

SAR TEST REPORT

Equipment Under Test	PDA phone
Model Name	SAPP300
Company Name	HTC Corporation
Company Address	No.23, Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan, R.O.C.
Date of Receipt	2008.12.10
Date of Test(s)	2008.12.17-2008.12.24,2009.03.04
Date of Issue	2009.03.20

Standards:

FCC OET Bulletin 65 supplement C, ANSI/IEEE 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	: <u>Ricky Huang</u> Asst. Supervisor	Kicky Wrang	Date		2009.03.20
Approved by	: Robert Chang	20bert Chang	Date	:	2009.03.20
	Tech Manager		-	-	

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f (886-2) 2298-0488 t (886-2) 2299-3279 www.tw.sgs.com



1. General Information

1.1 Testing Laboratory

SGS Taiwan Ltd. El	SGS Taiwan Ltd. Electronics & Communication Laboratory				
134, Wu Kung Road, Wuku industrial zone					
Taipei county, Taiwan, 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	HTC Corporation
Company Address	No.23, Xinghua Rd., Taoyuan City, Taoyuan County
Company Address	330, Taiwan, R.O.C.
Contact Person	Shane Chen
TEL	+886-3-375-3252
Fax	+886-3-375-5530
E-mail	Shane_Chen@htc.com

1.3 Description of EUT

EUT Name	PDA phone			
FCC ID	NM8SPRM			
Model Name SAPP300				
Brand Name	hTC			
IMEI Code	Orignal solution :359444020011877 Second solution :359444020011960			
Mode of Operation GSM /GPRS/EDGE/WCDMA/HSDPA/HSU				
Definition	Production unit			

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	rage. 4 (
Modulation Mode	GSM/GMSK/8PSK/QPSK/16QAM				
Duty Cycle	GSM	GPF	RS	WCDMA B4	
Ducy Cycle	1/8	1/4	4	1	
Maximum RF	GSM 850	GSM1	900	WCDMA B4	
Conducted Power (Average)	32.3dbm	30.3d	lbm	23.01dbm	
TX Frequency Range	GSM 850	GSM1	900	WCDMA B4	
(MHz)	824.2-	1850	.2-	1712.4-	
(14112)	848.8	1909	9.8	1752.6	
Channel Number	GSM 850	GSM1	900	WCDMA B4	
(ARFCN)	128-251	512-8	310	1312-1513	
Battery Type		3.7 V Lith	ium-Ion		
Antenna Type	RAFE	Internal A	Antenna		
	Second solu	ution(char	nge Came	era & LCM)	
	Besides the original sample, this model SAPP300				
	changed another Camera & LCM component. In order to				
Declaration	find SAR value whether the same between first and				
	second solution, we used spot-check method to check it.				
	Finally, the check result, GSM850/ 1900/WCDMA				
	B4/WALN 802.11 b/g was within 20% deviation.				
	Orignal solution				
	Head		Body		
Max. SAR Measured	1.55 mW/ (At WCDMA B4 Rig (Cheek Position)_ channel_repeated WELLDONE batter	ght Head 1513 with	nd 1.43 mW/g (At GSM 850 Body _ 251 Channel)		
(1 g)		Second s	olution		
	Head			Body	
	1.39 mW/g1.35 m(At WCDMA B4 Right Head(At GSM 850)		.35 mW/g GSM 850 Body 1 Channel)		

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Note:

1. EGPRS mode was not measured because maximum averaged output power is 3 dB lower in EGPRS than in GPRS mode.

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 (R&S CMU200), and the communication between the EUT and the tester is established by air link.
- 2. WLAN part is controlled by chip-specific software to make it transmit at max power.
- 3. 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 batt⁻ery is fully charged.
- 4. During the SAR testing, the DASY4 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.
- 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.

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- The maximum SAR value for licensed transmitter happens on WCDMA B4 band, Right Head(Cheek Position)_ repeated with WELLDONE Battery, channel 1513. the value is 1.55 W/kg(1g). And the max SAR value for un-licensed transmitter WLAN 802.11b happens on Body worn, channel 6 . The SAR value is 0.163 W/kg (1g) . and Bluetooth part is 0.0031 W/kg(1g) . The summation of the 1g SAR is 1.55+0.163+0.0031 = 1.716 W/kg, which higher than the limit 1.6W/kg.
- 9. By the way, the hotspot peak to peak distance for WWAN and WLAN is 6 cm, we calculate the peak location separation ratio of simultaneous transmitting antenna pair, the value is 0.28, which 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. 11. For highest SAR configuration in this band repeated with WELLDONE Battery.

