Equipment configuration list:

Item	Generic Description	Manufacturer	Type	Serial No.	Remarks
A	USB dongle	ZTE CORPORATION	F953	867726000000010	None
B	adapter	RUIDE	STC-A22050 1700USBA-Z	--	None
C	battery	ZTE CORPORATION	LITHIUM-ION	--	None
D	Earphone	ZTE CORPORATION	--	--	None

Cables:

Item	Cable Type	Manufacturer	Length	Shield	Quantity	Remarks
1	DC cable on Adapter	--	--	--	--	None

2.5 Other Information

Version of hardware and software:

HW Version: wx4B

SW Version: VIV_BR_F953_V0.0.0B02

2.6 EUT Photographs

See internal and external photo of Annex A and B.

2.7 References

IEEE Std 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

OET Bulletin No. 65, Supplement C (2001): Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields

FCC KDB Publication 447498 D02 SAR Measurement Procedures for USB Dongle Transmitters

FCC KDB Publication 941225 D01 SAR Measurement Procedures for 3G Devices

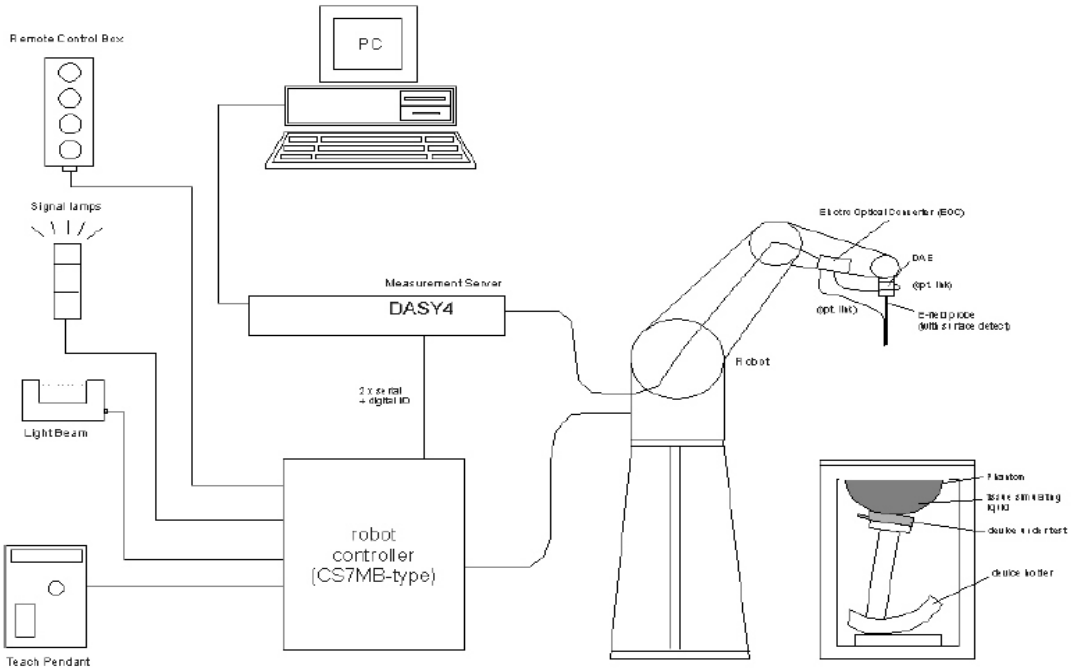
FCC KDB Publication 941225 D03 Recommended SAR Test Reduction Procedures for GSM/GPRS/EDGE

3 Measurement Systems

3.1 SAR Measurement Systems Setup

All measurements were performed using the automated near-field scanning system, DASY5, from Schmid & Partner Engineering AG (SPEAG). The system is based on a high precision industrial robot 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 containing the power supply, robot controller, teach pendant (Joystick) and remote control, is used to drive the robot motors. The PC consists of the Micron Pentium III 800 MHz computer with Windows 2000 system and SAR Measurement Software DASY5, 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) performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc., which is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical signal to digital electric signal of the DAE and transfers data to the PC plug-in card.



Demonstration of measurement system setup

The DAE4 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.

3.2 E-field Probe

3.2.1 E-field Probe Description

The SAR measurements were conducted with the dosimetric probe ES3DV3 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation. The probe has been calibrated according to the standard procedure with an accuracy of better than ±10%. The spherical isotropy was evaluated and found to be better than ± 0.25dB.

Items	Specification
Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection System Built-in shielding against static charges PEEK enclosure material(resistant to organic solvents, e.g., glycol)
Calibration	In air from 10 MHz to 2.5 GHz In brain and muscle simulating tissue at frequencies of 450MHz, 900MHz and 1.8GHz (accuracy±8%) Calibration for other liquids and frequencies upon request
Frequency	l 0 MHz to > 6 GHz; Linearity: ±0.2 dB (30 MHz to 3 GHz)
Directivity	±0.2 dB in brain tissue (rotation around probe axis) ±0.4 dB in brain tissue (rotation normal probe axis)
Dynamic Range	5u W/g to > 100mW/g; Linearity: ±0.2dB
Surface Detection	±0.2 mm repeatability in air and clear liquids over diffuse reflecting surface
Dimensions	Overall length: 330mm Tip length: 16mm Body diameter: 12mm Tip diameter: 6.8mm Distance from probe tip to dipole centers: 2.7mm
Application	General dosimetry up to 3GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms

3.2.2 E-field Probe Calibration

The Annex C is the copy of the calibration certificate of the used probes.
Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than ± 10%. The spherical isotropy was evaluated and found to be better than ± 0.25dB. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested.
The free space E-field from amplified probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies bellow 1 GHz, and in a wave guide above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees.
E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The free-space E-field measured in the medium correlates to temperature increase in a dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

$$SAR = C\frac{\Delta T}{\Delta t}$$

Where: Δt = Exposure time (30 seconds),
C = Heat capacity of tissue (brain or muscle),
ΔT = Temperature increase due to RF exposure.
Or

$$SAR = \frac{|E|^2 \sigma}{\rho}$$

Where:
σ = Simulated tissue conductivity,
ρ = Tissue density (kg/m^3).

3.3 Phantom

The Generic Twin Phantom is constructed of a fiberglass shell integrated in a wooden table. The shape of the shell is based on data from an anatomical study designed to determine the maximum exposure in at least 90% of all users. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents the evaporation of the liquid. Reference markings on the Phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot.
Specifications:
Shell Thickness: 2±0.1mm
Filling Volume: Approx. 20 liters
Dimensions: 810 x l000 x 500 mm (H x L x W)
Liquid depth when testing: at least 150 mm

3.4 Device Holder

In combination with the Generic Twin Phantom V3.0, the Mounting Device (POM) enables the rotation of the mounted transmitter in spherical coordinates whereby the rotation points is the ear opening. The devices can be easily, accurately, and repeat ably positioned according to the FCC and CENELEC specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom etc).

4 Test Results

4.1 Operational Condition

Specifications FCC OET 65C (01-01)
Date of Tests 2011-5-5~10
Operation Mode TX at the highest output peak power level
Method of measurement: FCC OET 65C (01-01), IEEE Std 1528™-2003

4.2 Test Equipment Used

ITEM	TYPE	S/N	CALIBRATION DATE	DUE DATE
probe	ES3DV3	3158	2010-05-20	2011-05-19
DAE	DAE4	549	2010-05-20	2011-05-20
D835V2	dipole	473	2010-05-21	2011-05-20
D1900V2	dipole	5d024	2010-5-26	2011-5-25
Power Meter	E4417A	GB41050460	2010-05-25	2012-05-20
Radio Communication Analyzer	CMU200	1100000802	2010-06-01	2011-05-31
Signal Generator	SMP04	100064	2010-05-24	2011-05-23
Power Sensor	E9327A	US40440198	2010-07-13	2011-07-12
Power Sensor	E9327A	US40440326	2010-07-26	2011-07-25
Power Amplifier	150W1000	150W1000	NA	NA
Attenuator	20dB	836471/003	NA	NA
Attenuator	20dB	836471/004	NA	NA
Attenuator	2	BL1250	NA	NA
Attenuator	2	BK774	NA	NA
Dual directional coupler	4242-20	04200	NA	NA
Probe kit	85070E	3G-S-00139	NA	NA
Network Analyzer	8753ES	MY40002093	2010-05-26	2011-05-25

4.3 Applicable Limit Regulations

Item	Limit Level
Local Specific Absorption Rate (SAR) (1g)	1.6W/kg

4.4 Test Results

The EUT complies.

Note:

All measurements are traceable to national standards.

4.5 Test Setup and Procedures

4.5.1 Test Setup

Please see annex C for setup photos.

Note: for the body SAR measurement, the distance between the EUT and the flat phantom is 15 mm.

4.5.2 Test Procedures for Head SAR

The evaluation was performed according to the following procedure:

Step 1: The SAR value at a fixed location above the ear point was measured and was used as a reference value for assessing the power drift.

Step 2: The SAR distribution at the exposed side of the head was measured at a distance of 4 mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 15 mm x 15 mm. Based on these data, the area of the maximum absorption was determined by interpolation.

Step 3: Around this point, a volume of 30 mm x 30 mm x 30 mm was assessed by measuring 7 x 7 x 7 points. On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

a. The data at the surface were extrapolated, since the center of the dipoles is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2 mm. The extrapolation was based on the least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.

b. The maximum interpolated value was searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) were computed using the 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot"-condition (in x ~ y and z-directions). The volume was integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.

c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

Step 4: Re-measurement the SAR value at the same location as in Step 1. If the value changed by more than 5%, the evaluation should be repeated.

4.5.3 General body mode measurement procedures

Generally, for body mode, the evaluation was performed according to the following procedure:

Step 1: The SAR value at a fixed location above the center point flat phantom was measured and was used as a reference value for assessing the power drift.
Step 2: The SAR distribution at the exposed side of the body was measured at a distance of 4 mm from the inner surface of the shell. The area covered the entire dimension of the EUT and the horizontal grid spacing was 15 mm x 15 mm. Based on these data, the area of the maximum absorption was determined by interpolation.
Step 3: Around this point, a volume of 30 mm x 30 mm x 30 mm was assessed by measuring 7 x 7 x 7 points. On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:
a. The data at the surface were extrapolated, since the center of the dipoles is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2 mm. The extrapolation was based on the least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.
b. The maximum interpolated value was searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) were computed using the 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot"-condition (in x ~ y and z-directions). The volume was integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.
c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
Step 4: Re-measurement the SAR value at the same location as in Step 1. If the value changed by more than 5%, the evaluation should be repeated.

4.5.4 General principle for body mode evaluation

(1) For GSM/GPRS/EGPRS mode test, first the peak average conducted power values are measured. Then, for every frequency band, the SAR values of GSM mode are measured. Finally, the GPRS and EGPRS, the configurations with the maximum peak average power on all kinds of possible time slots combinations respectively shall be measured for SAR values.
If there is no GSM mode (voice mode), then the SAR for GPRS mode with the maximum peak average conducted power values is measured first, and then for EGPRS the worst-case configuration of GPRS is used for the maximum peak average conducted power.
(2) For WCDMA/HSDPA/HSUPA mode test, WCDMA with 12.2 kbps RMC mode are measured. Then, the power values for all typical configurations are measured. If for one HSDPA or HSUPA mode, the power value is bigger than that of related WCDMA mode plus 0.25dB, then the SAR values for the mode shall be measured. See FCC KDB Publication 941225 D01 and conducted power measurement results.

4.5.5 Duty Factor and Crest Factor

For multi-slot configuration of GPRS and EGPRS, it is 1 uplink time slot for class 8, up

to 2 uplink time slots for class 10 and up to 4 uplink time slots for class 12. The uplink time slots and corresponding crest factor are detailed as following:

Uplink time slots number	Crest factor
1	8.3
2	4.14
3	2.77
4	2.1

For HSDPA/HSUPA, the crest factor is 1.

4.6 Test Environment and Liquid Information

4.6.1 Test Environment

Date:	Liquid Temperature (℃)	Ambient Temperature (℃)	Ambient Humidity (%)
	20~~24	20~~25	30~~70
2011-05-05	21.8	21.6	37.6
2011-05-06	21.7	21.6	33.6
2011-05-07	21.5	21.3	34.1
2011-05-09	22.3	22.0	43.7
2011-05-10	21.8	21.7	44.0

4.6.2 Liquid Recipes

INGREDIENTS	TISSUE TYPE			
	HSL900	MSL900	HSL1800	MSL1800
Water	40.29	50.75	55.24	70.17
DGBE	0	0	44.45	29.44
Sugar	57.90	48.21	0	0
Salt	1.38	0.94	0.31	0.39
Cellulose	0.24	0.00	0	0
Preventol	0.18	0.10	0	0

4.6.3 Liquid Parameters

Tissue Type	Type	Dielectric Parameters		Date
		permittivity	conductivity	
HSL900 at 835 MHz (for GSM850)	Target	41.5	0.97	2011-5-5
	±5% window	39.43~43.58	0.92~1.02	
	Measured	42.03	0.964	
HSL1800 at 1900 MHz (for PCS 1900)	Target	40.0	1.40	2011-5-7
	±5% window	38.00~42.00	1.33~1.47	
	Measured	38.51	1.439	
HSL900 at 835 MHz (for WCDMA FDD V)	Target	41.5	0.97	2011-5-6
	±5% window	39.43~43.58	0.92~1.02	
	Measured	42.03	0.964	
MSL900 At 835MHz (for GSM850)	Target	55.2	0.97	2011-05-09
	±5% window	52.44~57.96	0.922~1.019	
	Measured	54.06	0.943	
MSL900 At 835MHz (for WCDMA FDD V)	Target	55.2	0.97	2011-05-10
	±5% window	52.44~57.96	0.922~1.019	
	Measured	53.76	0.947	
MSL1800 At 1900MHz (for PCS1900)	Target	53.3	1.52	2011-05-10
	±5% window	50.64~55.97	1.444~1.596	
	Measured	51.36	1.593	

4.7 System Validation Check

Validation Method:

The setup of system validation check or performance check is demonstrated as figure 5. The amplifier, low pass filter and attenuators are optional. The dipole shall be positioned and centered below the phantom, paralleling to the longest side of the phantom. A low loss and low dielectric constant spacer on the dipole may be used to guarantee the correct distance between the dipole top surface and the phantom bottom surface.

The separation d, which is defined as the distance from the liquid bottom surface to the dipole's central axis at location of the feed-point, should be as following: for 835 MHz dipole, d = 15 mm, and for 1900 MHz dipole, d = 10 mm, and this can be obtained using two different size spacer. The dipole arms shall be parallel to the flat phantom surface.

First the power meter PM1 is connected to the cable and it measures the forward power at the location of the dipole connector (X). The signal generator is adjusted for the desired forward power at the dipole connector (taking into account the (Att1) value) and the power meter PM2 is read at that level. Then after connecting the cable to the dipole, the signal generator is readjusted for the same reading at the power meter PM2.

The system validation check procedures are the same as all measurement procedures used for compliance tests. A complete 1 g averaged SAR measurement is performed using the flat part of the phantom. The reference dipole input power is adjusted to produce a 1 g averaged SAR value falling in the range of 0.4 – 10 mW/g. The 1 g averaged SAR is measured at 835 MHz and 1900 MHz using corresponding dipole respectively. Then the results are normalized to 1 W forward input power and compared with the reference SAR values.

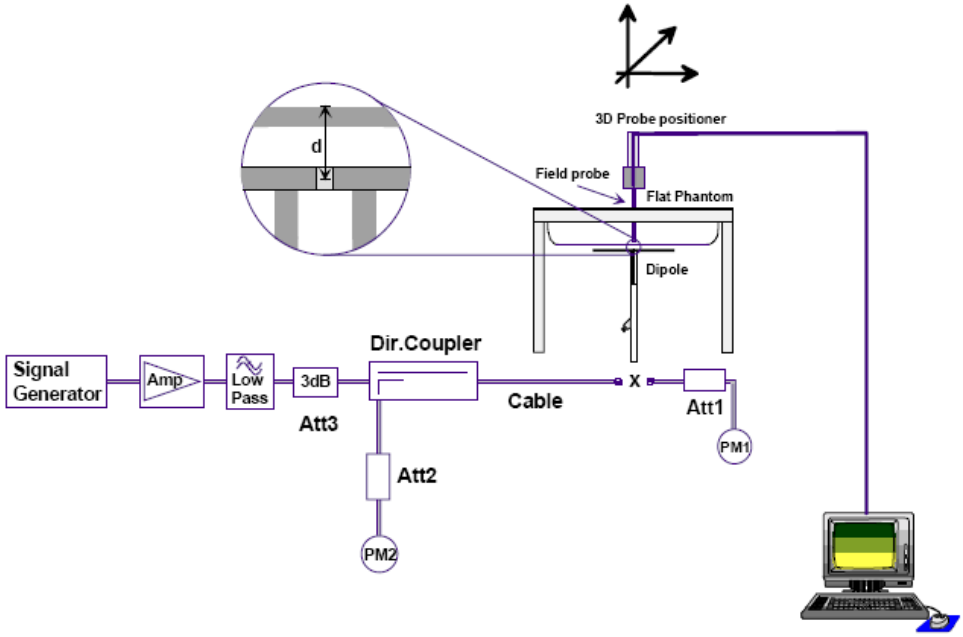


Figure 5 Illustration of system validation test setup

Validation Results

Date:	Frequency (MHz)	Tissue Type	Input Power(mw)	Targeted (SAR1g) (mW/g)	Measured (SAR1g) (mW/g)	Deviation (%)
2011-5-5	835	Head	250	9.62	9.96	3.5
2011-5-7	1900	Head	250	39.7	40.4	1.8
2011-5-6	835	Head	250	9.62	10.16	5.6
2011-05-09	835	Body	250	9.88	9.08	-8.1%
2011-05-10	835	Body	250	9.88	9.36	-5.3%
2011-05-10	1900	Body	250	41.3	39.16	-5.2%

4.8 Maximum Output Power Measurement

According to FCC OET 65c, maximum output power shall be measured before and after each SAR test. The test setup and method are described as following.

Test setup

The output power measurement test setup is demonstrated as figure 6.

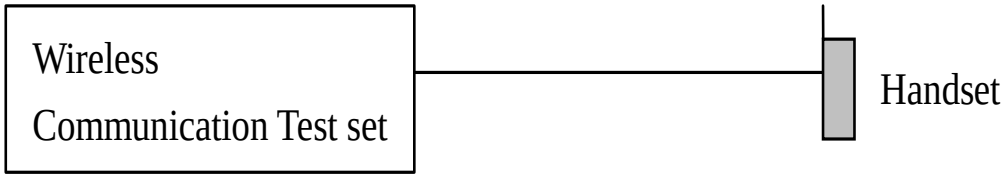


Figure 6 Demonstration of power measurement

Note: For GSM850/EGSM900, the PCL=5, and for DCS1800/PCS1900, PCL=0. For GPRS, the coding scheme used is CS4, and for EGPRS, it is MCS1, i.e. GMSK modulation is used for EGPRS.

GSM modes:

Note: For GSM, complete set of tests are performed. For GPRS and EGPRS, only the modes with the maximum time average power values need to be tested respectively, the test mode is the worst case of GSM modes.

If there is no GSM (voice mode), then for GPRS/EGPRS, only the modes with the maximum time average power values are needed to be tested, which for GPRS, the complete tests are performed using the maximum power configurations, and for EGPRS, its maximum power configurations with position from the worst-case of GPRS are tested.

System and Channel	Power Values (dBm)	Average factor (dB)	Time Average (dBm)	Test mode selection
GSM850 Ch190 (1TS)	32.70	-9.03	23.67	For GPRS, only 3 timeslots mode is tested, and for EGPRS only 3 timeslots mode is tested, with the worst case from GPRS mode.
GPRS850 Ch190				
1TS	32.60	-9.03	23.57	
2TS	31.70	-6.02	25.68	
3TS	**30.10**	**-4.26**	**25.84**	
4TS	28.60	-3.01	25.59	
EGPRS850 Ch190				
1TS	32.70	-9.03	23.67	
2TS	31.70	-6.02	25.68	
3TS	**30.10**	**-4.26**	**25.84**	
4TS	28.60	-3.01	25.59	
PCS1900 Ch661	30.20	-9.03	21.17	For GPRS, only 3

System and Channel	Power Values (dBm)	Average factor (dB)	Time Average (dBm)	Test mode selection
(1TS)				timeslots mode is tested, and for EGPRS only 3 timeslots mode is tested, with the worst case from GPRS mode.
GPRS1900 Ch661				
1TS	30.20	-9.03	21.17	
2TS	29.20	-6.02	23.18	
3TS	**27.60**	**-4.26**	**23.34**	
4TS	26.10	-3.01	23.09	
EGPRS1900 Ch661				
1TS	30.20	-9.03	21.17	
2TS	29.20	-6.02	23.18	
3TS	**27.70**	**-4.26**	**23.44**	
4TS	26.20	-3.01	23.19	

WCDMA modes:

Note: For WCDMA 12.2 kbps RMC mode, complete tests are performed. For 12.2 kbps AMR + 3.4 kbps SRB mode and all HSDPA and HSUPA modes, only if the peak power values are bigger than the RMC mode values plus 0.25 dB, then the modes shall be tested using the worst case of RMC mode. The power measurement method refers to 3GPP TS34.121. The test parameters configurations are as following table:

Release 5 HSDPA:

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs}	CM (dB)
1	2/15	15/15	64	2/15	4/15	0.0
2	12/15	15/15	64	12/15	24/15	1.0
3	15/15	8/15	64	15/8	30/15	1.5
4	15/15	4/15	64	15/4	30/15	1.5

Release 6 HSUPA:

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs}	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (codes)	CM (dB)	MPR (dB)	AG Index	E-TFCI
1	11/15	15/15	64	11/15	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1}:47/15 β_{ed2}:47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	15/15	64	15/15	30/15	24/15	134/15	4	1	1.0	0.0	21	81

WCDMA FDD V					
WCDMA mode	12.2kbps RMC mode	12.2 kbps AMR + 3.4 kbps SRB mode			
Ch4132	23.33	23.25			
Ch4175	23.29	23.24			
Ch4233	23.43	23.37			
HSDPA mode	**Subtest1**	Subtest 2	Subtest 3	Subtest 4	
Ch4132	23.32	22.35	21.68	20.59	
Ch4175	23.25	22.05	21.57	20.47	
Ch4233	23.45	22.13	21.72	20.69	
HSUPA mode	Subtest1	Subtest 2	Subtest 3	Subtest 4	**Subtest5**
Ch4132	--	--	--	--	--
Ch4175	--	--	--	--	--
Ch4233	--	--	--	--	--
There is no mode which the power is more than RMC mode, so no test is needed for HSDPA and HSUPA mode.					

4.9 Test Data

GSM850 Head

Test configuration	Test position	SAR_{1g} [W/kg] / Power Drift [dB]		
		Channel 128 [low] 824.20 MHz	Channel 190 [mid] 836.60 MHz	Channel 251 [high] 848.80 MHz
Right side of Head	Cheek	0.919 / 0.147	1.09 / 0.045	0.999 / 0.071
	Tilted	- / -	0.510 / 0.062	- / -
Left side of Head	Cheek	0.787 / 0.268	0.974 / 0.106	0.876 / 0.239
	Tilted	- / -	0.463 / 0.059	- / -

GSM1900 Head

Test configuration	Test position	SAR_{1g} [W/kg] / Power Drift [dB]		
		Channel 512 [low] 1850.2 MHz	Channel 661 [mid] 1880.0 MHz	Channel 810 [high] 1909.8 MHz
Right side of Head	Cheek	0.837 / -0.193	0.679 / -0.193	0.716 / 0.389
	Tilted	- / -	0.167 / -0.028	- / -
Left side of Head	Cheek	- / -	0.514 / 0.154	- / -
	Tilted	- / -	0.167 / 0.056	- / -

WCDMA FDD V Head

Test configuration	Test position	SAR_{1g} [W/kg] / Power Drift [dB]		
		Channel 4132 [low] 826.4 MHz	Channel 4175 [mid] 835.0 MHz	Channel 4233 [high] 846.6 MHz
Right side of Head, 12.2 kbps RMC	Cheek	0.788 / -0.339	0.716 / -0.021	1.02 / 0.226
	Tilted	- / -	0.394 / 0.140	- / -
Left side of Head, 12.2 kbps RMC	Cheek	- / -	0.699 / 0.078	- / -
	Tilted	- / -	0.431 / -0.032	- / -

GSM850 body

Test configuration	SAR_{1g} [W/kg] / Power Drift [dB]		
	Channel 128 [low] 824.2 MHz	Channel 190 [Mid] 836.6 MHz	Channel 251 [high] 848.8 MHz
Face	- / -	0.548 / -0.284	- / -
Back	0.531 / 0.134	0.588 / -0.047	0.497 / 0.093
earphone, Back	- / -	0.431 / 0.068	- / -
BT, Back	- / -	0.595 / -0.129	- / -
GPRS, Back (3TS)	- / -	0.909 / -0.155	- / -
EGPRS, Back (3TS)	- / -	0.931 / -0.187	- / -

PCS1900 Body

Test configuration	SAR_{1g} [W/kg] / Power Drift [dB]		
	Channel 512 [low] 1850.2 MHz	Channel 661 [Mid] 1880.0 MHz	Channel 810 [high] 1909.8 MHz
Face	- / -	0.183 / -0.225	- / -
Back	0.286 / -0.135	0.262 / 0.257	0.283 / -0.174
earphone, Back	0.251 / 0.051	- / -	- / -
BT, Back	0.261 / 0.058	- / -	- / -
GPRS, Back (3TS)	0.419 / -0.077	- / -	- / -
EGPRS, Back (3TS)	0.403 / -0.004	- / -	- / -

WCDMA FDD V Body

Test configuration	SAR_{1g} [W/kg] / Power Drift [dB]		
	Channel 4132 [low] 826.4 MHz	Channel 4175 [Mid] 846.4 MHz	Channel 4233 [high] 846.6 MHz
Face	- / -	0.399 / -0.124	- / -
Back	0.460 / 0.092	0.462 / 0.155	0.533 / 0.089
earphone, Back	- / -	- / -	0.338 / -0.206
BT, Back	- / -	- / -	0.549 / -0.132

4.10 Measurement uncertainty

ERROR SOURCE	Uncertainty value (%)	Probability distribution	Divisor	c_i (1g)	Standard Uncertainty (%)
Measurement equipment					
Probe calibration	5.9	Normal	1	1	5.9
Probe axial isotropy	4.7	Rectangular	$\sqrt{3}$	0.7	1.9
Probe hemispherical isotropy	9.6	Rectangular	$\sqrt{3}$	0.7	3.9
Probe linearity	4.7	Rectangular	$\sqrt{3}$	1	2.7
Detection limits	0.25	Rectangular	$\sqrt{3}$	1	0.6
Boundary effect	0.8	Rectangular	$\sqrt{3}$	1	0.6
Measurement device	0.3	Normal	1	1	0.3
Response time	0.0	Normal	1	1	0
Noise	0.0	Normal	1	1	0
Integration time	1.7	Normal	1	1	2.6
Mechanical constraints					
Scanning system	1.5	Rectangular	$\sqrt{3}$	1	0.2
Positioning of the probe	2.9	Normal	1	1	2.9
Phantom shell	4.0	Rectangular	$\sqrt{3}$	1	2.3
Positioning of the dipole	2.0	Normal	1	1	2.0
Positioning of the phone	2.9	Normal	1	1	2.9
Device holder disturbance	3.6	Normal	1	1	3.6
Physical parameters					
Liquid conductivity (deviation from target)	5.0	Rectangular	$\sqrt{3}$	0.5	1.4
Liquid conductivity (measurement error)	4.3	Rectangular	$\sqrt{3}$	0.5	1.2
Liquid permittivity (deviation from target)	5.0	Rectangular	$\sqrt{3}$	0.5	1.4
Liquid permittivity (measurement error)	4.3	Rectangular	$\sqrt{3}$	0.5	1.2
Drifts in output power of the phone, probe, temperature and humidity	5.0	Rectangular	$\sqrt{3}$	1	2.9
Environment disturbance	3.0	Rectangular	$\sqrt{3}$	1	1.7
Post-processing					
SAR interpolation and extrapolation	0.6	Rectangular	$\sqrt{3}$	1	0.6
Maximum SAR evaluation	1.0	Rectangular	$\sqrt{3}$		0.6
Combined standard uncertainty	$u_c = \sqrt{\sum_{i=1}^{m} c_i^2 \cdot u_i^2} = 11.08\%$				
Expanded uncertainty （confidence interval of 95%）	Normal $u_e = 1.96 u_c = 21.7\%$				

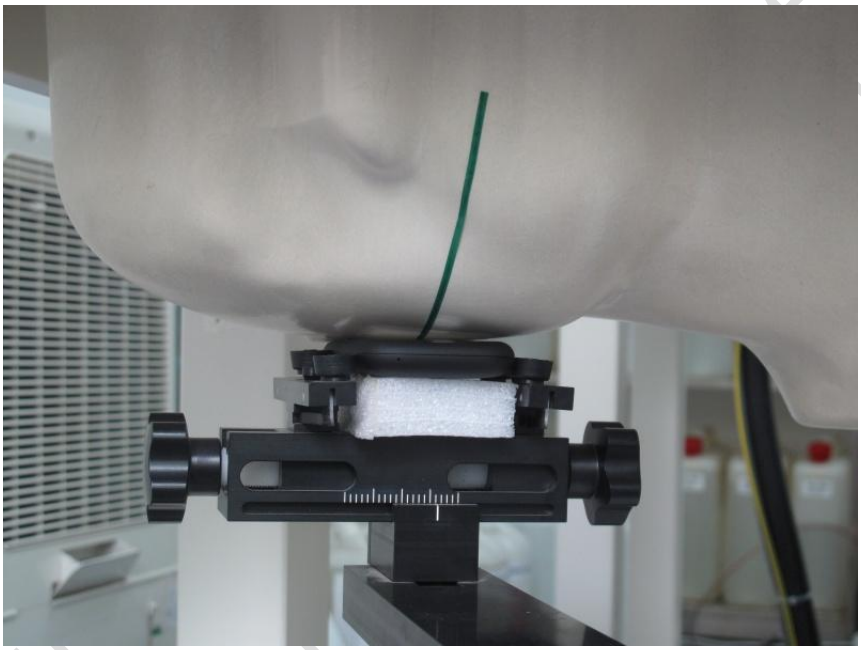
Annex A EUT External Photos

See the attachment Annex A.

