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SAR TEST REPORT

Equipment Under Test	Smart Phone
Model Name	V03B
Company Name	DELL Inc.
Company Address	One Dell Way Round Rock Texas 78682 United States
Date of Receipt	2010.07.26
Date of Test(s)	2010.09.25-2010.09.26
Date of Issue	2010.10.07

Standards:

FCC OET Bulletin 65 supplement C, IEEE/ANSI C95.1, C95.3, IEEE 1528

In the configuration tested, the EUT complied with the standards specified above. **Remarks**:

This report details the results of the testing carried out on one sample, 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.

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Tested by : Antony Wu

Andany Win Date

about Change

2010.10.07

Approved by : Robert Chang

Engineer

Date

2010.10.07

Tech Manager

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Version

Version No. Date		Description	
1.0	Oct. 07, 2010	Initial issue of report	

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1. General Information

1.1 Testing Laboratory

SGS Taiwan Ltd. Ele	ectronics & Communication Laborato	ry
134, Wu Kung Road	l, Wuku industrial zone	
Taipei county, Taiw	an, R.O.C.	
Telephone	+886-2-2299-3279	
Fax	+886-2-2298-0488	
Internet	http://www.tw.sgs.com/	

1.2 Details of Applicant

Company Name	DELL Inc.
Company Address	One Dell Way Round Rock Texas 78682 United States
Contact Person	Matthew Samonek
TEL	815-382-4275
E-mail	matthew_samonek@dell.com
Website	www.dell.com

1.3 Description of EUT

EUT Name	Smart Phone				
Model Name	V03B				
Market Name	Venue				
Brand Name	DELL				
IMEI Code	012213000018140				
FCC ID	E2KV03B001				

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Mode of Operation	GSM/GPRS/EGPRS/WCDMA/HSDPA/ HSUPA/WLAN802.11 b/g/n band						
Definition	Production unit						
Duty Cycle	GSM	GSM GPRS WCDMA		MA B2	WCDMA B5	WLAN 802.11 b/g/n	
	1/8	1/2			1 04		
TX Frequency Range	GSM 850	GSM1900	WCD	MA B2	WCDMA B5	WLAN 802.11 b/g/n	
(MHz)	824.2- 848.8 MHZ	1850.2- 1909.8 MHZ	19	52.4- 07.6 IHZ	826.4- 846.6 MHZ	2412- 2462 MHZ	
Channel Number (ARFCN)	GSM 850	GSM1900	WCD	MA B2	WCDMA B5	WLAN 802.11 b/g/n	
	128-251	512- 810	9262-9538		4132-4233	1-11	
VOIP Function		No					
Battery Type		3.7	V Litl	hium-I	on		
Antenna Type		Int	ernal	Antenr	na		
	GSM850						
		Head		Body			
Max. SAR Measured	(At GSM	36 mW/g 850 Left Head Position)_ 251		1.19 mW/g (At GSM 850 Body _ 251 channel_repeated with Memory card)			
(1 g)	GSM1900						
		Head			Body		
	0.756 mW/g (At GSM 1900 Right Head (Cheek Position)_ 661 channel)				0.929 mV GSM 1900 Boo 61 channel)	_	
			_				

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	WCDMA B2				
	Head	Body			
	1.39 mW/g (At WCDMA B2 Right Head (Cheek Position)_ 9262 channel)	1.08 mW/g (At WCDMA B2 Body _ 9262 channel)			
	WCDM	A B5			
	Head	Body			
	O.678 mW/g (At WCDMA B5 Right Head (Cheek Position)_ 4132 channel)	0.882 mW/g (At WCDMA B5 Body _ 4132 channel)			
Max. SAR Measured	WLAN 802.11b				
(1 g)	Body				
	O.418 mW/g (At WLAN802.11b Body_ 11 channel)				
	WLAN802.11g				
	Body				
	0.233 mW/g (At WLAN802.11g Body_11 channel)				
	WLAN802.11n				
	Body				
	0.253 mW/g (At WLAN802.11n Body_ 11 channel)				

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#. Conducted power table:

	GSM 8	350 (Ave	rage)	GSM 1900 (Average)		
Mode\ARFCN	128	190	251	512	661	810
GSM	32.8	32.7	32.6	30.0	30.0	30.0
EGPRS 12	25.9	25.8	25.7	24.6	24.6	24.7
GPRS 12	29.6	29.6	29.5	27.2	27.2	27.3

		WCDMA	Band V	Channel	WCDMA	Band II	Channel
Mode	Subtest	4132	4182	4233	9262	9400	9538
Rel99	R99	22.68	23.16	22.73	23.44	23.48	23.41
	1	22.9	23.41	22.92	23.73	23.74	23.68
Dale HCDDA	2	22.61	23.05	22.6	23.32	23.34	23.26
Rel6 HSDPA	3	22.44	22.93	22.43	23.25	23.29	23.15
	4	22.49	22.97	22.49	23.32	23.3	23.27
	1	22.64	23.09	22.65	23.36	23.46	23.35
	2	20.7	21.17	20.69	21.41	21.53	21.39
Rel6 HSUPA	3	21.68	22.15	21.73	22.42	22.48	22.43
	4	20.75	21.23	20.77	21.54	21.58	21.43
	5	22.5	22.92	22.54	23.25	23.32	23.26

EUT Mode	Frequency	СН	Average Power	EUT Mode	Frequency	СН	Average Power
	(MHz)		(dBm)		(MHz)		(dBm)
	2412	1	15.52		2412	1	13.09
WLAN802.11b	2437	6	15.57	WLAN802.11n	2437	6	13.34
	2462	11	15.59		2462	11	13.32
EUT Mode	Frequency	СН	Average Power				
	(MHz)		(dBm)				

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15.47

15.55

15.48

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1.4 Test Environment

Ambient Temperature: 22±2° C Tissue Simulating Liquid: 22±2° C

1.5 Operation description

General:

- 1. The EUT is controlled by using a Radio Communication Tester (Agilent 8960), and the communication between the EUT and the tester is established by air link.
- 2. Measurements are performed respectively on the lowest, middle and highest channels of the operating band(s). The EUT is set to maximum power level during all tests, and at the beginning of each test the battery is fully charged.
- 3. The WLAN transmitter is controlled by chip-specific software installed in this PDA phone, to make the EUT transmit at max power.
- 4. During the SAR testing, the DASY5 system checks power drift by comparing the e-field strength of one specific location measured at the beginning with that measured at the end of the SAR testing.
- 5. Testing Head SAR at lowest, middle and highest channel for all bands with LET/LEC/RET/REC conditions.
- 6. Testing body-worn SAR by separating **1.5cm** between the back of the EUT and the flat phantom in GPRS mode.

SAR evaluation considerations for handsets with multiple transmitters:

- 7. Since the WLAN function of this device does NOT support VoIP function. Users will not use it close to head. SAR evaluation of head adjacent is unnecessary, only Body condition will be considered for WLAN stand-alone situation.
- 8. The maximum SAR value for licensed transmitter happens on WCDMA B2 band, Head Right side(Cheek Position), channel 9262. the value is 1.39W/kg(1g). And the max SAR value for un-licensed transmitter WLAN 802.11b happens on Body worn, channel 11 The SAR value is 0.418W/kg (1g). The summation of the 1g SAR is 1.39+0.418 = 1.808 W/kg, which higher than the limit 1.6W/kg.

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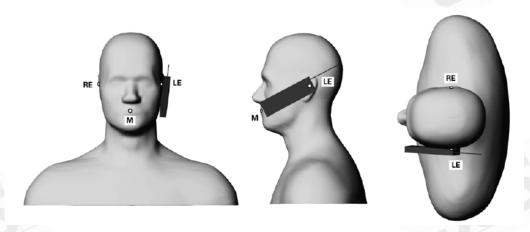
9. By the way , the peak distance(hotspot to hotspot) for WWAN and WLAN is 6.8 cm , we calculate the peak location separation ratio of simultaneous transmitting antenna pair , the value is 0.265 with less than 0.3. NO simultaneous transmission SAR evaluation is necessary.

Additional configuration(Head):

10. For highest SAR configuration in this band repeated with external Memory card inside. Additional configuration(Body):

- 11. Testing body-worn SAR with Handset and with Bluetooth transmitter OFF by separating **1.5cm** between the front of the EUT and the flat phantom in GPRS mode.
- 12. For highest SAR configuration in this band repeated with external Memory card inside.
- 13. For highest SAR configuration in this band repeated with external Headset (PCH).
- 14. For highest SAR configuration in this band repeated with external Headset (Foster).
- 15. For highest SAR configuration in this band repeated with EGPRS mode.

1.6 Positioning Procedure



Phone position 1, "cheek" or "touch" position. The reference points for the right ear (RE), left ear (LE) and mouth (M), which define the reference plane for phone positioning

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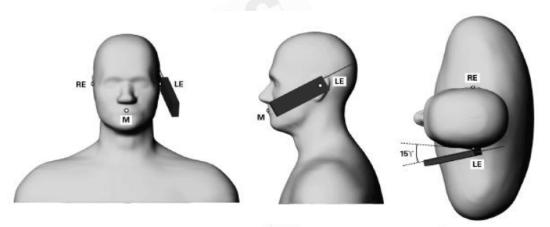
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Phone position 2, "tilted position." The reference points for the right ear (RE), left ear (LE) and mouth (M), which define the reference plane for phone positioning Cheek/Touch Position:

the handset was brought toward the mouth of the head phantom by pivoting against the ear reference point until any point of the mouthpiece or keypad touched the phantom. Ear/Tilt Position:

With the phone aligned in the Cheek/Touch position, the handset was tilted away from the mouth with respect to the test device reference point by 15 degrees.

1.7 Evaluation Prpcedures

The entire evaluation of the spatial peak values is performed within the Post-processing engine (SEMCAD). The system always gives the maximum values for the 1 g and 10 g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

- 1. The extraction of the measured data (grid and values) from the Zoom Scan.
- 2. The calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
- 3. The generation of a high-resolution mesh within the measured volume
- 4. The interpolation of all measured values from the measurement grid to the high-resolution grid
- 5. The extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface

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6. The calculation of the averaged SAR within masses of 1g and 10g. The probe is calibrated at the center of the dipole sensors that is located 1 to 2.7mm away from the probe tip. During measurements, the probe stops shortly above the phantom surface, depending on the probe and the surface detecting system. Both distances are included as parameters in the probe configuration file. The software always knows exactly how far away the measured point is from the surface. As the probe cannot directly measure at the surface, the values between the deepest measured point and the surface must be extrapolated. The angle between the probe axis and the surface normal line is less than 30 degree.

In the Area Scan, the gradient of the interpolation function is evaluated to find all the extreme of the SAR distribution. The uncertainty on the locations of the extreme is less than 1/20 of the grid size. Only local maximum within –2 dB of the global maximum are searched and passed for the Cube Scan measurement. In the Cube Scan, the interpolation function is used to extrapolate the Peak SAR from the lowest measurement points to the inner phantom surface (the extrapolation distance). The uncertainty increases with the extrapolation distance. To keep the uncertainty within 1% for the 1 g and 10 g cubes, the extrapolation distance should not be larger than 5mm.

The maximum search is automatically performed after each area scan measurement. It is based on splines in two or three dimensions. The procedure can find the maximum for most SAR distributions even with relatively large grid spacing. After the area scanning measurement, the probe is automatically moved to a position at the interpolated maximum. The following scan can directly use this position for reference, e.g., for a finer resolution grid or the cube evaluations. The 1g and 10g peak evaluations are only available for the predefined cube 7x7x7 scans.

The routines are verified and optimized for the grid dimensions used in these cube measurements. The measured volume of 30x30x30mm contains about 30g of tissue. The first procedure is an extrapolation (incl. Boundary correction) to get the points between the lowest measured plane and the surface. The next step uses 3D interpolation to get all points within the measured volume. In the last step, a 1g cube is placed numerically into the volume and its averaged SAR is calculated. This cube is the moved around until the highest averaged SAR is found.

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If the highest SAR is found at the edge of the measured volume, the system will issue a warning: higher SAR values might be found outside of the measured volume. In that case the cube measurement can be repeated, using the new interpolated maximum as the center.

1.8 The SAR Measurement System

A photograph of the SAR measurement System is given in Fig. a. This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (SPEAG DASY 5 professional system). A Model ES3DV3 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.

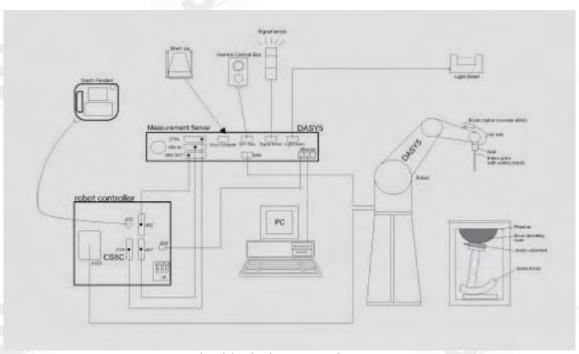


Fig.a The block diagram of SAR system

The DASY5 system for performing compliance tests consists of the following items:

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

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• 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.

- A 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 the DAE and for the analog signal from the optical surface detection. The EOC is connected to the measurement server.
- 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 or Windows XP.
 - DASY5 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 and right-hand usage.
 - The device holder for handheld mobile phones.
 - Tissue simulating liquid mixed according to the given recipes.
 - Validation dipole kits allowing to validate the proper functioning of the system.

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1.9 System Components

ES3DV3 E-Field Probe

Constructions	Symmetrical design with triangular core					
Construction:	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					
	HSL850/1900/2450MHz					
	Additional CF for other liquids and					
	frequencies upon request					
		ES3DV3 E-Field Probe				
Frequency:	10 MHz to > 4 GHz; Linearity: ± 0.6 dB (30 MHz to 6 GHz)					
Directivity:	± 0.3 dB in HSL (rotation around probe axis)					
,	± 0.5 dB in tissue material (rotation normal	to probe axis)				
Dynamic Range:	10 μW/g to > 100 mW/g;					
	Linearity: \pm 0.6 dB (noise: typically < 1 μ W/g)					
Dimensions:	Overall length: 337 mm (Tip: 10 mm)					
	Tip diameter: 4 mm (Body: 10 mm)					
	Typical distance from probe tip to dipole centers: 2 mm					
Application:						
(e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of be						
	55.0.					

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SAM PHANTOM V4.0C

SAIVI PHAIVI OIVI	V 7.00				
Construction:	The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528-200X, 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 manually teaching three points with the robot.				
Shell Thickness:	2 ± 0.2 mm				
Filling Volume:	Approx. 25 liters	The state of the s			
Dimensions:	Height: 850 mm; Length: 1000 mm; Width: 500 mm				

DEVICE HOLDER

Construction In combination with the Twin SAM Phantom V4.0/V4.0C or Twin SAM, the Mounting Device (made from POM) enables the rotation of the mounted transmitter in spherical coordinates, whereby the rotation point is the ear opening. The devices can be easily and accurately positioned according to IEC, IEEE, CENELEC, FCC or other specifications. The device holder can be locked at different phantom locations (left head, right head, flat	DEVICE HOLD	LK	
pnantom).	Construction	V4.0/V4.0C or Twin SAM, the Mounting Device (made from POM) enables the rotation of the mounted transmitter in spherical coordinates, whereby the rotation point is the ear opening. The devices can be easily and accurately positioned according to IEC, IEEE, CENELEC, FCC or other specifications. The device holder can be locked at different	

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1.10 SAR System Verification

The microwave circuit arrangement for system verification is sketched in Fig. b. 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 +/-5% from the target SAR values.

These tests were done at 850/1900/2450 MHz. The tests were conducted on the same days as the measurement of the DUT. The obtained results from the system accuracy verification are displayed in the table 1. During the tests, the ambient temperature of the laboratory was in the range 22.1°C, the relative humidity was in the range 62% 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.

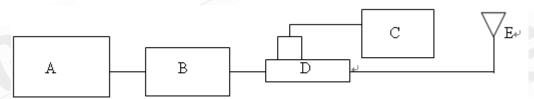


Fig.b The bloack diagram of system verification

- A. Agilent Model 8648D Signal Generator
- B. Mini circuits Model ZHL-42 Amplifier
- C. Agilent Model U2001B Power Sensor
- D. Agilent Model 778D/777D Dual directional coupling
- E. Reference dipole antenna



Photograph of the dipole Antenna

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Validation Kit	Frequency (MHz)	Target SAR (1g) (Pin=250mW)	Measured SAR (1g)	Measured Date
D835V2 S/N: 4d063	835 MHz (Head)	2.42 mW/g	2.43 mW/g	2010/09/25
D835V2 S/N: 4d063	835 MHz (Body)	2.53 mW/g	2.51 mW/g	2010/09/25
D1900V2 S/N: 5d027	1900 MHz (Head)	9.91 mW/g	10 mW/g	2010/09/26
D1900V2 S/N: 5d027	1900 MHz (Body)	10.1 mW/g	10.4 mW/g	2010/09/25
D2450V2 S/N: 727	2450 MHz (Body)	13.4 mW/g	13.6 mW/g	2010/09/26

Table 1. System validation (follow manufacture target value)

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1.11 Tissue Simulant Fluid for the Frequency Band

The dielectric properties for this Head-simulant fluid were measured by using the HP Model 85070D Dielectric Probe (rates frequency band 200 MHz to 20 GHz) in conjuncation with HP 8753D Network Analyzer (30 KHz-6000MHz) by using a procedure detailed in Section V.

All dielectric parameters of tissue simulates were measured within 24 hours of SAR measurements. The depth of the tissue simulant iin the flat section of the phantom was 15cm±5mm during all tests. (Appendix Fig .2)

150111-51	13cm = 3mm during dir tests. (Appendix Fig. 2)						
Eroguenev		Measurement date/	Dielectric Parameters				
Frequency (MHz)	Tissue type	Limits		~ (C/m)	Simulated Tissue		
(1411 12)		LIIIIICS	ρ	σ (S/m)	Temperature(° C)		
850	Head	Measured, 2010-09-25	42.5	0.897	21.7		
630	Heau	Recommended Limits	39.62-43.79	0.87-0.95	20-24		
850		Measured, 2010-09-25	53.3	1	21.7		
630	Body	Recommended Limits	51.49-56.91	0.93-1.03	20-24		
1900		Measured, 2010-09-26	39.6	1.42	21.7		
1900	Head	Recommended Limits	38.48-42.53	1.34-1.48	20-24		
1900		Measured, 2010-09-25	52.9	1.55	21.7		
Body Body	Recommended Limits	52.06-57.54	1.45-1.61	20-24			
2450		Measured, 2010-09-26	52.5	1.96	21.7		
2450	Body	Recommended Limits	51.49-56.91	1.91-2.11	20-24		

Table 2. Dielectric Parameters of Tissue Simulant Fluid

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The composition of the brain tissue simulating liquid:

	The composition of the brain tissue simulating inquiar							
Ingredient	850MHz (Head)	850MHz (Body)	1900MHz (Head)	1900MHz (Body)	2450MHz (Body)			
DGMBE	Χ	X	444.52 g	300.67g	301.7ml			
Water	532.98 g	631.68 g	552.42 g	716.56 g	698.3ml			
Salt	18.3 g	11.72 g	3.06 g	4.0 g	X			
Preventol D-7	2.4 g	1.2 g	X	X	X			
Cellulose	3.2 g	Χ	X	Χ	Х			
Sugar	766.0 g	600 g	X	Χ	Χ			
Total amount	1 L (1.0kg)	1 L (1.0kg)	1 L (1.0kg)	1 L (1.0kg)	1 L (1.0kg)			

Table 3. Recipes for tissue simulating liquid

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1.12 Test Standards and Limits

According to FCC 47CFR §2.1093(d) The limits to be used for evaluation are based generally on criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate ("SAR") in Section 4.2 of "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," ANSI/IEEE C95.1–1992, Copyright 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017. These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in "Biological Effects and Exposure Criteria for Radio frequency Electromagnetic Fields," NCRP Report No. 86, Section 17.4.5. Copyright NCRP, 1986, Bethesda, Maryland 20814. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards. The criteria to be used are specified in paragraphs (d)(1) and (d)(2) of this section and shall apply for portable devices transmitting in the frequency range from 100 kHz to 6 GHz. Portable devices that transmit at frequencies above 6 GHz are to be evaluated in terms of the MPE limits specified in § 1.1310 of this chapter.

