Full SAR Test Report

Applicant Name: Fusion Garage
Applicant Address: 5 Harper Road #03-02 Singapore 369673

The following samples were submitted and identified on behalf of the client as:

Sample Description	Smart Phone
Brand Name	Fusion Garage
Model Number	Grid 4
Final Hardware Version Tested	DVT1
Final Software Version Tested	SW07
FCC ID	ZKN-GRID4
Date Initial Sample Received	05-09,2011
Testing Start Date	05-11,2011
Testing End Date	06-16,2011

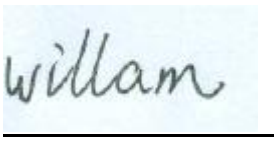
According to:

FCC 47CFR § 2.1093, IEEE Std C95.1-2005

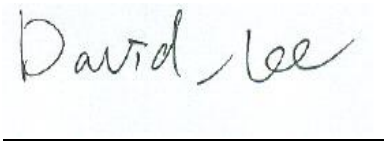
IEEE1528-2003, OET Bulletin 65 Supplement C

Comments/ Conclusion:
The configuration tested complied to the certification requirements specified in this report.

Signed for on behalf of SGS



Prepared



approved

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Change History

Version	Change Contents	Author	Date
V1.0	First edition	Willam Wang	06-29, 2011
V2.0	Change applicant information	Willam Wang	09-02, 2011
V3.0	Add 8PSK mode power	Willam Wang	09-16, 2011

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1. Report Overview

This report details the results of testing carried out on the samples listed in section 17, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.
This report may only be reproduced and distributed in full. If the product in this test report is used in any configuration other than that detailed in the test report, the manufacturer must ensure the new configuration complies with all relevant standards and certification requirements. Any mention of SGS Shanghai EMC lab or testing done by SGS Shanghai EMC lab made in connection with the distribution or use of the tested product must be approved in writing by SGS Shanghai EMC lab.

2. Test Lab Declaration or Comments

None

3. Applicant Declaration or Comments

None

4. Full Test Report

A full test report contains, within the results section, all the applicable test cases from the certification requirements of the permanent reference documents of the listed certification bodies.

5. Partial Test Report

A partial test report contains within the results section a sub-set of all the applicable test cases from the certification requirements of the permanent reference documents of the listed certification bodies.

6. Measurement Uncertainty

Measurements and results are all in compliance with the standards listed in section 12 of this report. All measurements and results are recorded and maintained at the laboratory performing the tests and measurement uncertainties are taken into account when comparing measurements to pass/ fail criteria.

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A	b1	c	d	e = f(d,k)	g	i = cxg/e	k
Uncertainty Component	Section in P1528	Tol (%)	Prob . Dist.	Div.	Ci (1g)	1g ui (%)	Vi (Veff)
Probe calibration	E.2.1	6.3	N	1	1	6.3	∞
Axial isotropy	E.2.2	0.5	R	$\sqrt{3}$	$(1-c_p)^{1/2}$	0.20	∞
hemispherical isotropy	E.2.2	2.6	R	$\sqrt{3}$	$\sqrt{c_p}$	1.06	∞
Boundary effect	E.2.3	0.8	R	$\sqrt{3}$	1	0.46	∞
Linearity	E.2.4	0.6	R	$\sqrt{3}$	1	0.35	∞
System detection limit	E.2.5	0.25	R	$\sqrt{3}$	1	0.15	∞
Readout electronics	E.2.6	0.3	N	1	1	0.3	∞
Response time	E.2.7	0	R	$\sqrt{3}$	1	0	∞
Integration time	E.2.8	2.6	R	$\sqrt{3}$	1	1.5	∞
RF ambient Condition –Noise	E.6.1	3	R	$\sqrt{3}$	1	1.73	∞
RF ambient Condition - reflections	E.6.1	3	R	$\sqrt{3}$	1	1.73	∞
Probe positioning- mechanical tolerance	E.6.2	1.5	R	$\sqrt{3}$	1	0.87	∞
Probe positioning- with respect to phantom	E.6.3	2.9	R	$\sqrt{3}$	1	1.67	∞
Max. SAR evaluation	E.5.2	1	R	$\sqrt{3}$	1	0.58	∞
Test sample positioning	E.4.2	4	N	1	1	3.7	9
Device holder uncertainty	E.4.1	3.6	N	1	1	3.6	∞
Output power variation –SAR drift measurement	6.62	5	R	$\sqrt{3}$	1	2.89	∞
Phantom uncertainty (shape and thickness tolerances)	E.3.1	4	R	$\sqrt{3}$	1	2.31	∞
Liquid conductivity - deviation from target values	E.3.2	5	R	$\sqrt{3}$	0.64	1.85	∞
Liquid conductivity - measurement uncertainty	E.3.2	4	N	1	0.64	2.56	5
Liquid permittivity - deviation from target values	E.3.3	5	R	$\sqrt{3}$	0.6	1.73	∞
Liquid permittivity - measurement uncertainty	E.3.3	4	N	1	0.6	2.40	5
Combined standard uncertainty				RSS		10.71	430
Expanded uncertainty (95% CONFIDENCE INTERVAL)				K=2		21.43	

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7. Testing Environment

Normal Temperature	+20 to +24 °C
Relative Humidity	35 to 60 %

8. Primary Test Laboratory

Name:	EMC Laboratory SGS-CSTC Standards Technical Services(Shanghai) Co., Ltd
Address:	9F, 3rd Building, No.889, Yishan Rd, Xuhui District, Shanghai, China 200233
Telephone:	+86 (0) 21 6107 2777
Fax:	+86 (0) 21 5450 0149
Internet:	http://www.cn.sgs.com
Contact:	Mr. David Lee
Email:	david-jc.lee@sgs.com

9. Details of Applicant

Name:	Fusion Garage
Address:	5 Harper Road #03-02 Singapore 369673
Telephone:	(65) 6383 5909
Fax	(65) 6383 5676
Contact Person & Job Title:	Marcus Mok
Email:	marcus@fusiongarage.com

10. Details of Manufacturer

Name:	Compal Communications, Inc.
Address:	No.385, Yangguang Street, Neihu, Taipei, (114) Taiwan
Telephone:	+886 2 8751 6228 ext. 18471
Fax	/
Contact Person & Job Title:	Charles CHANG, certification manager
Email:	charles2_chang@compalcomm.com

11. Other testing Locations

Name:	Not Required
Address:	--
Telephone:	--
Contact:	--
Fax	--
Email:	--

12. Referenced Documents

The Equipment under Test (EUT) has been tested at SGS's (own or subcontracted) laboratories according to

FCC 47CFR § 2.1093, IEEE Std C95.1-2005, IEEE1528-2003, OET Bulletin 65 Supplement C,

The following table summarizes the specific reference documents such as harmonized standards or test specifications which were used for testing as SGS's (own or subcontracted) laboratories.

Identity	Document Title	Version
FCC 47CFR § 2.1093	Radiofrequency radiation exposure evaluation: portable devices	2001
IEEE Std C95.1-2005	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.	2005
IEEE1528-2003	IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques	2003
OET Bulletin 65 Supplement C	Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions	2001
KDB 447498 D01	Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies	-
KDB 248227 D01	SAR Measurement Procedures for 802.11a/b/g Transmitters	-
KDB941225 D06	SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities	-

Human Exposure	Uncontrolled Environment General Population
Spatial Peak SAR	1.60 W/kg (averaged over a mass of 1g)

Table 12-1 RF Exposure Limits

Notes:

Uncontrolled environments are defined as locations where there is potential exposure of individuals who have no knowledge or control of their potential exposure.

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13. Primary Laboratory Accreditation Details

China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(No. CNAS L0599)

China National Accreditation Service for Conformity Assessment has accredited

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

Testing Center

1/4/6/7/8/9/10F., No.3 Building, Qilai Industry City,

No.889, Yishan Road, Shanghai, China

to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

The scope of accreditation is detailed in the attached schedule bearing the same accreditation number as above. The schedule forms an integral part of this certificate.

Date of Issue: 2009-08-31

Date of Expiry: 2011-07-29

Date of Initial Accreditation: 2003-08-01

Signed on behalf of China National Accreditation Service for Conformity Assessment

China National Accreditation Service for Conformity Assessment(CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation systems for conformity assessment. CNAS is the signatory to International Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (ILAC MRA), and the signatory to Asia Pacific Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (APLAC MRA).

14. SGS Shanghai EMC lab, Personnel

SGS EMC Shanghai Project Management Team and list of approved Testers for SGS EMC Shanghai.

Surname	Forename	Initials
CAI	CAI	CAICAI
Xu	Jim	JimXu
Pan	Tino	Tino
Hailiang	Cai	HAILIANG
Nie	Neo	Neo
Xu	Jesse	Jesse
Wang	Willam	Willam
Lee	David	David
Liu	Magi	Magi

Version 2011-01-01

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15. Test Equipment Information

15.1 SPEAG DASY4

Test Platform	SPEAG DASY4 Professional			
Location	SGS SH Lab #8			
Manufacture	SPEAG			
Description	SAR Test System (Frequency range 300MHz-3GHz) 835, 900, 1800, 1900, 2000, 2450 frequency band HAC Extension			
Software Reference	DASY4: V4.7 Build 80 SEMCAD: V1.8 Build 186			
Hardware Reference				
Equipment	Model	Serial Number	Calibration Date	Due date of calibration
Robot	RX90L	F03/5V32A1/A01	n/a	n/a
Phantom	SAM 12	TP-1283	n/a	n/a
DAE	DAE3	569	2010-11-22	2011-11-21
E-Field Probe	ES3DV3	3088	2010-11-23	2011-11-22
Validation Kits	D835V2	4d070	2010-11-19	2011-11-18
Validation Kits	D1900V2	5d028	2010-11-25	2011-11-24
Validation Kits	D2450V2	733	2010-11-25	2011-11-24
Agilent Network Analyzer	E5071B	MY42100549	2010-11-24	2011-11-23
RF Bi-Directional Coupler	ZABDC20-252H	n/a	2011-05-18	2012-05-17
Agilent Signal Generator	E4438C	14438CATO-19719	2010-11-01	2011-10-31
Mini-Circuits Preamplifier	ZHL-42	D041905	2010-11-01	2011-10-31
Agilent Power Meter	E4416A	GB41292095	2010-11-01	2011-10-31
Agilent Power Sensor	8481H	MY41091234	2010-11-01	2011-10-31
R&S Power Sensor	NRP-Z92	100025	2011-04-12	2012-04-11
R&S Universal Radio Communication Tester	CMU200	103633	2010-11-01	2011-10-31

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15.2 The SAR Measurement System

A photograph of the SAR measurement System is given in Fig. 15-1.

This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (Speag Dasy 4 professional system). A Model ES3DV3 3088 E-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ (|Ei|2)/ ρ where σ and ρ are the conductivity and mass density of the tissue-simulant.

The DASY4 system for performing compliance tests consists of the following items:

A standard high precision 6-axis robot (Stabile RX family) with controller, teach pendant and software. An arm extension is for accommodation the data acquisition electronics (DAE).

A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.

Data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.

The Electro-optical converter (EOC) performs the conversion between optical and electrical of the signals for the digital communication to DAE and for the analog signal from the optical surface detection. The EOC is connected to the measurement server.

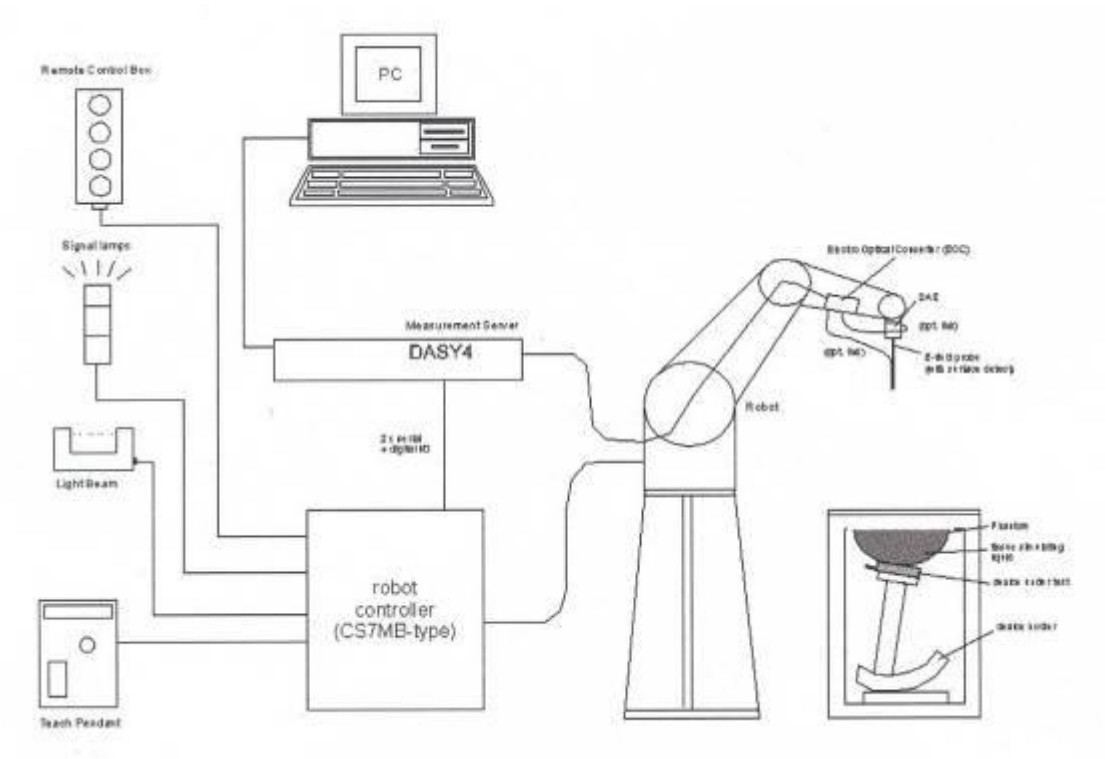

Fig. 15-1 SAR System Configuration

- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
- A computer operating Windows 2000.

- DASY4 software.
- Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- The SAM twin phantom enabling testing left-hand, right-hand and BodyWorn usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- Validation dipole kits allowing to validating the proper functioning of the system

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15.3 Isotropic E-field Probe ES3DV3

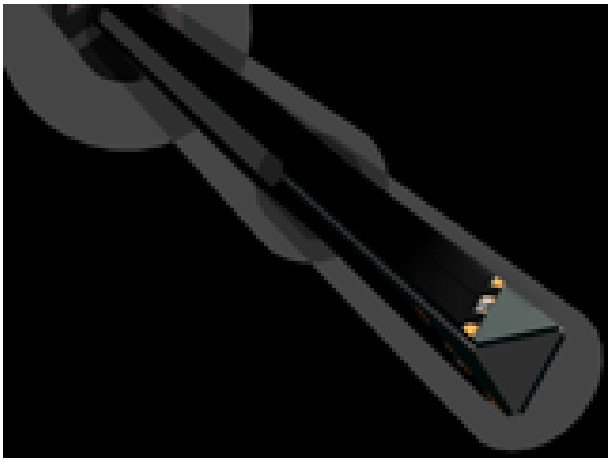

Fig. 15-2 E-field Probe

Construction	Symmetrical design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	Basic Broad Band Calibration in air Conversion Factors (CF) for HSL 900 and HSL 1810 Additional CF for other liquids and frequencies upon request
Frequency	10 MHz to 4 GHz; Linearity: ± 0.2 dB (30 MHz to 4 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.3 dB in tissue material (rotation normal to probe axis)
Dynamic Range	5 µW/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 3.9 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.0 mm
Application	General dosimetry up to 4 GHz Dosimetry in strong gradient fields Compliance tests of mobile phones

15.4 SAM Twin Phantom

Fig. 15-3 SAM Twin Phantom

The SAM twin phantom is a fiberglass shell phantom with 2mm shell thickness (except the ear region where shell thickness increases to 6mm). It has three measurement areas:

• Left hand

• Right hand

• Flat phantom

A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. Free space scans of devices on the cover are possible.

On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

Phantom specification:

Description	The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528-2003, CENELEC 50361 and IEC 62209. 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 evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.
Shell Thickness	2+0.2mm, Center ear point: 6+0.2mm
Filling Volume	Approx.25 liters
Dimensions	Length: 1000mm, Width: 500mm, Height: 850mm

15.5 Device Holder for Transmitters

Fig. 15-4 Device Holder for Transmitters

The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source in 5mm distance, a positioning uncertainty of ±0.5mm would produce a SAR uncertainty of ±20%. An accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions, in which the devices must be measured, are defined by the standards.

The DASY device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation centers for both scales are the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.

The DASY device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity "=3 and loss tangent _=0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

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16. Detailed Test Results

16.1 Summary of Results

16.1.1 Measurement of RF conducted Power

Unit:dBm

Mode		GPRS							
Slot (Uplink)		1		2		3		4	
/		Max burst	averaged	Max burst	averaged	Max burst	averaged	Max burst	averaged
Band	Channel	GMSK							
850	128	33.4	24.20	31.3	25.1	29.0	24.6	27.9	24.7
	190	33.3	24.10	31.4	25.2	29.3	24.9	28.0	24.8
	251	33.8	24.60	31.3	25.1	29.4	25.0	28.1	24.9
1900	512	29.9	20.70	28.0	21.8	26.1	21.7	23.7	20.5
	661	30.2	21.00	28.4	22.2	26.5	22.1	24.1	20.9
	810	30.4	21.20	28.4	22.2	26.5	22.1	24.4	21.2
Mode		EGPRS							
Slot (Uplink)		1		2		3		4	
/		Max burst	averaged	Max burst	averaged	Max burst	averaged	Max burst	averaged
Band	Channel	GMSK							
850	128	33.4	24.20	31.3	25.1	29.0	24.6	27.9	24.7
	190	33.3	24.10	31.4	25.2	29.3	24.9	28.0	24.8
	251	33.8	24.60	31.3	25.1	29.4	25.0	28.1	24.9
1900	512	29.9	20.70	28.0	21.8	26.1	21.7	23.7	20.5
	661	30.2	21.00	28.4	22.2	26.5	22.1	24.1	20.9
	810	30.4	21.20	28.4	22.2	26.5	22.1	24.4	21.2
Band	Channel	8PSK							
850	128	26.90	17.70	25.30	19.10	23.60	19.20	22.30	19.10
	190	26.80	17.60	25.20	19.00	23.60	19.20	22.20	19.00
	251	27.00	17.80	25.30	19.10	23.70	19.30	22.20	19.00
1900	512	25.40	16.20	24.20	18.00	21.80	17.40	20.10	16.90
	661	26.00	16.80	24.50	18.30	22.10	17.70	20.60	17.40
	810	25.80	16.60	24.30	18.10	22.00	17.60	20.40	17.20

Mode	GSM	
Slot (Uplink)	GMSK	
/	Max burst	averaged

Band	Channel	GMSK	
850	128	33.6	24.4
	190	33.8	24.6
	251	33.8	24.6
1900	512	28.1	18.9
	661	29.3	20.1
	810	28.9	19.7

WCDMA		RMC			
		12.2kbps	64kbps	144kbps	384kbps
Band	Channel	QPSK			
Band II	9262	22.91	22.78	22.85	22.86
	9400	22.67	22.54	22.59	22.60
	9538	22.45	22.28	22.38	22.41
Band V	4132	23.59	23.45	23.51	23.49
	4182	23.30	23.12	23.19	23.25
	4233	23.25	23.07	23.19	23.21

HSDPA		SUBTEST			
		1	2	3	4
Band	Channel	QPSK			
Band II	9262	20.44	20.41	20.18	20.15
	9400	20.23	20.15	20.04	20.01
	9538	20.05	20.01	19.89	19.85
Band V	4132	20.84	20.78	20.55	20.61
	4182	20.67	20.61	20.31	20.35
	4233	20.14	20.05	19.76	19.82

HSUPA		SUBTEST				
		1	2	3	4	5
Band	Channel	QPSK				
Band II	9262	22.83	20.88	21.89	21.01	22.72
	9400	22.65	20.72	21.67	20.77	22.51
	9538	22.39	20.43	21.47	20.47	22.30
Band V	4132	23.55	21.61	22.59	21.66	23.41
	4182	23.23	21.31	22.29	21.37	23.06
	4233	23.17	21.21	22.25	21.29	23.06

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Mode			WLAN
Band	Data rate	Channel	Average power
802.11b	1Mbps	1	10.62
		6	10.36
		11	10.45
802.11g	6Mbps	1	6.71
		6	7.26
		11	7.29
802.11n/TH20	6.5Mbps	1	5.1
		6	5.25
		11	5.27

BT		
Band	Channel	Average power
BDR	2402	7.31
	2441	5.66
	2480	7.22
EDR	2402	6.19
	2441	4.39
	2480	5.5

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16.1.2 Measurement of SAR average value

GSM 850

Band	EUT Position	Mode	Test Configuration	Averaged SAR over 1g (W/kg)			SAR limit 1g (W/kg))	Verdict
				CH128	CH190	CH251		
				824.2MHz	836.6MHz	848.8MHz		
GSM850	Left	GSM	Cheek	0.384	0.451	0.484	1.6	Passed
			Tilt	--	0.265	--	1.6	Passed
	Right		Cheek	--	0.442	--	1.6	Passed
			Tilt	--	0.259	--	1.6	Passed
	Body Worn	GSM	Front of EUT facing phantom	--	0.609	--	1.6	Passed
			Rear of EUT facing phantom	0.959	0.991	0.938	1.6	Passed
			Worst case with earphone	--	0.820	--	1.6	Passed
		GPRS 1TS	Rear of EUT facing phantom	0.779	0.902	0.735	1.6	Passed
		GPRS 2TS	Rear of EUT facing phantom	1.04	1.14	1.03	1.6	Passed
		GPRS 3TS	Rear of EUT facing phantom	0.984	1.07	1.09	1.6	Passed
		GPRS 4TS	Rear of EUT facing phantom	0.986	0.888	1.04	1.6	Passed
		GPRS 2TS	Front of EUT facing phantom	--	0.744	--	1.6	Passed
			Top of EUT facing phantom	--	0.044	--	1.6	Passed
			Bottom of EUT facing phantom	--	0.142	--	1.6	Passed
			Left of EUT facing phantom	--	0.652	--	1.6	Passed
			Right of EUT facing phantom	--	0.791	--	1.6	Passed
		Worst case With EGPRS 2TS		--	1.07	--	1.6	Passed

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GSM 1900

Band	EUT Position	Mode	Test Configuration	Averaged SAR over 1g (W/kg)			SAR limit 1g (W/kg))	Verdict
				CH512	CH661	CH810		
				1850.2MHz	1880MHz	1909.8MHz		
GSM1900	Left	GSM	Cheek	--	0.196	--	1.6	Passed
			Tilt	--	0.089	--	1.6	Passed
	Right		Cheek	0.237	0.226	0.155	1.6	Passed
			Tilt	--	0.050	--	1.6	Passed
	Body Worn	GSM	Front of EUT facing phantom	--	0.350	--	1.6	Passed
			Rear of EUT facing phantom	0.414	0.356	0.283	1.6	Passed
			Worst case With Earphone	0.471	--	--	1.6	Passed
		GPRS 1TS	Rear of EUT facing phantom	0.396	--	--	1.6	Passed
		GPRS 2TS	Rear of EUT facing phantom	0.546	--	--	1.6	Passed
		GPRS 3TS	Rear of EUT facing phantom	0.598	0.529	--	1.6	Passed
		GPRS 4TS	Rear of EUT facing phantom	0.555	--	--	1.6	Passed
		GPRS 3TS	Front of EUT facing phantom	0.808	0.639	0.486	1.6	Passed
			Top of EUT facing phantom	--	0.017	--	1.6	Passed
			Bottom of EUT facing phantom	--	0.262	--	1.6	Passed
			Left of EUT facing phantom	--	0.141	--	1.6	Passed
			Right of EUT facing phantom	--	0.212	--	1.6	Passed
		Worst case With EGPRS 3TS		0.782	--	--	1.6	Passed

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WCDMA Band II

Band	EUT Position	Mode	Test Configuration	Averaged SAR over 1g (W/kg)			SAR limit 1g (W/kg))	Verdict
				CH9612	CH9400	CH9538		
				1852.4MHz	1880MHz	1907.6MHz		
WCDMA Band II	Left	RMC	Cheek	0.550	0.455	0.339	1.6	Passed
			Tilt	--	0.180	--	1.6	Passed
	Right		Cheek	--	0.425	--	1.6	Passed
			Tilt	--	0.110	--	1.6	Passed
	Body Worn	RMC	Front of EUT facing phantom	--	0.660	--	1.6	Passed
			Rear of EUT facing phantom	0.914	0.792	0.638	1.6	Passed
			Top of EUT facing phantom	--	0.029	--	1.6	Passed
			Bottom of EUT facing phantom	--	0.424	--	1.6	Passed
			Left of EUT facing phantom	--	0.354	--	1.6	Passed
			Right of EUT facing phantom	--	0.290	--	1.6	Passed
		Worst case With earphone		0.923	--	--	1.6	Passed
		Worst case With HSDPA		0.812	--	--	1.6	Passed
		Worst case With HSUPA		0.775	--	--	1.6	Passed

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WCDMA Band V

Band	EUT Position	Mode	Test Configuration	Averaged SAR over 1g (W/kg)			SAR limit 1g (W/kg))	Verdict
				CH4132	CH4182	CH4233		
				826.4MHz	836.4MHz	846.6MHz		
WCDMA Band V	Left	RMC	Cheek	--	0.503	--	1.6	Passed
			Tilt	--	0.320	--	1.6	Passed
	Right		Cheek	0.562	0.539	0.649	1.6	Passed
			Tilt	--	0.304	--	1.6	Passed
	Body Worn	RMC	Front of EUT facing phantom	--	0.650	--	1.6	Passed
			Rear of EUT facing phantom	0.892	0.889	1.18	1.6	Passed
			Top of EUT facing phantom	--	0.023	--	1.6	Passed
			Bottom of EUT facing phantom	--	0.121	--	1.6	Passed
			Left of EUT facing phantom	--	0.578	--	1.6	Passed
			Right of EUT facing phantom	--	0.661	--	1.6	Passed
		Worst case With Earphone		--	--	0.964	1.6	Passed
		Worst case With HSDPA		--	--	0.941	1.6	Passed
		Worst case With HSUPA		--	--	0.720	1.6	Passed

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WIFI

Band	EUT Position	Mode	Test Configuration	Averaged SAR over 1g (W/kg)			SAR limit 1g (W/kg))	Verdict
				CH1	CH6	CH11		
				2412MHz	2437MHz	2462MHz		
WLAN	Body Worn	802.11b	Rear of EUT facing phantom	--	0.143	--	1.6	Passed
			Front of EUT facing phantom	--	0.131	--	1.6	Passed
			Top of EUT facing phantom	0.236	0.188	0.207	1.6	Passed
			Bottom of EUT facing phantom	--	0.023	--	1.6	Passed
			Left of EUT facing phantom	--	0.051	--	1.6	Passed
			Right of EUT facing phantom	--	0.127	--	1.6	Passed
		Worst case of 802.11b in 802.11g	Top of EUT facing phantom	0.122	--	--	1.6	Passed
		Worst case of 802.11b in 802.11n HT20	Top of EUT facing phantom	0.077	--	--	1.6	Passed

16.2 Maximum Results

The maximum measured SAR values for Head configuration and BodyWorn configuration are given in section 16.2.1and 16.2.2.

16.2.1 Head Configuration

Frequency Band	EUT Position	Conducted Power (dBm)	SAR, Averaged over 1g (W/kg)	Power Drift (dB)	SAR limit (W/kg)	Verdict
GSM 850	Left Cheek High	24.6	0.484	0.019	1.6	Passed
GSM 1900	Right Cheek Low	18.9	0.237	-0.165	1.6	Passed
WCDMA Band II	Left Cheek Low	22.91	0.550	0.087	1.6	Passed
WCDMA Band V	Right Cheek High	23.25	0.649	0.096	1.6	Passed

16.2.2 BodyWorn Configuration

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Frequency Band	EUT Position	Conducted Power (dBm)	SAR, Averaged over 1g (W/kg)	Power Drift (dB)	SAR limit (W/kg)	Verdict
GSM 850	Back of EUT facing phantom/GPRS2TS/Middle	25.2	1.14	-0.052	1.6	Passed
GSM 1900	Front of EUT facing phantom/GPRS3TS/Low	21.7	0.808	-0.079	1.6	Passed
WCDMA Band II	Back of EUT facing phantom/ Low with earphone	22.91	0.923	-0.137	1.6	Passed
WCDMA Band V	Back of EUT facing phantom/ High	23.25	1.18	-0.065	1.6	Passed
WIFI	Top of EUT facing phantom/802.11b/Low	10.62	0.236	-0.096	1.6	Passed

According to table 16.2.2, the max SAR value of GSM/WCDMA mode is 1.18w/kg and the max SAR value of wifi mode is 0.236 w/kg .BT Mode power＜12mw and other 1g-SAR＜1.2 w/kg ， so BT mode stand-alone SAR is not required. The sum SAR value is 1.18+0.236+0=1.416w/kg＜1.6w/kg. So the transmitting simultaneously mode test is noneed.

16.2.3 Maximum Drift

Maximum Drift during measurement	-0.239

16.2.4 Measurement Uncertainty

Extended Uncertainty (k=2) 95%	21.43%

16.3 Operation Configurations

16.3.1

The EUT is controlled by using a radio communication tester (CMU200) with air link, and the EUT is set to maximum output power by CMU200 during WCDMA/GSM Mode tests.

1. Testing Head SAR at GSM/WCDMA mode for all bands with Left Cheek/Tilt and Right Cheek/Tilt conditions.

2. Testing Body SAR at GSM/WCDMA mode for all bands by separating 1 cm from the EUT (both front and rear) to flat phantom.

3. Head and Body SAR with accessories should be done at worstcase to identify maximum SAR value.

4. Testing Body SAR at WCDMA mode for all bands. HSDPA, HSUPA modes are selectively confirmed

5. Test reduction has been adopted according to conducted output power and produced SAR level:

Low and High channel SAR are optional if SAR value produced in the middle channel is 3dB lower than the applicable SAR limit;

In GPRS mode, the multislot configuration which produces highest SAR value is regard as the worst case to be measured, other multislot configurations are selectively confirmed;

6. The (max.cube) labeling indicates that during the grid scanning an additional peak was found which within 2dB of the highest peak

7. Head SAR for GSM should be tested in GPRS/EGPRS modes, if EUT support DTM.

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8. WCDMA was tested in 12.2kbps RMC Mode and HSDPA was tested in subtest 1, HSUPA was tested in subtest 5.

16.3.2

The EUT is measured using chipset based test mode software to ensure the results are consistent and reliable,

during the 802.11b/g mode tests.

1. The 802.11b mode is tested at 1,6,11 channels.

2. The 802.11g/n mode is checked at worst case of 802.11b mode.

3. The EUT is at the lowest data rate during test.

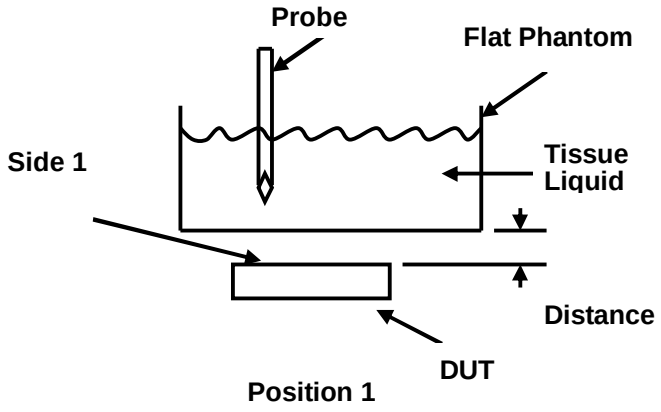
4. Test reduction has been adopted according to conducted output power and produced SAR level:

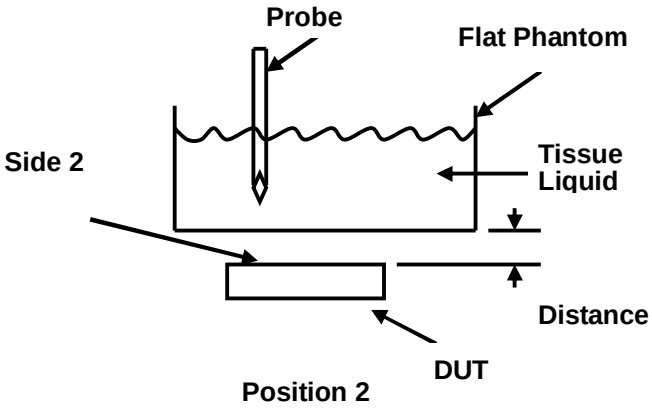
Low and High channel SAR are optional if SAR value produced in the middle channel is 3dB lower than the applicable SAR limit;

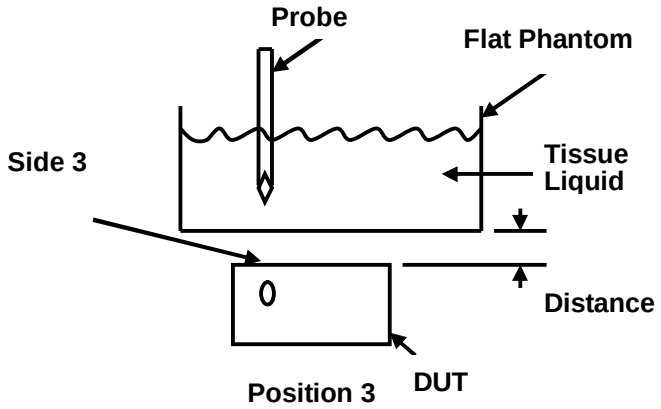
5. The (max. cube) labeling indicates that during the grid scanning an additional peak was found which within 2dB of the highest peak

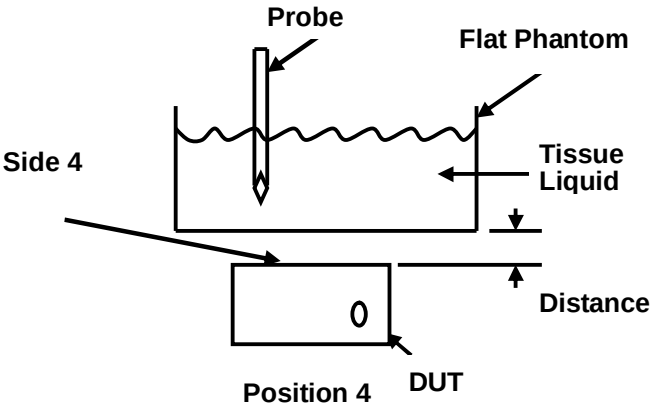
16.3.3

Test positions of EUT in hotspot mode (the distance between the EUT and the phantom is 10mm for all the six sides)









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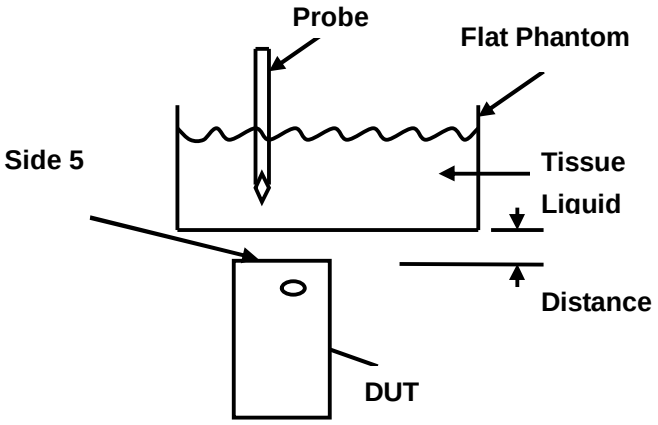
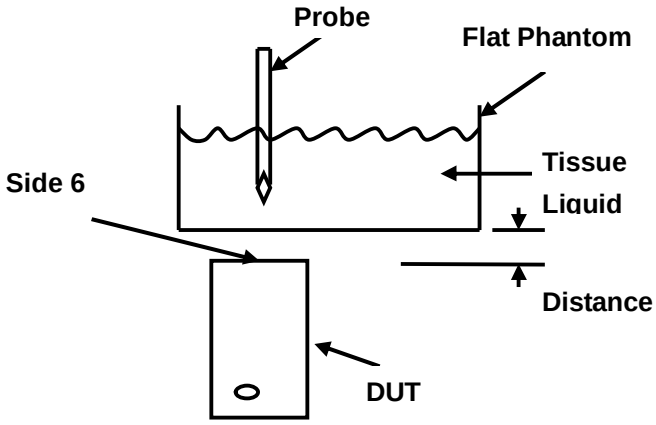
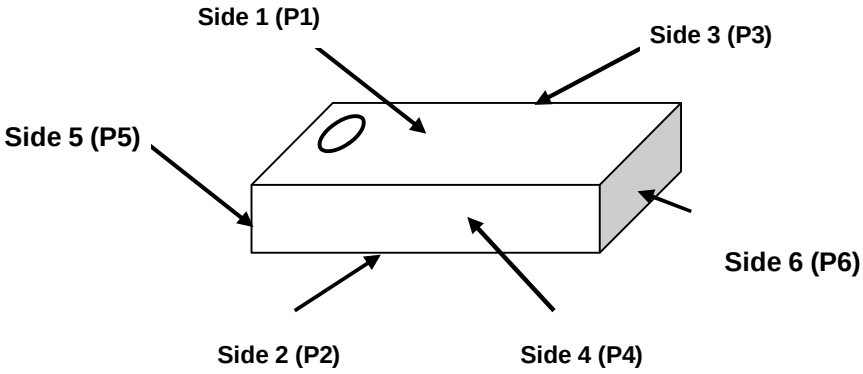


Position 5



Position 6



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16.4 Measurement procedure

Step 1: Power reference measurement

The SAR measurement was taken at a selected spatial reference point to monitor power variations during testing. This fixed location point was measured and used as a reference value.

Step 2: *Area scan*

The SAR distribution at the exposed side of the head was measured at a distance of 4mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 15mm*15mm or 10mm*10mm.Based on the area scan data, the area of the maximum absorption was determined by spline interpolation.

Step 3: *Zoom scan*

Around this point, a volume of 30mm*30mm*30mm (fine resolution volume scan, zoom scan) was assessed by measuring 7*7*7 points. On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

The data at the surface was extrapolated, since the center of the dipoles is 2.0mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2mm. (This can be variable. Refer to the probe specification) the extrapolation was based on a 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. The maximum interpolated value was searched with a straight-forward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) were computed using the 3D-Spline interpolation algorithm. The volume was integrated with the trapezoidal algorithm. One thousand points (10*10*10) were interpolated to calculate the average. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

Step 4: Power reference measurement (drift)

The SAR value at the same location as in step 1 was again measured. (If the value changed by more than 5%, the evaluation should be done repeatedly)

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16.5 Detailed Test Results

16.5.1 GSM 850 Left Cheek Middle

Date/Time: 2011-5-11 11:55:54

Test Laboratory: SGS-GSM

CA81 GSM 850 Left Cheek Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GSM Mode; Frequency: 836.6 MHz;Duty Cycle: 1:8.3

Medium: HSL835_Head Medium parameters used: f = 836.6 MHz; σ = 0.912 mho/m; ε_r = 43.2; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(6.07, 6.07, 6.07); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.472 mW/g

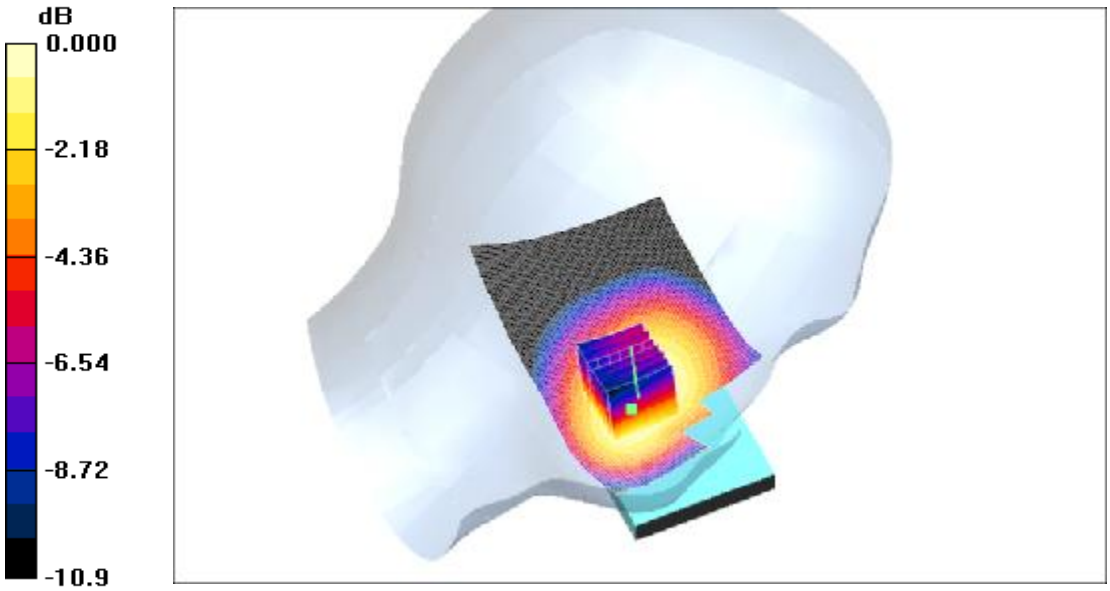
Cheek Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 6.36 V/m; Power Drift = 0.105 dB

Peak SAR (extrapolated) = 0.613 W/kg

SAR(1 g) = 0.451 mW/g; SAR(10 g) = 0.326 mW/g

Maximum value of SAR (measured) = 0.478 mW/g



0 dB = 0.478mW/g

SHEMC

16.5.2 GSM 850 Left Tilt Middle

Date/Time: 2011-5-11 13:17:51

Test Laboratory: SGS-GSM

CA81 GSM 850 Left Tilt Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GSM Mode; Frequency: 836.6 MHz;Duty Cycle: 1:8.3

Medium: HSL835_Head Medium parameters used: f = 836.6 MHz; σ = 0.912 mho/m; ε_r = 43.2; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(6.07, 6.07, 6.07); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt Middle/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.289 mW/g

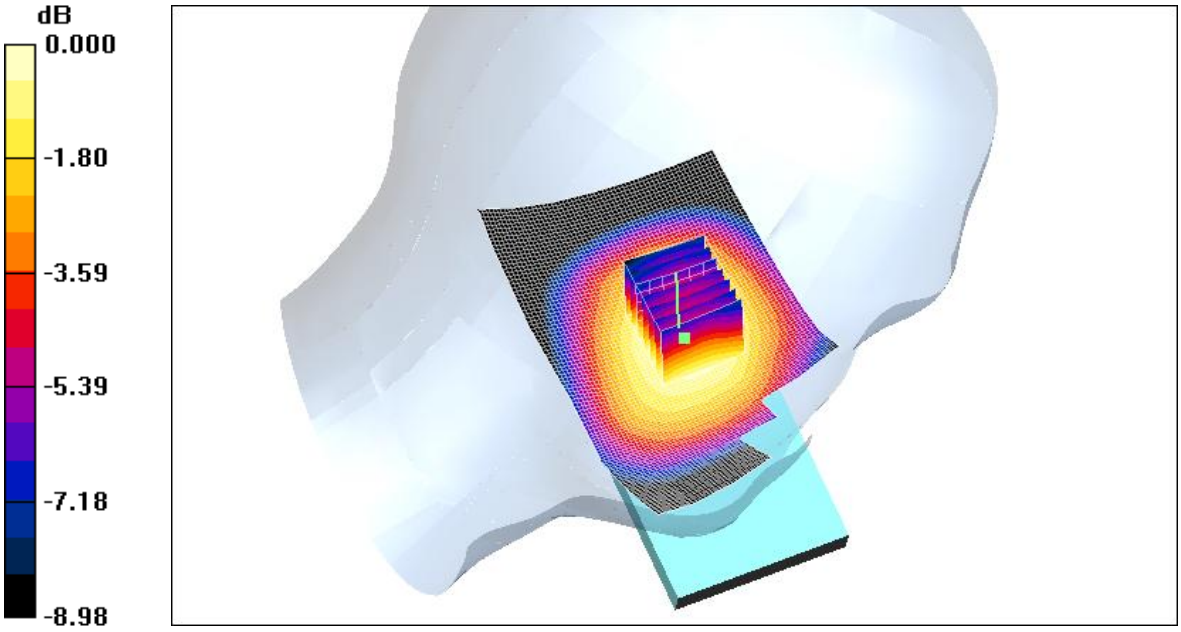
Tilt Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 11.1 V/m; Power Drift = -0.085 dB

Peak SAR (extrapolated) = 0.335 W/kg

SAR(1 g) = 0.265 mW/g; SAR(10 g) = 0.200 mW/g

Maximum value of SAR (measured) = 0.278 mW/g



0 dB = 0.278mW/g

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16.5.3 GSM 850 Right Cheek Middle

Date/Time: 2011-5-11 11:09:12

Test Laboratory: SGS-GSM

CA81 GSM 850 Right Cheek Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GSM Mode; Frequency: 836.6 MHz;Duty Cycle: 1:8.3

Medium: HSL835_Head Medium parameters used: f = 836.6 MHz; σ = 0.912 mho/m; ε_r = 43.2; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(6.07, 6.07, 6.07); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.460 mW/g

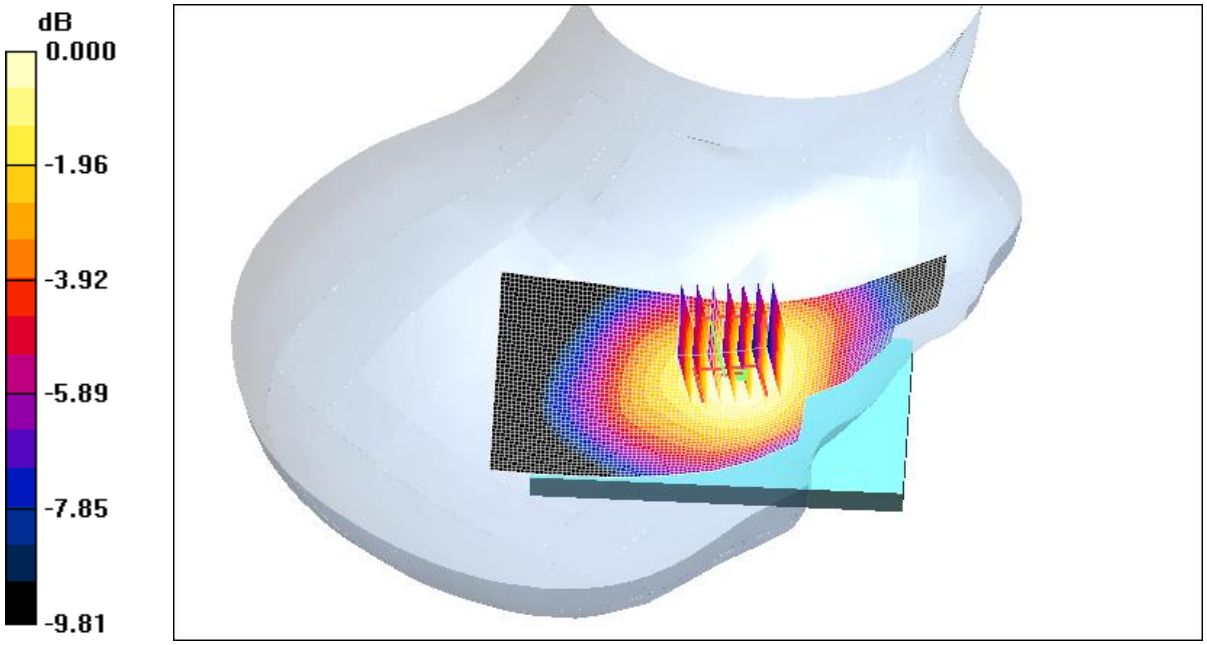
Cheek Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 8.60 V/m; Power Drift = 0.043 dB

Peak SAR (extrapolated) = 0.547 W/kg

SAR(1 g) = 0.442 mW/g; SAR(10 g) = 0.336 mW/g

Maximum value of SAR (measured) = 0.462 mW/g



0 dB = 0.462mW/g

16.5.4 GSM 850 Right Tilt Middle

Date/Time: 2011-5-11 11:30:37

Test Laboratory: SGS-GSM

CA81 GSM 850 Right Tilt Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GSM Mode; Frequency: 836.6 MHz;Duty Cycle: 1:8.3

Medium: HSL835_Head Medium parameters used: f = 836.6 MHz; σ = 0.912 mho/m; ε_r = 43.2; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(6.07, 6.07, 6.07); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

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

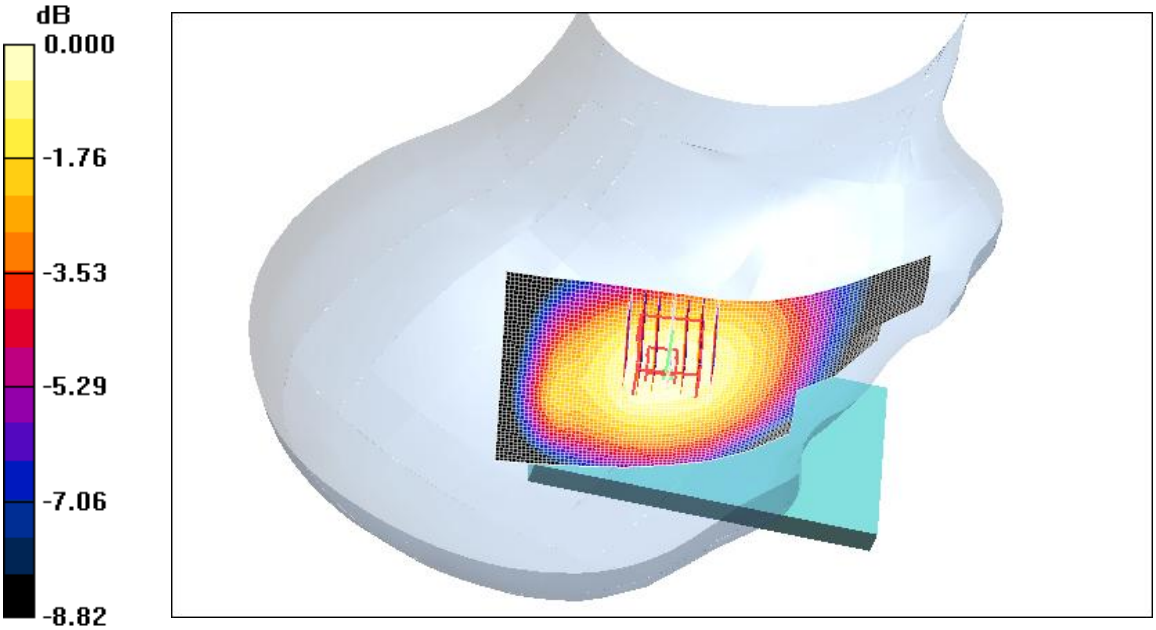
Tilt Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 12.5 V/m; Power Drift = -0.025 dB

Peak SAR (extrapolated) = 0.331 W/kg

SAR(1 g) = 0.259 mW/g; SAR(10 g) = 0.196 mW/g

Maximum value of SAR (measured) = 0.272 mW/g



0 dB = 0.272mW/g

16.5.5 GSM 850 Left Cheek High

Date/Time: 2011-5-11 12:24:10

Test Laboratory: SGS-GSM

CA81 GSM 850 Left Cheek High

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GSM Mode; Frequency: 848.8 MHz;Duty Cycle: 1:8.3

Medium: HSL835_Head Medium parameters used: f = 848.8 MHz; σ = 0.924 mho/m; ε_r = 43; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(6.07, 6.07, 6.07); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek High/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.517 mW/g

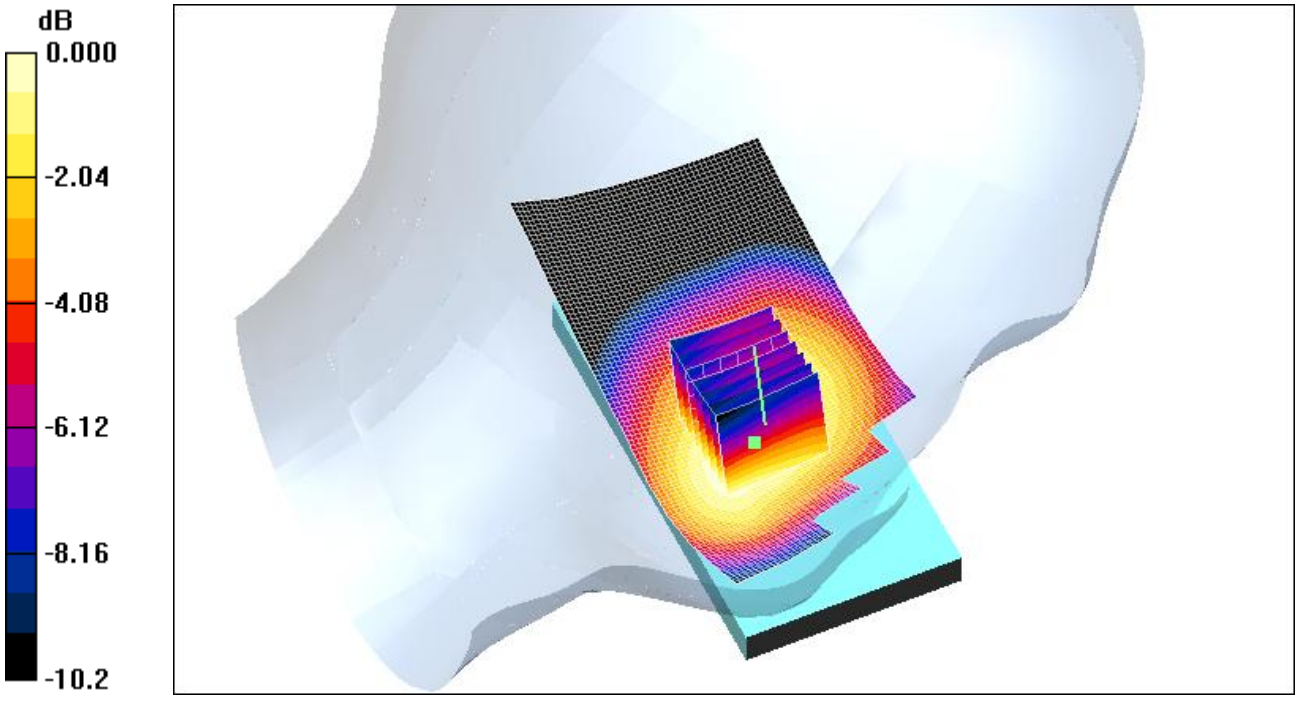
Cheek High/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 6.70 V/m; Power Drift = 0.019 dB

Peak SAR (extrapolated) = 0.652 W/kg

SAR(1 g) = 0.484 mW/g; SAR(10 g) = 0.355 mW/g

Maximum value of SAR (measured) = 0.513 mW/g



0 dB = 0.513mW/g

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16.5.6 GSM 850 Left Cheek Low

Date/Time: 2011-5-11 12:47:05

Test Laboratory: SGS-GSM

CA81 GSM 850 Left Cheek Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GSM Mode; Frequency: 824.2 MHz;Duty Cycle: 1:8.3

Medium: HSL835_Head Medium parameters used: f = 824.2 MHz; σ = 0.9 mho/m; ε_r = 43.3; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(6.07, 6.07, 6.07); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Low/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