Additional configuration(Body):

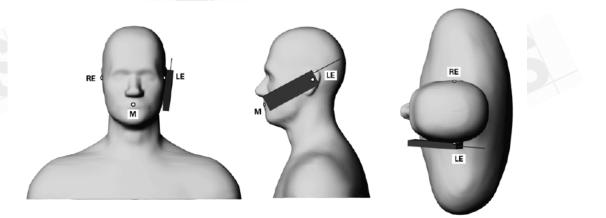
- 12. For highest SAR configuration in this band repeated with external Memory card inside.
- 13. For highest SAR configuration in this band repeated with WELLDONE Battery.
- 14. Since WLAN and Bluetooth use same antenna , both WLAN and Bluetooth turn ON co-transmit is evaluated.

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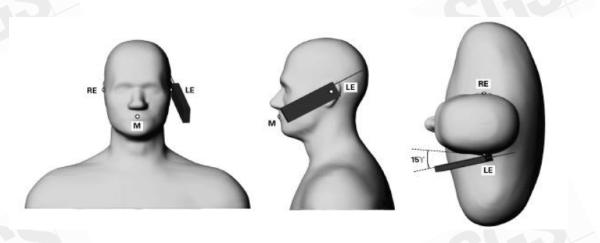


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1.6 Positioning Procedure



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



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.

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1.7 EVALUATION PROCEDURES

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)
- 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
- 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.

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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.

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 4 professional system). A Model EX3DV3 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.

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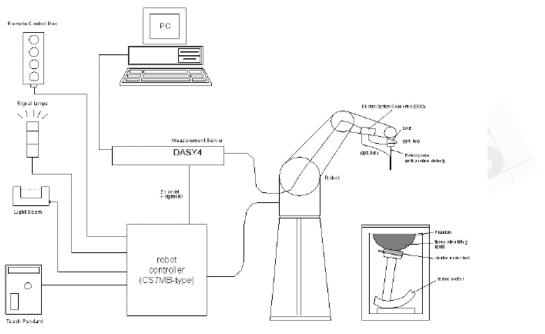


Fig.a The block diagram of SAR system

The DASY4 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).
- 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.

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- A computer operating Windows 2000 or Windows XP.
- DASY4 software.
- Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
 - The SAM twin phantom enabling testing left-hand 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.

1.9 System Components

EX3DV3 E-Field Probe

Construction:	Symmetrical design with triangular core			
	Built-in shielding against static charges	a second second		
	PEEK enclosure material (resistant to	1		
	organic solvents, e.g., DGBE)			
Calibration:	Basic Broad Band Calibration in air			
	Conversion Factors (CF) for			
	HSL850/1800/1900/2450			
	Additional CF for other liquids and			
	frequencies upon request			
		EX3DV3 E-Field Probe		
Frequency:	10 MHz to $>$ 6 GHz; Linearity: \pm 0.2 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 μ W/g to > 100 mW/g;			
	Linearity: \pm 0.2 dB (noise: typically < 1 μ W/	/g)		
Dimensions:	Overall length: 330 mm (Tip: 20 mm)			
	Tip diameter: 2.5 mm (Body: 12 mm)			
	Typical distance from probe tip to dipole centers: 1 mm			
Application: High precision dosimetric measurements in any exposure scen				
	(e.g., very strong gradient fields). Only probe which enables			
compliance testing for frequencies up to 6 GHz with precisio				
30%.				

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SAM PHANTOM V4.0C

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 second sec		
Dimensions:	Height: 251 mm; Length: 1000 mm; Width: 500 mm			
DEVICE HOLDE	R			
Construction	In combination with the Twin SAM F V4.0/V4.0C or Twin SAM, the Mount Device (made from POM) enables the of the mounted transmitter in spher coordinates, whereby the rotation po ear opening. The devices can be eas accurately positioned according to II CENELEC, FCC or other specification device holder can be locked at differ phantom locations (left head, right h phantom).	ting e rotation ical oint is the sily and EC, IEEE, ns. The rent		

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 850/1800/1900/2450 MHz. The tests were conducted on the same days as the measurement of the DUT.