Measurements and calculations to demonstrate compliance with MPE field strength or power density limits for devices operating above 6 GHz should be made at a minimum distance of 5 cm from the radiating source.

(1) Limits for Occupational/Controlled exposure: 0.4 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 8 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 20 W/kg, as averaged over an 10 grams of tissue (defined as a tissue volume in the shape of a cube). Occupational/Controlled limits apply when persons are exposed as a consequence of their employment provided these persons are fully aware of and exercise control over their exposure. Awareness of exposure can be accomplished by use of warning labels or by specific training or education through appropriate means, such as an RF safety program in a work environment.

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(2) Limits for General Population/Uncontrolled exposure: 0.08 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 1.6 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 4 W/kg, as averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube).

General Population/Uncontrolled limits apply when the general public may be exposed, or when persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or do not exercise control over their exposure. Warning labels placed on consumer devices such as cellular telephones will not be sufficient reason to allow these devices to be evaluated subject to limits for occupational/controlled exposure in paragraph (d)(1) of this section.(Table .6)

Human Exposure	Uncontrolled Environment	Controlled Environment
	General Population	Occupational
Spatial Peak SAR (Brain)	1.60 m W/g	8.00 m W/g
Spatial Average SAR (Whole Body)	0.08 m W/g	0.40 m W/g
Spatial Peak SAR (Hands/Feet/Ankle/Wrist)	4.00 m W/g	20.00 m W/g

Table 4. RF exposure limits

Notes:

- 1. Uncontrolled environments are defined as locations where there is potential exposure of individuals who have no knowledge or control of their potential exposure.
- 2. Controlled environments are defined as locations where there is potential exposure of individuals who have knowledge of their potential exposure and can exercise control over their exposure.

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2. Summary of Results

GSM 850 MHZ

COIVI C	JO IVII I	_				
Right Head	(Cheek Po	osition)				
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
	128	824.2	32.80 dBm	0.421	22.1	21.7
850 MHz	190	836.6	32.70 dBm	0.508	22.1	21.7
	251	848.8	32.60 dBm	0.613	22.1	21.7
Left Head (Cheek Pos	ition)				
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
	128	824.2	32.80 dBm	0.418	22.1	21.7
850 MHz	190	836.6	32.70 dBm	0.528	22.1	21.7
	251	848.8	32.60 dBm	0.636	22.1	21.7
Right Head	(15° Tilt I	Position	1)		461	
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
	128	824.2	32.80 dBm	0.385	22.1	21.7
850 MHz	190	836.6	32.70 dBm	0.455	22.1	21.7
	251	848.8	32.60 dBm	0.538	22.1	21.7
Left Head (15° Tilt Po	sition)			•	
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
	128	824.2	32.80 dBm	0.269	22.1	21.7
850 MHz	190	836.6	32.70 dBm	0.323	22.1	21.7
	251	848.8	32.60 dBm	0.388	22.1	21.7

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Body worn	Body worn (testing in GPRS mode)							
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid		
			Power (Average)	1g	Temp[°C]	Temp[°C]		
	128	824.2	29.60 dBm	1.04	22.1	21.7		
850 MHz	190	836.6	29.60 dBm	1.12	22.1	21.7		
	251	848.8	29.50 dBm	1.14	22.1	21.7		
Body worn	(testing ir	n GPRS	mode)_repeated t	for EUT front to p	hantom			
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid		
			Power (Average)	1g	Temp[°C]	Temp[°C]		
850 MHz	251	848.8	29.50 dBm	1.01	22.1	21.7		
Body worn	(testing ir	n GPRS	mode)_repeated \	with Memory car	d			
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid		
			Power (Average)	1g	Temp[°C]	Temp[°C]		
850 MHz	251	848.8	29.50 dBm	1.19	22.1	21.7		
Body worn	(testing ir	n GPRS	mode)_repeated \	with PCH Headse	et			
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid		
			Power (Average)	1g	Temp[°C]	Temp[°C]		
850 MHz	251	848.8	29.50 dBm	1.06	22.1	21.7		
Body worn	(testing ir	n GPRS	mode)_repeated v	with Foster Head	set			
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid		
			Power (Average)	1g	Temp[°C]	Temp[°C]		
850 MHz	251	848.8	29.50 dBm	0.815	22.1	21.7		
Body worn	(testing ir	EGPR	S mode)_repeated	with EGPRS mo	de			
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid		
			Power (Average)	1g	Temp[°C]	Temp[°C]		
850 MHz	251	848.8	25.70 dBm	0.585	22.1	21.7		

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PCS 1900 MHZ

<u> </u>					
(Cheek Po	osition)				
Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
512	1850.2	30.0 dBm	0.666	22.1	21.7
661	1880	30.0 dBm	0.756	22.1	21.7
810	1909.8	30.0 dBm	0.667	22.1	21.7
Cheek Pos	ition)				
Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
512	1850.2	30.0 dBm	0.367	22.1	21.7
661	1880	30.0 dBm	0.454	22.1	21.7
810	1909.8	30.0 dBm	0.394	22.1	21.7
(15° Tilt I	Position	n)		(e	
Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
512	1850.2	30.0 dBm	0.277	22.1	21.7
661	1880	30.0 dBm	0.367	22.1	21.7
810	1909.8	30.0 dBm	0.316	22.1	21.7
15° Tilt Po	sition)				
Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
512	1850.2	30.0 dBm	0.318	22.1	21.7
661	1880	30.0 dBm	0.411	22.1	21.7
810	1909.8	30.0 dBm	0.343	22.1	21.7
	Cheek Post 661 810 Channel 512 661	Channel MHz 512 1850.2 661 1880 810 1909.8 Cheek Position) MHz 512 1850.2 661 1880 810 1909.8 (15° Tilt Position Channel MHz 512 1850.2 661 1880 810 1909.8 I5° Tilt Position) Channel Channel MHz 512 1850.2 661 1880 1880 1880	Channel MHz Conducted Output Power (Average) 512 1850.2 30.0 dBm 661 1880 30.0 dBm 810 1909.8 30.0 dBm Cheek Position) Channel MHz Conducted Output Power (Average) 512 1850.2 30.0 dBm 810 1909.8 30.0 dBm 810 1909.8 30.0 dBm Channel MHz Conducted Output Power (Average) 512 1850.2 30.0 dBm 810 1909.8 30.0 dBm 810 1909.8 30.0 dBm 15° Tilt Position) Channel MHz Conducted Output Power (Average) 512 1850.2 30.0 dBm 512 1850.2 30.0 dBm 512 1850.2 30.0 dBm 512 1850.2 30.0 dBm 512 1850.2 30.0 dBm	(Cheek Position) Channel MHz Conducted Output Power (Average) Measured(W/kg) 1g 512 1850.2 30.0 dBm 0.666 661 1880 30.0 dBm 0.756 810 1909.8 30.0 dBm 0.667 Cheek Position) Channel MHz Conducted Output Power (Average) Measured(W/kg) 1g 512 1850.2 30.0 dBm 0.367 661 1880 30.0 dBm 0.394 (15° Tilt Position) Channel MHz Conducted Output Power (Average) Measured(W/kg) 1g 512 1850.2 30.0 dBm 0.367 810 1909.8 30.0 dBm 0.316 15° Tilt Position) Channel MHz Conducted Output Power (Average) Measured(W/kg) 1g 512 1850.2 30.0 dBm 0.316 15° Tilt Position) Conducted Output Power (Average) Measured(W/kg) 1g 512 1850.2 30.0 dBm 0.318 661 1880	Channel MHz Power (Average) Conducted Output Power (Average) Measured(W/kg) 1g Amb. Temp[°C] 512 1850.2 30.0 dBm 0.666 22.1 661 1880 30.0 dBm 0.756 22.1 810 1909.8 30.0 dBm 0.667 22.1 Cheek Position) Channel MHz Conducted Output Power (Average) Measured(W/kg) Amb. Temp[°C] 512 1850.2 30.0 dBm 0.367 22.1 661 1880 30.0 dBm 0.394 22.1 (15° Tilt Position) Channel MHz Conducted Output Power (Average) Measured(W/kg) Amb. Temp[°C] 512 1850.2 30.0 dBm 0.367 22.1 810 1909.8 30.0 dBm 0.367 22.1 810 1909.8 30.0 dBm 0.367 22.1 (5° Tilt Position) Channel MHz Conducted Output Power (Average) Measured(W/kg) Amb. Temp[°C] 512 1850.2 30.0 dBm 0.318 22.1 <td< td=""></td<>

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Body worn (testing in GPRS mode)									
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]			
	512	1850.2	27.20 dBm	0.927	22.1	21.7			
1900 MHz	661	1880	27.20 dBm	0.929	22.1	21.7			
6	810	1909.8	27.30 dBm	0.75	22.1	21.7			

WCDMA B2

mb. np[°C] 1	Liquid [emp[°C]
22.1	21.7
22.1	21.7
22.1	21.7
mb. np[°C] T	Liquid [emp[°C]
22.1	21.7
mb. np[°C] T	Liquid [emp[°C]
22.1	21.7
22.1	21.7
22.1	21.7
Ph	
mb. np[°C] 1	Liquid [emp[°C]
22.1	21.7
22.1	21.7
22.1	21.7
	mb. ip[°C] 2.1 2.1 2.1 mb. ip[°C] 2.1 2.1

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Left Head (1	15° Tilt Po	osition)				
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid
			Power (Average)	1g	Temp[°C]	Temp[°C]
	9262	1852.4	23.44 dBm	0.681	22.1	21.7
WCDMA B2	9400	1880	23.48 dBm	0.548	22.1	21.7
P	9538	1907.6	23.41 dBm	0.531	22.1	21.7
Body worn	(testing ir	1 R99 m	node)			
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid
			Power (Average)	1g	Temp[°C]	Temp[°C]
	9262	1852.4	23.44 dBm	1.08	22.1	21.7
WCDMA B2	9400	1880	23.48 dBm	0.705	22.1	21.7
	9538	1907.6	23.41 dBm	0.599	22.1	21.7

WCDMA B5

	11 02 1111 2 0							
Right Head (Cheek Position)								
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]		
	4132	826.4	22.68 dBm	0.664	22.1	21.7		
WCDMA B5	4357	836.6	23.16 dBm	0.374	22.1	21.7		
	4233	846.6	22.73 dBm	0.627	22.1	21.7		
Left Head (0	Cheek Pos	ition)	46					
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]		
	4132	826.4	22.68 dBm	0.678	22.1	21.7		
WCDMA B5	4357	836.6	23.16 dBm	0.408	22.1	21.7		
	4233	846.6	22.73 dBm	0.669	22.1	21.7		

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Right Head	(15° Tilt I	Position				
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
	4132	826.4	22.68 dBm	0.473	22.1	21.7
WCDMA B5	4357	836.6	23.16 dBm	0.295	22.1	21.7
	4233	846.6	22.73 dBm	0.447	22.1	21.7
Left Head (15° Tilt Po	sition)				
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
	4132	826.4	22.68 dBm	0.418	22.1	21.7
WCDMA B5	4357	836.6	23.16 dBm	0.259	22.1	21.7
	4233	846.6	22.73 dBm	0.405	22.1	21.7
Body worn	(testing ir	R99 m	node)		1	
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
FP	4132	826.4	22.68 dBm	0.882	22.1	21.7
WCDMA B5	4357	836.6	23.16 dBm	0.802	22.1	21.7
	4233	846.6	22.73 dBm	0.804	22.1	21.7

WLAN802.11 b

Body worn							
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	V/kg) Amb. Liquid Temp[°C] Temp[°C		
			Power (Average)	1g			
	1	2412	15.52 dBm	0.307	22.1	21.7	
2450 MHz	6	2437	15.57 dBm	0.363	22.1	21.7	
	11	2462	15.59 dBm	0.418	22.1	21.7	
Body worn-	Body worn-repeated for EUT front to phantom						
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid	
			Power (Average)	1g	Temp[°C]	Temp[°C]	
2450 MHz	11	2462	15.59 dBm	0.181	22.1	21.7	

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Body worn-repeated with Memory card								
Frequency	Channel	MHz	Conducted Output	Measured(W/kg) Amb.		Liquid		
			Power (Average)	1g Temp[°C		Temp[°C]		
2450 MHz	11	2462	15.59 dBm	0.336	22.1	21.7		
Body worn-	Body worn-repeated with PCH Headset							
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid		
FFO			Power (Average)	1g	Temp[°C]	Temp[°C]		
2450 MHz	11	2462	15.59 dBm	0.323	22.1	21.7		
Body worn-	Body worn-repeated with Headset(Foster)							
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid		
			Power (Average)	1g	Temp[°C]	Temp[°C]		
2450 MHz	11	2462	15.59 dBm	0.397	22.1	21.7		

WLAN 802.11 g

Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
	1	2412	15.47 dBm	0.171	22.1	21.7
2450 MHz	6	2437	15.55 dBm	0.197	22.1	21.7
	11	2462	15.48 dBm	0.233	22.1	21.7

WLAN 802.11 n

Body worn						
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid
			Power (Average)	1g	Temp[°C]	Temp[°C]
	1	2412	13.09 dBm	0.222	22.1	21.7
2450 MHz	6	2437	13.34 dBm	0.218	22.1	21.7
	11	2462	13.32 dBm	0.253	22.1	21.7

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3. Instruments List

Manufacturer	Device	Туре	Serial number	Date of last calibration
Schmid & Partner Engineering AG	Dosimetric E-Field Probe	ES3DV3	3712	May.21.2010
Schmid & Partner	835/1900/2450 MHz	D835V2	4d063	May.21.2010
	System Validation	D1900V2	5d027	Apr.28.2010
Engineering AG	Dipole	D2450V2	727	Apr.29.2010
Schmid & Partner Engineering AG	Data acquisition Electronics	DAE4	856	May.20.2010
Schmid & Partner Engineering AG	Software	DASY 5 V5.0 Build 125	N/A	Calibration not required
Schmid & Partner Engineering AG	Phantom	SAM	N/A	Calibration not required
HP	Network Analyzer	8753D	3410A05662	Mar.30.2010
HP	Dielectric Probe Kit	85070D	US01440168	Calibration not required
Agilopt	Dual-directional	778D	50313	Aug.25.2010
Agilent	coupler	777D	50114	Aug.25.2010
Agilent	RF Signal Generator	8648D	3847M00432	Jun.04.2010
Agilent	Power Sensor	U2001B	MY48100169	Apr.30.2010
Agilent	Radio Communication Test	E5515c	GB44051912	Jul.27 .2010

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4. Measurements

Date: 2010/9/25

RE Cheek_CH128

DUT: V03B

Communication System: Generic GSM; Frequency: 824.2 MHz;

Medium parameters used: f = 824.2 MHz; $\sigma = 0.886 \text{ mho/m}$; $\varepsilon_r = 42.6$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.446 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

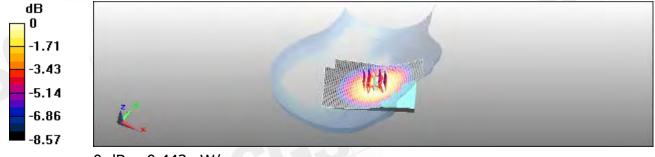
dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.4 V/m; Power Drift = -0.024 dB

Peak SAR (extrapolated) = 0.511 W/kg

SAR(1 g) = 0.421 mW/g; SAR(10 g) = 0.320 mW/g

Maximum value of SAR (measured) = 0.443 mW/g



0 dB = 0.443 mW/g

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Page: 31 of 166 Date: 2010/9/25

RE Cheek_CH190

DUT: V03B

Communication System: Generic GSM; Frequency: 836.6 MHz;

Medium parameters used: f = 837 MHz; $\sigma = 0.9$ mho/m; $\varepsilon_r = 42.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.535 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

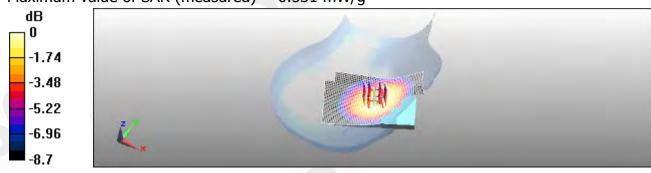
dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.4 V/m; Power Drift = -0.115 dB

Peak SAR (extrapolated) = 0.617 W/kg

SAR(1 g) = 0.508 mW/g; SAR(10 g) = 0.386 mW/g

Maximum value of SAR (measured) = 0.531 mW/g



0 dB = 0.531 mW/q

Date: 2010/9/25

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DUT: V03B

Communication System: Generic GSM; Frequency: 848.6 MHz;

Medium parameters used: f = 849 MHz; $\sigma = 0.91$ mho/m; $\varepsilon_r = 42.3$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.643 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

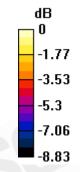
dx=8mm, dy=8mm, dz=5mm

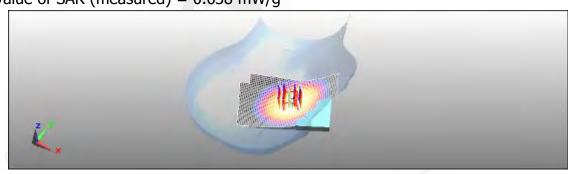
Reference Value = 12 V/m; Power Drift = -0.109 dB

Peak SAR (extrapolated) = 0.748 W/kg

SAR(1 g) = 0.613 mW/g; SAR(10 g) = 0.466 mW/g

Maximum value of SAR (measured) = 0.638 mW/g





0 dB = 0.638 mW/g

Date: 2010/9/25

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DUT: V03B

Communication System: Generic GSM; Frequency: 824.2 MHz;

Medium parameters used: f = 824.2 MHz; $\sigma = 0.886 \text{ mho/m}$; $\epsilon_r = 42.6$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

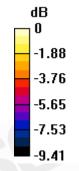
Maximum value of SAR (interpolated) = 0.438 mW/g

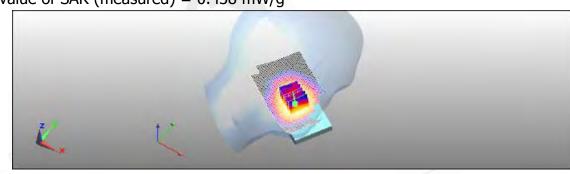
Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

dx=8mm, dy=8mm, dz=5mm Reference Value = 10 V/m; Power Drift = -0.087 dB Peak SAR (extrapolated) = 0.511 W/kg