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

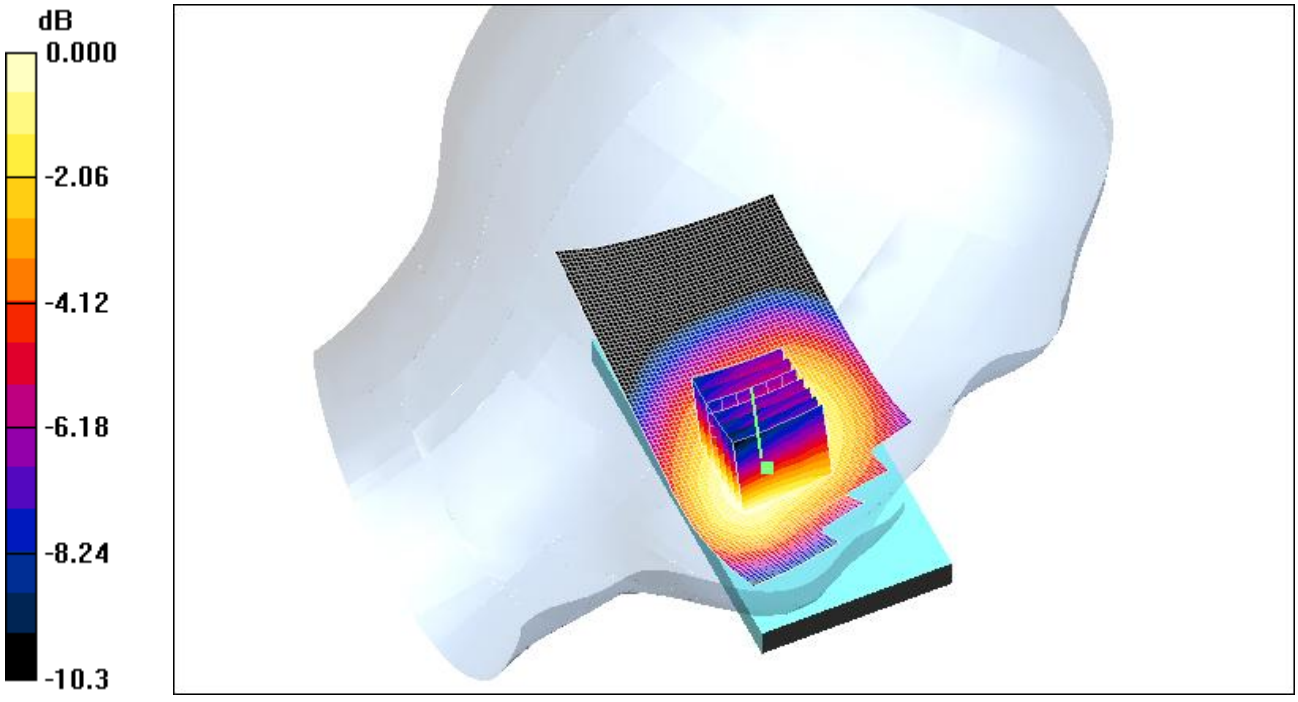
Cheek Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 5.92 V/m; Power Drift = 0.120 dB

Peak SAR (extrapolated) = 0.519 W/kg

SAR(1 g) = 0.384 mW/g; SAR(10 g) = 0.282 mW/g

Maximum value of SAR (measured) = 0.405 mW/g



0 dB = 0.405mW/g

16.5.7 GSM 850 BodyWron Front Middle

Date/Time: 2011-5-14 8:56:31

Test Laboratory: SGS-GSM

CA81 GSM 850-GSM Mode BodyWorn 10mm Front Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GSM Mode; Frequency: 836.6 MHz;Duty Cycle: 1:8.3

Medium: HSL835 Body Medium parameters used: f = 836.6 MHz; σ = 0.945 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Front Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.644 mW/g

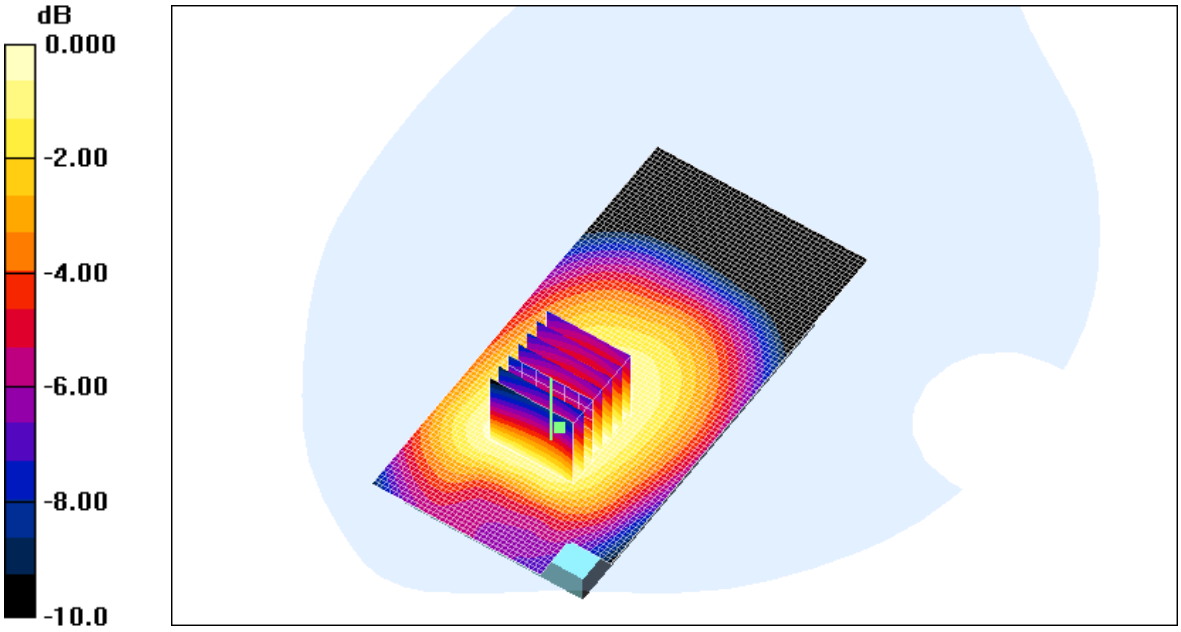
Front Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 7.79 V/m; Power Drift = 0.114 dB

Peak SAR (extrapolated) = 0.784 W/kg

SAR(1 g) = 0.606 mW/g; SAR(10 g) = 0.461 mW/g

Maximum value of SAR (measured) = 0.635 mW/g



0 dB = 0.635mW/g

16.5.8 GSM 850 BodyWron Back Middle

Date/Time: 2011-5-14 9:21:25

Test Laboratory: SGS-GSM

CA81 GSM 850-GSM Mode BodyWorn 10mm Back Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GSM Mode; Frequency: 836.6 MHz;Duty Cycle: 1:8.3

Medium: HSL835 Body Medium parameters used: f = 836.6 MHz; σ = 0.945 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 1.05 mW/g

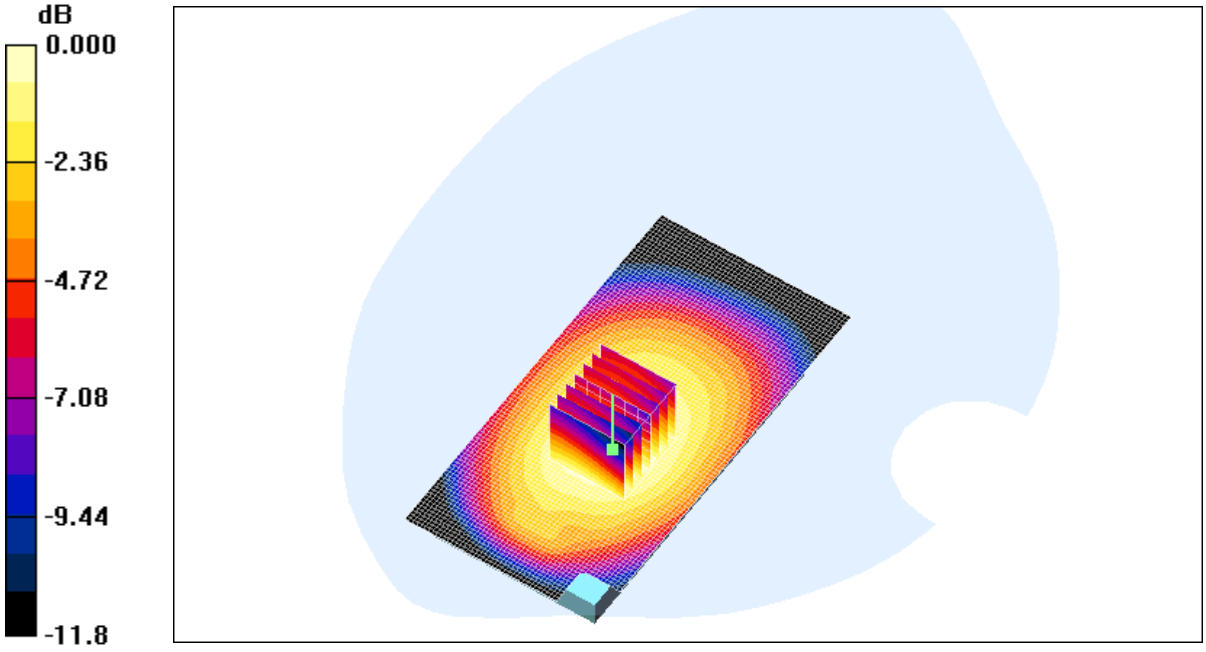
Back Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 16.6 V/m; Power Drift = -0.016 dB

Peak SAR (extrapolated) = 1.31 W/kg

SAR(1 g) = 0.991 mW/g; SAR(10 g) = 0.737 mW/g

Maximum value of SAR (measured) = 1.04 mW/g



0 dB = 1.04mW/g

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16.5.9 GSM 850 BodyWron Back High

Date/Time: 2011-5-14 9:41:41

Test Laboratory: SGS-GSM

CA81 GSM 850-GSM Mode BodyWorn 10mm Back High

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GSM Mode; Frequency: 848.8 MHz;Duty Cycle: 1:8.3

Medium: HSL835 Body Medium parameters used: f = 848.8 MHz; σ = 0.956 mho/m; ε_r = 55.7; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back High/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.990 mW/g

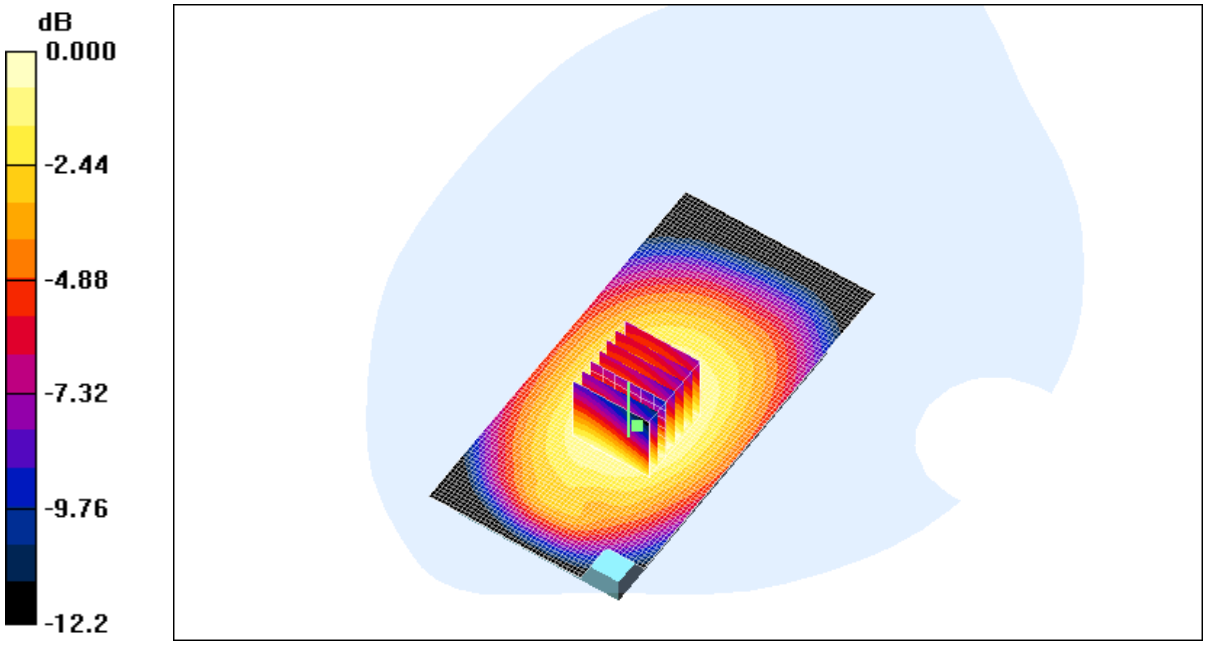
Back High/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 15.6 V/m; Power Drift = -0.103 dB

Peak SAR (extrapolated) = 1.23 W/kg

SAR(1 g) = 0.938 mW/g; SAR(10 g) = 0.696 mW/g

Maximum value of SAR (measured) = 0.990 mW/g



0 dB = 0.990mW/g

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16.5.10 GSM 850 BodyWron Back Low

Date/Time: 2011-5-14 10:01:59

Test Laboratory: SGS-GSM

CA81 GSM 850-GSM Mode BodyWorn 10mm Back Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GSM Mode; Frequency: 824.2 MHz;Duty Cycle: 1:8.3

Medium: HSL835 Body Medium parameters used: f = 824.2 MHz; σ = 0.933 mho/m; ε_r = 56.1; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Low/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 1.02 mW/g

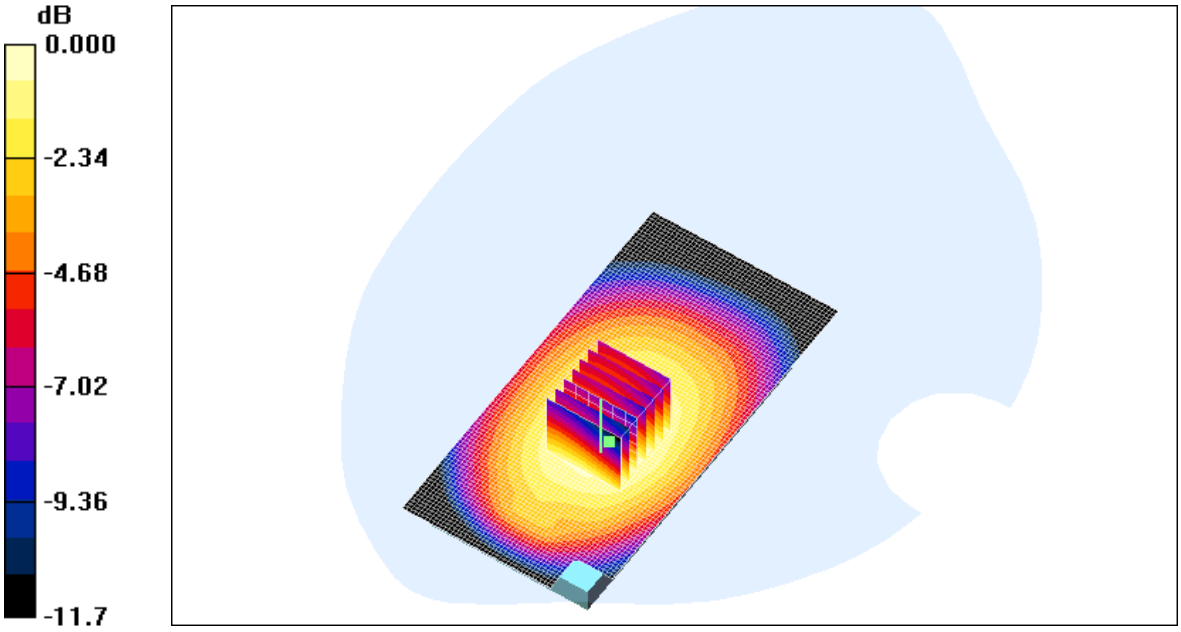
Back Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 15.4 V/m; Power Drift = -0.081 dB

Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.959 mW/g; SAR(10 g) = 0.711 mW/g

Maximum value of SAR (measured) = 1.02 mW/g



0 dB = 1.02mW/g

16.5.11 GSM 850 BodyWron Back Middle with headset

Date/Time: 2011-6-16 13:55:10

Test Laboratory: SGS-GSM

CA81 GSM 850-GSM Mode BodyWorn 10mm Back Middle With Headset

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GSM Mode; Frequency: 836.6 MHz;Duty Cycle: 1:8.3

Medium: HSL835Body Medium parameters used: f = 836.6 MHz; σ = 0.972 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.851 mW/g

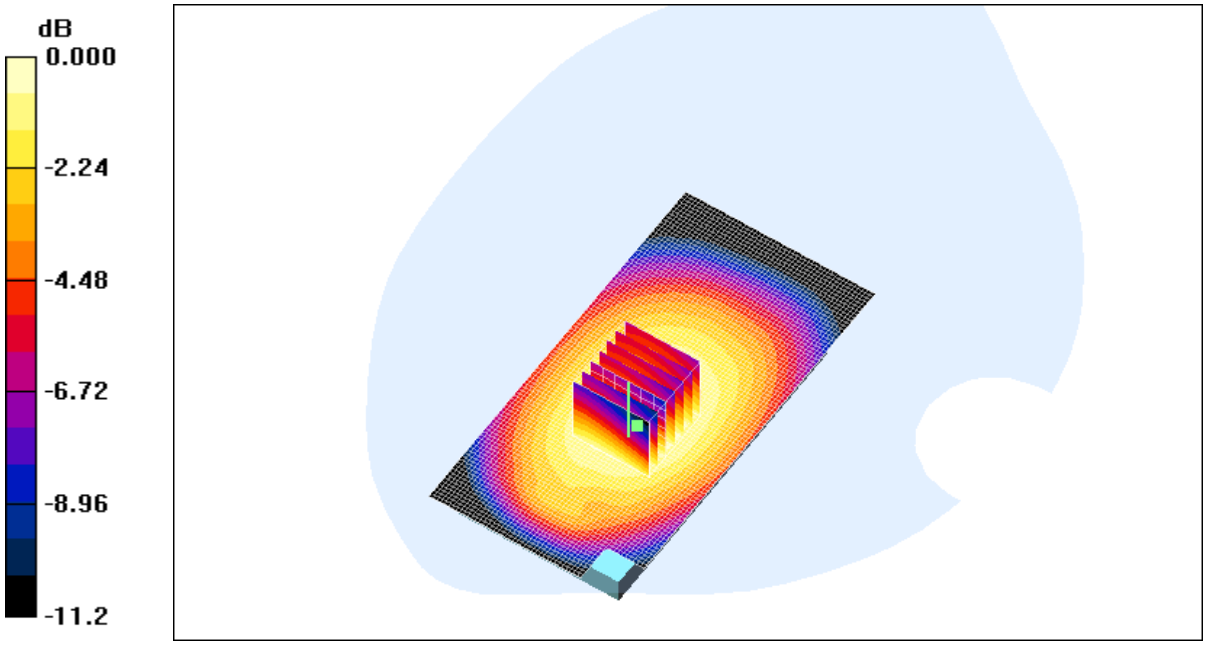
Back Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 26.7 V/m; Power Drift = 0.029 dB

Peak SAR (extrapolated) = 1.09 W/kg

SAR(1 g) = 0.820 mW/g; SAR(10 g) = 0.609 mW/g

Maximum value of SAR (measured) = 0.867 mW/g



0 dB = 0.867mW/g

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16.5.12 GSM 850+GPRS 1TS Back Middle

Date/Time: 2011-5-14 10:24:39

Test Laboratory: SGS-GSM

CA81 GSM 850+GPRS 1TS BodyWorn 10mm Back Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GPRS Mode(1up); Frequency: 836.6 MHz;Duty Cycle: 1:8.3

Medium: HSL835 Body Medium parameters used: f = 836.6 MHz; σ = 0.945 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.971 mW/g

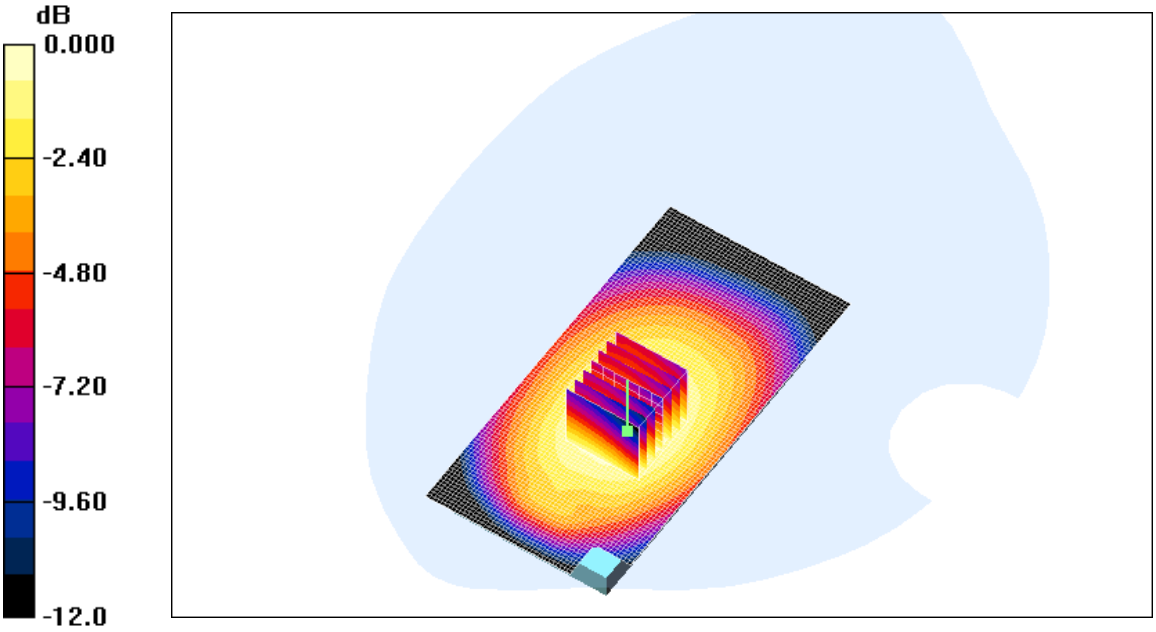
Back Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 15.1 V/m; Power Drift = -0.107 dB

Peak SAR (extrapolated) = 1.22 W/kg

SAR(1 g) = 0.902 mW/g; SAR(10 g) = 0.672 mW/g

Maximum value of SAR (measured) = 0.962 mW/g



0 dB = 0.962mW/g

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16.5.13 GSM 850+GPRS 1TS Back High

Date/Time: 2011-6-16 14:22:38

Test Laboratory: SGS-GSM

CA81 GSM 850+GPRS 1TS BodyWorn 10mm Back High

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GPRS Mode(1up); Frequency: 848.8 MHz;Duty Cycle: 1:8.3

Medium: HSL835Body Medium parameters used: f = 848.8 MHz; σ = 0.984 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back High/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.761 mW/g

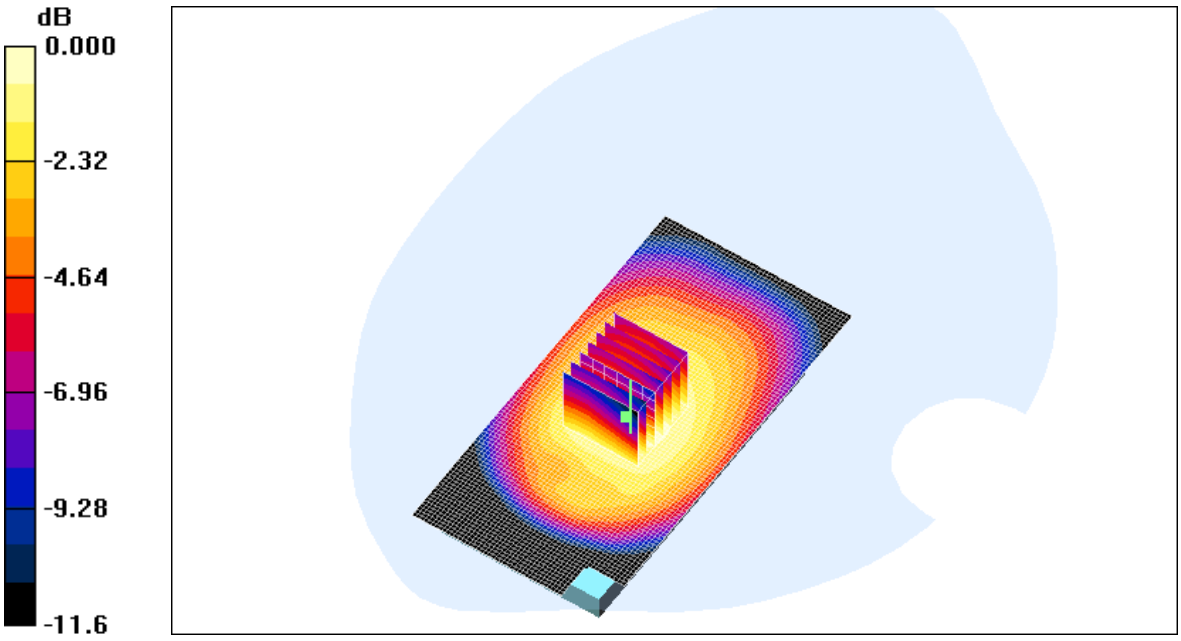
Back High/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 16.5 V/m; Power Drift = -0.083 dB

Peak SAR (extrapolated) = 0.989 W/kg

SAR(1 g) = 0.735 mW/g; SAR(10 g) = 0.538 mW/g

Maximum value of SAR (measured) = 0.777 mW/g



0 dB = 0.777mW/g

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16.5.14 GSM 850+GPRS 1TS Back Low

Date/Time: 2011-6-16 14:44:50

Test Laboratory: SGS-GSM

CA81 GSM 850+GPRS 1TS BodyWorn 10mm Back Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GPRS Mode(1up); Frequency: 824.2 MHz;Duty Cycle: 1:8.3

Medium: HSL835Body Medium parameters used: f = 824.2 MHz; σ = 0.959 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Low/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.831 mW/g

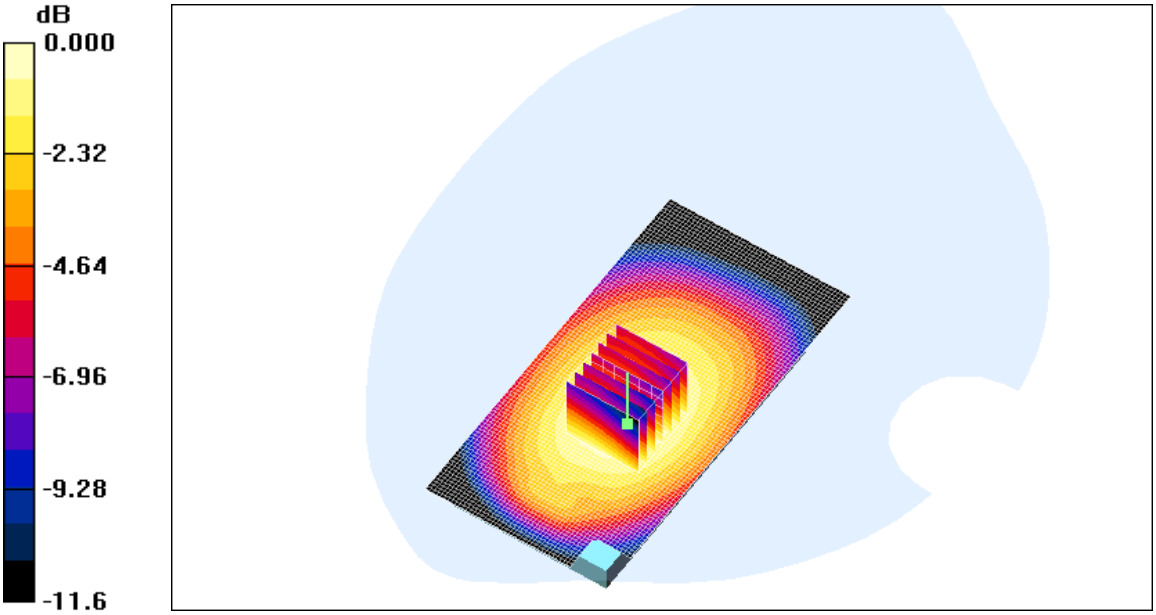
Back Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 26.5 V/m; Power Drift = -0.109 dB

Peak SAR (extrapolated) = 1.07 W/kg

SAR(1 g) = 0.779 mW/g; SAR(10 g) = 0.571 mW/g

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



0 dB = 0.822mW/g

16.5.15 GSM 850+GPRS 2TS Back Middle

Date/Time: 2011-5-14 11:05:41

Test Laboratory: SGS-GSM

CA81 GSM 850+GPRS 2TS BodyWorn 10mm Back Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GPRS Mode(2up); Frequency: 836.6 MHz;Duty Cycle: 1:4.15

Medium: HSL835 Body Medium parameters used: f = 836.6 MHz; σ = 0.945 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Middle 2/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 1.22 mW/g

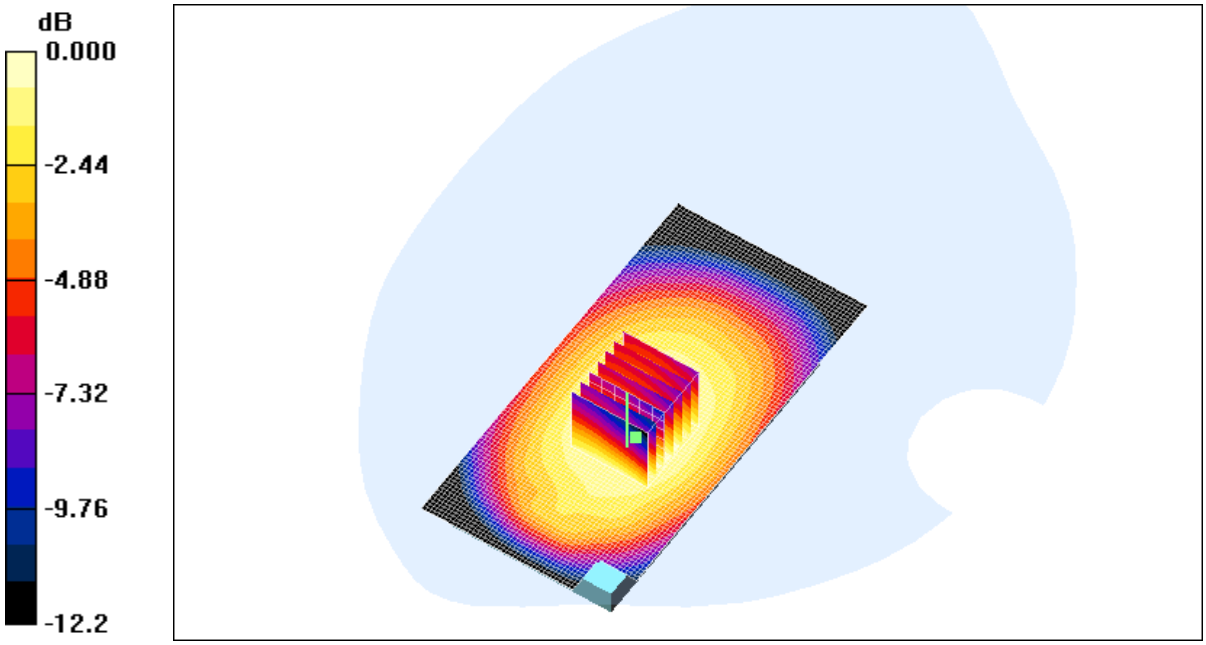
Back Middle 2/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 20.2 V/m; Power Drift = -0.052 dB

Peak SAR (extrapolated) = 1.51 W/kg

SAR(1 g) = 1.14 mW/g; SAR(10 g) = 0.842 mW/g

Maximum value of SAR (measured) = 1.20 mW/g



0 dB = 1.20mW/g

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16.5.16 GSM 850+GPRS 2TS Back High

Date/Time: 2011-6-16 15:04:34

Test Laboratory: SGS-GSM

CA81 GSM 850+GPRS 2TS BodyWorn 10mm Back High

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GPRS Mode(2up); Frequency: 848.8 MHz;Duty Cycle: 1:4.15

Medium: HSL835Body Medium parameters used: f = 848.8 MHz; σ = 0.984 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back High/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 1.15 mW/g

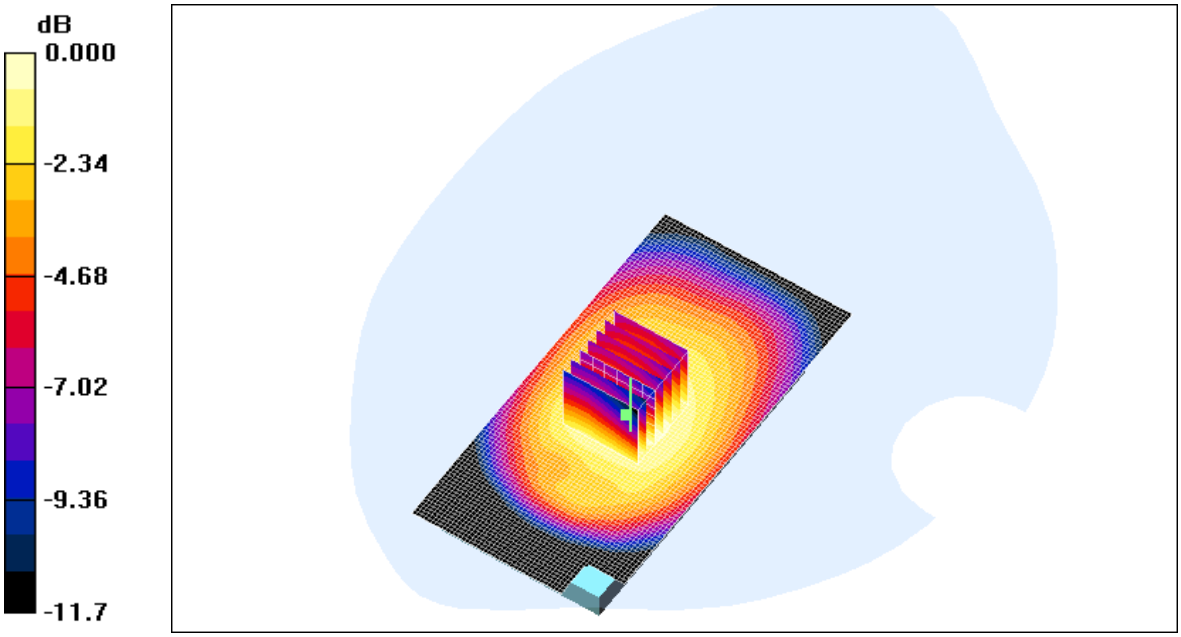
Back High/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 31.5 V/m; Power Drift = -0.218 dB

Peak SAR (extrapolated) = 1.39 W/kg

SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.761 mW/g

Maximum value of SAR (measured) = 1.09 mW/g



0 dB = 1.09mW/g

16.5.17 GSM 850+GPRS 2TS Back Low

Date/Time: 2011-6-16 15:30:10

Test Laboratory: SGS-GSM

CA81 GSM 850+GPRS 2TS BodyWorn 10mm Back Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GPRS Mode(2up); Frequency: 824.2 MHz;Duty Cycle: 1:4.15

Medium: HSL835Body Medium parameters used: f = 824.2 MHz; σ = 0.959 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Low/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 1.11 mW/g

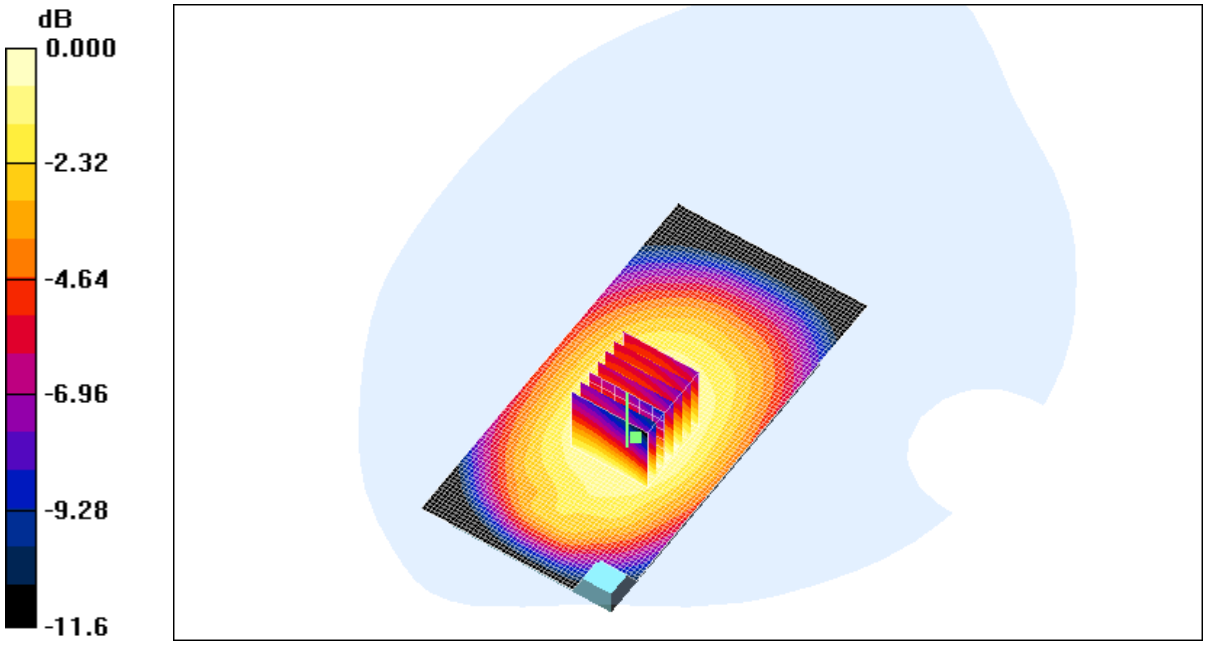
Back Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 31.4 V/m; Power Drift = -0.202 dB

Peak SAR (extrapolated) = 1.40 W/kg

SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.761 mW/g

Maximum value of SAR (measured) = 1.09 mW/g



0 dB = 1.09mW/g

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16.5.18 GSM 850+GPRS 3TS Back Middle

Date/Time: 2011-5-14 12:07:01

Test Laboratory: SGS-GSM

CA81 GSM 850+GPRS 3TS BodyWorn 10mm Back Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GPRS Mode(3up); Frequency: 836.6 MHz;Duty Cycle: 1:2.77

Medium: HSL835 Body Medium parameters used: f = 836.6 MHz; σ = 0.945 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 1.82 mW/g

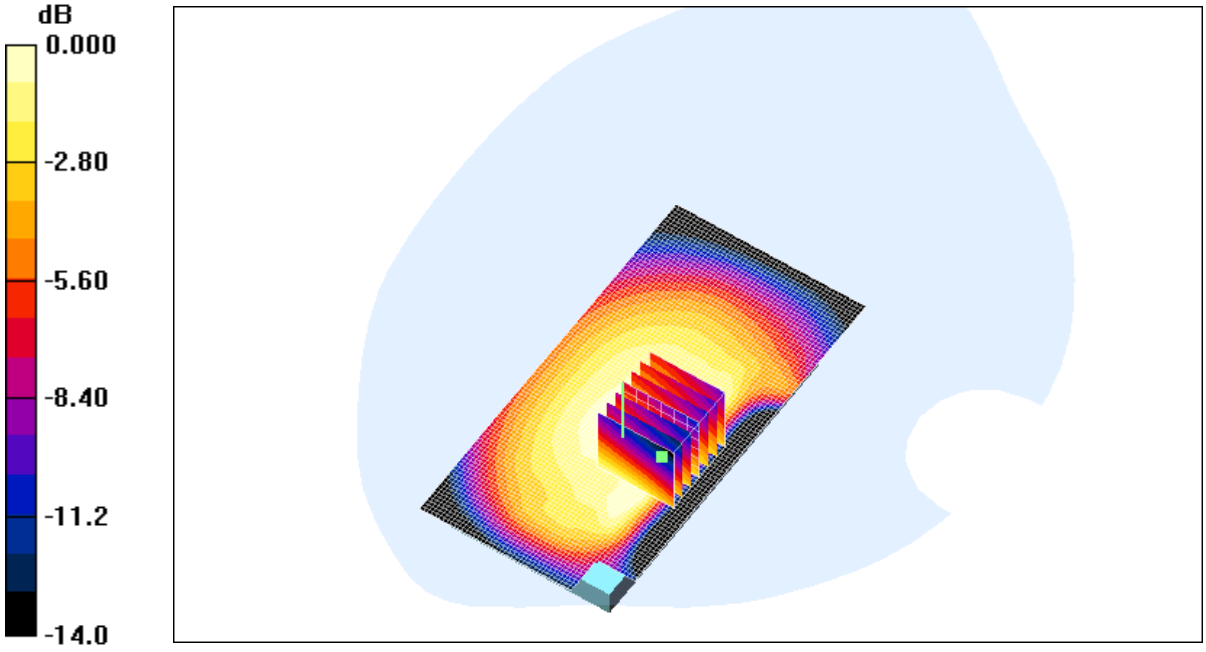
Back Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 19.4 V/m; Power Drift = -0.045 dB

Peak SAR (extrapolated) = 1.43 W/kg

SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.740 mW/g

Maximum value of SAR (measured) = 1.15 mW/g



0 dB = 1.15mW/g

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16.5.19 GSM 850+GPRS 3TS Back High

Date/Time: 2011-6-16 16:17:06

Test Laboratory: SGS-GSM

CA81 GSM 850+GPRS 3TS BodyWorn 10mm Back High

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GPRS Mode(3up); Frequency: 848.8 MHz;Duty Cycle: 1:2.77

Medium: HSL835Body Medium parameters used: f = 848.8 MHz; σ = 0.984 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back High/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 1.19 mW/g

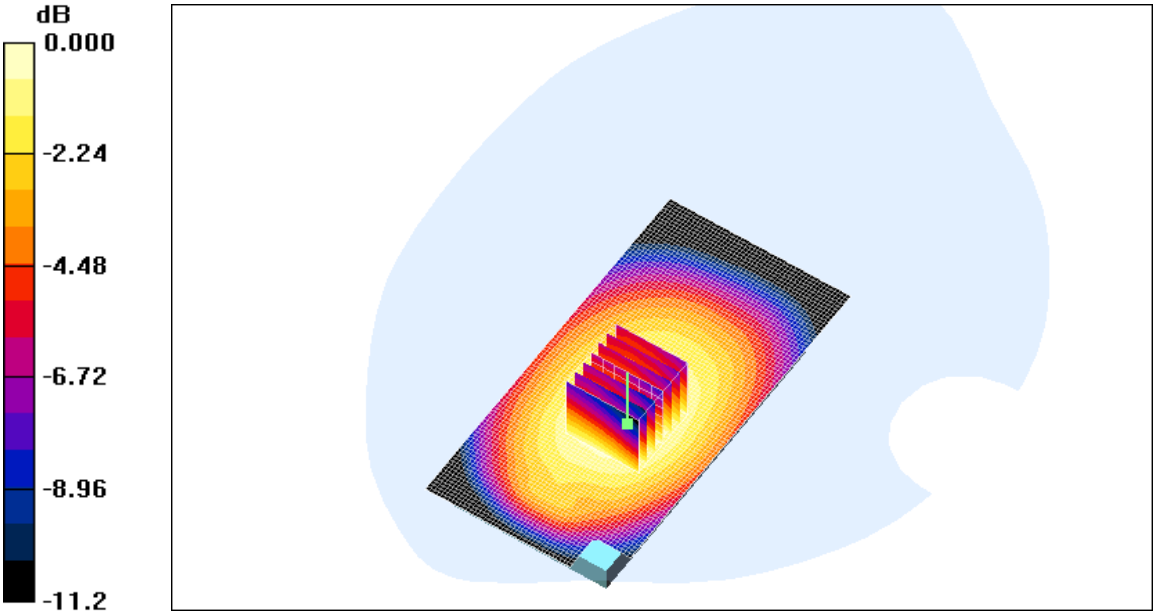
Back High/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 32.9 V/m; Power Drift = -0.144 dB

Peak SAR (extrapolated) = 1.42 W/kg

SAR(1 g) = 1.09 mW/g; SAR(10 g) = 0.814 mW/g

Maximum value of SAR (measured) = 1.15 mW/g



0 dB = 1.15mW/g

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16.5.20 GSM 850+GPRS 3TS Back Low

Date/Time: 2011-6-16 15:51:53

Test Laboratory: SGS-GSM

CA81 GSM 850+GPRS 3TS BodyWorn 10mm Back High

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GPRS Mode(3up); Frequency: 824.2 MHz;Duty Cycle: 1:2.77

Medium: HSL835Body Medium parameters used: f = 824.2 MHz; σ = 0.959 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Low/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 1.07 mW/g

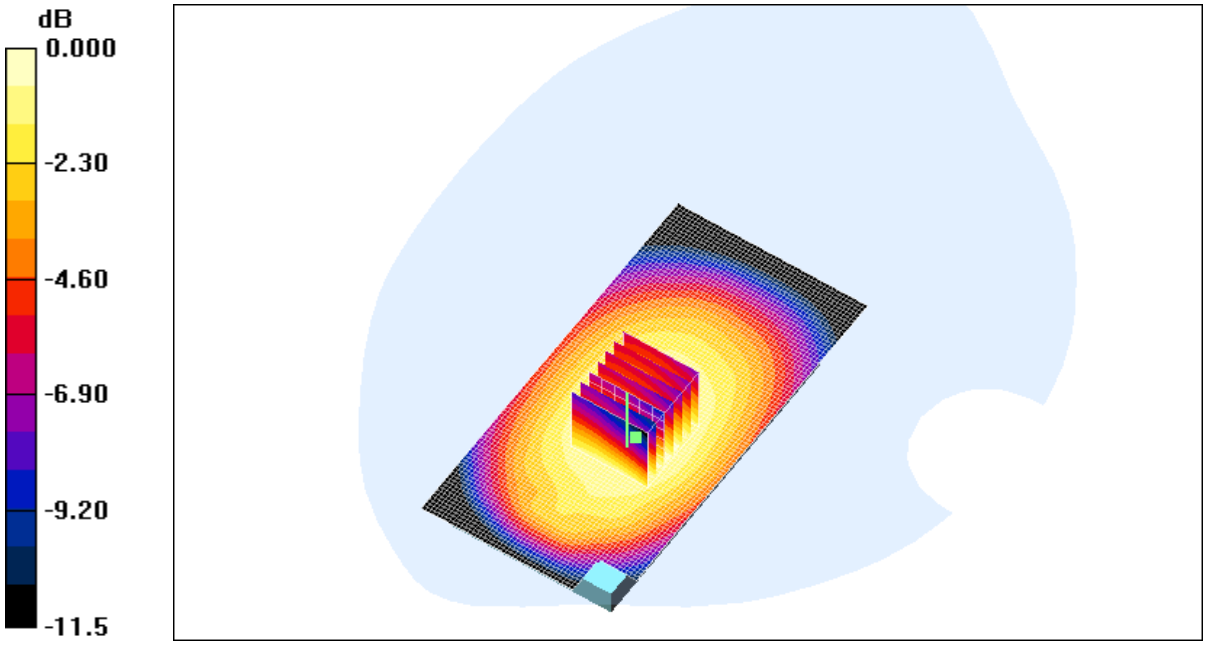
Back Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 31.0 V/m; Power Drift = -0.150 dB

Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 0.984 mW/g; SAR(10 g) = 0.719 mW/g

Maximum value of SAR (measured) = 1.05 mW/g



0 dB = 1.05mW/g

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16.5.21 GSM 850+GPRS 4TS Back Middle

Date/Time: 2011-5-14 12:33:23

Test Laboratory: SGS-GSM

CA81 GSM 850+GPRS 4TS BodyWorn 10mm Back Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GPRS Mode(4UP); Frequency: 836.6 MHz;Duty Cycle: 1:2.075

Medium: HSL835 Body Medium parameters used: f = 836.6 MHz; σ = 0.945 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 1.46 mW/g

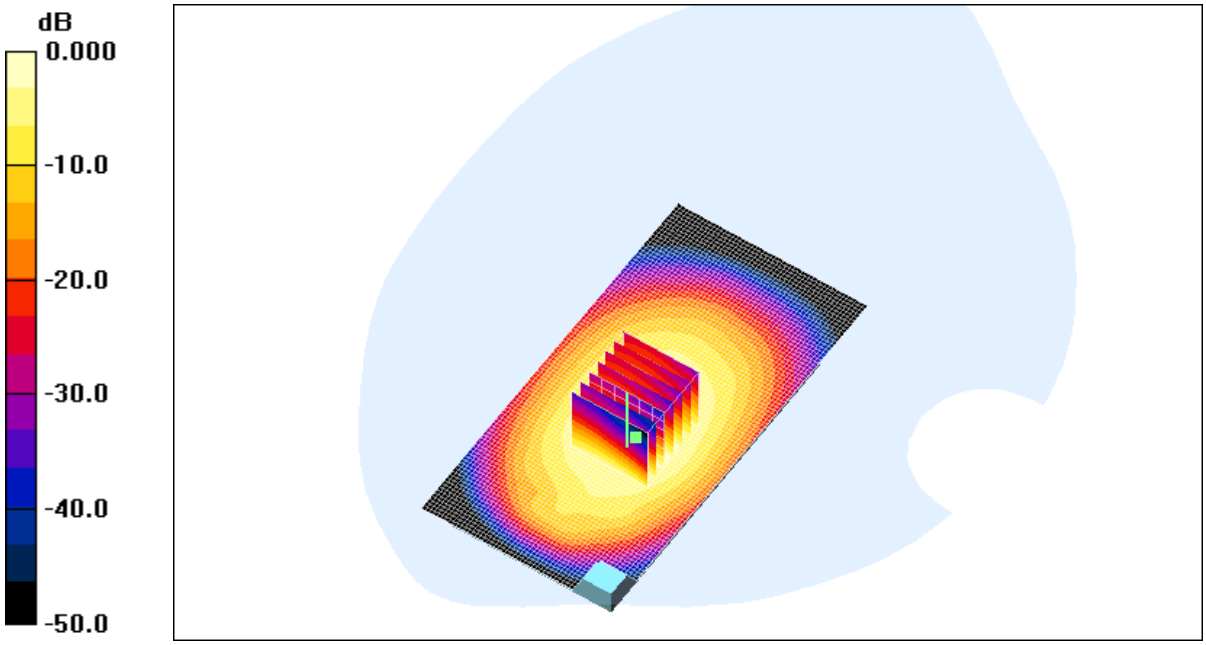
Back Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 18.2 V/m; Power Drift = 0.141 dB

Peak SAR (extrapolated) = 3.20 W/kg

SAR(1 g) = 0.888 mW/g; SAR(10 g) = 0.569 mW/g

Maximum value of SAR (measured) = 0.958 mW/g



0 dB = 0.958mW/g

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16.5.22 GSM 850+GPRS 4TS Back High

Date/Time: 2011-6-16 16:37:43

Test Laboratory: SGS-GSM

CA81 GSM 850+GPRS 4TS BodyWorn 10mm Back High

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GPRS Mode(4UP); Frequency: 848.8 MHz;Duty Cycle: 1:2.075

Medium: HSL835Body Medium parameters used: f = 848.8 MHz; σ = 0.984 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back High/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 1.10 mW/g

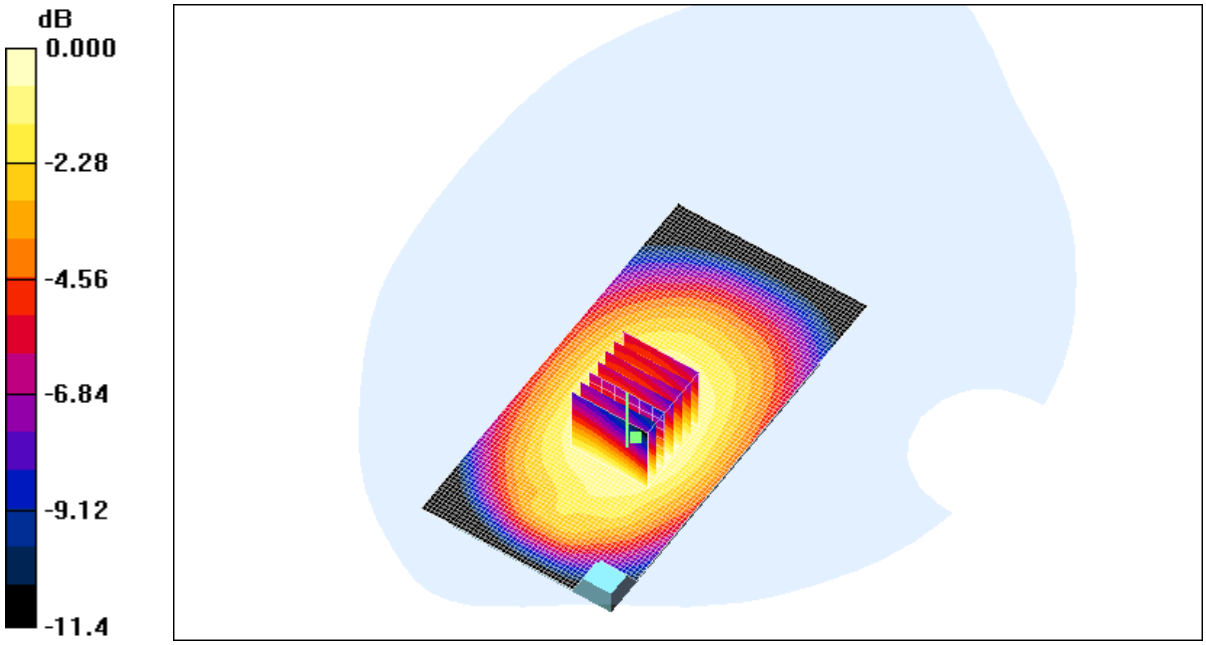
Back High/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 30.4 V/m; Power Drift = -0.016 dB

Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.776 mW/g

Maximum value of SAR (measured) = 1.09 mW/g



0 dB = 1.09mW/g

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16.5.23 GSM 850+GPRS 4TS Back Low

Date/Time: 2011-6-16 16:58:12

Test Laboratory: SGS-GSM

CA81 GSM 850+GPRS 4TS BodyWorn 10mm Back Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GPRS Mode(4UP); Frequency: 824.2 MHz;Duty Cycle: 1:2.075

Medium: HSL835Body Medium parameters used: f = 824.2 MHz; σ = 0.959 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Low/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 1.05 mW/g

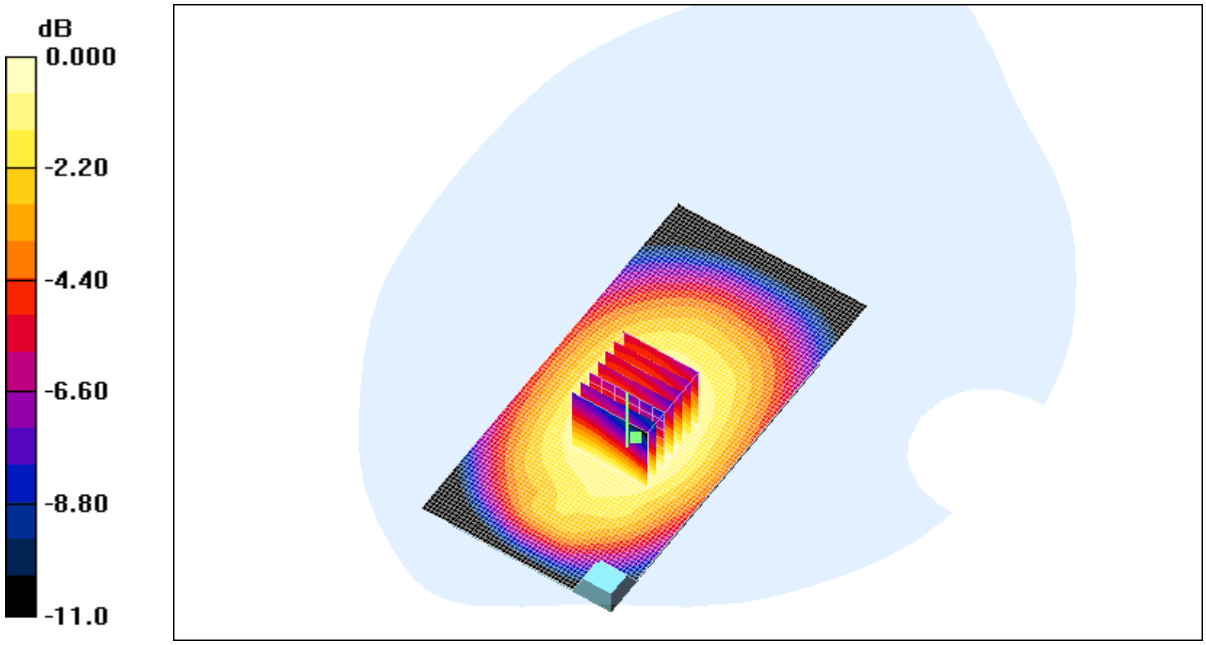
Back Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 29.1 V/m; Power Drift = 0.095 dB

Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 0.986 mW/g; SAR(10 g) = 0.731 mW/g