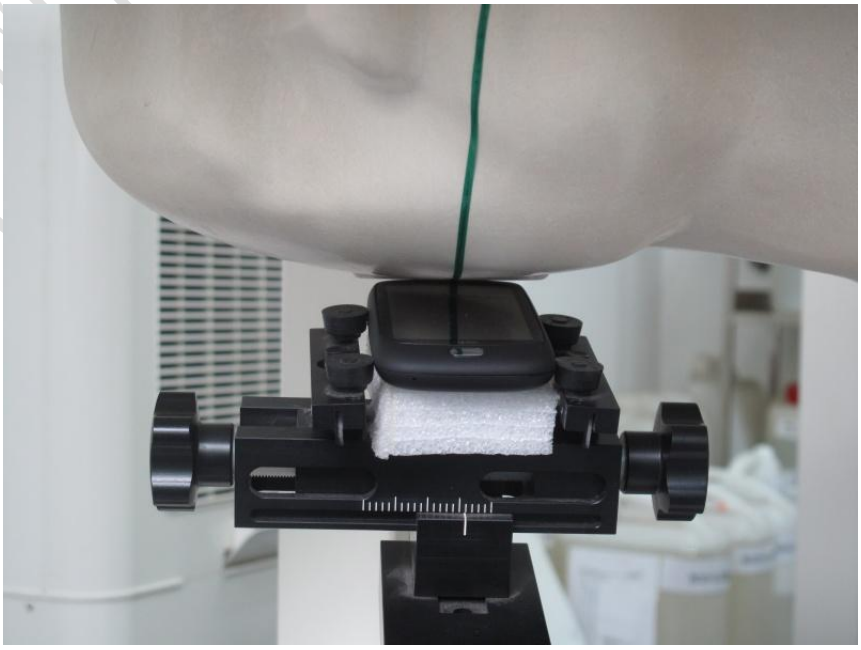
Annex B EUT Internal Photos

See the attachment annex B.

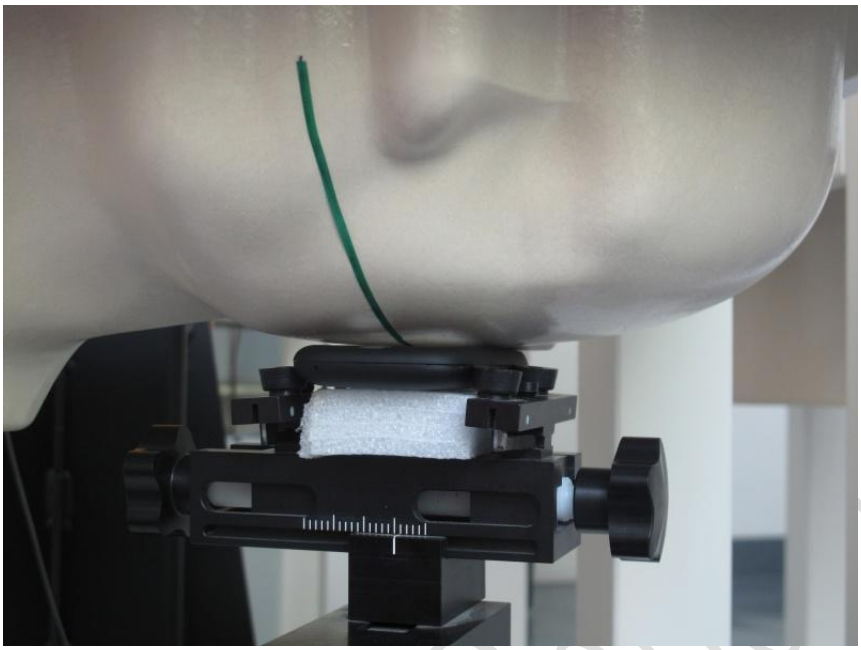
Annex C EUT Test Setup Photos



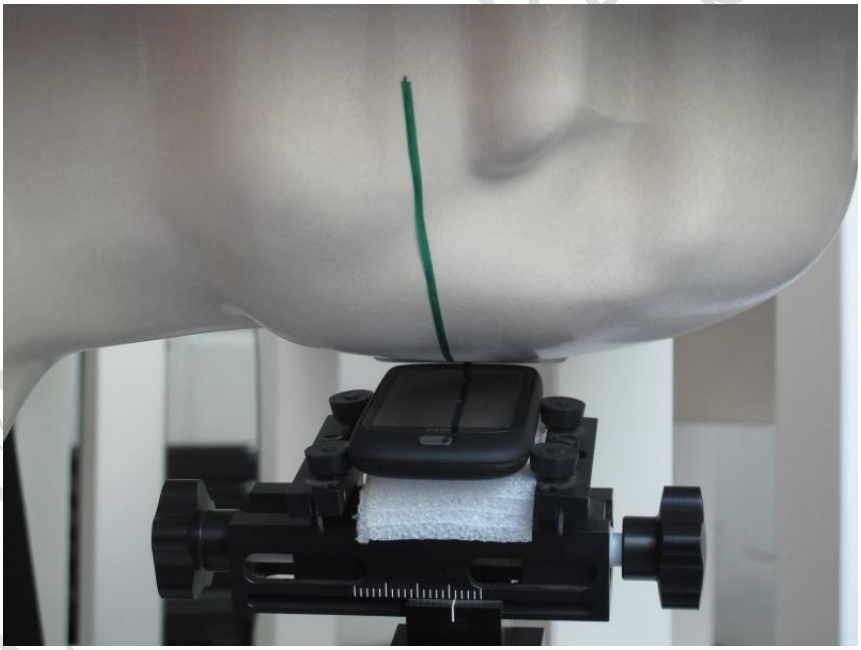
Head SAR Right Cheek



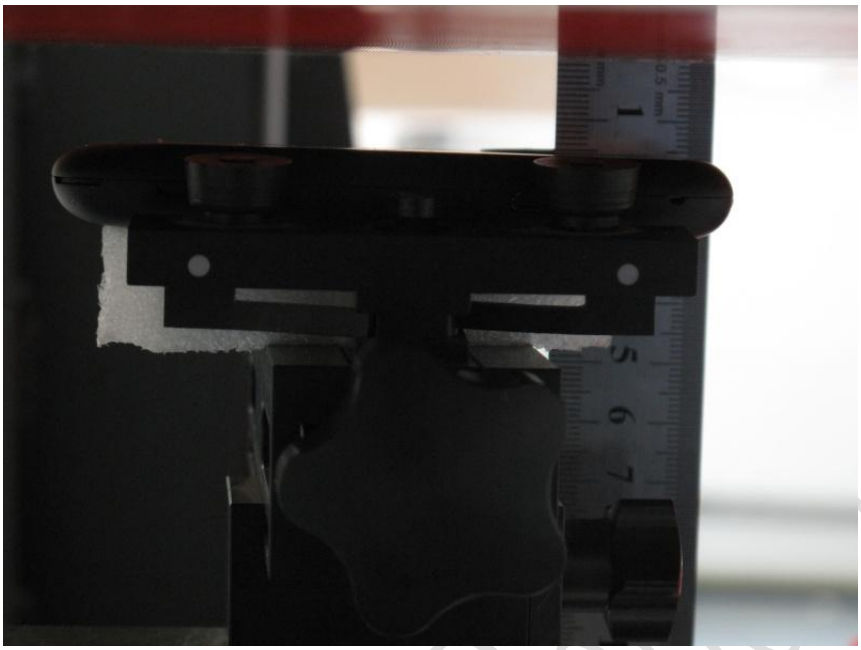
Head SAR Right Tilt



Head SAR Left Cheek

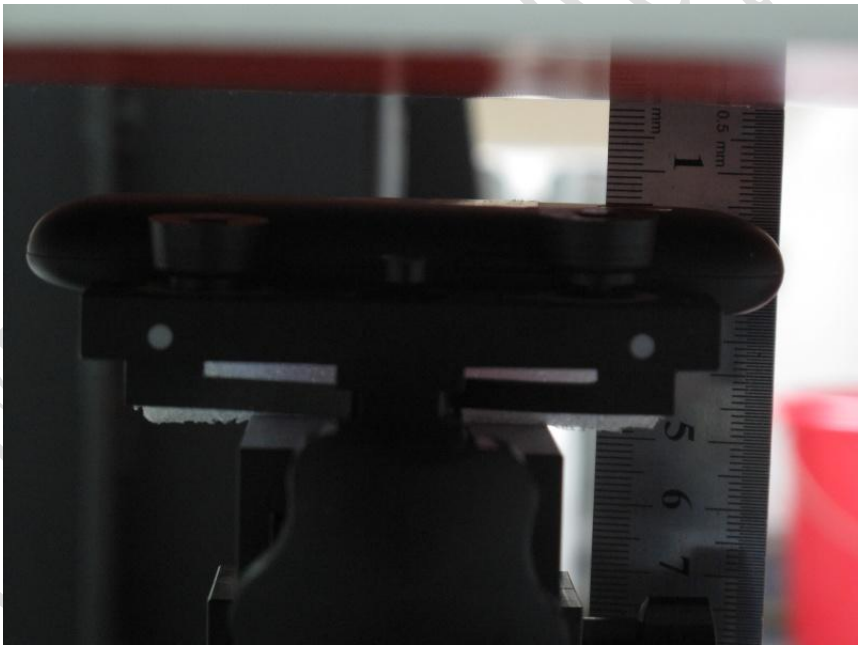


Head SAR Left Tilt



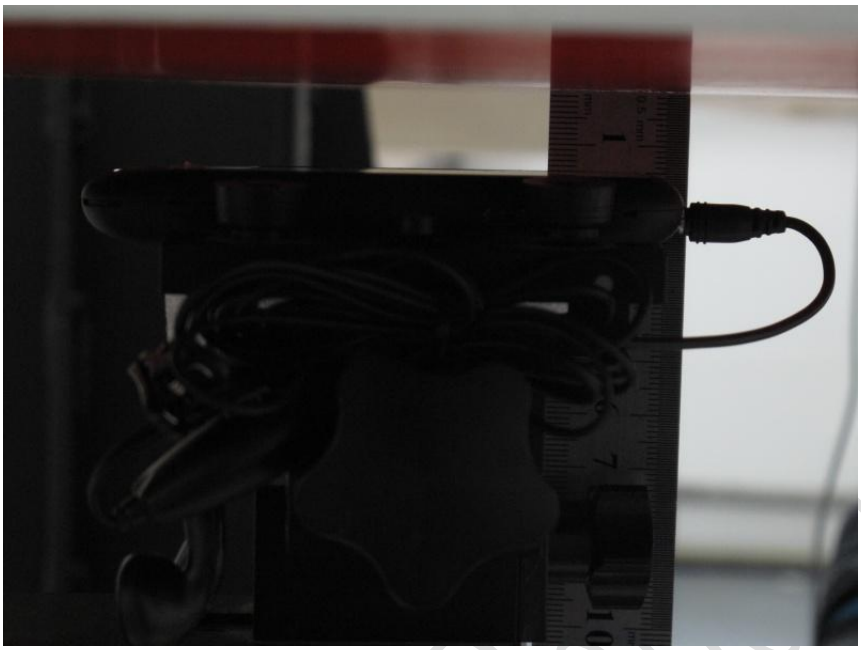
Body SAR Face to phantom

Note: The distance between EUT and flat phantom is 15 mm.

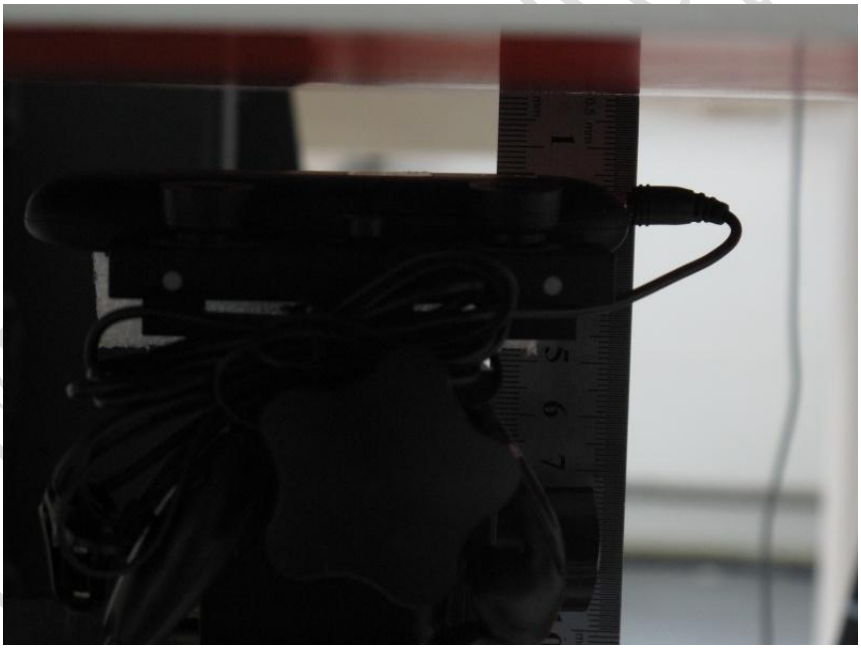


Body SAR Back to phantom

Note: The distance between EUT and flat phantom is 15 mm.



Body SAR Face to phantom, with earphone
Note: The distance between EUT and flat phantom is 15 mm.



Body SAR Back to phantom, with earphone
Note: The distance between EUT and flat phantom is 15 mm.

Annex D Graphical Measurement Results

D.1 Head SAR Plots

FCC_Head_Right_Tilt_GSM850_Middle

DUT: F953; Type: F953; Serial: --

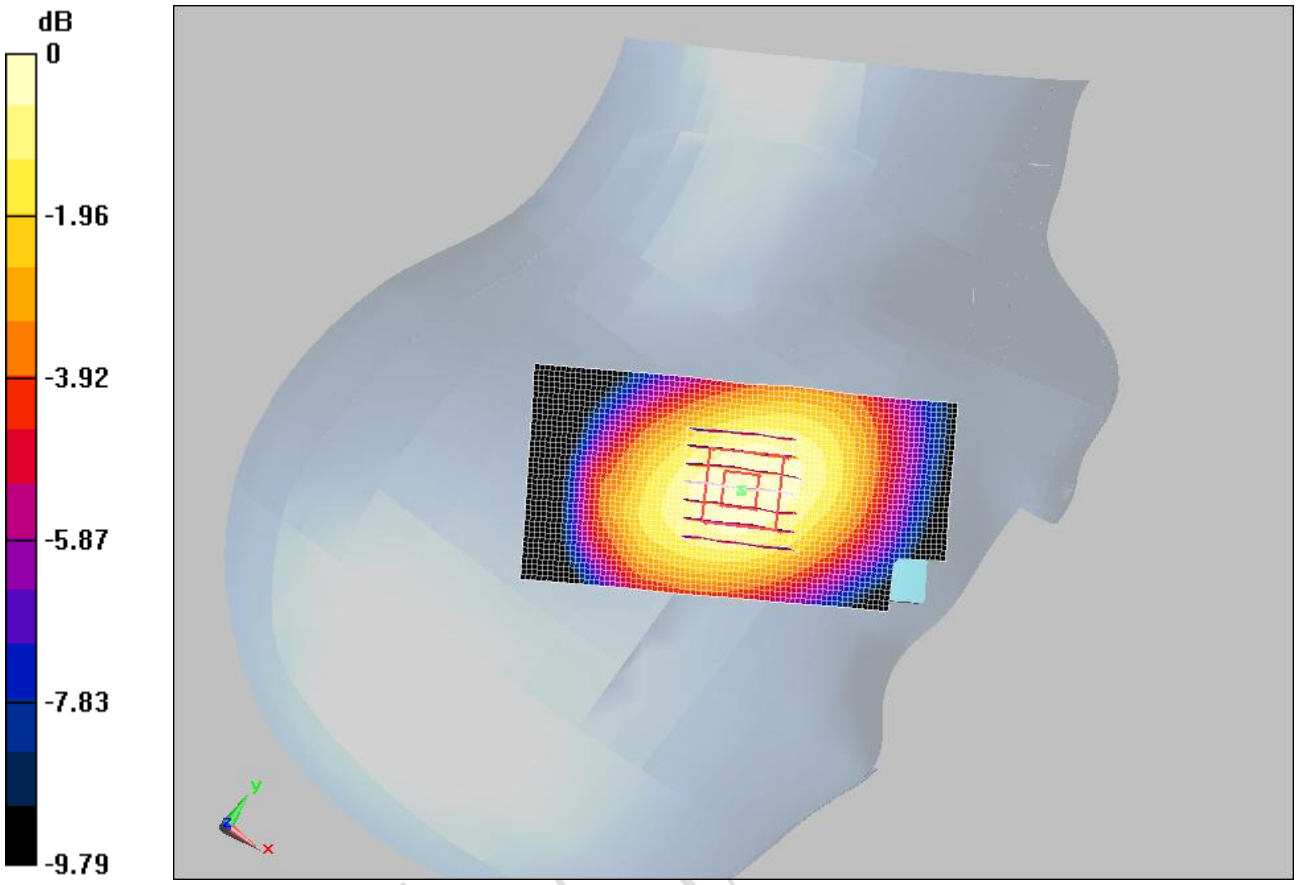
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.964 mho/m; ε_r = 41.8; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.97, 5.97, 5.97); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

F953_Right_Tilt_Mid 2/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.539 mW/g

F953_Right_Tilt_Mid 2/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = 0.062 dB
Peak SAR (extrapolated) = 0.652 W/kg
SAR(1 g) = 0.510 mW/g; SAR(10 g) = 0.378 mW/g
Maximum value of SAR (measured) = 0.537 mW/g



0 dB = 0.537mW/g

FCC_Head_Right_cheek_GSM850_Middle

DUT: F953; Type: F953; Serial: --

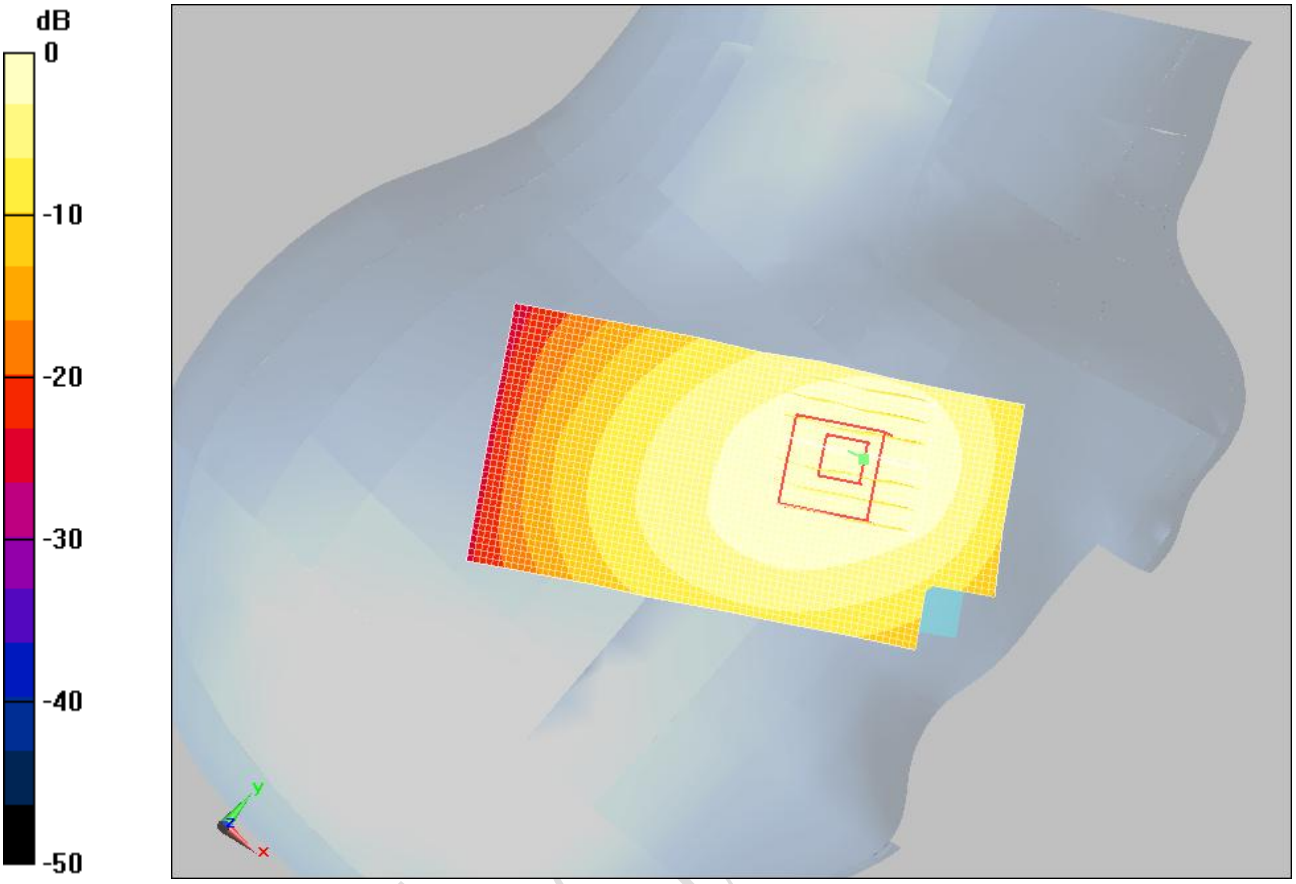
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.964 mho/m; ε_r = 41.8; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.97, 5.97, 5.97); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

F953_Right_Touch_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.96 V/m; Power Drift = 0.044 dB
Peak SAR (extrapolated) = 1.57 W/kg
SAR(1 g) = 1.09 mW/g; SAR(10 g) = 0.766 mW/g
Maximum value of SAR (measured) = 1.16 mW/g

F953_Right_Touch_Mid/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.19 mW/g



0 dB = 1.19mW/g

FCC_Head_Right_Cheek_GSM850_Low

DUT: F953; Type: F953; Serial: --

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.95 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

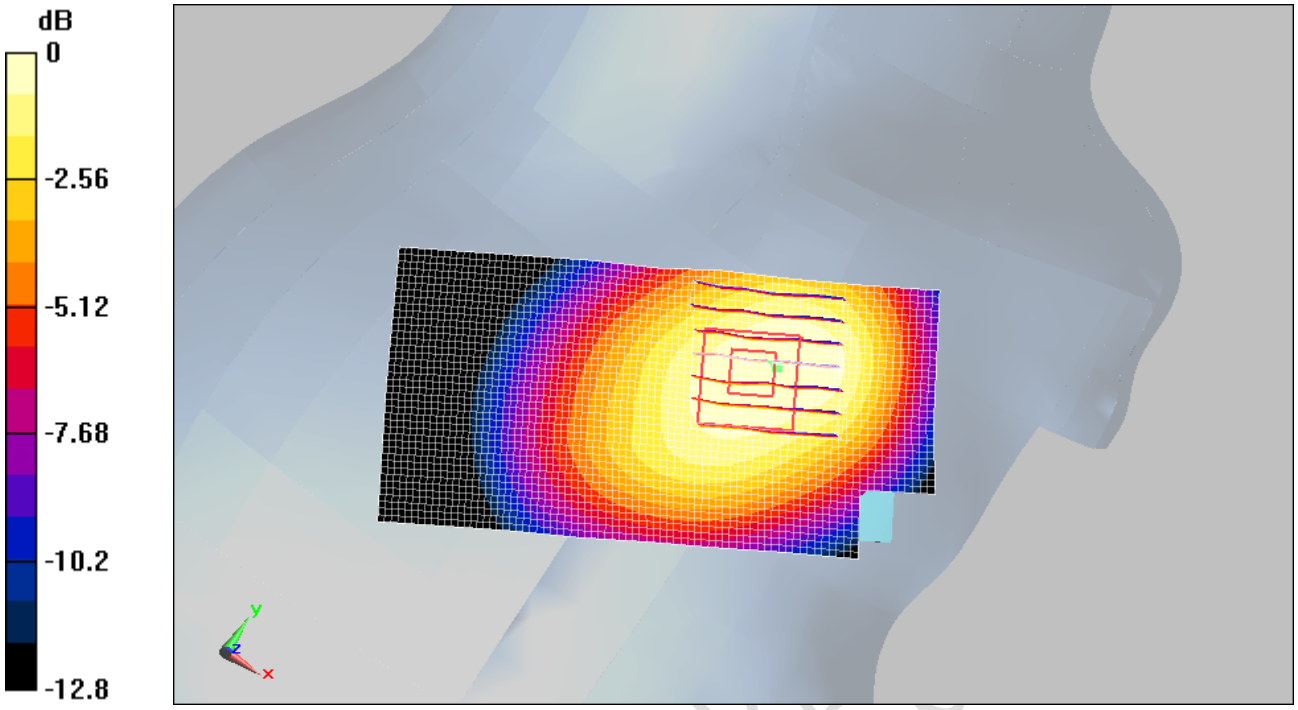
- Probe: ES3DV3 - SN3158; ConvF(5.97, 5.97, 5.97); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

F953_Right_Touch_Low/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 1.02 mW/g

F953_Right_Touch_Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.74 V/m; Power Drift = 0.147 dB
Peak SAR (extrapolated) = 1.28 W/kg
SAR(1 g) = 0.919 mW/g; SAR(10 g) = 0.652 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.974 mW/g



0 dB = 0.974mW/g

FCC_Head_Right_cheek_GSM850_High

DUT: F953; Type: F953; Serial: --

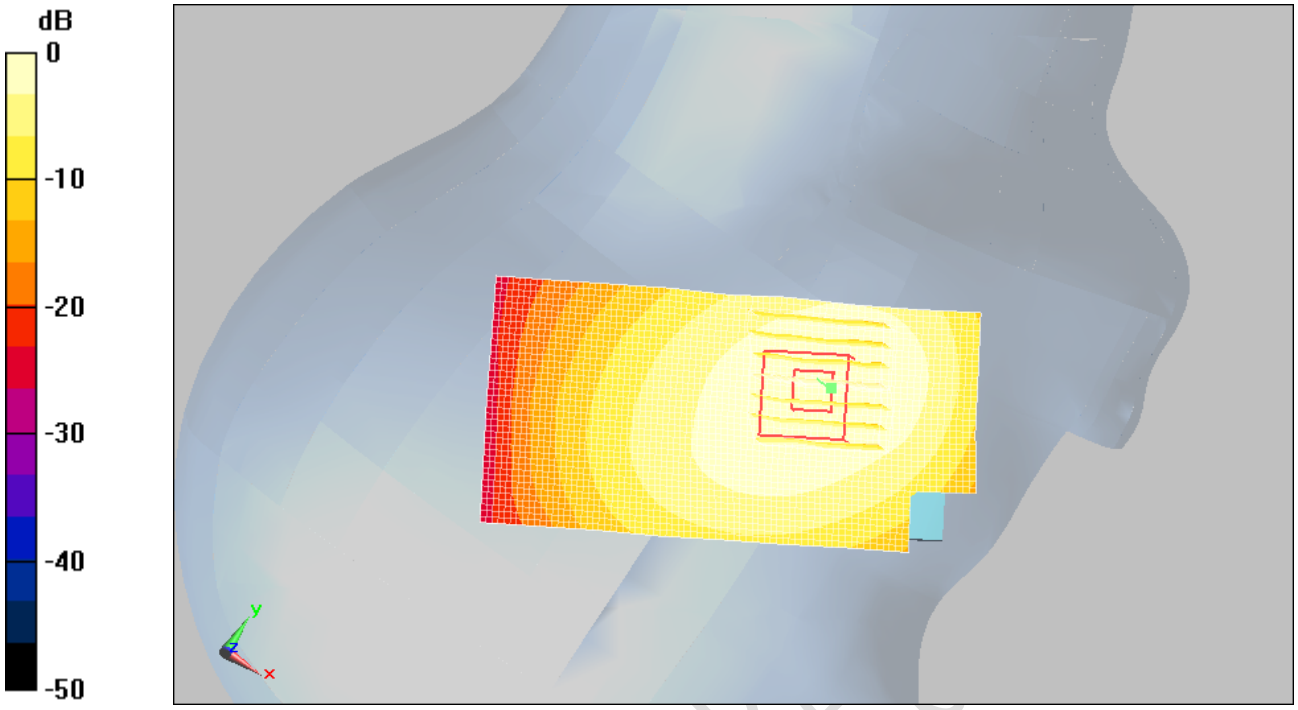
Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.983 mho/m; ε_r = 41.9; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.97, 5.97, 5.97); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