SAR(1 g) = 0.418 mW/g; SAR(10 g) = 0.321 mW/g

Maximum value of SAR (measured) = 0.438 mW/g





0 dB = 0.438 mW/g

Date: 2010/9/25

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DUT: V03B

Communication System: Generic GSM; Frequency: 836.6 MHz;

Medium parameters used: f = 837 MHz; $\sigma = 0.9$ mho/m; $\varepsilon_r = 42.5$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

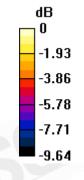
Maximum value of SAR (interpolated) = 0.552 mW/g

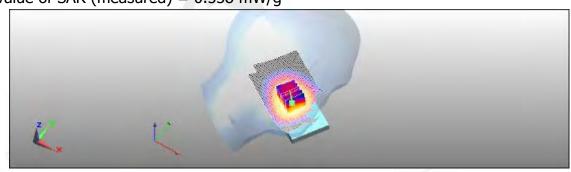
Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

dx=8mm, dy=8mm, dz=5mm Reference Value = 11 V/m; Power Drift = 0.082 dB Peak SAR (extrapolated) = 0.644 W/kg

SAR(1 g) = 0.528 mW/g; SAR(10 g) = 0.401 mW/g

Maximum value of SAR (measured) = 0.558 mW/g





0 dB = 0.558 mW/g

Date: 2010/9/25

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DUT: V03B

Communication System: Generic GSM; Frequency: 848.6 MHz;

Medium parameters used: f = 849 MHz; $\sigma = 0.91$ mho/m; $\varepsilon_r = 42.3$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.663 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

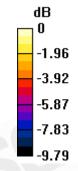
dx=8mm, dy=8mm, dz=5mm

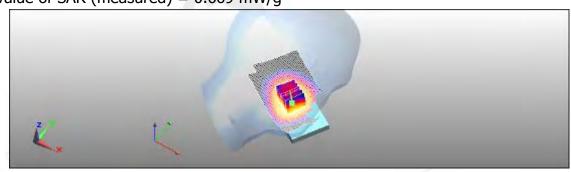
Reference Value = 12.1 V/m; Power Drift = 0.015 dB

Peak SAR (extrapolated) = 0.771 W/kg

SAR(1 g) = 0.636 mW/g; SAR(10 g) = 0.483 mW/g

Maximum value of SAR (measured) = 0.669 mW/g





0 dB = 0.669 mW/g

Date: 2010/9/25

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RE Tilt_CH128

Report No.: EN/2010/70020

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DUT: V03B

Communication System: Generic GSM; Frequency: 824.2 MHz;

Medium parameters used: f = 824.2 MHz; $\sigma = 0.886$ mho/m; $\epsilon_r = 42.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.406 mW/g

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

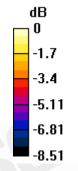
dx=8mm, dy=8mm, dz=5mm

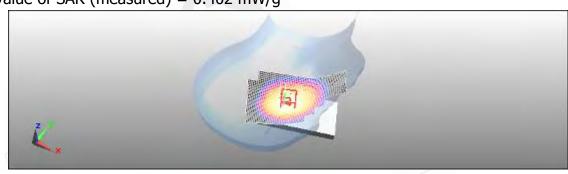
Reference Value = 14.8 V/m; Power Drift = -0.180 dB

Peak SAR (extrapolated) = 0.466 W/kg

SAR(1 g) = 0.385 mW/g; SAR(10 g) = 0.295 mW/g

Maximum value of SAR (measured) = 0.402 mW/g





0 dB = 0.402 mW/g

Date: 2010/9/25

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RE Tilt_CH190

DUT: V03B

Communication System: Generic GSM; Frequency: 836.6 MHz;

Medium parameters used: f = 837 MHz; $\sigma = 0.9$ mho/m; $\varepsilon_r = 42.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.479 mW/g

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

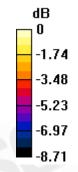
dx=8mm, dy=8mm, dz=5mm

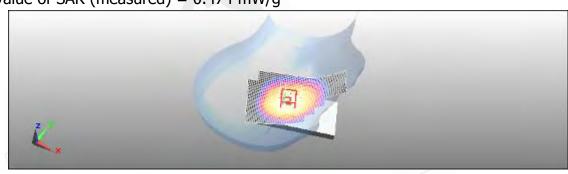
Reference Value = 15.8 V/m; Power Drift = -0.114 dB

Peak SAR (extrapolated) = 0.556 W/kg

SAR(1 g) = 0.455 mW/g; SAR(10 g) = 0.347 mW/g

Maximum value of SAR (measured) = 0.474 mW/g





0 dB = 0.474 mW/g

Date: 2010/9/25

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RE Tilt CH251

DUT: V03B

Communication System: Generic GSM; Frequency: 848.6 MHz;

Medium parameters used: f = 849 MHz; $\sigma = 0.91$ mho/m; $\varepsilon_r = 42.3$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

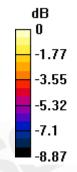
Maximum value of SAR (interpolated) = 0.565 mW/g

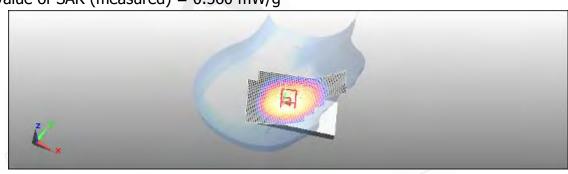
Configuration/RE Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

dx=8mm, dy=8mm, dz=5mmReference Value = 17 V/m; Power Drift = -0.107 dB Peak SAR (extrapolated) = 0.660 W/kg

SAR(1 g) = 0.538 mW/g; SAR(10 g) = 0.409 mW/g

Maximum value of SAR (measured) = 0.560 mW/g





0 dB = 0.560 mW/g

Date: 2010/9/25

Report No.: EN/2010/70020

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LE Tilt_CH128

DUT: V03B

Communication System: Generic GSM; Frequency: 824.2 MHz;

Medium parameters used: f = 824.2 MHz; $\sigma = 0.886 \text{ mho/m}$; $\varepsilon_r = 42.6$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.285 mW/g

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

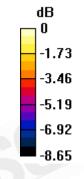
dx=8mm, dy=8mm, dz=5mm

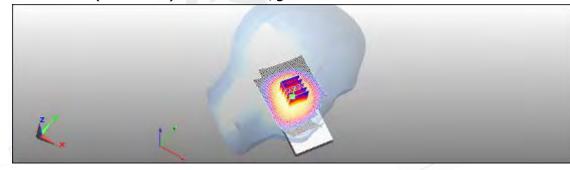
Reference Value = 13.1 V/m; Power Drift = -0.0094 dB

Peak SAR (extrapolated) = 0.334 W/kg

SAR(1 g) = 0.269 mW/g; SAR(10 g) = 0.205 mW/g

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





0 dB = 0.281 mW/g

Date: 2010/9/25

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LE Tilt_CH190

DUT: V03B

Communication System: Generic GSM; Frequency: 836.6 MHz;

Medium parameters used: f = 837 MHz; $\sigma = 0.9$ mho/m; $\varepsilon_r = 42.5$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.345 mW/g

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

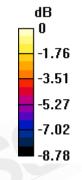
dx=8mm, dy=8mm, dz=5mm

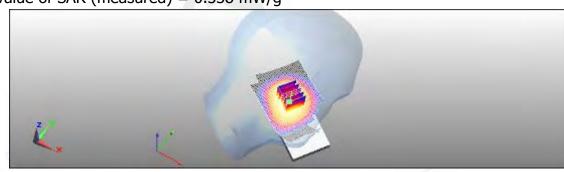
Reference Value = 14.4 V/m; Power Drift = -0.110 dB

Peak SAR (extrapolated) = 0.402 W/kg

SAR(1 g) = 0.323 mW/g; SAR(10 g) = 0.245 mW/g

Maximum value of SAR (measured) = 0.338 mW/g





0 dB = 0.338 mW/g

Date: 2010/9/25

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LE Tilt_CH251

Report No.: EN/2010/70020

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DUT: V03B

Communication System: Generic GSM; Frequency: 848.6 MHz;

Medium parameters used: f = 849 MHz; $\sigma = 0.91$ mho/m; $\varepsilon_r = 42.3$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

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

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

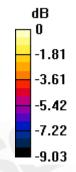
dx=8mm, dy=8mm, dz=5mm

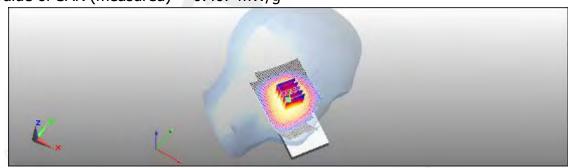
Reference Value = 15.6 V/m; Power Drift = -0.133 dB

Peak SAR (extrapolated) = 0.484 W/kg

SAR(1 g) = 0.388 mW/g; SAR(10 g) = 0.293 mW/g

Maximum value of SAR (measured) = 0.407 mW/g





0 dB = 0.407 mW/g

Date: 2010/9/25

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BODY_CH128

DUT: V03B

Communication System: GPRS(Class 12); Frequency: 824.2 MHz;

Medium parameters used: f = 824.2 MHz; $\sigma = 0.992 \text{ mho/m}$; $\epsilon_r = 53.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

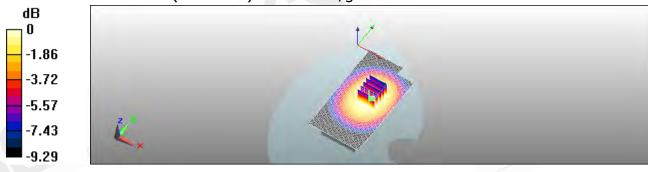
Maximum value of SAR (interpolated) = 1.1 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

dx=8mm, dy=8mm, dz=5mm Reference Value = 20.2 V/m; Power Drift = -0.110 dB Peak SAR (extrapolated) = 1.31 W/kg

SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.777 mW/g

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



0 dB = 1.09 mW/g

Date: 2010/9/25

Report No.: EN/2010/70020

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BODY_CH190

Report No.: EN/2010/70020

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DUT: V03B

Communication System: GPRS(Class 12); Frequency: 836.6 MHz;

Medium parameters used: f = 837 MHz; $\sigma = 1.01$ mho/m; $\varepsilon_r = 53.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.2 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

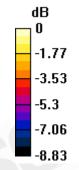
dx=8mm, dy=8mm, dz=5mm

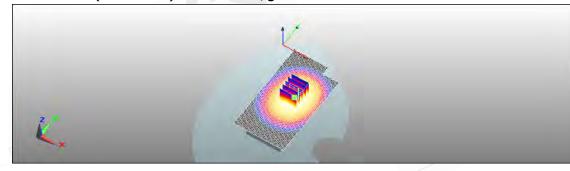
Reference Value = 21 V/m; Power Drift = -0.084 dB

Peak SAR (extrapolated) = 1.4 W/kg

SAR(1 g) = 1.12 mW/g; SAR(10 g) = 0.844 mW/g

Maximum value of SAR (measured) = 1.18 mW/g





0 dB = 1.18 mW/g

Date: 2010/9/25

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DUT: V03B

Communication System: GPRS(Class 12); Frequency: 848.8 MHz;

Medium parameters used: f = 849 MHz; $\sigma = 1.02$ mho/m; $\varepsilon_r = 53.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

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

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

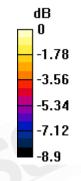
dx=8mm, dy=8mm, dz=5mm

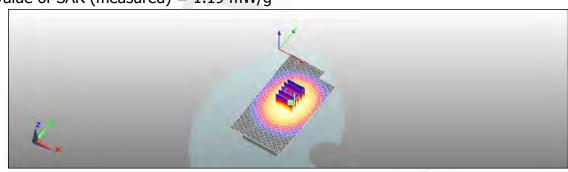
Reference Value = 21.1 V/m; Power Drift = -0.050 dB

Peak SAR (extrapolated) = 1.43 W/kg

SAR(1 g) = 1.14 mW/g; SAR(10 g) = 0.854 mW/g

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





0 dB = 1.19 mW/g

Date: 2010/9/25

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BODY_CH251_repeated for EUT front to phantom

DUT: V03B

Communication System: GPRS(Class 12); Frequency: 848.8 MHz;

Medium parameters used: f = 849 MHz; $\sigma = 1.02$ mho/m; $\varepsilon_r = 53.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/05/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.08 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

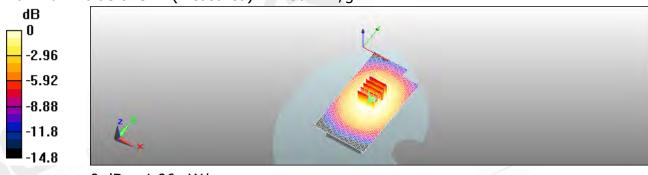
dx=8mm, dy=8mm, dz=5mm

Reference Value = 21.4 V/m; Power Drift = -0.120 dB

Peak SAR (extrapolated) = 1.26 W/kg

SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.760 mW/g

Maximum value of SAR (measured) = 1.06 mW/g



0 dB = 1.06 mW/g

Date: 2010/9/25

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BODY_CH251_repeated with Memory card

DUT: V03B

Communication System: GPRS(Class 12); Frequency: 848.8 MHz;

Medium parameters used: f = 849 MHz; $\sigma = 1.02$ mho/m; $\varepsilon_r = 53.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.24 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

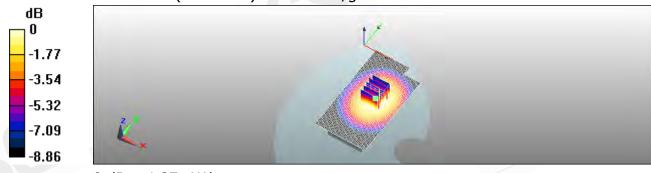
dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.1 V/m; Power Drift = -0.153 dB

Peak SAR (extrapolated) = 1.51 W/kg

SAR(1 g) = 1.19 mW/g; SAR(10 g) = 0.889 mW/g

Maximum value of SAR (measured) = 1.27 mW/g



0 dB = 1.27 mW/g

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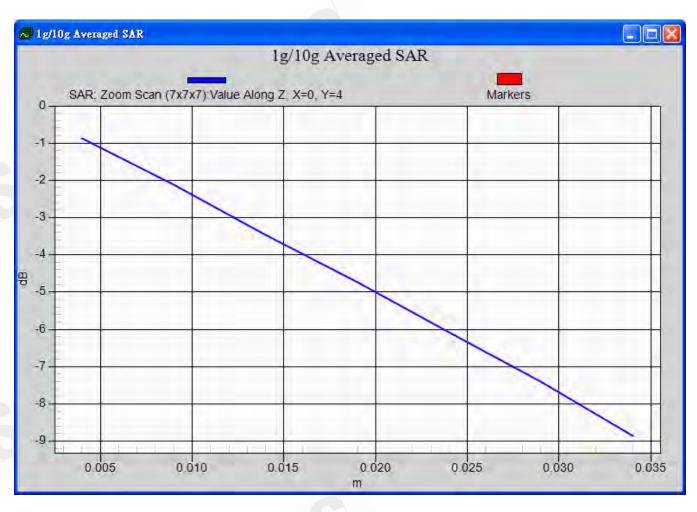
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Date: 2010/9/25

BODY_CH251_repeated with PCH headset

DUT: V03B

Communication System: GPRS(Class 12); Frequency: 848.8 MHz;

Medium parameters used: f = 849 MHz; $\sigma = 1.02$ mho/m; $\varepsilon_r = 53.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

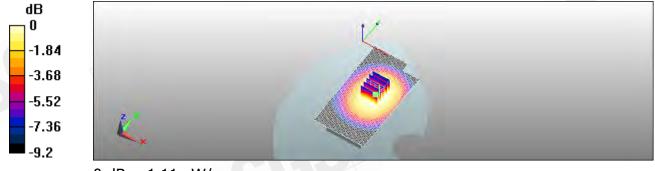
Maximum value of SAR (interpolated) = 1.14 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

dx=8mm, dy=8mm, dz=5mm Reference Value = 20.5 V/m; Power Drift = -0.190 dB Peak SAR (extrapolated) = 1.34 W/kg

SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.792 mW/g

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



0 dB = 1.11 mW/g

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Page: 49 of 166 Date: 2010/9/25

BODY_CH251_repeated with Foster headset

DUT: V03B

Communication System: GPRS(Class 12); Frequency: 848.8 MHz;

Medium parameters used: f = 849 MHz; $\sigma = 1.02$ mho/m; $\varepsilon_r = 53.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

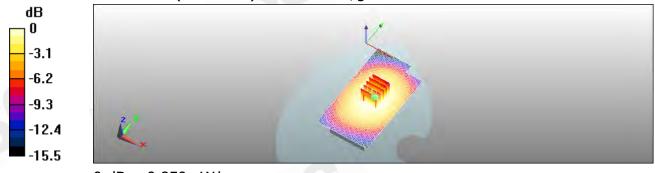
Maximum value of SAR (interpolated) = 0.857 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

dx=8mm, dy=8mm, dz=5mm Reference Value = 20.7 V/m; Power Drift = 0.114 dB Peak SAR (extrapolated) = 1.01 W/kg

SAR(1 g) = 0.815 mW/g; SAR(10 g) = 0.611 mW/g

Maximum value of SAR (measured) = 0.859 mW/g



0 dB = 0.859 mW/q

Date: 2010/9/25

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BODY_CH251_repeated with EGPRS mode

DUT: V03B

Communication System: GPRS(Class 12); Frequency: 848.8 MHz;

Medium parameters used: f = 849 MHz; $\sigma = 1.02$ mho/m; $\varepsilon_r = 53.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.637 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

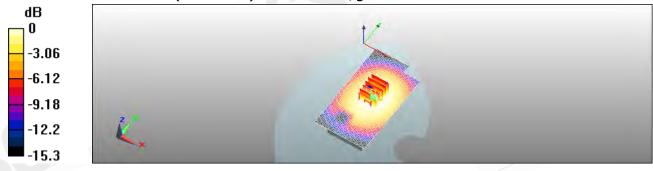
dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.4 V/m; Power Drift = -0.140 dB

Peak SAR (extrapolated) = 0.763 W/kg

SAR(1 g) = 0.585 mW/g; SAR(10 g) = 0.413 mW/g

Maximum value of SAR (measured) = 0.623 mW/g



0 dB = 0.623 mW/g

Date: 2010/9/26

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DUT: V03B

Communication System: Generic GSM; Frequency: 1850.2 MHz;

Medium parameters used: f = 1850.2 MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.729 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

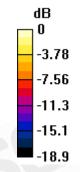
dx=8mm, dy=8mm, dz=5mm

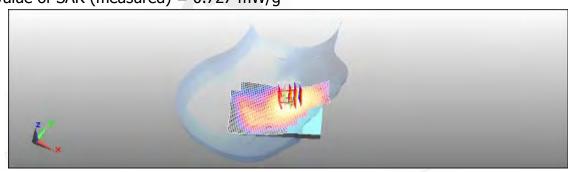
Reference Value = 10.2 V/m; Power Drift = -0.112 dB