Maximum value of SAR (measured) = 1.04 mW/g



0 dB = 1.04mW/g

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16.5.24 GSM 850+GPRS 2TS Front Middle

Date/Time: 2011-6-16 17:42:27

Test Laboratory: SGS-GSM

CA81 GSM 850+GPRS 2TS BodyWorn 10mm Front Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GPRS Mode(2up); Frequency: 836.6 MHz;Duty Cycle: 1:4.15

Medium: HSL835Body Medium parameters used: f = 836.6 MHz; σ = 0.972 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Front Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.821 mW/g

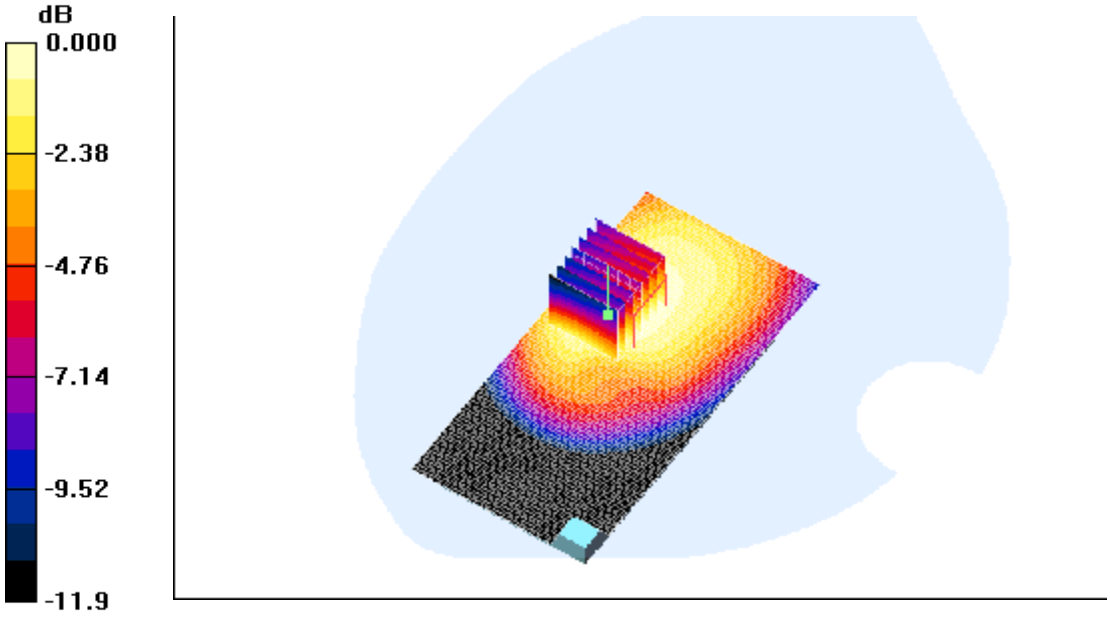
Front Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 25.9 V/m; Power Drift = -0.166 dB

Peak SAR (extrapolated) = 1.02 W/kg

SAR(1 g) = 0.744 mW/g; SAR(10 g) = 0.543 mW/g

Maximum value of SAR (measured) = 0.795 mW/g



0 dB = 0.795mW/g

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16.5.25 GSM 850+GPRS 2TS Top Middle

Date/Time: 2011-6-16 20:55:44

Test Laboratory: SGS-GSM

CA81 GSM850-GPRS Mode 2TS BodyWorn 10mm Top Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GPRS Mode(2up); Frequency: 836.6 MHz;Duty Cycle: 1:4.15

Medium: HSL835Body Medium parameters used: f = 836.6 MHz; σ = 0.972 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.048 mW/g

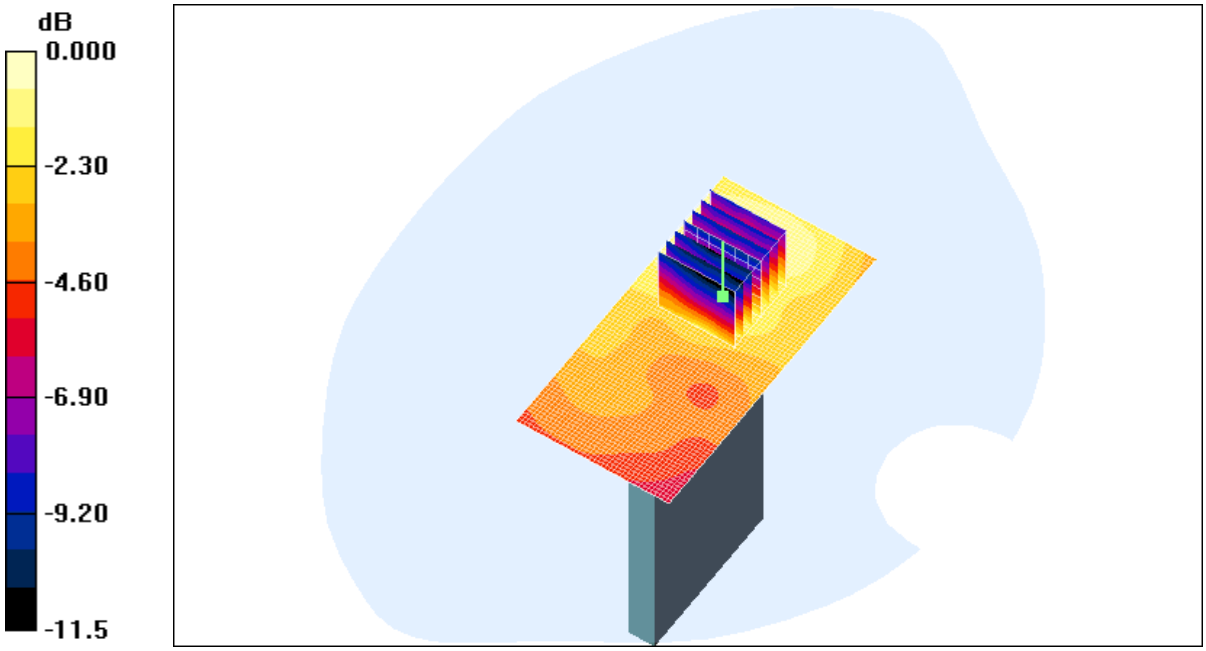
Top Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 5.25 V/m; Power Drift = -0.145 dB

Peak SAR (extrapolated) = 0.073 W/kg

SAR(1 g) = 0.044 mW/g; SAR(10 g) = 0.030 mW/g

Maximum value of SAR (measured) = 0.048 mW/g



0 dB = 0.048mW/g

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16.5.26 GSM 850+GPRS 2TS Bottom Middle

Date/Time: 2011-6-16 21:15:17

Test Laboratory: SGS-GSM

CA81 GSM850-GPRS Mode 2TS BodyWorn 10mm Bottom Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GPRS Mode(2up); Frequency: 836.6 MHz;Duty Cycle: 1:4.15

Medium: HSL835Body Medium parameters used: f = 836.6 MHz; σ = 0.972 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.143 mW/g

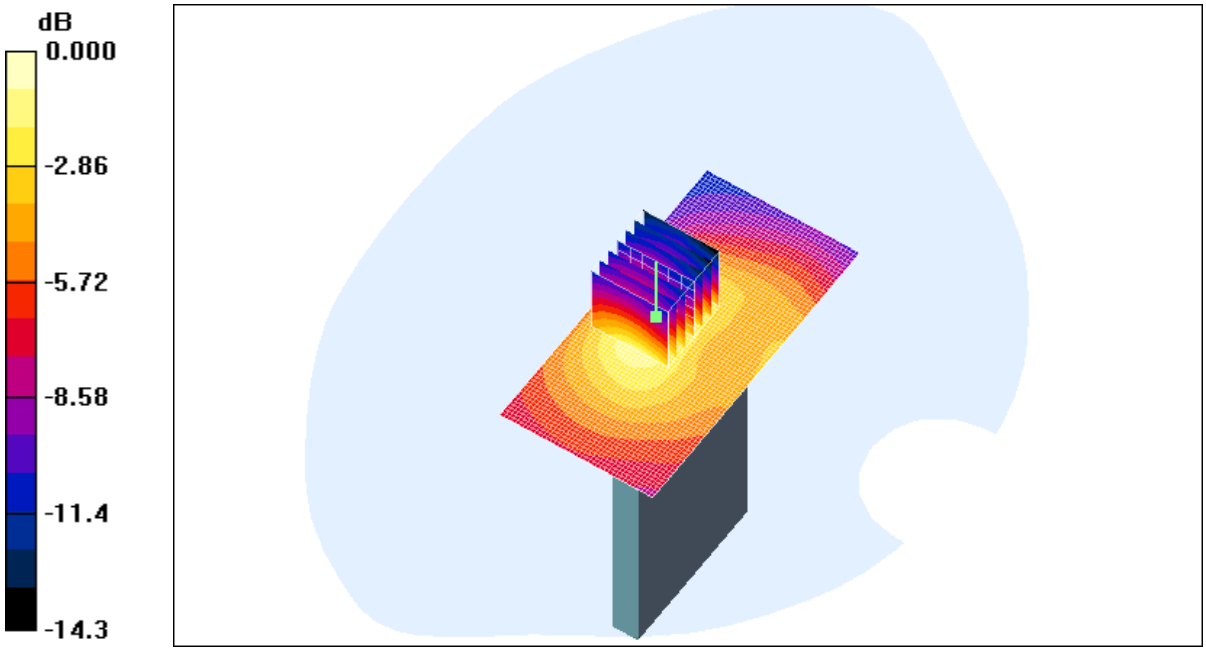
Bottom Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 10.3 V/m; Power Drift = -0.037 dB

Peak SAR (extrapolated) = 0.261 W/kg

SAR(1 g) = 0.142 mW/g; SAR(10 g) = 0.081 mW/g

Maximum value of SAR (measured) = 0.154 mW/g



0 dB = 0.154mW/g

16.5.27 GSM 850+GPRS 2TS Left Middle

Date/Time: 2011-6-16 18:05:37

Test Laboratory: SGS-GSM

CA81 GSM850-GPRS Mode 2TS BodyWorn 10mm Left Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GPRS Mode(2up); Frequency: 836.6 MHz;Duty Cycle: 1:4.15

Medium: HSL835Body Medium parameters used: f = 836.6 MHz; σ = 0.972 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Left Middle/Area Scan (41x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.691 mW/g

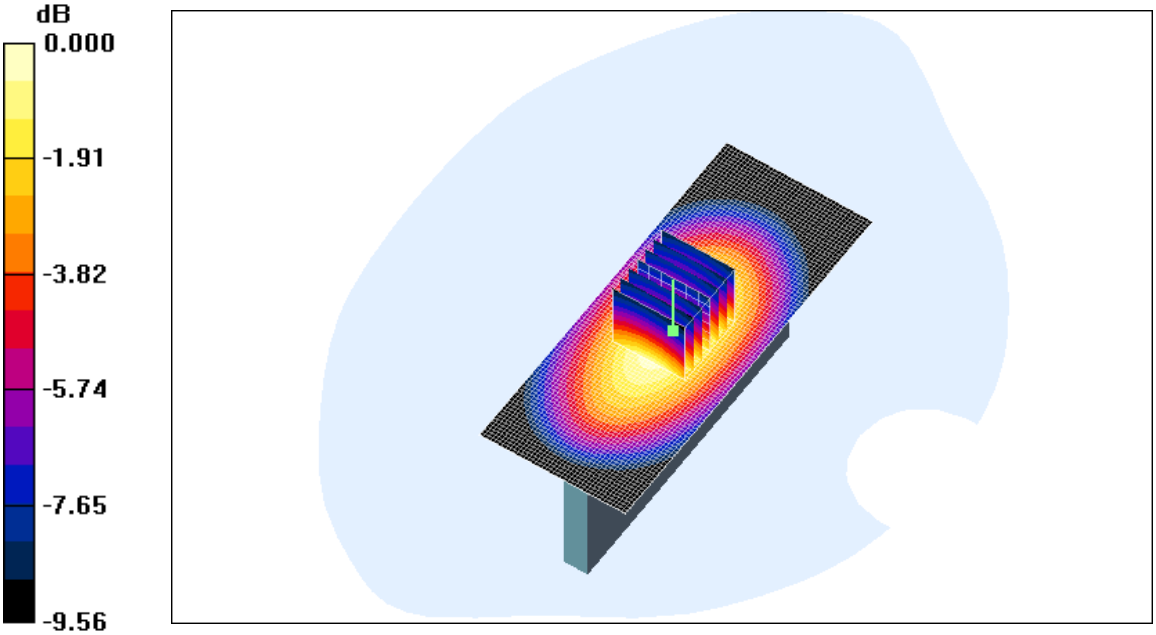
Left Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 27.2 V/m; Power Drift = -0.054 dB

Peak SAR (extrapolated) = 0.925 W/kg

SAR(1 g) = 0.652 mW/g; SAR(10 g) = 0.447 mW/g

Maximum value of SAR (measured) = 0.700 mW/g



0 dB = 0.700mW/g

16.5.28 GSM 850+GPRS 2TS Right Middle

Date/Time: 2011-6-16 18:25:19

Test Laboratory: SGS-GSM

CA81 GSM850-GPRS Mode 2TS BodyWorn 10mm Right Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-GPRS Mode(2up); Frequency: 836.6 MHz;Duty Cycle: 1:4.15

Medium: HSL835Body Medium parameters used: f = 836.6 MHz; σ = 0.972 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Right Middle/Area Scan (41x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.892 mW/g

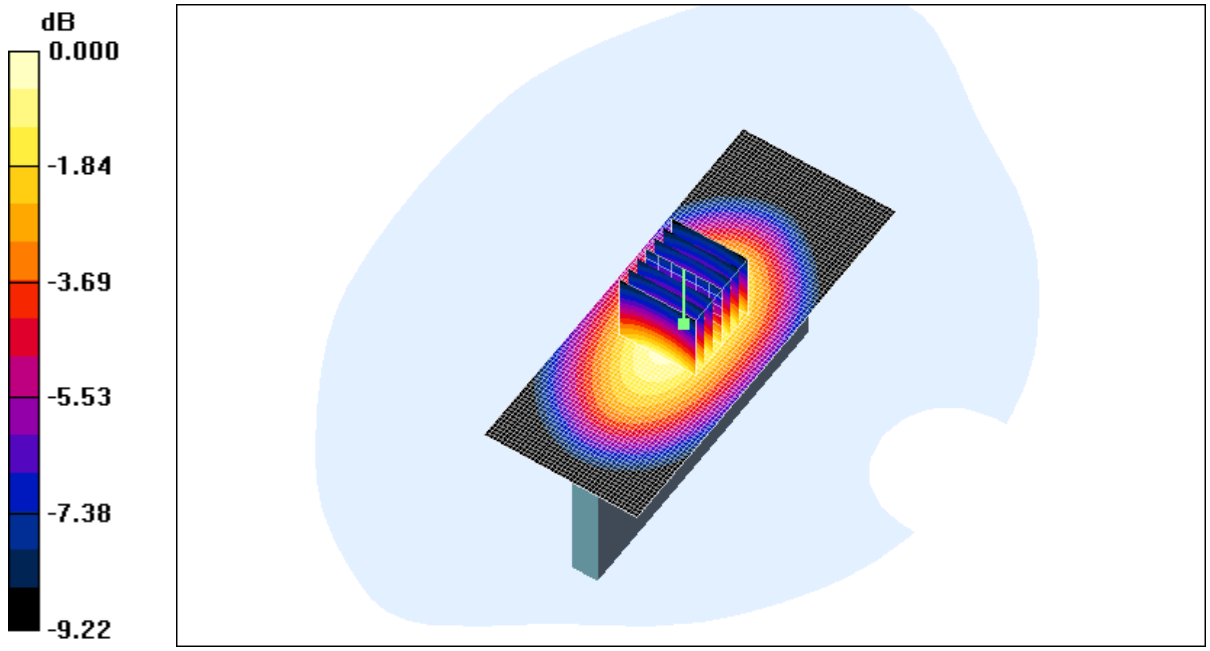
Right Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 30.2 V/m; Power Drift = 0.019 dB

Peak SAR (extrapolated) = 1.18 W/kg

SAR(1 g) = 0.791 mW/g; SAR(10 g) = 0.553 mW/g

Maximum value of SAR (measured) = 0.887 mW/g



0 dB = 0.887mW/g

16.5.29 GSM 850+EGPRS 2TS Back Middle

Date/Time: 2011-5-14 13:51:08

Test Laboratory: SGS-GSM

CA81 GSM 850+EGPRS 2TS BodyWorn 10mm Back Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: GSM850-EGPRS Mode(2up); Frequency: 836.6 MHz;Duty Cycle: 1:4.15

Medium: HSL835 Body Medium parameters used: f = 836.6 MHz; σ = 0.945 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 1.28 mW/g

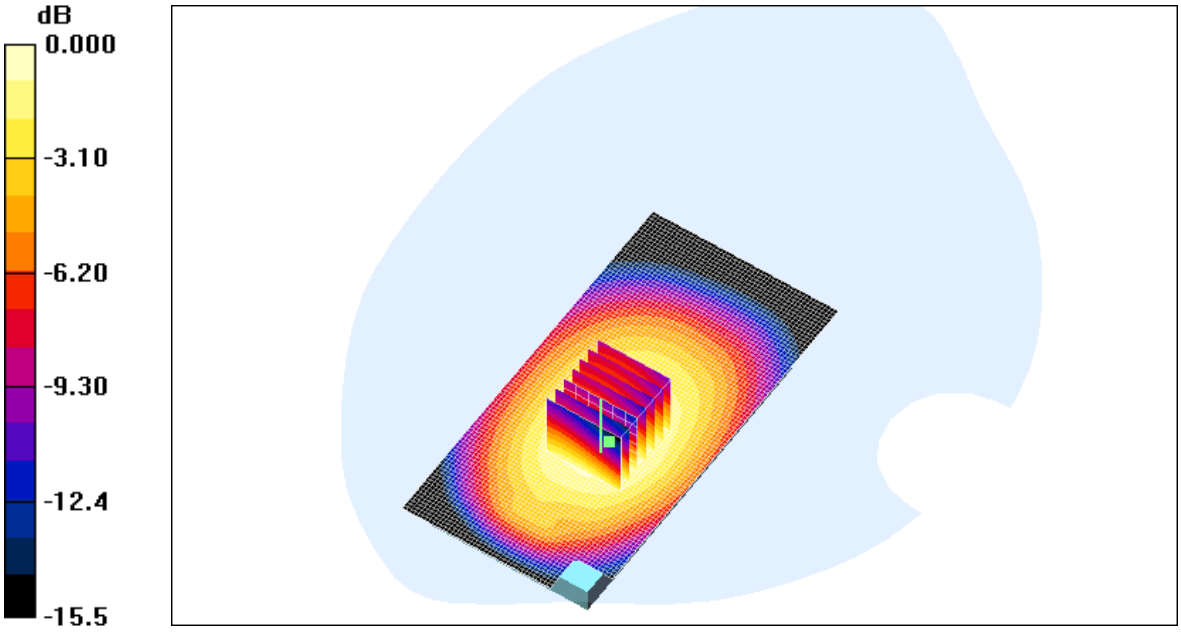
Back Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 15.3 V/m; Power Drift = -0.175 dB

Peak SAR (extrapolated) = 2.19 W/kg

SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.545 mW/g

Maximum value of SAR (measured) = 1.16 mW/g



0 dB = 1.16mW/g

16.5.30 GSM 1900 Left Cheek Middle

Date/Time: 2011-5-15 20:17:09

Test Laboratory: SGS-GSM

CA81 GSM 1900 Left Cheek Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GSM Mode; Frequency: 1880 MHz;Duty Cycle: 1:8.3

Medium: HSL1900_Head Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 39.7; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.14, 5.14, 5.14); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.210 mW/g

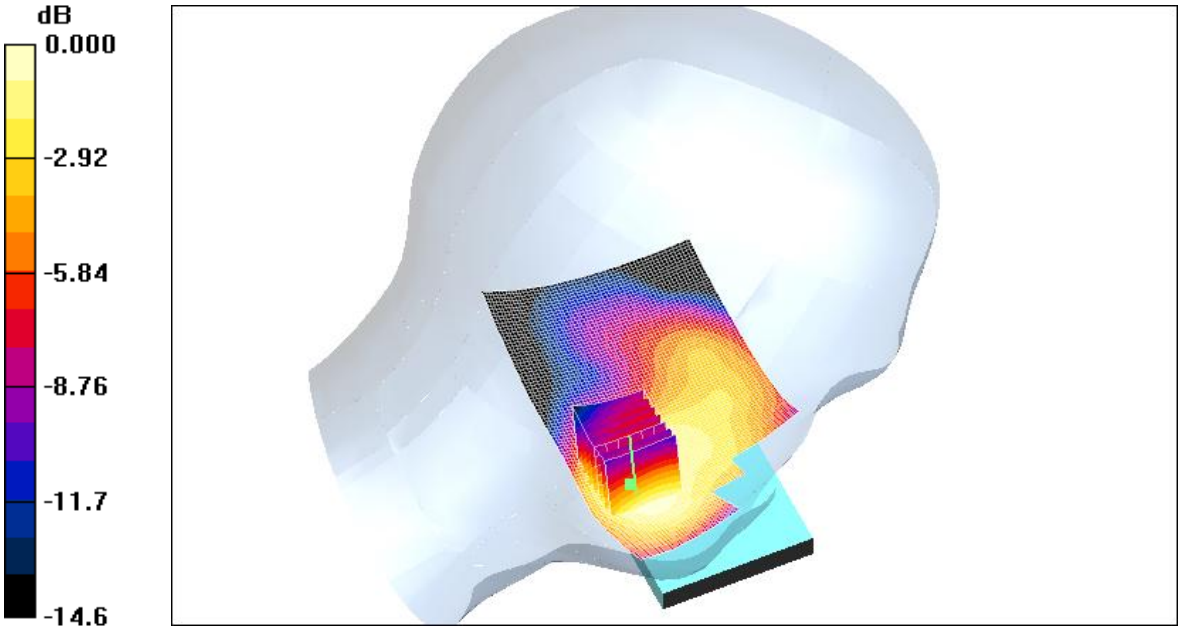
Cheek Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 3.57 V/m; Power Drift = 0.008 dB

Peak SAR (extrapolated) = 0.286 W/kg

SAR(1 g) = 0.196 mW/g; SAR(10 g) = 0.125 mW/g

Maximum value of SAR (measured) = 0.210 mW/g



0 dB = 0.210mW/g

16.5.31 GSM 1900 Left Tilt Middle

Date/Time: 2011-5-15 19:48:27

Test Laboratory: SGS-GSM

CA81 GSM 1900 Left Tilt Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GSM Mode; Frequency: 1880 MHz;Duty Cycle: 1:8.3

Medium: HSL1900_Head Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 39.7; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.14, 5.14, 5.14); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt Middle/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.104 mW/g

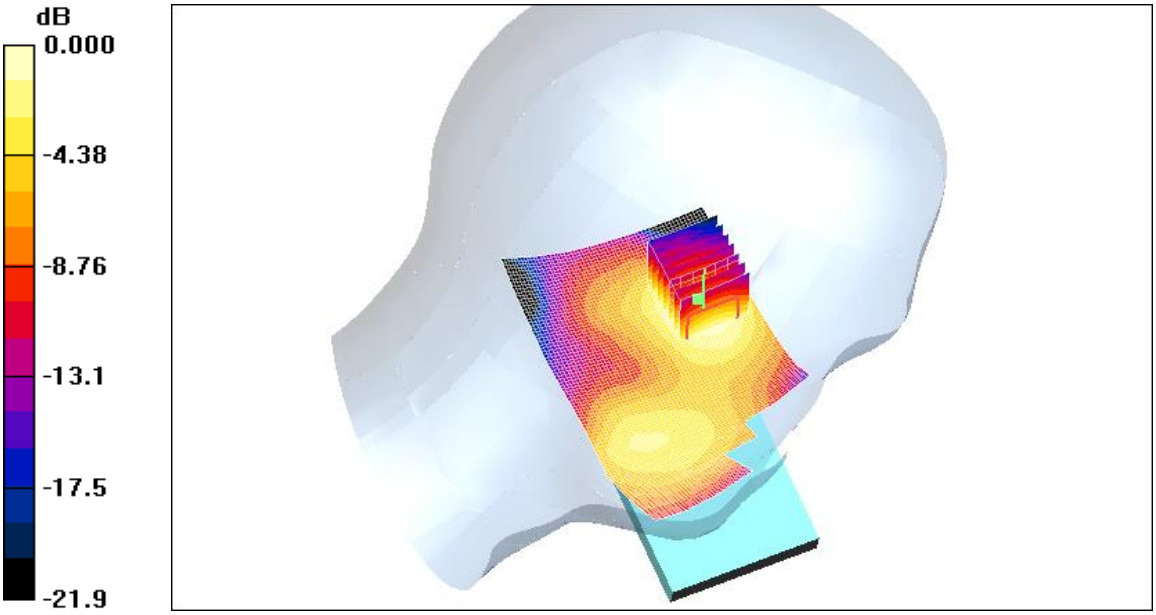
Tilt Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 4.45 V/m; Power Drift = -0.131 dB

Peak SAR (extrapolated) = 0.143 W/kg

SAR(1 g) = 0.089 mW/g; SAR(10 g) = 0.052 mW/g

Maximum value of SAR (measured) = 0.098 mW/g



0 dB = 0.098mW/g

16.5.32 GSM 1900 Right Cheek Middle

Date/Time: 2011-5-15 19:21:08

Test Laboratory: SGS-GSM

CA81 GSM 1900 Right Cheek Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GSM Mode; Frequency: 1880 MHz;Duty Cycle: 1:8.3

Medium: HSL1900_Head Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 39.7; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.14, 5.14, 5.14); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.256 mW/g

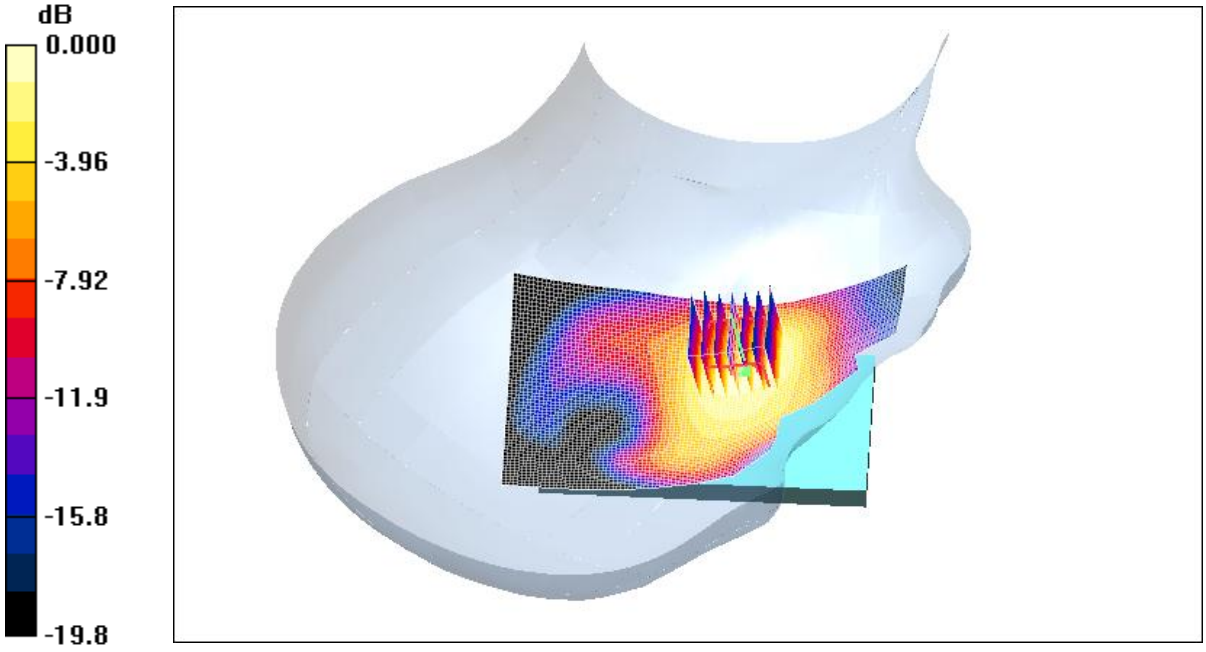
Cheek Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 3.95 V/m; Power Drift = -0.086 dB

Peak SAR (extrapolated) = 0.366 W/kg

SAR(1 g) = 0.226 mW/g; SAR(10 g) = 0.140 mW/g

Maximum value of SAR (measured) = 0.244 mW/g



0 dB = 0.244mW/g

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16.5.33 GSM 1900 Right Tilt Middle

Date/Time: 2011-5-15 21:42:49

Test Laboratory: SGS-GSM

CA81 GSM 1900 Right Tilt Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GSM Mode; Frequency: 1880 MHz;Duty Cycle: 1:8.3

Medium: HSL1900_Head Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 39.7; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.14, 5.14, 5.14); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt Middle/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.058 mW/g

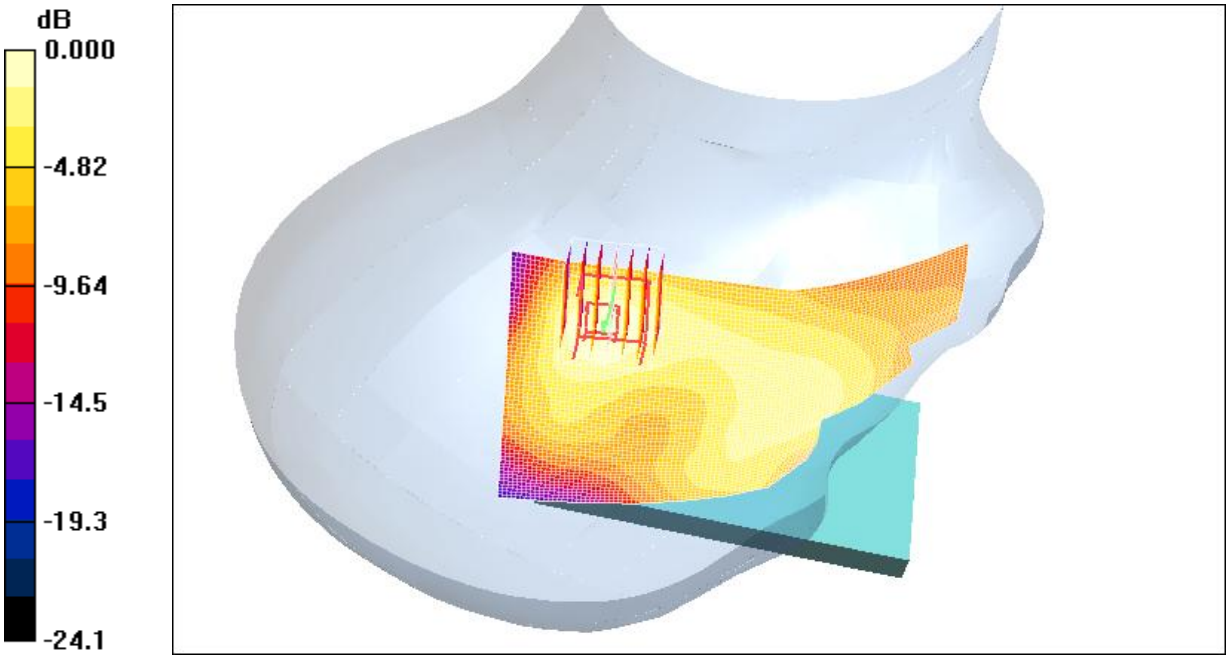
Tilt Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 4.14 V/m; Power Drift = -0.133 dB

Peak SAR (extrapolated) = 0.081 W/kg

SAR(1 g) = 0.050 mW/g; SAR(10 g) = 0.029 mW/g

Maximum value of SAR (measured) = 0.055 mW/g



0 dB = 0.055mW/g

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16.5.34 GSM 1900 Right Cheek High

Date/Time: 2011-5-15 20:45:57

Test Laboratory: SGS-GSM

CA81 GSM 1900 Right Cheek High

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GSM Mode; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3

Medium: HSL1900_Head Medium parameters used: f = 1909.8 MHz; σ = 1.41 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.14, 5.14, 5.14); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek High/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.165 mW/g

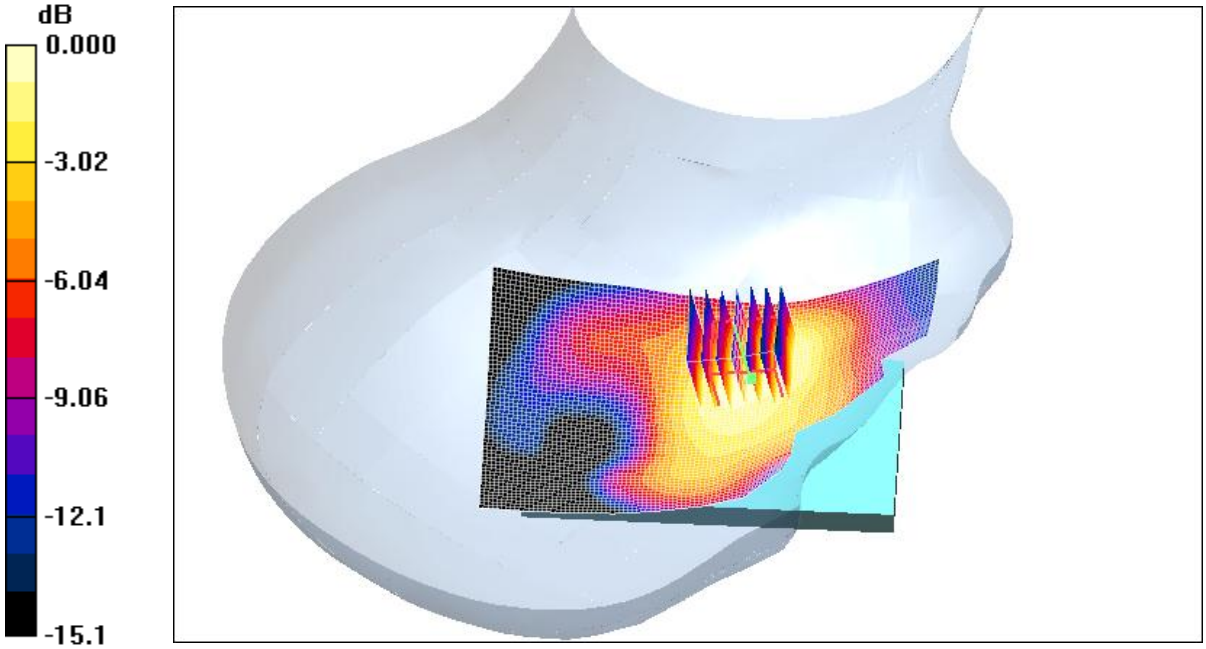
Cheek High/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 2.85 V/m; Power Drift = 0.160 dB

Peak SAR (extrapolated) = 0.228 W/kg

SAR(1 g) = 0.155 mW/g; SAR(10 g) = 0.097 mW/g

Maximum value of SAR (measured) = 0.166 mW/g



0 dB = 0.166mW/g

16.5.35 GSM 1900 Right Cheek Low

Date/Time: 2011-5-15 21:13:46

Test Laboratory: SGS-GSM

CA81 GSM 1900 Right Cheek Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GSM Mode; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3

Medium: HSL1900_Head Medium parameters used: f = 1850.2 MHz; σ = 1.36 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.14, 5.14, 5.14); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Low/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.252 mW/g

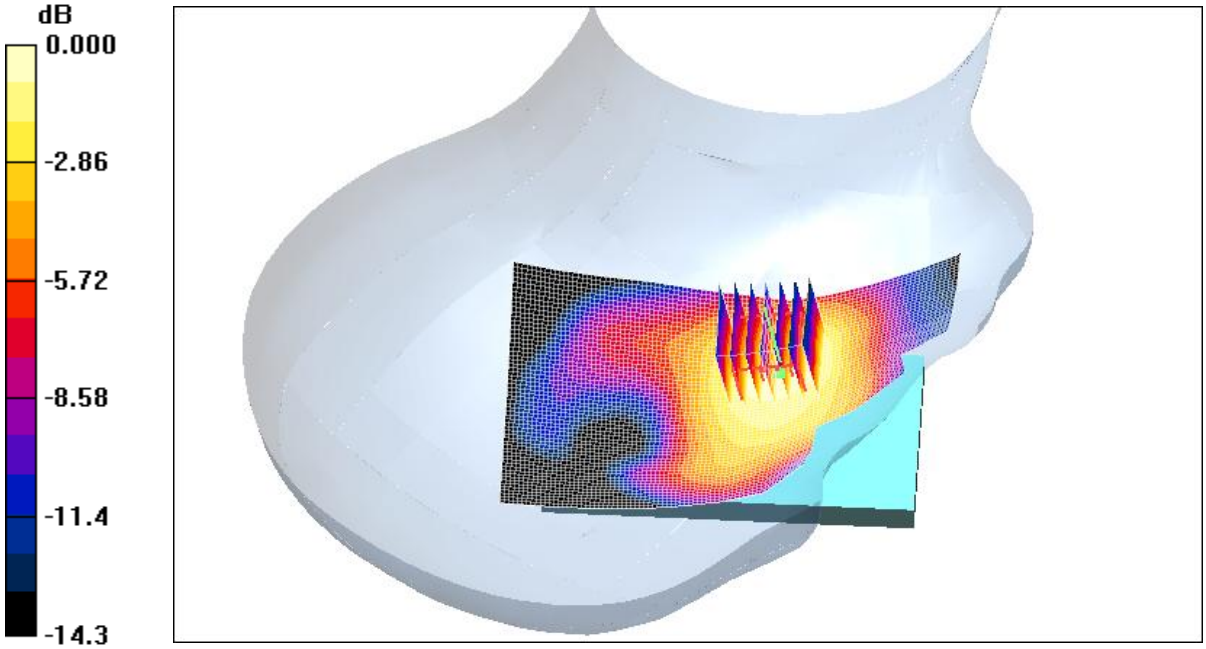
Cheek Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 4.23 V/m; Power Drift = -0.165 dB

Peak SAR (extrapolated) = 0.343 W/kg

SAR(1 g) = 0.237 mW/g; SAR(10 g) = 0.153 mW/g

Maximum value of SAR (measured) = 0.255 mW/g



0 dB = 0.255mW/g

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16.5.36 GSM 1900 BodyWron Front Middle

Date/Time: 2011-5-14 19:19:28

Test Laboratory: SGS-GSM

CA81 GSM 1900-GSM Mode BodyWorn 10mm Front Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GSM Mode; Frequency: 1880 MHz;Duty Cycle: 1:8.3

Medium: HSL1900-Body Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Front Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.383 mW/g

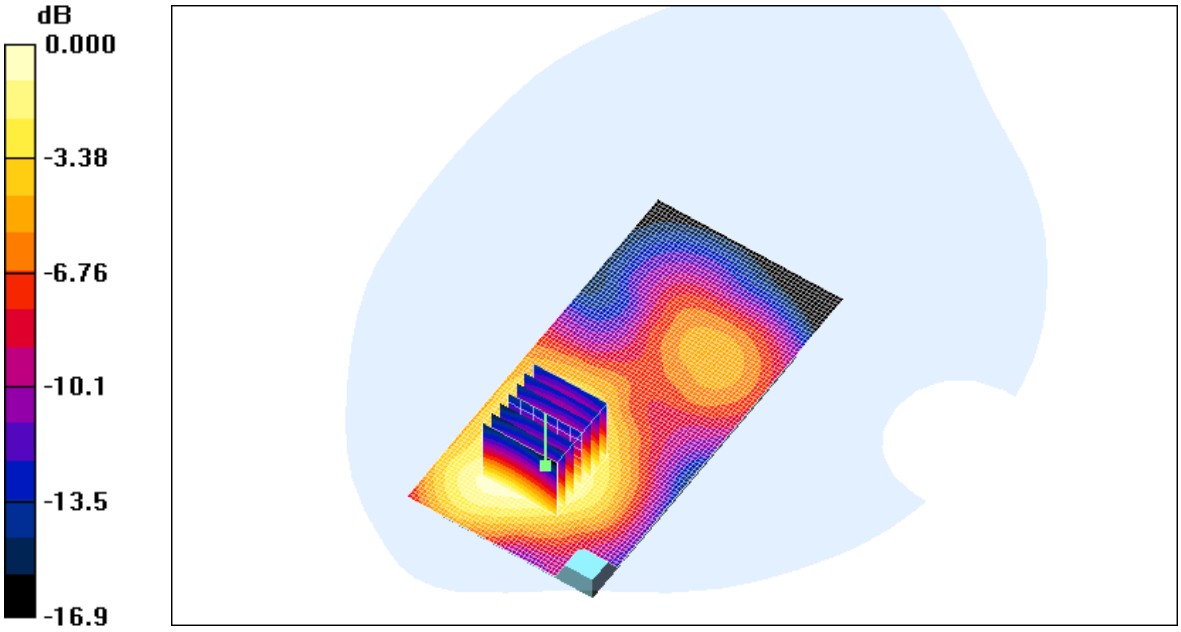
Front Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 6.57 V/m; Power Drift = 0.122 dB

Peak SAR (extrapolated) = 0.561 W/kg

SAR(1 g) = 0.350 mW/g; SAR(10 g) = 0.208 mW/g

Maximum value of SAR (measured) = 0.387 mW/g



0 dB = 0.387mW/g

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16.5.37 GSM 1900 BodyWron Back Middle

Date/Time: 2011-5-14 19:52:32

Test Laboratory: SGS-GSM

CA81 GSM 1900-GSM Mode BodyWorn 10mm Back Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GSM Mode; Frequency: 1880 MHz;Duty Cycle: 1:8.3

Medium: HSL1900-Body Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.400 mW/g

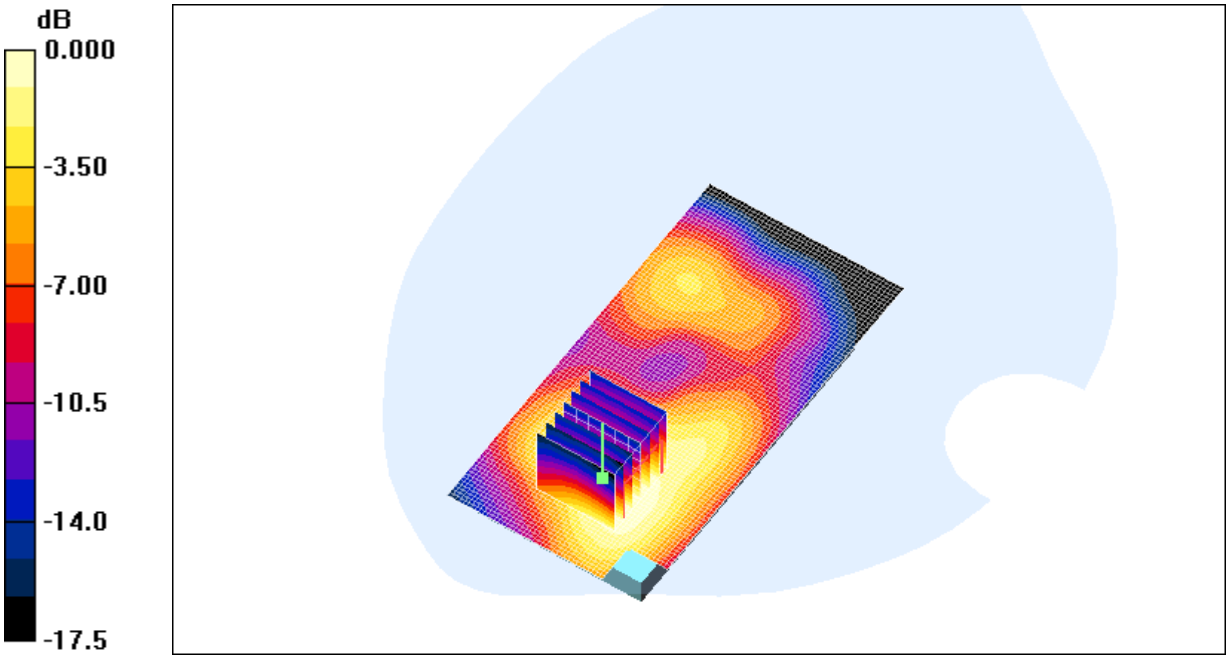
Back Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 7.19 V/m; Power Drift = -0.203 dB

Peak SAR (extrapolated) = 0.597 W/kg

SAR(1 g) = 0.356 mW/g; SAR(10 g) = 0.210 mW/g

Maximum value of SAR (measured) = 0.391 mW/g



0 dB = 0.391mW/g

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16.5.38 GSM 1900 BodyWron Back High

Date/Time: 2011-5-14 20:21:24

Test Laboratory: SGS-GSM

CA81 GSM 1900-GSM Mode BodyWorn 10mm Back High

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GSM Mode; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3

Medium: HSL1900-Body Medium parameters used: f = 1909.8 MHz; σ = 1.55 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back High/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.316 mW/g

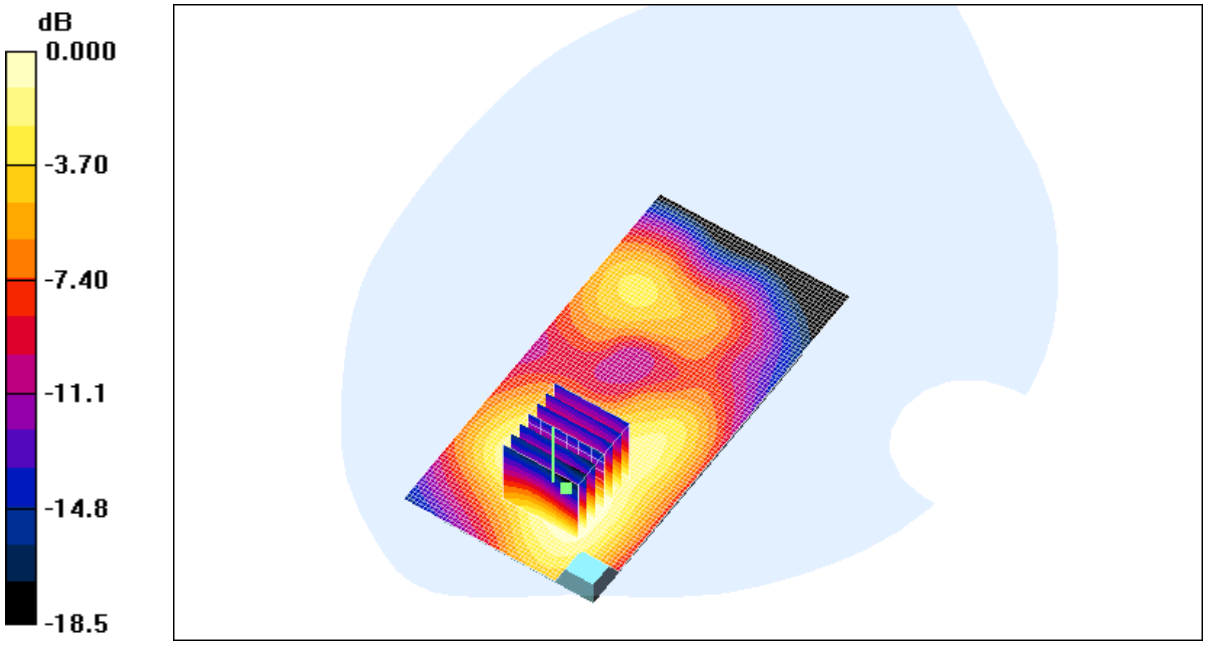
Back High/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 6.23 V/m; Power Drift = -0.028 dB

Peak SAR (extrapolated) = 0.487 W/kg

SAR(1 g) = 0.283 mW/g; SAR(10 g) = 0.168 mW/g

Maximum value of SAR (measured) = 0.310 mW/g



0 dB = 0.310mW/g

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16.5.39 GSM 1900 BodyWron Back Low

Date/Time: 2011-5-14 20:50:17

Test Laboratory: SGS-GSM

CA81 GSM 1900-GSM Mode BodyWorn 10mm Back Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GSM Mode; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3

Medium: HSL1900-Body Medium parameters used: f = 1850.2 MHz; σ = 1.49 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Low/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.464 mW/g

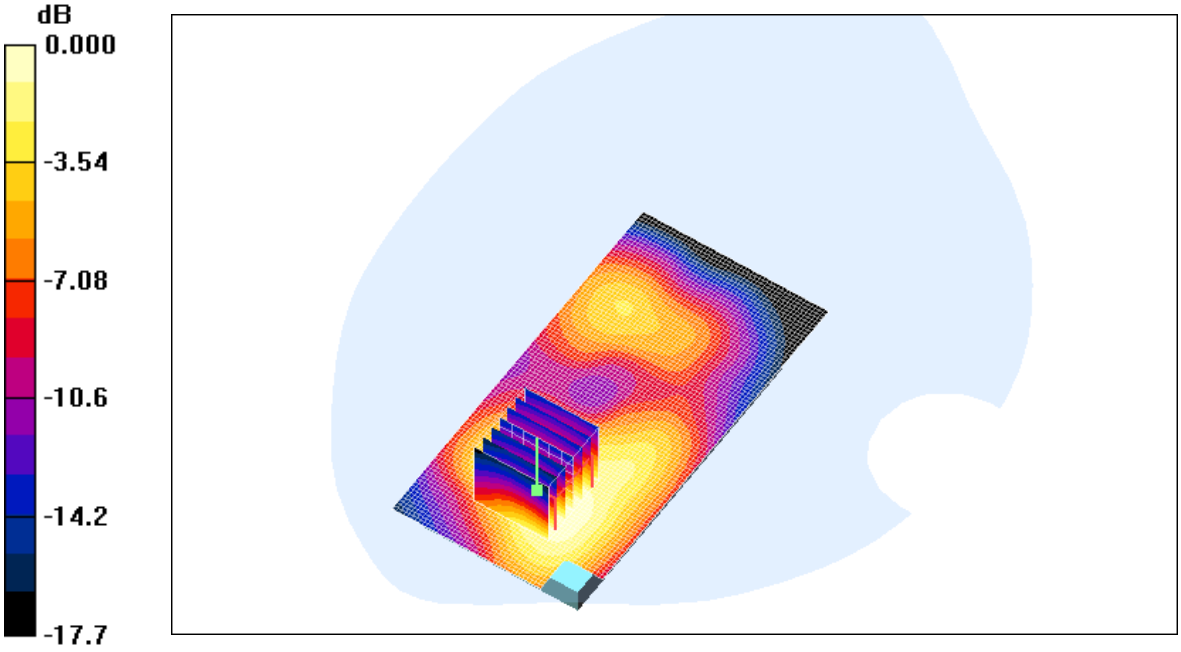
Back Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 7.81 V/m; Power Drift = -0.146 dB

Peak SAR (extrapolated) = 0.669 W/kg

SAR(1 g) = 0.414 mW/g; SAR(10 g) = 0.243 mW/g

Maximum value of SAR (measured) = 0.453 mW/g



0 dB = 0.453mW/g

16.5.40 GSM 1900 BodyWron Back Low with headset

Date/Time: 2011-6-14 22:52:17

Test Laboratory: SGS-GSM

CA81 GSM 1900-GSM Mode BodyWorn 10mm Back Low with Headset

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GSM Mode; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3

Medium: HSL1900_Body Medium parameters used: f = 1850.2 MHz; σ = 1.46 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Low with earphone/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.517 mW/g

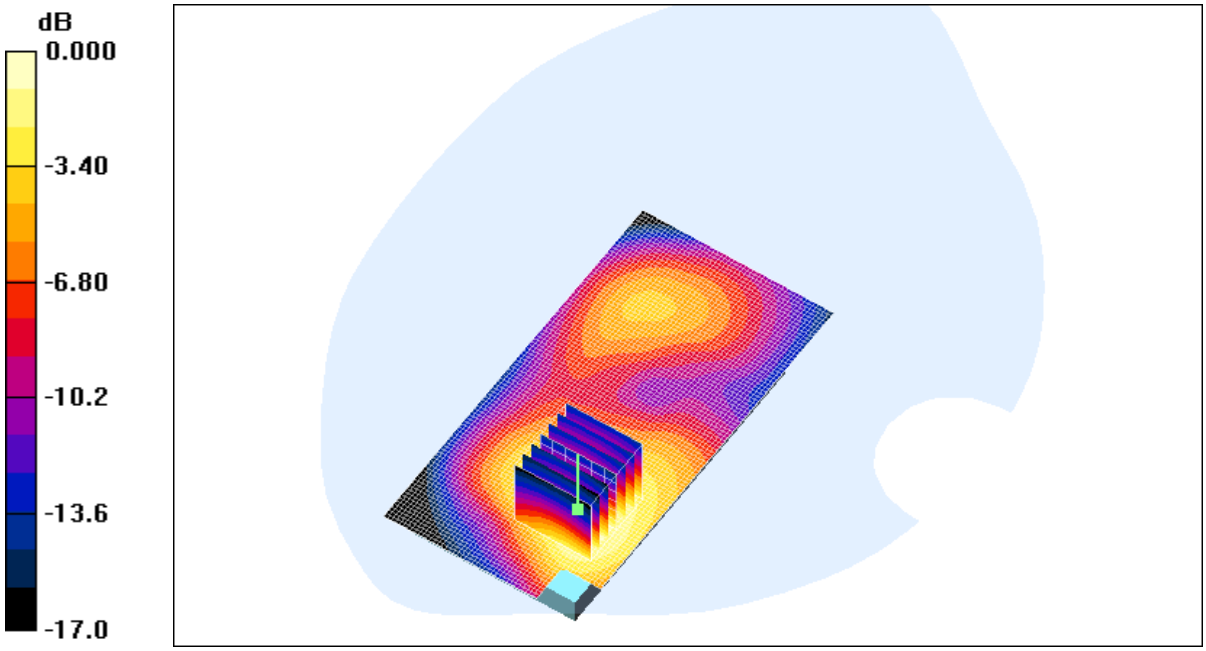
Back Low with earphone/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 11.0 V/m; Power Drift = -0.117 dB

Peak SAR (extrapolated) = 0.769 W/kg

SAR(1 g) = 0.471 mW/g; SAR(10 g) = 0.275 mW/g

Maximum value of SAR (measured) = 0.518 mW/g



0 dB = 0.518mW/g

16.5.41 GSM 1900+GPRS 1TS Back Low

Date/Time: 2011-5-14 21:20:11

Test Laboratory: SGS-GSM

CA81 GSM 1900-GPRS 1TS Mode BodyWorn 10mm Band Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GPRS Mode; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3

Medium: HSL1900-Body Medium parameters used: f = 1850.2 MHz; σ = 1.49 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Low/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.444 mW/g

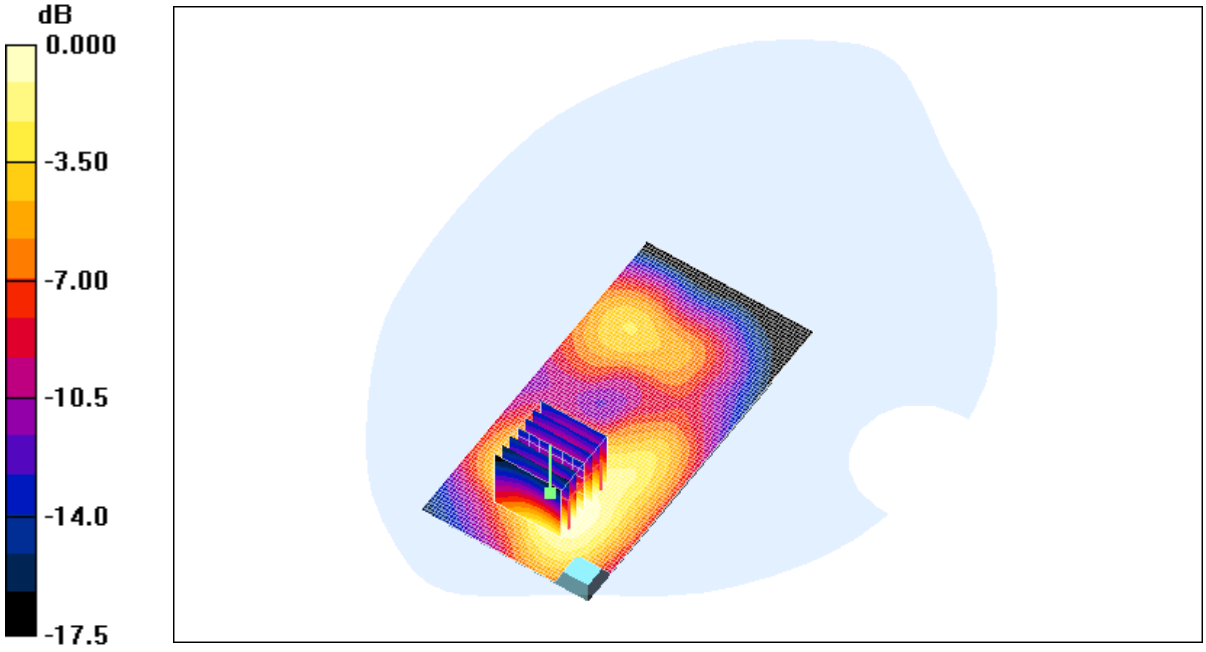
Back Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 7.54 V/m; Power Drift = 0.085 dB