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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.

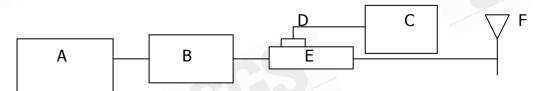
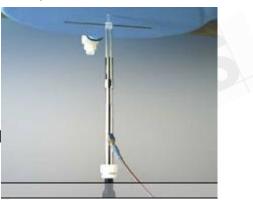


Fig.b The block diagram for SAR system verification

- A. Agilent Model 8648D Signal Generator
- B. Mini circuits Model ZHL-42 Amplifier
- C. Agilent Model E4416A Power Meter
- D. Agilent Model 8481H Power Sensor

F. Reference dipole antenna

E. Agilent Model 778D & 777D Dual directional coupling



Photograph of the dipole Antenna

Validation Kit	Frequency (MHz)	Target SAR (1g) (Pin=250mW)	Measured SAR (1g)	Measured Date
D835V2 S/N: 4d063	835 MHz (Head)	2.29 mW/g	2.4 mW/g	2008/12/17
D835V2 S/N: 4d063	835 MHz (Body)	2.44 mW/g	2.53 mW/g	2008/12/18
D1900V2 S/N: 5d027	1900 MHz (Head)	10.3 mW/g	10.1 mW/g	2008/12/17

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1 m				Page : 14
1900V2 I: 5d027	1900 MHz (Body)	9.64 mW/g	9.43 mW/g	2008/12/18
1800V2 I: 2d061	1800 MHz (Head)	9.86 mW/g	9.98 mW/g	2008/12/17
1800V2 I: 2d061	1800 MHz (Body)	9.87 mW/g	9.96 mW/g	2008/12/18
2450V2 ′N: 727	2450 MHz (Body)	13.2 mW/g	13.6 mW/g	2008/12/22
835V2 I: 4d063	835 MHz (Head)	2.29 mW/g	2.38 mW/g	2008/12/24
835V2 I: 4d063	835 MHz (Body)	2.44 mW/g	2.39 mW/g	2008/12/24
1900V2 I: 5d027	1900 MHz (Head)	10.3 mW/g	10.5 mW/g	2008/12/24
1900V2 I: 5d027	1900 MHz (Body)	9.64 mW/g	9.77 mW/g	2008/12/24
1800V2 I: 2d061	1800 MHz (Head)	9.86 mW/g	9.97 mW/g	2008/12/24
1800V2 I: 2d061	1800 MHz (Body)	9.87 mW/g	10.1 mW/g	2008/12/24
2450V2 ′N: 727	2450 MHz (Body)	13.2 mW/g	13.6 mW/g	2008/12/24
2450V2 /N: 727	2450 MHz (Body)	13.2 mW/g	13.8 mW/g	2009/03/05

Table 1. System validation (follow manufacture target value)

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 in the ear reference point of the phantom was 15cm±5mm during all tests. (Appendix Fig .2)

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	Frequency	Tissue type	Measurement date/	Dielectric Parameters		
-	(MHz)		Limits	ρ	σ (S/m)	Simulated Tissue
			Measured, 2008.12.17	42.4	0.908	Temperature(° C) 21.7
	850	Head	Recommended Limits			
			Measured, 2008.12.18		0.947	21.7
	850	Body	Recommended Limits			
		/	Measured, 2008.12.17		1.41	21.7
	1900	Head	Recommended Limits			20-24
			Measured, 2008.12.18		1.1 1.51	20 21
	1900	Body	Recommended Limits			
			Measured, 2008.12.17		1.39	20 21
	1800	Head	Recommended Limits			
			Measured, 2008.12.18		1.47	20.21
	1800	Body	Recommended Limits			
		0 Body	Measured, 2008.12.22		2.05	20 21
	2450		Recommended Limits			
		60 Head	Measured, 2008.12.24		0.896	21.7
	850		Recommended Limits			
		0 Body	Measured, 2008.12.24		0.946	21.7
	850		Recommended Limits			
		00 Head	Measured, 2008.12.24		1.41	21.7
	1900		Recommended Limits			20-24
			Measured, 2008.12.24		1.58	21.7
	1900	0 Body	Recommended Limits			
			Measured, 2008.12.24		1.4	21.7
	1800	Head	Recommended Limits			
		4	Measured, 2008.12.24	52.3	1.49	21.7
	1800	Body	Recommended Limits	48.83-53.97	1.43-1.58	20-24
	0.470		Measured, 2008.12.24	53	2.05	21.7
	2450	Body	Recommended Limits	48.36-53.45		20-24
	2450		Measured, 2009.03.04	53	2.04	21.7
	2450	50 Body	Recommended Limits			
	L I		2 Dialactria Daramata	· · · · · · · · · · · · · · · · · · ·		