Peak SAR (extrapolated) = 0.977 W/kg

SAR(1 g) = 0.666 mW/g; SAR(10 g) = 0.418 mW/g

Maximum value of SAR (measured) = 0.727 mW/g





0 dB = 0.727 mW/g

Date: 2010/9/26

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DUT: V03B

Communication System: Generic GSM; Frequency: 1880 MHz;

Medium parameters used: f = 1880 MHz; $\sigma = 1.4 \text{ mho/m}$; $\varepsilon_r = 39.7$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.820 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

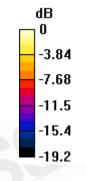
dx=8mm, dy=8mm, dz=5mm

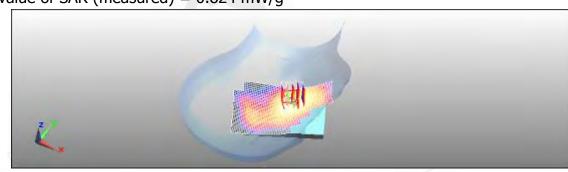
Reference Value = 10.5 V/m; Power Drift = -0.015 dB

Peak SAR (extrapolated) = 1.13 W/kg

SAR(1 g) = 0.756 mW/g; SAR(10 g) = 0.471 mW/g

Maximum value of SAR (measured) = 0.824 mW/g





0 dB = 0.824 mW/g

Date: 2010/9/26

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DUT: V03B

Communication System: Generic GSM; Frequency: 1909.8 MHz;

Medium parameters used: f = 1910 MHz; $\sigma = 1.41$ mho/m; $\varepsilon_r = 39.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.721 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

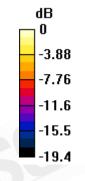
dx=8mm, dy=8mm, dz=5mm

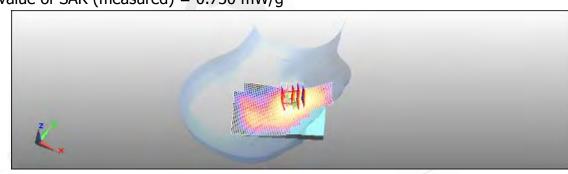
Reference Value = 9.54 V/m; Power Drift = -0.089 dB

Peak SAR (extrapolated) = 0.994 W/kg

SAR(1 g) = 0.667 mW/g; SAR(10 g) = 0.414 mW/g

Maximum value of SAR (measured) = 0.730 mW/g





0 dB = 0.730 mW/g

Date: 2010/9/26

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DUT: V03B

Communication System: Generic GSM; Frequency: 1850.2 MHz;

Medium parameters used: f = 1850.2 MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.406 mW/g

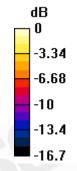
Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

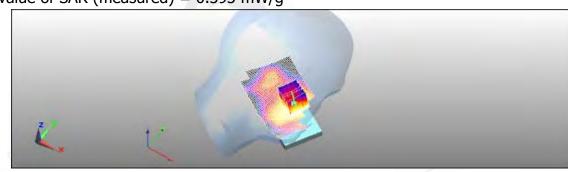
dx=8mm, dy=8mm, dz=5mm Reference Value = 9.49 V/m; Power Drift = -0.154 dB

Peak SAR (extrapolated) = 0.534 W/kg

SAR(1 g) = 0.367 mW/g; SAR(10 g) = 0.240 mW/g

Maximum value of SAR (measured) = 0.393 mW/g





0 dB = 0.393 mW/g

Date: 2010/9/26

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DUT: V03B

Communication System: Generic GSM; Frequency: 1880 MHz;

Medium parameters used: f = 1880 MHz; $\sigma = 1.4 \text{ mho/m}$; $\varepsilon_r = 39.7$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.501 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

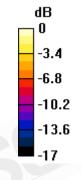
dx=8mm, dy=8mm, dz=5mm

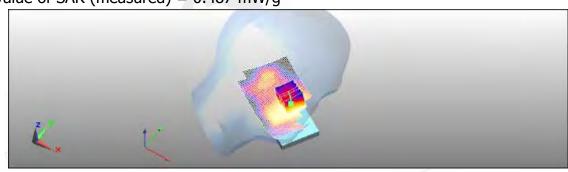
Reference Value = 10.5 V/m; Power Drift = -0.178 dB

Peak SAR (extrapolated) = 0.672 W/kg

SAR(1 g) = 0.454 mW/g; SAR(10 g) = 0.295 mW/g

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





0 dB = 0.487 mW/g

Date: 2010/9/26

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DUT: V03B

Communication System: Generic GSM; Frequency: 1909.8 MHz;

Medium parameters used: f = 1910 MHz; $\sigma = 1.41$ mho/m; $\varepsilon_r = 39.5$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.439 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

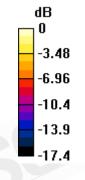
dx=8mm, dy=8mm, dz=5mm

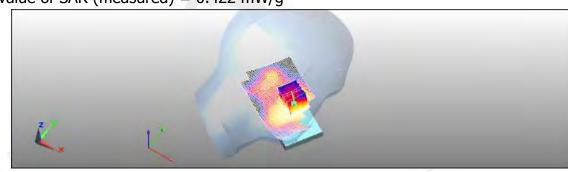
Reference Value = 8.9 V/m; Power Drift = 0.151 dB

Peak SAR (extrapolated) = 0.585 W/kg

SAR(1 g) = 0.394 mW/g; SAR(10 g) = 0.254 mW/g

Maximum value of SAR (measured) = 0.422 mW/g





0 dB = 0.422 mW/g

Date: 2010/9/26

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RE Tilt_CH512

Report No.: EN/2010/70020

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DUT: V03B

Communication System: Generic GSM; Frequency: 1850.2 MHz;

Medium parameters used: f = 1850.2 MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.331 mW/g

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

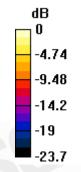
dx=8mm, dy=8mm, dz=5mm

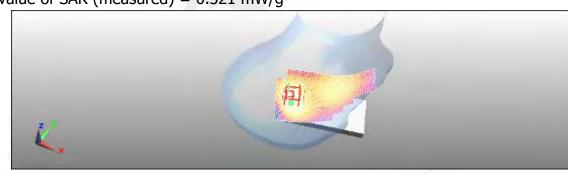
Reference Value = 14.1 V/m; Power Drift = -0.067 dB

Peak SAR (extrapolated) = 0.464 W/kg

SAR(1 g) = 0.277 mW/g; SAR(10 g) = 0.165 mW/g

Maximum value of SAR (measured) = 0.321 mW/g





0 dB = 0.321 mW/g

Date: 2010/9/26

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RE Tilt_CH661

DUT: V03B

Communication System: Generic GSM; Frequency: 1880 MHz;

Medium parameters used: f = 1880 MHz; $\sigma = 1.4 \text{ mho/m}$; $\varepsilon_r = 39.7$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.404 mW/g

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

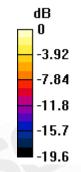
dx=8mm, dy=8mm, dz=5mm

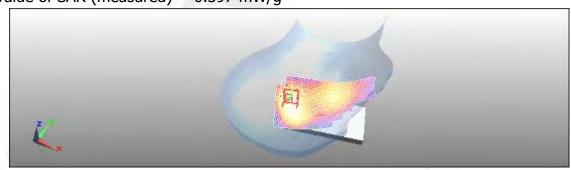
Reference Value = 15.5 V/m; Power Drift = -0.188 dB

Peak SAR (extrapolated) = 0.604 W/kg

SAR(1 g) = 0.367 mW/g; SAR(10 g) = 0.210 mW/g

Maximum value of SAR (measured) = 0.397 mW/g





0 dB = 0.397 mW/g

Date: 2010/9/26

Report No.: EN/2010/70020

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RE Tilt_CH810

DUT: V03B

Communication System: Generic GSM; Frequency: 1909.8 MHz;

Medium parameters used: f = 1910 MHz; $\sigma = 1.41$ mho/m; $\varepsilon_r = 39.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.346 mW/g

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

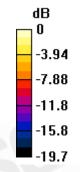
dx=8mm, dy=8mm, dz=5mm

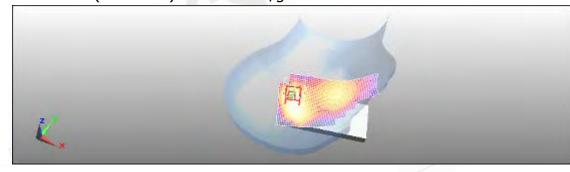
Reference Value = 13.7 V/m; Power Drift = -0.091 dB

Peak SAR (extrapolated) = 0.534 W/kg

SAR(1 g) = 0.316 mW/g; SAR(10 g) = 0.176 mW/g

Maximum value of SAR (measured) = 0.338 mW/g





0 dB = 0.338 mW/g

Date: 2010/9/26

Report No.: EN/2010/70020

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LE Tilt_CH512

DUT: V03B

Communication System: Generic GSM; Frequency: 1850.2 MHz;

Medium parameters used: f = 1850.2 MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.357 mW/g

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

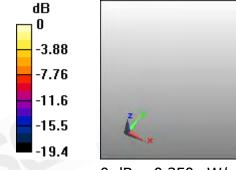
dx=8mm, dy=8mm, dz=5mm

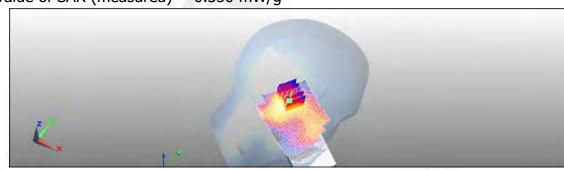
Reference Value = 15.4 V/m; Power Drift = -0.178 dB

Peak SAR (extrapolated) = 0.536 W/kg

SAR(1 g) = 0.318 mW/g; SAR(10 g) = 0.176 mW/g

Maximum value of SAR (measured) = 0.350 mW/g





0 dB = 0.350 mW/g

Date: 2010/9/26

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LE Tilt_CH661

DUT: V03B

Communication System: Generic GSM; Frequency: 1880 MHz;

Medium parameters used: f = 1880 MHz; $\sigma = 1.4 \text{ mho/m}$; $\varepsilon_r = 39.7$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.456 mW/g

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

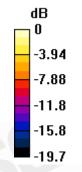
dx=8mm, dy=8mm, dz=5mm

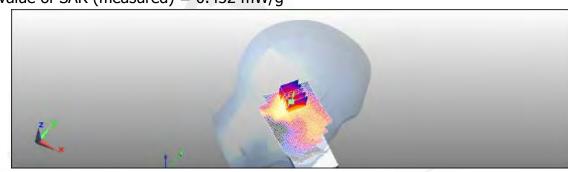
Reference Value = 17.1 V/m; Power Drift = -0.114 dB

Peak SAR (extrapolated) = 0.708 W/kg

SAR(1 g) = 0.411 mW/g; SAR(10 g) = 0.224 mW/g

Maximum value of SAR (measured) = 0.452 mW/g





0 dB = 0.452 mW/g

Date: 2010/9/26

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DUT: V03B

Communication System: Generic GSM; Frequency: 1909.8 MHz;

Medium parameters used: f = 1910 MHz; $\sigma = 1.41$ mho/m; $\varepsilon_r = 39.5$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

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

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

dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.2 V/m; Power Drift = -0.202 dB

Peak SAR (extrapolated) = 0.597 W/kg

SAR(1 g) = 0.343 mW/g; SAR(10 g) = 0.182 mW/g

Maximum value of SAR (measured) = 0.386 mW/g



0 dB = 0.386 mW/g

Date: 2010/9/25

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BODY_CH512

DUT: V03B

Communication System: GPRS(Class 12); Frequency: 1850.2 MHz;

Medium parameters used: f = 1850.2 MHz; $\sigma = 1.5 \text{ mho/m}$; $\varepsilon_r = 52.9$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.45, 4.45, 4.45); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

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

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

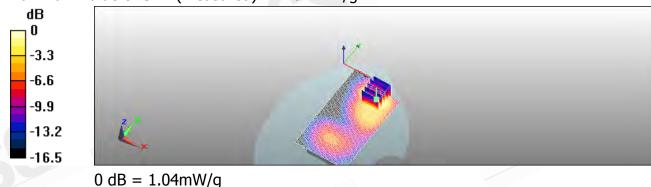
dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.6 V/m; Power Drift = -0.066 dB

Peak SAR (extrapolated) = 1.54 W/kg

SAR(1 g) = 0.927 mW/g; SAR(10 g) = 0.518 mW/g

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



Date: 2010/9/25

Report No.: EN/2010/70020

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BODY_CH661

DUT: V03B

Communication System: GPRS(Class 12); Frequency: 1880 MHz;

Medium parameters used: f = 1880 MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 52.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.45, 4.45, 4.45); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.06 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

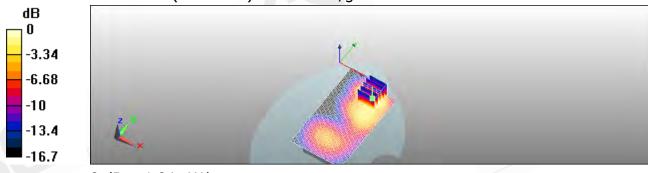
dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.6 V/m; Power Drift = -0.083 dB

Peak SAR (extrapolated) = 1.56 W/kg

SAR(1 g) = 0.929 mW/g; SAR(10 g) = 0.516 mW/g

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



0 dB = 1.04 mW/g

Date: 2010/9/25

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BODY_CH810

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DUT: V03B

Communication System: GPRS(Class 12); Frequency: 1909.8 MHz;

Medium parameters used: f = 1910 MHz; $\sigma = 1.55$ mho/m; $\varepsilon_r = 53$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.45, 4.45, 4.45); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm,

dy=15mm

Maximum value of SAR (interpolated) = 0.842 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

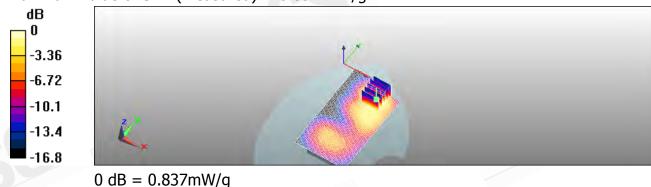
dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.6 V/m; Power Drift = -0.118 dB

Peak SAR (extrapolated) = 1.3 W/kg

SAR(1 g) = 0.750 mW/g; SAR(10 g) = 0.413 mW/g

Maximum value of SAR (measured) = 0.837 mW/g



Date: 2010/9/26

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RE Cheek_CH9262

DUT: V03B

Communication System: WCDMA; Frequency: 1852.4 MHz;

Medium parameters used: f = 1852.4 MHz; $\sigma = 1.36$ mho/m; $\varepsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.49 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

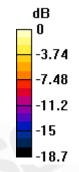
dx=8mm, dy=8mm, dz=5mm

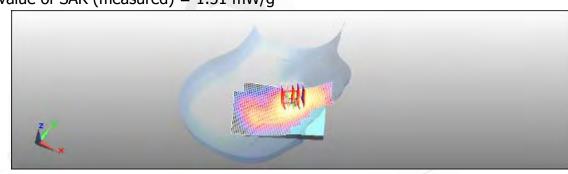
Reference Value = 14.7 V/m; Power Drift = 0.135 dB

Peak SAR (extrapolated) = 2.02 W/kg

SAR(1 g) = 1.39 mW/g; SAR(10 g) = 0.874 mW/g

Maximum value of SAR (measured) = 1.51 mW/g





0 dB = 1.51 mW/g

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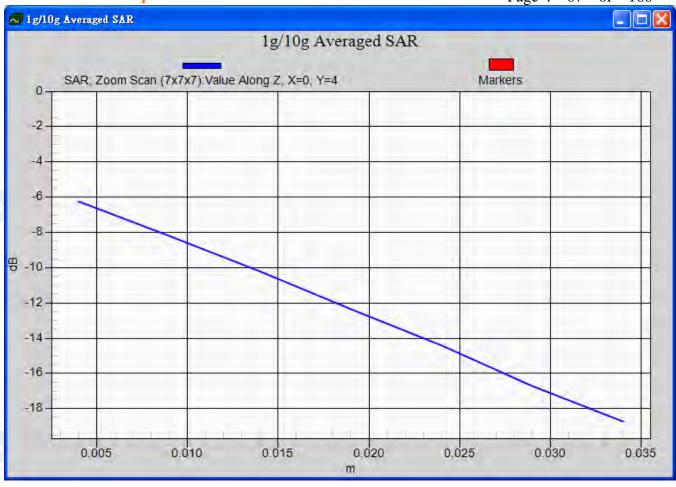
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Date: 2010/9/26

RE Cheek_CH9262_repeated with Memory card

DUT: V03B

Communication System: WCDMA; Frequency: 1852.4 MHz;

Medium parameters used: f = 1852.4 MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.54 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

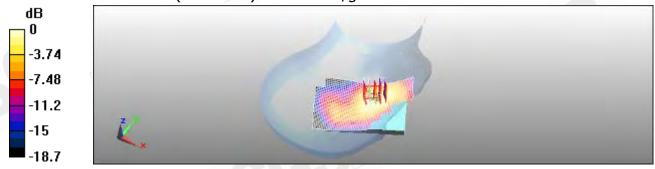
dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.7 V/m; Power Drift = 0.151 dB

Peak SAR (extrapolated) = 1.96 W/kg

SAR(1 g) = 1.38 mW/g; SAR(10 g) = 0.874 mW/g

Maximum value of SAR (measured) = 1.52 mW/g



0 dB = 1.52 mW/g

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RE Cheek_CH9400

DUT: V03B

Communication System: WCDMA; Frequency: 1880 MHz;

Medium parameters used: f = 1880 MHz; $\sigma = 1.4 \text{ mho/m}$; $\varepsilon_r = 39.7$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.21 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

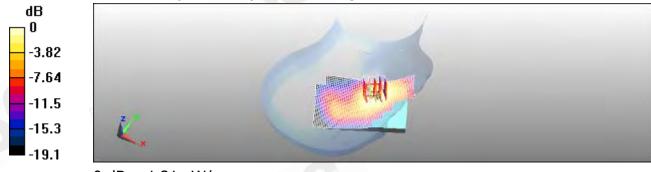
dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.1 V/m; Power Drift = -0.063 dB

Peak SAR (extrapolated) = 1.65 W/kg

SAR(1 g) = 1.11 mW/g; SAR(10 g) = 0.693 mW/g

Maximum value of SAR (measured) = 1.21 mW/g



0 dB = 1.21 mW/q

Date: 2010/9/26

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RE Cheek_CH9538

DUT: V03B

Communication System: WCDMA; Frequency: 1907.6 MHz;

Medium parameters used: f = 1908 MHz; $\sigma = 1.41$ mho/m; $\varepsilon_r = 39.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.2 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

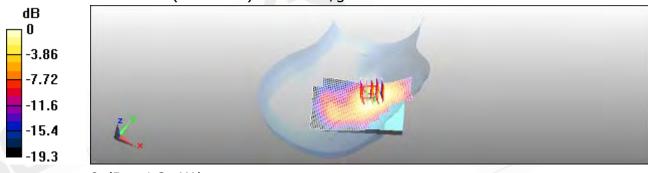
dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.7 V/m; Power Drift = -0.107 dB