Peak SAR (extrapolated) = 0.643 W/kg

SAR(1 g) = 0.396 mW/g; SAR(10 g) = 0.232 mW/g

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



0 dB = 0.433mW/g

16.5.42 GSM 1900+GPRS 2TS Back Low

Date/Time: 2011-5-15 9:00:50

Test Laboratory: SGS-GSM

CA81 GSM 1900-GPRS 2TS Mode BodyWorn 10mm Band Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GPRS Mode(2 ts); Frequency: 1850.2 MHz;Duty Cycle: 1:4.15

Medium: HSL1900-Body Medium parameters used: f = 1850.2 MHz; σ = 1.49 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Low/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.601 mW/g

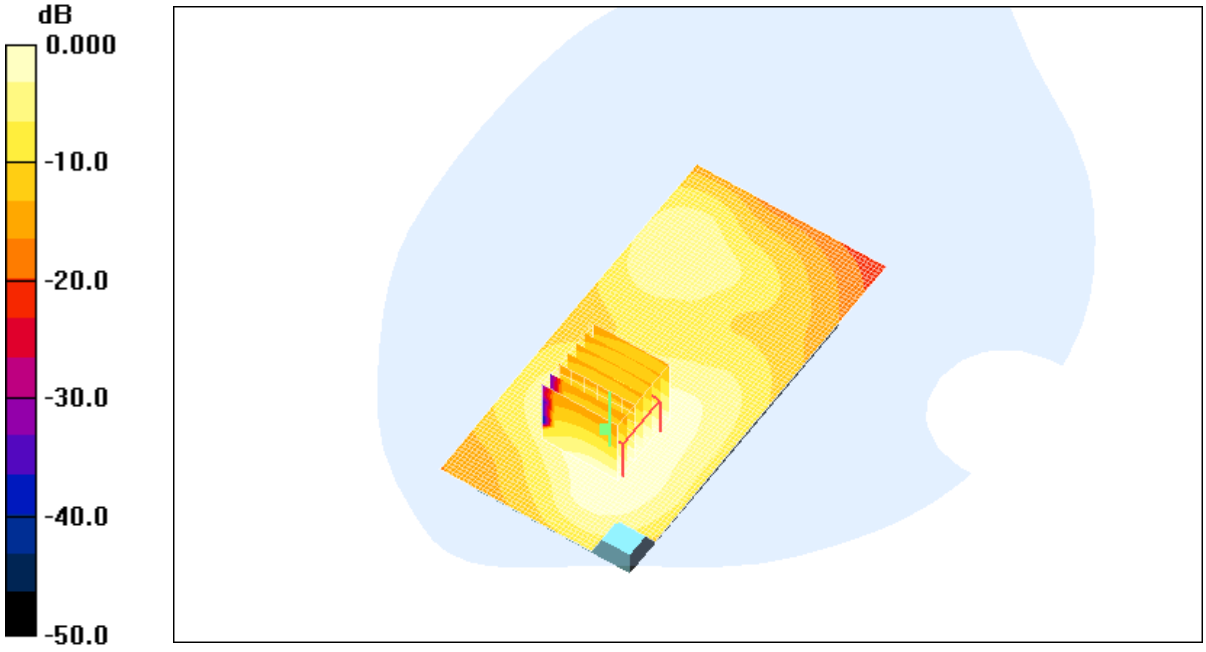
Back Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 9.31 V/m; Power Drift = -0.107 dB

Peak SAR (extrapolated) = 0.937 W/kg

SAR(1 g) = 0.546 mW/g; SAR(10 g) = 0.322 mW/g

Maximum value of SAR (measured) = 0.597 mW/g



0 dB = 0.597mW/g

16.5.43 GSM 1900+GPRS 3TS Back Low

Date/Time: 2011-5-15 9:49:39

Test Laboratory: SGS-GSM

CA81 GSM 1900-GPRS 3TS Mode BodyWorn 10mm Band Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GPRS Mode; Frequency: 1850.2 MHz;Duty Cycle: 1:2.77

Medium: HSL1900-Body Medium parameters used: f = 1850.2 MHz; σ = 1.49 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Low/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.614 mW/g

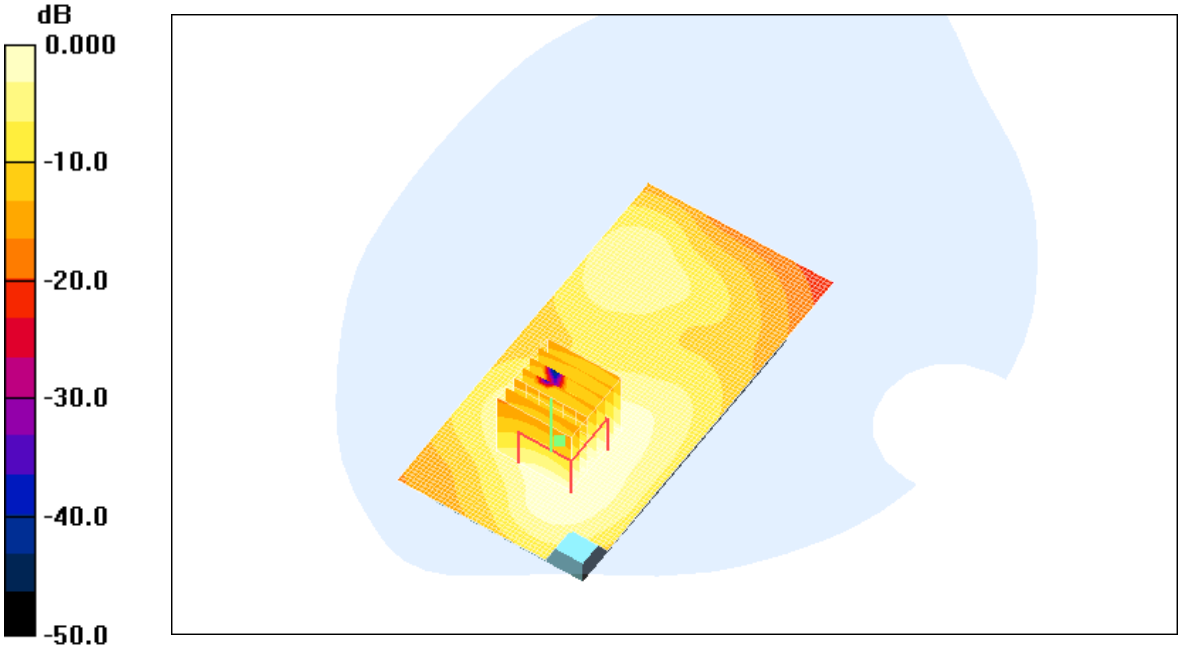
Back Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 9.36 V/m; Power Drift = -0.085 dB

Peak SAR (extrapolated) = 1.21 W/kg

SAR(1 g) = 0.598 mW/g; SAR(10 g) = 0.322 mW/g

Maximum value of SAR (measured) = 0.631 mW/g



0 dB = 0.631mW/g

16.5.44 GSM 1900+GPRS 4TS Back Low

Date/Time: 2011-5-15 10:23:54

Test Laboratory: SGS-GSM

CA81 GSM 1900-GPRS 4TS Mode BodyWorn 10mm Band Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GPRS Mode(4 ts); Frequency: 1850.2 MHz;Duty Cycle: 1:2.075

Medium: HSL1900-Body Medium parameters used: f = 1850.2 MHz; σ = 1.49 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Low/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.612 mW/g

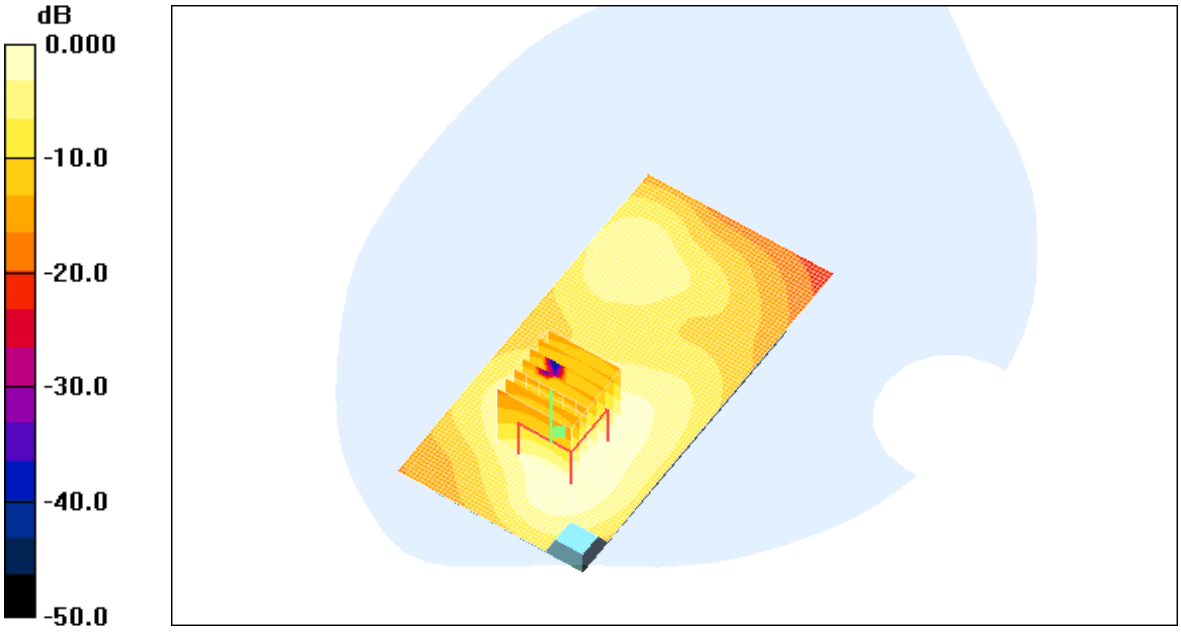
Back Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 8.99 V/m; Power Drift = 0.067 dB

Peak SAR (extrapolated) = 1.45 W/kg

SAR(1 g) = 0.555 mW/g; SAR(10 g) = 0.306 mW/g

Maximum value of SAR (measured) = 0.607 mW/g



0 dB = 0.607mW/g

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16.5.45 GSM 1900+GPRS 3TS Front Middle

Date/Time: 2011-6-14 18:28:50

Test Laboratory: SGS-GSM

CA81 GSM 1900-GPRS 3TS Mode BodyWorn 10mm Front Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GPRS Mode; Frequency: 1880 MHz;Duty Cycle: 1:2.77

Medium: HSL1900_Body Medium parameters used: f = 1880 MHz; σ = 1.49 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Front Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.705 mW/g

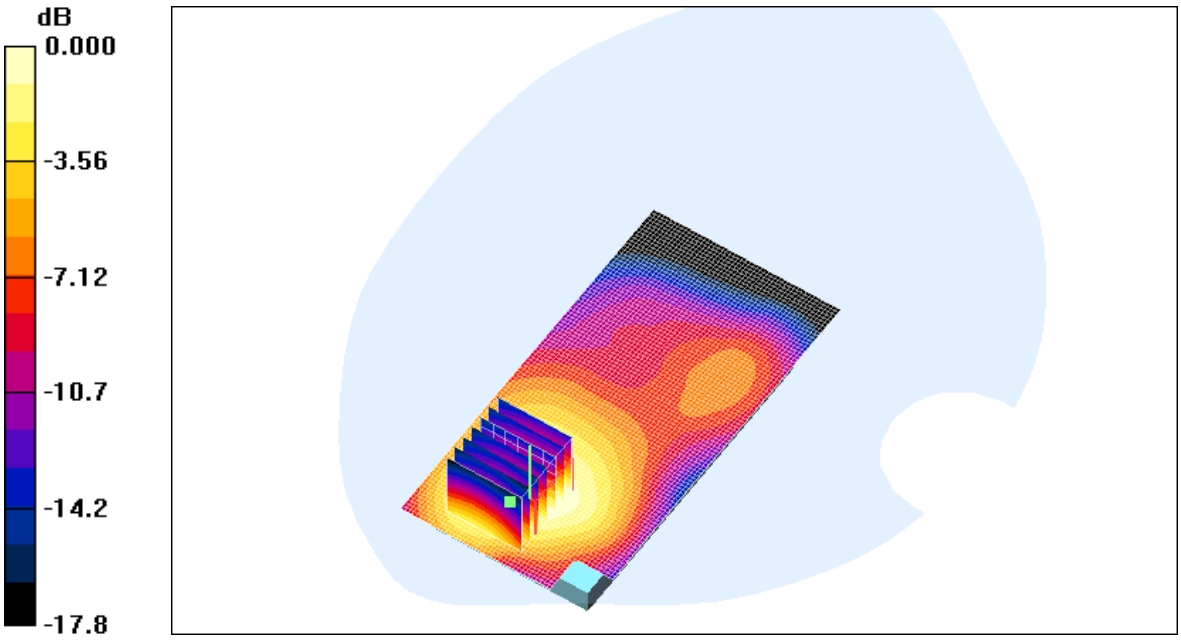
Front Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 6.02 V/m; Power Drift = 0.097 dB

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.639 mW/g; SAR(10 g) = 0.378 mW/g

Maximum value of SAR (measured) = 0.700 mW/g



0 dB = 0.700mW/g

16.5.46 GSM 1900+GPRS 3TS Back Middle

Date/Time: 2011-6-14 18:51:52

Test Laboratory: SGS-GSM

CA81 GSM 1900-GPRS 3TS Mode BodyWorn 10mm Back Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GPRS Mode; Frequency: 1880 MHz;Duty Cycle: 1:2.77

Medium: HSL1900_Body Medium parameters used: f = 1880 MHz; σ = 1.49 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.646 mW/g

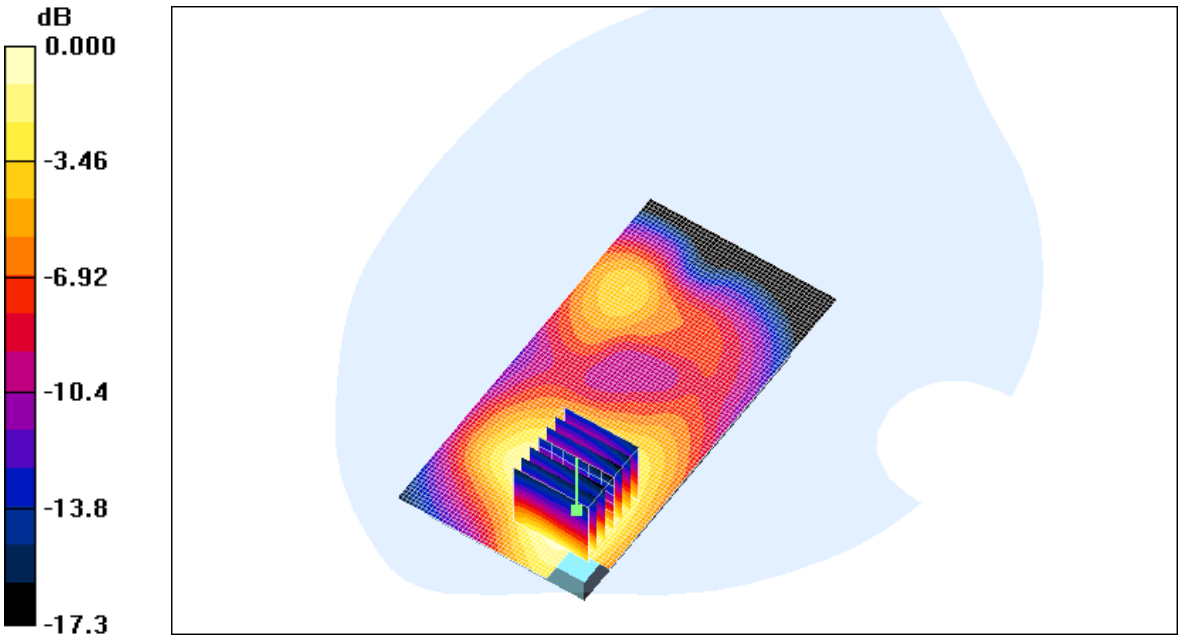
Back Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 6.90 V/m; Power Drift = -0.166 dB

Peak SAR (extrapolated) = 0.945 W/kg

SAR(1 g) = 0.529 mW/g; SAR(10 g) = 0.308 mW/g

Maximum value of SAR (measured) = 0.576 mW/g



0 dB = 0.576mW/g

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16.5.47 GSM 1900+GPRS 3TS Top Middle

Date/Time: 2011-6-14 20:22:01

Test Laboratory: SGS-GSM

CA81 GSM 1900-GPRS 3TS BodyWorn 10mm Top Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GPRS Mode; Frequency: 1880 MHz;Duty Cycle: 1:2.77

Medium: HSL1900_Body Medium parameters used: f = 1880 MHz; σ = 1.49 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.020 mW/g

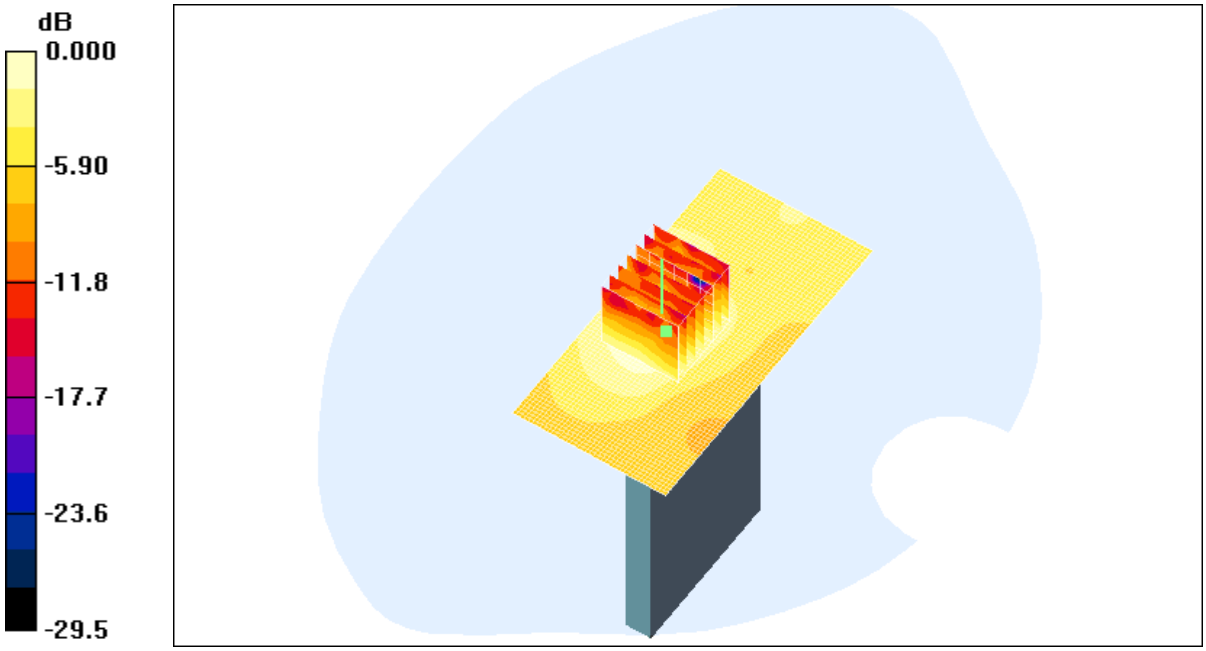
Top Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 3.45 V/m; Power Drift = -0.194 dB

Peak SAR (extrapolated) = 0.028 W/kg

SAR(1 g) = 0.017 mW/g; SAR(10 g) = 0.00989 mW/g

Maximum value of SAR (measured) = 0.018 mW/g



0 dB = 0.018mW/g

16.5.48 GSM 1900+GPRS 3TS Bottom Middle

Date/Time: 2011-6-14 20:43:37

Test Laboratory: SGS-GSM

CA81 GSM 1900-GPRS 3TS BodyWorn 10mm Bottom Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GPRS Mode; Frequency: 1880 MHz;Duty Cycle: 1:2.77

Medium: HSL1900_Body Medium parameters used: f = 1880 MHz; σ = 1.49 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.282 mW/g

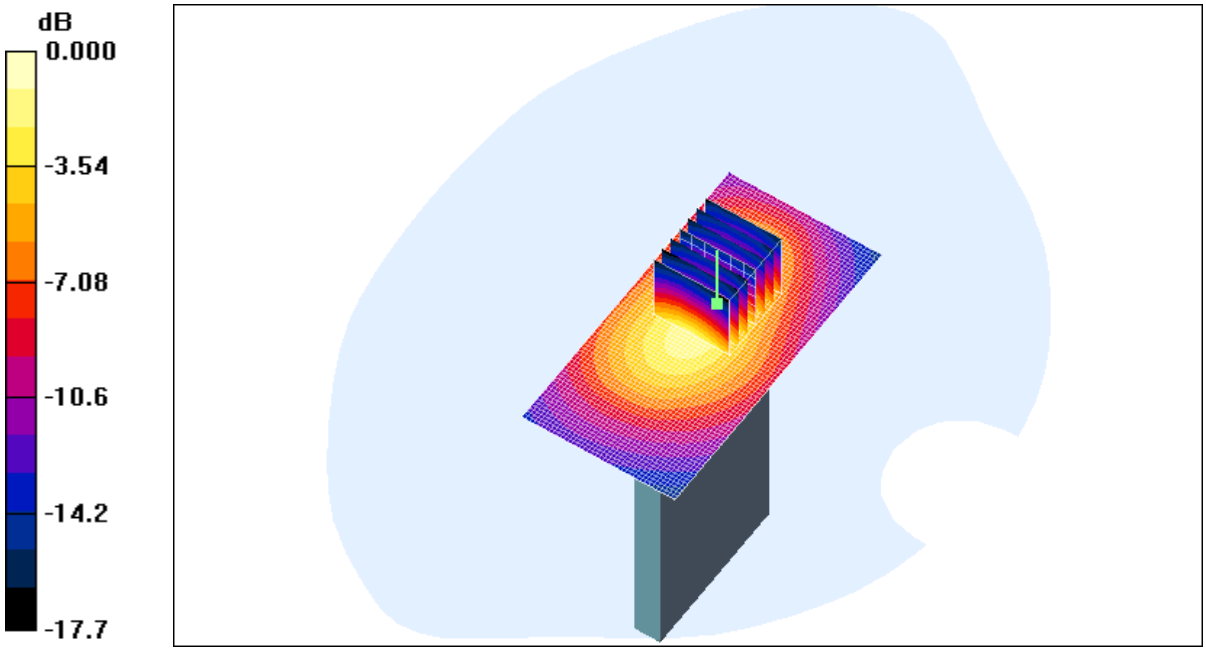
Bottom Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 12.4 V/m; Power Drift = -0.170 dB

Peak SAR (extrapolated) = 0.463 W/kg

SAR(1 g) = 0.262 mW/g; SAR(10 g) = 0.136 mW/g

Maximum value of SAR (measured) = 0.290 mW/g



0 dB = 0.290mW/g

16.5.49 GSM 1900+GPRS 3TS Left Middle

Date/Time: 2011-6-14 19:35:02

Test Laboratory: SGS-GSM

CA81 GSM1900-GPRS 3TS BodyWorn 10mm Left Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GPRS Mode; Frequency: 1880 MHz;Duty Cycle: 1:2.77

Medium: HSL1900_Body Medium parameters used: f = 1880 MHz; σ = 1.49 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Left Middle/Area Scan (41x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.165 mW/g

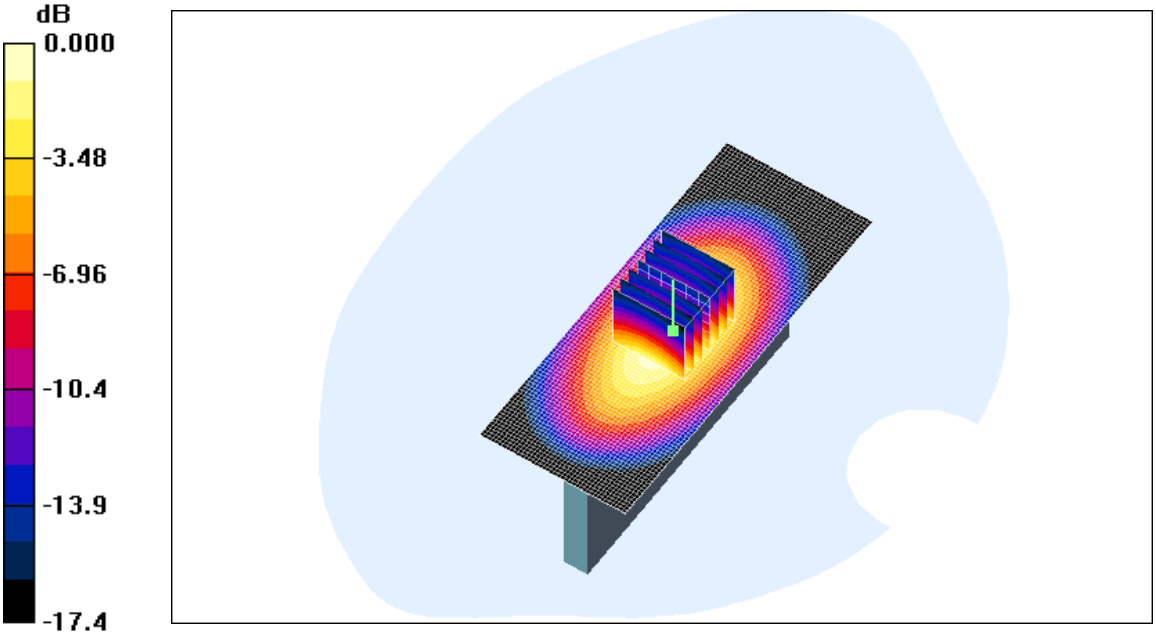
Left Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 6.41 V/m; Power Drift = 0.089 dB

Peak SAR (extrapolated) = 0.243 W/kg

SAR(1 g) = 0.141 mW/g; SAR(10 g) = 0.077 mW/g

Maximum value of SAR (measured) = 0.157 mW/g



0 dB = 0.157mW/g

16.5.50 GSM 1900+GPRS 3TS Right Middle

Date/Time: 2011-6-14 19:58:05

Test Laboratory: SGS-GSM

CA81 GSM1900-GPRS 3TS BodyWorn 10mm Right Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GPRS Mode; Frequency: 1880 MHz;Duty Cycle: 1:2.77

Medium: HSL1900_Body Medium parameters used: f = 1880 MHz; σ = 1.49 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Right Middle/Area Scan (41x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.213 mW/g

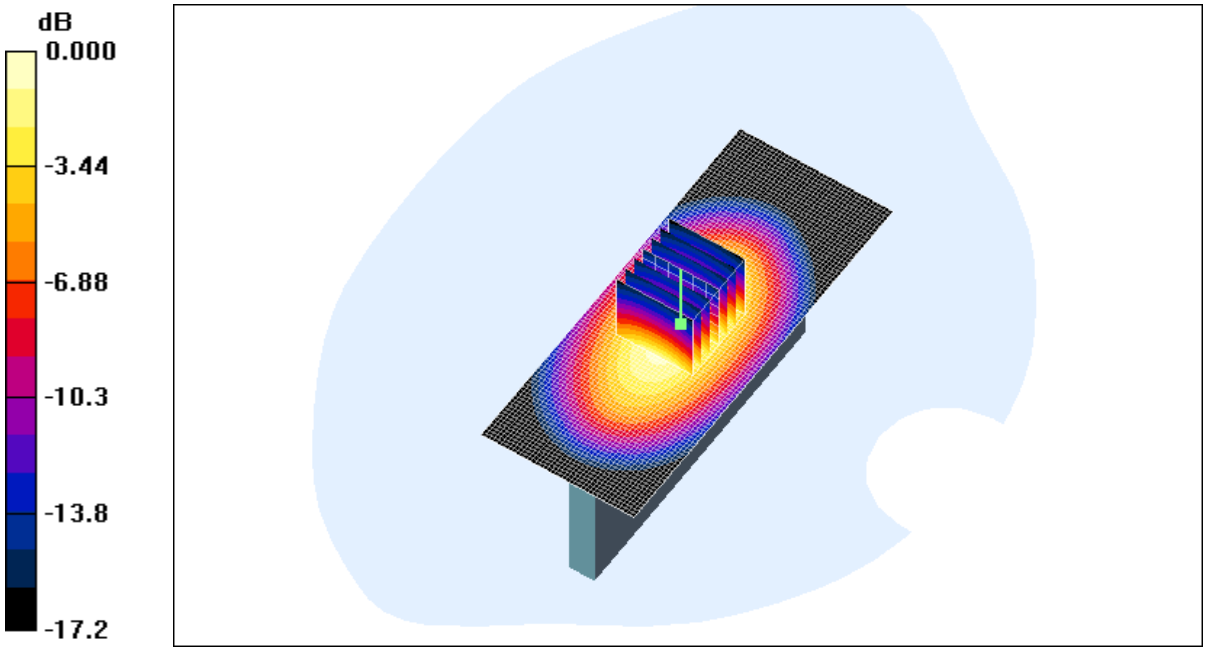
Right Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 6.57 V/m; Power Drift = 0.089 dB

Peak SAR (extrapolated) = 0.358 W/kg

SAR(1 g) = 0.212 mW/g; SAR(10 g) = 0.115 mW/g

Maximum value of SAR (measured) = 0.236 mW/g



0 dB = 0.236mW/g

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16.5.51 GSM 1900+GPRS 3TS Front High

Date/Time: 2011-6-14 21:31:19

Test Laboratory: SGS-GSM

CA81 GSM 1900-GPRS 3TS Mode BodyWorn 10mm Front High

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GPRS Mode; Frequency: 1909.8 MHz;Duty Cycle: 1:2.77

Medium: HSL1900_Body Medium parameters used: f = 1909.8 MHz; σ = 1.53 mho/m; ε_r = 53.4; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Front High/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.572 mW/g

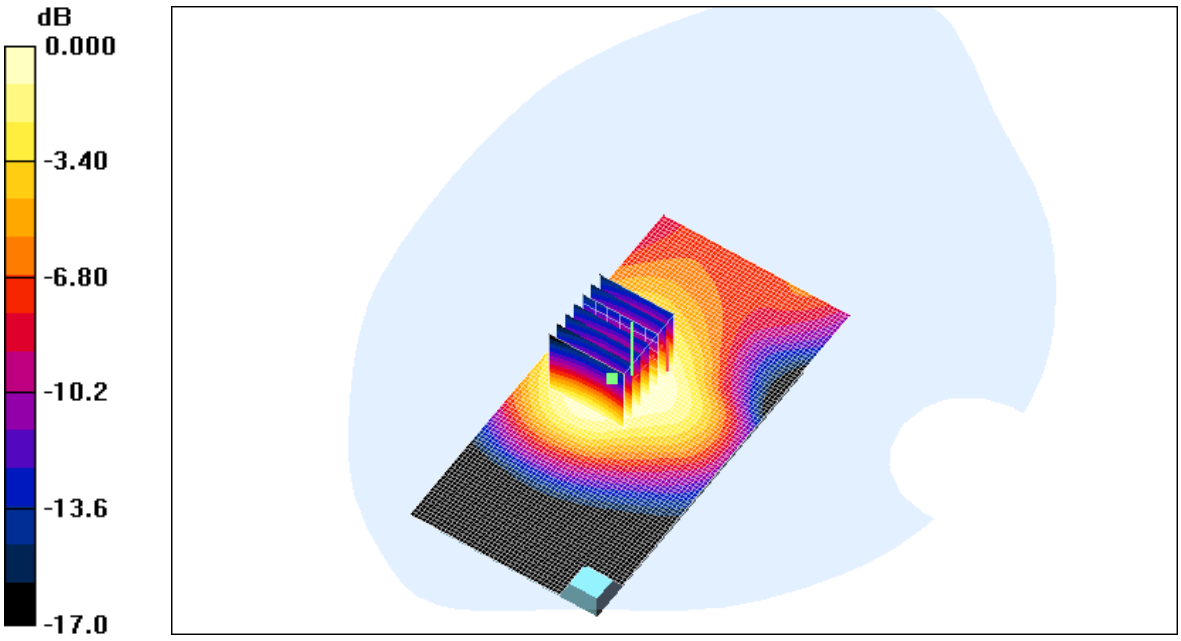
Front High/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 9.26 V/m; Power Drift = -0.084 dB

Peak SAR (extrapolated) = 0.764 W/kg

SAR(1 g) = 0.486 mW/g; SAR(10 g) = 0.300 mW/g

Maximum value of SAR (measured) = 0.523 mW/g



0 dB = 0.523mW/g

16.5.52 GSM 1900+GPRS 3TS Front Low

Date/Time: 2011-6-14 21:53:37

Test Laboratory: SGS-GSM

CA81 GSM 1900-GPRS 3TS Mode BodyWorn 10mm Front Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GPRS Mode; Frequency: 1850.2 MHz;Duty Cycle: 1:2.77

Medium: HSL1900_Body Medium parameters used: f = 1850.2 MHz; σ = 1.46 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Front Low/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.989 mW/g

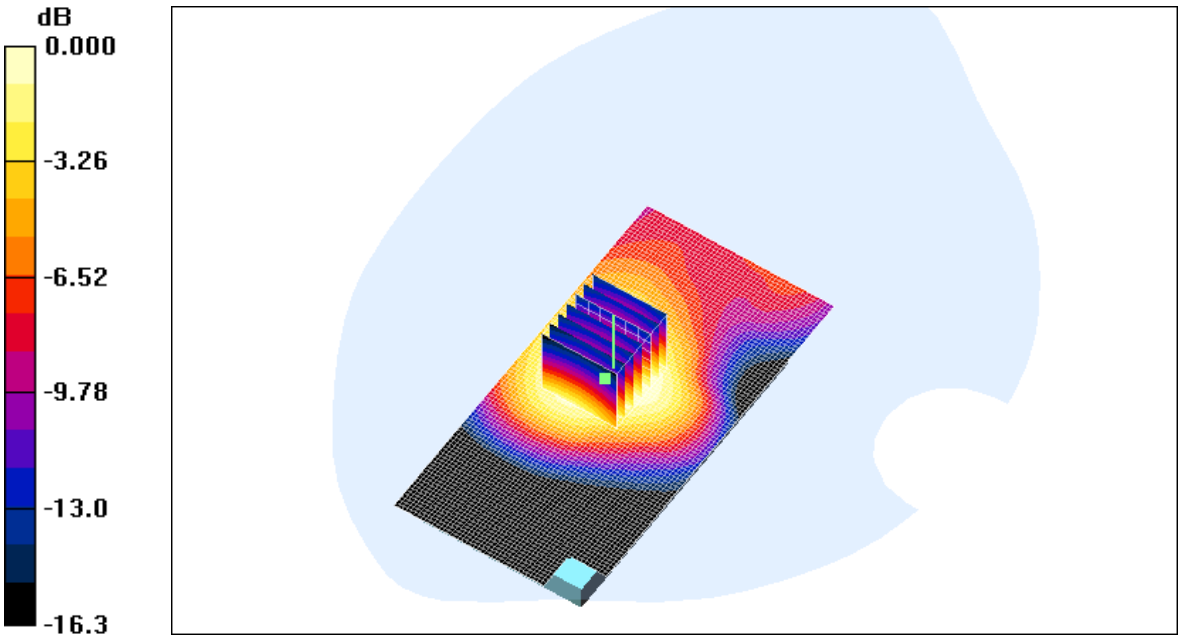
Front Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 10.6 V/m; Power Drift = -0.079 dB

Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.808 mW/g; SAR(10 g) = 0.499 mW/g

Maximum value of SAR (measured) = 0.867 mW/g



0 dB = 0.867mW/g

16.5.53 GSM 1900+EGPRS 3TS Front Low

Date/Time: 2011-6-14 22:28:59

Test Laboratory: SGS-GSM

CA81 EGPRS 1900 3TS BodyWorn 10mm Front Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: PCS1900-GPRS Mode; Frequency: 1850.2 MHz;Duty Cycle: 1:2.77

Medium: HSL1900_Body Medium parameters used: f = 1850.2 MHz; σ = 1.46 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Front Low/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.863 mW/g

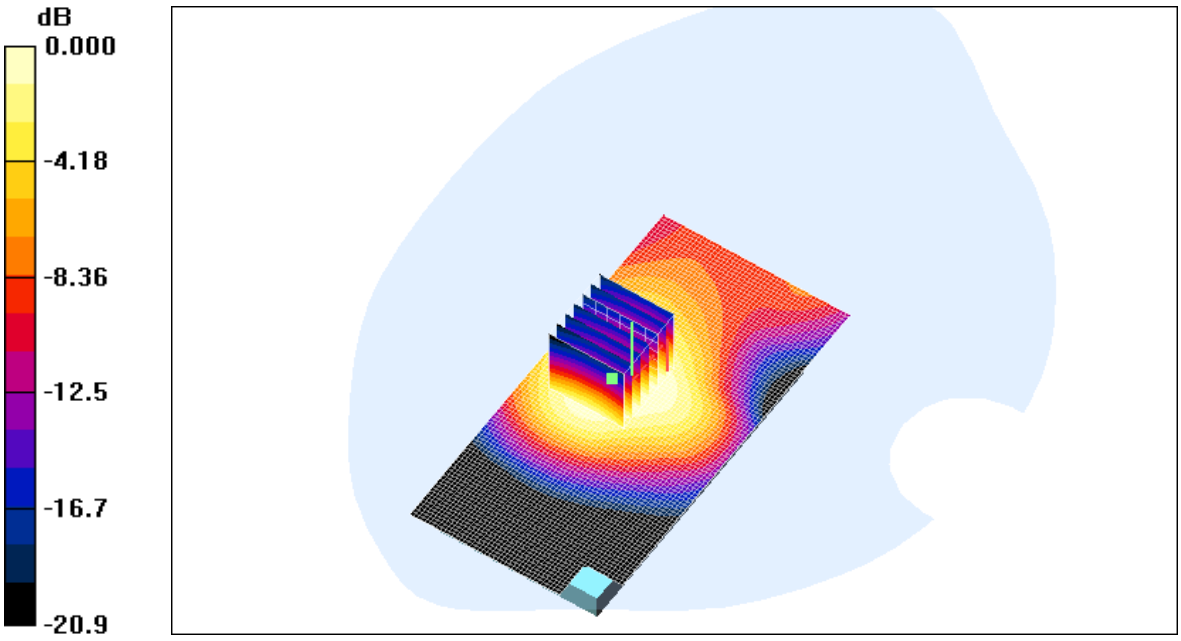
Front Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 10.2 V/m; Power Drift = 0.015 dB

Peak SAR (extrapolated) = 1.33 W/kg

SAR(1 g) = 0.782 mW/g; SAR(10 g) = 0.397 mW/g

Maximum value of SAR (measured) = 0.906 mW/g



0 dB = 0.906mW/g

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16.5.54 WCDMA Band II Left Cheek Middle

Date/Time: 2011-5-16 12:20:51

Test Laboratory: SGS-GSM

CA81 WCDMA Band II Left Cheek Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band II ; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium: HSL1900_Head Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 39.7; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.14, 5.14, 5.14); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.516 mW/g

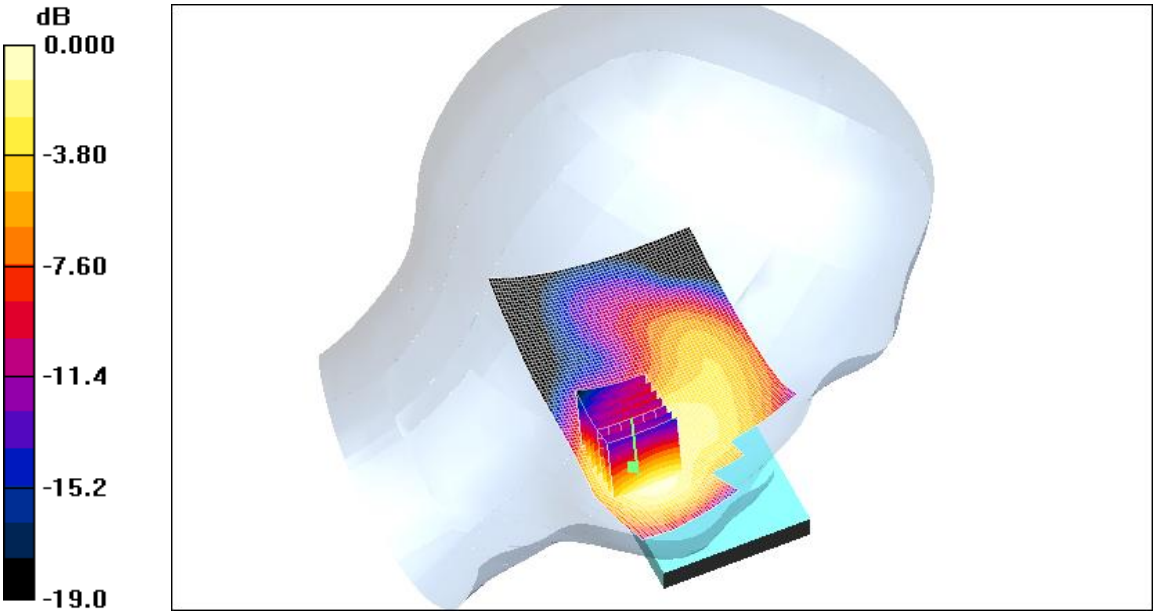
Cheek Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 5.83 V/m; Power Drift = 0.200 dB

Peak SAR (extrapolated) = 0.733 W/kg

SAR(1 g) = 0.455 mW/g; SAR(10 g) = 0.284 mW/g

Maximum value of SAR (measured) = 0.487 mW/g



0 dB = 0.487mW/g

16.5.55 WCDMA Band II Left Tilt Middle

Date/Time: 2011-5-16 12:49:24

Test Laboratory: SGS-GSM

CA81 WCDMA Band II Left Tilt Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band II ; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium: HSL1900_Head Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 39.7; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.14, 5.14, 5.14); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt Middle/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.213 mW/g

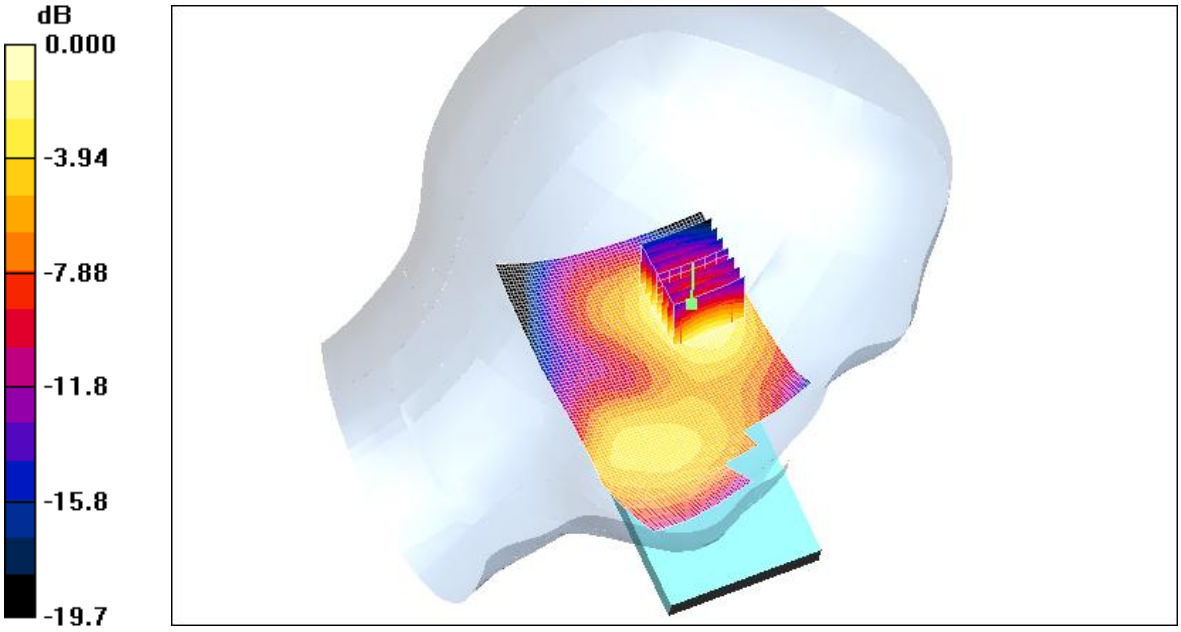
Tilt Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 6.65 V/m; Power Drift = -0.037 dB

Peak SAR (extrapolated) = 0.291 W/kg

SAR(1 g) = 0.180 mW/g; SAR(10 g) = 0.104 mW/g

Maximum value of SAR (measured) = 0.199 mW/g



0 dB = 0.199mW/g

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16.5.56 WCDMA Band II Right Cheek Middle

Date/Time: 2011-5-16 13:23:05

Test Laboratory: SGS-GSM

CA81 WCDMA Band II Right Cheek Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band II ; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium: HSL1900_Head Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 39.7; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.14, 5.14, 5.14); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.460 mW/g

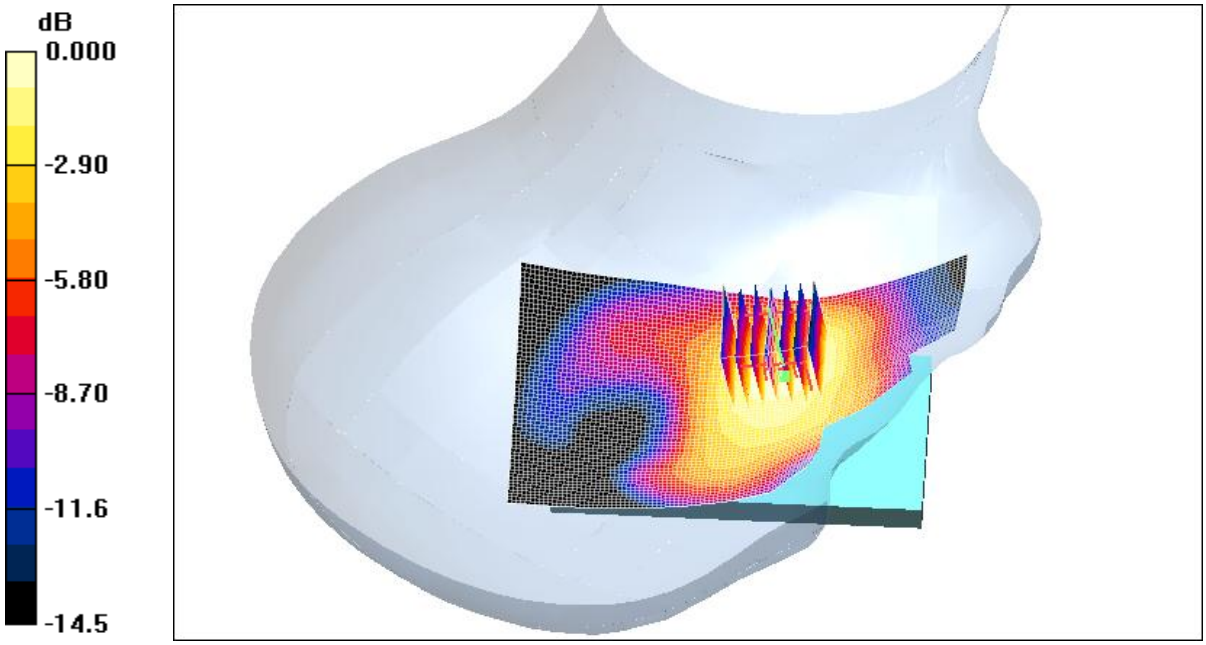
Cheek Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 5.04 V/m; Power Drift = 0.166 dB

Peak SAR (extrapolated) = 0.619 W/kg

SAR(1 g) = 0.425 mW/g; SAR(10 g) = 0.270 mW/g

Maximum value of SAR (measured) = 0.459 mW/g



0 dB = 0.459mW/g

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16.5.57 WCDMA Band II Right Tilt Middle

Date/Time: 2011-5-16 13:53:00

Test Laboratory: SGS-GSM

CA81 WCDMA Band II Right Tilt Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band II ; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium: HSL1900_Head Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 39.7; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.14, 5.14, 5.14); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt Middle/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.124 mW/g

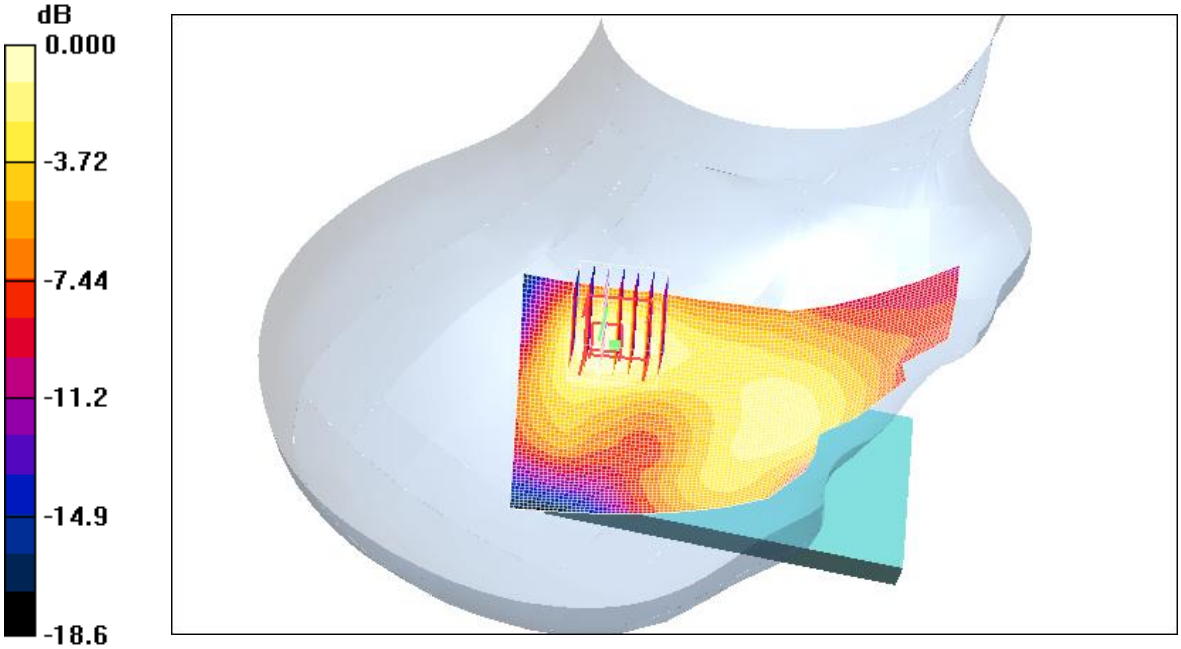
Tilt Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 5.89 V/m; Power Drift = -0.168 dB

Peak SAR (extrapolated) = 0.179 W/kg

SAR(1 g) = 0.110 mW/g; SAR(10 g) = 0.063 mW/g

Maximum value of SAR (measured) = 0.120 mW/g



0 dB = 0.120mW/g

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16.5.58 WCDMA Band II Left Cheek High

Date/Time: 2011-5-16 16:59:45

Test Laboratory: SGS-GSM

CA81 WCDMA Band II Left Cheek High

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band II ; Frequency: 1907.6 MHz;Duty Cycle: 1:1

Medium: HSL1900_Head Medium parameters used: f = 1907.6 MHz; σ = 1.41 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.14, 5.14, 5.14); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek High/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

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

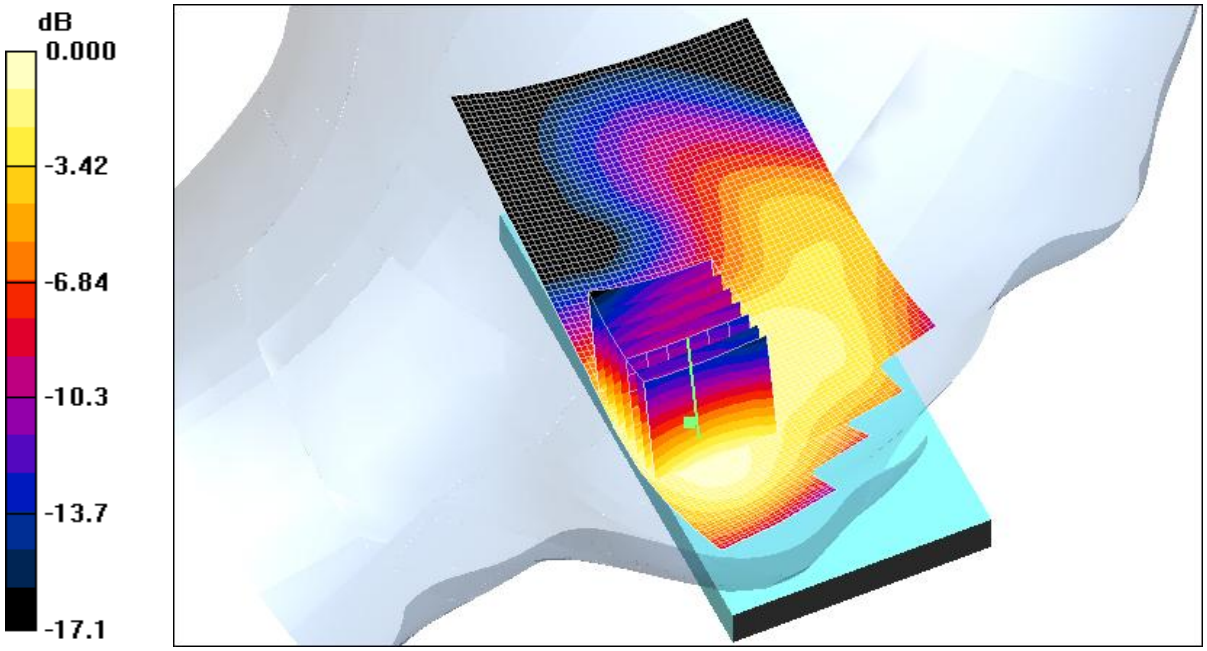
Cheek High/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 5.04 V/m; Power Drift = 0.032 dB

Peak SAR (extrapolated) = 0.551 W/kg

SAR(1 g) = 0.339 mW/g; SAR(10 g) = 0.213 mW/g

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



0 dB = 0.363mW/g

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16.5.59 WCDMA Band II Left Cheek Low

Date/Time: 2011-5-16 16:32:21

Test Laboratory: SGS-GSM

CA81 WCDMA Band II Left Cheek Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band II ; Frequency: 1852.4 MHz;Duty Cycle: 1:1

Medium: HSL1900_Head Medium parameters used: f = 1852.4 MHz; σ = 1.36 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.14, 5.14, 5.14); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Low/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.614 mW/g