F953_Right_Touch_High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.85 V/m; Power Drift = 0.071 dB
Peak SAR (extrapolated) = 1.39 W/kg
SAR(1 g) = 0.999 mW/g; SAR(10 g) = 0.705 mW/g
Maximum value of SAR (measured) = 1.06 mW/g

F953_Right_Touch_High/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.08 mW/g



0 dB = 1.08mW/g

FCC_Head_Left_Cheek_GSM850_Middle

DUT: F953; Type: F953; Serial: --

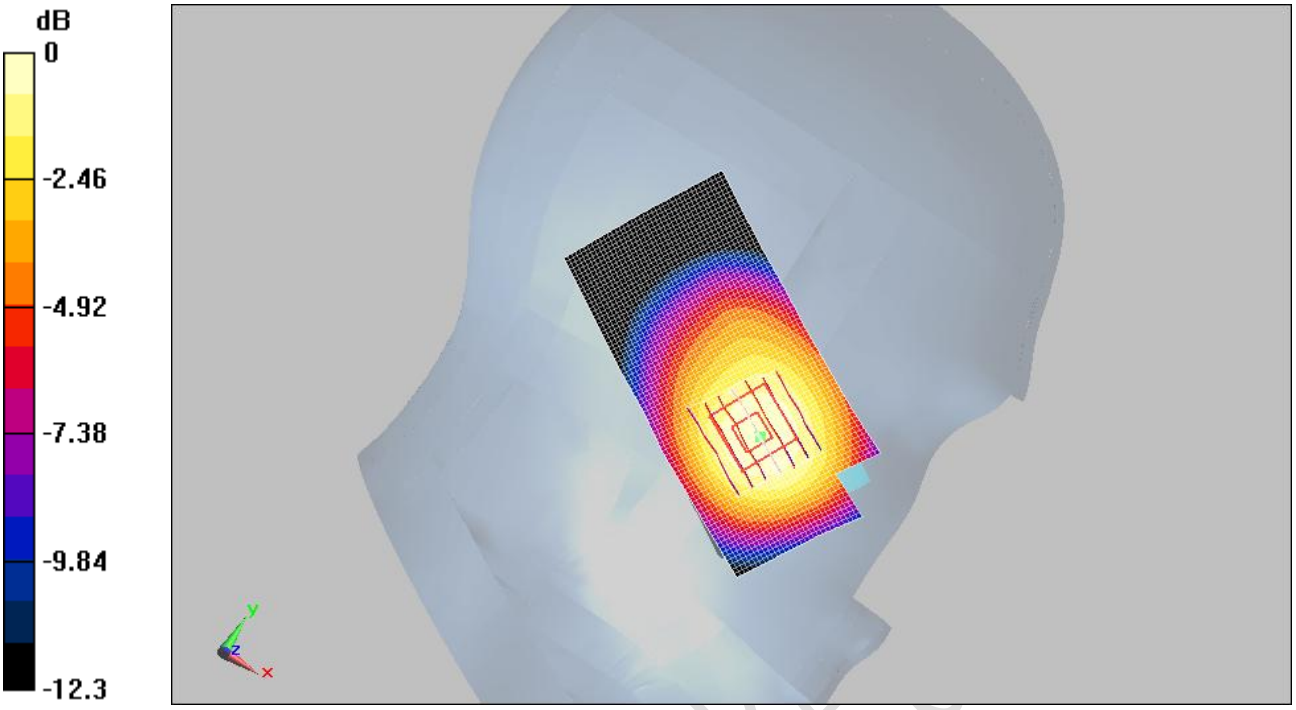
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.964 mho/m; ε_r = 41.8; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.97, 5.97, 5.97); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM850 cheek mid Left/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.03 mW/g

GSM850 cheek mid Left/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.83 V/m; Power Drift = 0.106 dB
Peak SAR (extrapolated) = 1.24 W/kg
SAR(1 g) = 0.974 mW/g; SAR(10 g) = 0.702 mW/g
Maximum value of SAR (measured) = 1.03 mW/g



0 dB = 1.03mW/g

FCC_Head_Left_Tilt_GSM850_Middle

DUT: F953; Type: F953; Serial: --

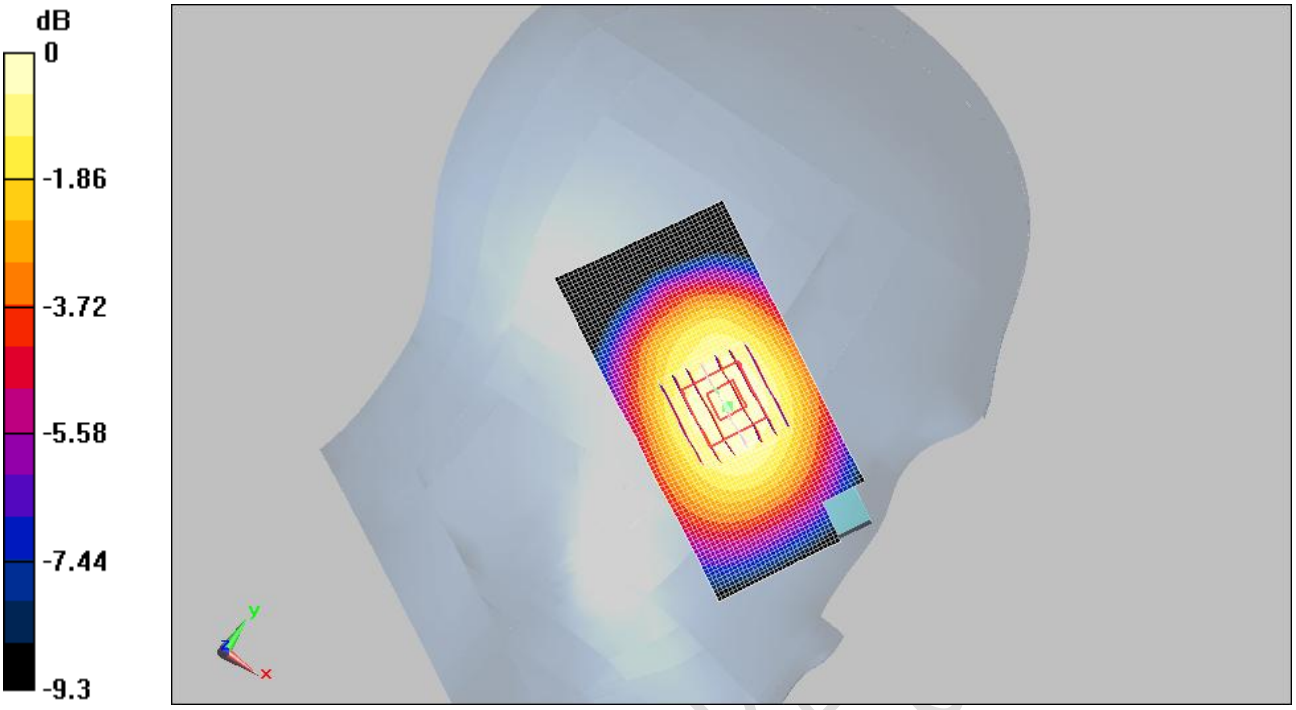
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.964 mho/m; ε_r = 41.8; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.97, 5.97, 5.97); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM850 tilt mid Left/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.496 mW/g

GSM850 tilt mid Left/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.5 V/m; Power Drift = 0.059 dB
Peak SAR (extrapolated) = 0.587 W/kg
SAR(1 g) = 0.463 mW/g; SAR(10 g) = 0.348 mW/g
Maximum value of SAR (measured) = 0.487 mW/g



0 dB = 0.487mW/g

FCC_Head_Left_Cheek_GSM850_Low

DUT: F953; Type: F953; Serial: --

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.95 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

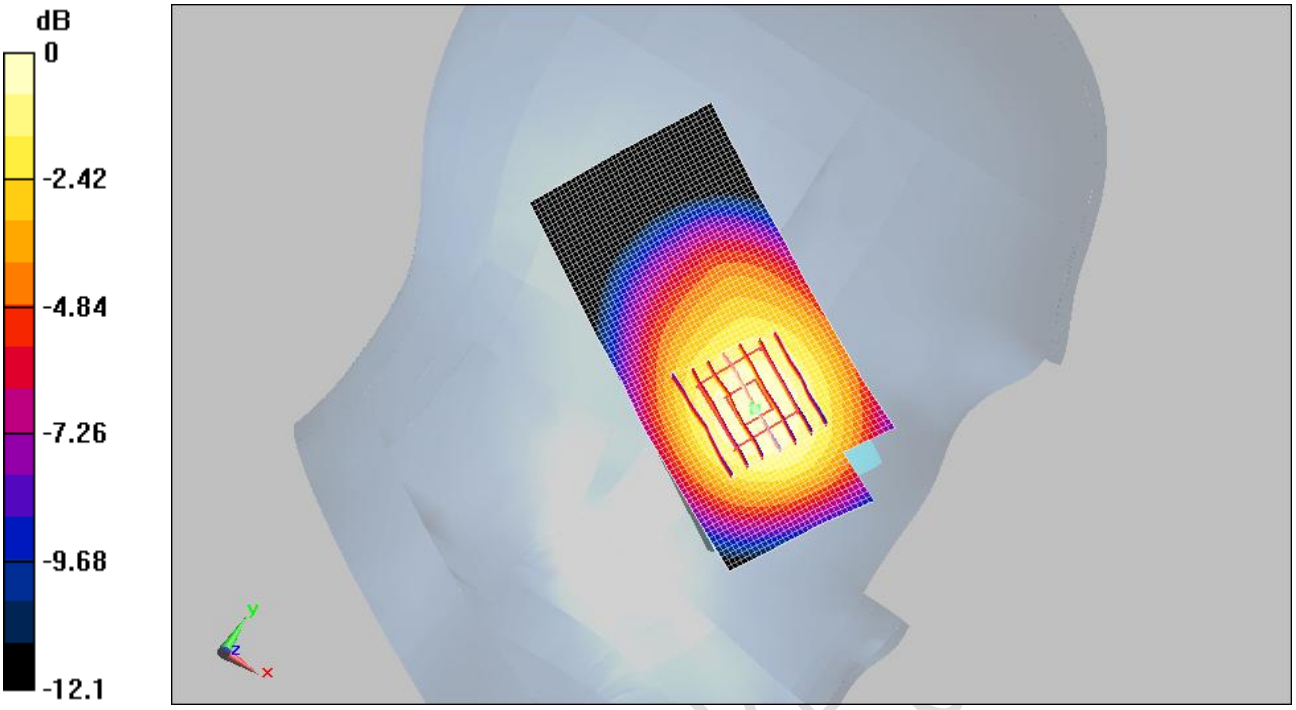
- Probe: ES3DV3 - SN3158; ConvF(5.97, 5.97, 5.97); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Sonim cheek low left/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.834 mW/g

Sonim cheek low left/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.95 V/m; Power Drift = 0.268 dB
Peak SAR (extrapolated) = 1 W/kg
SAR(1 g) = 0.787 mW/g; SAR(10 g) = 0.571 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.837 mW/g



0 dB = 0.837mW/g

FCC_Head_Left_Cheek_GSM850_High

DUT: F953; Type: F953; Serial: --

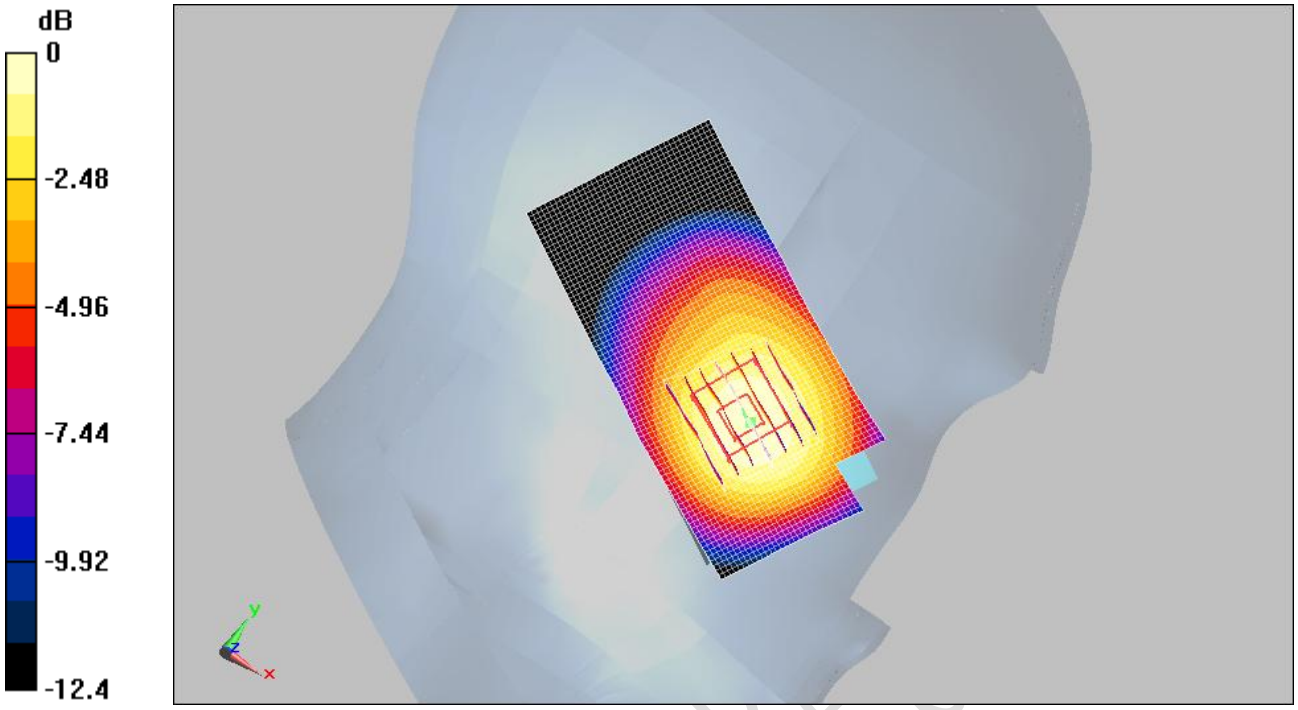
Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.983 mho/m; ε_r = 41.9; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.97, 5.97, 5.97); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Sonim cheek High left/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.921 mW/g

Sonim cheek High left/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.04 V/m; Power Drift = 0.239 dB
Peak SAR (extrapolated) = 1.11 W/kg
SAR(1 g) = 0.876 mW/g; SAR(10 g) = 0.630 mW/g
Maximum value of SAR (measured) = 0.932 mW/g



0 dB = 0.932mW/g

FCC_Head_Right_Cheek_PCS1900_Middle

DUT: F953; Type: F953; Serial: --

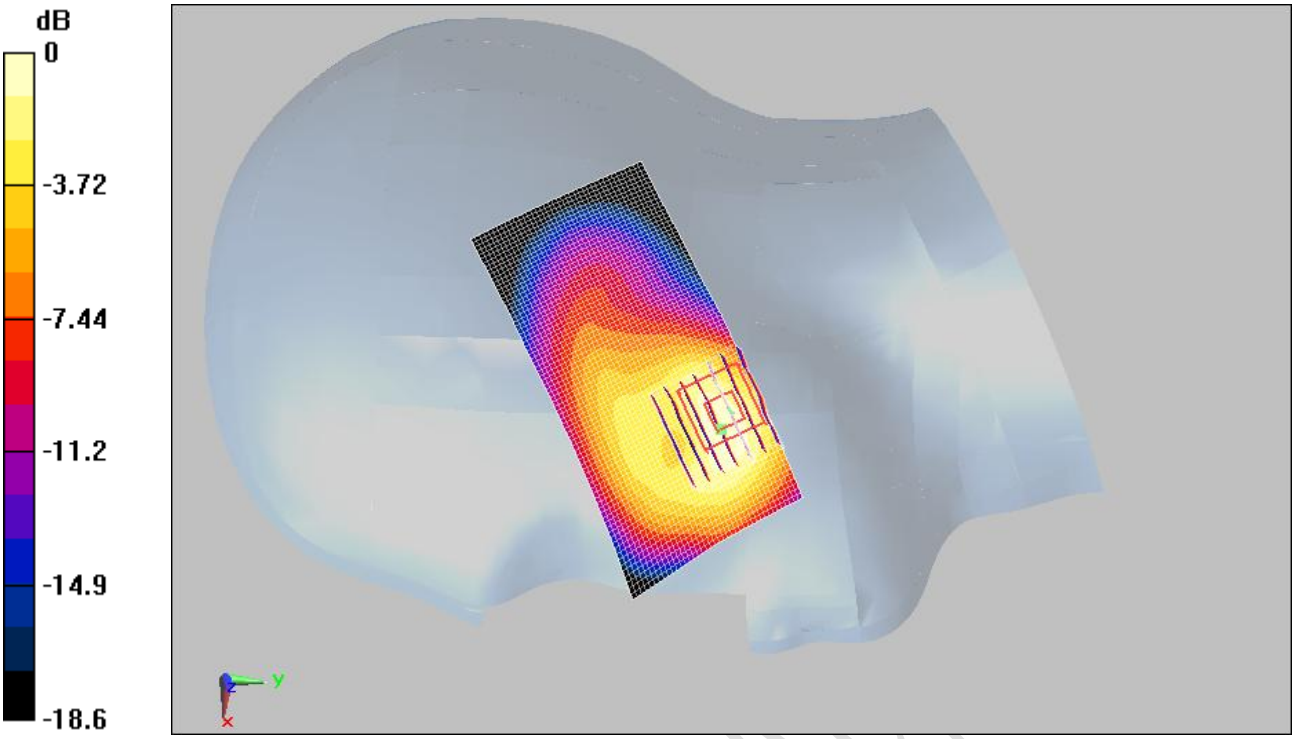
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 38.6; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5, 5, 5); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: West SAM; Type: SAM; Serial: TP-1509
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

PCS1900_Touch_Right_Mid/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.690 mW/g

PCS1900_Touch_Right_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.67 V/m; Power Drift = -0.193 dB
Peak SAR (extrapolated) = 1.24 W/kg
SAR(1 g) = 0.679 mW/g; SAR(10 g) = 0.346 mW/g
Maximum value of SAR (measured) = 0.756 mW/g



0 dB = 0.756mW/g

FCC_Head_Right_Tilt_PCS1900_Middle

DUT: F953; Type: F953; Serial: --

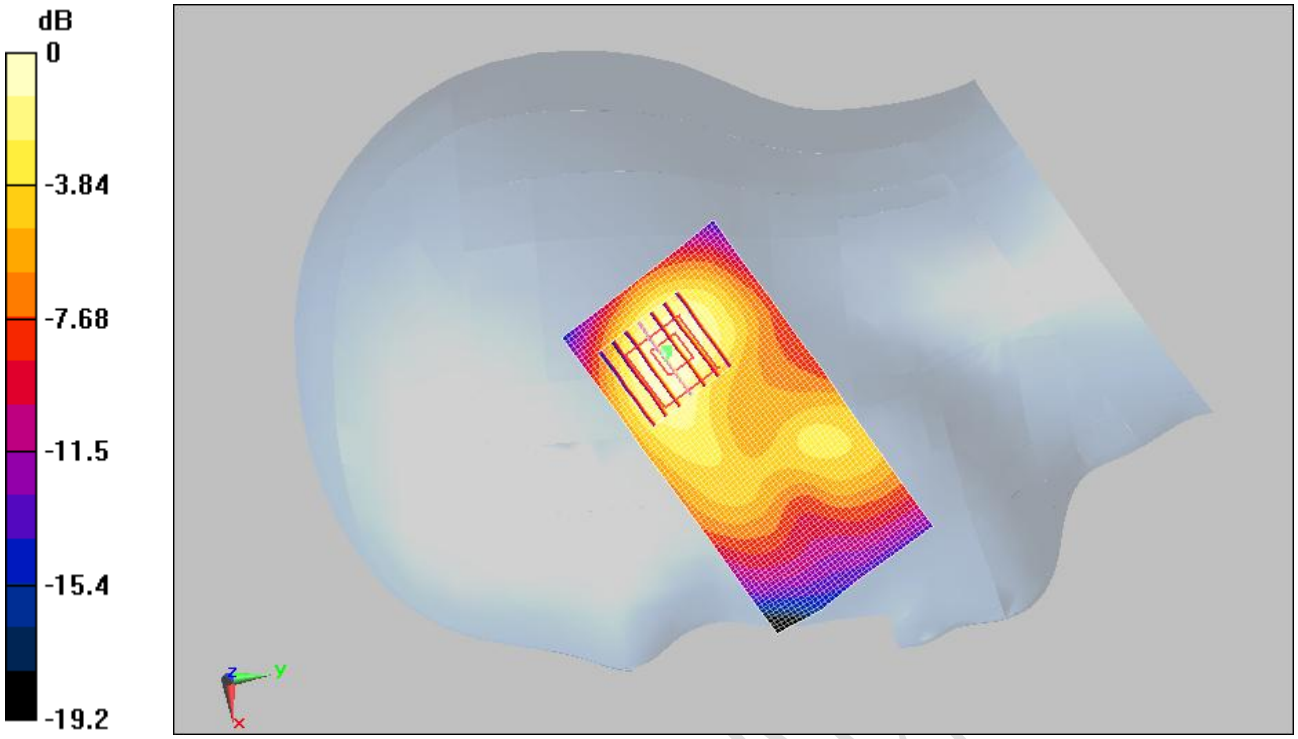
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 38.6; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5, 5, 5); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: West SAM; Type: SAM; Serial: TP-1509
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

PCS1900_Tilt_Right_Mid/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.187 mW/g

PCS1900_Tilt_Right_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.1 V/m; Power Drift = -0.028 dB
Peak SAR (extrapolated) = 0.273 W/kg
SAR(1 g) = 0.167 mW/g; SAR(10 g) = 0.097 mW/g
Maximum value of SAR (measured) = 0.183 mW/g



0 dB = 0.183mW/g

FCC_Head_Right_Cheek_PCS1900_High

DUT: F953; Type: F953; Serial: --

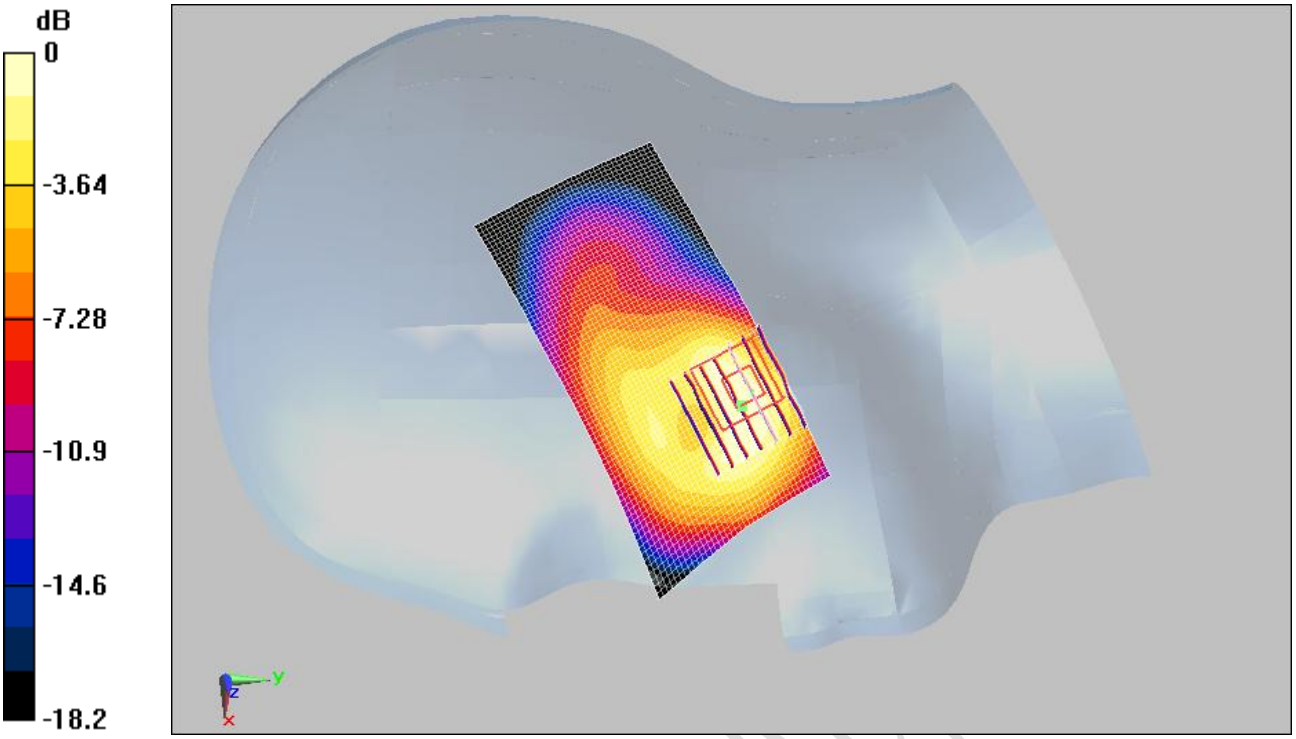
Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.45 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5, 5, 5); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: West SAM; Type: SAM; Serial: TP-1509
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

PCS1900_Touch_Right_High/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.774 mW/g

PCS1900_Touch_Right_High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.23 V/m; Power Drift = 0.389 dB
Peak SAR (extrapolated) = 1.31 W/kg
SAR(1 g) = 0.716 mW/g; SAR(10 g) = 0.368 mW/g
Maximum value of SAR (measured) = 0.774 mW/g



0 dB = 0.774mW/g

FCC_Head_Right_Cheek_PCS1900_High

DUT: F953; Type: F953; Serial: --

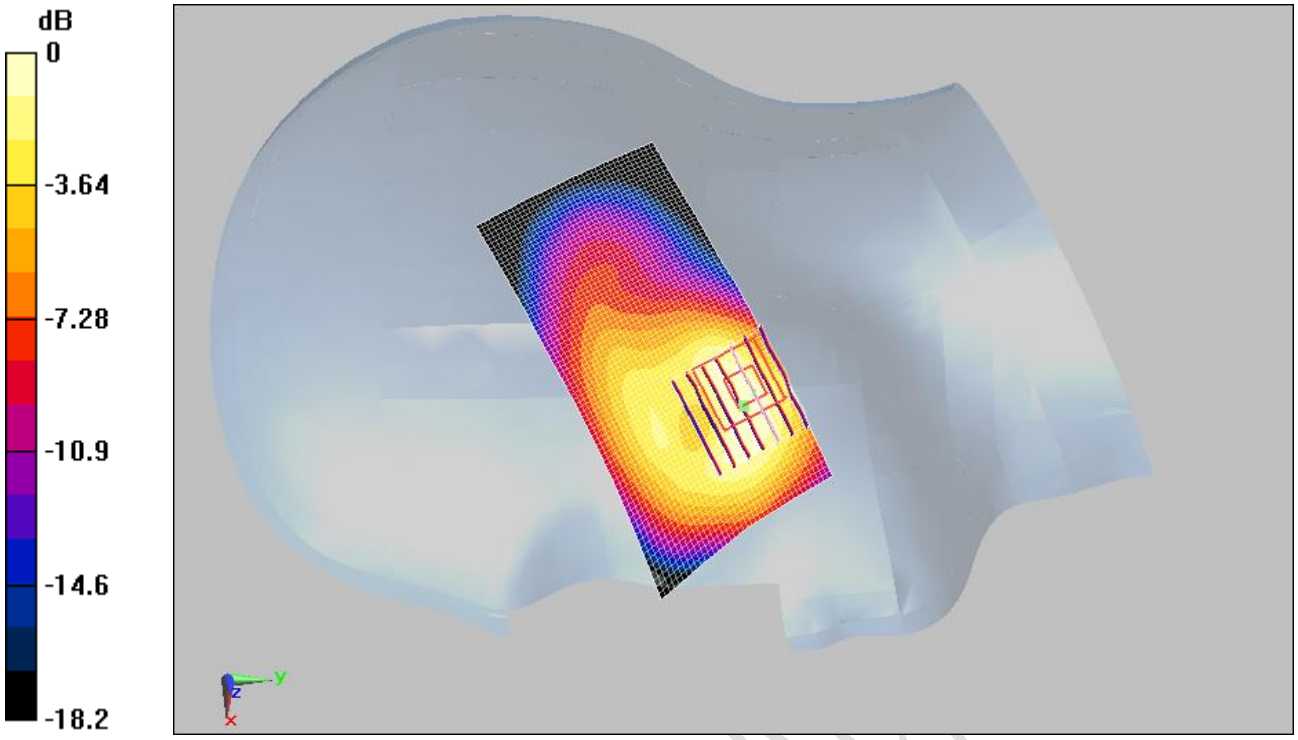
Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.45 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5, 5, 5); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: West SAM; Type: SAM; Serial: TP-1509
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

PCS1900_Touch_Right_High/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.774 mW/g