Table 2. Dielectric Parameters of Tissue Simulant Fluid

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Ingredient	850MHz (Head)	850MHz (Body)	1800MHz (Head)	1800MHz (Body)	1900MHz (Head)	1900MHz (Body)	2450Mhz (Body)
DGMBE	Х	X	444.52 g	300.67g	444.52 g	300.67g	301.7 ml
Water	532.98 g	631.68 g	552.42 g	716.56 g	552.42 g	716.56 g	698.3 ml
Salt	18.3 g	11.72 g	3.06 g	4.0 g	3.06 g	4.0 g	X
Preventol D-7	2.4 g	1.2 g	Х	Х	х	×	x
Cellulose	3.2 g	Х	Х	Х	Х	X	Х
Sugar	766.0 g	600 g	Х	Х	Х	Х	Х
Total	1 L	1 L	11	1 L	1 L	1 L	1 L
amount	(1.0kg)	(1.0kg)	(1.0kg)	(1.0kg)	(1.0kg)	(1.0kg)	(1.0kg)

The composition of the brain tissue simulating liquid for 850& 1800 & 1900 & 2450 band:

Table 3. Recipes for tissue simulating liquid

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.

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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.

(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:

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- 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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Orignal solution measurement result

GSM 850 MHZ

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	32.3dbm	0.589	22.1	21.7
850 MHz	190	836.6	33.1dbm	0.848	22.1	21.7
	251	848.8	33.2dbm	1.11	22.1	21.7
Left Head (0	Cheek Pos	sition)	C F C F			
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
	128	824.2	32.3dbm	0.611	22.1	21.7
850 MHz	190	836.6	33.1dbm	0.916	22.1	21.7
	251	848.8	33.2dbm	1.22	22.1	21.7
Right Head	(15° Tilt I	Position	ı)			
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
	128	824.2	32.3dbm	0.344	22.1	21.7
850 MHz	190	836.6	33.1dbm	0.491	22.1	21.7
	251	848.8	33.2dbm	0.626	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	32.3dbm	0.32	22.1	21.7
850 MHz	190	836.6	33.1dbm	0.475	22.1	21.7
	251	848.8	33.2dbm	0.619	22.1	21.7
Body worn	(testing ir	GPRS	mode)			
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]

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	128	824.2	32dbm	0.969	22.1	21.7
850 MHz	190	836.6	33.6dbm	1.16	22.1	21.7
	251	848.8	33.3dbm	1.43	22.1	21.7
Body worn ((testing ir	GPRS	mode)_repeated f	or 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	33.3dbm	0.662	22.1	21.7
Body worn ((testing ir	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	33.3dbm	1.31	22.1	21.7
Body worn ((testing ir	GPRS	mode)_repeated \	with WELLDONE	Battery	
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid
			Power (Average)	1g	Temp[°C]	Temp[°C]
850 MHz	251	848.8	33.3dbm	1.36	22.1	21.7

PCS 1900 MHZ

Right Head	Right Head (Cheek Position)									
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]				
460	512	1850.2	30.3dbm	1.3	22.1	21.7				
1900 MHz	661	1880	30.1dbm	1.37	22.1	21.7				
	810	1909.8	30dbm	1.18	22.1	21.7				
Left Head (0	Cheek Pos	sition)								
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]				
	512	1850.2	30.3dbm	0.955	22.1	21.7				
1900 MHz	661	1880	30.1dbm	1.05	22.1	21.7				
	810	1909.8	30dbm	0.935	22.1	21.7				

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f (886-2) 2298-0488 t (886-2) 2299-3279