Peak SAR (extrapolated) = 1.59 W/kg

SAR(1 g) = 1.09 mW/g; SAR(10 g) = 0.679 mW/g

Maximum value of SAR (measured) = 1.2 mW/g



0 dB = 1.2 mW/g

Date: 2010/9/26

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DUT: V03B

Communication System: WCDMA; Frequency: 1852.4 MHz;

Medium parameters used: f = 1852.4 MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

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

Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

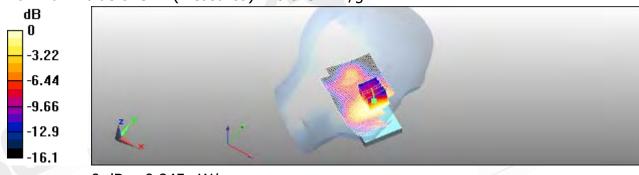
dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.5 V/m; Power Drift = 0.138 dB

Peak SAR (extrapolated) = 1.17 W/kg

SAR(1 g) = 0.792 mW/g; SAR(10 g) = 0.519 mW/g

Maximum value of SAR (measured) = 0.845 mW/g



0 dB = 0.845 mW/g

Date: 2010/9/26

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DUT: V03B

Communication System: WCDMA; Frequency: 1880 MHz;

Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ϵ_r = 39.7; ρ = 1000 kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

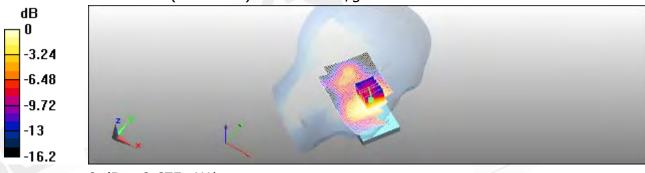
Maximum value of SAR (interpolated) = 0.698 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

dx=8mm, dy=8mm, dz=5mm Reference Value = 13 V/m; Power Drift = -0.124 dB Peak SAR (extrapolated) = 0.932 W/kg

SAR(1 g) = 0.629 mW/g; SAR(10 g) = 0.409 mW/g

Maximum value of SAR (measured) = 0.675 mW/g



0 dB = 0.675 mW/g

Date: 2010/9/26

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DUT: V03B

Communication System: WCDMA; Frequency: 1907.6 MHz;

Medium parameters used: f = 1908 MHz; $\sigma = 1.41$ mho/m; $\varepsilon_r = 39.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.642 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

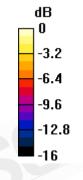
dx=8mm, dy=8mm, dz=5mm

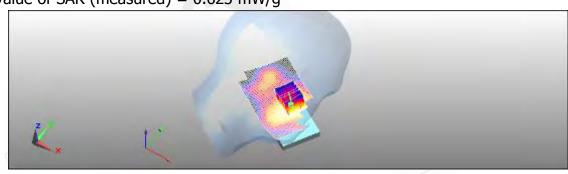
Reference Value = 12.2 V/m; Power Drift = 0.079 dB

Peak SAR (extrapolated) = 0.876 W/kg

SAR(1 g) = 0.583 mW/g; SAR(10 g) = 0.380 mW/g

Maximum value of SAR (measured) = 0.623 mW/g





0 dB = 0.623 mW/g

Date: 2010/9/26

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DUT: V03B

Communication System: WCDMA; Frequency: 1852.4 MHz;

Medium parameters used: f = 1852.4 MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

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

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

dx=8mm, dy=8mm, dz=5mm

Reference Value = 21.5 V/m; Power Drift = -0.161 dB

Peak SAR (extrapolated) = 0.943 W/kg

SAR(1 g) = 0.572 mW/g; SAR(10 g) = 0.358 mW/g

Maximum value of SAR (measured) = 0.679 mW/g



0 dB = 0.679 mW/g

Date: 2010/9/26

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DUT: V03B

Communication System: WCDMA; Frequency: 1880 MHz;

Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ϵ_r = 39.7; ρ = 1000 kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.562 mW/g

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

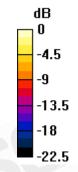
dx=8mm, dy=8mm, dz=5mm

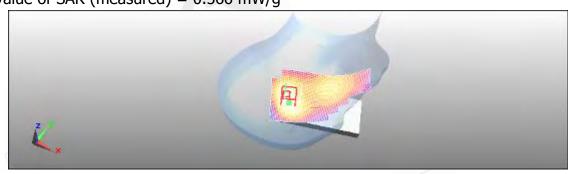
Reference Value = 18.4 V/m; Power Drift = -0.053 dB

Peak SAR (extrapolated) = 0.816 W/kg

SAR(1 g) = 0.469 mW/g; SAR(10 g) = 0.282 mW/g

Maximum value of SAR (measured) = 0.566 mW/g





0 dB = 0.566 mW/g

Date: 2010/9/26

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DUT: V03B

Communication System: WCDMA; Frequency: 1907.6 MHz;

Medium parameters used: f = 1908 MHz; $\sigma = 1.41$ mho/m; $\varepsilon_r = 39.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.530 mW/g

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

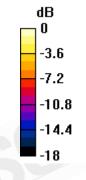
dx=8mm, dy=8mm, dz=5mm

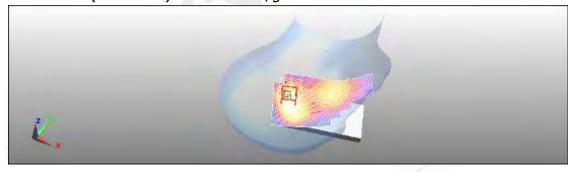
Reference Value = 17.5 V/m; Power Drift = -0.196 dB

Peak SAR (extrapolated) = 0.813 W/kg

SAR(1 g) = 0.485 mW/g; SAR(10 g) = 0.272 mW/g

Maximum value of SAR (measured) = 0.515 mW/g





0 dB = 0.515 mW/g

Date: 2010/9/26

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DUT: V03B

Communication System: WCDMA; Frequency: 1852.4 MHz;

Medium parameters used: f = 1852.4 MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.758 mW/g

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

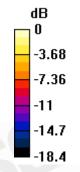
dx=8mm, dy=8mm, dz=5mm

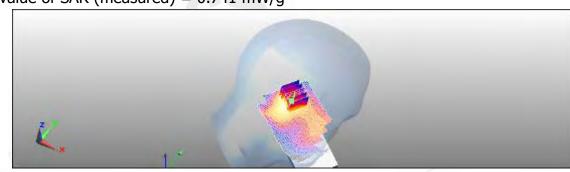
Reference Value = 22.6 V/m; Power Drift = -0.115 dB

Peak SAR (extrapolated) = 1.14 W/kg

SAR(1 g) = 0.681 mW/g; SAR(10 g) = 0.380 mW/g

Maximum value of SAR (measured) = 0.741 mW/g





0 dB = 0.741 mW/g

Date: 2010/9/26

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DUT: V03B

Communication System: WCDMA; Frequency: 1880 MHz;

Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ϵ_r = 39.7; ρ = 1000 kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.606 mW/g

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

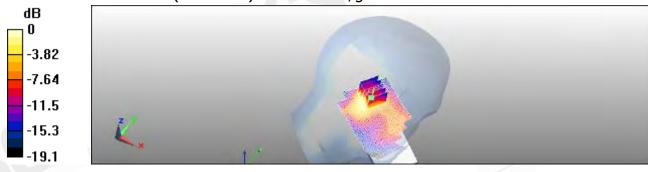
dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.9 V/m; Power Drift = -0.023 dB

Peak SAR (extrapolated) = 0.943 W/kg

SAR(1 g) = 0.548 mW/g; SAR(10 g) = 0.300 mW/g

Maximum value of SAR (measured) = 0.608 mW/g



0 dB = 0.608 mW/g

Date: 2010/9/26

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DUT: V03B

Communication System: WCDMA; Frequency: 1907.6 MHz;

Medium parameters used: f = 1908 MHz; $\sigma = 1.41$ mho/m; $\epsilon_r = 39.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.584 mW/g

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

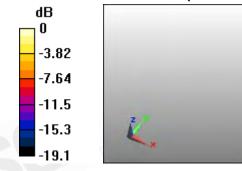
dx=8mm, dy=8mm, dz=5mm

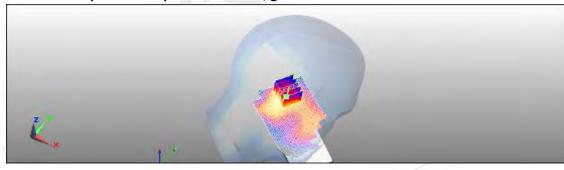
Reference Value = 18.7 V/m; Power Drift = -0.043 dB

Peak SAR (extrapolated) = 0.931 W/kg

SAR(1 g) = 0.531 mW/g; SAR(10 g) = 0.285 mW/g

Maximum value of SAR (measured) = 0.594 mW/g





0 dB = 0.594 mW/g

Date: 2010/9/25

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BODY_CH9262

DUT: V03B

Communication System: WCDMA; Frequency: 1852.4 MHz;

Medium parameters used: f = 1852.4 MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.45, 4.45, 4.45); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.2 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

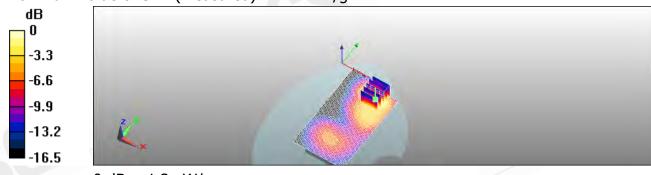
dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.6 V/m; Power Drift = 0.0064 dB

Peak SAR (extrapolated) = 1.83 W/kg

SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.600 mW/g

Maximum value of SAR (measured) = 1.2 mW/g



0 dB = 1.2 mW/g

Date: 2010/9/25

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BODY_CH9400

DUT: V03B

Communication System: WCDMA; Frequency: 1880 MHz;

Medium parameters used: f = 1880 MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 52.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.45, 4.45, 4.45); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.802 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

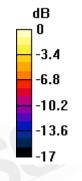
dx=8mm, dy=8mm, dz=5mm

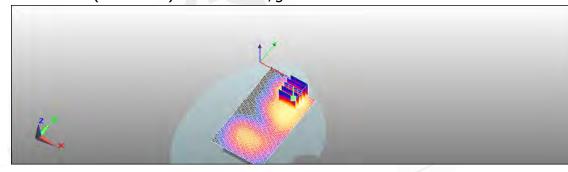
Reference Value = 11.8 V/m; Power Drift = 0.015 dB

Peak SAR (extrapolated) = 1.2 W/kg

SAR(1 g) = 0.705 mW/g; SAR(10 g) = 0.390 mW/g

Maximum value of SAR (measured) = 0.787 mW/g





0 dB = 0.787 mW/g

Date: 2010/9/25

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BODY_CH9538

DUT: V03B

Communication System: WCDMA; Frequency: 1907.6 MHz;

Medium parameters used: f = 1908 MHz; $\sigma = 1.55$ mho/m; $\varepsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 SN3172; ConvF(4.45, 4.45, 4.45); Calibrated: 2010/05/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.684 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

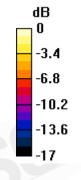
dx=8mm, dy=8mm, dz=5mm

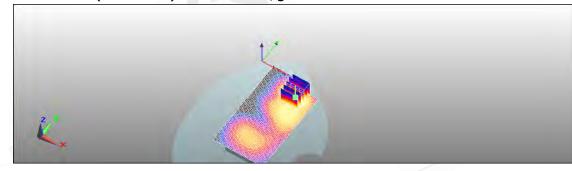
Reference Value = 11.5 V/m; Power Drift = -0.202 dB

Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.599 mW/g; SAR(10 g) = 0.330 mW/g

Maximum value of SAR (measured) = 0.670 mW/g





0 dB = 0.670 mW/g

Date: 2010/9/25

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DUT: V03B

Communication System: WCDMA; Frequency: 826.4 MHz;

Medium parameters used: f = 826.4 MHz; $\sigma = 0.889$ mho/m; $\epsilon_r = 42.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.711 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

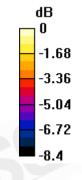
dx=8mm, dy=8mm, dz=5mm

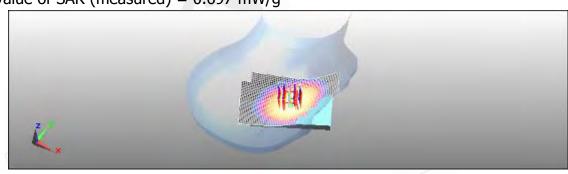
Reference Value = 12.9 V/m; Power Drift = -0.128 dB

Peak SAR (extrapolated) = 0.809 W/kg

SAR(1 g) = 0.664 mW/g; SAR(10 g) = 0.503 mW/g

Maximum value of SAR (measured) = 0.697 mW/g





0 dB = 0.697 mW/g

Date: 2010/9/25

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RE Cheek_CH4183

DUT: V03B

Communication System: WCDMA; Frequency: 836.6 MHz;

Medium parameters used: f = 837 MHz; $\sigma = 0.9$ mho/m; $\varepsilon_r = 42.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.397 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

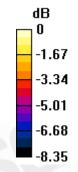
dx=8mm, dy=8mm, dz=5mm

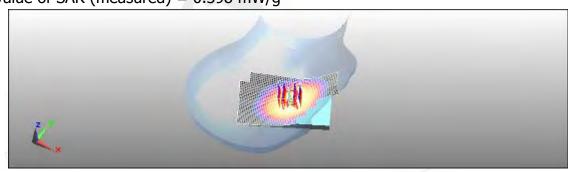
Reference Value = 9.65 V/m; Power Drift = -0.205 dB

Peak SAR (extrapolated) = 0.450 W/kg

SAR(1 g) = 0.374 mW/g; SAR(10 g) = 0.284 mW/g

Maximum value of SAR (measured) = 0.398 mW/g





0 dB = 0.398 mW/g

Date: 2010/9/25

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RE Cheek CH4233

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DUT: V03B

Communication System: WCDMA; Frequency: 846.6 MHz;

Medium parameters used: f = 847 MHz; $\sigma = 0.909$ mho/m; $\epsilon_r = 42.3$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.665 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

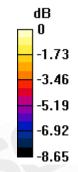
dx=8mm, dy=8mm, dz=5mm

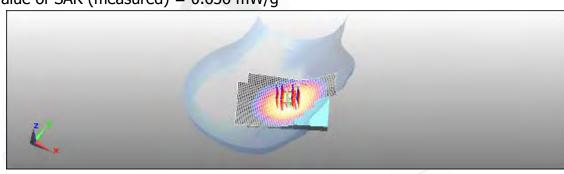
Reference Value = 11.9 V/m; Power Drift = -0.146 dB

Peak SAR (extrapolated) = 0.758 W/kg

SAR(1 g) = 0.627 mW/g; SAR(10 g) = 0.475 mW/g

Maximum value of SAR (measured) = 0.656 mW/g





0 dB = 0.656 mW/g

Date: 2010/9/25

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LE Cheek CH4132

DUT: V03B

Communication System: WCDMA; Frequency: 826.4 MHz;

Medium parameters used: f = 826.4 MHz; $\sigma = 0.889$ mho/m; $\epsilon_r = 42.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.707 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

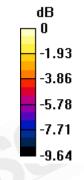
dx=8mm, dy=8mm, dz=5mm

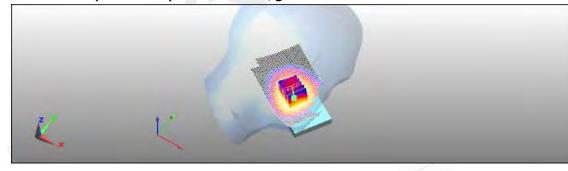
Reference Value = 11.9 V/m; Power Drift = 0.00826 dB

Peak SAR (extrapolated) = 0.832 W/kg

SAR(1 g) = 0.678 mW/g; SAR(10 g) = 0.514 mW/g

Maximum value of SAR (measured) = 0.713 mW/g





0 dB = 0.713 mW/g

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LE Cheek CH4183

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DUT: V03B

Communication System: WCDMA; Frequency: 836.6 MHz;

Medium parameters used: f = 837 MHz; $\sigma = 0.9$ mho/m; $\varepsilon_r = 42.5$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.427 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

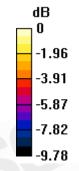
dx=8mm, dy=8mm, dz=5mm

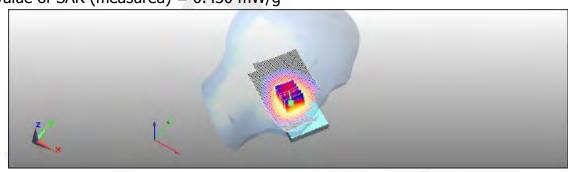
Reference Value = 9.14 V/m; Power Drift = 0.018 dB

Peak SAR (extrapolated) = 0.501 W/kg

SAR(1 g) = 0.408 mW/g; SAR(10 g) = 0.309 mW/g

Maximum value of SAR (measured) = 0.430 mW/g





0 dB = 0.430 mW/g

Date: 2010/9/25

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DUT: V03B

Communication System: WCDMA; Frequency: 846.6 MHz;

Medium parameters used: f = 847 MHz; $\sigma = 0.909$ mho/m; $\varepsilon_r = 42.3$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.692 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

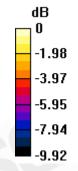
dx=8mm, dy=8mm, dz=5mm

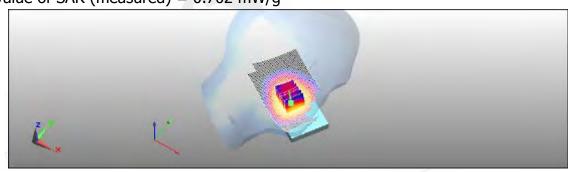
Reference Value = 11.6 V/m; Power Drift = 0.037 dB

Peak SAR (extrapolated) = 0.825 W/kg

SAR(1 g) = 0.669 mW/g; SAR(10 g) = 0.504 mW/g

Maximum value of SAR (measured) = 0.702 mW/g





0 dB = 0.702 mW/g

Date: 2010/9/25

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DUT: V03B

Communication System: WCDMA; Frequency: 826.4 MHz;

Medium parameters used: f = 826.4 MHz; $\sigma = 0.889$ mho/m; $\epsilon_r = 42.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.495 mW/g

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

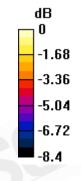
dx=8mm, dy=8mm, dz=5mm

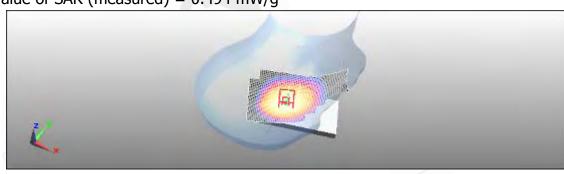
Reference Value = 17.6 V/m; Power Drift = -0.135 dB

Peak SAR (extrapolated) = 0.590 W/kg

SAR(1 g) = 0.473 mW/g; SAR(10 g) = 0.358 mW/g

Maximum value of SAR (measured) = 0.494 mW/g





0 dB = 0.494 mW/g

Date: 2010/9/25

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DUT: V03B

Communication System: WCDMA; Frequency: 836.6 MHz;

Medium parameters used: f = 837 MHz; $\sigma = 0.9$ mho/m; $\varepsilon_r = 42.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.307 mW/g