PCS1900_Touch_Right_High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.23 V/m; Power Drift = 0.389 dB
Peak SAR (extrapolated) = 1.31 W/kg
SAR(1 g) = 0.716 mW/g; SAR(10 g) = 0.368 mW/g
Maximum value of SAR (measured) = 0.774 mW/g



0 dB = 0.774mW/g

FCC_Head_Left_Cheek_PCS1900_Middle

DUT: F953; Type: F953; Serial: --

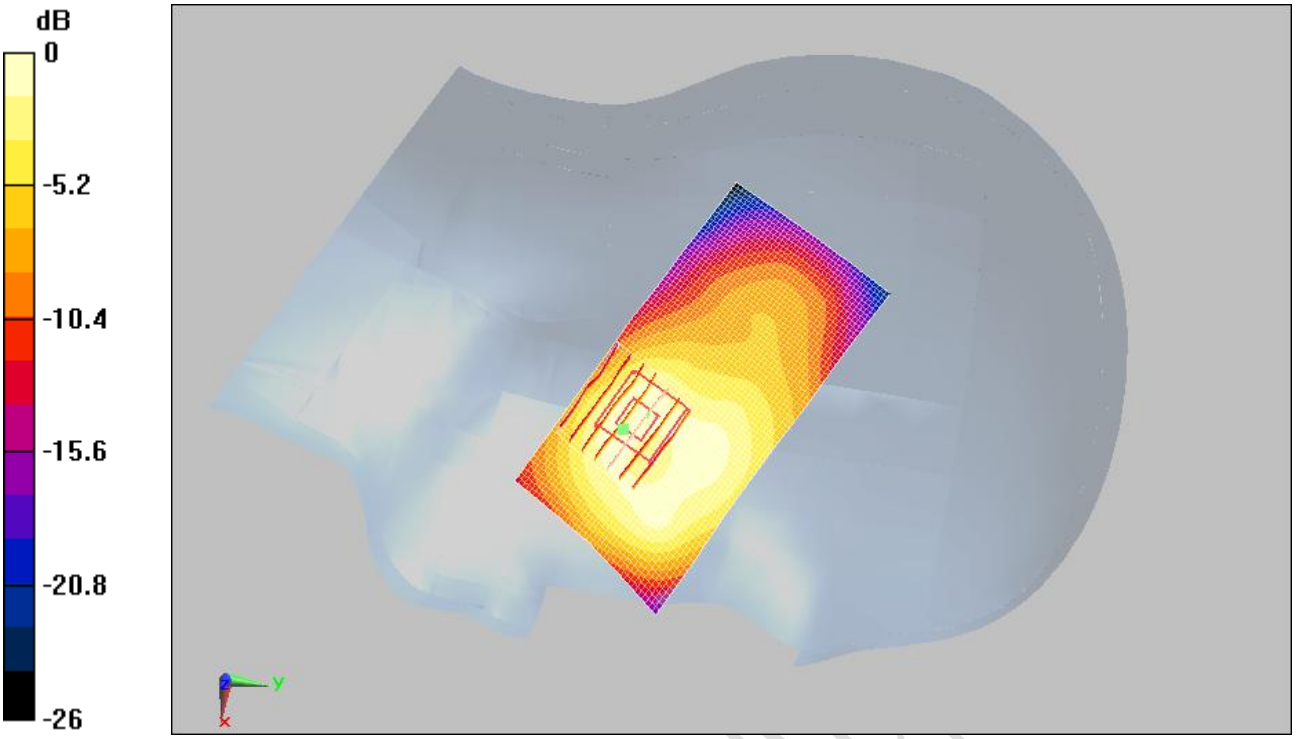
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 38.6; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5, 5, 5); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: West SAM; Type: SAM; Serial: TP-1509
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

PCS1900_Touch_Left_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.37 V/m; Power Drift = 0.154 dB
Peak SAR (extrapolated) = 0.836 W/kg
SAR(1 g) = 0.514 mW/g; SAR(10 g) = 0.279 mW/g
Maximum value of SAR (measured) = 0.555 mW/g

PCS1900_Touch_Left_Mid/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.523 mW/g



0 dB = 0.523mW/g

FCC_Head_Left_Tilt_PCS1900_Middle

DUT: F953; Type: F953; Serial: --

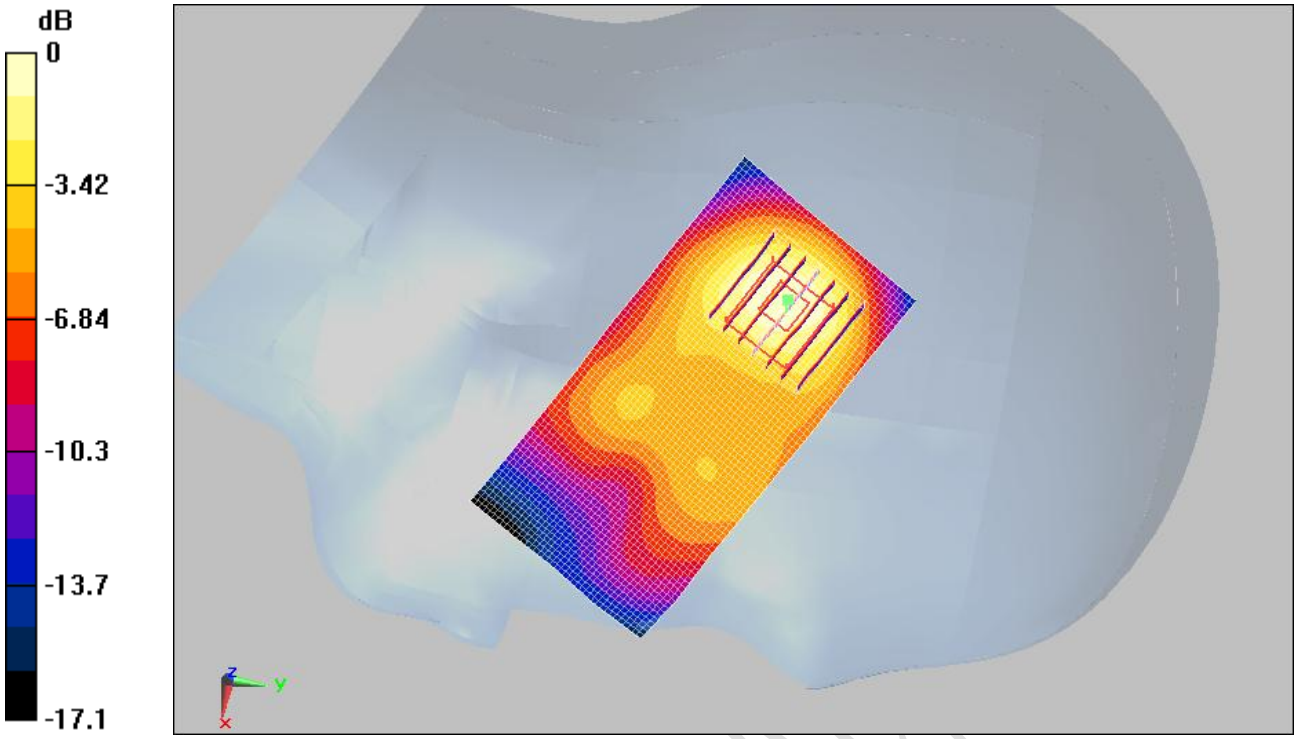
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 38.6; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5, 5, 5); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: West SAM; Type: SAM; Serial: TP-1509
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

PCS1900_Tilt_Left_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.1 V/m; Power Drift = 0.056 dB
Peak SAR (extrapolated) = 0.276 W/kg
SAR(1 g) = 0.167 mW/g; SAR(10 g) = 0.095 mW/g
Maximum value of SAR (measured) = 0.186 mW/g

PCS1900_Tilt_Left_Mid/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.186 mW/g



0 dB = 0.186mW/g

FCC_Head_Left_Cheek_WCDMA_FDDV_Middle

DUT: F953; Type: F953; Serial: --

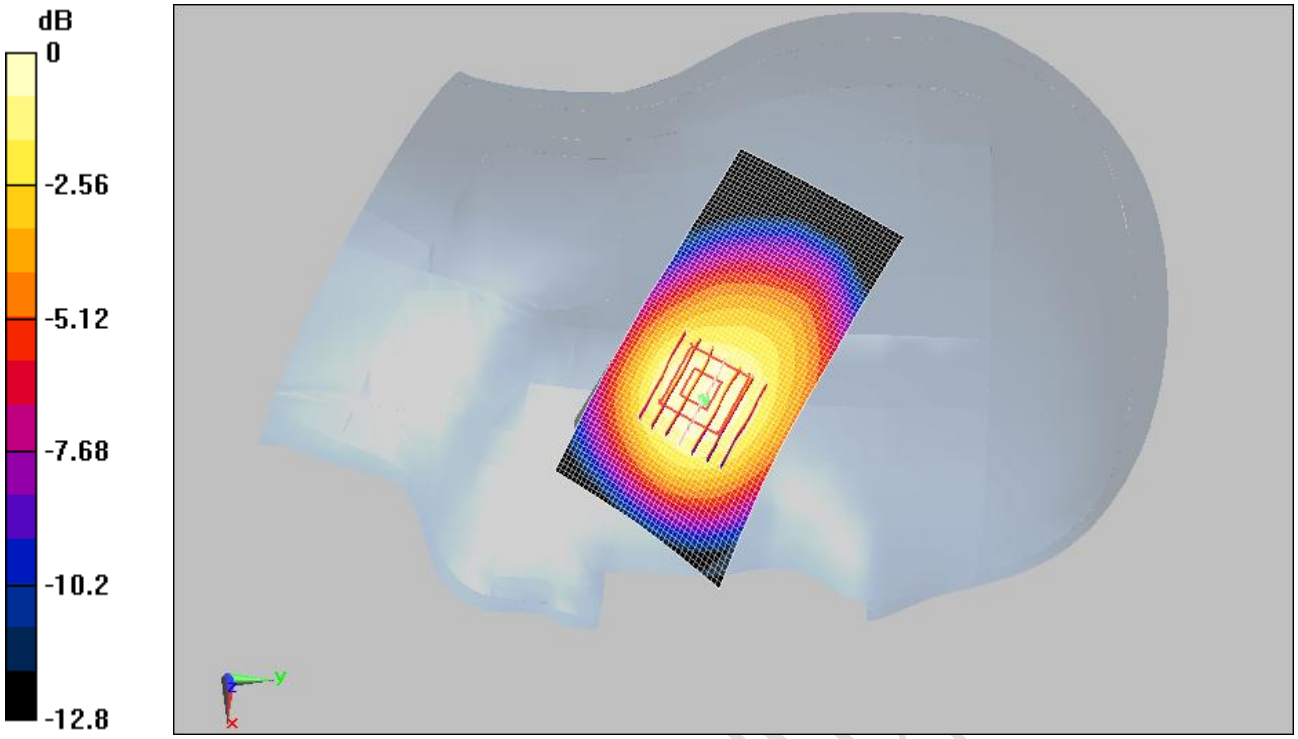
Communication System: WCDMA-FDDV; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.964 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.97, 5.97, 5.97); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

WCDMA_FDDV_Cheek_Left_MID/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.756 mW/g

WCDMA_FDDV_Cheek_Left_MID/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.32 V/m; Power Drift = 0.078 dB
Peak SAR (extrapolated) = 0.894 W/kg
SAR(1 g) = 0.699 mW/g; SAR(10 g) = 0.502 mW/g
Maximum value of SAR (measured) = 0.740 mW/g



0 dB = 0.740mW/g

FCC_Head_Left_Tilt_WCDMA_FDDV_Middle

DUT: F953; Type: F953; Serial: --

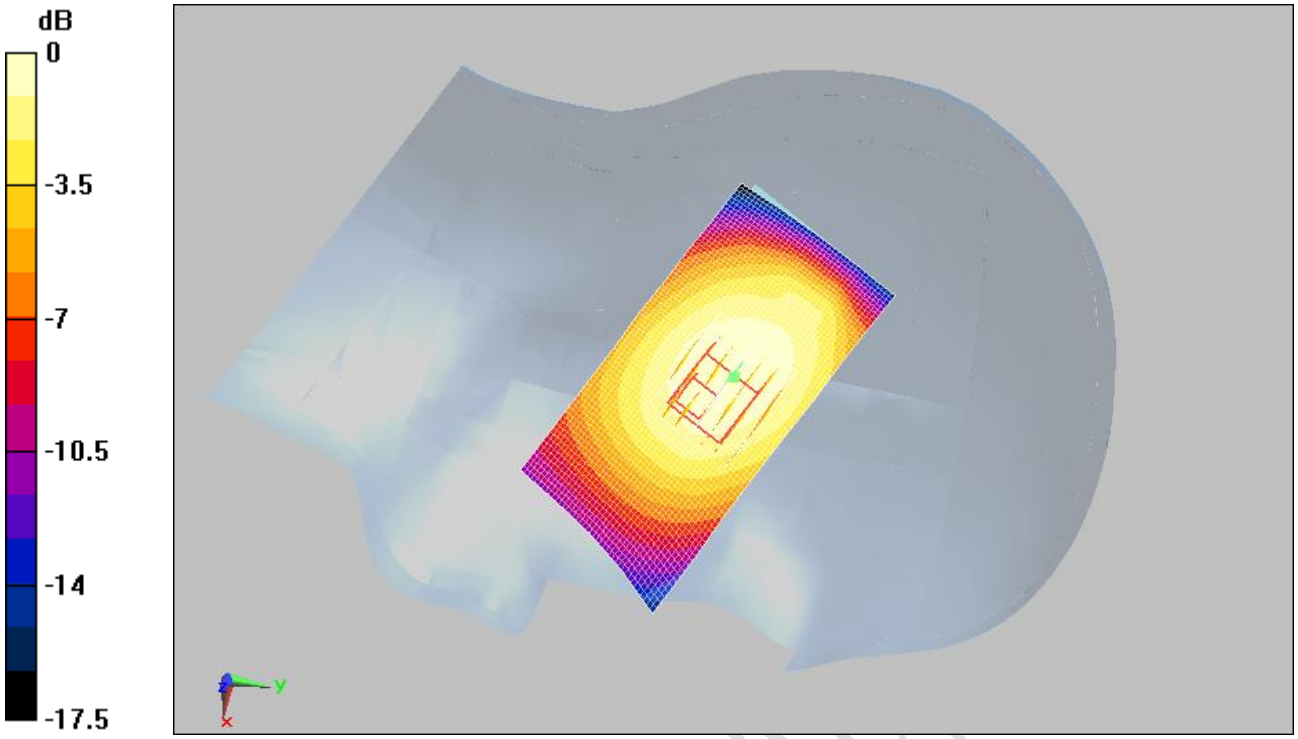
Communication System: WCDMA-FDDV; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.964 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.97, 5.97, 5.97); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

WCDMA_FDDV_Tilt_Left_MID/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.4 V/m; Power Drift = -0.032 dB
Peak SAR (extrapolated) = 0.780 W/kg
SAR(1 g) = 0.431 mW/g; SAR(10 g) = 0.307 mW/g
Maximum value of SAR (measured) = 0.425 mW/g

WCDMA_FDDV_Tilt_Left_MID/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.396 mW/g



0 dB = 0.396mW/g

FCC_Head_Right_Cheek_WCDMA_FDDV_Middle

DUT: F953; Type: F953; Serial: --

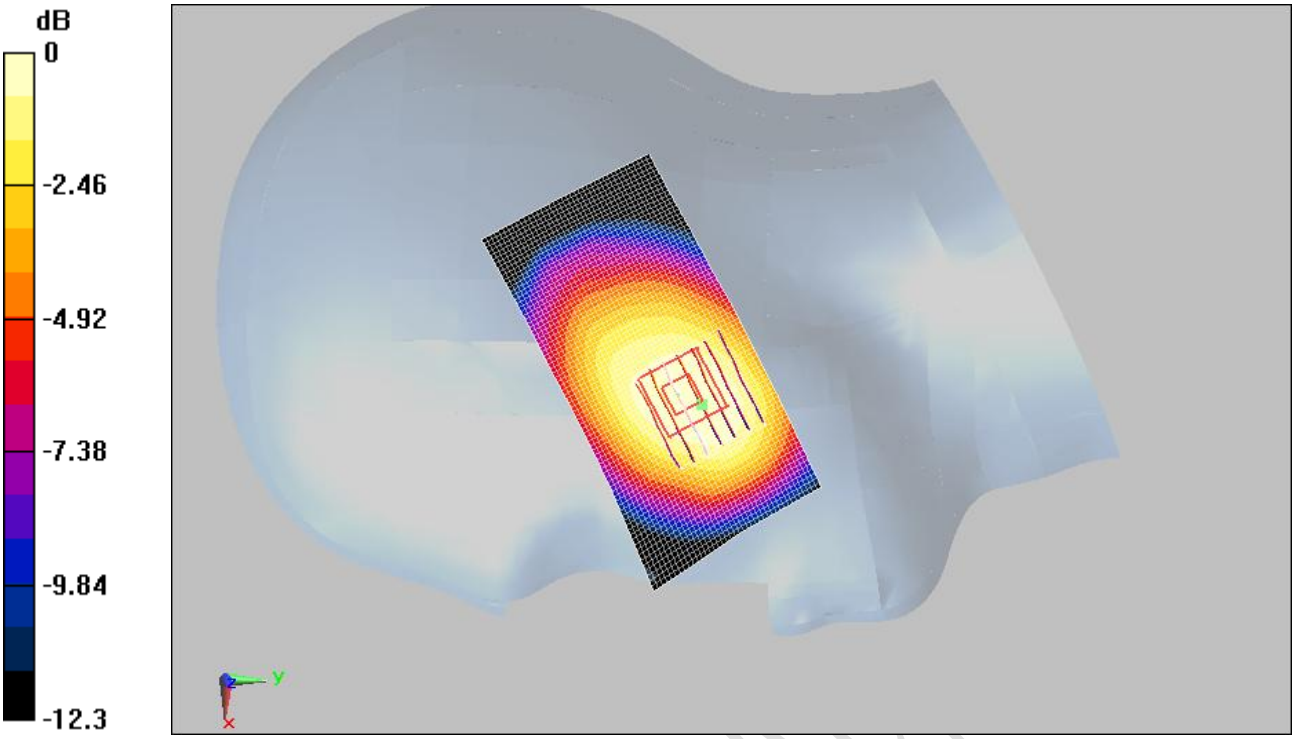
Communication System: WCDMA-FDDV; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.964 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.97, 5.97, 5.97); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

WCDMA FDDV_Cheek_Right mid/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.851 mW/g

WCDMA FDDV_Cheek_Right mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.85 V/m; Power Drift = -0.021 dB
Peak SAR (extrapolated) = 0.973 W/kg
SAR(1 g) = 0.716 mW/g; SAR(10 g) = 0.521 mW/g
Maximum value of SAR (measured) = 0.769 mW/g



0 dB = 0.769mW/g

FCC_Head_Right_Tilt_WCDMA_FDDV_Middle

DUT: F953; Type: F953; Serial: --

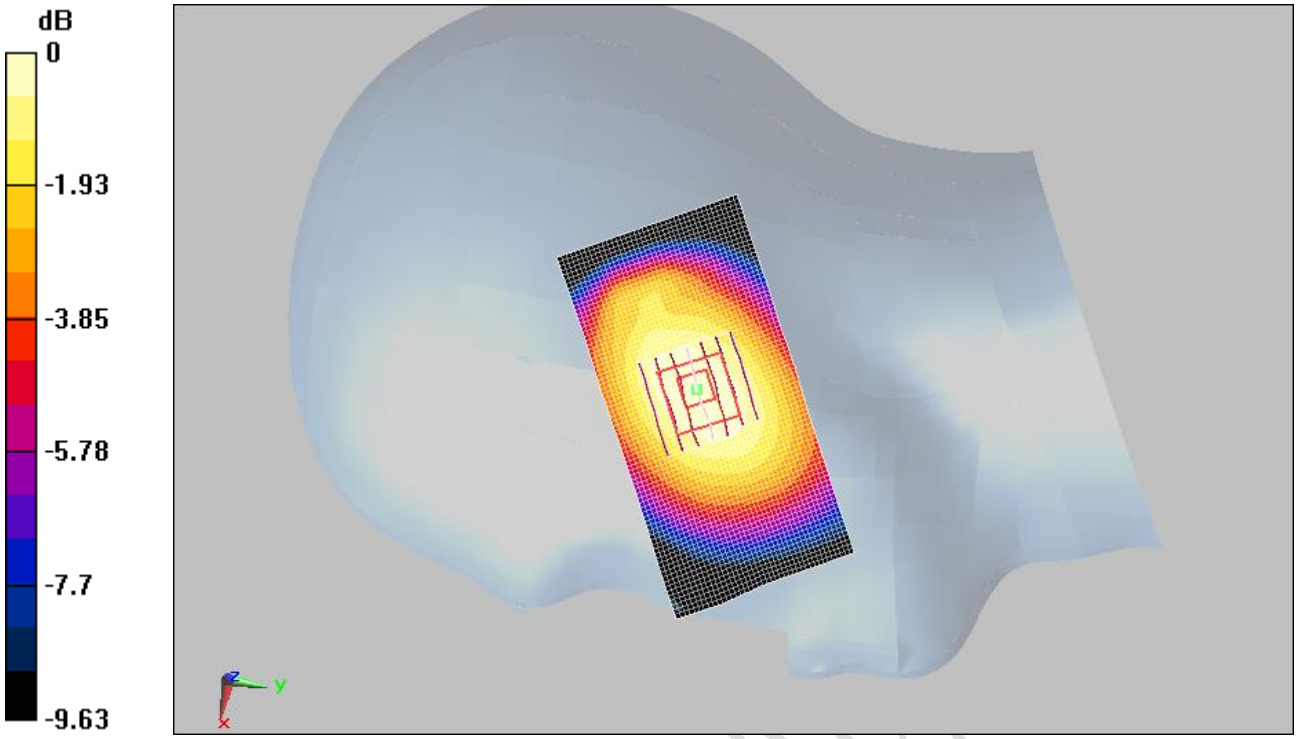
Communication System: WCDMA-FDDV; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.964 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.97, 5.97, 5.97); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

WCDMA FDDV_Tilt_Right mid/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.410 mW/g

WCDMA FDDV_Tilt_Right mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.8 V/m; Power Drift = 0.140 dB
Peak SAR (extrapolated) = 0.503 W/kg
SAR(1 g) = 0.394 mW/g; SAR(10 g) = 0.294 mW/g
Maximum value of SAR (measured) = 0.414 mW/g



0 dB = 0.414mW/g

FCC_Head_Right_Cheek_WCDMA_FDDV_Low

DUT: F953; Type: F953; Serial: --

Communication System: WCDMA-FDDV; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.947 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

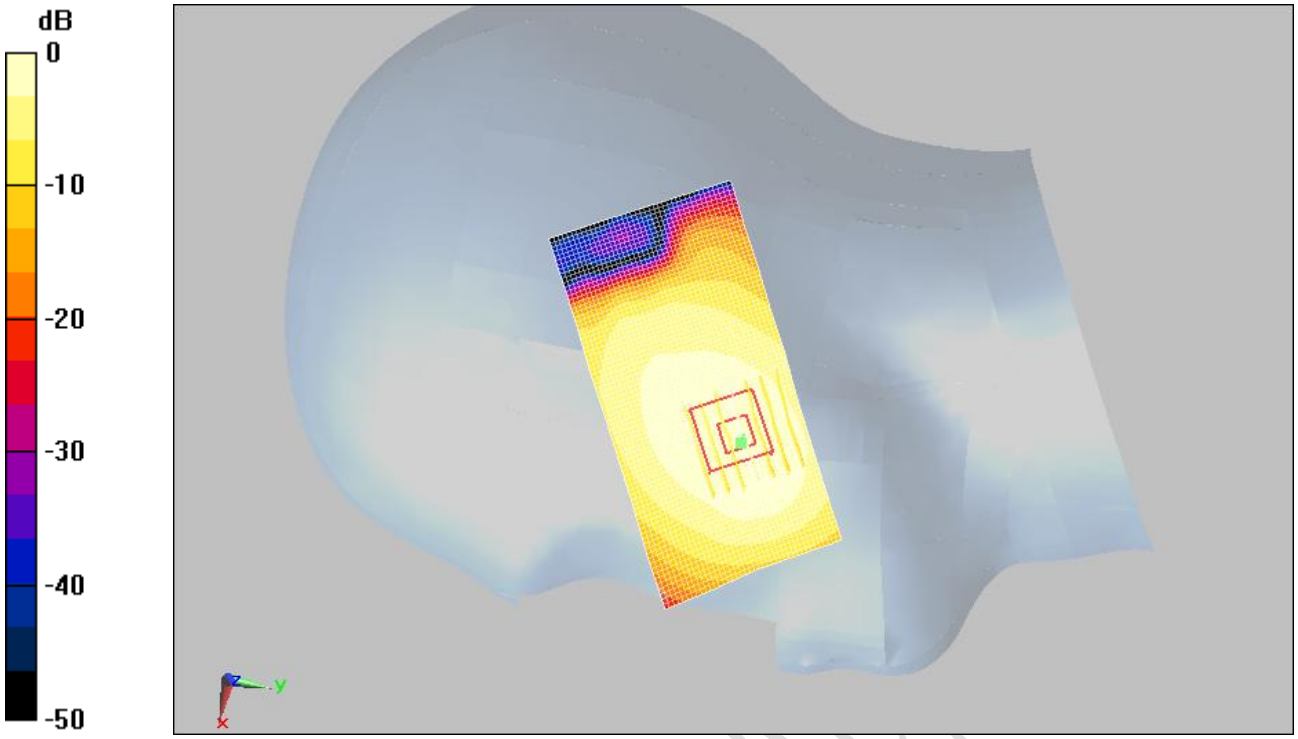
- Probe: ES3DV3 - SN3158; ConvF(5.97, 5.97, 5.97); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

WCDMA FDDV_Cheek_Right Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.66 V/m; Power Drift = -0.339 dB
Peak SAR (extrapolated) = 1.13 W/kg
SAR(1 g) = 0.788 mW/g; SAR(10 g) = 0.556 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.837 mW/g

WCDMA FDDV_Cheek_Right Low/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.891 mW/g



0 dB = 0.891mW/g

FCC_Head_Right_Cheek_WCDMA_FDDV_High

DUT: F953; Type: F953; Serial: --

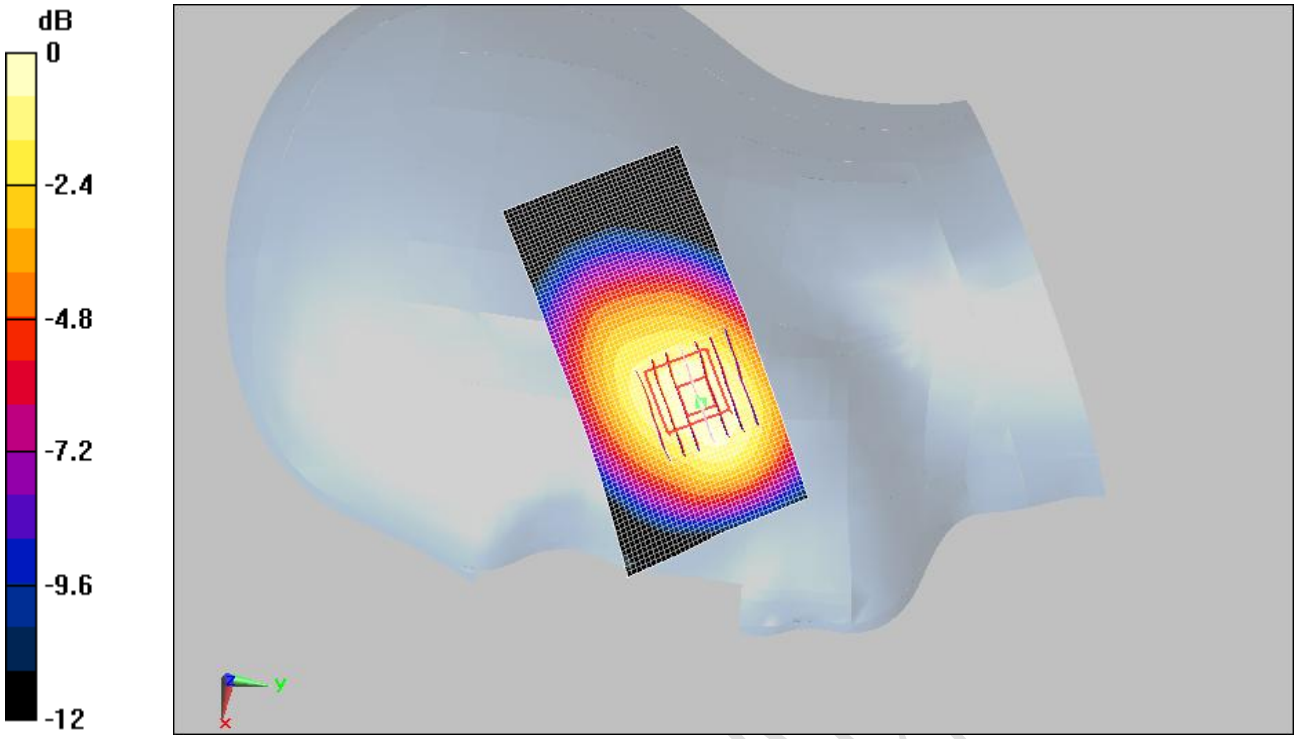
Communication System: WCDMA-FDDV; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.979 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.97, 5.97, 5.97); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