Right Head	(15° Tilt I	Position				
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
	512	1850.2	30.3dbm	0.479	22.1	21.7
1900 MHz	661	1880	30.1dbm	0.542	22.1	21.7
	810	1909.8	30dbm	0.479	22.1	21.7
Left Head (*	15° Tilt Po	osition)				
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
	512	1850.2	30.3dbm	0.469	22.1	21.7
1900 MHz	661	1880	30.1dbm	0.531	22.1	21.7
	810	1909.8	30dbm	0.508	22.1	21.7
Body worn	(testing ir	GPRS	mode)			
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
	512	1850.2	30.1dbm	1.05	22.1	21.7
1900 MHz	661	1880	29.8dbm	0.999	22.1	21.7
	810	1909.8	29.6dbm	0.825	22.1	21.7

WCDMA BAND 4

Right Head	Right Head (Cheek Position)									
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]				
	1312	1712.4	22.81dbm	1.07	22.1	21.7				
WCDMA B4	1412	1732.6	22.76dbm	1.05	22.1	21.7				
	1513	1752.6	23.01dbm	1.41	22.1	21.7				
Left Head (C	Cheek Pos	sition)		/						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]				
	1312	1712.4	22.81dbm	0.805	22.1	21.7				
WCDMA B4	1412	1732.6	22.76dbm	0.729	22.1	21.7				
	1513	1752.6	23.01dbm	0.932	22.1	21.7				

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(15° Tilt I	Position				
Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid
		Power (Average)	1g	Temp[°C]	Temp[°C
1312	1712.4	22.81dbm	0.384	22.1	21.7
1412	1732.6	22.76dbm	0.391	22.1	21.7
1513	1752.6	23.01dbm	0.521	22.1	21.7
15° Tilt Po	osition)				
Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid
		Power (Average)	1g	Temp[°C]	Temp[°C
1312	1712.4	22.81dbm	0.368	22.1	21.7
1412	1732.6	22.76dbm	0.353	22.1	21.7
1513	1752.6	23.01dbm	0.48	22.1	21.7
(Cheek Po	osition)	_repeated with M	lemory card		
Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid
		Power (Average)	1g	Temp[°C]	Temp[°C
1513	1752.6	23.01dbm	1.34	22.1	21.7
(Cheek Po	osition)	_repeated with W	ELLDONE Batter	у	
Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid
		Power (Average)	1g	Temp[°C]	Temp[°C
1513	1752.6	23.01dbm	1.55	22.1	21.7
Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid
		Power (Average)	1g	Temp[°C]	Temp[°C]
1312	1712.4	22.81dbm	0.496	22.1	21.7
1412	1732.6	22.76dbm	0.464	22.1	21.7
1513	1752.6	23.01dbm	0.592	22.1	21.7
	Channel 1312 1412 1513 15° Tilt Po Channel 1312 1412 1513 (Cheek Po Channel 1513 (Cheek Po Channel 1513 (Cheek Po Channel 1513 (Cheek Po Channel 1513	Channel MHz 1312 1712.4 1412 1732.6 1513 1752.6 15° Tilt Position Channel MHz 1312 1712.4 1412 1732.6 15° Tilt Position Channel MHz 1312 1712.4 1412 1732.6 1513 1752.6 (Cheek Position) MHz 1513 1752.6 (Cheek Position) MHz 1513 1752.6 (Channel MHz 1312 1712.4 1312 1712.4 1412 1732.6	Power (Average) 1312 1712.4 22.81dbm 1412 1732.6 22.76dbm 1513 1752.6 23.01dbm 15° Tilt Position) IS° Tilt Power (Average) IS° Channel MHz Conducted Output Power (Average) 1312 1712.4 22.81dbm 1412 1732.6 22.76dbm 1312 1712.4 22.81dbm 1412 1732.6 23.01dbm 1412 1732.6 23.01dbm 1513 1752.6 23.01dbm Channel MHz Conducted Output Power (Average) 1513 1752.6 23.01dbm Channel MHz Conducted Output Power (Average) 1513 1752.6 23.01dbm Channel MHz Conducted Output Power (Average) 1513 1752.6 23.01dbm Channel MHz Conducted Output Power (Average) 1513 1752.6 23.01dbm Channel MHz Conducted Output Power (Average)	Channel MHz Conducted Output Power (Average) Measured(W/kg) 1g 1312 1712.4 22.81dbm 0.384 1412 1732.6 22.76dbm 0.391 1513 1752.6 23.01dbm 0.521 15° Tilt Position) Source (Average) Measured(W/kg) 0.391 Channel MHz Conducted Output Power (Average) Measured(W/kg) 1g 1312 1712.4 22.81dbm 0.368 1412 1732.6 22.76dbm 0.353 1513 1752.6 23.01dbm 0.48 (Cheek Position) _repeated with Memory card Measured(W/kg) Channel MHz Conducted Output Power (Average) Measured(W/kg) 1513 1752.6 23.01dbm 1.34 (Cheek Position)_repeated with WELLDONE Batter 1g 134 (Cheek Position)_repeated output Power (Average) Measured(W/kg) 1g 1513 1752.6 23.01dbm 1.34 (Cheek Position)_repeated with WELLDONE Batter 1g 1g 1513 1752.	Channel MHz Conducted Output Power (Average) Measured(W/kg) 1g Amb. Temp[°C] 1312 1712.4 22.81dbm 0.384 22.1 1412 1732.6 22.76dbm 0.391 22.1 1513 1752.6 23.01dbm 0.521 22.1 15* Tilt Position 22.1 22.1 22.1 15* Tilt Position MHz Conducted Output Power (Average) Measured(W/kg) 1g Amb. Temp[°C] 1312 1712.4 22.81dbm 0.368 22.1 1412 1732.6 22.76dbm 0.353 22.1 1513 1752.6 23.01dbm 0.48 22.1 1513 1752.6 23.01dbm 0.48 22.1 (Cheek Position) _repeated with Memory card Temp[°C] Temp[°C] 1513 1752.6 23.01dbm 1.34 22.1 (Cheek Position) _repeated with WELLDONE Battery Temp[°C] Temp[°C] 1513 1752.6 23.01dbm 1.35 22.1 (Cheek Position) _repeat