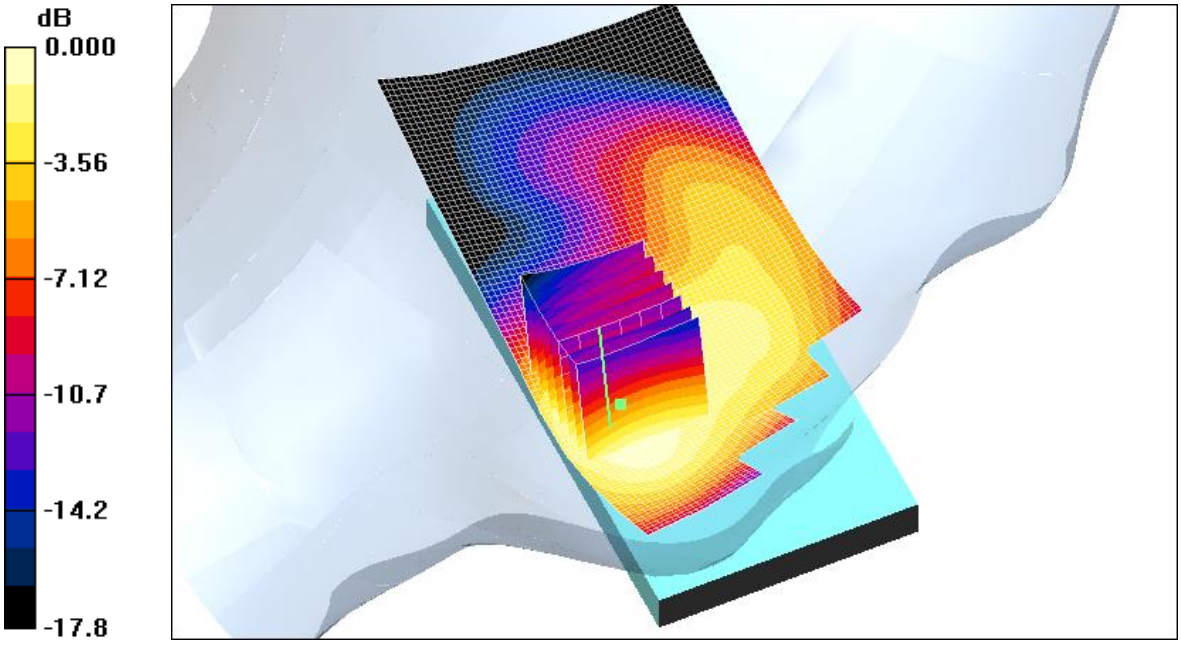
Cheek Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 5.94 V/m; Power Drift = 0.087 dB

Peak SAR (extrapolated) = 0.879 W/kg

SAR(1 g) = 0.550 mW/g; SAR(10 g) = 0.344 mW/g

Maximum value of SAR (measured) = 0.591 mW/g



0 dB = 0.591mW/g

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16.5.60 WCDMA Band II BodyWron Front Middle

Date/Time: 2011-5-15 11:37:25

Test Laboratory: SGS-GSM

CA81 WCDMA Band II BodyWorn 10mm Front Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band II ; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium: HSL1900-Body Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Front Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.748 mW/g

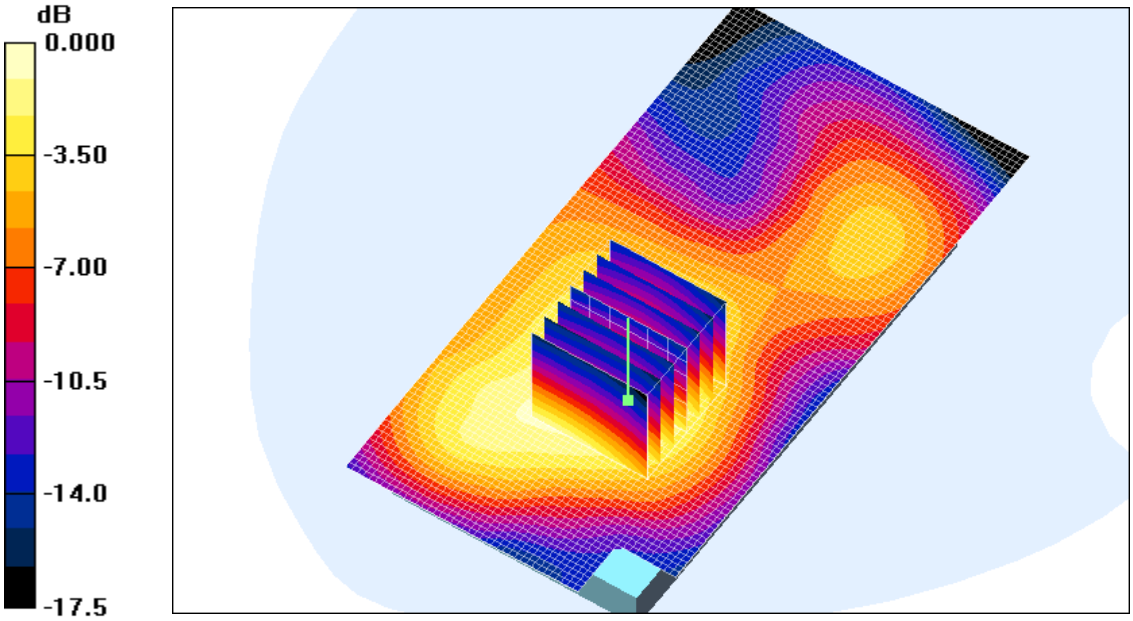
Front Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 8.56 V/m; Power Drift = -0.028 dB

Peak SAR (extrapolated) = 1.08 W/kg

SAR(1 g) = 0.660 mW/g; SAR(10 g) = 0.388 mW/g

Maximum value of SAR (measured) = 0.719 mW/g



0 dB = 0.719mW/g

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16.5.61 WCDMA Band II BodyWron Back Middle

Date/Time: 2011-5-15 12:02:15

Test Laboratory: SGS-GSM

CA81 WCDMA Band II BodyWorn 10mm Back Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band II ; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium: HSL1900-Body Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.841 mW/g

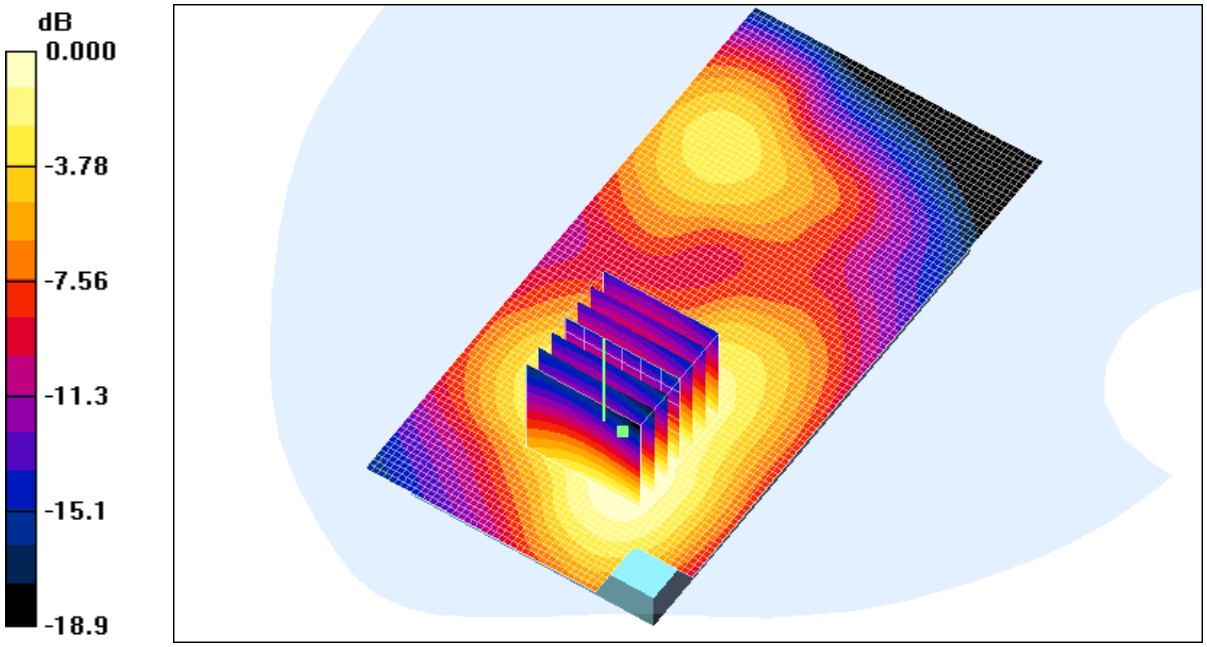
Back Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 9.29 V/m; Power Drift = 0.052 dB

Peak SAR (extrapolated) = 1.33 W/kg

SAR(1 g) = 0.792 mW/g; SAR(10 g) = 0.471 mW/g

Maximum value of SAR (measured) = 0.857 mW/g



0 dB = 0.857mW/g

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16.5.62 WCDMA Band II BodyWron Top Middle

Date/Time: 2011-6-14 15:53:51

Test Laboratory: SGS-GSM

CA81 WCDMA Band II BodyWorn 10mm Top Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band II ; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium: HSL1900_Body Medium parameters used: f = 1880 MHz; σ = 1.49 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.032 mW/g

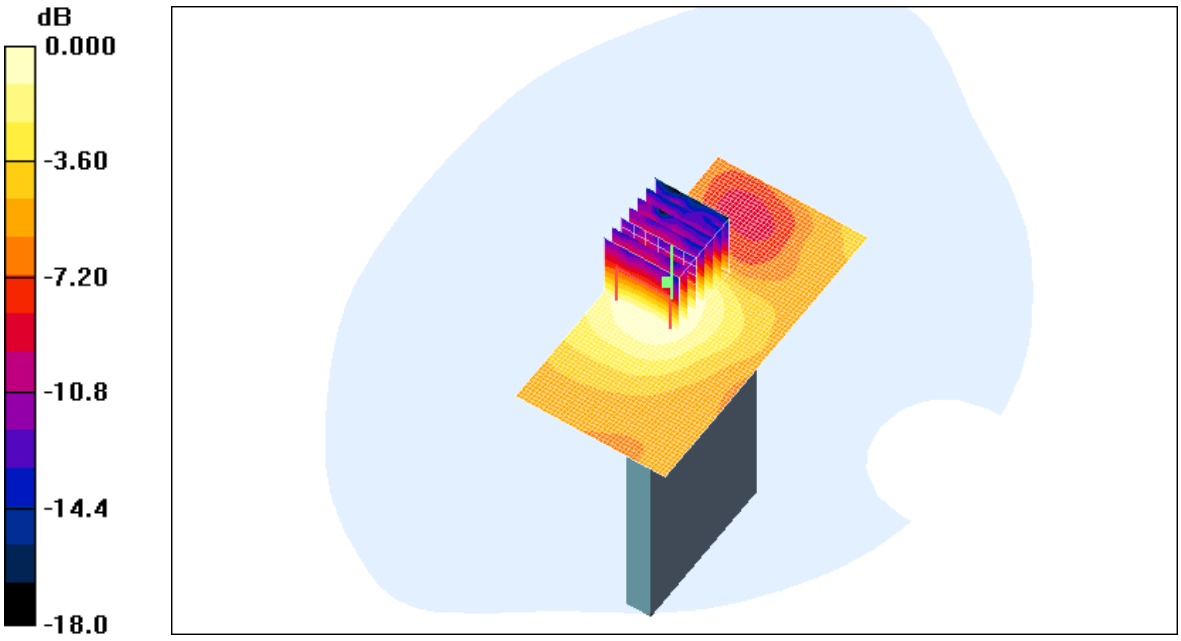
Top Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 4.31 V/m; Power Drift = 0.158 dB

Peak SAR (extrapolated) = 0.044 W/kg

SAR(1 g) = 0.029 mW/g; SAR(10 g) = 0.018 mW/g

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



0 dB = 0.031mW/g

16.5.63 WCDMA Band II BodyWron Bottom Middle

Date/Time: 2011-6-14 16:16:09

Test Laboratory: SGS-GSM

CA81 WCDMA Band II BodyWorn 10mm Bottom Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band II ; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium: HSL1900_Body Medium parameters used: f = 1880 MHz; σ = 1.49 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.460 mW/g

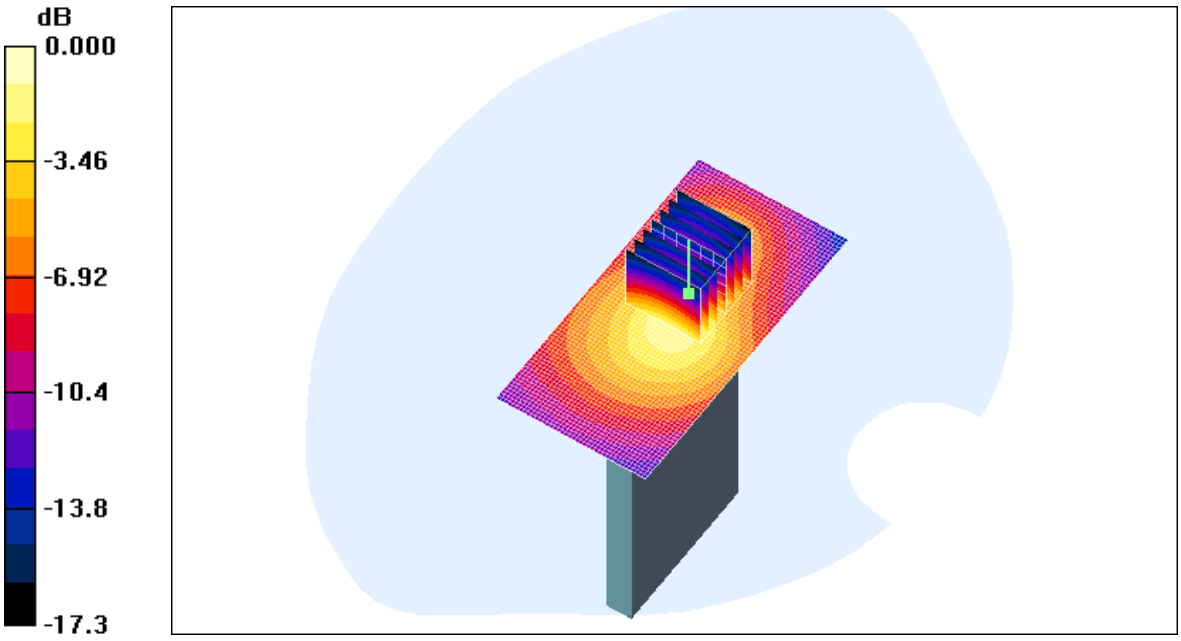
Bottom Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 16.5 V/m; Power Drift = -0.101 dB

Peak SAR (extrapolated) = 0.761 W/kg

SAR(1 g) = 0.424 mW/g; SAR(10 g) = 0.220 mW/g

Maximum value of SAR (measured) = 0.464 mW/g



0 dB = 0.464mW/g

16.5.64 WCDMA Band II BodyWron Left Middle

Date/Time: 2011-6-14 11:09:33

Test Laboratory: SGS-GSM

CA81 WCDMA Band II BodyWorn 10mm Left Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band II ; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium: HSL1900_Body Medium parameters used: f = 1880 MHz; σ = 1.49 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Left Middle/Area Scan (41x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.327 mW/g

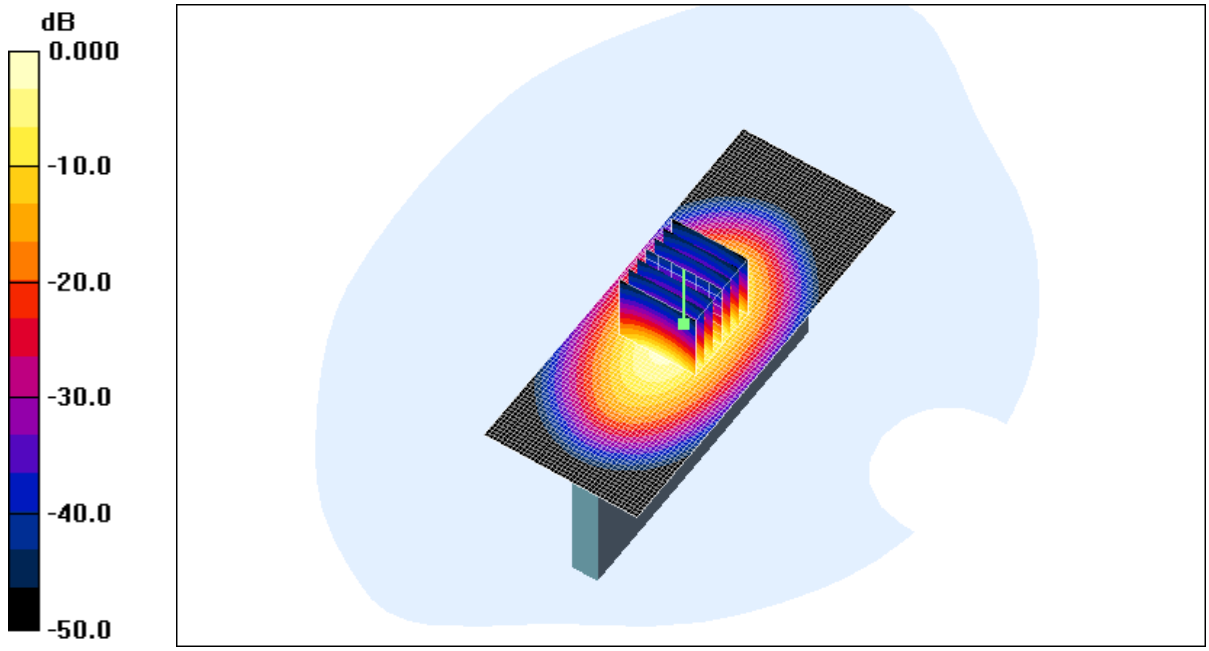
Left Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 12.1 V/m; Power Drift = 0.152 dB

Peak SAR (extrapolated) = 1.09 W/kg

SAR(1 g) = 0.354 mW/g; SAR(10 g) = 0.162 mW/g

Maximum value of SAR (measured) = 0.334 mW/g



0 dB = 0.334mW/g

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16.5.65 WCDMA Band II BodyWron Right Middle

Date/Time: 2011-6-14 15:29:03

Test Laboratory: SGS-GSM

CA81 WCDMA Band II BodyWorn 10mm Right Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band II ; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium: HSL1900_Body Medium parameters used: f = 1880 MHz; σ = 1.49 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Right Middle/Area Scan (41x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.322 mW/g

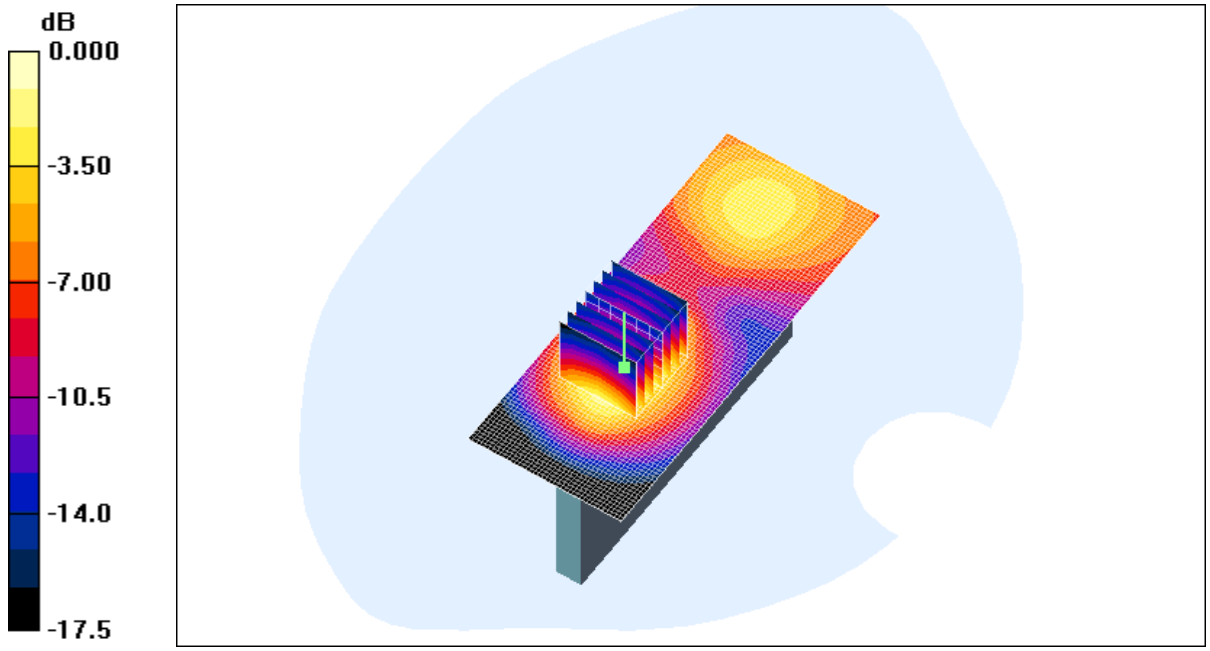
Right Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 9.67 V/m; Power Drift = 0.193 dB

Peak SAR (extrapolated) = 0.484 W/kg

SAR(1 g) = 0.290 mW/g; SAR(10 g) = 0.160 mW/g

Maximum value of SAR (measured) = 0.325 mW/g



0 dB = 0.325mW/g

16.5.66 WCDMA Band II BodyWron Back High

Date/Time: 2011-5-15 14:19:59

Test Laboratory: SGS-GSM

CA81 WCDMA Band II BodyWorn 10mm Back High

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band II ; Frequency: 1907.6 MHz;Duty Cycle: 1:1

Medium: HSL1900-Body Medium parameters used: f = 1907.6 MHz; σ = 1.55 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back High/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.719 mW/g

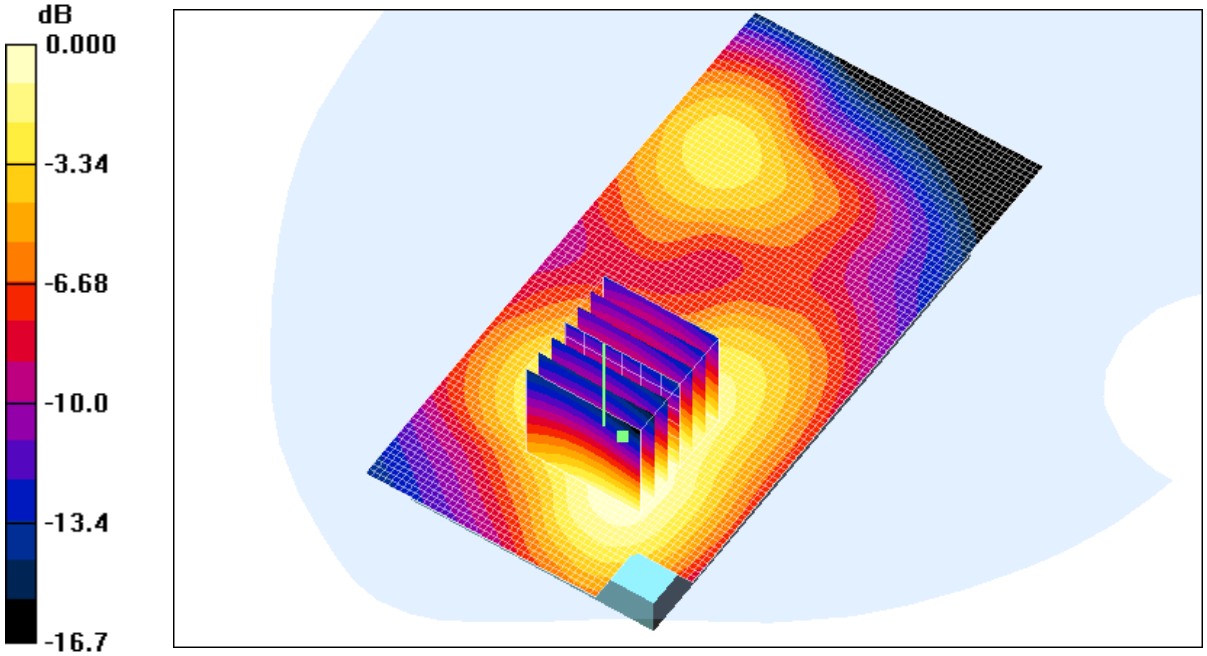
Back High/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 8.08 V/m; Power Drift = -0.041 dB

Peak SAR (extrapolated) = 1.14 W/kg

SAR(1 g) = 0.638 mW/g; SAR(10 g) = 0.378 mW/g

Maximum value of SAR (measured) = 0.702 mW/g



0 dB = 0.702mW/g

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16.5.67 WCDMA Band II BodyWron Back Low

Date/Time: 2011-5-15 12:27:11

Test Laboratory: SGS-GSM

CA81 WCDMA Band II BodyWorn 10mm Back Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band II ; Frequency: 1852.4 MHz;Duty Cycle: 1:1

Medium: HSL1900-Body Medium parameters used: f = 1852.4 MHz; σ = 1.49 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Low/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.994 mW/g

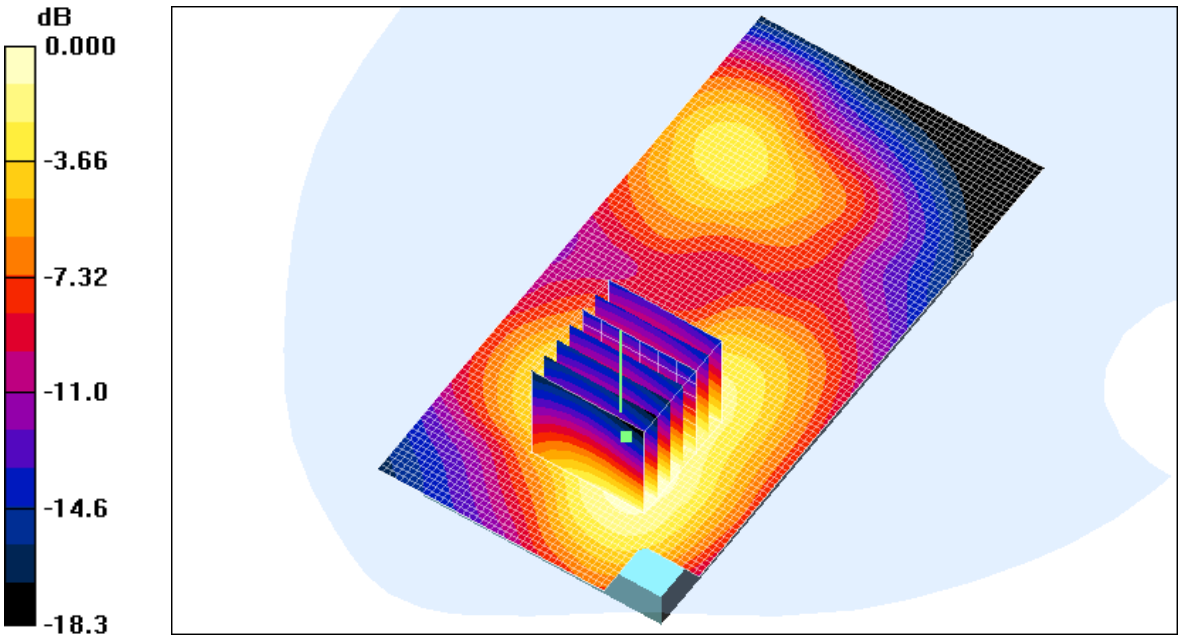
Back Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 10.8 V/m; Power Drift = 0.210 dB

Peak SAR (extrapolated) = 1.48 W/kg

SAR(1 g) = 0.914 mW/g; SAR(10 g) = 0.539 mW/g

Maximum value of SAR (measured) = 1.00 mW/g



0 dB = 1.00mW/g

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16.5.68 WCDMA Band II BodyWron Back Low with headset

Date/Time: 2011-6-14 16:44:00

Test Laboratory: SGS-GSM

CA81 WCDMA Band II BodyWorn 10mm Back Low with Headset

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band II ; Frequency: 1852.4 MHz;Duty Cycle: 1:1

Medium: HSL1900_Body Medium parameters used: f = 1852.4 MHz; σ = 1.46 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Low With Headset/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 1.04 mW/g

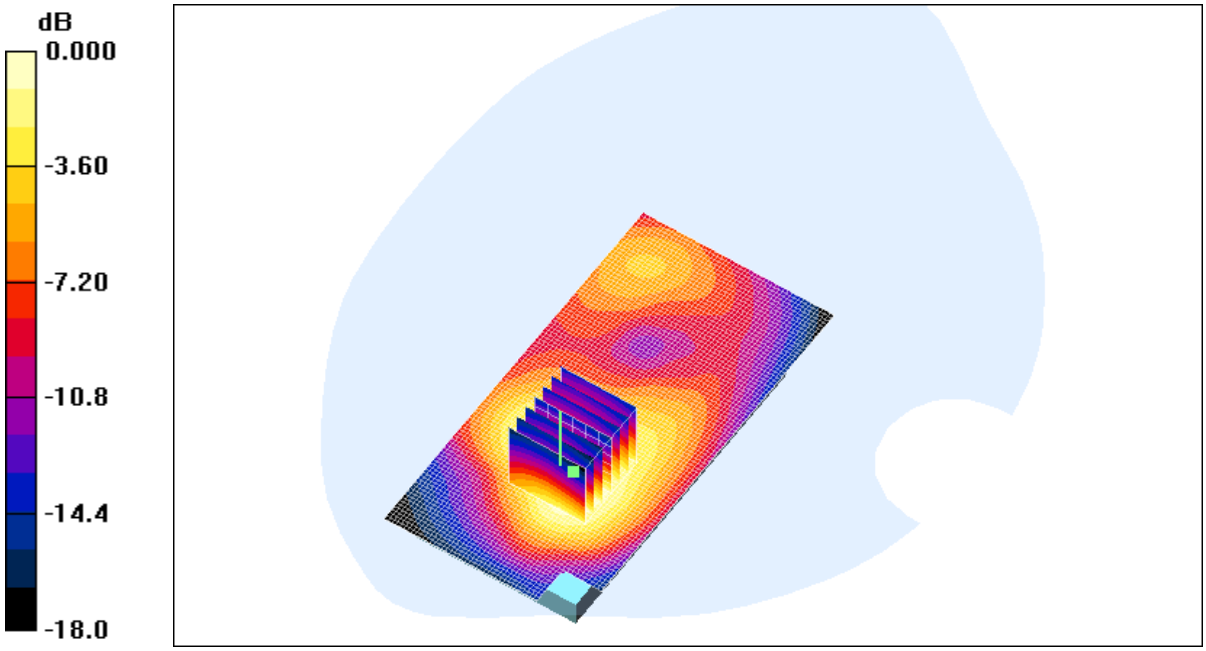
Back Low With Headset/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 10.7 V/m; Power Drift = -0.137 dB

Peak SAR (extrapolated) = 1.53 W/kg

SAR(1 g) = 0.923 mW/g; SAR(10 g) = 0.544 mW/g

Maximum value of SAR (measured) = 1.01 mW/g



0 dB = 1.01mW/g

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16.5.69 WCDMA Band II+HSDPA BodyWron Back Low

Date/Time: 2011-5-15 14:48:20

Test Laboratory: SGS-GSM

CA81 WCDMA Band II+HSDPA BodyWorn 10mm

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band II +HSDPA; Frequency: 1852.4 MHz;Duty Cycle: 1:1

Medium: HSL1900-Body Medium parameters used: f = 1852.4 MHz; σ = 1.49 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Low/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 1.06 mW/g

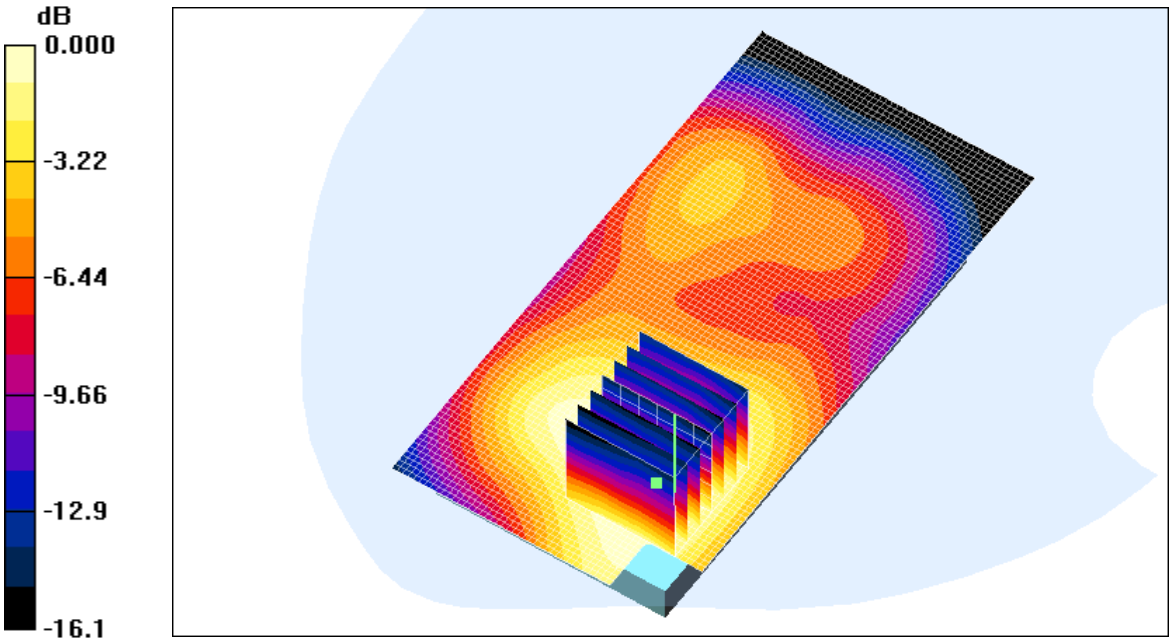
Back Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 10.4 V/m; Power Drift = -0.114 dB

Peak SAR (extrapolated) = 1.42 W/kg

SAR(1 g) = 0.812 mW/g; SAR(10 g) = 0.487 mW/g

Maximum value of SAR (measured) = 0.900 mW/g



0 dB = 0.900mW/g

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16.5.70 WCDMA Band II+HSUPA BodyWron Back Low

Date/Time: 2011-5-15 15:18:59

Test Laboratory: SGS-GSM

CA81 WCDMA Band II+HSUPA BodyWorn 10mm Back Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band II +HSUPA; Frequency: 1852.4 MHz;Duty Cycle: 1:1

Medium: HSL1900-Body Medium parameters used: f = 1852.4 MHz; σ = 1.49 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Low/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.861 mW/g

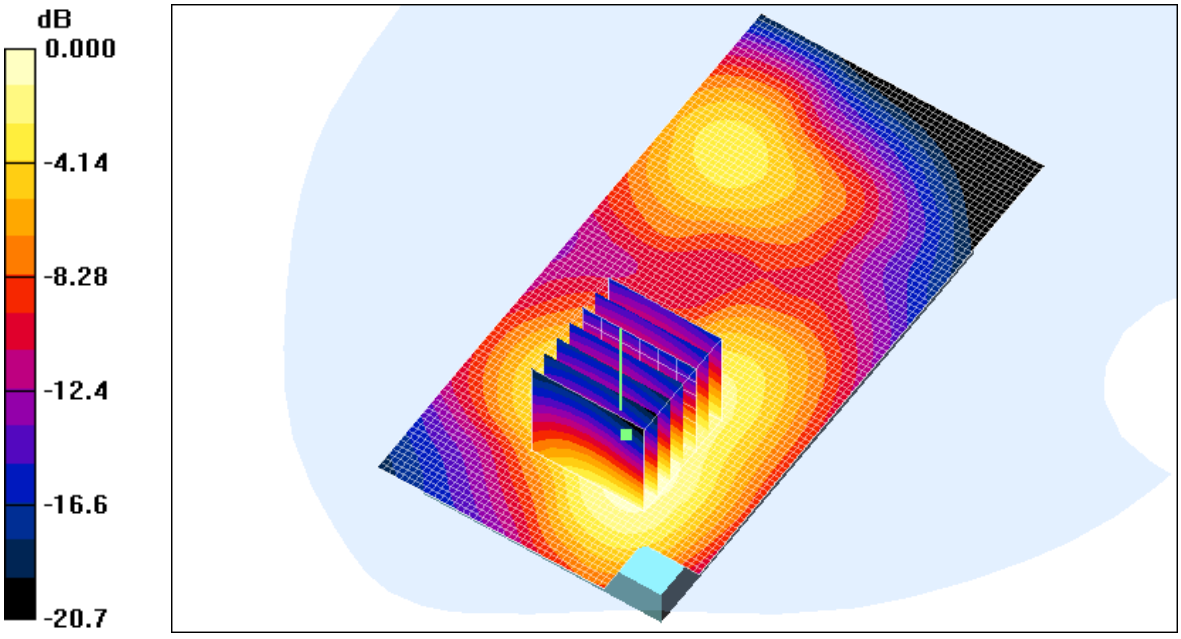
Back Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 10.2 V/m; Power Drift = 0.104 dB

Peak SAR (extrapolated) = 1.29 W/kg

SAR(1 g) = 0.775 mW/g; SAR(10 g) = 0.398 mW/g

Maximum value of SAR (measured) = 0.894 mW/g



0 dB = 0.894mW/g

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16.5.71 WCDMA Band V Left Cheek Middle

Date/Time: 2011-5-11 13:57:52

Test Laboratory: SGS-GSM

CA81 WCDMA Band V Left Cheek Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band V ; Frequency: 836.4 MHz;Duty Cycle: 1:1

Medium: HSL835_Head Medium parameters used: f = 836.4 MHz; σ = 0.912 mho/m; ε_r = 43.2; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(6.07, 6.07, 6.07); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.525 mW/g

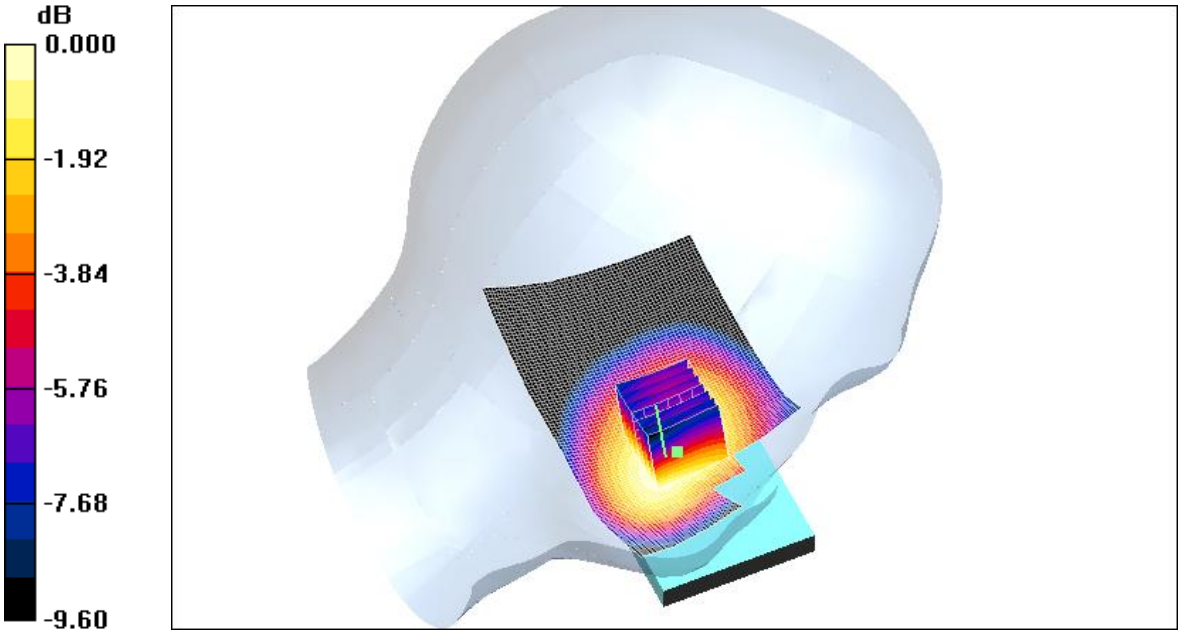
Cheek Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 6.54 V/m; Power Drift = 0.178 dB

Peak SAR (extrapolated) = 0.668 W/kg

SAR(1 g) = 0.503 mW/g; SAR(10 g) = 0.373 mW/g

Maximum value of SAR (measured) = 0.531 mW/g



0 dB = 0.531mW/g

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16.5.72 WCDMA Band V Left Tilt Middle

Date/Time: 2011-5-11 14:23:27

Test Laboratory: SGS-GSM

CA81 WCDMA Band V Left Tilt Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band V ; Frequency: 836.4 MHz;Duty Cycle: 1:1

Medium: HSL835_Head Medium parameters used: f = 836.4 MHz; σ = 0.912 mho/m; ε_r = 43.2; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(6.07, 6.07, 6.07); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt Middle/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.339 mW/g

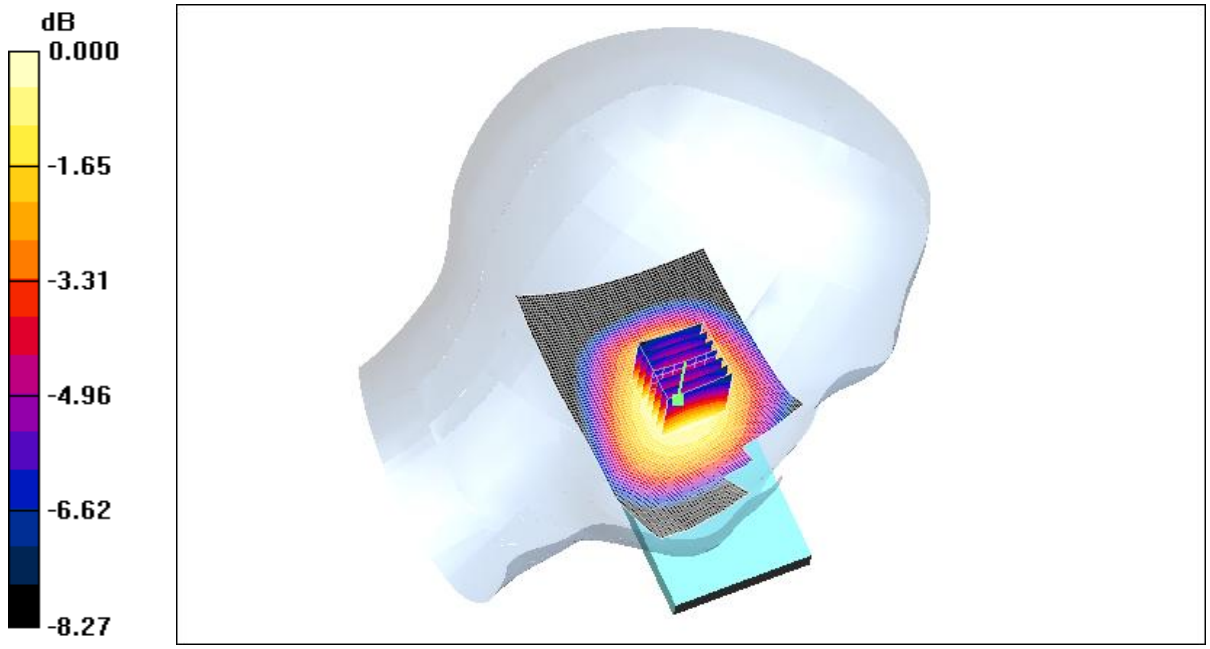
Tilt Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 11.8 V/m; Power Drift = 0.190 dB

Peak SAR (extrapolated) = 0.403 W/kg

SAR(1 g) = 0.320 mW/g; SAR(10 g) = 0.243 mW/g

Maximum value of SAR (measured) = 0.337 mW/g



0 dB = 0.337mW/g

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16.5.73 WCDMA Band V Right Cheek Middle

Date/Time: 2011-5-11 14:43:53

Test Laboratory: SGS-GSM

CA81 WCDMA Band V Right Cheek Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band V ; Frequency: 836.4 MHz;Duty Cycle: 1:1

Medium: HSL835_Head Medium parameters used: f = 836.4 MHz; σ = 0.912 mho/m; ε_r = 43.2; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(6.07, 6.07, 6.07); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.563 mW/g

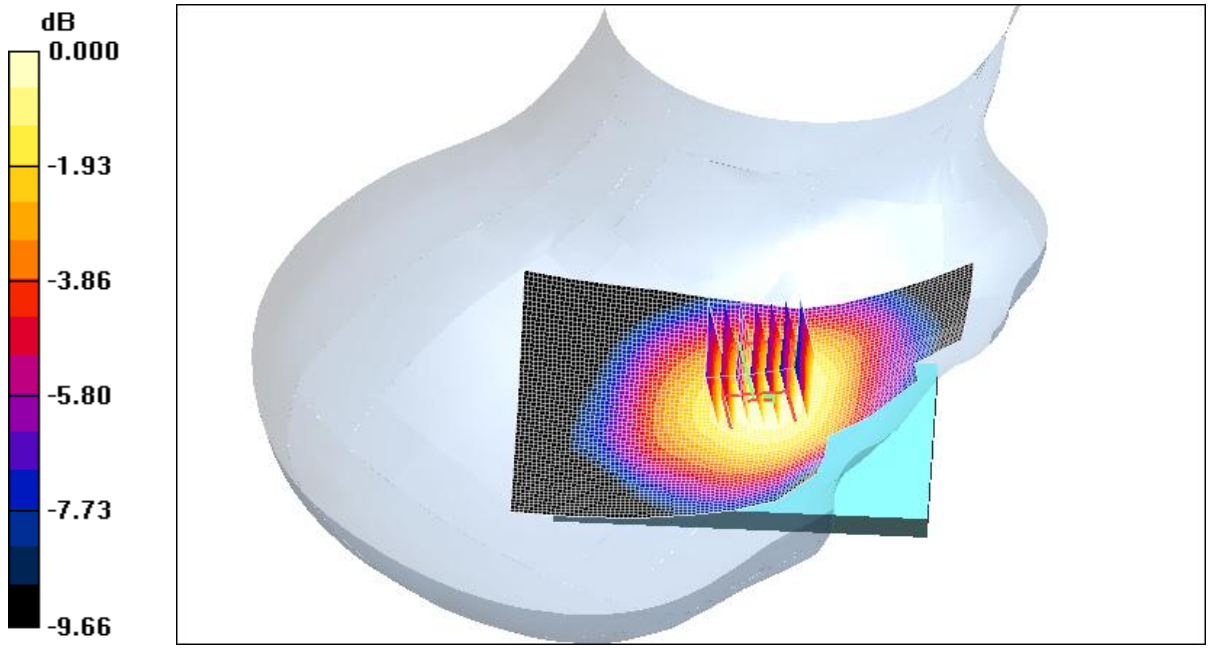
Cheek Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 8.77 V/m; Power Drift = -0.239 dB

Peak SAR (extrapolated) = 0.667 W/kg

SAR(1 g) = 0.539 mW/g; SAR(10 g) = 0.407 mW/g

Maximum value of SAR (measured) = 0.564 mW/g



0 dB = 0.564mW/g

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16.5.74 WCDMA Band V Right Tilt Middle

Date/Time: 2011-5-11 15:09:49

Test Laboratory: SGS-GSM

CA81 WCDMA Band V Right Tilt Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band V ; Frequency: 836.4 MHz;Duty Cycle: 1:1

Medium: HSL835_Head Medium parameters used: f = 836.4 MHz; σ = 0.912 mho/m; ε_r = 43.2; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(6.07, 6.07, 6.07); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt Middle/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.320 mW/g

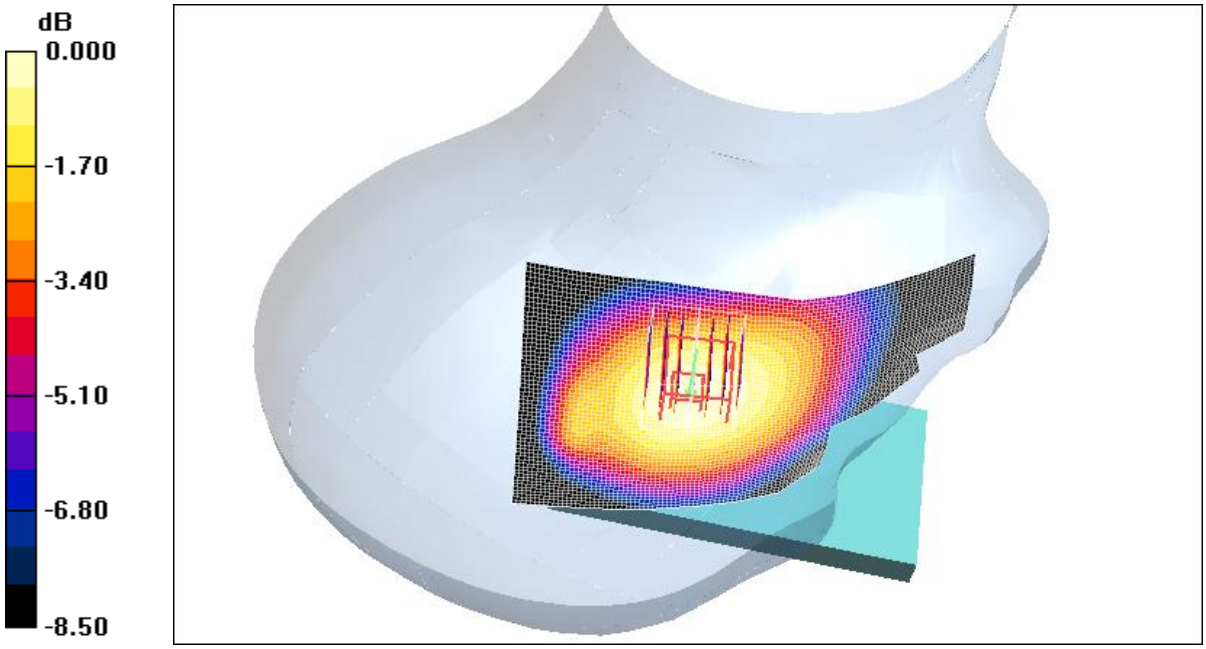
Tilt Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 13.5 V/m; Power Drift = -0.014 dB

Peak SAR (extrapolated) = 0.387 W/kg

SAR(1 g) = 0.304 mW/g; SAR(10 g) = 0.230 mW/g

Maximum value of SAR (measured) = 0.320 mW/g



0 dB = 0.320mW/g

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16.5.75 WCDMA Band V Right Cheek High

Date/Time: 2011-5-11 15:35:40

Test Laboratory: SGS-GSM

CA81 WCDMA Band V Right Cheek High

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band V ; Frequency: 846.6 MHz;Duty Cycle: 1:1

Medium: HSL835_Head Medium parameters used: f = 846.6 MHz; σ = 0.922 mho/m; ε_r = 43; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(6.07, 6.07, 6.07); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek High/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.689 mW/g

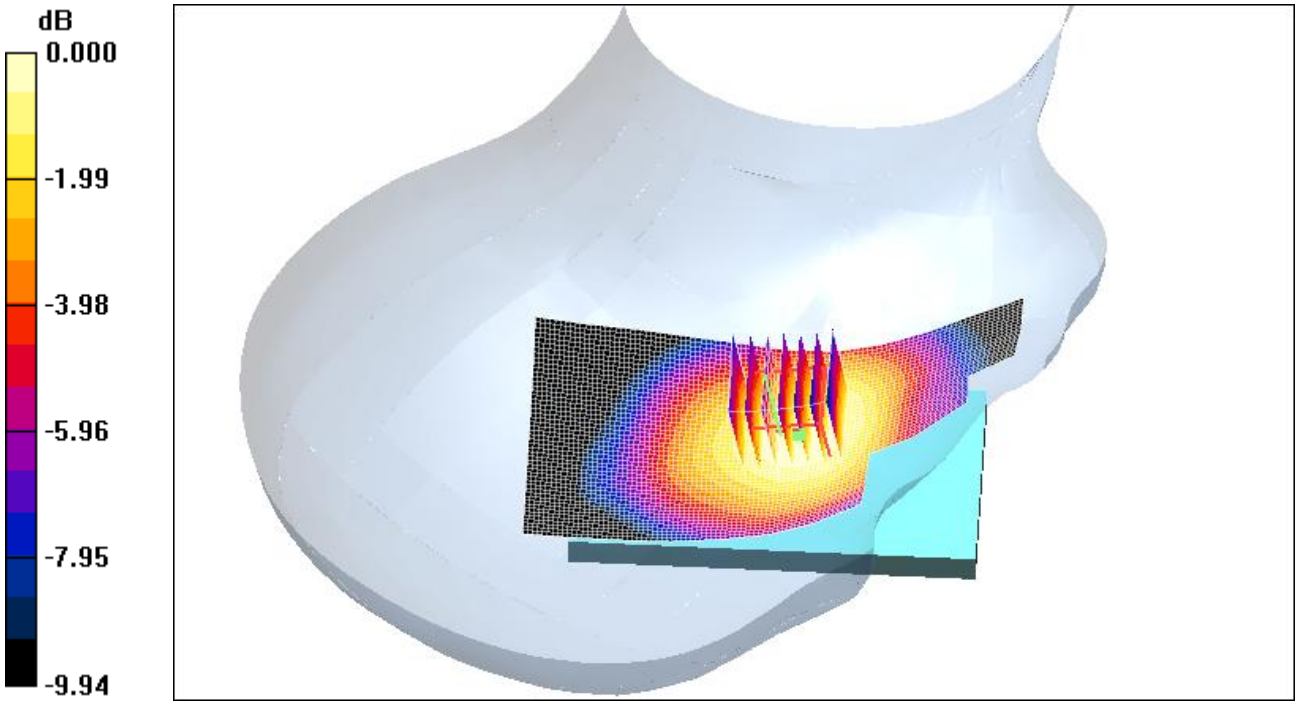
Cheek High/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 9.27 V/m; Power Drift = 0.096 dB

Peak SAR (extrapolated) = 0.817 W/kg

SAR(1 g) = 0.649 mW/g; SAR(10 g) = 0.489 mW/g

Maximum value of SAR (measured) = 0.677 mW/g



0 dB = 0.677mW/g

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16.5.76 WCDMA Band V Right Cheek Low

Date/Time: 2011-5-11 15:56:26

Test Laboratory: SGS-GSM

CA81 WCDMA Band V Right Cheek Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band V ; Frequency: 826.4 MHz;Duty Cycle: 1:1

Medium: HSL835_Head Medium parameters used: f = 826.4 MHz; σ = 0.902 mho/m; ε_r = 43.3; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(6.07, 6.07, 6.07); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Low/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.603 mW/g

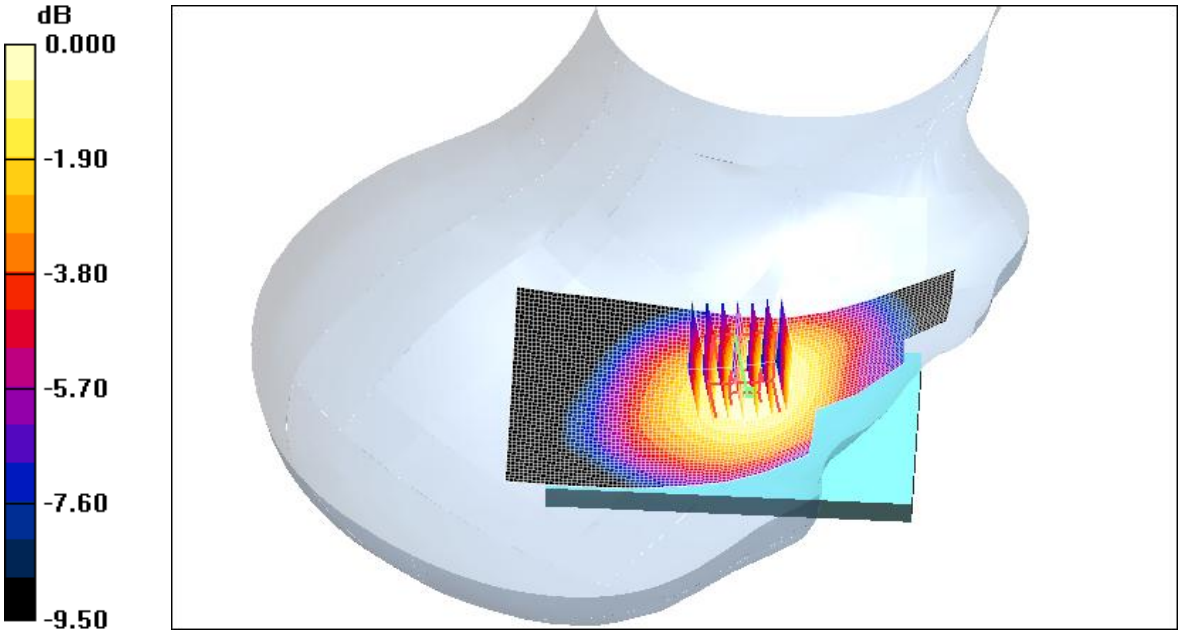
Cheek Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 8.54 V/m; Power Drift = 0.126 dB

Peak SAR (extrapolated) = 0.705 W/kg

SAR(1 g) = 0.562 mW/g; SAR(10 g) = 0.424 mW/g

Maximum value of SAR (measured) = 0.592 mW/g



0 dB = 0.592mW/g

16.5.77 WCDMA Band V BodyWron Front Middle

Date/Time: 2011-5-14 14:26:42

Test Laboratory: SGS-GSM

CA81 WCDMA Band V BodyWorn 10mm Front Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band V ; Frequency: 836.4 MHz;Duty Cycle: 1:1