WCDMA FDDV_Cheek_Right High/Area Scan (81x41x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.13 mW/g

WCDMA FDDV_Cheek_Right High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.26 V/m; Power Drift = 0.226 dB
Peak SAR (extrapolated) = 1.43 W/kg
SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.718 mW/g
Maximum value of SAR (measured) = 1.08 mW/g



0 dB = 1.08mW/g

D.2 Body SAR Plots

FCC_Body_Face_GSM850_Middle

DUT: F953; Type: F953; Serial: --

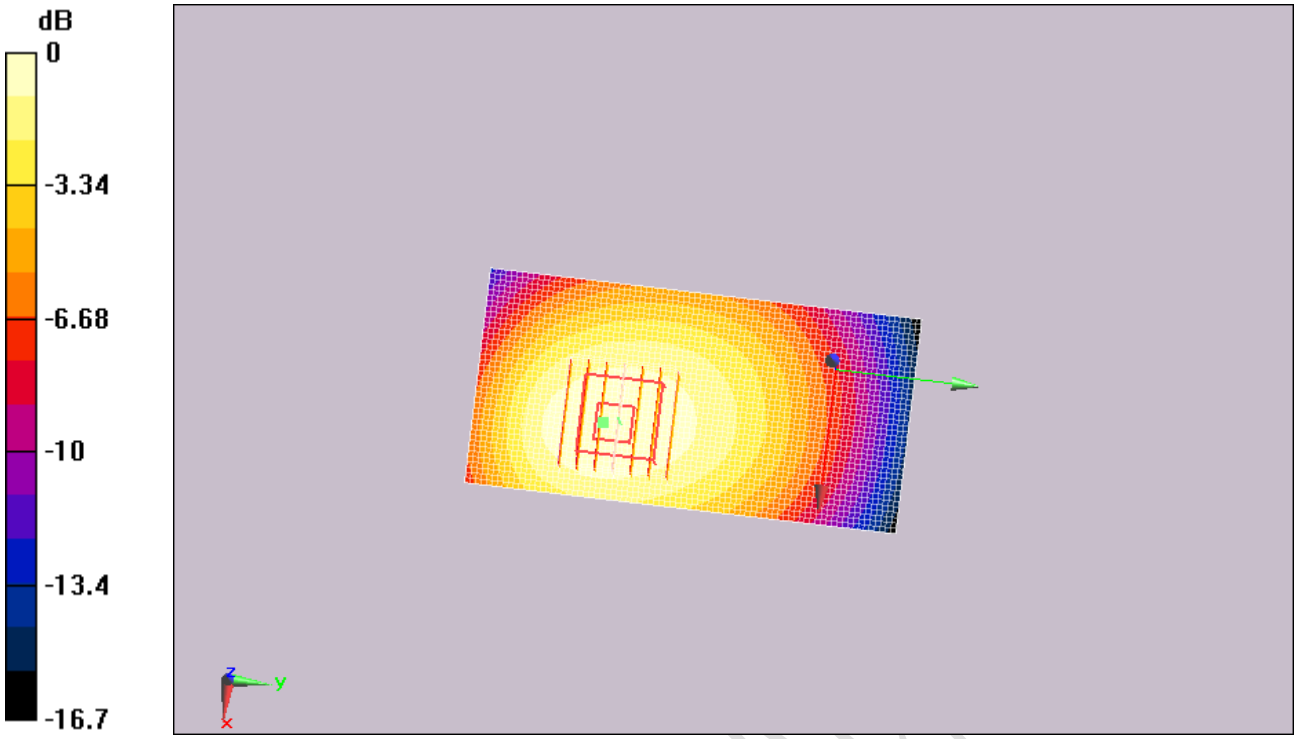
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.958 mho/m; ε_r = 54.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.93, 5.93, 5.93); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_ Face_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.35 V/m; Power Drift = -0.284 dB
Peak SAR (extrapolated) = 0.722 W/kg
SAR(1 g) = 0.548 mW/g; SAR(10 g) = 0.397 mW/g
Maximum value of SAR (measured) = 0.579 mW/g

GSM_ Face_Mid/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.591 mW/g



0 dB = 0.591mW/g

FCC_Body_Back_GSM850_Middle

DUT: F953; Type: F953; Serial: --

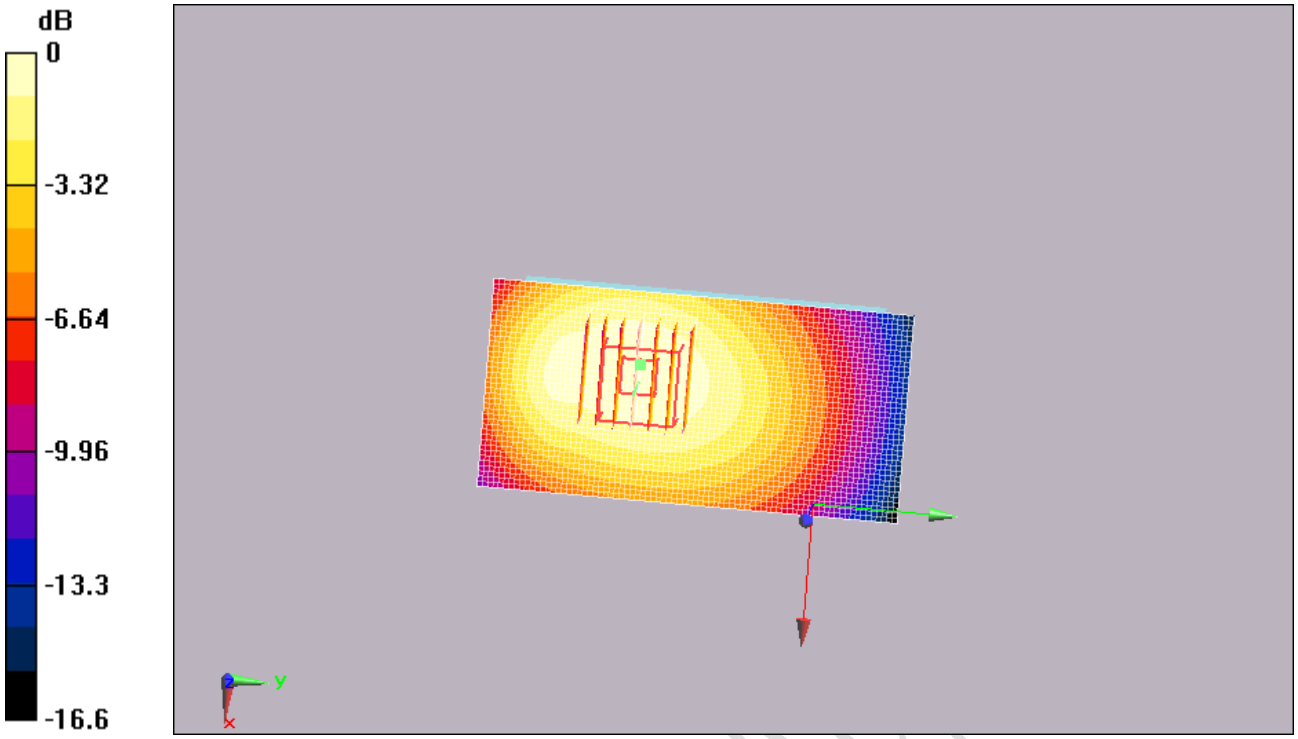
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.958 mho/m; ε_r = 54.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.93, 5.93, 5.93); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_Back_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.5 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 0.799 W/kg
SAR(1 g) = 0.588 mW/g; SAR(10 g) = 0.416 mW/g
Maximum value of SAR (measured) = 0.622 mW/g

GSM_Back_Mid/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.620 mW/g



0 dB = 0.620mW/g

FCC_Body_Back_GSM850_Low

DUT: F953; Type: F953; Serial: --

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.936 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

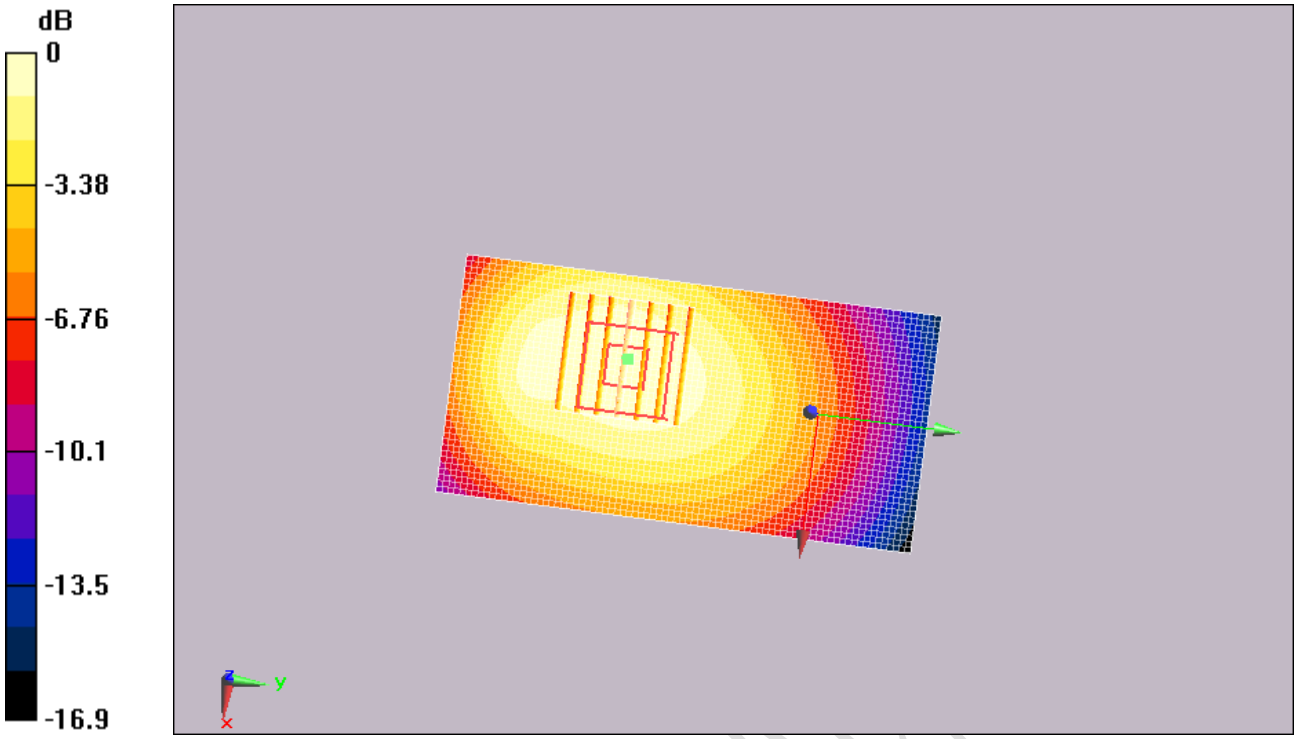
- Probe: ES3DV3 - SN3158; ConvF(5.93, 5.93, 5.93); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

gsm_Back_Low/Zoom Scan (7x7x6)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.84 V/m; Power Drift = 0.134 dB
Peak SAR (extrapolated) = 0.728 W/kg
SAR(1 g) = 0.531 mW/g; SAR(10 g) = 0.375 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.566 mW/g

gsm_Back_Low/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.559 mW/g



0 dB = 0.559mW/g

FCC_Body_Back_GSM850_High

DUT: F953; Type: F953; Serial: --

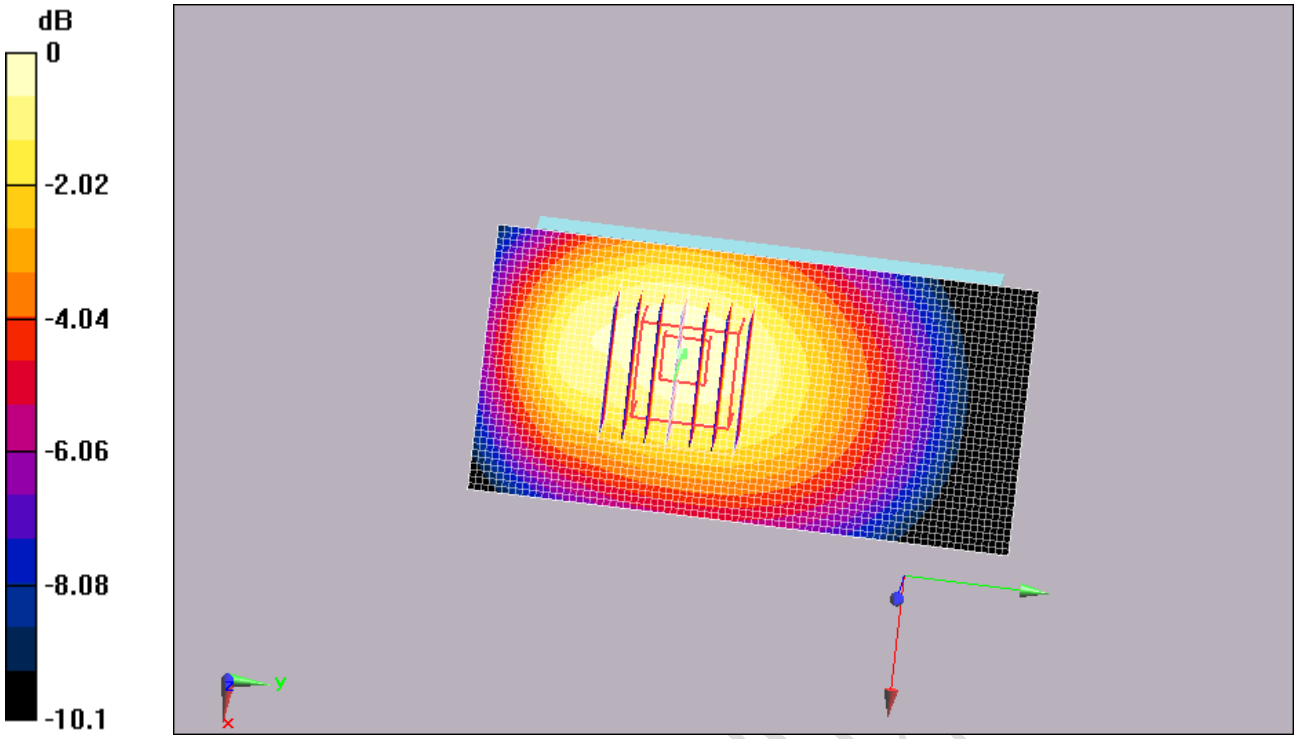
Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.972 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.93, 5.93, 5.93); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

gsm_Back_High/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.517 mW/g

gsm_Back_High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.61 V/m; Power Drift = 0.093 dB
Peak SAR (extrapolated) = 0.683 W/kg
SAR(1 g) = 0.497 mW/g; SAR(10 g) = 0.350 mW/g
Maximum value of SAR (measured) = 0.529 mW/g



0 dB = 0.529mW/g

FCC_Body_Back_GSM850_Earphone_Middle

DUT: F953; Type: F953; Serial: --

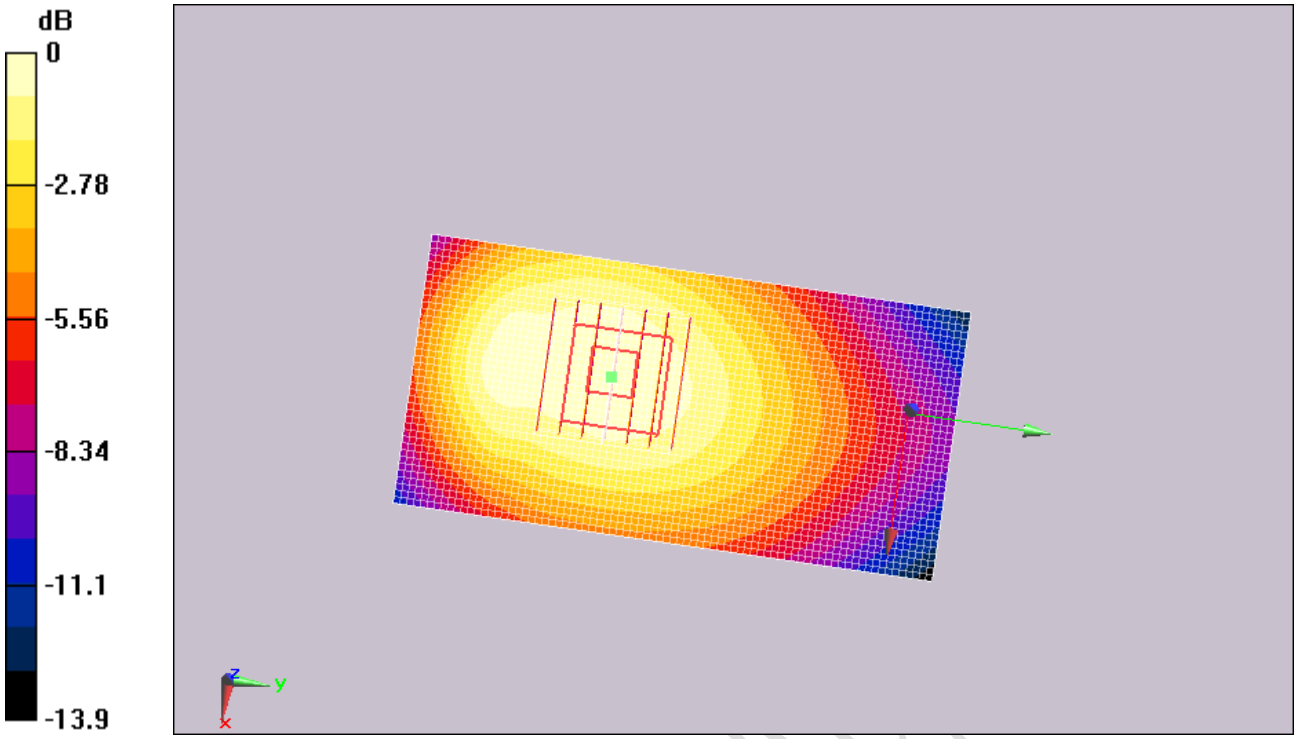
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.958 mho/m; ε_r = 54.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.93, 5.93, 5.93); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_ Back_Mid_earphone/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.1 V/m; Power Drift = 0.068 dB
Peak SAR (extrapolated) = 0.597 W/kg
SAR(1 g) = 0.431 mW/g; SAR(10 g) = 0.303 mW/g
Maximum value of SAR (measured) = 0.460 mW/g

GSM_ Back_Mid_earphone/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.455 mW/g



0 dB = 0.455mW/g

FCC_Body_Back_GSM850_BT_Middle

DUT: F953; Type: F953; Serial: --

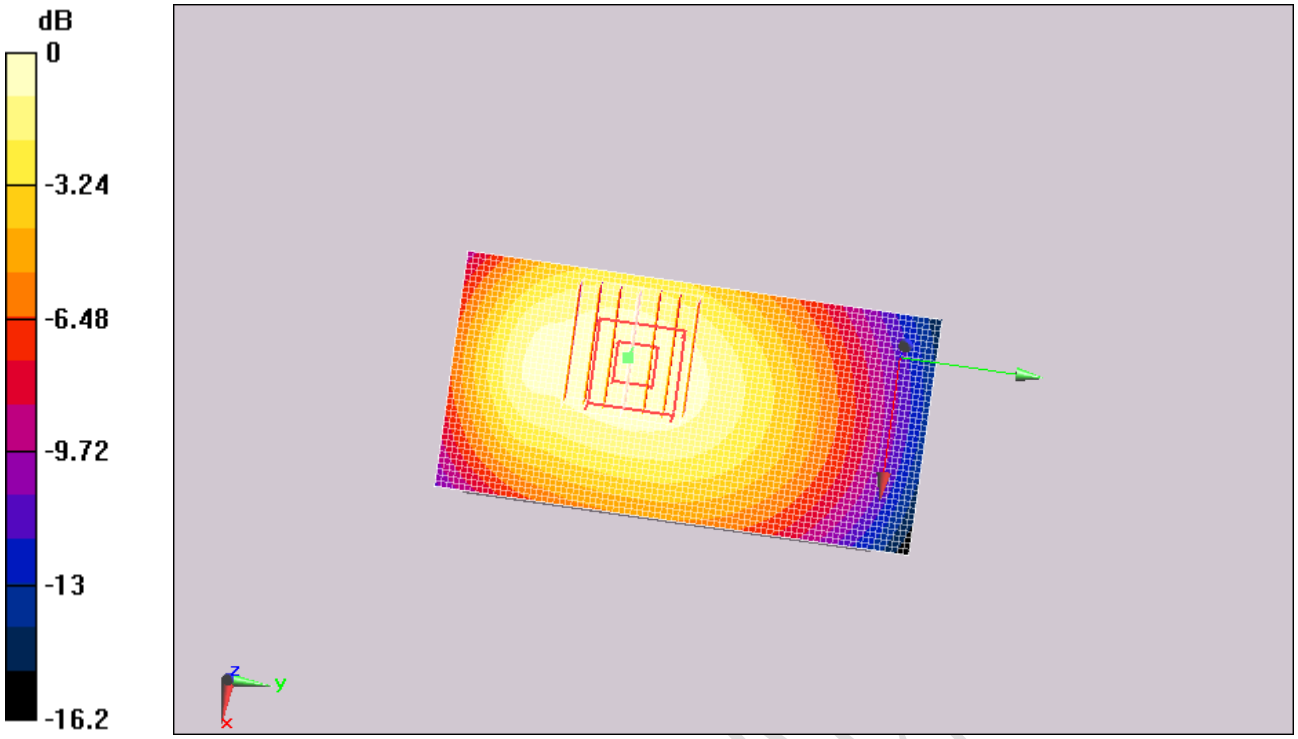
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.958 mho/m; ε_r = 54.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.93, 5.93, 5.93); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

GSM_ Back_Mid_BT/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10 V/m; Power Drift = -0.129 dB
Peak SAR (extrapolated) = 0.818 W/kg
SAR(1 g) = 0.595 mW/g; SAR(10 g) = 0.421 mW/g
Maximum value of SAR (measured) = 0.632 mW/g

GSM_ Back_Mid_BT/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.627 mW/g



0 dB = 0.627mW/g

FCC_Body_Back_GPRS850_3TS_Middle

DUT: F953; Type: F953; Serial: --

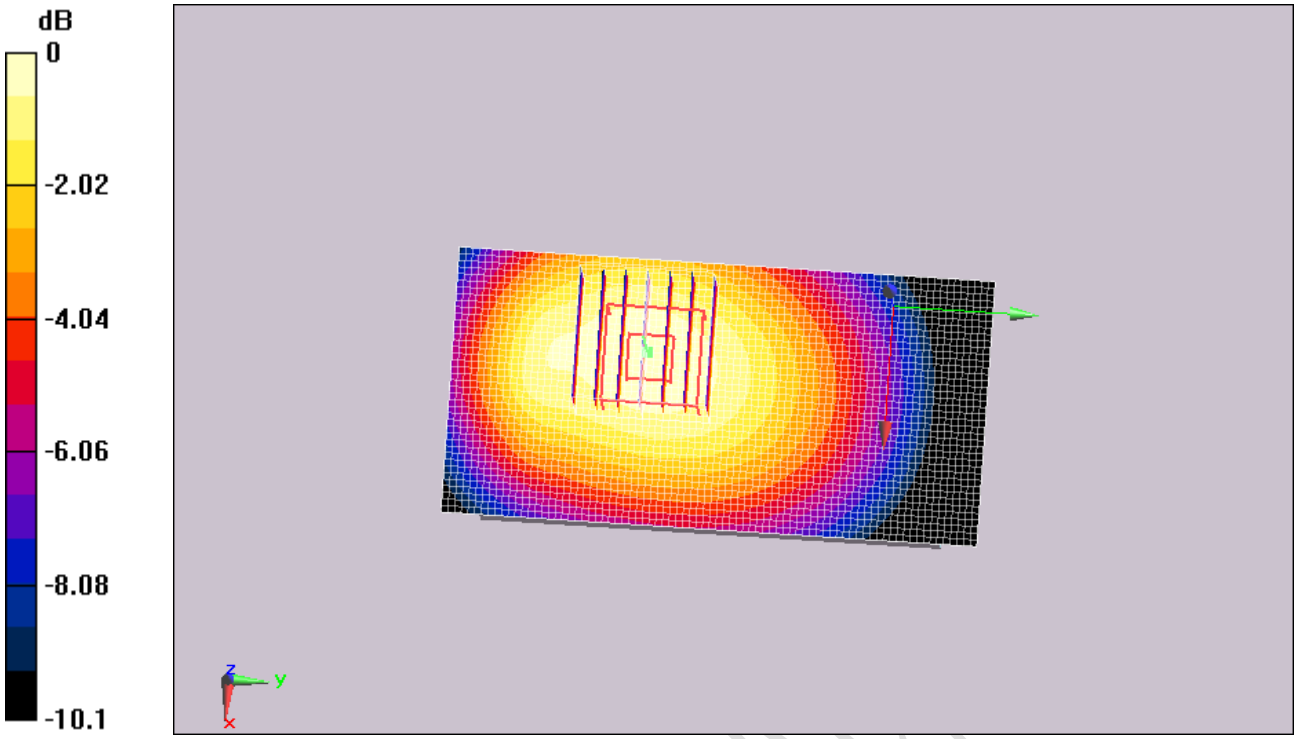
Communication System: (E)GPRS850 3TS; Frequency: 836.6 MHz;Duty Cycle: 1:2.76
Medium parameters used: f = 837 MHz; σ = 0.958 mho/m; ε_r = 54.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.93, 5.93, 5.93); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

gsm_Back_Mid_GPRS/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.955 mW/g

gsm_Back_Mid_GPRS/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.4 V/m; Power Drift = -0.155 dB
Peak SAR (extrapolated) = 1.24 W/kg
SAR(1 g) = 0.909 mW/g; SAR(10 g) = 0.646 mW/g
Maximum value of SAR (measured) = 0.963 mW/g



0 dB = 0.963mW/g

FCC_Body_Back_EGPRS850_3TS_Middle

DUT: F953; Type: F953; Serial: --

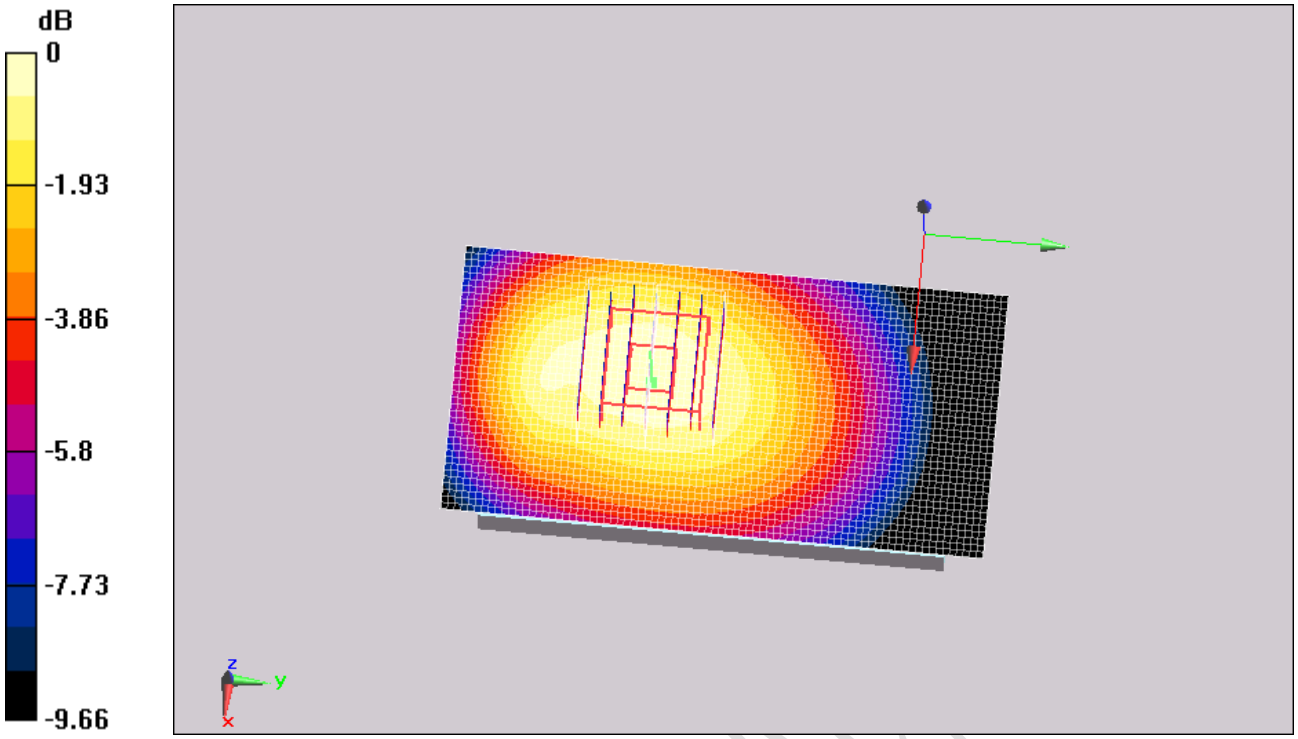
Communication System: (E)GPRS850 3TS; Frequency: 836.6 MHz;Duty Cycle: 1:2.76
Medium parameters used: f = 837 MHz; σ = 0.958 mho/m; ε_r = 54.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.93, 5.93, 5.93); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

gsm_Back_Mid_EGPRS/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.984 mW/g

gsm_Back_Mid_EGPRS/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.1 V/m; Power Drift = -0.187 dB
Peak SAR (extrapolated) = 1.27 W/kg
SAR(1 g) = 0.931 mW/g; SAR(10 g) = 0.659 mW/g
Maximum value of SAR (measured) = 0.988 mW/g