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C]

WCDMA BAND 4 HSDPA mode

Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°(
	1312	1712.4	22.69dbm	0.45	22.1	21.7
WCDMA B4	1412	1732.6	22.62dbm	0.43	22.1	21.7
	1513	1752.6	22.85dbm	0.532	22.1	21.7

WCDMA BAND 4 HSUPA mode

Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
	1312	1712.4	22.73dbm	0.479	22.1	21.7
WCDMA B4	1412	1732.6	22.67dbm	0.445	22.1	21.7
	1513	1752.6	22.91dbm	0.565	22.1	21.7

WLAN802.11 b

Body worn						
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid
			Power (Average)	1g	Temp[°C]	Temp[°C]
	1	2412	17.21dbm	0.143	22.1	21.7
WLAN 802.11 b	6	2437	17.38dbm	0.163	22.1	21.7
	11	2462	17.92dbm	0.162	22.1	21.7
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]
WLAN 802.11 b	6	2437	17.38dbm	0.049	22.1	21.7
Body worn-	repeated [•]	with M	emory card			
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid
			Power (Average)	1g	Temp[°C]	Temp[°C]
WLAN 802.11 b	6	2437	17.38dbm	0.147	22.1	21.7

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Body worn-repeated with Bluetooth active									
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]			
WLAN 802.11 b	6	2437	17.38dbm	0.154	22.1	21.7			
Body worn-	repeated	with W	/ELLDONE Battery						
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid			
			Power (Average)	1g	Temp[°C]	Temp[°C]			
WLAN 802.11 b	6	2437	17.38dbm	0.145	22.1	21.7			

WLAN 802.11 g

Body worn			ALCO			
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
	1	2412	13.5dbm	0.033	22.1	21.7
WLAN 802.11 g	6	2437	13.8dbm	0.039	22.1	21.7
002.11 g	11	2462	13.6dbm	0.038	22.1	21.7

Second solution measurement result

GSM 850 MHZ

Left Head (Cheek Position)									
Frequency	Channel	MHz	Conducted Output	Amb.	Liquid				
			Power (Average)	1g	Temp[°C]	Temp[°C]			
850 MHz	251	848.8	33.1dbm	1.25	22.1	21.7			
Body worn	(testing in	GPRS	mode)						
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid			
			Power (Average)	1g	Temp[°C]	Temp[°C]			
850 MHz	251	848.8	32.1dbm	1.35	22.1	21.7			

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PCS 1900 MHZ

Right Head (Cheek Position)								
Frequency	Channel	MHz	Conducted Output Power (Average)	Amb. Temp[°C]	Liquid Temp[°C]			
1900 MHz	661	1880	29.9dbm	1.37	22.1	21.7		
Body worn	(testing ir	ו GPRS	mode)					
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]		
1900 MHz	512	1850.2	29.6dbm	1.15	22.1	21.7		