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

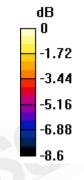
dx=8mm, dy=8mm, dz=5mm

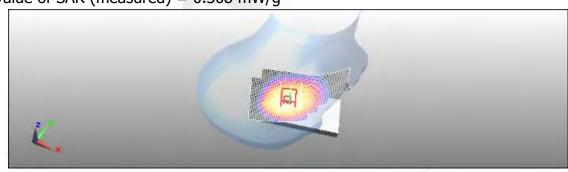
Reference Value = 13.8 V/m; Power Drift = -0.123 dB

Peak SAR (extrapolated) = 0.366 W/kg

SAR(1 g) = 0.295 mW/g; SAR(10 g) = 0.223 mW/g

Maximum value of SAR (measured) = 0.308 mW/g





0 dB = 0.308 mW/g

Date: 2010/9/25

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DUT: V03B

Communication System: WCDMA; Frequency: 846.6 MHz;

Medium parameters used: f = 847 MHz; $\sigma = 0.909$ mho/m; $\varepsilon_r = 42.3$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.461 mW/g

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

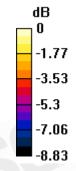
dx=8mm, dy=8mm, dz=5mm

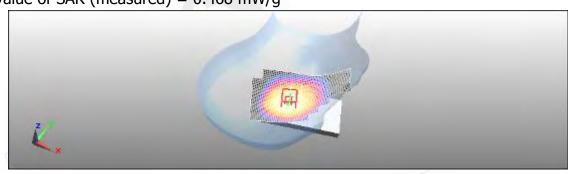
Reference Value = 16.7 V/m; Power Drift = -0.048 dB

Peak SAR (extrapolated) = 0.556 W/kg

SAR(1 g) = 0.447 mW/g; SAR(10 g) = 0.336 mW/g

Maximum value of SAR (measured) = 0.468 mW/g





Date: 2010/9/25

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0 dB = 0.468 mW/g

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DUT: V03B

Communication System: WCDMA; Frequency: 826.4 MHz;

Medium parameters used: f = 826.4 MHz; $\sigma = 0.889$ mho/m; $\varepsilon_r = 42.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.442 mW/g

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

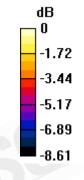
dx=8mm, dy=8mm, dz=5mm

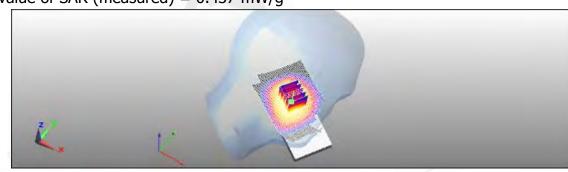
Reference Value = 16.6 V/m; Power Drift = 0.026 dB

Peak SAR (extrapolated) = 0.520 W/kg

SAR(1 g) = 0.418 mW/g; SAR(10 g) = 0.316 mW/g

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





0 dB = 0.437 mW/g

Date: 2010/9/25

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DUT: V03B

Communication System: WCDMA; Frequency: 836.6 MHz;

Medium parameters used: f = 837 MHz; $\sigma = 0.9$ mho/m; $\varepsilon_r = 42.5$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.274 mW/g

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

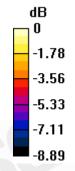
dx=8mm, dy=8mm, dz=5mm

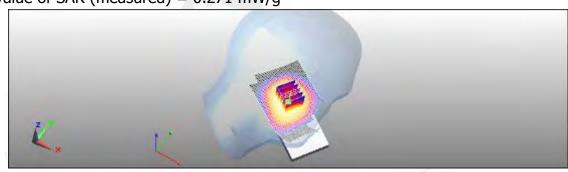
Reference Value = 13 V/m; Power Drift = -0.045 dB

Peak SAR (extrapolated) = 0.326 W/kg

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

Maximum value of SAR (measured) = 0.271 mW/g





0 dB = 0.271 mW/g

Date: 2010/9/25

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DUT: V03B

Communication System: WCDMA; Frequency: 846.6 MHz;

Medium parameters used: f = 847 MHz; $\sigma = 0.909$ mho/m; $\varepsilon_r = 42.3$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

Maximum value of SAR (interpolated) = 0.430 mW/g

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

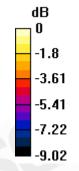
dx=8mm, dy=8mm, dz=5mm

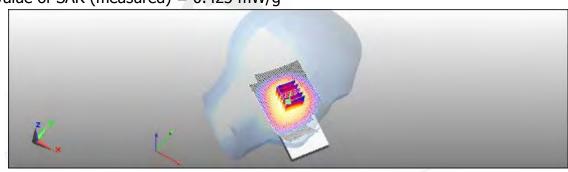
Reference Value = 16.1 V/m; Power Drift = -0.020 dB

Peak SAR (extrapolated) = 0.509 W/kg

SAR(1 g) = 0.405 mW/g; SAR(10 g) = 0.305 mW/g

Maximum value of SAR (measured) = 0.423 mW/g





0 dB = 0.423 mW/g

Date: 2010/9/25

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DUT: V03B

Communication System: WCDMA; Frequency: 826.4 MHz;

Medium parameters used: f = 826.4 MHz; $\sigma = 0.995$ mho/m; $\epsilon_r = 53.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

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

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

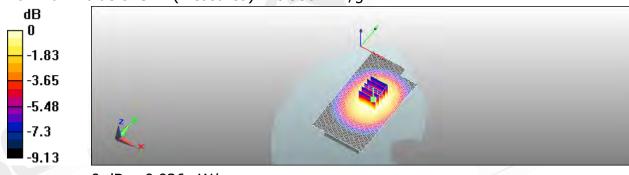
dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.6 V/m; Power Drift = -0.149 dB

Peak SAR (extrapolated) = 1.14 W/kg

SAR(1 g) = 0.882 mW/g; SAR(10 g) = 0.655 mW/g

Maximum value of SAR (measured) = 0.936 mW/g



0 dB = 0.936 mW/g

Date: 2010/9/25

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DUT: V03B

Communication System: WCDMA; Frequency: 836.6 MHz;

Medium parameters used: f = 837 MHz; $\sigma = 1.01$ mho/m; $\varepsilon_r = 53.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.846 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

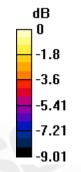
dx=8mm, dy=8mm, dz=5mm

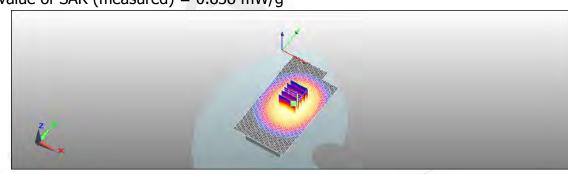
Reference Value = 17.8 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 1.02 W/kg

SAR(1 g) = 0.802 mW/g; SAR(10 g) = 0.596 mW/g

Maximum value of SAR (measured) = 0.838 mW/g





0 dB = 0.838 mW/g

Date: 2010/9/25

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BODY_CH4233

DUT: V03B

Communication System: WCDMA; Frequency: 846.6 MHz;

Medium parameters used: f = 847 MHz; $\sigma = 1.01$ mho/m; $\varepsilon_r = 53.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/05/21

• Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.853 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

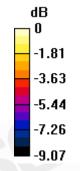
dx=8mm, dy=8mm, dz=5mm

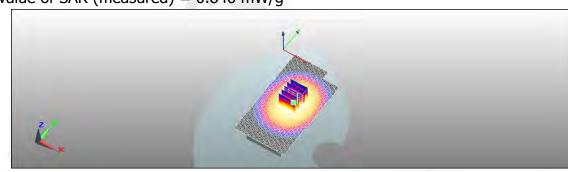
Reference Value = 18.2 V/m; Power Drift = -0.180 dB

Peak SAR (extrapolated) = 1.01 W/kg

SAR(1 g) = 0.804 mW/g; SAR(10 g) = 0.597 mW/g

Maximum value of SAR (measured) = 0.846 mW/g





0 dB = 0.846 mW/g

Date: 2010/9/26

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BODY_WLAN802.11b_CH1

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DUT: V03B

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2412 MHz;

Medium parameters used: f = 2412 MHz; $\sigma = 1.92$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

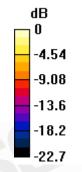
Maximum value of SAR (interpolated) = 0.338 mW/g

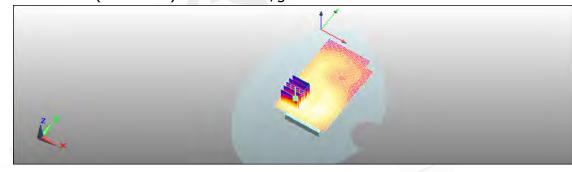
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

dx=8mm, dy=8mm, dz=5mm Reference Value = 9.78 V/m; Power Drift = -0.110 dB Peak SAR (extrapolated) = 0.578 W/kg

SAR(1 g) = 0.307 mW/g; SAR(10 g) = 0.162 mW/g

Maximum value of SAR (measured) = 0.337 mW/g





0 dB = 0.337 mW/g

Date: 2010/9/26

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BODY_WLAN802.11b_CH6

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DUT: V03B

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2437 MHz;

Medium parameters used: f = 2437 MHz; $\sigma = 1.95$ mho/m; $\varepsilon_r = 52.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/05/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.399 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

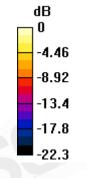
dx=8mm, dy=8mm, dz=5mm

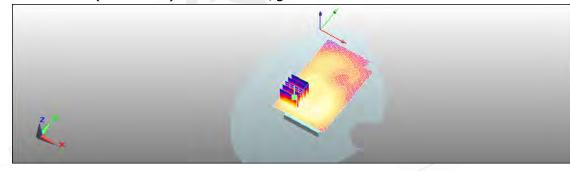
Reference Value = 10.3 V/m; Power Drift = -0.033 dB

Peak SAR (extrapolated) = 0.686 W/kg

SAR(1 g) = 0.363 mW/g; SAR(10 g) = 0.190 mW/g

Maximum value of SAR (measured) = 0.396 mW/g





0 dB = 0.396 mW/g

Date: 2010/9/26

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BODY_WLAN802.11b_CH11

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DUT: V03B

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2462 MHz;

Medium parameters used: f = 2462 MHz; $\sigma = 1.98$ mho/m; $\varepsilon_r = 52.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/05/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.452 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

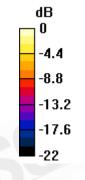
dx=8mm, dy=8mm, dz=5mm

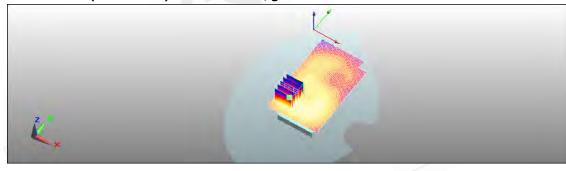
Reference Value = 10.6 V/m; Power Drift = -0.047 dB

Peak SAR (extrapolated) = 0.798 W/kg

SAR(1 g) = 0.418 mW/g; SAR(10 g) = 0.216 mW/g

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





0 dB = 0.464 mW/g

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Date: 2010/9/26

BODY_CH11_WLAN802.11b_repeated for EUT front to phantom

DUT: V03B

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2462 MHz;

Medium parameters used: f = 2462 MHz; $\sigma = 1.98 \text{ mho/m}$; $\varepsilon_r = 52.2$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/05/21

- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.197 mW/g

Configuration/BODY/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement

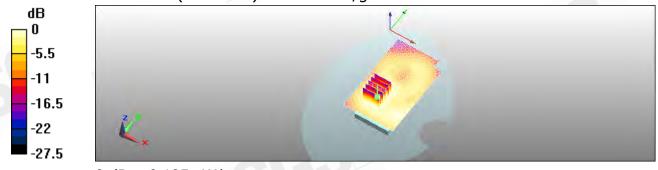
grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.7 V/m; Power Drift = 0.088 dB

Peak SAR (extrapolated) = 0.325 W/kg

SAR(1 g) = 0.181 mW/g; SAR(10 g) = 0.104 mW/g

Maximum value of SAR (measured) = 0.195 mW/g



0 dB = 0.195 mW/g

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Date: 2010/9/26

BODY_WLAN802.11b_CH11_repeated with Memory card

DUT: V03B

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2462 MHz;

Medium parameters used: f = 2462 MHz; $\sigma = 1.98 \text{ mho/m}$; $\varepsilon_r = 52.2$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm,

dy=15mm

Maximum value of SAR (interpolated) = 0.370 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

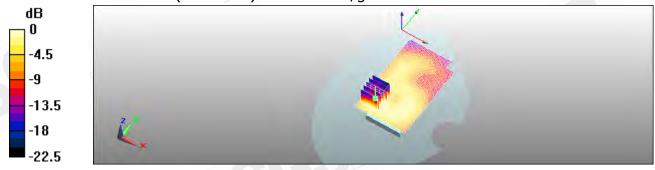
dx=8mm, dy=8mm, dz=5mm Reference Value = 8.22 V/m: Power

Reference Value = 8.22 V/m; Power Drift = 0.024 dB

Peak SAR (extrapolated) = 0.644 W/kg

SAR(1 g) = 0.336 mW/g; SAR(10 g) = 0.173 mW/g

Maximum value of SAR (measured) = 0.367 mW/g



0 dB = 0.367 mW/g

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Date: 2010/9/26

BODY_WLAN802.11b_CH11_repeated with PCH headset

DUT: V03B

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2462 MHz;

Medium parameters used: f = 2462 MHz; $\sigma = 1.98$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

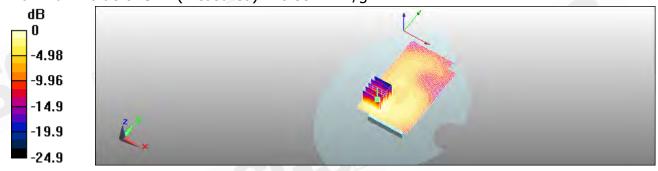
Maximum value of SAR (interpolated) = 0.361 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

dx=8mm, dy=8mm, dz=5mm Reference Value = 7.93 V/m; Power Drift = -0.106 dB Peak SAR (extrapolated) = 0.600 W/kg

SAR(1 g) = 0.323 mW/g; SAR(10 g) = 0.171 mW/g

Maximum value of SAR (measured) = 0.352 mW/g



0 dB = 0.352 mW/g

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Page: 105 of 166 Date: 2010/9/26

BODY_WLAN802.11b_CH11_Foster headset

DUT: V03B

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2462 MHz;

Medium parameters used: f = 2462 MHz; $\sigma = 1.98$ mho/m; $\varepsilon_r = 52.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

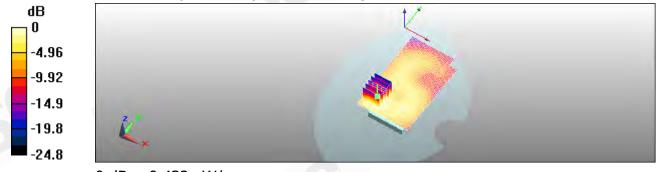
Maximum value of SAR (interpolated) = 0.447 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

dx=8mm, dy=8mm, dz=5mm Reference Value = 8.26 V/m; Power Drift = -0.155 dB Peak SAR (extrapolated) = 0.756 W/kg

SAR(1 g) = 0.397 mW/g; SAR(10 g) = 0.206 mW/g

Maximum value of SAR (measured) = 0.432 mW/g



0 dB = 0.432 mW/q

Date: 2010/9/26

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BODY_WLAN802.11g_CH1

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DUT: V03B

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2412 MHz;

Medium parameters used: f = 2412 MHz; $\sigma = 1.92$ mho/m; $\varepsilon_r = 53$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.189 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

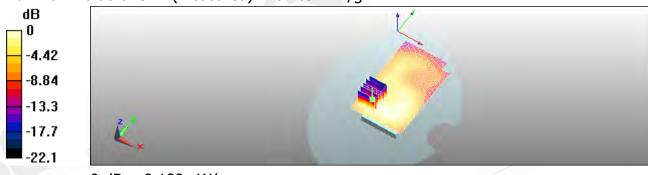
dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.11 V/m; Power Drift = -0.145 dB

Peak SAR (extrapolated) = 0.319 W/kg

SAR(1 g) = 0.171 mW/g; SAR(10 g) = 0.092 mW/g

Maximum value of SAR (measured) = 0.189 mW/g



0 dB = 0.189 mW/g

Date: 2010/9/26

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BODY_WLAN802.11g _CH6

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DUT: V03B

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2437 MHz;

Medium parameters used: f = 2437 MHz; $\sigma = 1.95$ mho/m; $\varepsilon_r = 52.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.214 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

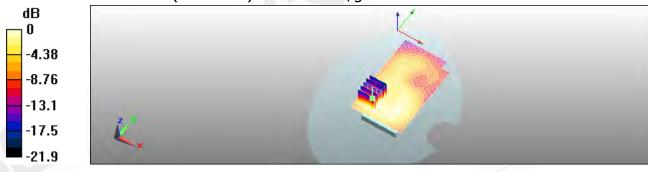
dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.73 V/m; Power Drift = -0.159 dB

Peak SAR (extrapolated) = 0.360 W/kg

SAR(1 g) = 0.197 mW/g; SAR(10 g) = 0.104 mW/g

Maximum value of SAR (measured) = 0.216 mW/g



0 dB = 0.216 mW/g

Date: 2010/9/26

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BODY_WLAN802.11g _CH11

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DUT: V03B

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2462 MHz;

Medium parameters used: f = 2462 MHz; $\sigma = 1.98$ mho/m; $\varepsilon_r = 52.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.250 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

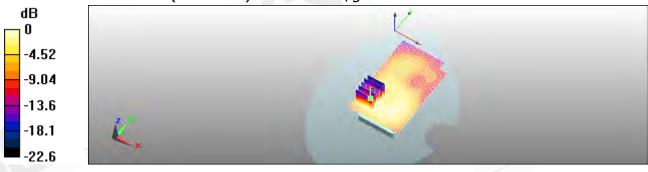
dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.27 V/m; Power Drift = -0.083 dB

Peak SAR (extrapolated) = 0.447 W/kg

SAR(1 g) = 0.233 mW/g; SAR(10 g) = 0.122 mW/g

Maximum value of SAR (measured) = 0.260 mW/g



0 dB = 0.260 mW/g

Date: 2010/9/26

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BODY_WLAN802.11n_CH1

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DUT: V03B

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2412 MHz;

Medium parameters used: f = 2412 MHz; $\sigma = 1.92$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.235 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

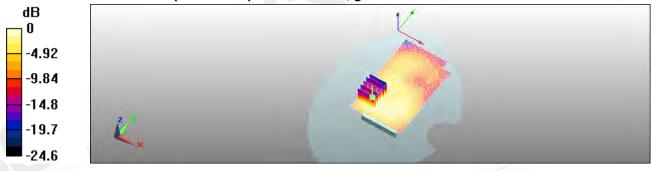
dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.69 V/m; Power Drift = 0.00941 dB

Peak SAR (extrapolated) = 0.424 W/kg

SAR(1 g) = 0.222 mW/g; SAR(10 g) = 0.114 mW/g

Maximum value of SAR (measured) = 0.243 mW/g



0 dB = 0.243 mW/g

Date: 2010/9/26

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BODY_WLAN802.11n_CH6

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DUT: V03B

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2437 MHz;