0 dB = 0.988mW/g

FCC_Body_Face_PCS1900_Middle

DUT: F953; Type: F953; Serial: --

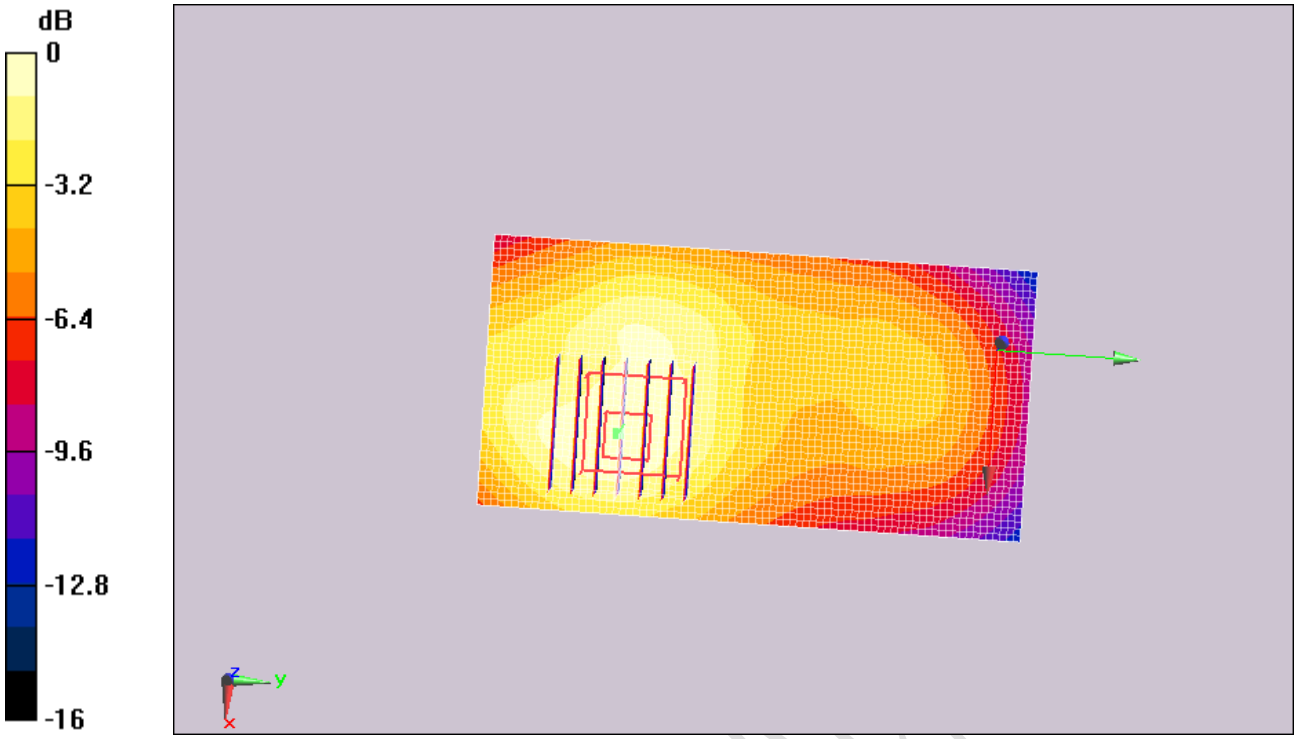
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.57 mho/m; ε_r = 51.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(4.58, 4.58, 4.58); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

PCS 1900_Face_Mid/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.204 mW/g

PCS 1900_Face_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.78 V/m; Power Drift = -0.225 dB
Peak SAR (extrapolated) = 0.304 W/kg
SAR(1 g) = 0.183 mW/g; SAR(10 g) = 0.107 mW/g
Maximum value of SAR (measured) = 0.199 mW/g



0 dB = 0.199mW/g

FCC_Body_Back_PCS1900_Middle

DUT: F953; Type: F953; Serial: --

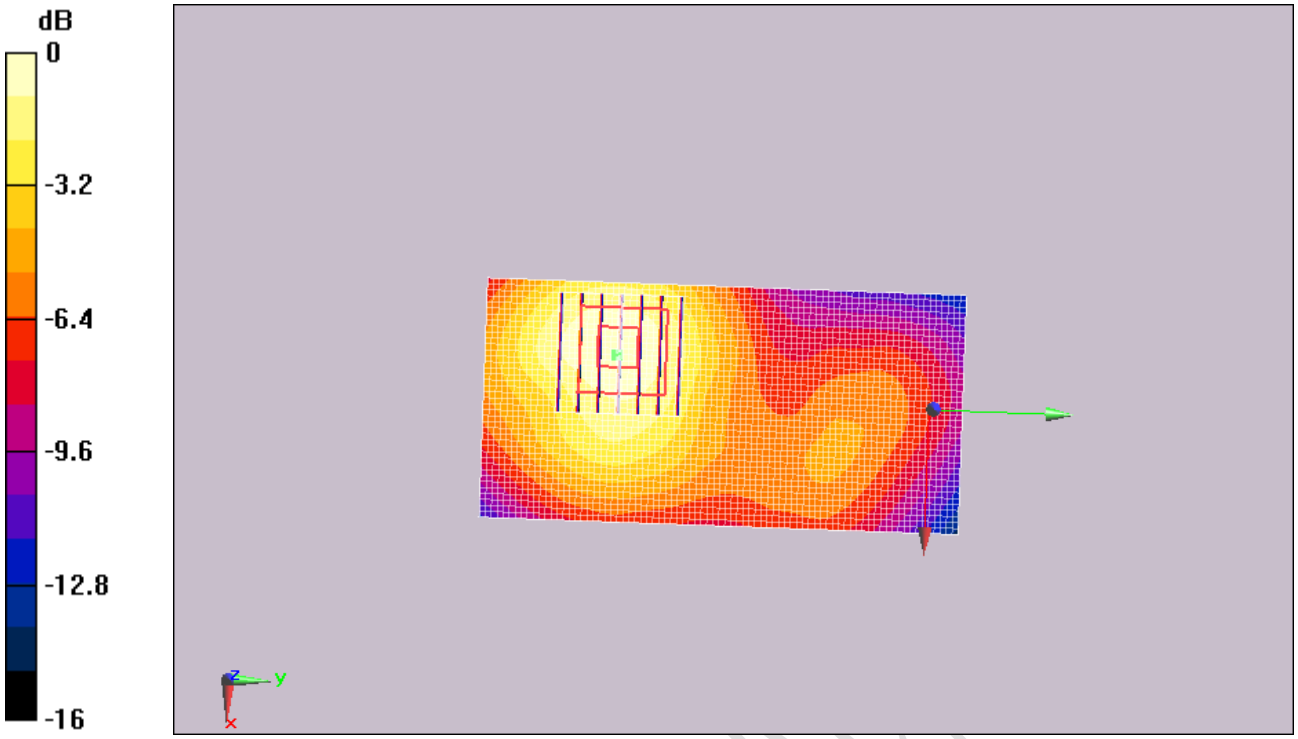
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.57 mho/m; ε_r = 51.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(4.58, 4.58, 4.58); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

PCS 1900_Back_Mid/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.289 mW/g

PCS 1900_Back_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.72 V/m; Power Drift = 0.257 dB
Peak SAR (extrapolated) = 0.432 W/kg
SAR(1 g) = 0.262 mW/g; SAR(10 g) = 0.152 mW/g
Maximum value of SAR (measured) = 0.285 mW/g



0 dB = 0.285mW/g

FCC_Body_Back_PCS1900_Low

DUT: F953; Type: F953; Serial: --

Communication System: PCS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.55 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

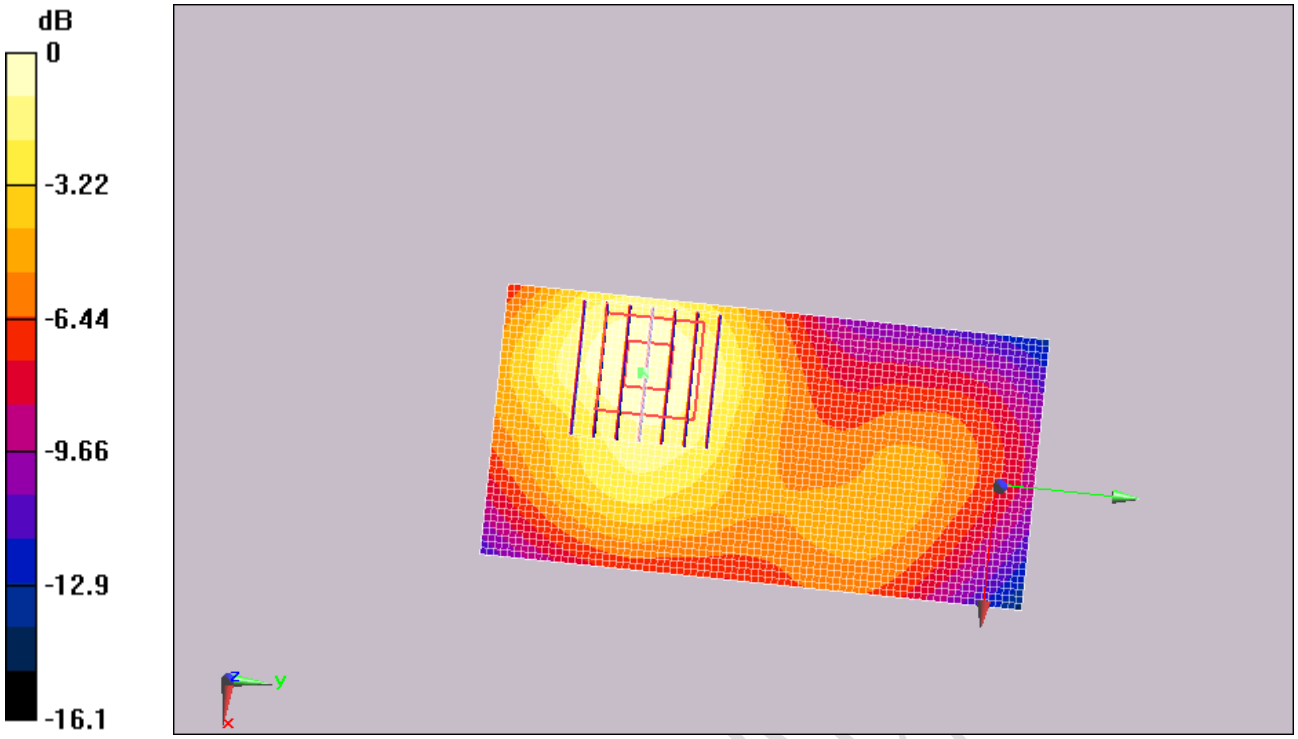
- Probe: ES3DV3 - SN3158; ConvF(4.58, 4.58, 4.58); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

PCS 1900_Back_Low/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.311 mW/g

PCS 1900_Back_Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.4 V/m; Power Drift = -0.135 dB
Peak SAR (extrapolated) = 0.464 W/kg
SAR(1 g) = 0.286 mW/g; SAR(10 g) = 0.166 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.309 mW/g



0 dB = 0.309mW/g

FCC_Body_Back_PCS1900_High

DUT: F953; Type: F953; Serial: --

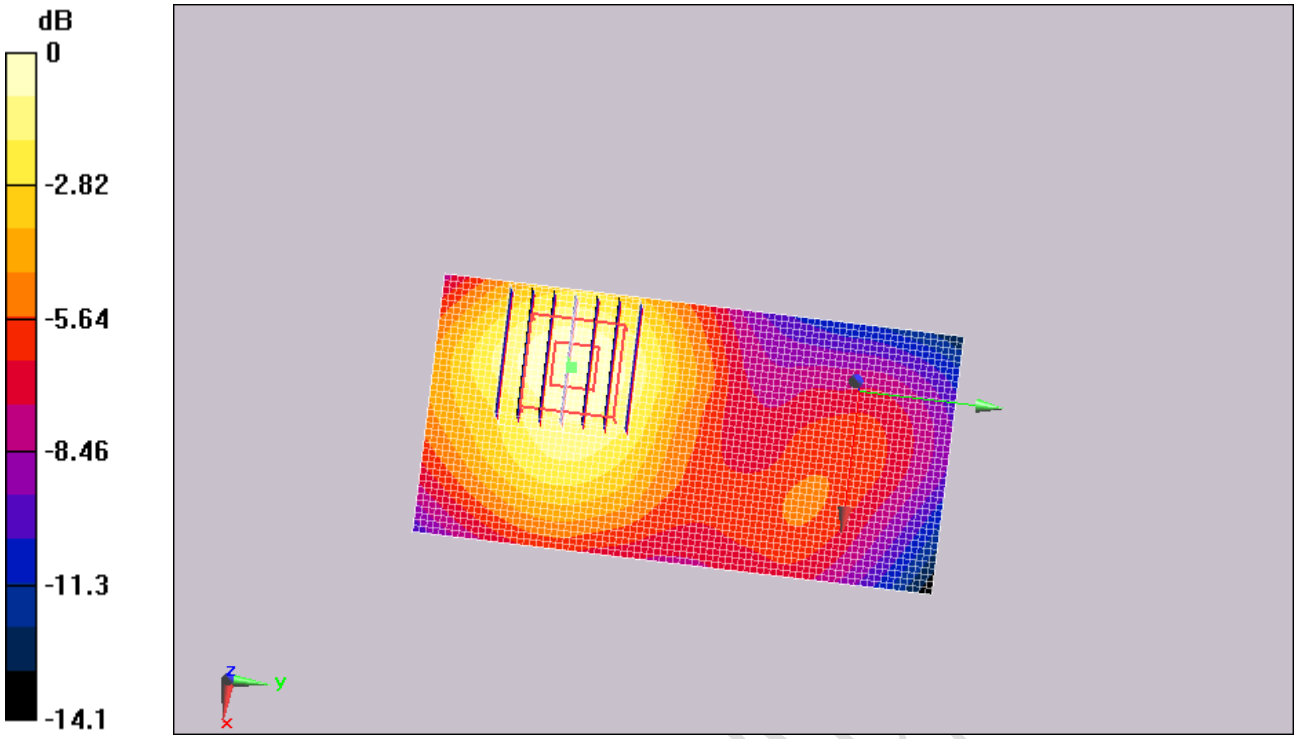
Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.6 mho/m; ε_r = 51.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(4.58, 4.58, 4.58); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

PCS 1900_Back_High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.03 V/m; Power Drift = -0.174 dB
Peak SAR (extrapolated) = 0.462 W/kg
SAR(1 g) = 0.283 mW/g; SAR(10 g) = 0.167 mW/g
Maximum value of SAR (measured) = 0.309 mW/g

PCS 1900_Back_High/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.314 mW/g



0 dB = 0.314mW/g

FCC_Body_Back_PCS1900_Earphone_Low

DUT: F953; Type: F953; Serial: --

Communication System: PCS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.55 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

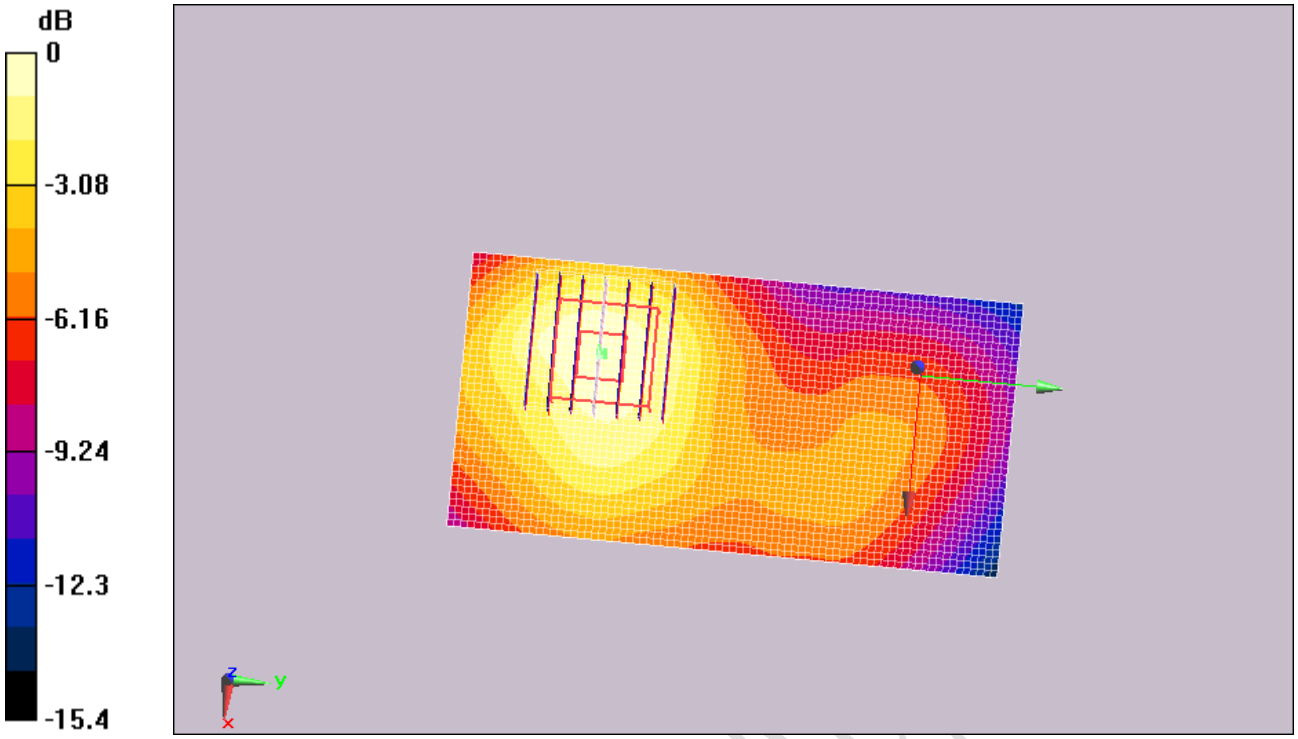
- Probe: ES3DV3 - SN3158; ConvF(4.58, 4.58, 4.58); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

PCS 1900_Back_Low_earphone/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.279 mW/g

PCS 1900_Back_Low_earphone/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.86 V/m; Power Drift = 0.051 dB
Peak SAR (extrapolated) = 0.406 W/kg
SAR(1 g) = 0.251 mW/g; SAR(10 g) = 0.147 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.275 mW/g



0 dB = 0.275mW/g

FCC_Body_Back_PCS1900_BT_Low

DUT: F953; Type: F953; Serial: --

Communication System: PCS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.55 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

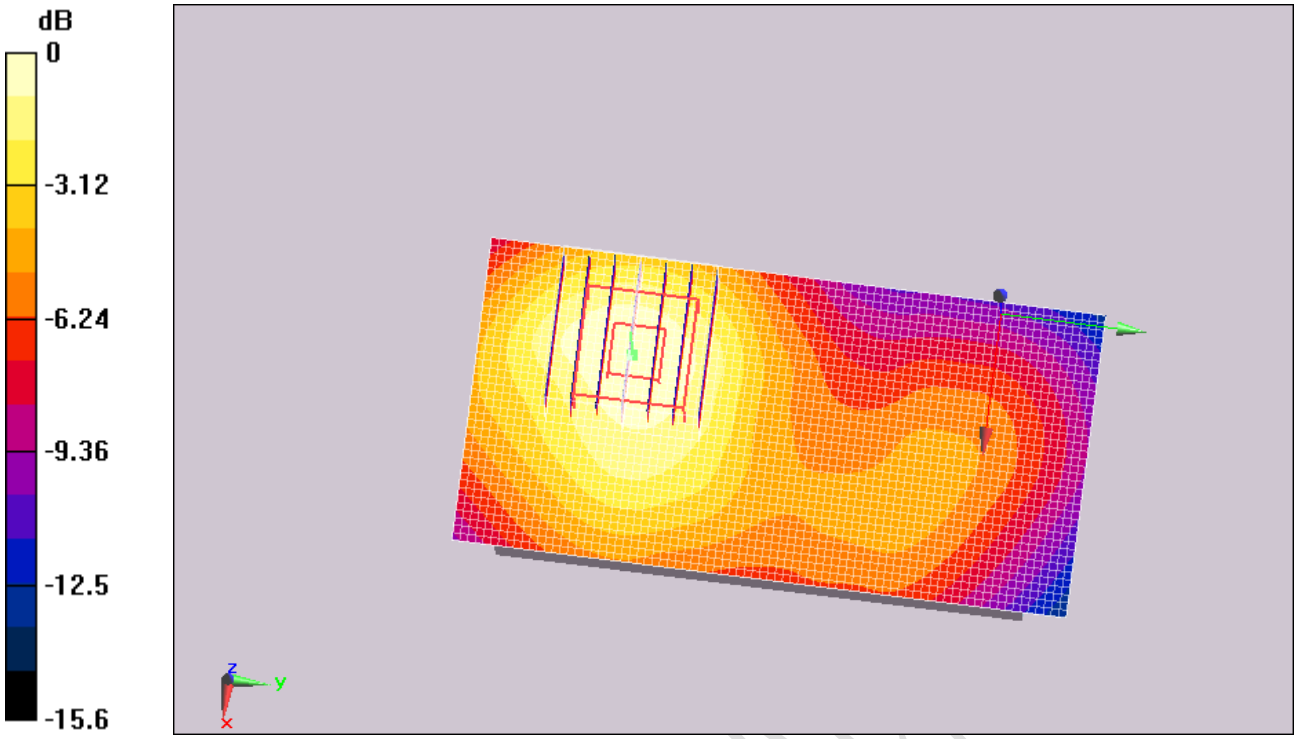
- Probe: ES3DV3 - SN3158; ConvF(4.58, 4.58, 4.58); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

PCS 1900_Back_Low_BT/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.293 mW/g

PCS 1900_Back_Low_BT/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.01 V/m; Power Drift = 0.058 dB
Peak SAR (extrapolated) = 0.416 W/kg
SAR(1 g) = 0.261 mW/g; SAR(10 g) = 0.154 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.285 mW/g



0 dB = 0.285mW/g

FCC_Body_Back_GPRS1900_3TS_Low

DUT: F953; Type: F953; Serial: --

Communication System: (E)GPRS1900 3TS; Frequency: 1850.2 MHz;Duty Cycle: 1:2.7
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.55 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

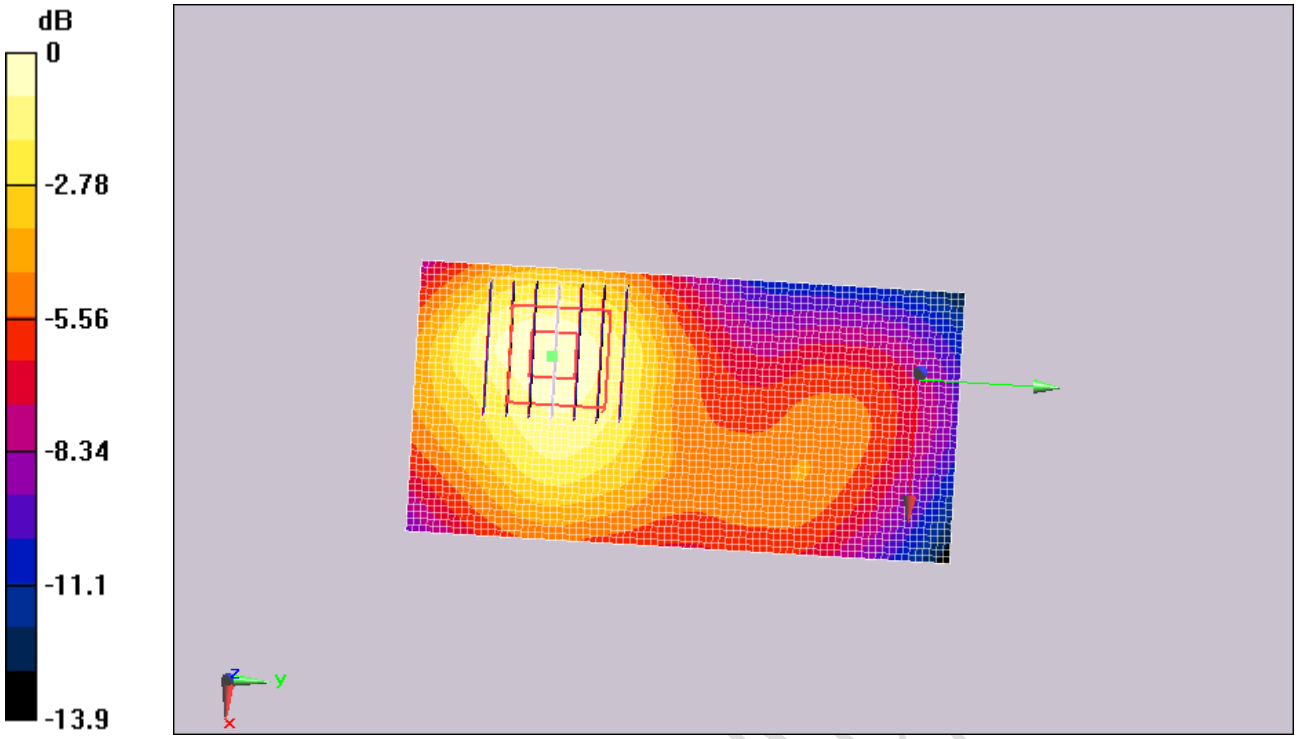
- Probe: ES3DV3 - SN3158; ConvF(4.58, 4.58, 4.58); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

PCS1900_Back_Low_GPRS/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.95 V/m; Power Drift = -0.077 dB
Peak SAR (extrapolated) = 0.670 W/kg
SAR(1 g) = 0.419 mW/g; SAR(10 g) = 0.247 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.458 mW/g

PCS1900_Back_Low_GPRS/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.470 mW/g



0 dB = 0.470mW/g

FCC_Body_Back_EGPRS1900_3TS_Low

DUT: F953; Type: F953; Serial: --

Communication System: (E)GPRS1900 3TS; Frequency: 1850.2 MHz;Duty Cycle: 1:2.7
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.55 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

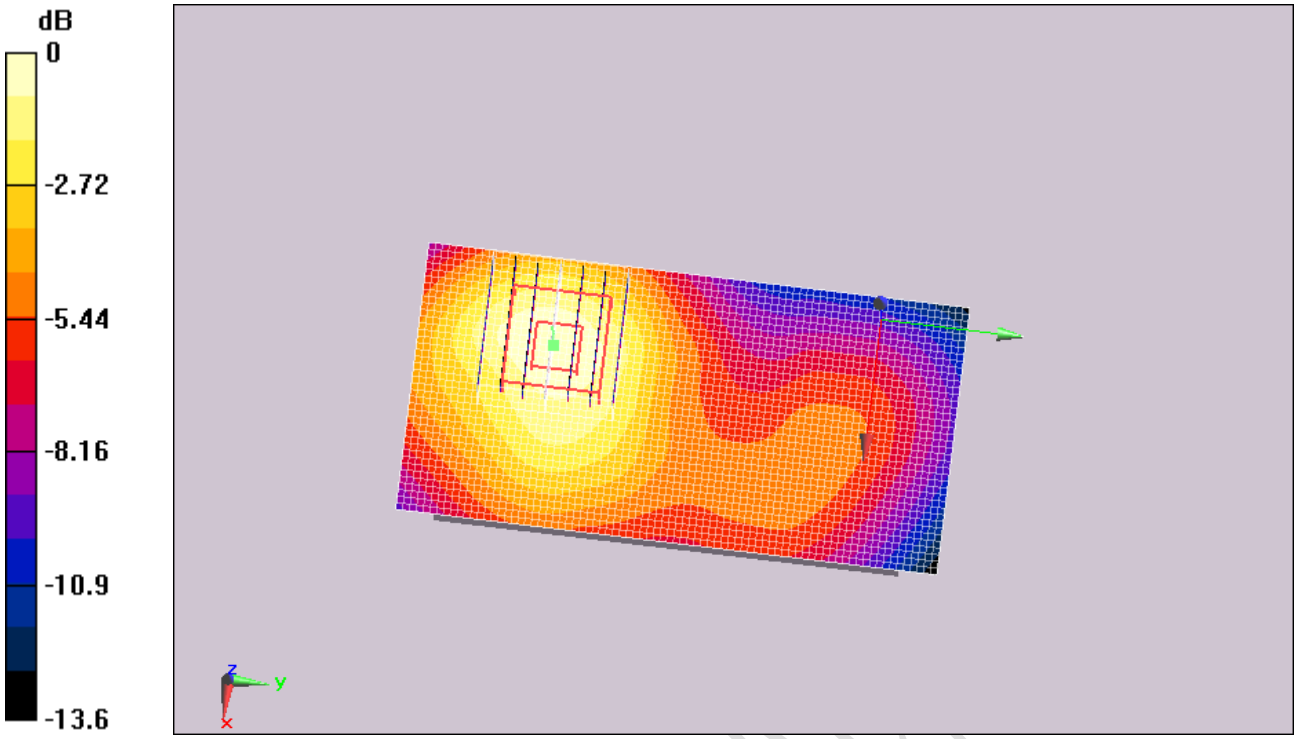
- Probe: ES3DV3 - SN3158; ConvF(4.58, 4.58, 4.58); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