Medium: HSL835 Body Medium parameters used: f = 836.4 MHz; σ = 0.945 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Front Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.681 mW/g

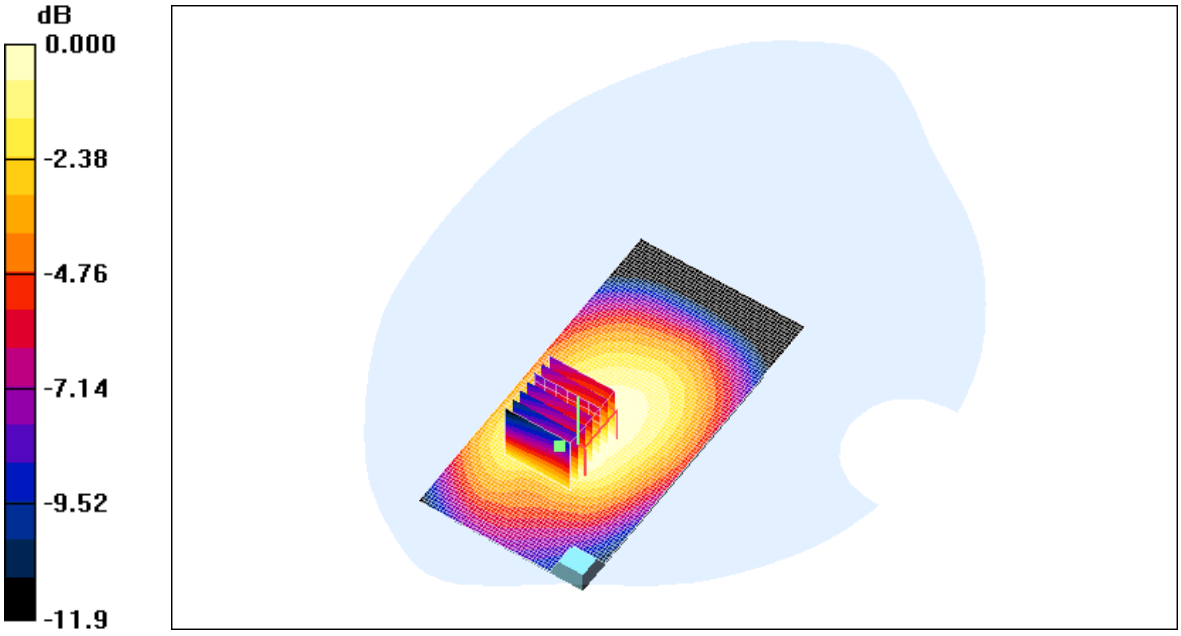
Front Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 12.9 V/m; Power Drift = 0.123 dB

Peak SAR (extrapolated) = 0.828 W/kg

SAR(1 g) = 0.650 mW/g; SAR(10 g) = 0.484 mW/g

Maximum value of SAR (measured) = 0.682 mW/g



0 dB = 0.682mW/g

16.5.78 WCDMA Band V BodyWron Back Middle

Date/Time: 2011-5-14 14:53:36

Test Laboratory: SGS-GSM

CA81 WCDMA Band V BodyWorn 10mm Back Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band V ; Frequency: 836.4 MHz;Duty Cycle: 1:1

Medium: HSL835 Body Medium parameters used: f = 836.4 MHz; σ = 0.945 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.947 mW/g

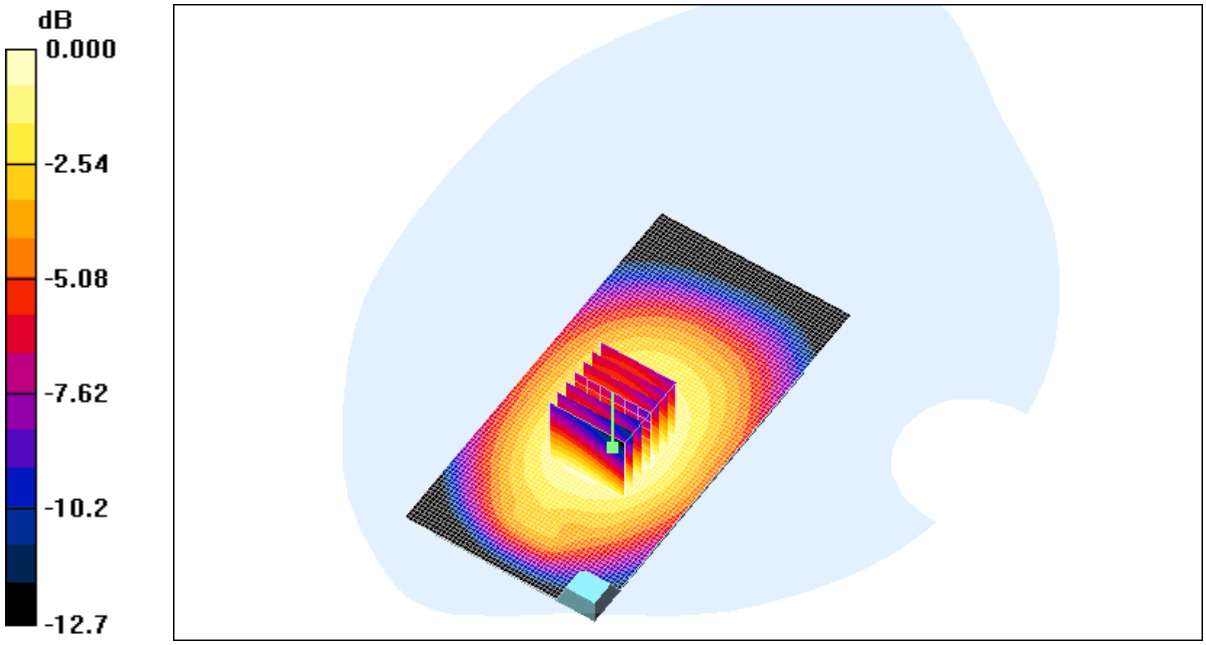
Back Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 19.0 V/m; Power Drift = -0.020 dB

Peak SAR (extrapolated) = 1.16 W/kg

SAR(1 g) = 0.889 mW/g; SAR(10 g) = 0.670 mW/g

Maximum value of SAR (measured) = 0.934 mW/g



0 dB = 0.934mW/g

16.5.79 WCDMA Band V BodyWron Top Middle

Date/Time: 2011-6-16 11:11:47

Test Laboratory: SGS-GSM

CA81 WCDMA Band V BodyWorn 10mm Top Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band V ; Frequency: 836.4 MHz;Duty Cycle: 1:1

Medium: HSL835Body Medium parameters used: f = 836.4 MHz; σ = 0.972 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.024 mW/g

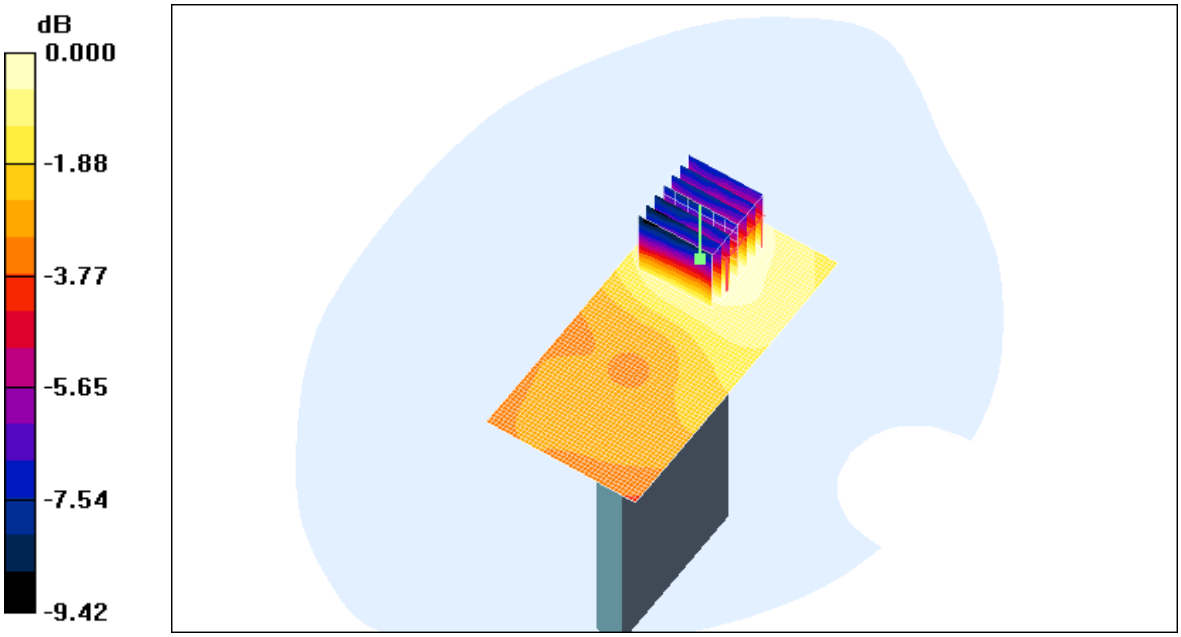
Top Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 3.77 V/m; Power Drift = 0.147 dB

Peak SAR (extrapolated) = 0.031 W/kg

SAR(1 g) = 0.023 mW/g; SAR(10 g) = 0.017 mW/g

Maximum value of SAR (measured) = 0.024 mW/g



0 dB = 0.024mW/g

16.5.80 WCDMA Band V BodyWron Bottom Middle

Date/Time: 2011-6-16 11:34:35

Test Laboratory: SGS-GSM

CA81 WCDMA Band V BodyWorn 10mm Bottom Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band V ; Frequency: 836.4 MHz;Duty Cycle: 1:1

Medium: HSL835Body Medium parameters used: f = 836.4 MHz; σ = 0.972 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.135 mW/g

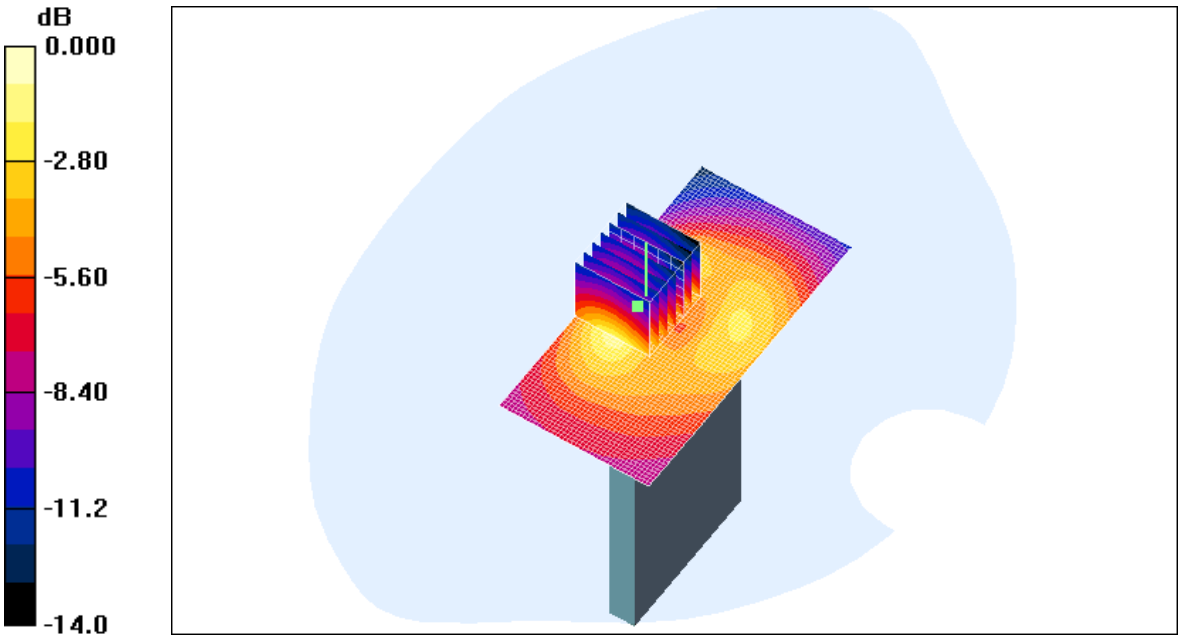
Bottom Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 6.19 V/m; Power Drift = 0.140 dB

Peak SAR (extrapolated) = 0.214 W/kg

SAR(1 g) = 0.121 mW/g; SAR(10 g) = 0.068 mW/g

Maximum value of SAR (measured) = 0.135 mW/g



0 dB = 0.135mW/g

16.5.81 WCDMA Band V BodyWron Left Middle

Date/Time: 2011-6-16 12:48:14

Test Laboratory: SGS-GSM

CA81 WCDMA Band V BodyWorn 10mm Left Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band V ; Frequency: 836.4 MHz;Duty Cycle: 1:1

Medium: HSL835Body Medium parameters used: f = 836.4 MHz; σ = 0.972 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Left Middle/Area Scan (41x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.635 mW/g

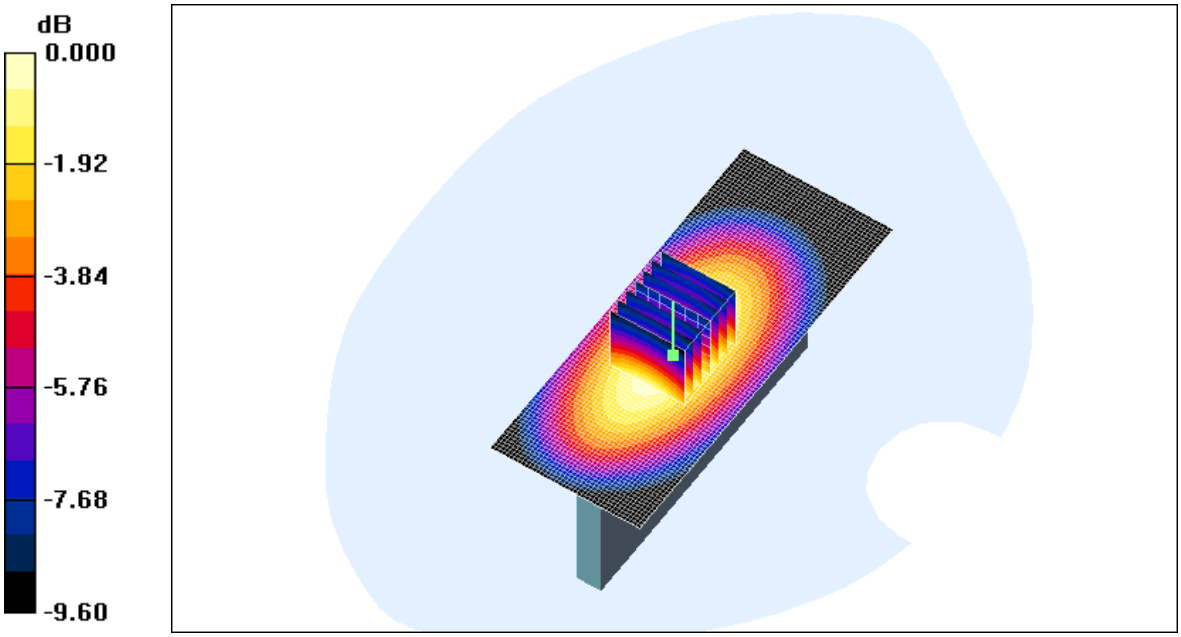
Left Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 25.6 V/m; Power Drift = -0.175 dB

Peak SAR (extrapolated) = 0.828 W/kg

SAR(1 g) = 0.578 mW/g; SAR(10 g) = 0.395 mW/g

Maximum value of SAR (measured) = 0.623 mW/g



0 dB = 0.623mW/g

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16.5.82 WCDMA Band V BodyWron Right Middle

Date/Time: 2011-6-16 13:12:18

Test Laboratory: SGS-GSM

CA81 WCDMA Band V BodyWorn 10mm Right Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band V ; Frequency: 836.4 MHz;Duty Cycle: 1:1

Medium: HSL835Body Medium parameters used: f = 836.4 MHz; σ = 0.972 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Right Middle/Area Scan (41x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.700 mW/g

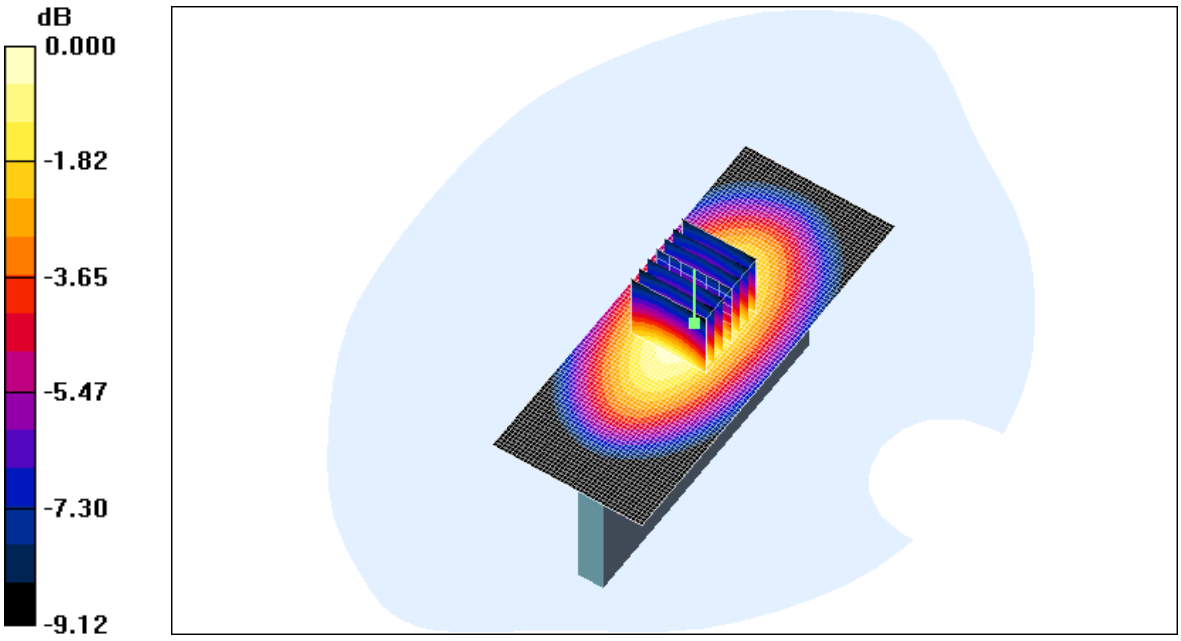
Right Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 27.1 V/m; Power Drift = -0.017 dB

Peak SAR (extrapolated) = 0.938 W/kg

SAR(1 g) = 0.661 mW/g; SAR(10 g) = 0.456 mW/g

Maximum value of SAR (measured) = 0.702 mW/g



0 dB = 0.702mW/g

16.5.83 WCDMA Band V BodyWron Back High

Date/Time: 2011-5-14 16:27:53

Test Laboratory: SGS-GSM

CA81 WCDMA Band V BodyWorn 10mm Back High

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band V ; Frequency: 846.6 MHz;Duty Cycle: 1:1

Medium: HSL835 Body Medium parameters used: f = 846.6 MHz; σ = 0.953 mho/m; ε_r = 55.7; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back High/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 1.15 mW/g

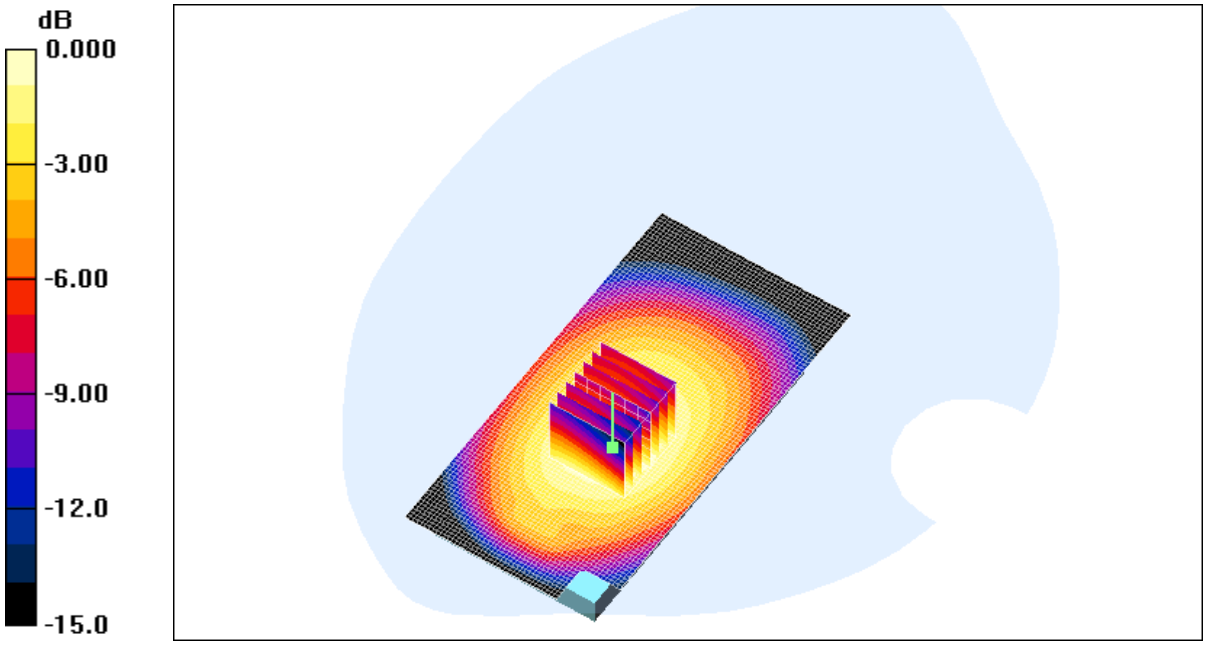
Back High/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 15.9 V/m; Power Drift = -0.065 dB

Peak SAR (extrapolated) = 2.26 W/kg

SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.616 mW/g

Maximum value of SAR (measured) = 1.31 mW/g



0 dB = 1.31mW/g

16.5.84 WCDMA Band V BodyWron Back Low

Date/Time: 2011-5-14 15:14:45

Test Laboratory: SGS-GSM

CA81 WCDMA Band V BodyWorn 10mm Back Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band V ; Frequency: 826.4 MHz;Duty Cycle: 1:1

Medium: HSL835 Body Medium parameters used: f = 826.4 MHz; σ = 0.935 mho/m; ε_r = 56.1; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Low/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.967 mW/g

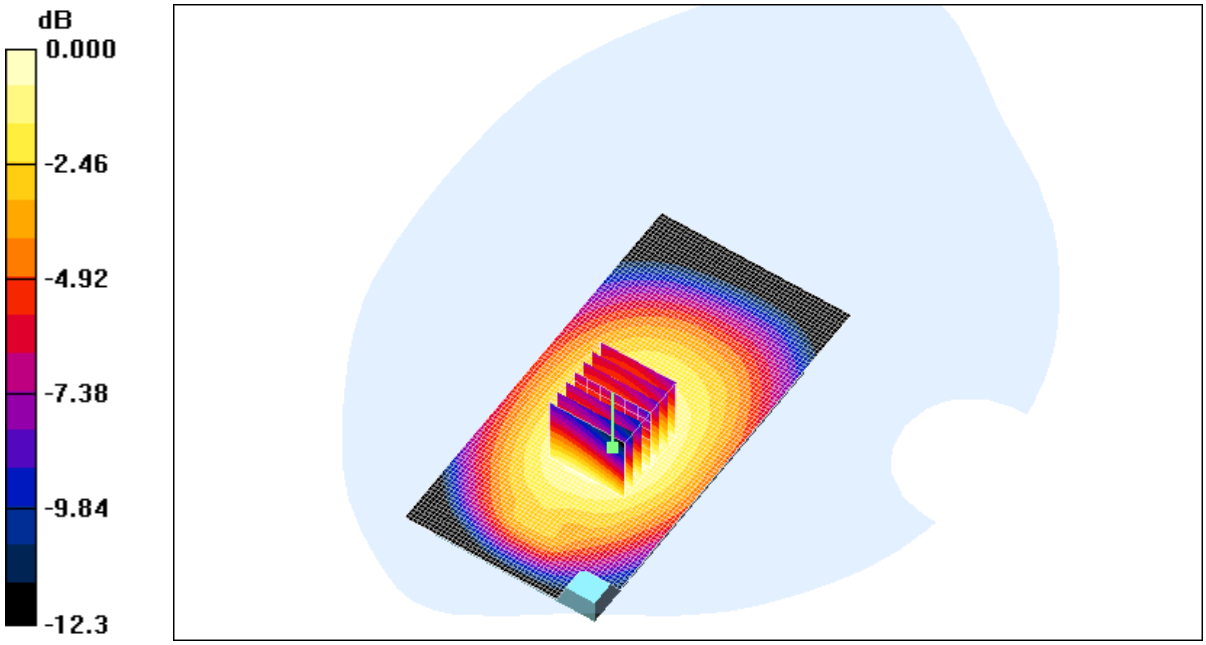
Back Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 18.9 V/m; Power Drift = -0.049 dB

Peak SAR (extrapolated) = 1.17 W/kg

SAR(1 g) = 0.892 mW/g; SAR(10 g) = 0.673 mW/g

Maximum value of SAR (measured) = 0.940 mW/g



0 dB = 0.940mW/g

16.5.85 WCDMA Band V BodyWron Back High with headset

Date/Time: 2011-6-16 13:35:43

Test Laboratory: SGS-GSM

CA81 WCDMA Band V BodyWorn 10mm Back High with earphone

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band V ; Frequency: 846.6 MHz;Duty Cycle: 1:1

Medium: HSL835Body Medium parameters used: f = 846.6 MHz; σ = 0.982 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back High/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.976 mW/g

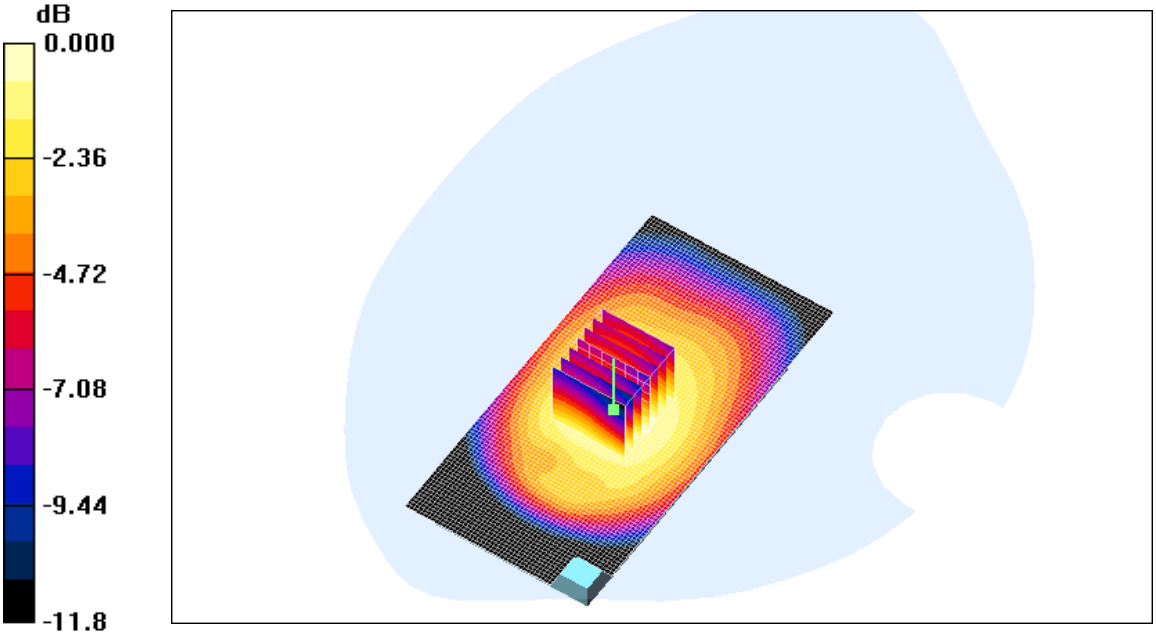
Back High/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 18.8 V/m; Power Drift = 0.041 dB

Peak SAR (extrapolated) = 1.28 W/kg

SAR(1 g) = 0.964 mW/g; SAR(10 g) = 0.700 mW/g

Maximum value of SAR (measured) = 1.02 mW/g



0 dB = 1.02mW/g

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16.5.86 WCDMA Band V+HSDPA BodyWron Back High

Date/Time: 2011-5-14 16:49:35

Test Laboratory: SGS-GSM

CA81 WCDMA Band V+HSDPA BodyWorn 10mm Back High

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band V +HSDPA; Frequency: 846.6 MHz;Duty Cycle: 1:1

Medium: HSL835 Body Medium parameters used: f = 846.6 MHz; σ = 0.953 mho/m; ε_r = 55.7; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back High/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.980 mW/g

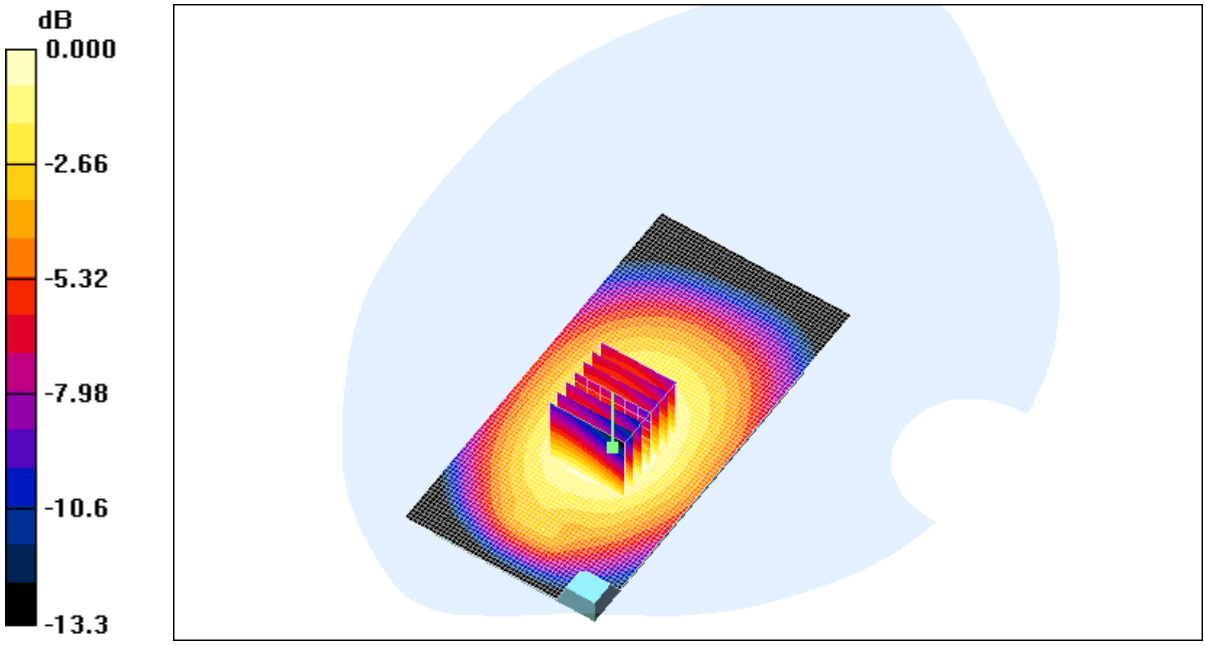
Back High/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 15.7 V/m; Power Drift = -0.064 dB

Peak SAR (extrapolated) = 1.32 W/kg

SAR(1 g) = 0.941 mW/g; SAR(10 g) = 0.673 mW/g

Maximum value of SAR (measured) = 1.00 mW/g



0 dB = 1.00mW/g

16.5.87 WCDMA Band V+HSUPA BodyWron Back High

Date/Time: 2011-5-14 18:38:04

Test Laboratory: SGS-GSM

CA81 WCDMA Band V+HSUPA BodyWorn 10mm Back High

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WCDMA Band V +HSUPA; Frequency: 846.6 MHz;Duty Cycle: 1:1

Medium: HSL835 Body Medium parameters used: f = 846.6 MHz; σ = 0.953 mho/m; ε_r = 55.7; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back High/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.820 mW/g

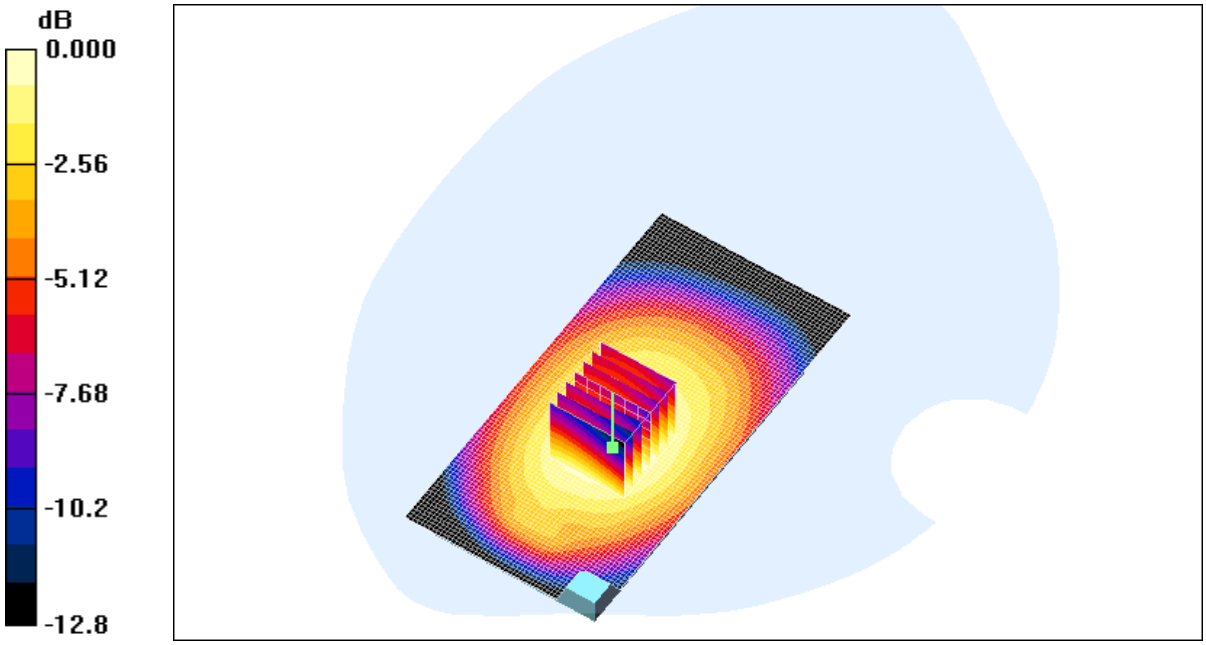
Back High/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 14.9 V/m; Power Drift = -0.134 dB

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.720 mW/g; SAR(10 g) = 0.514 mW/g

Maximum value of SAR (measured) = 0.813 mW/g



0 dB = 0.813mW/g

16.5.88 802.11b- BackSide-Middle

Date/Time: 2011-5-26 16:27:10

Test Laboratory: SGS-GSM

CA81 802.11b BodyWorn 10mm Back Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WiFi(2450); Frequency: 2437 MHz;Duty Cycle: 1:1

Medium: HSL2450-Body Medium parameters used: f = 2437 MHz; σ = 1.96 mho/m; ε_r = 51.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.34, 4.34, 4.34); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.146 mW/g

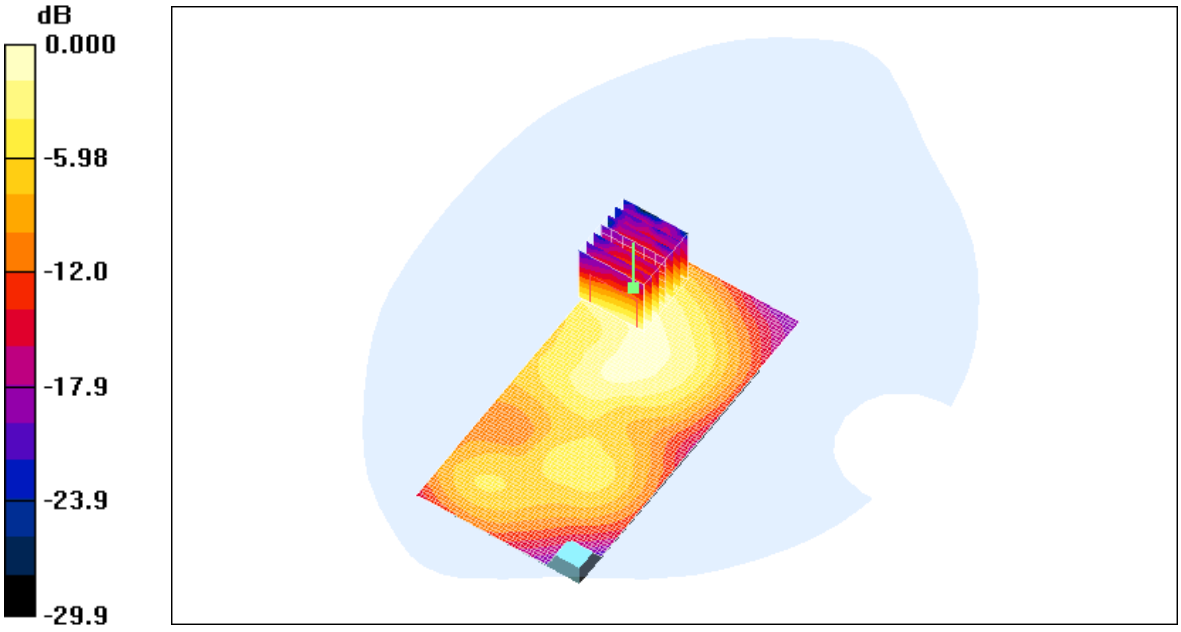
Back Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 6.27 V/m; Power Drift = -0.165 dB

Peak SAR (extrapolated) = 0.282 W/kg

SAR(1 g) = 0.143 mW/g; SAR(10 g) = 0.070 mW/g

Maximum value of SAR (measured) = 0.161 mW/g



0 dB = 0.161mW/g

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16.5.89 802.11b-FrontSide-Middle

Date/Time: 2011-5-26 14:28:32

Test Laboratory: SGS-GSM

CA81 802.11b BodyWorn 10mm Front Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WiFi(2450); Frequency: 2437 MHz;Duty Cycle: 1:1

Medium: HSL2450-Body Medium parameters used: f = 2437 MHz; σ = 1.96 mho/m; ε_r = 51.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.34, 4.34, 4.34); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Front Middle/Area Scan (51x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.147 mW/g

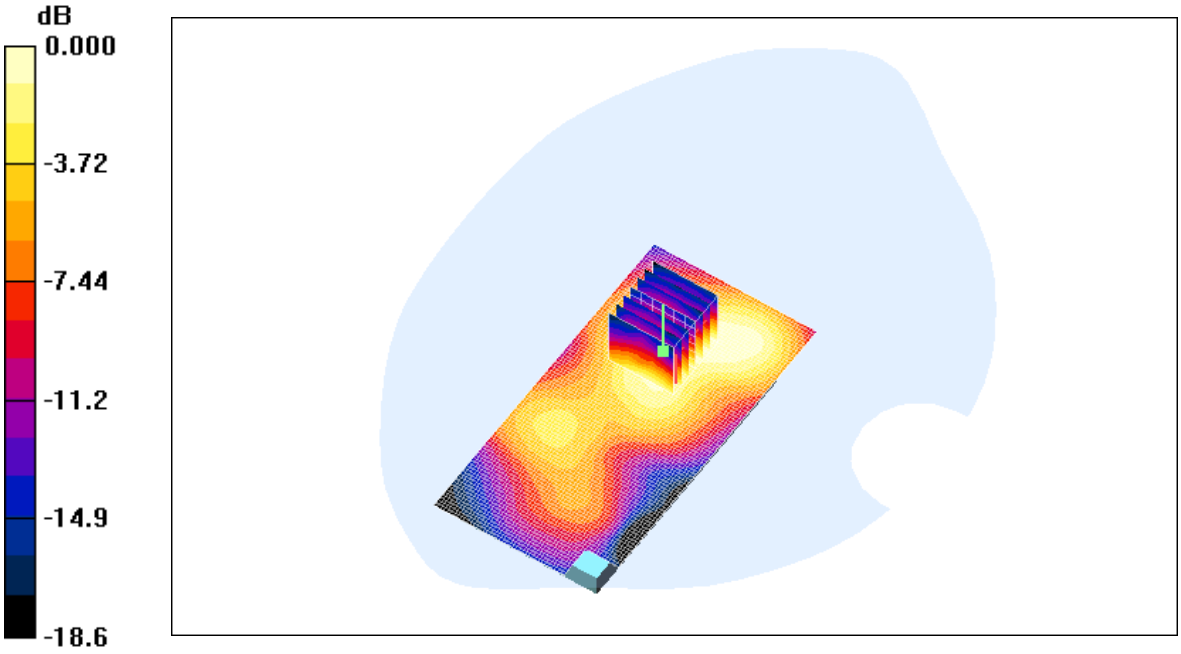
Front Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 7.83 V/m; Power Drift = 0.183 dB

Peak SAR (extrapolated) = 0.218 W/kg

SAR(1 g) = 0.131 mW/g; SAR(10 g) = 0.076 mW/g

Maximum value of SAR (measured) = 0.141 mW/g



0 dB = 0.141mW/g

16.5.90 802.11b-TopSide-Middle

Date/Time: 2011-5-26 17:17:38

Test Laboratory: SGS-GSM

CA81 802.11b BodyWorn Top side 10mm Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WiFi(2450); Frequency: 2437 MHz;Duty Cycle: 1:1

Medium: HSL2450-Body Medium parameters used: f = 2437 MHz; σ = 1.96 mho/m; ε_r = 51.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.34, 4.34, 4.34); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Middle/Area Scan (41x71x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.214 mW/g

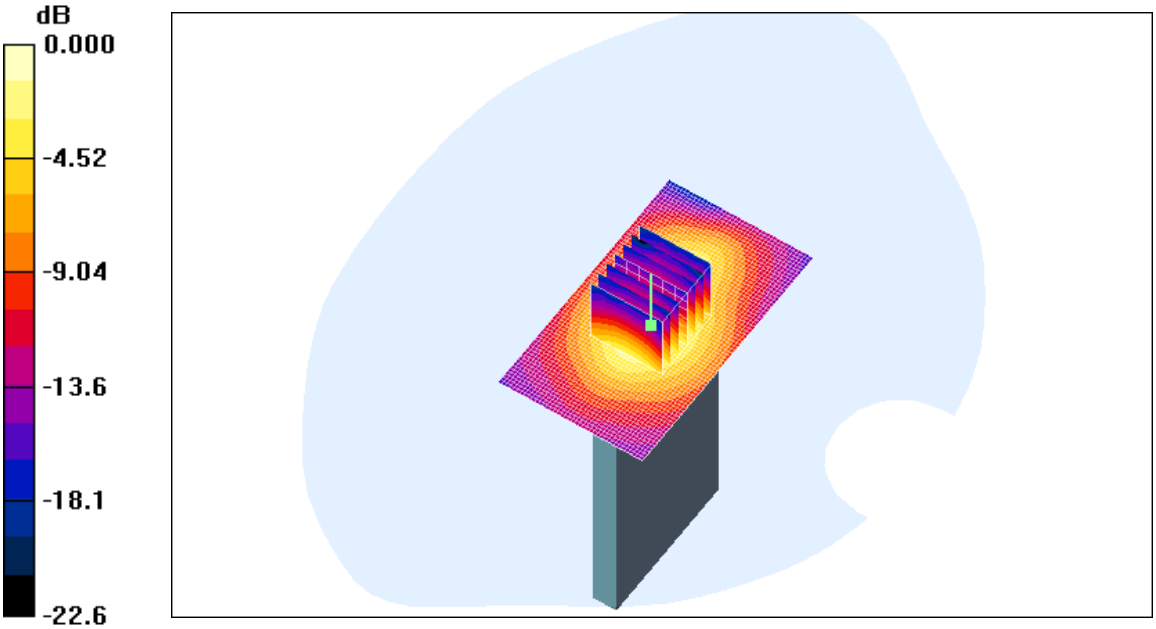
Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 10.7 V/m; Power Drift = -0.154 dB

Peak SAR (extrapolated) = 0.340 W/kg

SAR(1 g) = 0.188 mW/g; SAR(10 g) = 0.097 mW/g

Maximum value of SAR (measured) = 0.210 mW/g



0 dB = 0.210mW/g

16.5.91 802.11b-BottomSide-Middle

Date/Time: 2011-5-26 17:42:41

Test Laboratory: SGS-GSM

CA81 802.11b BodyWorn Bottoom side 10mm Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WiFi(2450); Frequency: 2437 MHz;Duty Cycle: 1:1

Medium: HSL2450-Body Medium parameters used: f = 2437 MHz; σ = 1.96 mho/m; ε_r = 51.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.34, 4.34, 4.34); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Middle/Area Scan (41x71x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.026 mW/g

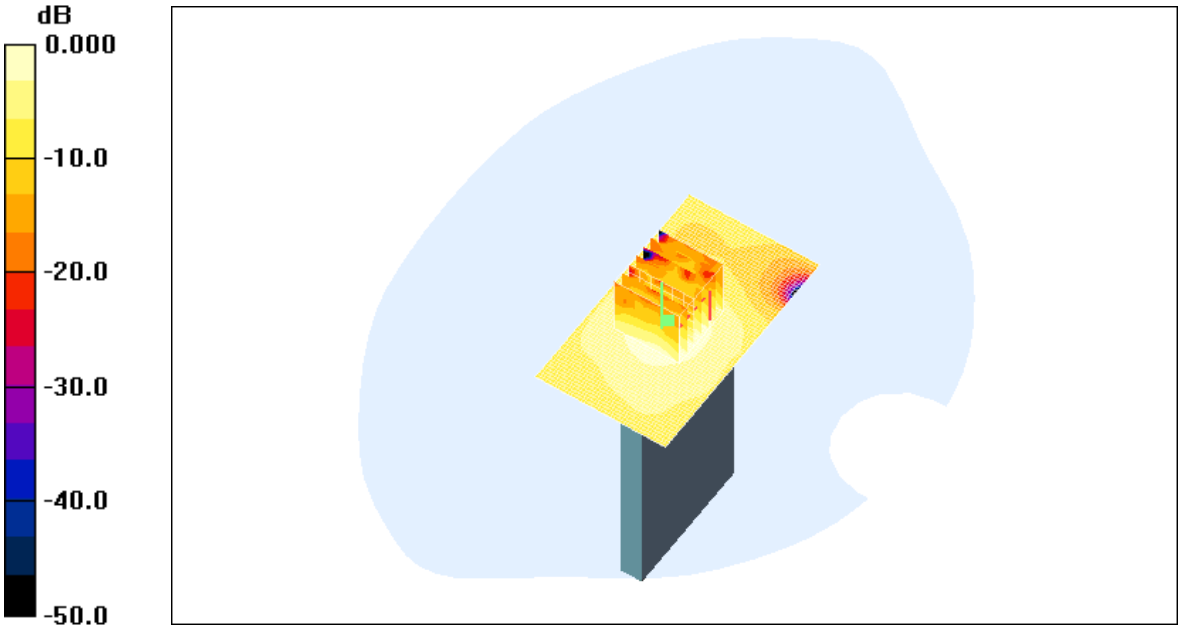
Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 3.63 V/m; Power Drift = 0.086 dB

Peak SAR (extrapolated) = 0.039 W/kg

SAR(1 g) = 0.023 mW/g; SAR(10 g) = 0.012 mW/g

Maximum value of SAR (measured) = 0.025 mW/g



0 dB = 0.025mW/g

16.5.92 802.11b-LeftSide-Middle

Date/Time: 2011-5-26 16:53:01

Test Laboratory: SGS-GSM

CA81 802.11b BodyWorn Left side 10mm Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WiFi(2450); Frequency: 2437 MHz;Duty Cycle: 1:1

Medium: HSL2450-Body Medium parameters used: f = 2437 MHz; σ = 1.96 mho/m; ε_r = 51.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.34, 4.34, 4.34); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Middle/Area Scan (41x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.056 mW/g

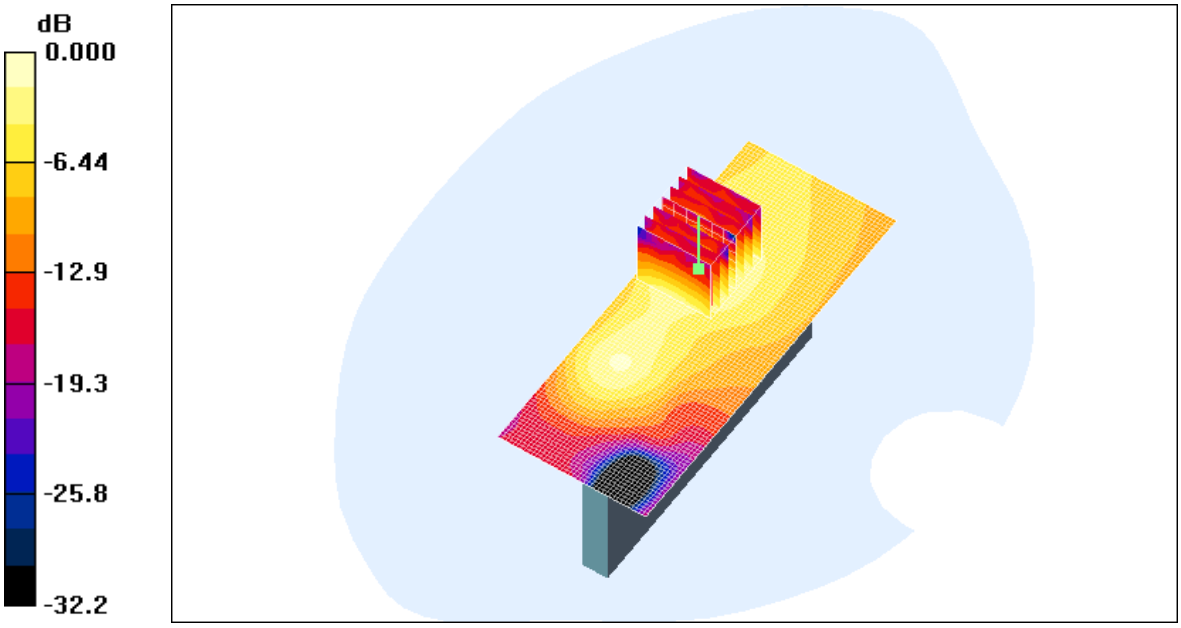
Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 2.99 V/m; Power Drift = 0.120 dB

Peak SAR (extrapolated) = 0.090 W/kg

SAR(1 g) = 0.051 mW/g; SAR(10 g) = 0.026 mW/g

Maximum value of SAR (measured) = 0.058 mW/g



0 dB = 0.058mW/g

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16.5.93 802.11b-RightSide-Middle

Date/Time: 2011-5-26 18:09:37

Test Laboratory: SGS-GSM

CA81 802.11b BodyWorn Right side 10mm Middle

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WiFi(2450); Frequency: 2437 MHz;Duty Cycle: 1:1

Medium: HSL2450-Body Medium parameters used: f = 2437 MHz; σ = 1.96 mho/m; ε_r = 51.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.34, 4.34, 4.34); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Middle/Area Scan (41x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.136 mW/g

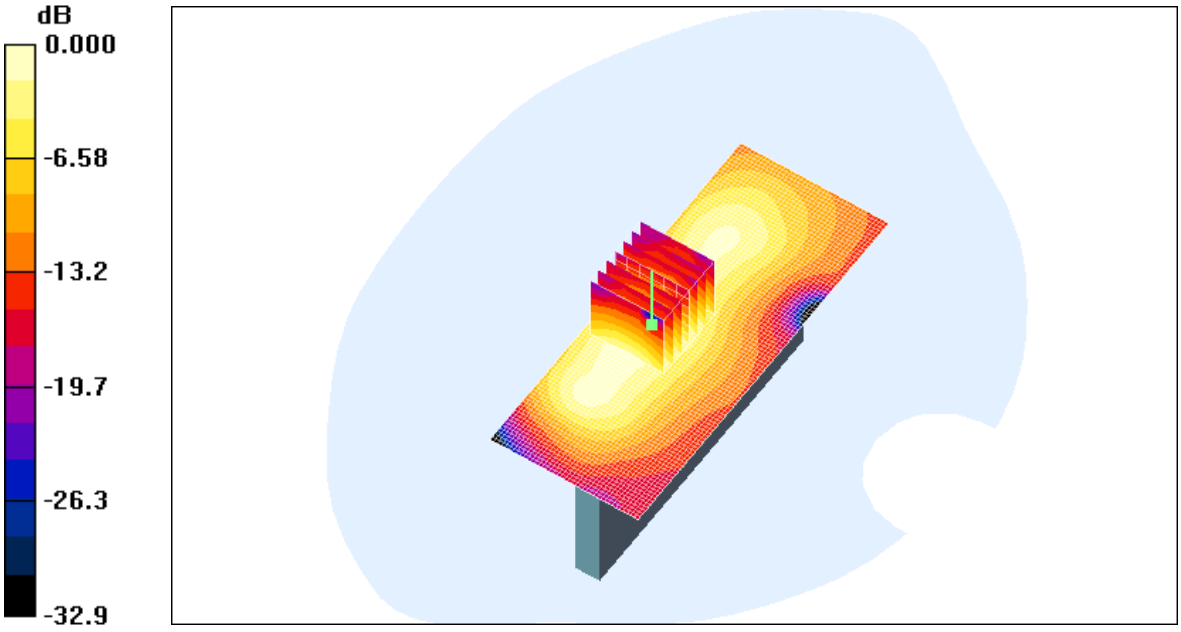
Middle/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 6.34 V/m; Power Drift = -0.224 dB

Peak SAR (extrapolated) = 0.235 W/kg

SAR(1 g) = 0.127 mW/g; SAR(10 g) = 0.064 mW/g

Maximum value of SAR (measured) = 0.143 mW/g



0 dB = 0.143mW/g

16.5.94 802.11b-TopSide-High

Date/Time: 2011-5-26 18:31:45

Test Laboratory: SGS-GSM

CA81 802.11b BodyWorn Top side 10mm High

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WiFi(2450); Frequency: 2462 MHz;Duty Cycle: 1:1

Medium: HSL2450-Body Medium parameters used: f = 2462 MHz; σ = 2.05 mho/m; ε_r = 51.6; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.34, 4.34, 4.34); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

High/Area Scan (41x71x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.241 mW/g

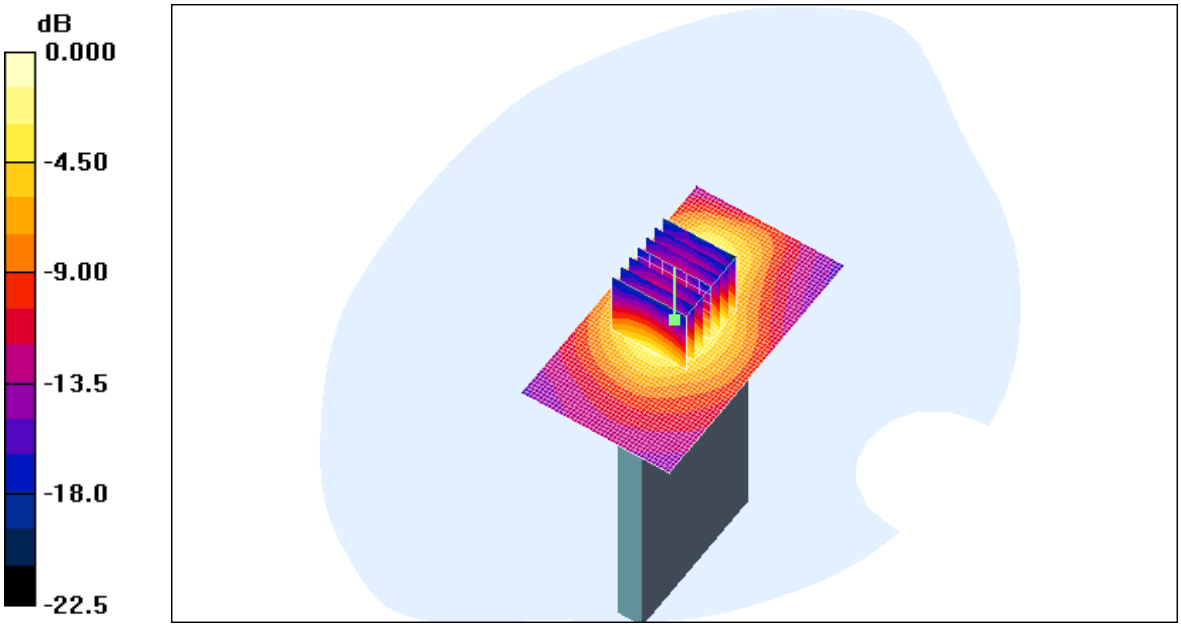
High/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 10.7 V/m; Power Drift = -0.166 dB