Medium parameters used: f = 2437 MHz; $\sigma = 1.95$ mho/m; $\varepsilon_r = 52.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.240 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

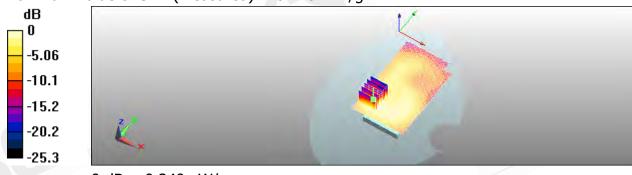
dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.71 V/m; Power Drift = -0.103 dB

Peak SAR (extrapolated) = 0.417 W/kg

SAR(1 g) = 0.218 mW/g; SAR(10 g) = 0.113 mW/g

Maximum value of SAR (measured) = 0.240 mW/g



0 dB = 0.240 mW/g

Date: 2010/9/26

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BODY_WLAN802.11n_CH11

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DUT: V03B

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2462 MHz;

Medium parameters used: f = 2462 MHz; $\sigma = 1.98$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/05/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.275 mW/g

Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

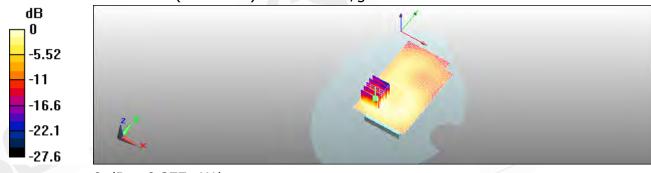
dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.17 V/m; Power Drift = -0.146 dB

Peak SAR (extrapolated) = 0.478 W/kg

SAR(1 g) = 0.253 mW/g; SAR(10 g) = 0.130 mW/g

Maximum value of SAR (measured) = 0.277 mW/g



0 dB = 0.277 mW/g

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5. System Verification

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Date: 2010/9/25

DUT: Dipole 835 MHz

Communication System: CW; Frequency: 835 MHz;

Medium parameters used: f = 835 MHz; $\sigma = 0.897$ mho/m; $\varepsilon_r = 42.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/d=15mm, Pin=250mW, dist=4mm: Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.85 mW/g

Configuration/d=15mm, Pin=250mW, dist=4mm: Measurement grid:

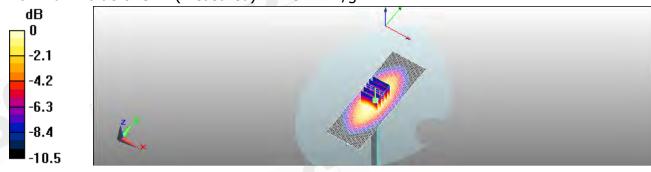
dx=8mm, dy=8mm, dz=5mm

Reference Value = 58.1 V/m; Power Drift = 0.014 dB

Peak SAR (extrapolated) = 3.57 W/kg

SAR(1 g) = 2.43 mW/g; SAR(10 g) = 1.6 mW/g

Maximum value of SAR (measured) = 2.84 mW/g



0 dB = 2.84 mW/g

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Page: 113 of 166 Date: 2010/9/25

DUT: Dipole 835 MHz

Communication System: CW; Frequency: 835 MHz;

Medium parameters used: f = 835 MHz; $\sigma = 1$ mho/m; $\epsilon_r = 53.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/d=15mm, Pin=250mW, dist=4mm: Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.97 mW/g

Configuration/d=15mm, Pin=250mW, dist=4mm: Measurement grid:

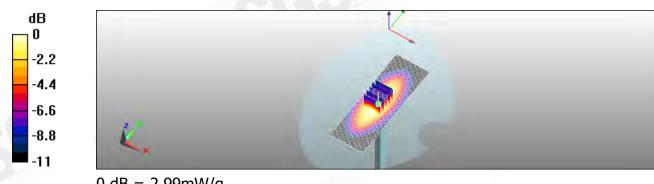
dx=8mm, dv=8mm, dz=5mm

Reference Value = 56 V/m; Power Drift = -0.000211 dB

Peak SAR (extrapolated) = 3.86 W/kg

SAR(1 g) = 2.51 mW/g; SAR(10 g) = 1.61 mW/g

Maximum value of SAR (measured) = 2.99 mW/g



0 dB = 2.99 mW/g

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Date: 2010/9/26

DUT: Dipole 1900 MHz

Communication System: CW; Frequency: 1900 MHz;

Medium parameters used: f = 1900 MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/d=10mm, Pin=250mW, dist=4mm: Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 11.9 mW/g

Configuration/d=10mm, Pin=250mW, dist=4mm: Measurement grid:

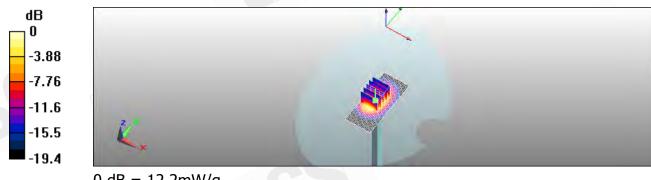
dx=8mm, dy=8mm, dz=5mm

Reference Value = 95.1 V/m; Power Drift = 0.023 dB

Peak SAR (extrapolated) = 19.4 W/kg

SAR(1 g) = 10 mW/g; SAR(10 g) = 4.94 mW/g

Maximum value of SAR (measured) = 12.2 mW/g



0 dB = 12.2 mW/g

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Date: 2010/9/25

DUT: Dipole 1900 MHz

Communication System: CW; Frequency: 1900 MHz;

Medium parameters used: f = 1900 MHz; $\sigma = 1.55$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.45, 4.45, 4.45); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/d=10mm, Pin=250mW, dist=4mm: Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 13 mW/g

Configuration/d=10mm, Pin=250mW, dist=4mm: Measurement grid:

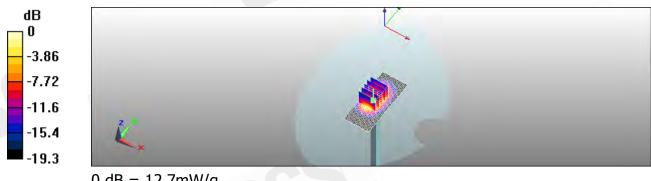
dx=8mm, dy=8mm, dz=5mm

Reference Value = 94.2 V/m; Power Drift = 0.012 dB

Peak SAR (extrapolated) = 20.4 W/kg

SAR(1 g) = 10.4 mW/g; SAR(10 g) = 5.02 mW/g

Maximum value of SAR (measured) = 12.7 mW/g



0 dB = 12.7 mW/q

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Date: 2010/9/26

DUT: Dipole 2450 MHz

Communication System: CW; Frequency: 2450 MHz;

Medium parameters used: f = 2450 MHz; $\sigma = 1.96 \text{ mho/m}$; $\epsilon_r = 52.5$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/05/21

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn856; Calibrated: 2010/5/20

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/d=10mm, Pin=250mW, dist=4mm: Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 16.2 mW/g

Configuration/d=10mm, Pin=250mW, dist=4mm: Measurement grid:

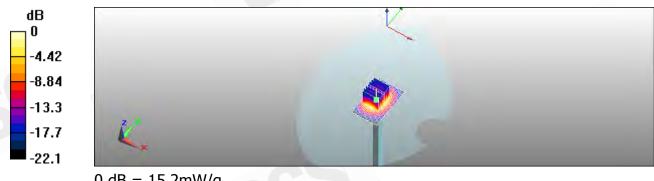
dx=5mm, dy=5mm, dz=5mm

Reference Value = 93.8 V/m; Power Drift = 0.066 dB

Peak SAR (extrapolated) = 29 W/kg

SAR(1 g) = 13.6 mW/g; SAR(10 g) = 6.28 mW/g

Maximum value of SAR (measured) = 15.2 mW/g



0 dB = 15.2 mW/q

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6. DAE & Probe Calibration certificate

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





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C Service suisse d'étalonnage
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-TW (Auden)

Certificate No: DAE4-856_May10

CALIBRATION CERTIFICATE DAE4 - SD 000 D04 BJ - SN: 856 Calibration procedure(s) QA CAL-06.v21 Calibration procedure for the data acquisition electronics (DAE) May 20, 2010 Calibration date: This calibration cartificate documents the traceability to national standards, which realize the physical units of measurements. 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 IM&TE critical for calibrations Primary Standards Cal Date (Certificate No.) Scheduled Calibration Seithley Multimeter Type 2001 SN: 0810278 1-Oct-09 (No: 9055) Oct-10 Secondary Standards Check Date (in house) Scheduled Check Calibrator Box V1.1 SE UMS 006 AB 1004 05-Jun-09 (in house check) In house check: Jun-10 Function Calibrated by: Dominique Steffen Technicar **RAD Director** Approved by: iv Bleuw Issued: May 20, 2010 This calibration certificate shall not be reproduced except in full without written approval of the laboratory

Certificate No: DAE4-856_May10

Page 1 of 5

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Calibration Laboratory of

Schmid & Partner Engineering AG Zeughausstrasse 43, 8004 Zurich, Switzerland





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Service suisse d'étalonnage
Servizio svizzero di taratura
Swiss Calibration Service

Accreditation No.: SCS 108

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
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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 modulation dependent linearization parameters

Polarization φ φ rotation around probe axis

Polarization 9 9 rotation around an axis that is in the plane normal to probe axis (at measurement center),

i.e., 9 = 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

Absorption Rate (SAR) in the Human Head from Theodore Samuel 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 9 = 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 E²-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.

Certificate No: ES3-3172_May10

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ES3DV3 SN:3172

May 21, 2010

Probe ES3DV3

SN:3172

Manufactured: January 23, 2008 Last calibrated: May 27, 2009 Recalibrated: May 21, 2010

Calibrated for DASY/EASY Systems

(Note: non-compatible with DASY2 system!)

Certificate No: ES3-3172_May10

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ES3DV3 SN:3172 May 21, 2010

DASY/EASY - Parameters of Probe: ES3DV3 SN:3172

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm (µV/(V/m)²) ^A	1.37	1.19	0.97	± 10.1%
DCP (mV) ^B	93.9	92.5	93.2	

Modulation Calibration Parameters

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

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

Certificate No: ES3-3172_May10

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A The uncertainties of NormX,Y,Z do not affect the E2-field uncertainty inside TSL (see Pages 5 and 6).

⁸ Numerical linearization parameter, uncertainty not required.

E Uncertainty is determined using the maximum deviation from linear response applying recatangular distribution and is expressed for the square of the field value.



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ES3DV3 SN:3172

May 21, 2010

DASY/EASY - Parameters of Probe: ES3DV3 SN:3172

Calibration Parameter Determined in Head Tissue Simulating Media

f [MHz]	Validity [MHz] ^C	Permittivity	Conductivity	ConvF X C	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
835	± 50 / ± 100	41.5 ± 5%	$0.90 \pm 5\%$	5.85	5.85	5.85	0.76	1.14 ± 11.0%
900	± 50 / ± 100	41.5 ± 5%	$0.97 \pm 5\%$	5.75	5.75	5.75	0.87	1.08 ± 11.0%
1750	± 50 / ± 100	40.1 ± 5%	$1.37 \pm 5\%$	5.04	5.04	5.04	0.31	1.82 ± 11.0%
1900	± 50 / ± 100	$40.0 \pm 5\%$	$1.40 \pm 5\%$	4.89	4.89	4.89	0.50	1.46 ± 11.0%
2000	± 50 / ± 100	40.0 ± 5%	$1.40 \pm 5\%$	4.73	4.73	4.73	0.49	1.44 ± 11.0%
2450	± 50 / ± 100	39.2 ± 5%	1.80 ± 5%	4.32	4.32	4.32	0.42	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: ES3-3172_May10

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ES3DV3 SN:3172

May 21, 2010

DASY/EASY - Parameters of Probe: ES3DV3 SN:3172

Calibration Parameter Determined in Body Tissue Simulating Media

f [MHz]	Validity [MHz] ^C	Permittivity	Conductivity	ConvF X Co	nvFY Co	onvF Z	Alpha	Depth Unc (k=2)
835	± 50 / ± 100	55.2 ± 5%	$0.97 \pm 5\%$	5.84	5.84	5.84	0.81	1.19 ± 11.0%
900	± 50 / ± 100	$55.0 \pm 5\%$	$1.05 \pm 5\%$	5.75	5.75	5.75	0.73	1.24 ± 11.0%
1750	± 50 / ± 100	$53.4 \pm 5\%$	$1.49 \pm 5\%$	4.63	4.63	4.63	0.39	1.75 ± 11.0%
1900	± 50 / ± 100	$53.3 \pm 5\%$	$1.52 \pm 5\%$	4.45	4.45	4.45	0.32	2.36 ± 11.0%
2000	± 50 / ± 100	$53.3 \pm 5\%$	1.52 ± 5%	4.47	4.47	4.47	0.32	2.44 ± 11.0%
2450	± 50 / ± 100	$52.7 \pm 5\%$	$1.95 \pm 5\%$	4.11	4.11	4.11	0.82	1.17 ± 11.0%
2600	± 50 / ± 100	52.5 ± 5%	$2.16 \pm 5\%$	3.99	3.99	3.99	0.95	1.09 ± 11.0%
3500	± 50 / ± 100	$51.3 \pm 5\%$	$3.31 \pm 5\%$	3.28	3.28	3.28	1.00	1.28 ± 13.1%

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

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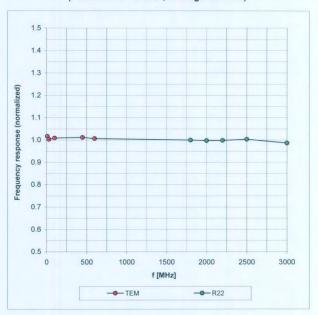


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Frequency Response of E-Field

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



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

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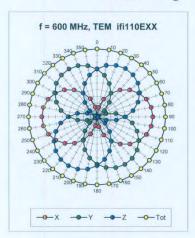
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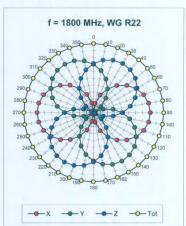


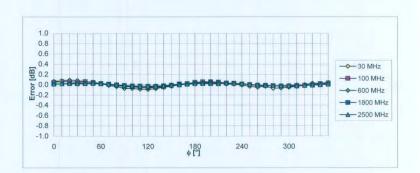
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Receiving Pattern (ϕ), $\vartheta = 0^{\circ}$







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

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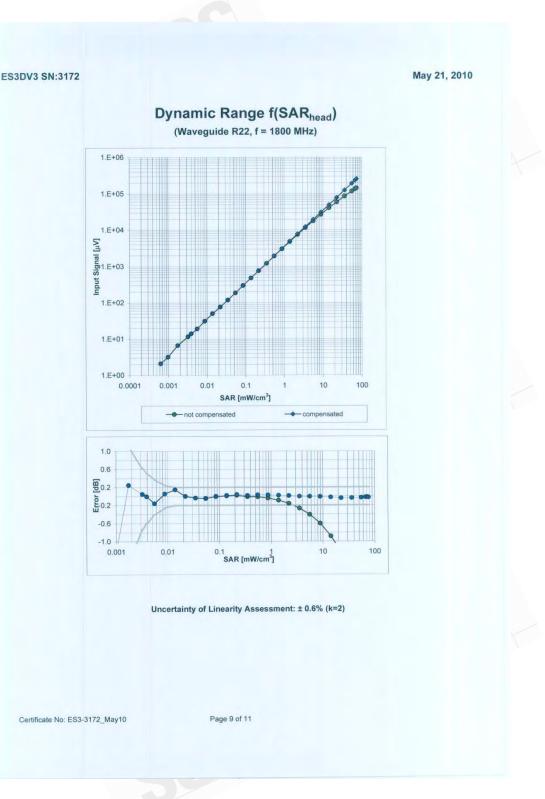
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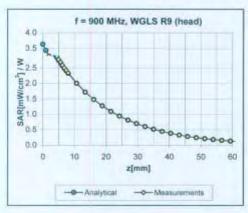


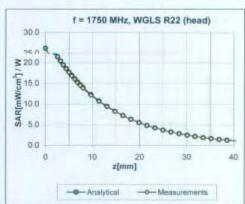
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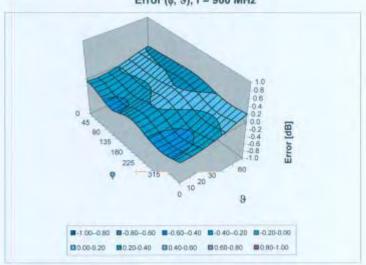
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Conversion Factor Assessment









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

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May 21, 2010

Other Probe Parameters

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

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7. Uncertainty Analysis

DASY5 Uncertainty Budget According to IEEE 1528 [1]

Error Description	Uncertainty value	Prob. Dist.	Div.	(c _t) 1g	$\begin{pmatrix} c_t \end{pmatrix}$ 10g	Std. Unc. (1g)	Std. Unc. (10g)	$\begin{pmatrix} v_i \end{pmatrix}$ v_{eff}
Measurement System				-0	0	(-0)	(0)	-6//
Probe Calibration	±5.9 %	N	1	1	1	±5.9%	±5.9%	00
Axial Isotropy	±4.7%	R	$\sqrt{3}$	0.7	0.7	±1.9%	±1.9%	00
Hemispherical Isotropy	±9.6 %	R	$\sqrt{3}$	0.7	0.7	±3.9 %	±3.9%	00
Boundary Effects	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	00
Linearity	±4.7%	R	$\sqrt{3}$	1	1	±2.7%	±2.7%	00
System Detection Limits	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	00
Readout Electronics	±0.3 %	N	1	1	1	±0.3%	±0.3%	00
Response Time	±0.8%	R	$\sqrt{3}$	1	1	±0.5%	±0.5%	00
Integration Time	±2.6 %	R	$\sqrt{3}$	1	1	±1.5%	±1.5%	00
RF Ambient Noise	±3.0 %	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	00
RF Ambient Reflections	±3.0%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	00
Probe Positioner	±0.4%	R	$\sqrt{3}$	1	1	±0.2%	±0.2%	00
Probe Positioning	±2.9 %	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	00
Max. SAR Eval.	±1.0%	R	√3	1	1	±0.6%	±0.6%	00
Test Sample Related		3			11			1
Device Positioning	±2.9 %	N	1	1	1	±2.9%	±2.9%	145
Device Holder	±3.6 %	N	1	1	1	±3.6%	±3.6%	5
Power Drift	±5.0 %	R	$\sqrt{3}$	1	1	±2.9%	±2.9%	00
Phantom and Setup								1
Phantom Uncertainty	±4.0 %	R	$\sqrt{3}$	1	1	±2.3%	$\pm 2.3\%$	00
Liquid Conductivity (target)	±5.0%	R	$\sqrt{3}$	0.64	0.43	±1.8%	$\pm 1.2\%$	00
Liquid Conductivity (meas.)	±2.5 %	N	1	0.64	0.43	±1.6%	±1.1%	00
Liquid Permittivity (target)	±5.0 %	R	$\sqrt{3}$	0.6	0.49	±1.7%	$\pm 1.4\%$	00
Liquid Permittivity (meas.)	±2.5 %	N	1	0.6	0.49	±1.5 %	$\pm 1.2\%$	00
Combined Std. Uncertainty						±10.9%	±10.7%	387
Expanded STD Uncertain	ity					±21.9 %	±21.4%	

Table 19.6: Worst-Case uncertainty budget for DASY5 assessed according to IEEE 1528 [1]. The budget is valid for the frequency range 300 MHz - 3 GHz and represents a worst-case analysis. For specific tests and configurations, the uncertainty could be considerable smaller.