PCS1900_Back_Low_EGPRS/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.8 V/m; Power Drift = -0.00409 dB
Peak SAR (extrapolated) = 0.653 W/kg
SAR(1 g) = 0.403 mW/g; SAR(10 g) = 0.237 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.442 mW/g

PCS1900_Back_Low_EGPRS/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.450 mW/g



0 dB = 0.450mW/g

FCC_Body_Face_WCDMA_FDDV_Middle

DUT: F953; Type: F953; Serial: --

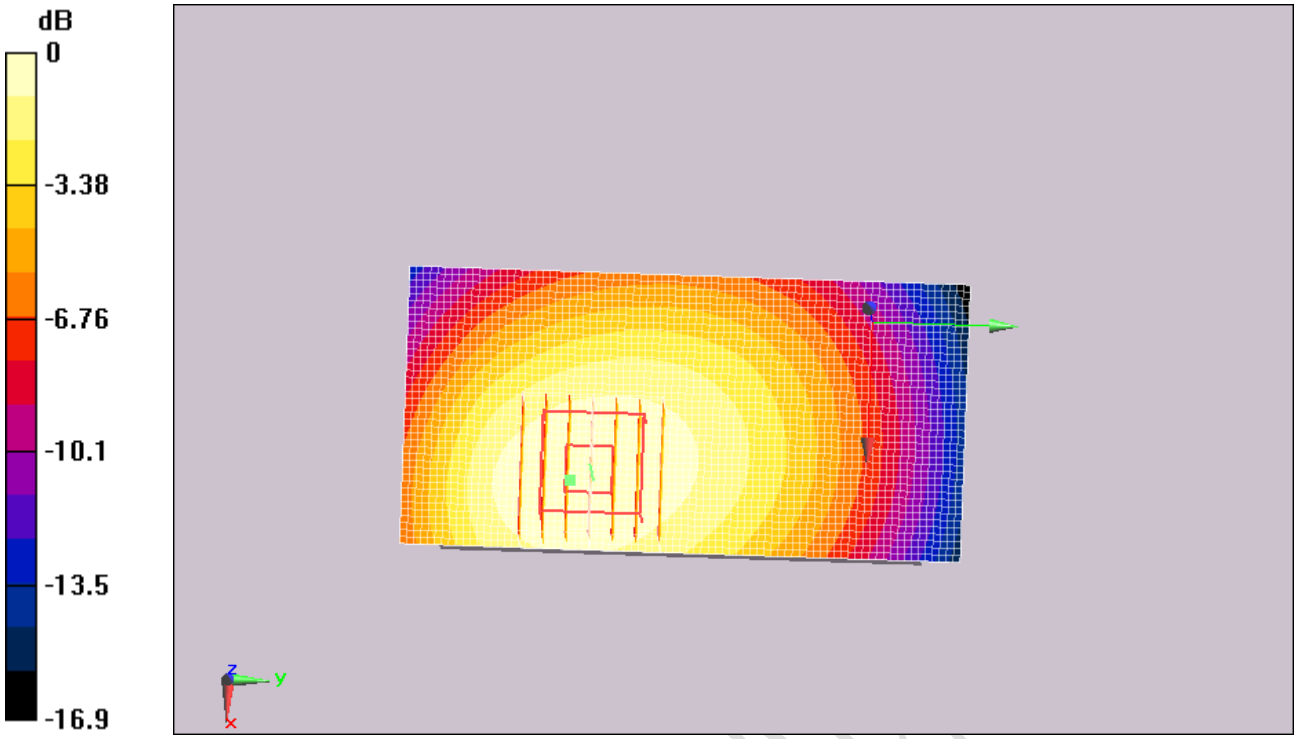
Communication System: WCDMA-FDDV; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.947 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.93, 5.93, 5.93); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

WCDMA FDD V_ Face_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.9 V/m; Power Drift = -0.124 dB
Peak SAR (extrapolated) = 0.511 W/kg
SAR(1 g) = 0.399 mW/g; SAR(10 g) = 0.293 mW/g
Maximum value of SAR (measured) = 0.420 mW/g

WCDMA FDD V_ Face_Mid/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.424 mW/g



0 dB = 0.424mW/g

FCC_Body_Back_WCDMA_FDDV_Middle

DUT: F953; Type: F953; Serial: --

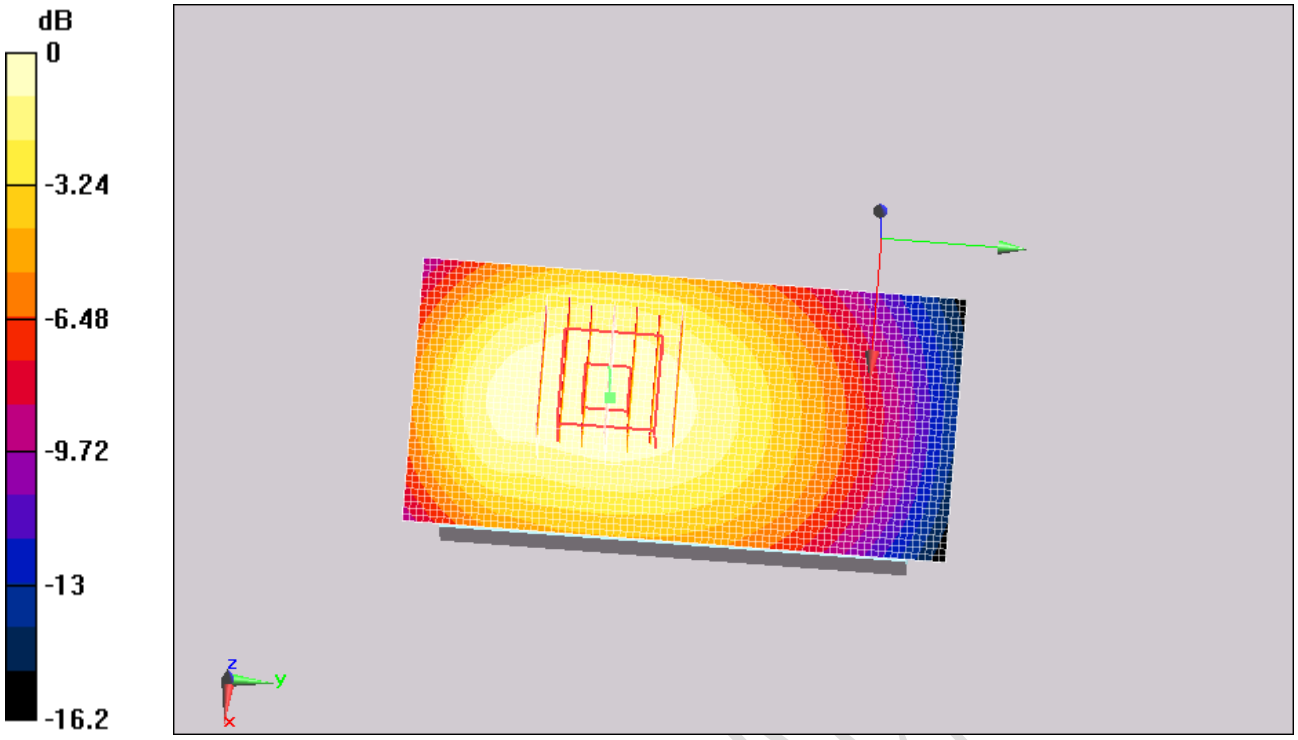
Communication System: WCDMA-FDDV; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.947 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.93, 5.93, 5.93); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

WCDMA FDD V_Back_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.13 V/m; Power Drift = 0.155 dB
Peak SAR (extrapolated) = 0.627 W/kg
SAR(1 g) = 0.462 mW/g; SAR(10 g) = 0.328 mW/g
Maximum value of SAR (measured) = 0.491 mW/g

WCDMA FDD V_Back_Mid/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.486 mW/g



0 dB = 0.486mW/g

FCC_Body_Back_WCDMA_FDDV_Low

DUT: F953; Type: F953; Serial: --

Communication System: WCDMA-FDDV; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.941 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

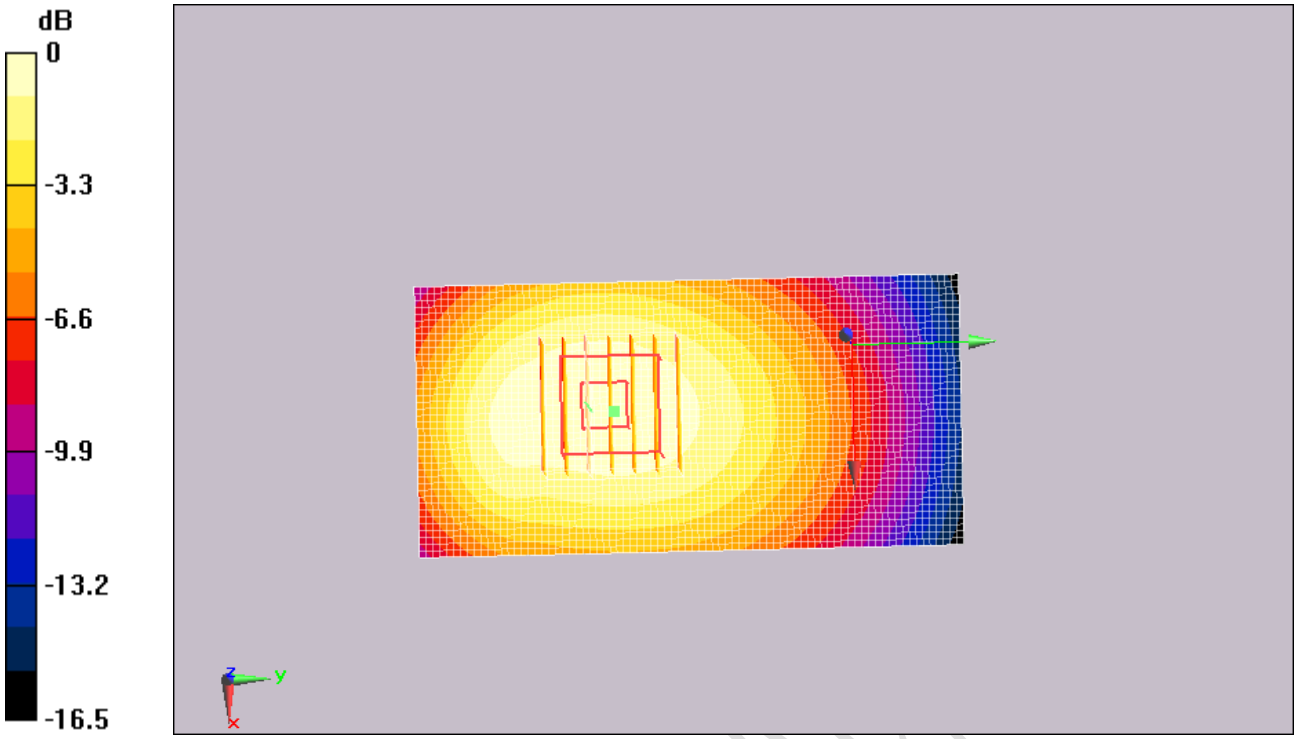
- Probe: ES3DV3 - SN3158; ConvF(5.93, 5.93, 5.93); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

WCDMA FDD V_Back_Low/Zoom Scan (7x7x6)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.94 V/m; Power Drift = 0.092 dB
Peak SAR (extrapolated) = 0.626 W/kg
SAR(1 g) = 0.460 mW/g; SAR(10 g) = 0.325 mW/g

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (measured) = 0.488 mW/g

WCDMA FDD V_Back_Low/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

Info: Interpolated medium parameters used for SAR evaluation.
Maximum value of SAR (interpolated) = 0.483 mW/g



0 dB = 0.483mW/g

FCC_Body_Back_WCDMA_FDDV_High

DUT: F953; Type: F953; Serial: --

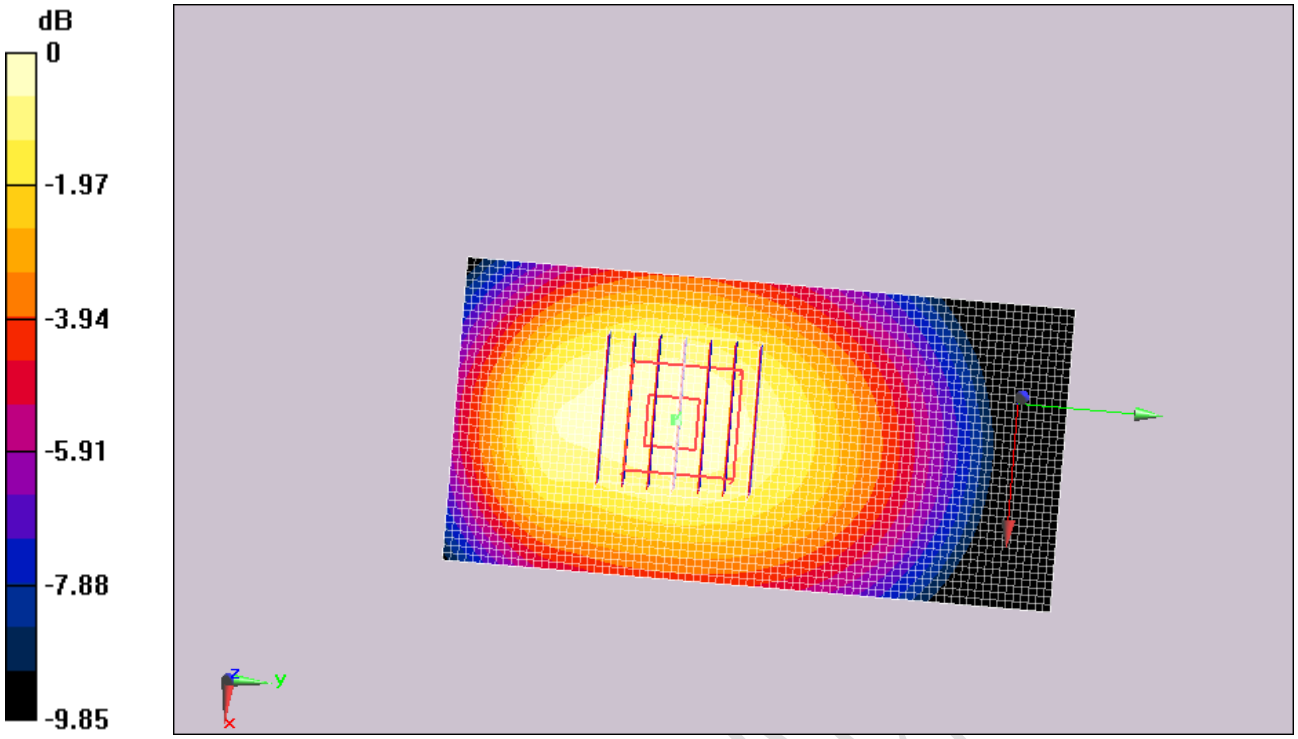
Communication System: WCDMA-FDDV; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.961 mho/m; ε_r = 53.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.93, 5.93, 5.93); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

WCDMA FDD V_Back_High/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.565 mW/g

WCDMA FDD V_Back_High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.82 V/m; Power Drift = 0.089 dB
Peak SAR (extrapolated) = 0.722 W/kg
SAR(1 g) = 0.533 mW/g; SAR(10 g) = 0.377 mW/g
Maximum value of SAR (measured) = 0.566 mW/g



0 dB = 0.566mW/g

FCC_Body_Back_WCDMA_FDDV_Earphone_High

DUT: F953; Type: F953; Serial: --

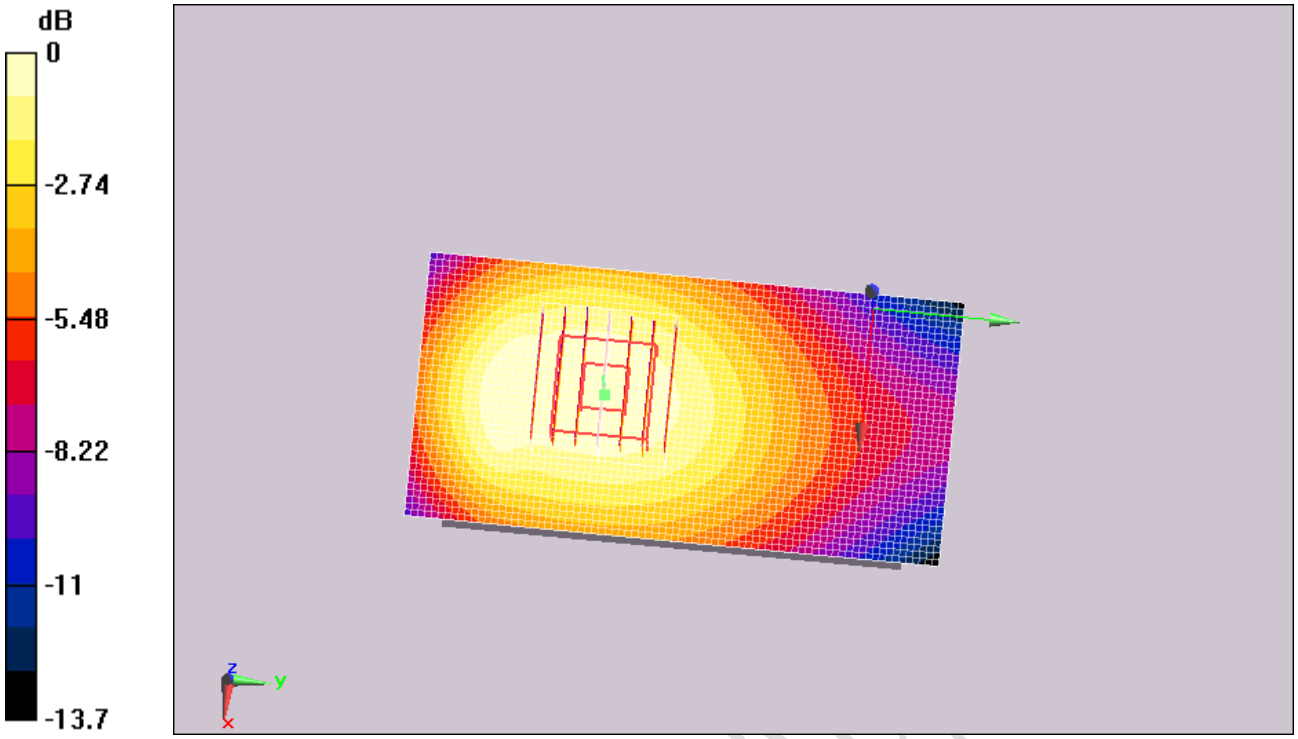
Communication System: WCDMA-FDDV; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.961 mho/m; ε_r = 53.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.93, 5.93, 5.93); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

WCDMA FDD V_ Back_High_earphone/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.11 V/m; Power Drift = -0.206 dB
Peak SAR (extrapolated) = 0.468 W/kg
SAR(1 g) = 0.338 mW/g; SAR(10 g) = 0.238 mW/g
Maximum value of SAR (measured) = 0.360 mW/g

WCDMA FDD V_ Back_High_earphone/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.362 mW/g



0 dB = 0.362mW/g

FCC_Body_Back_WCDMA_FDDV_BT_High

DUT: F953; Type: F953; Serial: --

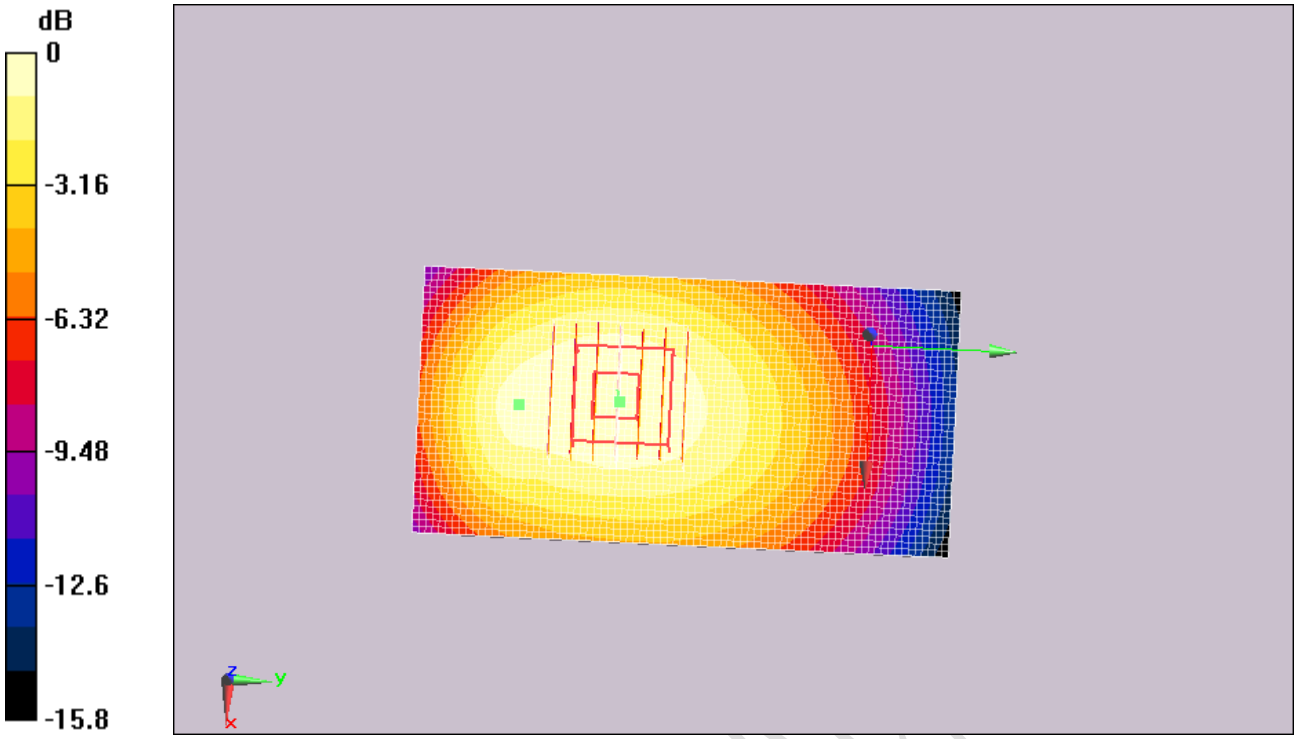
Communication System: WCDMA-FDDV; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.961 mho/m; ε_r = 53.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.93, 5.93, 5.93); Calibrated: 2010-5-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

WCDMA FDD V_ Back_High_BT/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.6 V/m; Power Drift = -0.132 dB
Peak SAR (extrapolated) = 0.767 W/kg
SAR(1 g) = 0.549 mW/g; SAR(10 g) = 0.388 mW/g
Maximum value of SAR (measured) = 0.581 mW/g

WCDMA FDD V_ Back_High_BT/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.582 mW/g



0 dB = 0.582mW/g

Annex E System Performance Check Graphical Results

Validation_Body_MSL900_D835_24dBm_GSM850

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:473

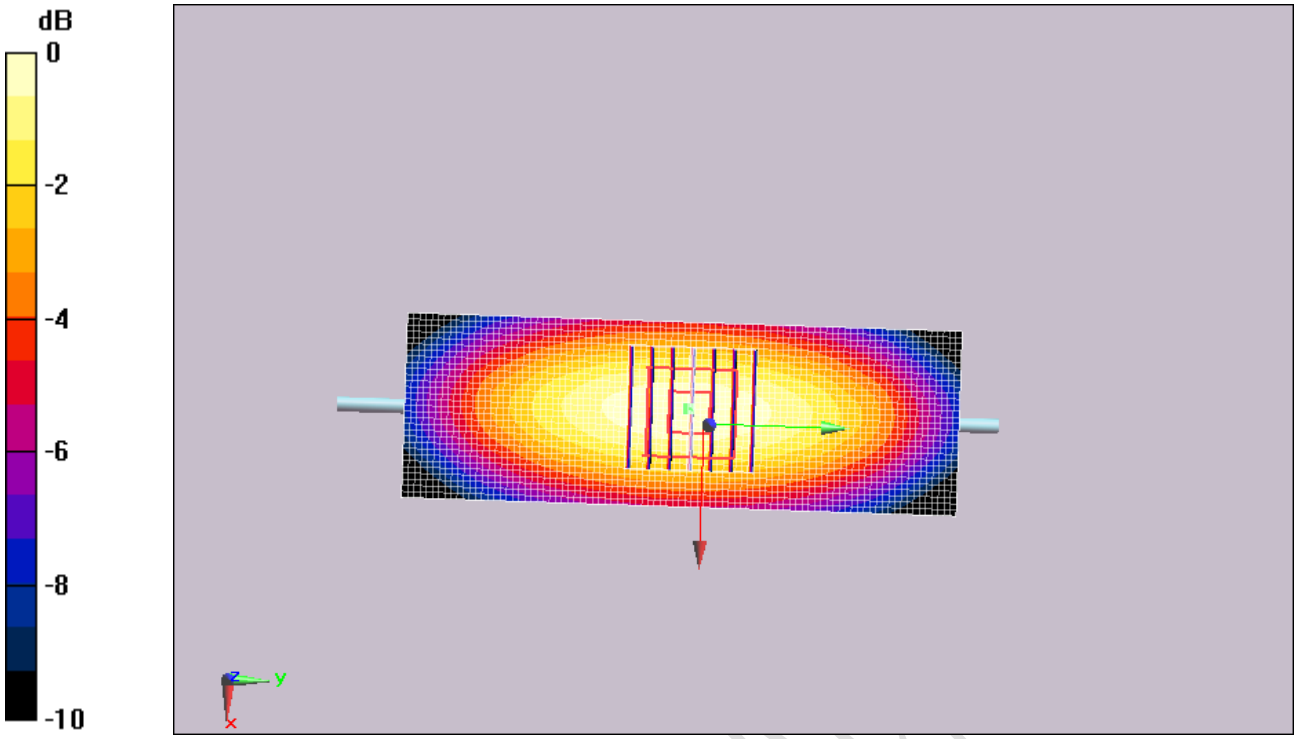
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.943 mho/m; ε_r = 54.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.93, 5.93, 5.93); Calibrated: 2010-5-20
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

d=15mm, Pin=24 dBm/Area Scan (31x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.51 mW/g

d=15mm, Pin=24 dBm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.3 V/m; Power Drift = -0.00495 dB
Peak SAR (extrapolated) = 3.31 W/kg
SAR(1 g) = 2.27 mW/g; SAR(10 g) = 1.5 mW/g
Maximum value of SAR (measured) = 2.56 mW/g



0 dB = 2.56mW/g

Validation_Body_MSL900_D835_24dBm_WCDMA_FDDV

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:473

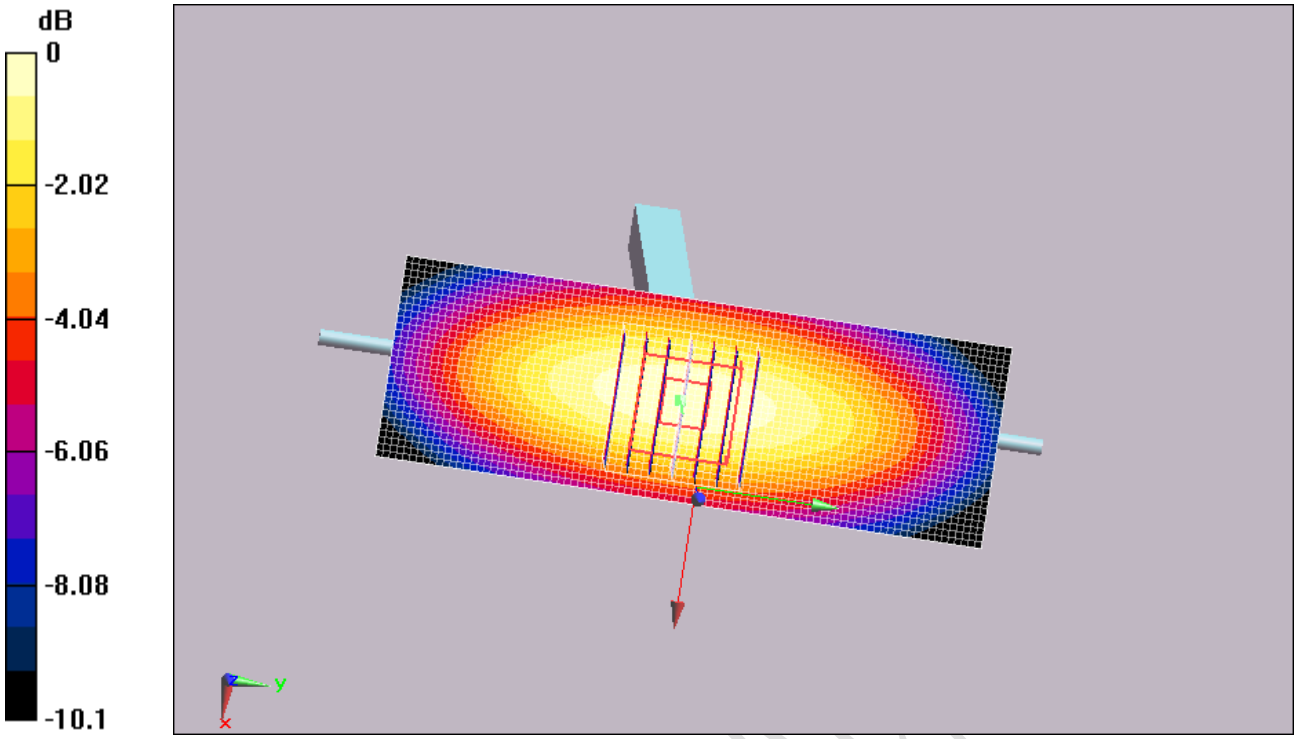
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.947 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.93, 5.93, 5.93); Calibrated: 2010-5-20
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

d=15mm, Pin=24.00 dBm/Area Scan (31x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.58 mW/g

d=15mm, Pin=24.00 dBm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.6 V/m; Power Drift = 0.086 dB
Peak SAR (extrapolated) = 3.4 W/kg
SAR(1 g) = 2.34 mW/g; SAR(10 g) = 1.54 mW/g
Maximum value of SAR (measured) = 2.64 mW/g