Peak SAR (extrapolated) = 0.369 W/kg

SAR(1 g) = 0.207 mW/g; SAR(10 g) = 0.107 mW/g

Maximum value of SAR (measured) = 0.230 mW/g



0 dB = 0.230mW/g

16.5.95 802.11b-TopSide-Low

Date/Time: 2011-5-26 18:54:50

Test Laboratory: SGS-GSM

CA81 802.11b BodyWorn Top side 10mm Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: WiFi(2450); Frequency: 2412 MHz;Duty Cycle: 1:1

Medium: HSL2450-Body Medium parameters used: f = 2412 MHz; σ = 1.93 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.34, 4.34, 4.34); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Low/Area Scan (41x71x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.266 mW/g

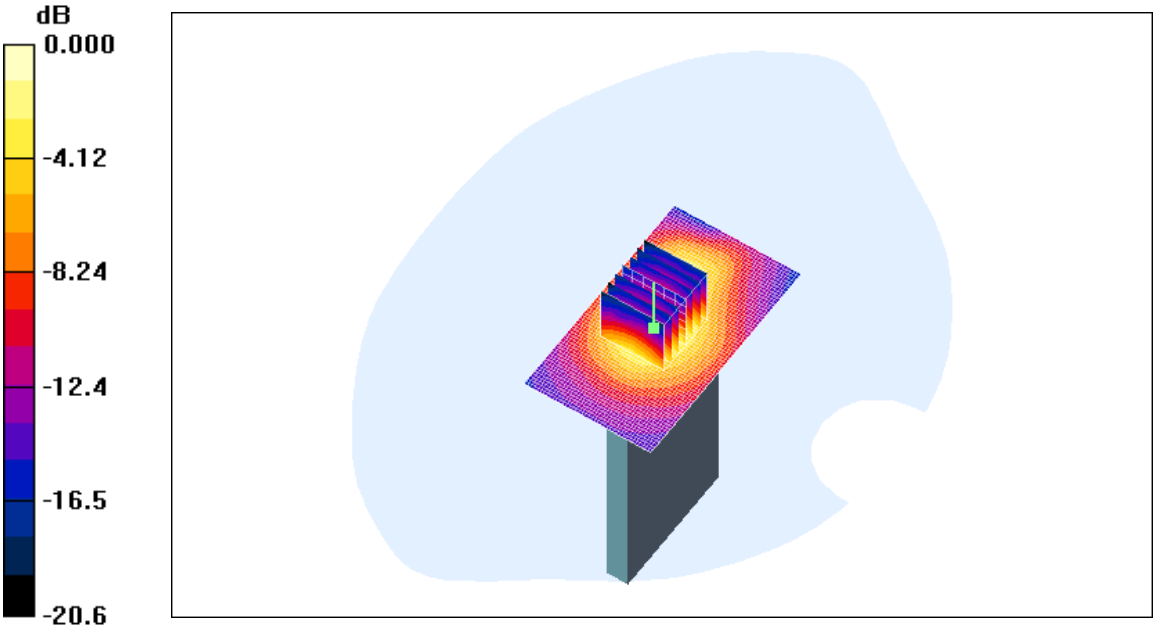
Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 11.8 V/m; Power Drift = -0.096 dB

Peak SAR (extrapolated) = 0.423 W/kg

SAR(1 g) = 0.236 mW/g; SAR(10 g) = 0.123 mW/g

Maximum value of SAR (measured) = 0.262 mW/g



0 dB = 0.262mW/g

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16.5.96 802.11g-TopSide-Low

Date/Time: 2011-5-26 19:19:52

Test Laboratory: SGS-GSM

CA81 802.11g BodyWorn Top side 10mm Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: 802.11g; Frequency: 2412 MHz;Duty Cycle: 1:1

Medium: HSL2450-Body Medium parameters used: f = 2412 MHz; σ = 1.93 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.34, 4.34, 4.34); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Low/Area Scan (41x71x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.133 mW/g

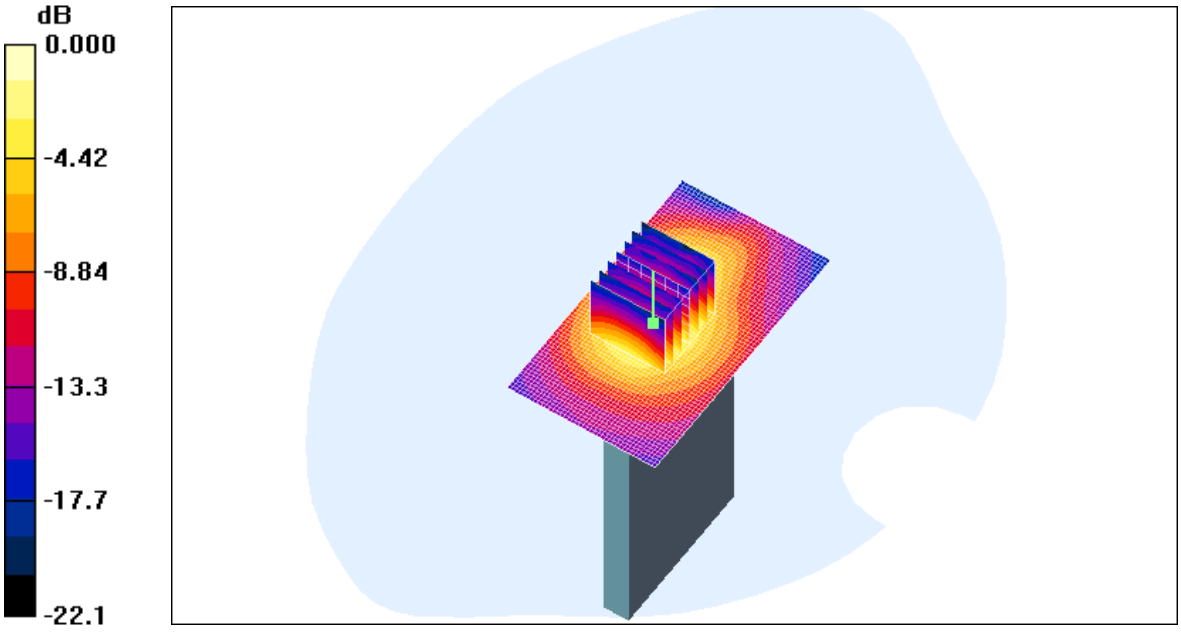
Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 7.95 V/m; Power Drift = 0.059 dB

Peak SAR (extrapolated) = 0.223 W/kg

SAR(1 g) = 0.122 mW/g; SAR(10 g) = 0.063 mW/g

Maximum value of SAR (measured) = 0.137 mW/g



0 dB = 0.137mW/g

16.5.97 802.11n HT20-TopSide-Low

Date/Time: 2011-5-26 19:50:15

Test Laboratory: SGS-GSM

CA81 802.11n BodyWorn Top side 10mm Low

DUT: CA81; Type: WCDMA/GSM; Serial: 354293040118419

Communication System: 802.11n; Frequency: 2412 MHz;Duty Cycle: 1:1

Medium: HSL2450-Body Medium parameters used: f = 2412 MHz; σ = 1.93 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.34, 4.34, 4.34); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Low/Area Scan (41x71x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 0.095 mW/g

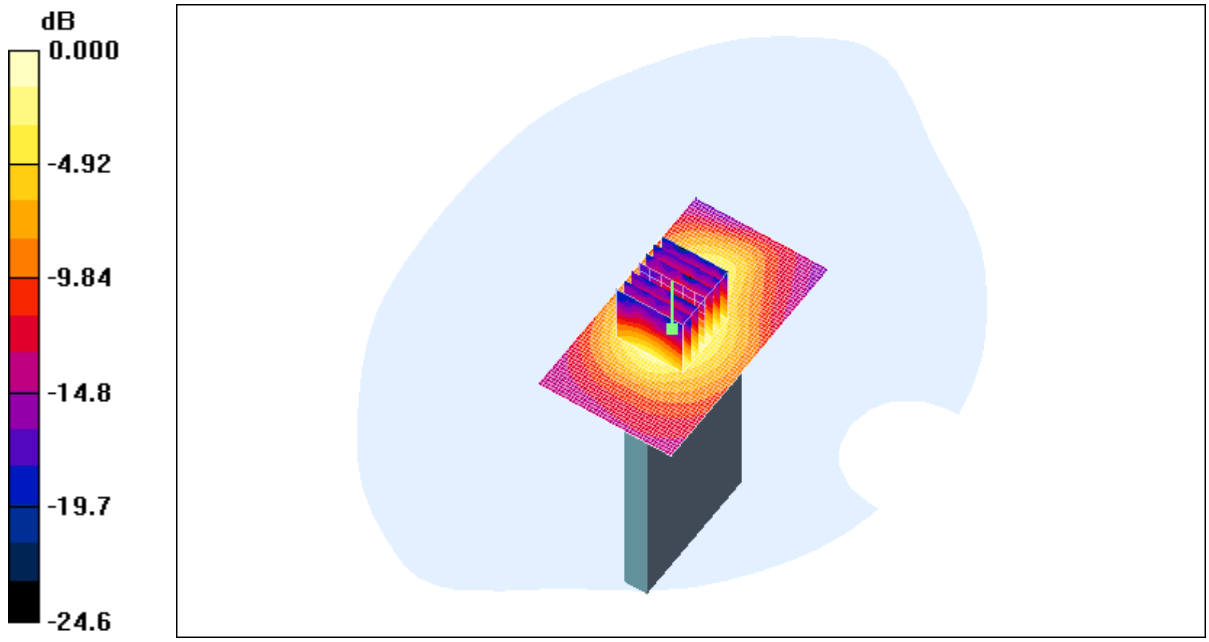
Low/Zoom Scan (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 7.00 V/m; Power Drift = -0.038 dB

Peak SAR (extrapolated) = 0.142 W/kg

SAR(1 g) = 0.077 mW/g; SAR(10 g) = 0.040 mW/g

Maximum value of SAR (measured) = 0.086 mW/g



0 dB = 0.086mW/g

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17. Identification of Samples

Product Name	Smart Phone	
Mode Name	Grid 4	
Brand Name	Fusion Garage	
Final Hardware Version	DVT1	
Final Software Version	SW07	
Product Definition	Production Unit	
Antenna Type	Inner antenna	
Device Type	Portable	
Limit Type	General Population/Uncontrolled	
WLAN Frequency Bands	802.11b	Tx/Rx: 2.412~2.472GHz
	802.11g	Tx/Rx: 2.412~2.472GHz
	802.11n	Tx/Rx: 2.412~2.472GHz
GSM Frequency Bands	GSM850	Tx: 824~849MHz
		Rx: 869~894MHz
	PCS1900	Tx:1850~1910MHz
		Rx:1930~1990MHz
WCDMA Frequency Bands	Band V	Tx: 826~847MHz
		Rx: 871~892MHz
	Band II	Tx:1852~1908MHz
		Rx:1932~1988MHz
Modulation Mode	GMSK/QPSK/DBPSK/BPSK	
GSM / GPRS/EGPRS Power Class	GSM850	4
	PCS1900	1
GPRS/EGPRS Multislot class	12	
WCDMA Power Class	3	
HSDPA UE Category	10	
HSUPA UE Category	6	
IMEI	354293040118419	
Date of receipt	05-09,2011	
Date of Testing Start	05-11,2011	
Date of Testing End	06-16,2011	

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Annex A Photographs of Test Setup

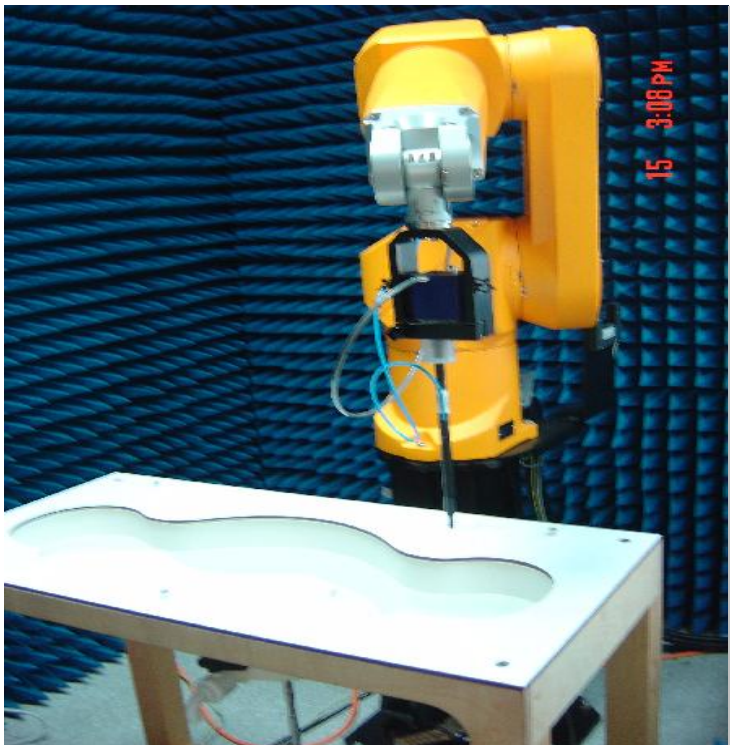

Fig.A-1 Photograph of the SAR measurement System

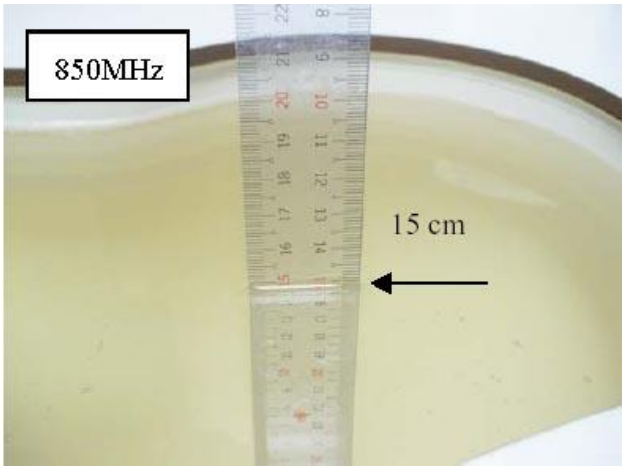

Fig.A-2a Photograph of the Tissue Simulant Liquid depth 15cm for Head

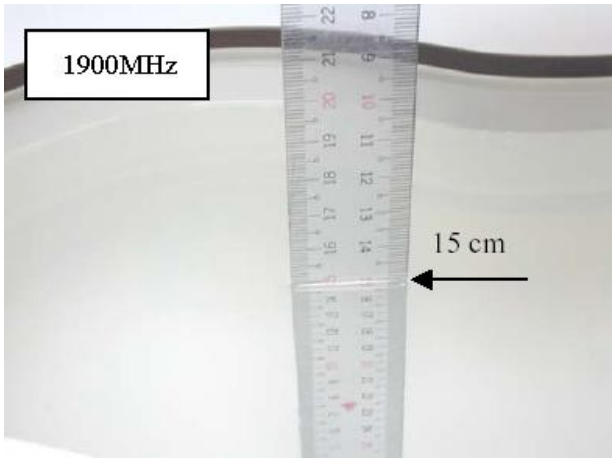

Fig.A-2b Photograph of the Tissue Simulant Liquid depth 15cm for Head

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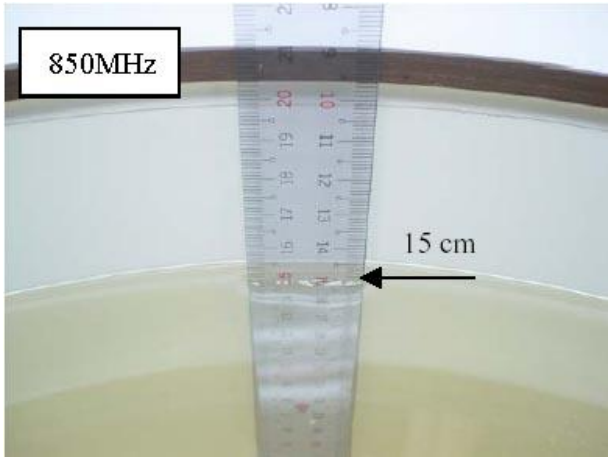

Fig.A-2a Photograph of the Tissue Simulant Liquid depth 15cm for Body Worn

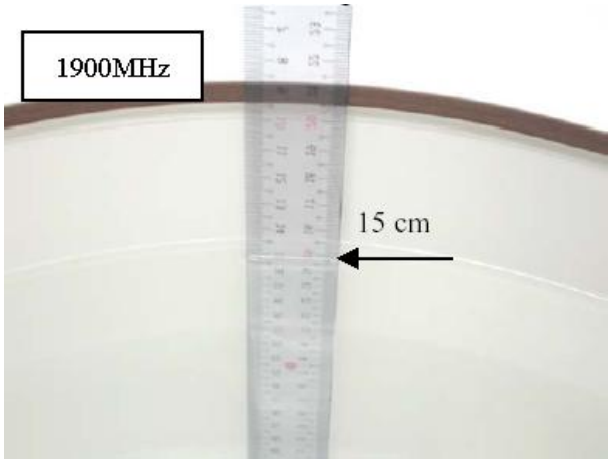

Fig.A-2b Photograph of the Tissue Simulant Liquid depth 15cm for Body Worn

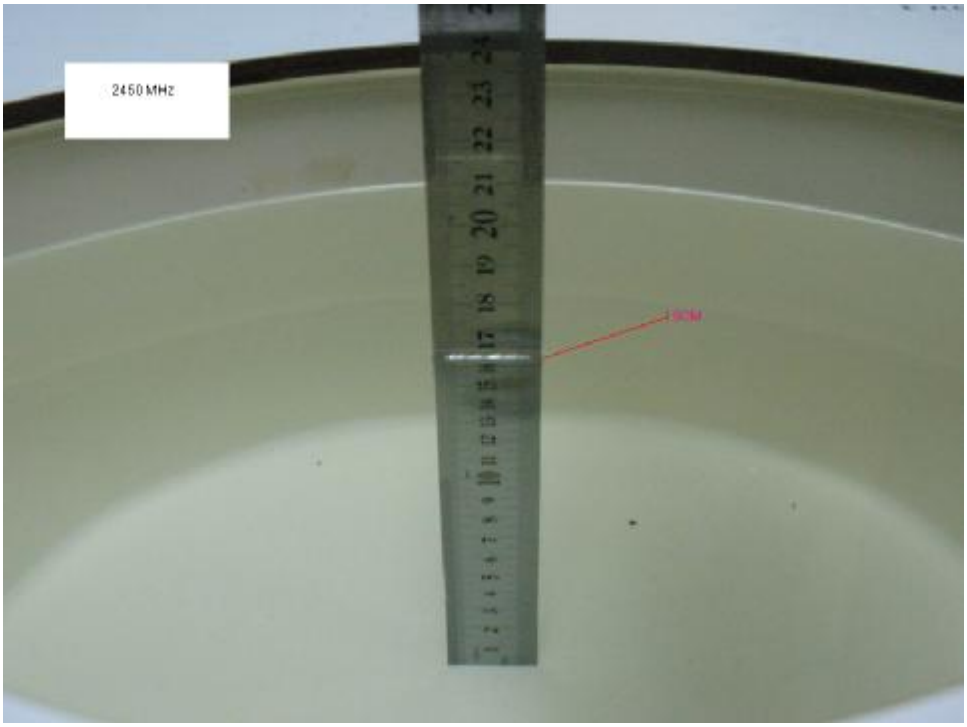

Fig.A-2c Photograph of the Tissue Simulant Liquid depth 15cm for Body Worn

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Annex B Tissue Simulant Liquid

Annex B.1 Recipes for Tissue Simulant Liquid

The bellowing tables give the recipes for tissue simulating liquids to be used in different frequency bands.

Frequency (MHz)	835		900		1800-2000		2450	
Tissue Type	**Head**	**Body**	**Head**	**Body**	**Head**	**Body**	**Head**	**Body**
Ingredient (% by weight)								
Water	40.30	50.75	40.30	50.75	55.24	70.17	62.7	73.26
Salt (NaCl)	1.38	0.94	1.38	0.94	0.31	0.39	0.5	0.04
Sucrose	57.90	48.21	57.90	48.21	0	0	0	0
HEC	0.24	0	0.24	0	0	0	0	0
Bactericide	0.18	0.10	0.10	0.10	0	0	0	0
DGBE	0	0	0	0	44.45	29.44	36.8	26.7
Measurement dielectric parameters								
Dielectric Constant	41.9	55.0	41.1	54.5	39.2	53.2	39.8	52.5
Conductivity (S/m)	0.93	0.97	1.04	1.06	1.45	1.59	1.88	1.78
Target values								
Dielectric Constant	41.5	55.2	41.5	55.0	40.0	53.3	39.2	52.7
Conductivity (S/m)	0.90	0.97	0.97	1.05	1.40	1.52	1.80	1.95

Salt: 99^{+}% Pure Sodium Chloride — Sucrose: 98^{+}% Pure Sucrose

Water: De-ionized, 16 M**W**$^{+}$ resistivity — HEC: Hydroxyethyl Cellulose

DGBE: 99^{+}% Di(ethylene glycol) butyl ether, [2-(2-butoxyethoxy)ethanol]

Table B-1 Recipe of Tissue Simulat Liquid

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Annex B.2 Measurement for Tissue Simulant Liquid

The dielectric properties for this Tissue Simulant Liquids were measured by using the Agilent Model 85070D Dielectric Probe (rates frequency band 200 MHz to 20 GHz) in conjunction with Agilent E5071B Network Analyzer (300 KHz-8500 MHz). The Conductivity (σ) and Permittivity (ρ) are listed in Table 1.For the SAR measurement given in this report. The temperature variation of the Tissue Simulant Liquids was 22±2°C.

Frequency (MHz)	Tissue Type	Limit/Measured	Permittivity (ρ)	Conductivity (σ)	Temp (°C)
835	Head	Recommended Limit	41.5±5% (39.43~43.58)	0.90±5% (0.855~0.945)	22±2
		Measured, 05-11,2011	43.2	0.91	21.4
835	Body	Recommended Limit	55.2±5% (52.44~57.96)	0.97±5% (0.922~1.02)	22±2
		Measured, 05-14,2011	55.9	0.94	21.5
		Measured, 06-16,2011	53.8	0.97	21.8
1900	Head	Recommended Limit	40.0±5% (38.0~42.0)	1.40±5% (1.33~1.47)	22±2
		Measured, 05-15,2011	39.6	1.40	21.3
1900	Body	Recommended Limit	53.3±5% (50.64~55.97)	1.52±5% (1.44~1.60)	22±2
		Measured, 05-14,2011	53.6	1.54	21.6
		Measured, 06-14,2011	53.4	1.52	21.4
2450	Body	Recommended Limit	52.7±5% (50.07~55.34)	1.95±5% (1.85~2.05)	22±2
		Measured, 05-26,2011	51.9	1.98	21.5

Table B-2 Measurement result of Tissue electric parameters

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Annex C SAR System Validation

The microwave circuit arrangement for system verification is sketched in Fig. C-1. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR values. These tests were done at 835&1900MHz. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the table C-1 (A power level of 250mw was input to the dipole antenna). During the tests, the ambient temperature of the laboratory was in the range 22°C, the relative humidity was in the range 60% and the liquid depth above the ear reference points was above 15 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.

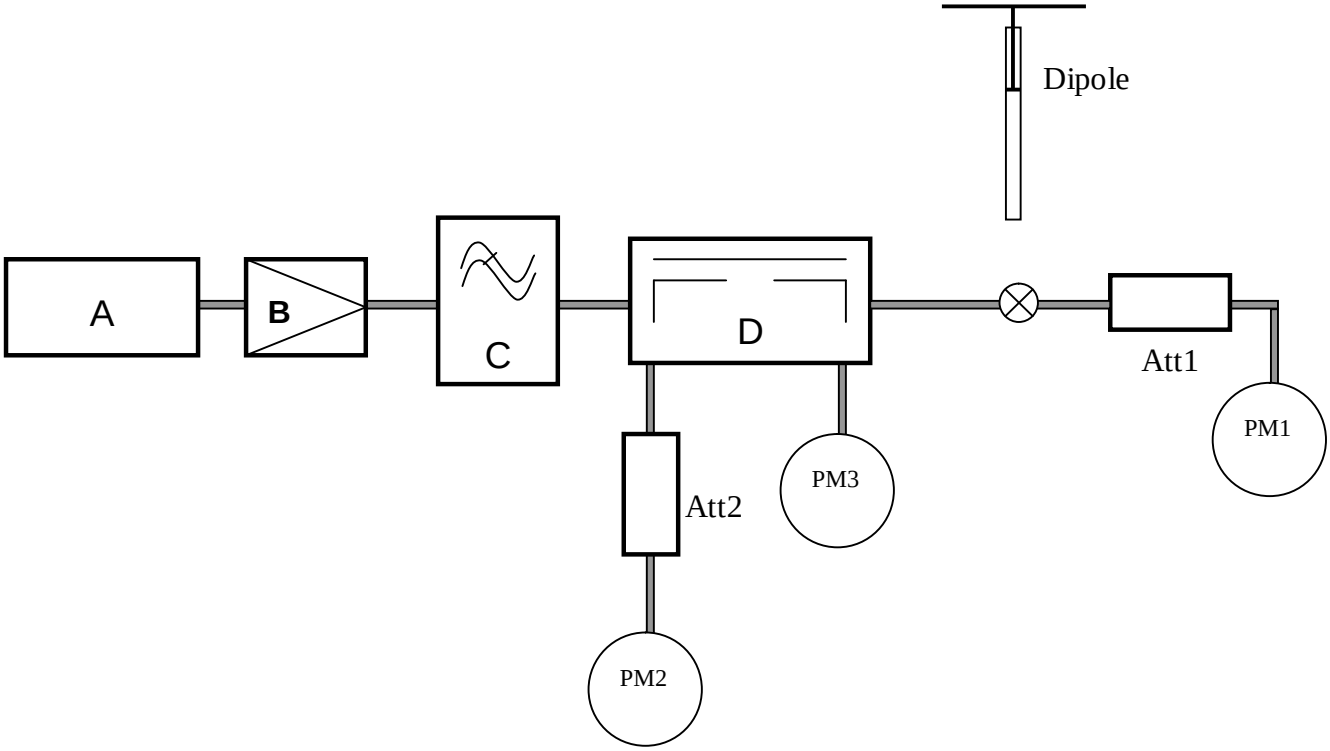

Fig. C-1 the microwave circuit arrangement used for SAR system verification

A. Agilent E4438C Signal Generator

B. Mini-Circuit ZHL-42 Preamplifier

C. Mini-Circuit VLF-2500+ Low Pass Filter

D. Mini-Circuits ZABDC20-252H-N+ Bi-DIR Coupling

PM1. Power Sensor NRP-Z92

PM2. Agilent Model E4416A Power Meter

PM3. Power Sensor NRP-Z92

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Validation Kit	Frequency (MHz)	Tissue Type	Limit/Measurement		
			Condition	Recommended/Measured	1g
D835V2	835	Head	Nomalized to 1mW(for nominal Head TSL parameters)	Recommended Limit	9.48±10% (8.53~10.43)
			Nomalized to 1W(for nominal Head TSL parameters)	-	**9.64**
			250mW input power	Measured, 05-11, 2011	**2.41**
D835V2	835	Body	Nomalized to 1mW(for nominal Head TSL parameters)	Recommended Limit	10.12±10% (9.11~11.13)
			Nomalized to 1W(for nominal Head TSL parameters)	-	**9.88**
			250mW input power	Measured, 05-14, 2011	**2.47**
			Nomalized to 1W(for nominal Head TSL parameters)	-	**9.8**
			250mW input power	Measured, 06-16, 2011	**2.45**
D1900V2	1900	Head	Nomalized to 1mW(for nominal Head TSL parameters)	Recommended Limit	40.4±10% (36.36-44.44)
			Nomalized to 1W(for nominal Head TSL parameters)	-	**40.8**
			250mW input power	Measured, 05-15, 2011	**10.2**
D1900V2	1900	Body	Nomalized to 1mW(for nominal Head TSL parameters)	Recommended Limit	40.4±10% (36.36-44.44)
			Nomalized to 1W(for nominal Head TSL parameters)	-	**40.8**
			250mW input power	Measured, 05-14, 2011	**10.2**
			Nomalized to 1W(for nominal Head TSL parameters)	-	**40.4**
			250mW input power	Measured, 06-14, 2011	**10.1**
D2450V2	2450	Body	Nomalized to 1mW(for nominal Head TSL parameters)	Recommended Limit	53.6±10% (48.24-58.96)
			Nomalized to 1W(for nominal Head TSL parameters)	-	**52.8**
			250mW input power	Measured, 05-26, 2011	**13.2**

Table C-1 SAR System Validation Result

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System Validation for 835MHz-Head

Date/Time: 2011-5-11 10:19:11

Test Laboratory: SGS-GSM

System Performance Check at 835MHz Head

DUT: Dipole 835MHz; Type: D835V2; Serial: D835V2 - SN:4d070

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1

Medium: HSL835_Head Medium parameters used: f = 835 MHz; σ = 0.91 mho/m; ε_r = 43.2; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(6.07, 6.07, 6.07); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, Pin=250mW/Area Scan (61x121x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 2.71 mW/g

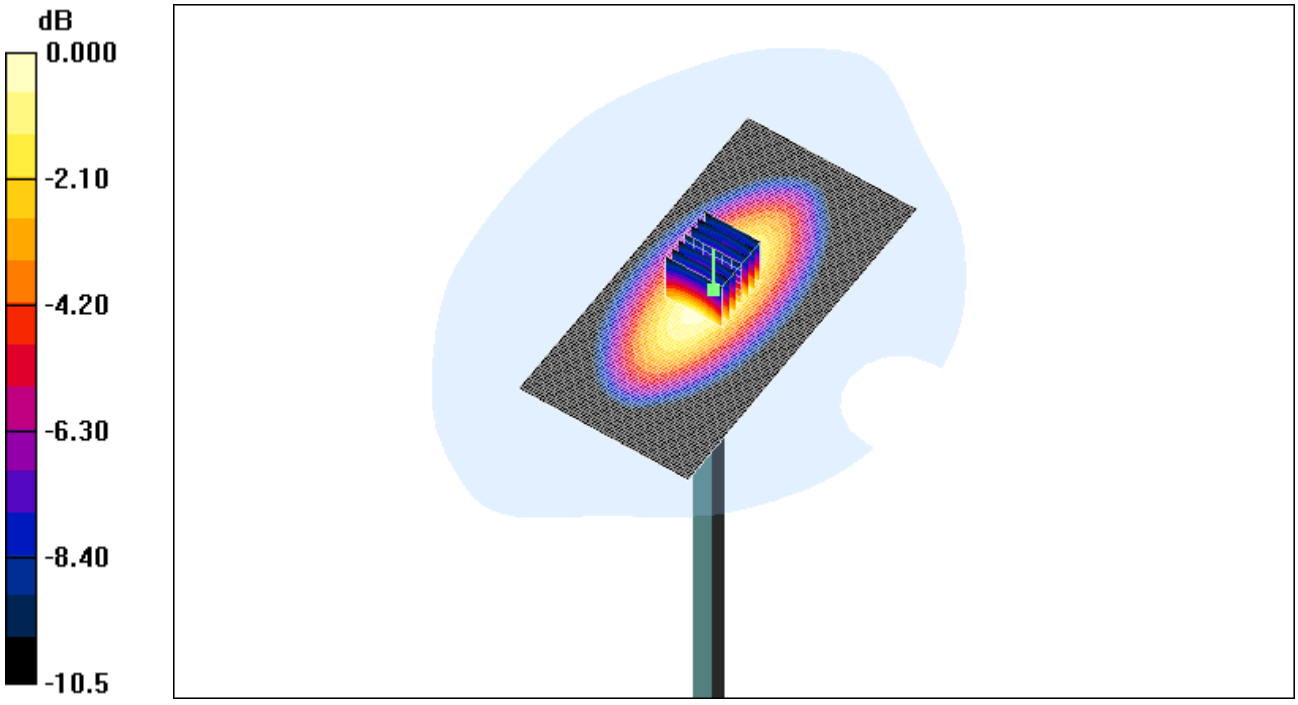
d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 55.2 V/m; Power Drift = -0.093 dB

Peak SAR (extrapolated) = 3.82 W/kg

SAR(1 g) = 2.41 mW/g; SAR(10 g) = 1.53 mW/g

Maximum value of SAR (measured) = 2.71 mW/g



0 dB = 2.71mW/g

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System Validation for 835MHz-Body-1

Date/Time: 2011-5-14 8:11:53

Test Laboratory: SGS-GSM

System Performance Check at 835MHz

DUT: Dipole 835MHz; Type: D835V2; Serial: D835V2 - SN:4d070

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1

Medium: HSL835_Body Medium parameters used: f = 835 MHz; σ = 0.94 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, Pin=250mW/Area Scan (61x121x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 2.67 mW/g

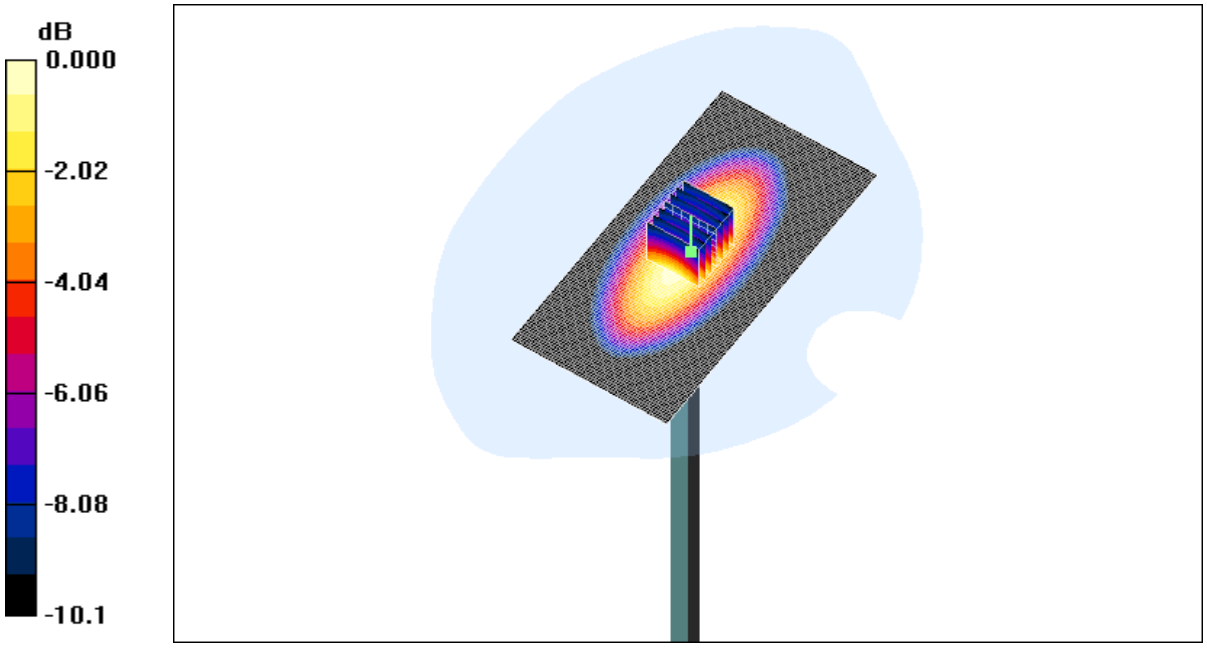
d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 58.1 V/m; Power Drift = -0.141 dB

Peak SAR (extrapolated) = 3.68 W/kg

SAR(1 g) = 2.47 mW/g; SAR(10 g) = 1.62 mW/g

Maximum value of SAR (measured) = 2.66 mW/g



0 dB = 2.66mW/g

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System Validation for 835MHz-Body-2

Date/Time: 2011-6-16 9:11:53

Test Laboratory: SGS-GSM

System Performance Check at 835MHz

DUT: Dipole 835MHz; Type: D835V2; Serial: D835V2 - SN:4d070

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1

Medium: HSL835_Body Medium parameters used: f = 835 MHz; σ = 0.97 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.98, 5.98, 5.98); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, Pin=250mW/Area Scan (61x121x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 2.77 mW/g

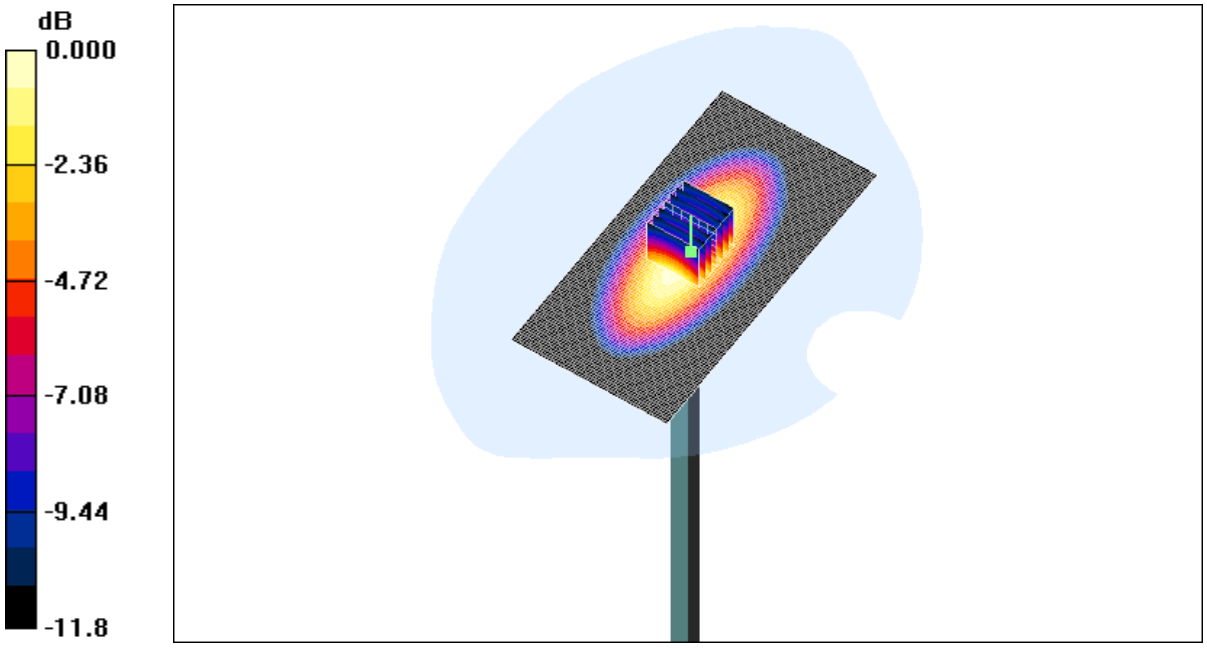
d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 56.9 V/m; Power Drift = -0.021 dB

Peak SAR (extrapolated) = 3.59 W/kg

SAR(1 g) = 2.45 mW/g; SAR(10 g) = 1.55 mW/g

Maximum value of SAR (measured) = 2.75 mW/g



0 dB = 2.75mW/g

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System Validation for 1900MHz-Head

Date/Time: 2011-5-15 18:41:56

Test Laboratory: SGS-GSM

System Performance Check at 1900 MHz

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d028

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1

Medium: HSL1900_Head Medium parameters used: f = 1900 MHz; σ = 1.4 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.14, 5.14, 5.14); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 12.5 mW/g

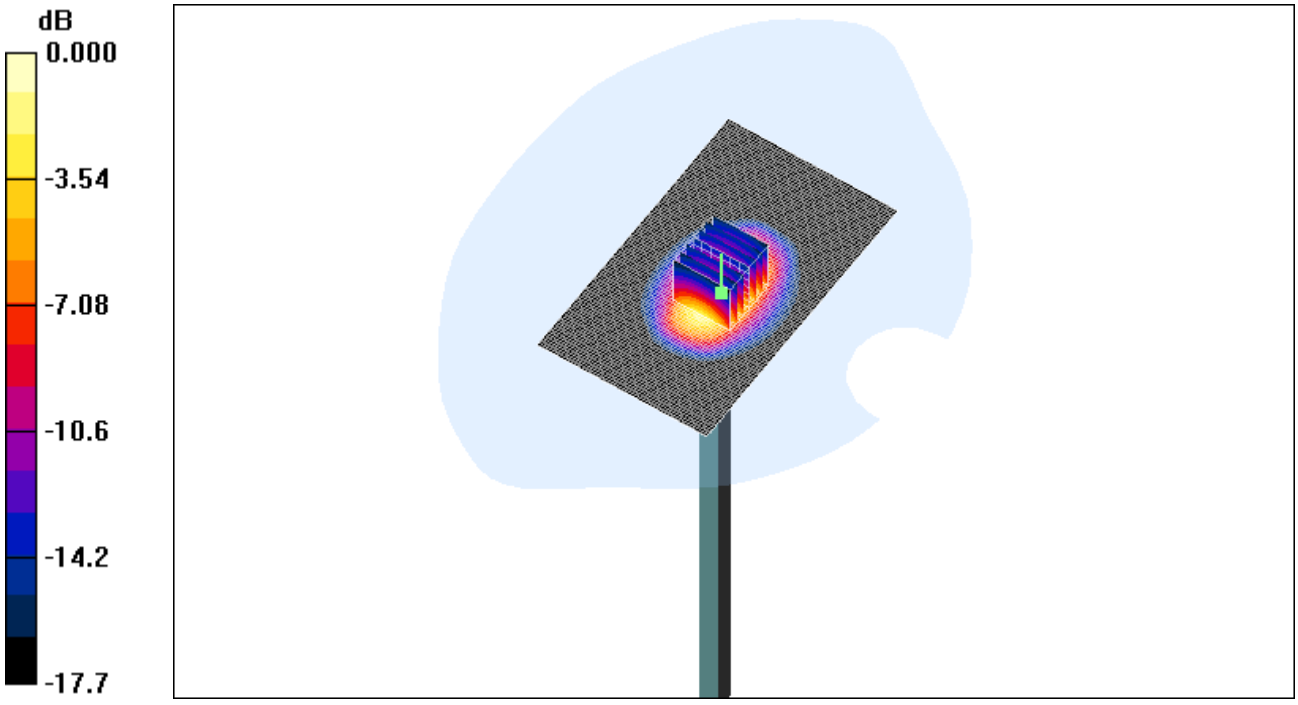
d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 63.2 V/m; Power Drift = 0.057 dB

Peak SAR (extrapolated) = 19.1 W/kg

SAR(1 g) = 10.2 mW/g; SAR(10 g) = 5.27 mW/g

Maximum value of SAR (measured) = 11.6 mW/g



0 dB = 11.6mW/g

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System Validation for 1900MHz-Body-1

Date/Time: 2011-5-14 18:31:35

Test Laboratory: SGS-GSM

System Performance Check at 1900 MHz

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d028

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1

Medium: HSL1900-Body Medium parameters used: f = 1900 MHz; σ = 1.54 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 12.8 mW/g

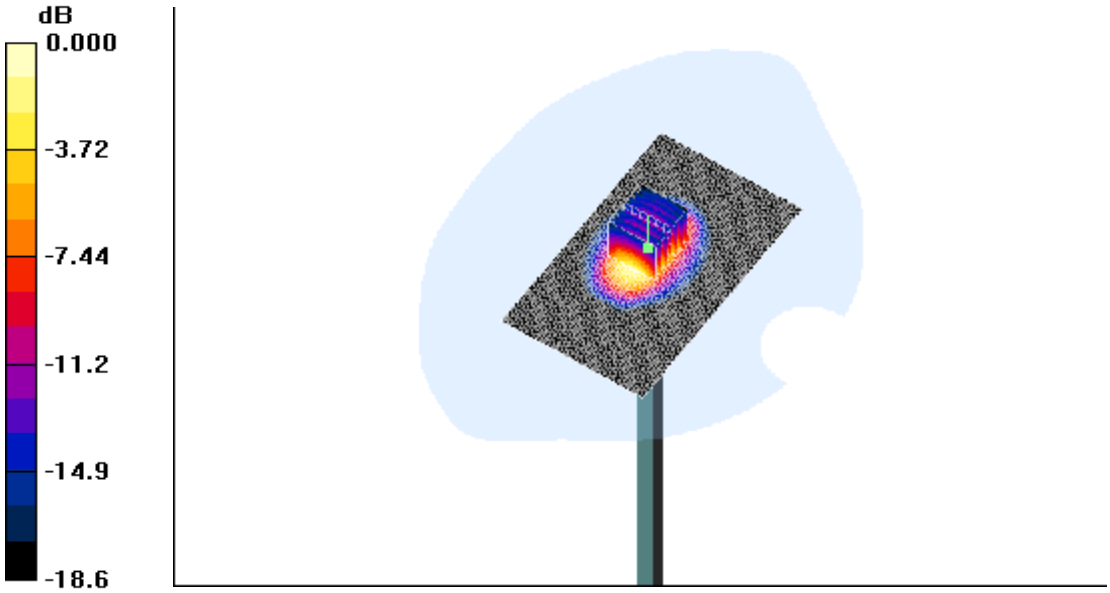
d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 88.7 V/m; Power Drift = -0.112 dB

Peak SAR (extrapolated) = 18.3 W/kg

SAR(1 g) = 10.2 mW/g; SAR(10 g) = 5.24 mW/g

Maximum value of SAR (measured) = 11.5 mW/g



0 dB = 11.5mW/g

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System Validation for 1900MHz-Body-2

Date/Time: 2011-6-14 9:31:35

Test Laboratory: SGS-GSM

System Performance Check at 1900 MHz

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d028

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1

Medium: HSL1900-Body Medium parameters used: f = 1900 MHz; σ = 1.52 mho/m; ε_r = 53.4; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.6, 4.6, 4.6); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 13.1 mW/g

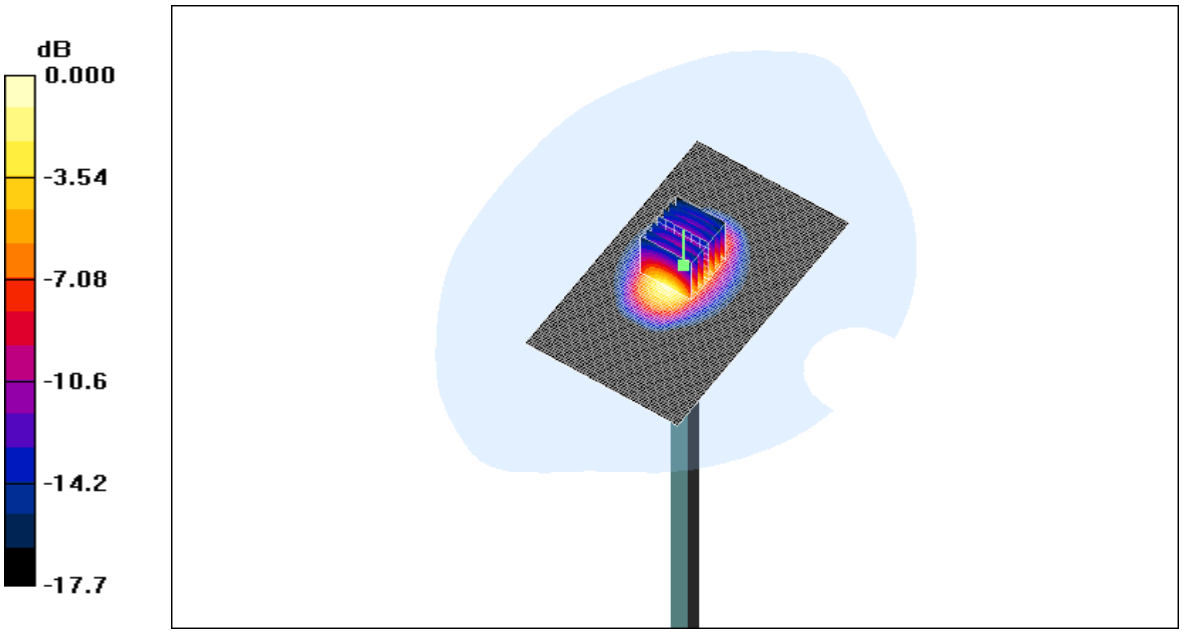
d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 89.5 V/m; Power Drift = -0.105 dB

Peak SAR (extrapolated) = 17.9 W/kg

SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.15 mW/g

Maximum value of SAR (measured) = 12.2 mW/g



0 dB = 12.2mW/g

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System Validation for 2450MHz-Body

Date/Time: 2011-5-26 13:35:25

Test Laboratory: SGS-GSM

System Performance Check at 2450MHz

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:733

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1

Medium: HSL2450-Body Medium parameters used: f = 2450 MHz; σ = 1.98 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.34, 4.34, 4.34); Calibrated: 2010-11-23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2010-11-22
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW/Area Scan (61x101x1): **Measurement grid: dx=15mm, dy=15mm**

Maximum value of SAR (interpolated) = 16.4 mW/g

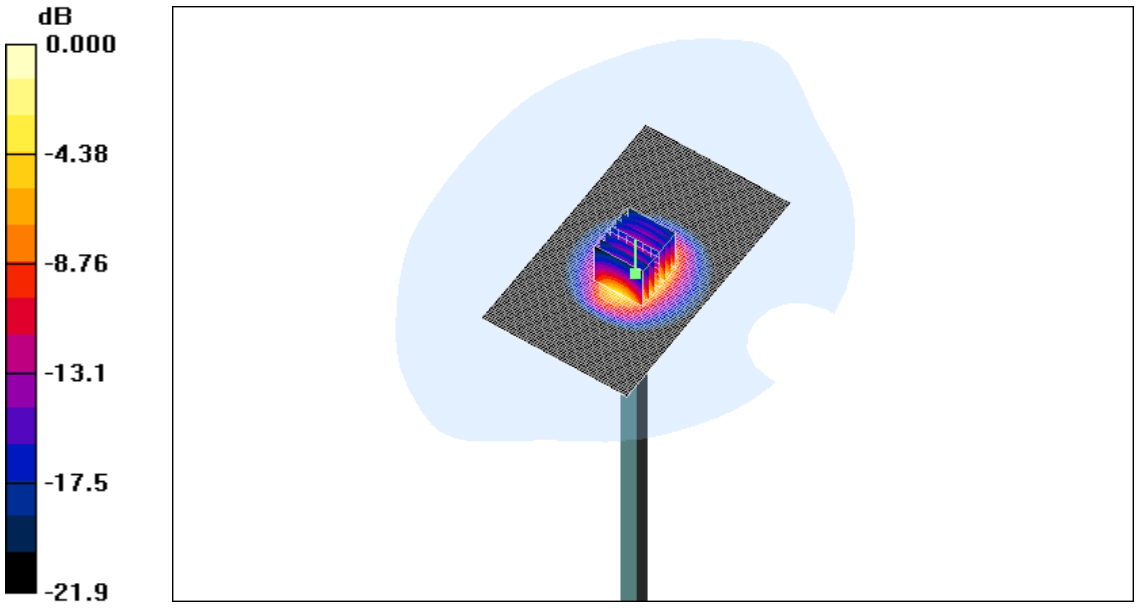
d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: **Measurement grid: dx=5mm, dy=5mm, dz=5mm**

Reference Value = 51.7 V/m; Power Drift = -0.021 dB

Peak SAR (extrapolated) = 28.1 W/kg

SAR(1 g) = 13.2 mW/g; SAR(10 g) = 6.02 mW/g

Maximum value of SAR (measured) = 15.1 mW/g



0 dB = 15.1mW/g

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Annex D Description of Test Position

Annex D.1 SAM Phantom Shape

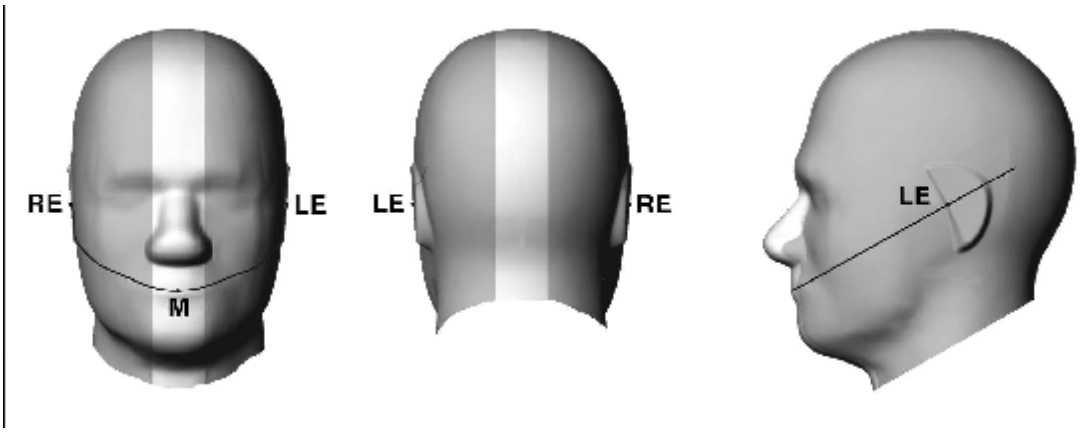

Figure D-1 front, back, and side views of SAM (model for the phantom shell). Full-head model is for illustration purposes only-procedures in this recommended practice are intended primarily for the phantom setup of Figure D-2. Note: The center strip including the nose region has a different thickness tolerance.

Figure D-2 Sagittally bisected phantom with extended perimeter (shown placed on its side as used for SAR measurements)

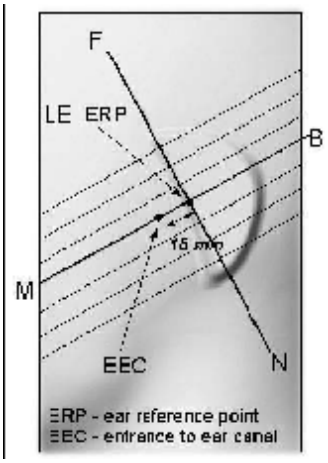

Figure D-3 Close-up side view of phantom showing the ear region, N-F and B-M lines, and seven cross-sectional plane locations

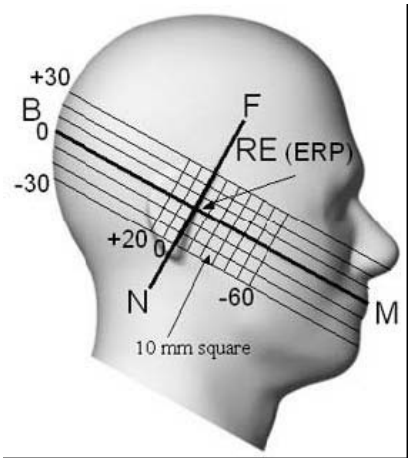

Figure D-4 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

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Annex D.2 EUT constructions

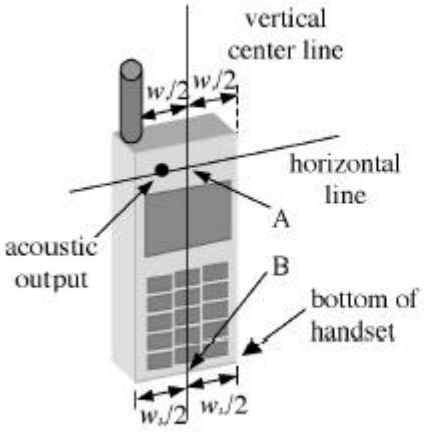

Figure D-5a Handset vertical and horizontal reference lines-"fixed case"

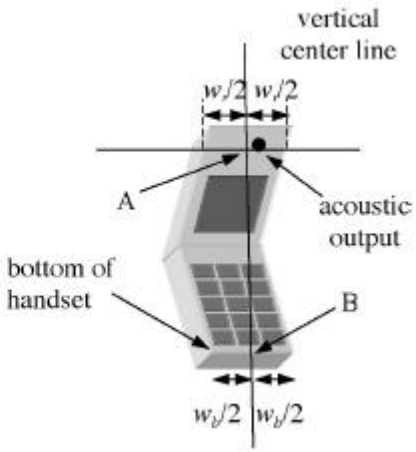

Figure D-5b Handset vertical and horizontal reference lines-"clam-shell case"

Annex D.3 Definition of the "cheek" position

a) Position the device with the vertical centre line of the body of the device and the horizontal line crossing the centre of the ear piece in a plane parallel to the sagittal plane of the phantom ("initial position" see Figure 1-7). While maintaining the device in this plane, align the vertical centre line with the reference plane containing the three ear and mouth reference points (M, RE and LE) and align the centre of the ear piece with the line RE-LE;

b) Translate the mobile phone box towards the phantom with the ear piece aligned with the line LE-RE until the phone touches the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the box until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost.