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8. Phantom description

Schmid & Partner Engineering AG

Zeughausstrasse 43, 6004 Zurich, Switzerland Phone +41 1 245 9700, Fax +41 1 245 9779 info@speeg.com, http://www.apeeg.com

Certificate of Conformity / First Article Inspection

item	SAM Twin Phantom V4.0	
Type No	QD 000 P40 C	
Series No	TP-1150 and higher	
Manufacturer	SPEAG Zeughausstrasse 43 CH-8004 Zürich Switzerland	

The series production process used allows the limitation to test of first articles.

Complete tests were made on the pre-series Type No. QD 000 P40 AA, Serial No. TP-1001 and on the series first article Type No. QD 000 P40 BA, Serial No. TP-1006. Certain parameters have been retested using further series items (called samples) or are tested at each item.

Test	Requirement	Details	Units tested
Dimensions	Compliant with the geometry according to the CAD model.	IT'IS CAD File (*)	First article, Samples
Material thickness of shell	Compliant with the requirements according to the standards	2mm +/- 0.2mm in flat and specific areas of head section	First article, Samples, TP-1314 ff.
Material thickness at ERP	Compliant with the requirements according to the standards	6mm +/- 0.2mm at ERP	First article, All items
Material parameters	Dielectric parameters for required frequencies	300 MHz - 5 GHz: Relative permittivity < 5, Loss tangent < 0.05	Material samples
Material resistivity	The material has been tested to be compatible with the liquids defined in the standards if handled and cleaned according to the instructions. Observe technical Note for material compatibility.	DEGMBE based simulating liquids	Pre-series, First article, Material samples
Sagging	Compliant with the requirements according to the standards. Sagging of the flat section when filled with tissue simulating liquid.	< 1% typical < 0.8% if filled with 155mm of HSL900 and without DUT below	Prototypes, Sample testing

Standards

- CENELEC EN 50361 IEEE Std 1528-2003 IEC 62209 Part I

- FCC OET Bulletin 65, Supplement C, Edition 01-01
 The IT'IS CAD file is derived from [2] and is also within the tolerance requirements of the shapes of

Conformity

Based on the sample tests above, we certify that this item is in compliance with the uncertainty requirements of SAR measurements specified in standards [1] to [4].

Doc No 881 - QD 000 P40 C - F

Signature / Stamp

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9. System Validation from Original equipment supplier

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

Accreditation No.: SCS 108

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

Client

SGS-TW (Auden)

Certificate No: D835V2-4d063_May10

CALIBRATION CERTIFICATE Object D835V2 - SN: 4d063 Calibration procedure(s) QA CAL-05.v7 Calibration procedure for dipole validation kits May 21, 2010 Calibration date: 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) Cal Date (Certificate No.) Scheduled Calibration ID# Primary Standards Power meter EPM-442A GB37480704 06-Oct-09 (No. 217-01086) Oct-10 Oct-10 Power sensor HP 8481A US37292783 06-Oct-09 (No. 217-01086) 30-Mar-10 (No. 217-01158) SN: 5086 (20g) Reference 20 dB Attenuator Type-N mismatch combination SN: 5047.2 / 06327 30-Mar-10 (No. 217-01162) 30-Apr-10 (No. ES3-3205_Apr10) Mar-11 Apr-11 Reference Probe ES3DV3 SN: 3205 02-Mar-10 (No. DAE4-601_Mar10) Scheduled Check Check Date (in house) Secondary Standards 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 US37390585 S4206 In house check: Oct-10 18-Oct-01 (in house check Oct-09) Network Analyzer HP 8753E Function Jeton Kastrati Laboratory Technician Calibrated by: Technical Manager Katja Pokovic Approved by: Issued: May 26, 2010

Certificate No: D835V2-4d063_May10

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Schweizerischer Kalibrierdienst

Service suisse d'étalonnage Servizio svizzero di taratura

Swiss Calibration Service

Accreditation No.: SCS 108

Accredited by the Swiss Accreditation Service (SAS)

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Glossary:

TSL

tissue simulating liquid

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

Calibration is Performed According to the Following Standards:

- 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
- EC 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: D835V2-4d063_May10

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Measurement Conditions

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

DASY Version	DASY5	V5.2
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	41.7 ± 6 %	0.91 mho/m ± 6 %
Head TSL temperature during test	(22.5 ± 0.2) °C		ineri

SAR result with Head TSL

SAR averaged over 1 cm ² (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.42 mW / g
SAR normalized	normalized to 1W	9.68 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	9.62 mW /g ± 17.0 % (k=2)

SAR averaged over 10 cm3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.58 mW / g
SAR normalized	normalized to 1W	6.32 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	6.29 mW/g ± 16.5 % (k=2)

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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 %	0.98 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	2.53 mW / g
SAR normalized	normalized to 1W	10.1 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	10.0 mW / g ± 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.66 mW / g
SAR normalized	normalized to 1W	6.64 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	6.59 mW / g ± 16.5 % (k=2)

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Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	52.6 Ω - 0.6 μΩ	
Return Loss	- 31.7 dB	

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47,9 Ω + 2.8 jΩ
Return Loss	- 28.9 dB

General Antenna Parameters and Design

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 27, 2006

Certificate No: D835V2-4d063_May10

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DASY5 Validation Report for Head TSL

Date/Time: 21.05.2010 11:22:13

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d063

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL900

Medium parameters used: f = 835 MHz; $\sigma = 0.91$ mho/m; $\varepsilon_r = 41.9$; $\rho = 1000$ kg/m³

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: 02.03.2010

Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 61

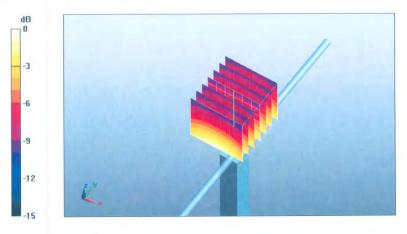
Pin=250 mW /d=15mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement

grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 57.5 V/m; Power Drift = 0.00219 dB

Peak SAR (extrapolated) = 3.61 W/kg

SAR(1 g) = 2.42 mW/g; SAR(10 g) = 1.58 mW/gMaximum value of SAR (measured) = 2.83 mW/g



0 dB = 2.83 mW/g

Certificate No: D835V2-4d063_May10

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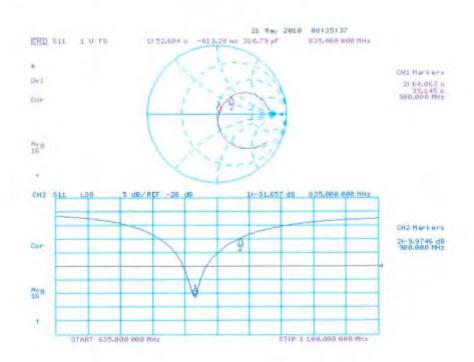
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Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body

Date/Time: 20.05.2010 10:45:06

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d063

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: MSL900

Medium parameters used: f = 835 MHz; $\sigma = 0.98$ mho/m; $\varepsilon_r = 54.2$; $\rho = 1000$ kg/m³

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: 02.03.2010

Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 61

Pin250 mW/d=15mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement

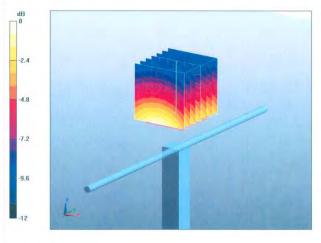
grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56.5 V/m; Power Drift = 0.013 dB

Peak SAR (extrapolated) = 3.71 W/kg

SAR(1 g) = 2.53 mW/g; SAR(10 g) = 1.66 mW/g

Maximum value of SAR (measured) = 2.94 mW/g



0 dB = 2.94 mW/g

Certificate No: D835V2-4d063_May10

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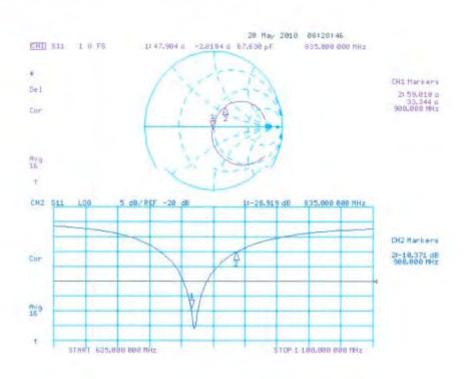
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Immediance Manningment Diet for Dady TO



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Client

SGS-TW (Auden)

Accreditation No.: SCS 108

C

Certificate No: D1900V2-5d027_Apr10

CALIBRATION CERTIFICATE

Object D1900V2 - SN: 5d027

Calibration procedure(s) QA CAL-05.v7

Calibration procedure for dipole validation kits

Calibration date: April 28, 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)

	ID#	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-09 (No. 217-01086)	Oct-10
Power sensor HP 8481A	US37292783	06-Oct-09 (No. 217-01086)	Oct-10
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	26-Jun-09 (No. ES3-3205_Jun09)	Jun-10
DAE4	SN: 601	02-Mar-10 (No. DAE4-601_Mar10)	Mar-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-09)	In house check: Oct-10
	Name	Function	Signature
Calibrated by:	Name Dimce Iliev	Function Laboratory Technician	Signature W. Hill

Certificate No: D1900V2-5d027_Apr10

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Glossary:

TSL ConvF

N/A

tissue simulating liquid

sensitivity in TSL / NORM x,y,z not applicable or not measured

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- 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
- 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:

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- 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.
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Measurement Conditions

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

DASY Version	DASY5	V5.2
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	40.5 ± 6 %	1.41 mho/m ± 6 %
Head TSL temperature during test	(21.5 ± 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	9.91 mW / g
SAR normalized	normalized to 1W	39.6 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	39.6 mW /g ± 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.17 mW / g
SAR normalized	normalized to 1W	20.7 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	20.7 mW /g ± 16.5 % (k=2)

Certificate No: D1900V2-5d027_Apr10

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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	54.8 ± 6 %	1.53 mho/m ± 6 %
Body TSL temperature during test	(21.5 ± 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	40.5 mW / g ± 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.36 mW / g
SAR normalized	normalized to 1W	21.4 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	21.5 mW / g ± 16.5 % (k=2)

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Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$50.5 \Omega + 5.0 j\Omega$	
Return Loss	- 26.0 dB	

Antenna Parameters with Body TSL

Impedance, transformed to feed point	$46.8 \Omega + 6.7 j\Omega$
Return Loss	- 22.3 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.196 ns
Electrical Delay (ellectrical)	11.100.110

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

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DASY5 Validation Report for Head TSL

Date/Time: 22.04.2010 15:17:55

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d027

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL U11 BB

Medium parameters used: f = 1900 MHz; $\sigma = 1.41 \text{ mho/m}$; $\varepsilon_r = 40.6$; $\rho = 1000 \text{ kg/m}^3$

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: 26.06.2009

• Sensor-Surface: 3mm (Mechanical Surface Detection)

• Electronics: DAE4 Sn601; Calibrated: 02.03.2010

• Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 57

Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement

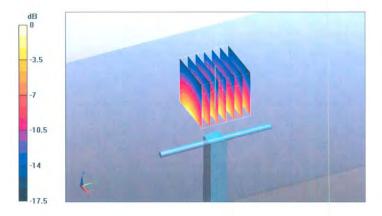
grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 96.9 V/m; Power Drift = 0.047 dB

Peak SAR (extrapolated) = 18.1 W/kg

SAR(1 g) = 9.91 mW/g; SAR(10 g) = 5.17 mW/g

Maximum value of SAR (measured) = 12.4 mW/g



0 dB = 12.4 mW/g

Certificate No: D1900V2-5d027_Apr10

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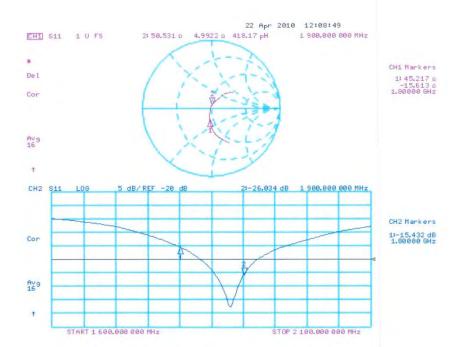
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Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body

Date/Time: 28.04.2010 15:11:22

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d027

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: MSL U11 BB

Medium parameters used: f = 1900 MHz; $\sigma = 1.53 \text{ mho/m}$; $\varepsilon_r = 54.9$; $\rho = 1000 \text{ kg/m}^3$

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: 26.06.2009

• Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn601; Calibrated: 02.03.2010

• Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 57

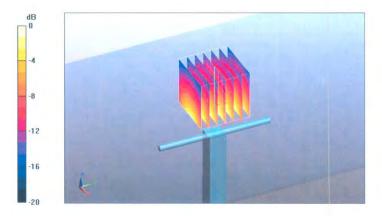
Pin250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement

grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 96.2 V/m; Power Drift = -0.014 dB

Peak SAR (extrapolated) = 17.1 W/kg

SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.36 mW/gMaximum value of SAR (measured) = 12.7 mW/g



0 dB = 12.7 mW/g

Certificate No: D1900V2-5d027_Apr10

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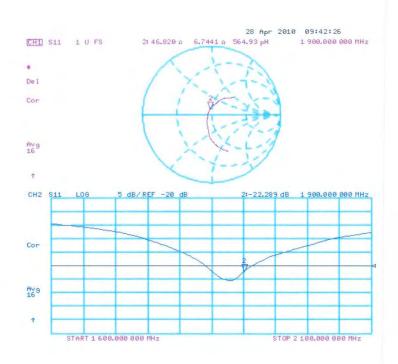
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Impedance Measurement Plot for Body TSL



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Calibration Laboratory of

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Client SGS-TW (Auden)

Accreditation No.: SCS 108

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Certificate No: D2450V2-727_Apr10

CALIBRATION CERTIFICATE

Object D2450V2 - SN: 727

Calibration procedure(s) QA CAL-05.v7

Calibration procedure for dipole validation kits

Calibration date: April 29, 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 \pm 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-09 (No. 217-01086)	Oct-10
Power sensor HP 8481A	US37292783	06-Oct-09 (No. 217-01086)	Oct-10
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	26-Jun-09 (No. ES3-3205_Jun09)	Jun-10
DAE4	SN: 601	02-Mar-10 (No. DAE4-601_Mar10)	Mar-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-09)	In house check: Oct-10
	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	I W
Approved by:	Katja Pokovic	Technical Manager	IC 118
Approved by:	Katja Pokovic	Technical Manager	de
eration certificate shall no			Issued: April 29, 2010

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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.

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Measurement Conditions

as far as not given on page 1

DASY Version	DASY5	V5.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V4.9	
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	39.8 ± 6 %	1.78 mho/m ± 6 %
Head TSL temperature during test	(21.5 ± 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	13.2 mW / g
SAR normalized	normalized to 1W	52.8 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	53.2 mW /g ± 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.22 mW / g
SAR normalized	normalized to 1W	24.9 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	25.0 mW /g ± 16.5 % (k=2)

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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	54.2 ± 6 %	2.01 mho/m ± 6 %
Body TSL temperature during test	(22.5 ± 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	13.4 mW / g
SAR normalized	normalized to 1W	53.6 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	53.2 mW / g ± 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.23 mW / g
SAR normalized	normalized to 1W	24.9 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	24.9 mW / g ± 16.5 % (k=2)

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Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$53.3 \Omega + 1.7 j\Omega$
Return Loss	- 28.9 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	$50.3 \Omega + 3.6 j\Omega$	
Return Loss	- 29.0 dB	

General Antenna Parameters and Design

Electrical Delay (one direction)	1.150 ns
The state of the s	

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	January 09, 2003	

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DASY5 Validation Report for Head TSL

Date/Time: 22.04.2010 16:30:51

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:727

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: HSL U11 BB

Medium parameters used: f = 2450 MHz; $\sigma = 1.78 \text{ mho/m}$; $\varepsilon_r = 39.8$; $\rho = 1000 \text{ kg/m}^3$

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: 26.06.2009

• Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn601; Calibrated: 02.03.2010

Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001

Measurement SW; DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 57

Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement

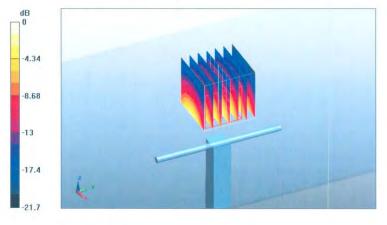
grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 101.0 V/m; Power Drift = 0.064 dB

Peak SAR (extrapolated) = 26.8 W/kg

SAR(1 g) = 13.2 mW/g; SAR(10 g) = 6.22 mW/g

Maximum value of SAR (measured) = 16.9 mW/g



0 dB = 16.9 mW/g

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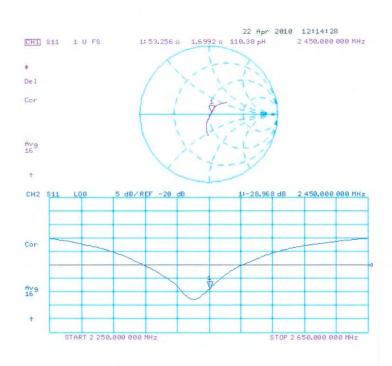
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Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body

Date/Time: 29.04.2010 14:57:43

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:727

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: MSL U11 BB

Medium parameters used: f = 2450 MHz; $\sigma = 2 \text{ mho/m}$; $\epsilon_r = 54.1$; $\rho = 1000 \text{ kg/m}^3$

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: 26.06.2009

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE4 Sn601; Calibrated: 02.03.2010

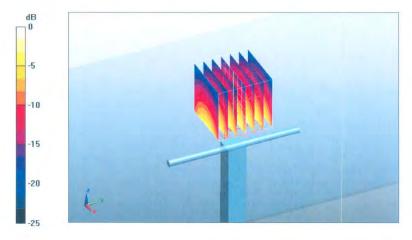
Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 57

Pin250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement

grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 96.1 V/m; Power Drift = 0.00929 dB Peak SAR (extrapolated) = 27.7 W/kg SAR(1 g) = 13.4 mW/g; SAR(10 g) = 6.23 mW/g

SAR(1 g) = 13.4 mW/g; SAR(10 g) = 6.23 mW/gMaximum value of SAR (measured) = 17.6 mW/g



0 dB = 17.6 mW/g

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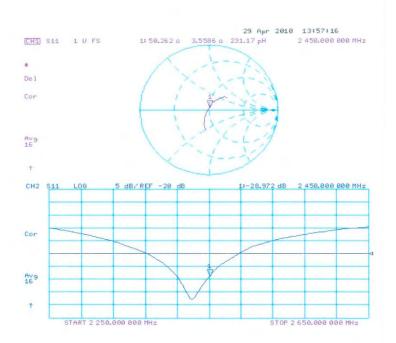
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Impedance Measurement Plot for Body TSL



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End of 1st part of report

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