0 dB = 2.64mW/g

Validation_Body_MSL1800_D1900_24dBm

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5D024

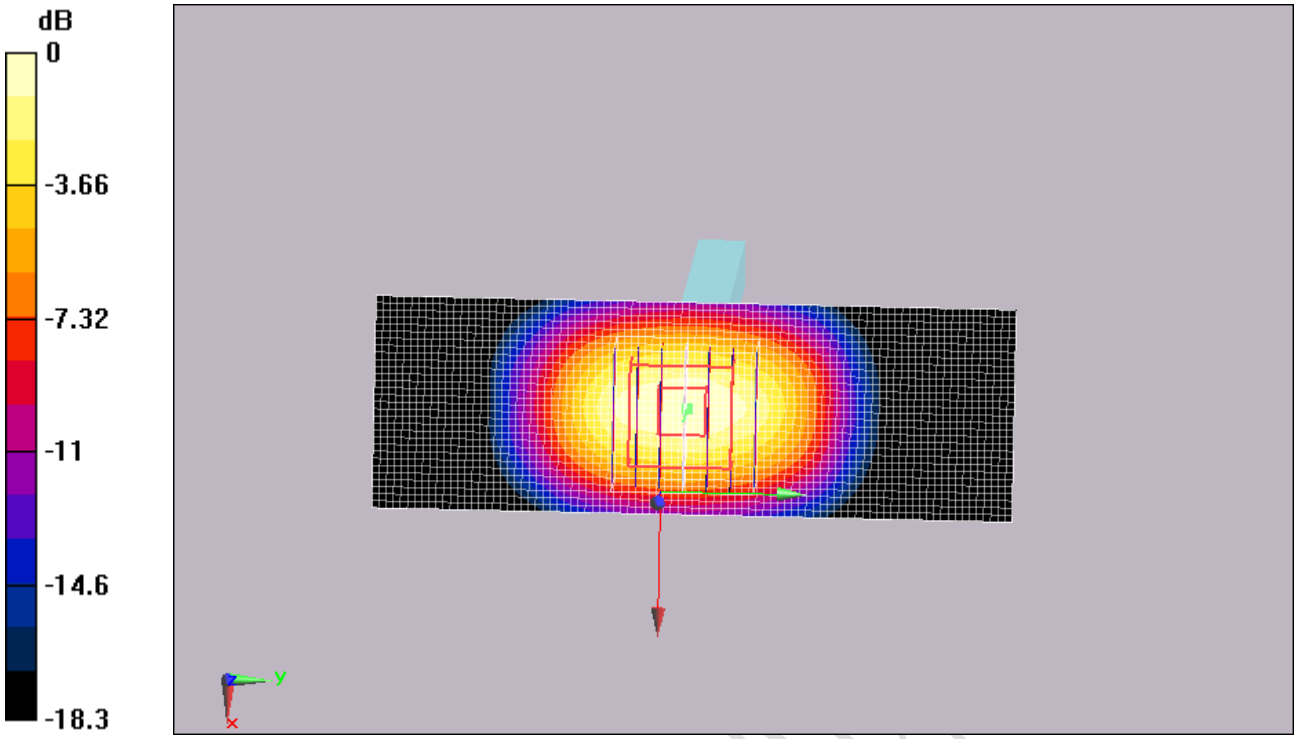
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.59 mho/m; ε_r = 51.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(4.58, 4.58, 4.58); Calibrated: 2010-5-20
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: TP-1028
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

d=10mm, Pin=24 dBm/Area Scan (31x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 12.4 mW/g

d=10mm, Pin=24 dBm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 89.8 V/m; Power Drift = 0.072 dB
Peak SAR (extrapolated) = 17.9 W/kg
SAR(1 g) = 9.79 mW/g; SAR(10 g) = 5 mW/g
Maximum value of SAR (measured) = 12 mW/g



0 dB = 12mW/g

Validation_Head_HSL900_D835_24dBm_WCDMA_FDDV

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:473

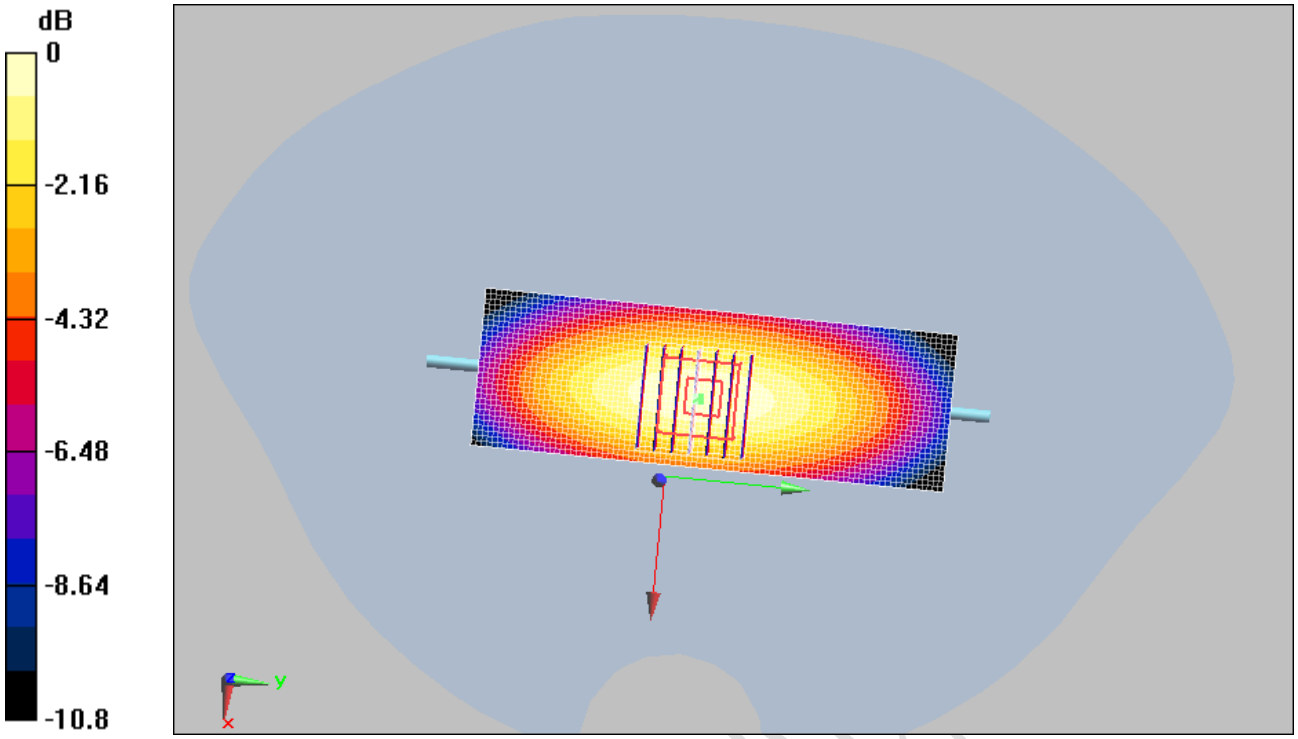
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.964 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.97, 5.97, 5.97); Calibrated: 2010-5-20
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

d=15mm, Pin=24 dBm/Area Scan (31x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.83 mW/g

d=15mm, Pin=24 dBm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 3.85 W/kg
SAR(1 g) = 2.54 mW/g; SAR(10 g) = 1.65 mW/g
Maximum value of SAR (measured) = 2.88 mW/g



0 dB = 2.88mW/g

Validation_Head_HSL900_D835_24dBm

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:473

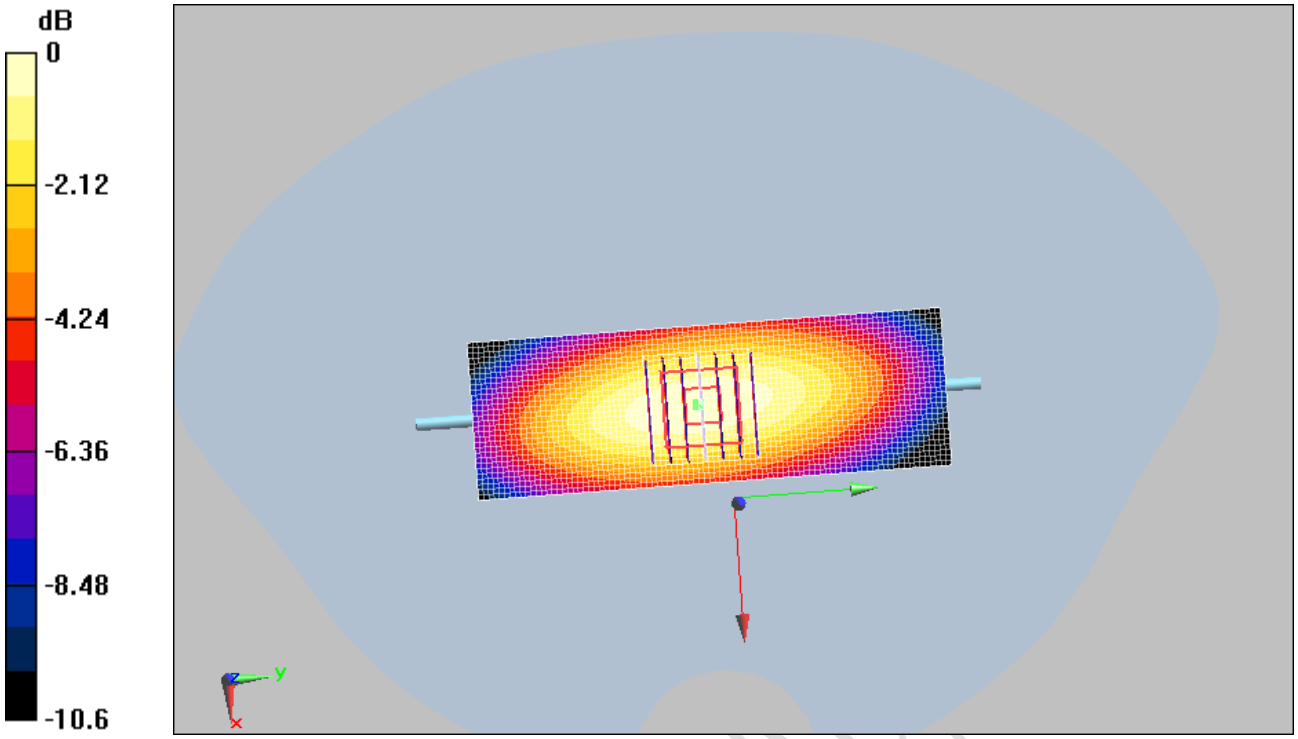
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.964 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5.97, 5.97, 5.97); Calibrated: 2010-5-20
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: North SAM; Type: SAM; Serial: TP-1472
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

d=15mm, Pin=24.00 dBm/Area Scan (31x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.78 mW/g

d=15mm, Pin=24.00 dBm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.4 V/m; Power Drift = -0.00704 dB
Peak SAR (extrapolated) = 3.76 W/kg
SAR(1 g) = 2.49 mW/g; SAR(10 g) = 1.62 mW/g
Maximum value of SAR (measured) = 2.82 mW/g



0 dB = 2.82mW/g

Validation_Head_HSL1800_D1900_24dBm

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5D024

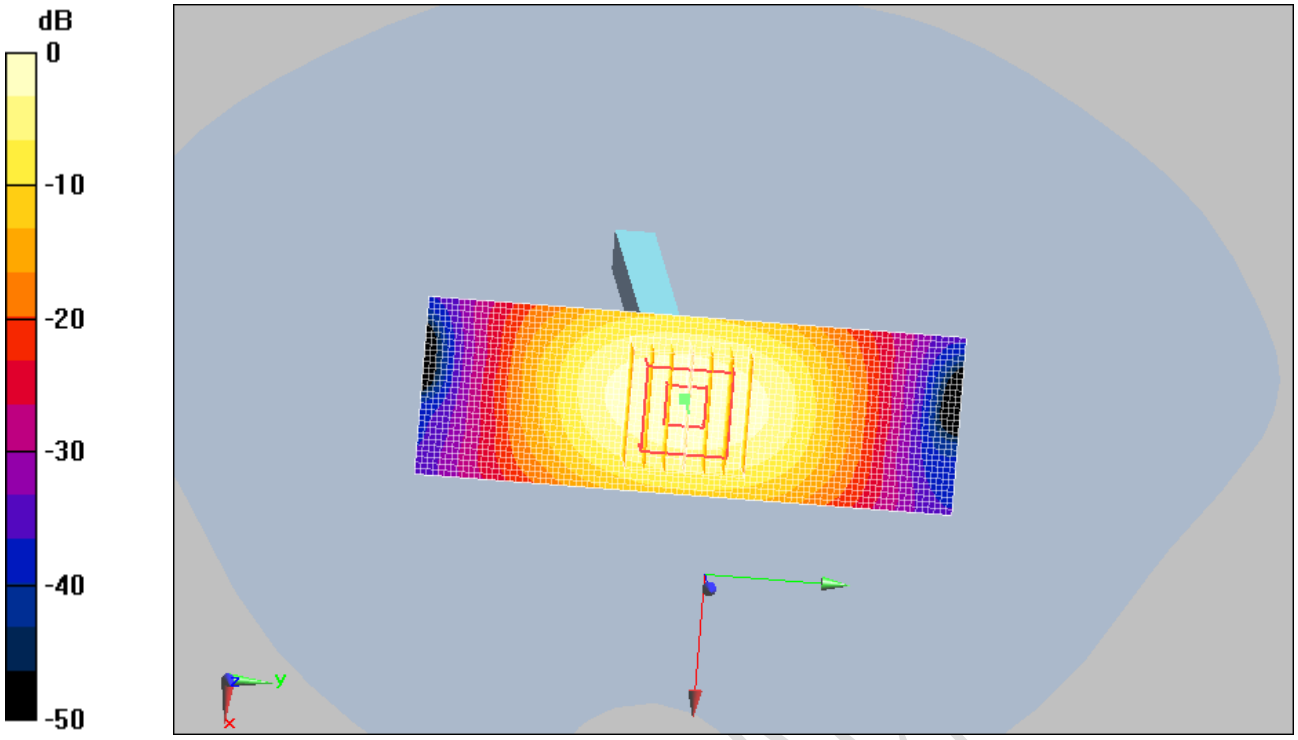
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.44 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY4 Configuration:

- Probe: ES3DV3 - SN3158; ConvF(5, 5, 5); Calibrated: 2010-5-20
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn549; Calibrated: 2010-5-20
- Phantom: West SAM; Type: SAM; Serial: TP-1509
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

d=10mm, Pin=24.00 dBm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 94.6 V/m; Power Drift = -0.00821 dB
Peak SAR (extrapolated) = 19.2 W/kg
SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.2 mW/g
Maximum value of SAR (measured) = 12.3 mW/g

d=10mm, Pin=24.00 dBm/Area Scan (31x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 12.7 mW/g



0 dB = 12.7mW/g

Annex F Probes Calibration Certificates

The System Validation was conducted following the requirements of standard IEEE 1528: 2003 Clause 8.3.

The scanned copy of the calibration certificate of the probe used is as following.

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
S 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

Client CTTL

Certificate No: ES3-3158_May10

CALIBRATION CERTIFICATE

Object ES3DV3 - SN:3158

Calibration procedure(s) QA CAL-01.v6, QA CAL-23.v3 and QA CAL-25.v2
Calibration procedure for dosimetric E-field probes

Calibration date: May 20, 2010

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-10 (No. 217-01136)	Apr-11
Power sensor E4412A	MY41495277	1-Apr-10 (No. 217-01138)	Apr-11
Power sensor E4412A	MY41498087	1-Apr-10 (No. 217-01138)	Apr-11
Reference 3 dB Attenuator	SN: S5054 (3c)	30-Mar-10 (No. 217-01159)	Mar-11
Reference 20 dB Attenuator	SN: S5086 (20b)	30-Mar-10 (No. 217-01161)	Mar-11
Reference 30 dB Attenuator	SN: S5129 (30b)	30-Mar-10 (No. 217-01160)	Mar-11
Reference Probe ES3DV2	SN: 3013	30-Dec-09 (No. ES3-3013_Dec09)	Dec-10
DAE4	SN: 660	20-Apr-10 (No. DAE4-660_Apr10)	Apr-11

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-09)	In house check: Oct10

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: May 22, 2010

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Calibration Laboratory of
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Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., ϑ = 0 is normal to probe axis

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

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not effect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- *DCPx,y,z:* DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- *Ax,y,z; Bx,y,z; Cx,y,z, VRx,y,z: A, B, C* are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. *VR* is the maximum calibration range expressed in RMS voltage across the diode.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *Sensor Offset*: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

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Probe ES3DV3

SN:3158

Manufactured:	August 13, 2007
Last calibrated:	April 14, 2009
Recalibrated:	May 20, 2010

Calibrated for DASY/EASY Systems

(Note: non-compatible with DASY2 system!)

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DASY/EASY - Parameters of Probe: ES3DV3 SN:3158

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	1.14	1.23	1.22	± 10.1%
DCP (mV)[B]	93.9	93.8	91.6	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dBuV	C	VR mV	Unc[E] (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	300.0	± 1.5%
			Y	0.00	0.00	1.00	300.0	
			Z	0.00	0.00	1.00	300.0	

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

[A] The uncertainties of NormX,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).

[B] Numerical linearization parameter: uncertainty not required.

[C] Uncertainty is determined using the maximum deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

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DASY/EASY - Parameters of Probe: ES3DV3 SN:3158

Calibration Parameter Determined in Head Tissue Simulating Media

f [MHz]	Validity [MHz][C]	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
835	± 50 / ± 100	41.5 ± 5%	0.90 ± 5%	5.97	5.97	5.97	0.69	1.18 ± 11.0%
900	± 50 / ± 100	41.5 ± 5%	0.97 ± 5%	5.86	5.86	5.86	0.73	1.16 ± 11.0%
1750	± 50 / ± 100	40.1 ± 5%	1.37 ± 5%	5.13	5.13	5.13	0.37	1.72 ± 11.0%
1900	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	5.00	5.00	5.00	0.41	1.58 ± 11.0%
1950	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	4.84	4.84	4.84	0.37	1.76 ± 11.0%
2450	± 50 / ± 100	39.2 ± 5%	1.80 ± 5%	4.43	4.43	4.43	0.44	1.68 ± 11.0%

[C] The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

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DASY/EASY - Parameters of Probe: ES3DV3 SN:3158

Calibration Parameter Determined in Body Tissue Simulating Media

f [MHz]	Validity [MHz][C]	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth	Unc (k=2)
835	± 50 / ± 100	55.2 ± 5%	0.97 ± 5%	5.93	5.93	5.93	0.77	1.20	± 11.0%
900	± 50 / ± 100	55.0 ± 5%	1.05 ± 5%	5.84	5.84	5.84	0.83	1.13	± 11.0%
1750	± 50 / ± 100	53.4 ± 5%	1.49 ± 5%	4.81	4.81	4.81	0.36	2.06	± 11.0%
1900	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	4.58	4.58	4.58	0.32	2.41	± 11.0%
1950	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	4.69	4.69	4.69	0.31	2.43	± 11.0%
2450	± 50 / ± 100	52.7 ± 5%	1.95 ± 5%	4.20	4.20	4.20	0.66	1.29	± 11.0%

[C] The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

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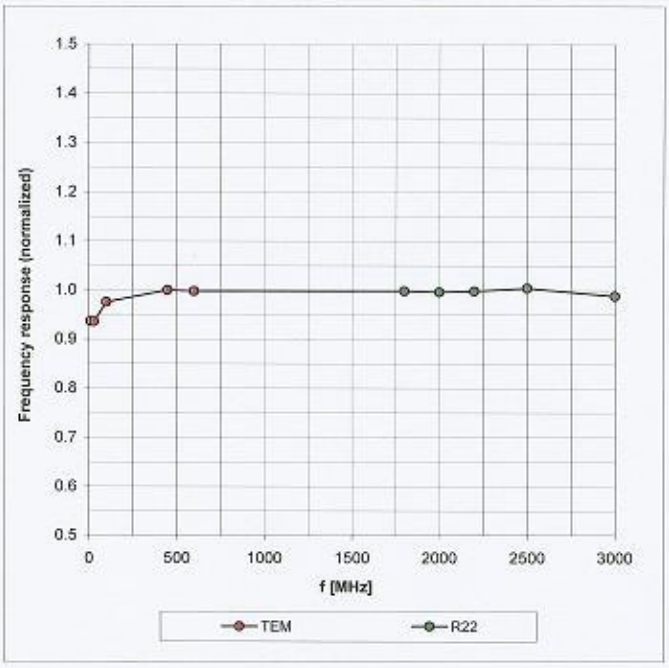
Frequency Response of E-Field

(TEM-Cell:ifi110 EXX, Waveguide: R22)



Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

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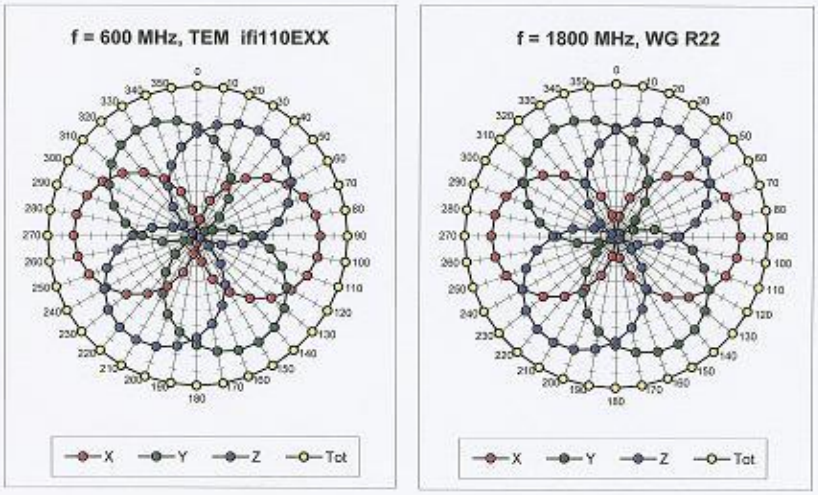
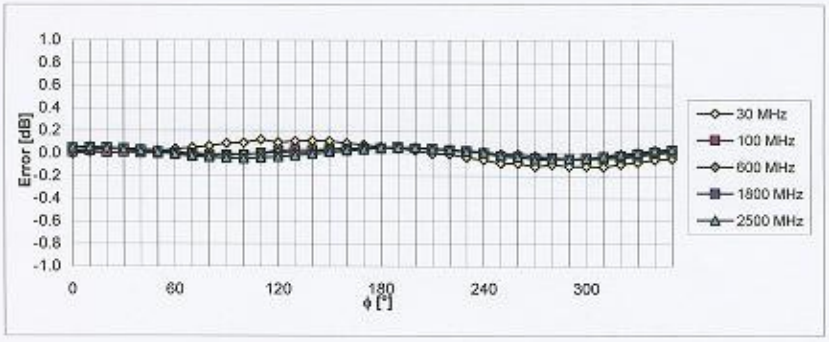
Receiving Pattern (ϕ), ϑ = 0°





Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

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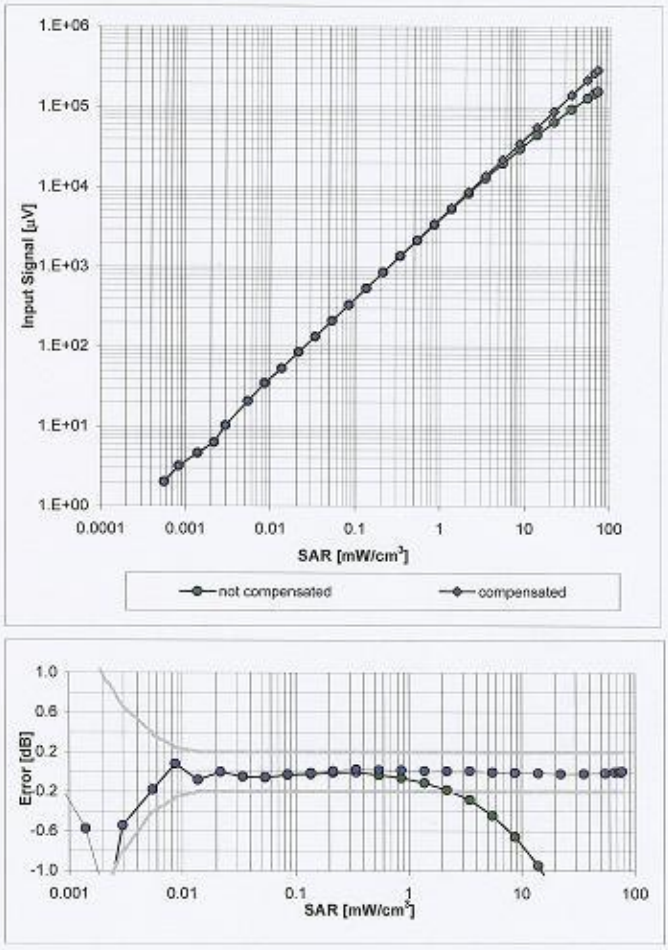
Dynamic Range f(SAR_{head})

(Waveguide R22, f = 1800 MHz)



Uncertainty of Linearity Assessment: ± 0.6% (k=2)

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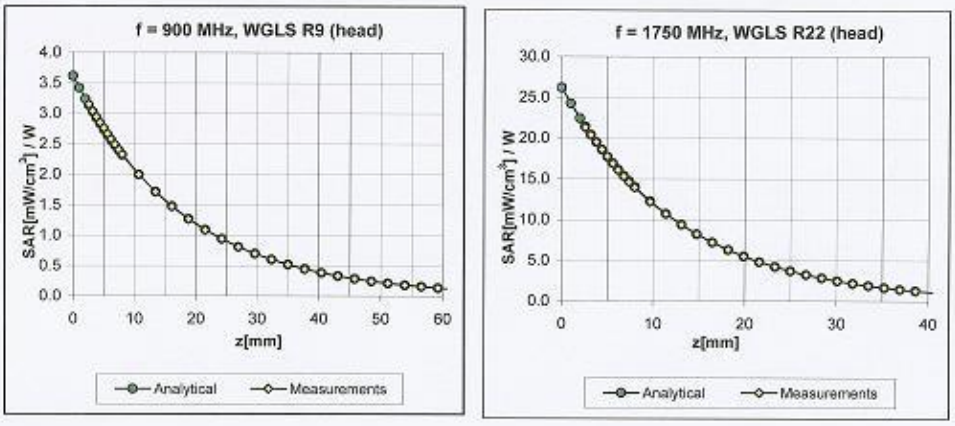
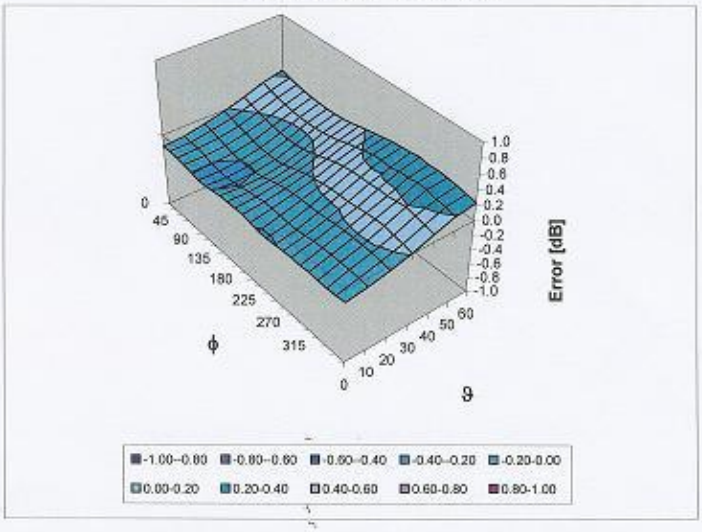
Conversion Factor Assessment



Deviation from Isotropy in HSL

Error (ϕ, ϑ), f = 900 MHz



Uncertainty of Spherical Isotropy Assessment: ± 2.6% (k=2)

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Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	Not applicable
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	10 mm
Tip Diameter	4.0 mm
Probe Tip to Sensor X Calibration Point	2 mm
Probe Tip to Sensor Y Calibration Point	2 mm
Probe Tip to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 mm

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Annex G Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

The End of this Report