Annex D.4 Definition of the "tilted" position

a) Position the device in the "cheek" position described above;

b) While maintaining the device in the reference plane described above and pivoting against the ear, move it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost.

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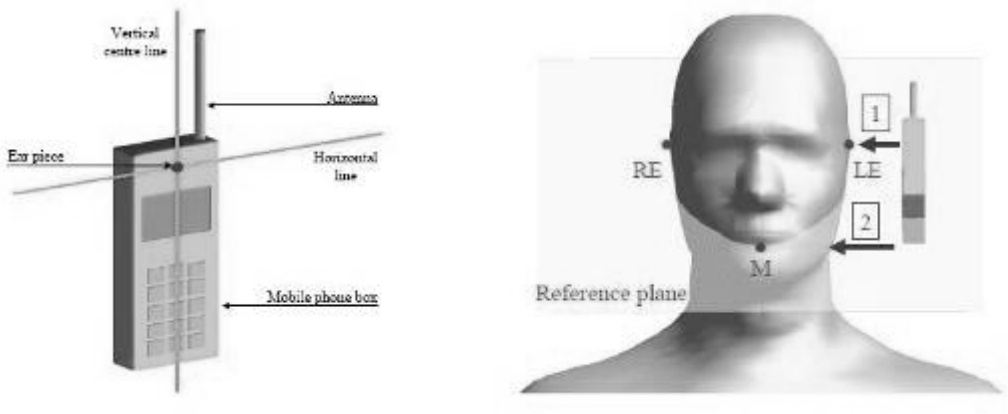

Figure D-6 Definition of the reference lines and points, on the phone and on the phantom and initial position

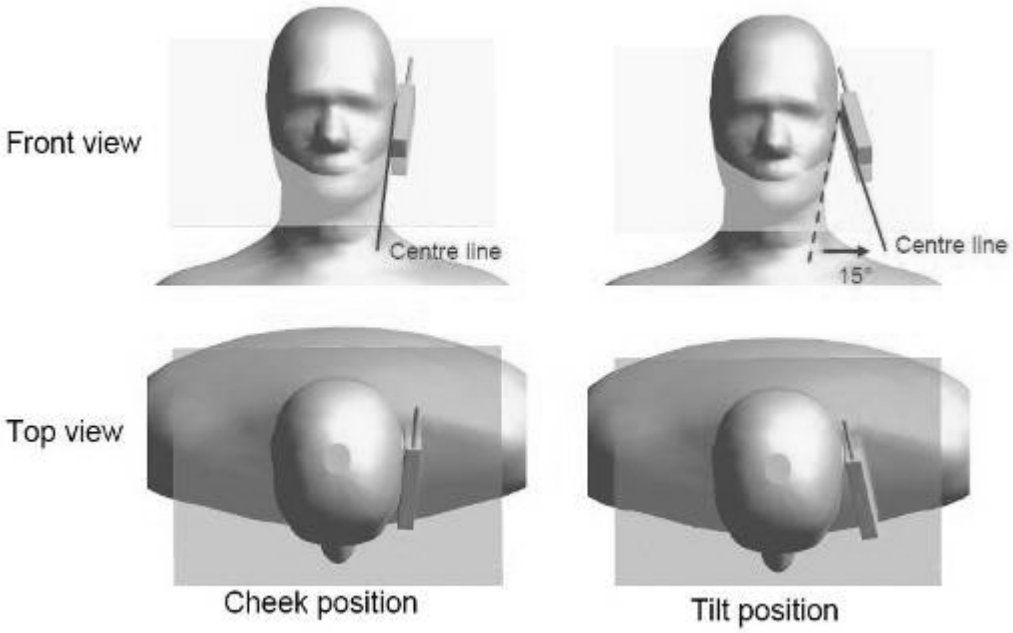

Figure D-7 "Cheek" and "tilt" positions of the mobile phone on the left side

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Annex E Calibration certificate

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: SGS-CH (Auden)

Certificate No: ES3-3088_Nov10

CALIBRATION CERTIFICATE

Object: ES3DV3 - SN:3088

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: November 23, 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. 217-01136)	Apr-11
Power sensor E4412A	MY41498087	1-Apr-10 (No. 217-01136)	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-10)	In house check: Oct-11

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

Issued: November 23, 2010

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: ES3-3088_Nov10 Page 1 of 11

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

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

Accredited by the Swiss Accreditation Service (SAS)
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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.

Probe ES3DV3

SN:3088

Manufactured:	July 20, 2005
Last calibrated:	November 19, 2009
Recalibrated:	November 23, 2010

Calibrated for DASY/EASY Systems

(Note: non-compatible with DASY2 system!)

ES3DV3 SN:3088 November 23, 2010

DASY/EASY - Parameters of Probe: ES3DV3 SN:3088

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm (μV/(V/m)^2)^A	1.32	1.27	1.26	± 10.1%
DCP (mV)^B	100.0	99.9	100.2	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dBuV	C	VR mV	Unc^F (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	156.3	± 3.4 %
			Y	0.00	0.00	1.00	152.0	
			Z	0.00	0.00	1.00	147.1	

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.
F 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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ES3DV3 SN:3088 November 23, 2010

DASY/EASY - Parameters of Probe: ES3DV3 SN:3088

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%	6.07	6.07	6.07	0.99	1.03 ± 11.0%
900	± 50 / ± 100	41.5 ± 5%	0.97 ± 5%	5.97	5.97	5.97	0.99	1.02 ± 11.0%
1810	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	5.23	5.23	5.23	0.59	1.38 ± 11.0%
1900	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	5.14	5.14	5.14	0.51	1.51 ± 11.0%
2000	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	5.07	5.07	5.07	0.51	1.54 ± 11.0%
2450	± 50 / ± 100	39.2 ± 5%	1.80 ± 5%	4.56	4.56	4.56	0.45	1.70 ± 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.

Certificate No: ES3-3088_Nov10 Page 5 of 11

ES3DV3 SN:3088 November 23, 2010

DASY/EASY - Parameters of Probe: ES3DV3 SN:3088

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%	5.98	5.98	5.98	0.88	1.13 ± 11.0%
900	± 50 / ± 100	55.0 ± 5%	1.05 ± 5%	5.85	5.85	5.85	0.76	1.19 ± 11.0%
1810	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	4.92	4.92	4.92	0.26	3.77 ± 11.0%
1900	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	4.60	4.60	4.60	0.28	2.78 ± 11.0%
2000	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	4.76	4.76	4.76	0.26	4.52 ± 11.0%
2450	± 50 / ± 100	52.7 ± 5%	1.95 ± 5%	4.34	4.34	4.34	0.44	1.96 ± 11.0%

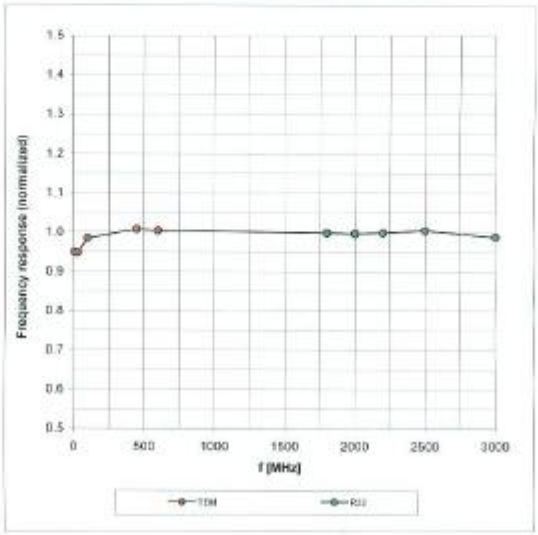
[C] The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

Certificate No: ES3-3088_Nov10 Page 6 of 11

ES3DV3 SN:3088 November 23, 2010

Frequency Response of E-Field

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

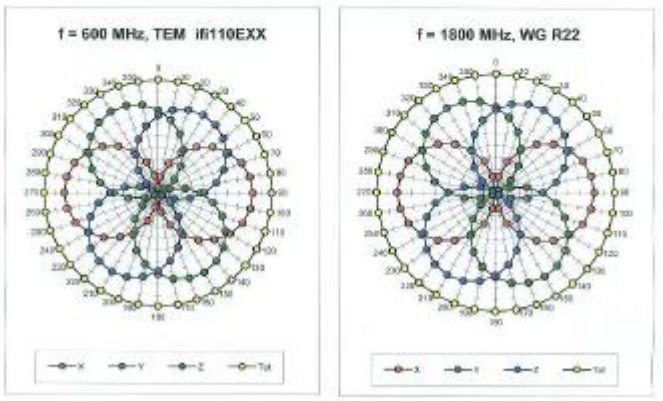


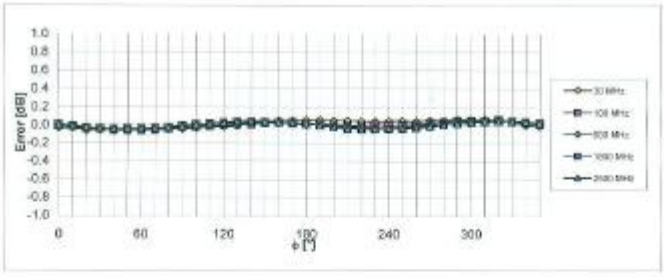
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

Certificate No: ES3-3088_Nov10 Page 7 of 11

ES3DV3 SN:3088 November 23, 2010

Receiving Pattern (ϕ), ϑ = 0°





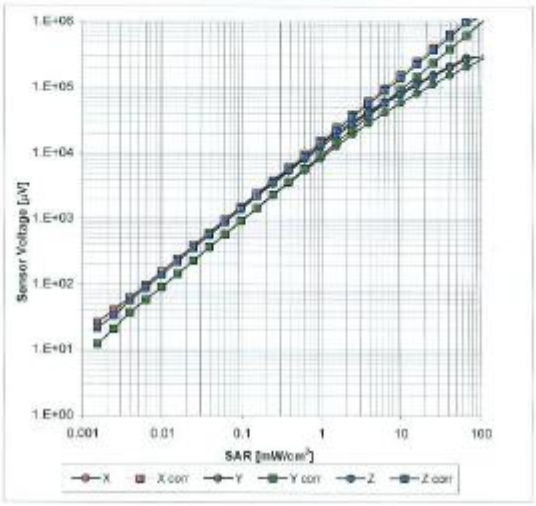
Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

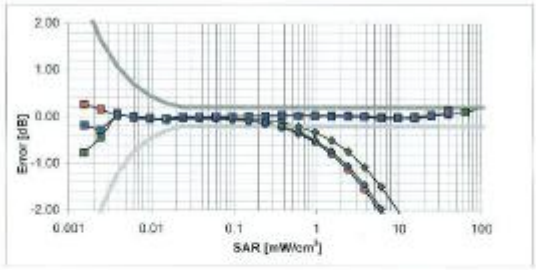
Certificate No: ES3-3088_Nov10 Page 8 of 11

ES3DV3 SN:3088 November 23, 2010

Dynamic Range f(SAR$_{head}$)

(TEM cell, f = 900 MHz)



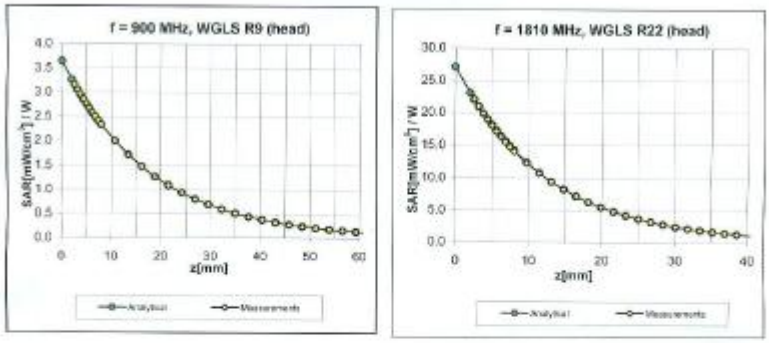


Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Certificate No: ES3-3088_Nov10 Page 9 of 11

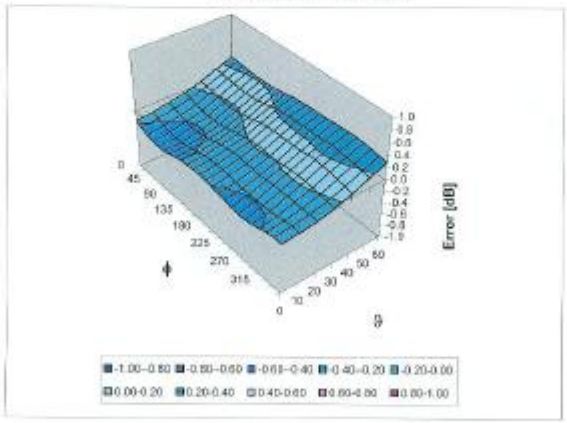
ES3DV3 SN:3088 November 23, 2010

Conversion Factor Assessment



Deviation from Isotropy in HSL

Error (ϕ, ϑ), f = 900 MHz



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

Certificate No: ES3-3088_Nov10 Page 10 of 11

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 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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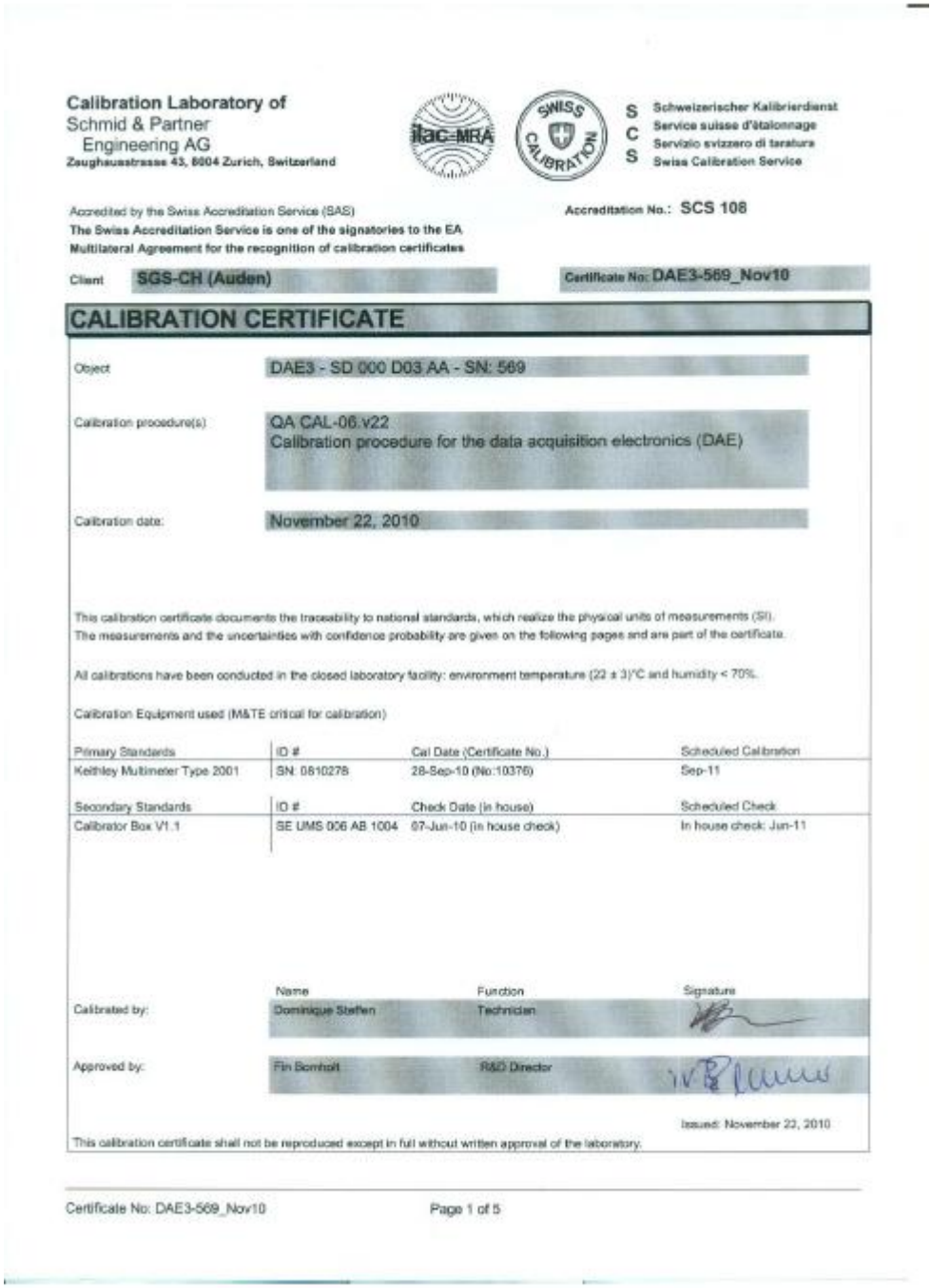
Annex E.2 DAE Calibration certification



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Accreditation No.: SCS 108

Client: SGS-CH (Auden)

Certificate No: DAE3-569_Nov10

CALIBRATION CERTIFICATE

Object: DAE3 - SD 000 D03 AA - SN: 569

Calibration procedure(s): QA CAL-06.v22
Calibration procedure for the data acquisition electronics (DAE)

Calibration date: November 22, 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
Keithley Multimeter Type 2001	SN: 0810278	28-Sep-10 (No:10376)	Sep-11
Secondary Standards	**ID #**	**Check Date (in house)**	**Scheduled Check**
Calibrator Box V1.1	SE UMS 006 AB 1004	07-Jun-10 (in house check)	In house check: Jun-11

	Name	Function	Signature
Calibrated by:	Dominique Steffen	Technician	
Approved by:	Fin Bomholt	R&D Director	

Issued: November 22, 2010

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Certificate No: DAE3-569_Nov10 Page 1 of 5

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Accreditation No.: SCS 108

Glossary

DAE	data acquisition electronics
Connector angle	information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters

- *DC Voltage Measurement:* Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- *Connector angle*: The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The following parameters as documented in the Appendix contain technical information as a result from the performance test and require no uncertainty.
  - *DC Voltage Measurement Linearity:* Verification of the Linearity at +10% and -10% of the nominal calibration voltage. Influence of offset voltage is included in this measurement.
  - *Common mode sensitivity:* Influence of a positive or negative common mode voltage on the differential measurement.
  - *Channel separation:* Influence of a voltage on the neighbor channels not subject to an input voltage.
  - *AD Converter Values with inputs shorted:* Values on the internal AD converter corresponding to zero input voltage
  - *Input Offset Measurement*: Output voltage and statistical results over a large number of zero voltage measurements.
  - *Input Offset Current:* Typical value for information; Maximum channel input offset current, not considering the input resistance.
  - *Input resistance:* Typical value for information: DAE input resistance at the connector, during internal auto-zeroing and during measurement.
  - *Low Battery Alarm Voltage:* Typical value for information. Below this voltage, a battery alarm signal is generated.
  - *Power consumption:* Typical value for information. Supply currents in various operating modes.

Certificate No: DAE3-569_Nov10 Page 2 of 5

DC Voltage Measurement

A/D - Converter Resolution nominal

High Range:	1LSB =	6.1μV ,	full range =	-100...+300 mV
Low Range:	1LSB =	61nV ,	full range =	-1.....+3mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	402.938 ± 0.1% (k=2)	403.345 ± 0.1% (k=2)	403.529 ± 0.1% (k=2)
Low Range	3.92800 ± 0.7% (k=2)	3.95637 ± 0.7% (k=2)	3.94644 ± 0.7% (k=2)

Connector Angle

Connector Angle to be used in DASY system	263.0 ° ± 1 °

Appendix

1. DC Voltage Linearity

High Range		Reading (μV)	Difference (μV)	Error (%)
Channel X	+ Input	199997.6	0.39	0.00
Channel X	+ Input	19998.27	-1.73	-0.01
Channel X	- Input	-20000.54	-0.84	0.00
Channel Y	+ Input	199999.9	2.71	0.00
Channel Y	+ Input	20000.26	0.06	0.00
Channel Y	- Input	-19999.11	0.59	-0.00
Channel Z	+ Input	199999.2	3.34	0.00
Channel Z	+ Input	19994.29	-5.81	-0.03
Channel Z	- Input	-20000.54	-0.74	0.00

Low Range		Reading (μV)	Difference (μV)	Error (%)
Channel X	+ Input	2000.6	0.76	0.04
Channel X	+ Input	199.37	-0.23	-0.11
Channel X	- Input	-200.61	-0.71	0.35
Channel Y	+ Input	2000.0	-0.01	-0.00
Channel Y	+ Input	198.53	-1.37	-0.69
Channel Y	- Input	-202.14	-1.84	0.92
Channel Z	+ Input	2000.6	0.24	0.01
Channel Z	+ Input	198.39	-1.51	-0.76
Channel Z	- Input	-201.69	-1.99	0.99

2. Common mode sensitivity

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Common mode Input Voltage (mV)	High Range Average Reading (μV)	Low Range Average Reading (μV)
Channel X	200	-0.51	-2.10
	- 200	2.92	2.01
Channel Y	200	4.53	4.19
	- 200	-6.17	-6.12
Channel Z	200	-14.00	-14.37
	- 200	12.62	12.51

3. Channel separation

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Input Voltage (mV)	Channel X (μV)	Channel Y (μV)	Channel Z (μV)
Channel X	200	-	2.31	-2.14
Channel Y	200	2.21	-	3.30
Channel Z	200	0.63	-0.46	-

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4. AD-Converter Values with inputs shorted

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	High Range (LSB)	Low Range (LSB)
Channel X	16227	16350
Channel Y	16585	16231
Channel Z	15827	16157

5. Input Offset Measurement

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Input 10MΩ

	Average (μV)	min. Offset (μV)	max. Offset (μV)	Std. Deviation (μV)
Channel X	0.17	-1.94	1.97	0.67
Channel Y	-0.86	-2.25	1.36	0.69
Channel Z	-1.20	-2.36	0.46	0.57

6. Input Offset Current

Nominal input circuitry offset current on all channels: <25fA

7. Input Resistance (Typical values for information)

	Zeroing (kOhm)	Measuring (MOhm)
Channel X	200	200
Channel Y	200	200
Channel Z	200	200

8. Low Battery Alarm Voltage (Typical values for information)

Typical values	Alarm Level (VDC)
Supply (+ Vcc)	+7.9
Supply (- Vcc)	-7.6

9. Power Consumption (Typical values for information)

Typical values	Switched off (mA)	Stand by (mA)	Transmitting (mA)
Supply (+ Vcc)	+0.01	+6	+14
Supply (- Vcc)	-0.01	-8	-9

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Annex E.1 Dipole Calibration certification

D835V2

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Accreditation No.: SCS 108

Client: SGS-CH (Auden)

Certificate No: D835V2-4d070_Nov10

CALIBRATION CERTIFICATE

Object: D835V2 - SN: 4d070

Calibration procedure(s): QA CAL-05.v7
Calibration procedure for dipole validation kits

Calibration date: November 19, 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 EPM-442A	GB37480704	06-Oct-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: 5086 (20g)	30-Mar-10 (No. 217-01156)	Mar-11
Type-N mismatch combination	SN: 5047.2 / 06327	30-Mar-10 (No. 217-01162)	Mar-11
Reference Probe ES3DV3	SN: 3205	30-Apr-10 (No. ES3-3205_Apr10)	Apr-11
DAE4	SN: 601	10-Jun-10 (No. DAE4-601_Jun10)	Jun-11

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

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

Issued: November 22, 2010

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Certificate No: D835V2-4d070_Nov10 Page 1 of 9

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Accreditation No.: SCS 108

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

d) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

Measurement Conditions

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

DASY Version	DASY5	V52.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V4.9	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	41.5 ± 6 %	0.89 mho/m ± 6 %
Head TSL temperature during test	(22.0 ± 0.2) °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.37 mW / g
SAR normalized	normalized to 1W	9.48 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**9.56 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.54 mW / g
SAR normalized	normalized to 1W	6.16 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**6.20 mW /g ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	54.2 ± 6 %	0.99 mho/m ± 6 %
Body TSL temperature during test	(22.0 ± 0.2) °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.53 mW / g
SAR normalized	normalized to 1W	10.1 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**9.92 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.65 mW / g
SAR normalized	normalized to 1W	6.60 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**6.51 mW / g ± 16.5 % (k=2)**

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	52.4 Ω - 2.7 jΩ
Return Loss	- 29.0 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	48.0 Ω - 3.9 jΩ
Return Loss	- 27.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.394 ns

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

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

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	November 09, 2007

DASY5 Validation Report for Head TSL

Date/Time: 18.11.2010 11:02:35

Test Laboratory: SPEAG, Zurich, Switzerland

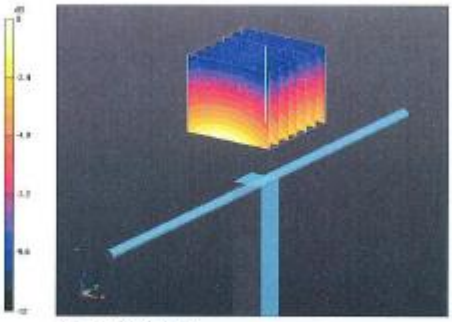
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d070

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: HSL900
Medium parameters used: f = 835 MHz; σ = 0.89 mho/m; ε_r = 41.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.03, 6.03, 6.03); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY52, V52.2 Build 0, Version 52.2.0 (163)
- Postprocessing SW: SEMCAD X, V14.2 Build 2, Version 14.2.2 (1685)

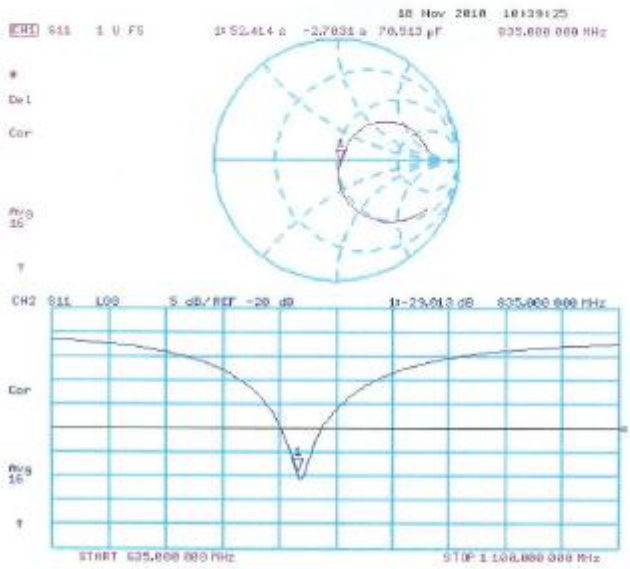
Pin=250 mW /d=15mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57.2 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 3.56 W/kg
SAR(1 g) = 2.37 mW/g; SAR(10 g) = 1.54 mW/g
Maximum value of SAR (measured) = 2.75 mW/g



0 dB = 2.75mW/g

Certificate No: D835V2-4d070_Nov10 Page 6 of 9

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body

Date/Time: 19.11.2010 13:25:58

Test Laboratory: SPEAG, Zurich, Switzerland

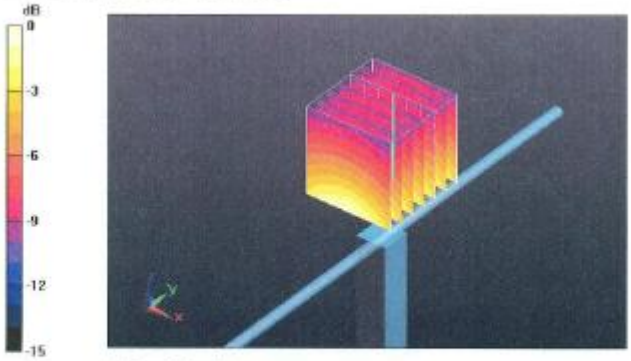
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d070

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: MSL900
Medium parameters used: f = 835 MHz; σ = 0.99 mho/m; ε_r = 54.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

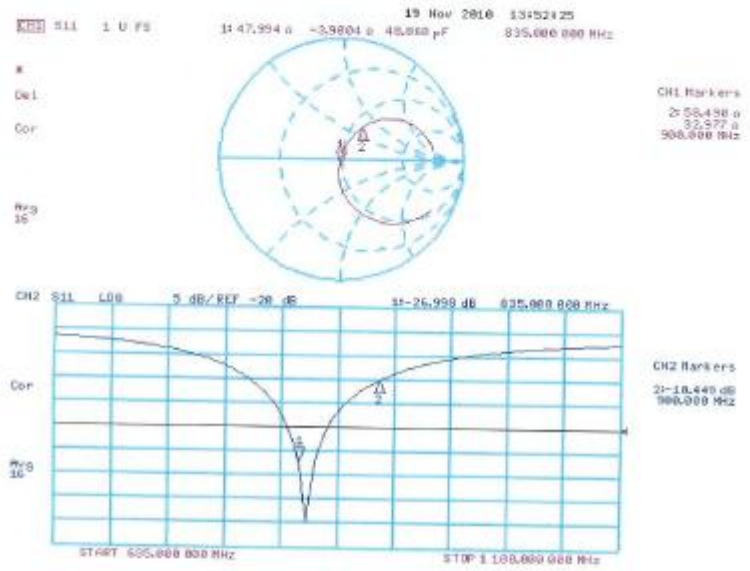
- Probe: ES3DV3 - SN3205; ConvF(5.86, 5.86, 5.86); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY52, V52.2 Build 0, Version 52.2.0 (163)
- Postprocessing SW: SEMCAD X, V14.2 Build 2, Version 14.2.2 (1685)

Pin=250 mW /d=15mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.1 V/m; Power Drift = -0.000422 dB
Peak SAR (extrapolated) = 3.73 W/kg
SAR(1 g) = 2.53 mW/g; SAR(10 g) = 1.65 mW/g
Maximum value of SAR (measured) = 2.93 mW/g

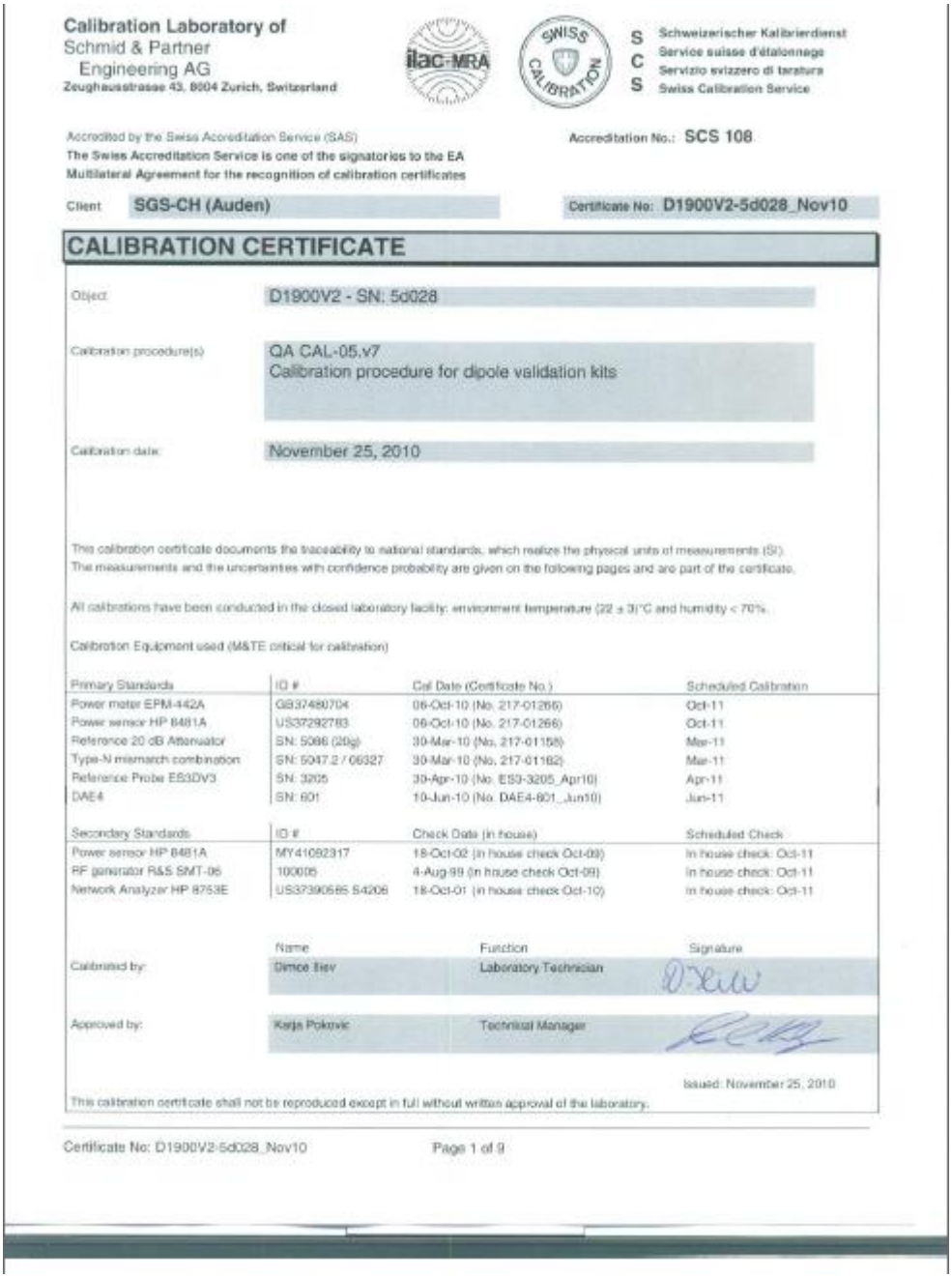


0 dB = 2.93mW/g

Impedance Measurement Plot for Body TSL



D1900V2



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Accreditation No.: SCS 108

Client: SGS-CH (Auden)

Certificate No: D1900V2-5d028_Nov10

CALIBRATION CERTIFICATE

Object: D1900V2 - SN: 5d028

Calibration procedure(s): QA CAL-05.v7
Calibration procedure for dipole validation kits

Calibration date: November 25, 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 EPM-442A	GB37480704	06-Oct-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: 5086 (20g)	30-Mar-10 (No. 217-01158)	Mar-11
Type-N mismatch combination	SN: 5047.2 / 06327	30-Mar-10 (No. 217-01162)	Mar-11
Reference Probe ES3DV3	SN: 3205	30-Apr-10 (No. ES3-3205_Apr10)	Apr-11
DAE4	SN: 601	10-Jun-10 (No. DAE4-601_Jun10)	Jun-11

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

	Name	Function	Signature
Calibrated by:	Dimce Iliev	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: November 25, 2010

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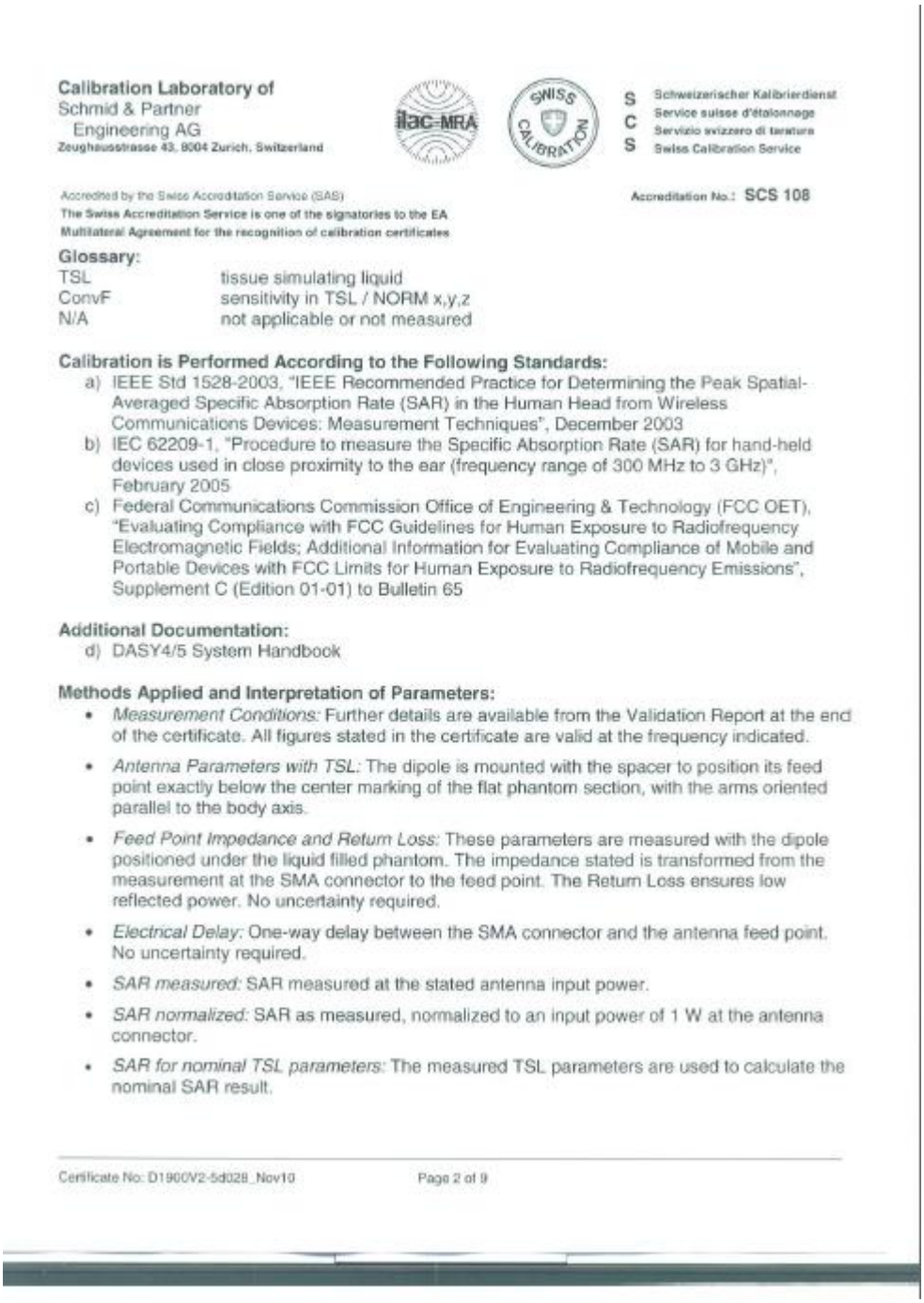
Certificate No: D1900V2-5d028_Nov10 Page 1 of 9



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The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

d) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

Certificate No: D1900V2-5d028_Nov10 Page 2 of 9

Measurement Conditions

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

DASY Version	DASY5	V52.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	39.3 ± 6 %	1.40 mho/m ± 6 %
Head TSL temperature during test	(21.5 ± 0.2) °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	10.1 mW / g
SAR normalized	normalized to 1W	40.4 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**40.3 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.26 mW / g
SAR normalized	normalized to 1W	21.0 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**21.0 mW /g ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.8 ± 6 %	1.52 mho/m ± 6 %
Body TSL temperature during test	(22.0 ± 0.2) °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	10.1 mW / g
SAR normalized	normalized to 1W	40.4 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**40.3 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.30 mW / g
SAR normalized	normalized to 1W	21.2 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**21.2 mW / g ± 16.5 % (k=2)**

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	52.3 Ω + 5.8 jΩ
Return Loss	- 24.3 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.3 Ω + 6.7 jΩ
Return Loss	- 22.6 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.200 ns

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

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

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	December 17, 2002

DASY5 Validation Report for Head TSL

Date/Time: 25.11.2010 12:33:59

Test Laboratory: SPEAG, Zurich, Switzerland

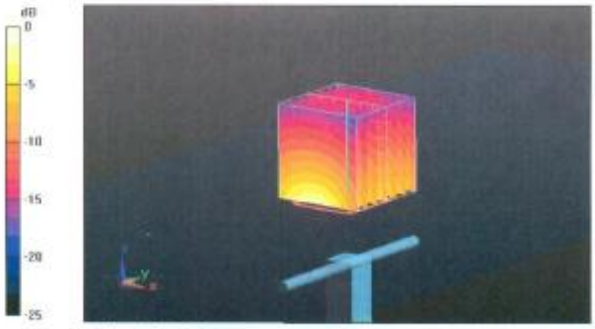
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d028

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HSL U12 BB
Medium parameters used: f = 1900 MHz; σ = 1.4 mho/m; ε_r = 39.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.09, 5.09, 5.09); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY52, V52.2 Build 0, Version 52.2.0 (163)
- Postprocessing SW: SEMCAD X, V14.2 Build 2, Version 14.2.2 (1685)

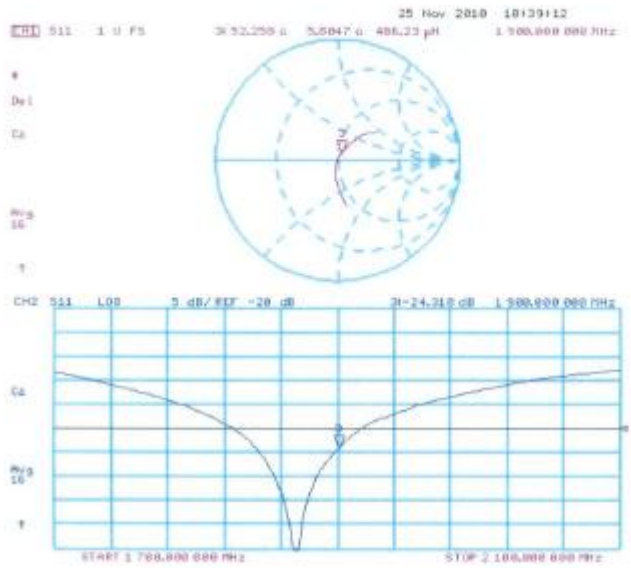
Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.6 V/m; Power Drift = 0.035 dB
Peak SAR (extrapolated) = 18.6 W/kg
SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.26 mW/g
Maximum value of SAR (measured) = 12.4 mW/g



0 dB = 12.4mW/g

Certificate No: D1900V2-5d028_Nov10 Page 6 of 9

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body

Date/Time: 24.11.2010 12:05:53

Test Laboratory: SPEAG, Zurich, Switzerland

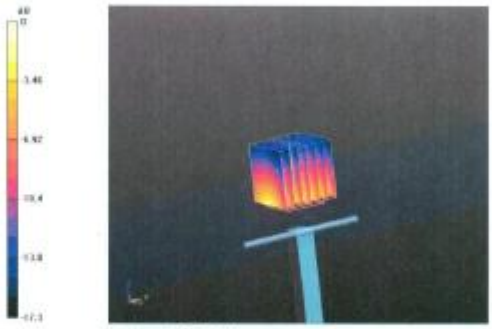
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d028

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: MSL U12 BB
Medium parameters used: f = 1900 MHz; σ = 1.52 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

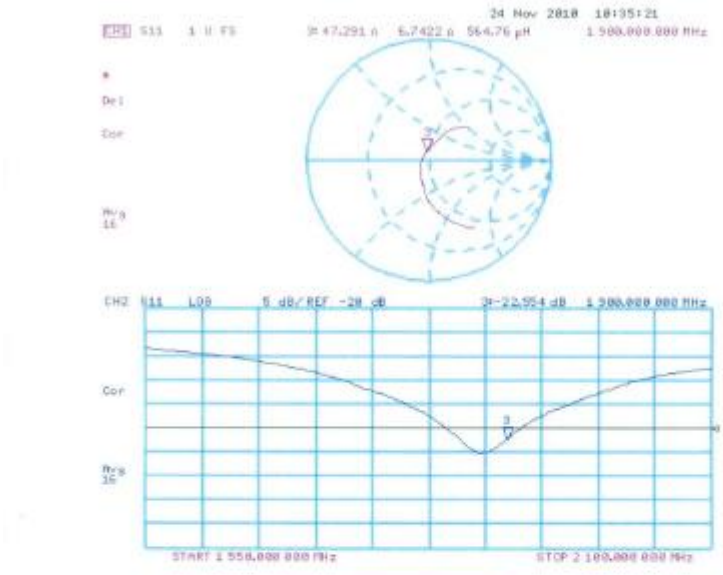
- Probe: ES3DV3 - SN3205; ConvF(4.59, 4.59, 4.59); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY52, V52.2 Build 0, Version 52.2.0 (163)
- Postprocessing SW: SEMCAD X, V14.2 Build 2, Version 14.2.2 (1685)

Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 94.8 V/m; Power Drift = 0.033 dB
Peak SAR (extrapolated) = 17.2 W/kg
SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.3 mW/g
Maximum value of SAR (measured) = 12.2 mW/g

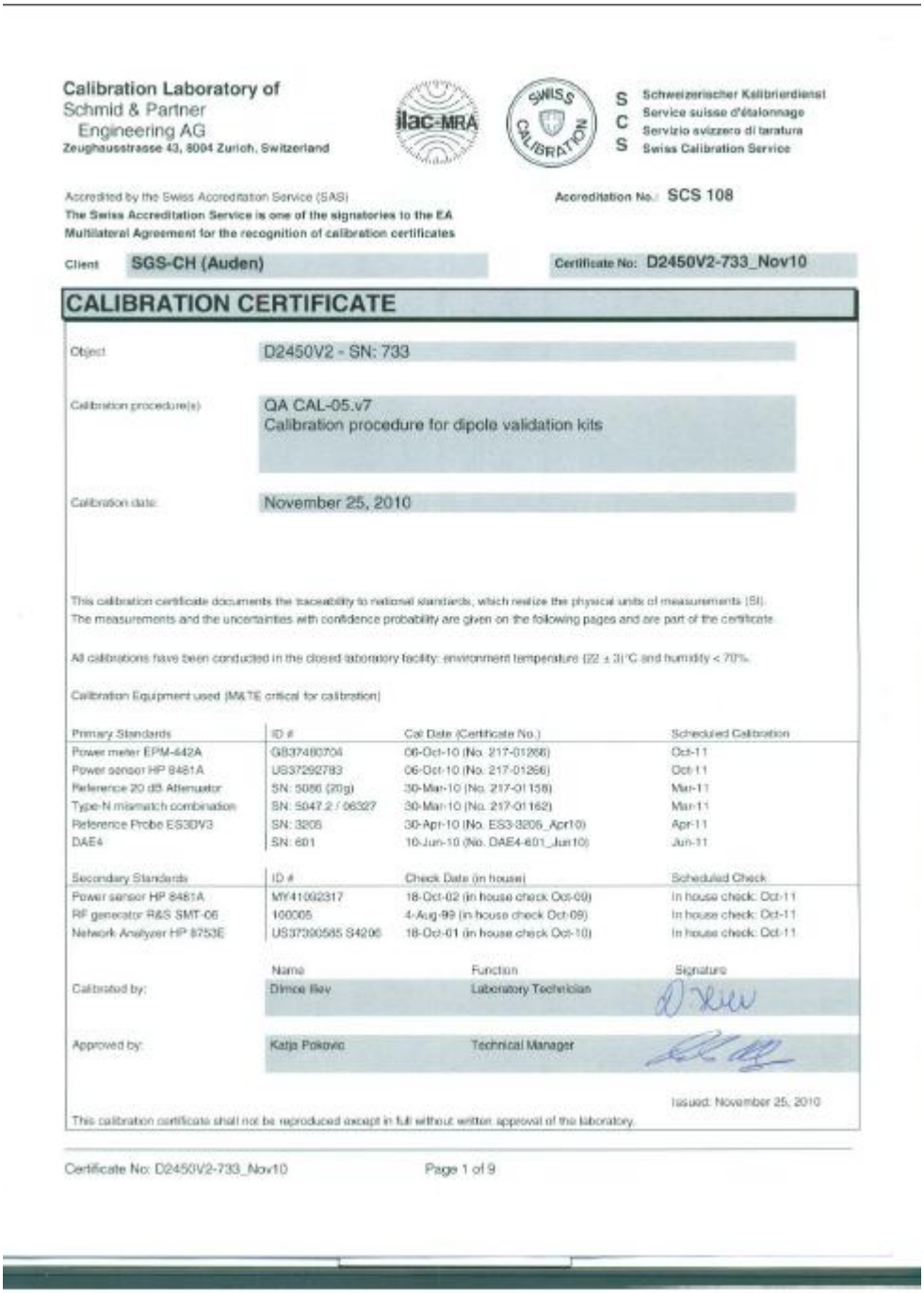


0 dB = 12.2mW/g

Impedance Measurement Plot for Body TSL



D2450V2



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Accreditation No.: SCS 108

Client: SGS-CH (Auden)

Certificate No: D2450V2-733_Nov10

CALIBRATION CERTIFICATE

Object: D2450V2 - SN: 733

Calibration procedure(s): QA CAL-05.v7
Calibration procedure for dipole validation kits

Calibration date: November 25, 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 EPM-442A	GB37480704	06-Oct-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: 5086 (20g)	30-Mar-10 (No. 217-01158)	Mar-11
Type-N mismatch combination	SN: 5047.2 / 06327	30-Mar-10 (No. 217-01162)	Mar-11
Reference Probe ES3DV3	SN: 3205	30-Apr-10 (No. ES3-3205_Apr10)	Apr-11
DAE4	SN: 601	10-Jun-10 (No. DAE4-601_Jun10)	Jun-11

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

	Name	Function	Signature
Calibrated by:	Dimce Iliev	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: November 25, 2010

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Certificate No: D2450V2-733_Nov10 Page 1 of 9

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Swiss Calibration Service

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

Accreditation No.: SCS 108

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

d) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

Certificate No: D2450V2-733_Nov10 Page 2 of 9

Measurement Conditions

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

DASY Version	DASY5	V52.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	38.8 ± 6 %	1.72 mho/m ± 6 %
Head TSL temperature during test	(21.5 ± 0.2) °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.2 mW / g
SAR normalized	normalized to 1W	52.8 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**53.8 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.18 mW / g
SAR normalized	normalized to 1W	24.7 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**24.9 mW /g ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.3 ± 6 %	1.92 mho/m ± 6 %
Body TSL temperature during test	(21.8 ± 0.2) °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	12.6 mW / g
SAR normalized	normalized to 1W	50.4 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**50.7 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.82 mW / g
SAR normalized	normalized to 1W	23.3 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**23.3 mW / g ± 16.5 % (k=2)**

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Testing Center-EMC Laboratory
3rd Building, No. 889, Yishan Road, Shanghai, China 200233 t (86 -21) 61402666*2736 f (86 -21) 54500149 ww.cn.sgs.com
中国•上海•徐汇区宜山路 889 号 3 号楼 邮编: 200233 t (86 -21) 61402666*2736 f (86 -21) 54500149 e sgs.china@sgs.com

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	54.7 Ω + 1.9 jΩ
Return Loss	- 26.4 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	49.2 Ω + 3.7 jΩ
Return Loss	- 28.4 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.149 ns

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

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

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	May 07, 2003

DASY5 Validation Report for Head TSL

Date/Time: 25.11.2010 14:35:03

Test Laboratory: SPEAG, Zurich, Switzerland

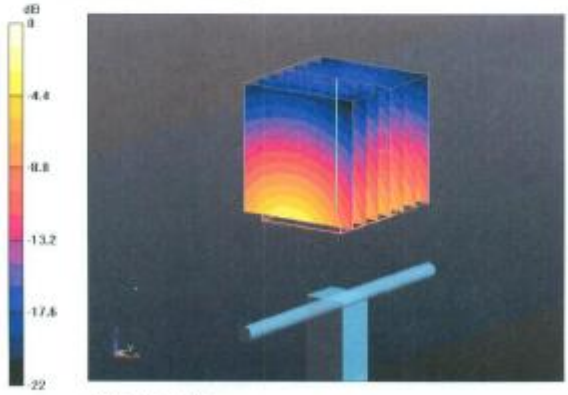
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:733

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: HSL U12 BB
Medium parameters used: f = 2450 MHz; σ = 1.72 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.53, 4.53, 4.53); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY52, V52.2 Build 0, Version 52.2.0 (163)
- Postprocessing SW: SEMCAD X, V14.2 Build 2, Version 14.2.2 (1685)

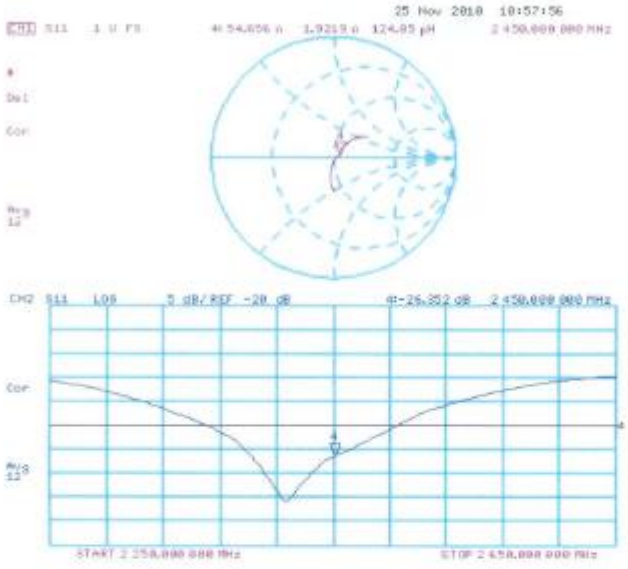
Pin=250 mW/d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 102.0 V/m; Power Drift = 0.057 dB
Peak SAR (extrapolated) = 26.9 W/kg
SAR(1 g) = 13.2 mW/g; SAR(10 g) = 6.18 mW/g
Maximum value of SAR (measured) = 16.6 mW/g



0 dB = 16.6mW/g

Certificate No: D2450V2-733_Nov10 Page 6 of 9

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body

Date/Time: 24.11.2010 13:56:51

Test Laboratory: SPEAG, Zurich, Switzerland

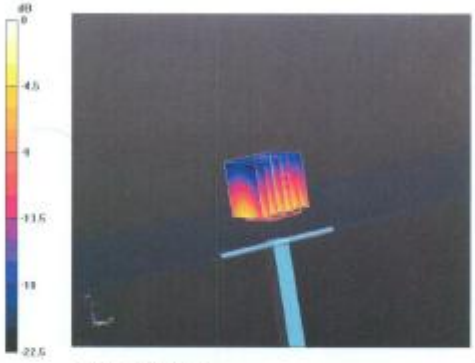
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:733

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: MSL U12 BB
Medium parameters used: f = 2450 MHz; σ = 1.92 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.31, 4.31, 4.31); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY52, V52.2 Build 0, Version 52.2.0 (163)
- Postprocessing SW: SEMCAD X, V14.2 Build 2, Version 14.2.2 (1685)

Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 93.8 V/m; Power Drift = 0.027 dB
Peak SAR (extrapolated) = 26.7 W/kg
SAR(1 g) = 12.6 mW/g; SAR(10 g) = 5.82 mW/g
Maximum value of SAR (measured) = 16.1 mW/g



0 dB = 16.1mW/g

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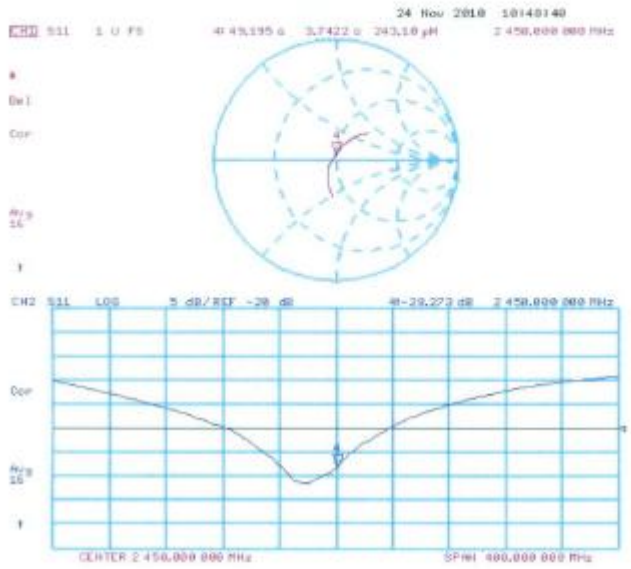
Impedance Measurement Plot for Body TSL



END OF REPORT

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