WCDMA BAND 4

Right Head (Cheek Position)_repeated with WELLDONE Battery									
Frequency	Channel	el MHz Conducted Output Measured(W/kg) Amb. L							
			Power (Average)	1g	Temp[°C]	Temp[°C]			
WCDMA B4	1513	1752.6	23dbm	1.39	22.1	21.7			
Body worn					1 8-2-				
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid			
			Power (Average)	1g	Temp[°C]	Temp[°C]			
WCDMA B4	1513	1752.6	23dbm	0.646	22.1	21.7			

WCDMA BAND 4 HSDPA mode

Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1513	1752.6	22.7dbm	0.546	22.1	21.7

WCDMA BAND 4 HSUPA mode

Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1513	1752.6	22.87dbm	0.588	22.1	21.7

Taiwan Ltd.

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WLAN802.11 b

Body worn						
Frequency	Channel	MHz	Conducted Output	Measured(W/kg)	Amb.	Liquid
			Power (Average)	1g	Temp[°C]	Temp[°C]
WLAN 802.11 b	6	2437	17.32dbm	0.157	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]			
WLAN 802.11 g	6	2437	13.7dbm	0.037	22.1	21.7			

Bluetooth

Body worn								
Frequency	Channel	nel MHz Conducted Output Measured(W/kg Power (Average) 1g		Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]		
	0	2402	0.28dbm	0.00234	22.1	21.7		
Bluetooth	39	2441	0.72dbm	0.0031	22.1	21.7		
	78	2480	0.48dbm	0.00242	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-FieldProbe	EX3DV3	3526	Aug.26.2008
Schmid & Partner Engineering AG	850/1800/1900/2450MHz System Validation Dipole	D835V2 D1800V2 D1900V2 D2450V2	4d063 2d061 5d027 727	Jun.06.2008 Apr.15.2008 Apr.15.2008 Apr.11.2008
Schmid & Partner Engineering AG	Data acquisition Electronics	DAE4	547	Jan.24.2008
Schmid & Partner Engineering AG	Software	DASY 4 V4.7 Build71	N/A	Calibration not required
Schmid & Partner Engineering AG	Phantom	SAM	N/A	Calibration not required
Agilent	Network Analyzer	8753D	3410A56662	Apr.16.2008
Agilent	Dielectric Probe Kit	85070D	US01440168	Calibration not required
Agilent	Dual-directional coupler	778D 777D	50313 50014	Aug.26.2008 Aug.26.2008
Agilent	RF Signal Generator	E4438c	MY45093613	May.21.2008
Agilent	Power Sensor	8481H	MY41091361	May.20.2008
R&S	Radio Communication Test	CMU200	109326	Mar.11.2008

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Date/Time: 2008/12/17 01:42:18

Re Cheek_CH128

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3 Medium: Head 850 MHz Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.89 mho/m; ϵ_r = 42.4; ρ = 1000 kg/m³ Phantom section: Right Section

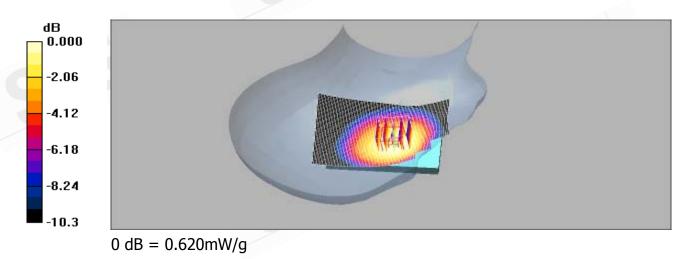
- Probe: EX3DV3 SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

RE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.625 mW/g

RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.83 V/m; Power Drift = -0.144 dB Peak SAR (extrapolated) = 0.736 W/kg

SAR(1 g) = 0.589 mW/g; SAR(10 g) = 0.440 mW/gMaximum value of SAR (measured) = 0.620 mW/g



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Report No. : ES/2008/C0010 Page : 29 of 161

Date/Time: 2008/12/17 02:10:45

Re Cheek_CH190

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3 Medium: Head 850 MHz Medium parameters used: f = 837 MHz; σ = 0.902 mho/m; ϵ_r = 42.3; ρ = 1000 kg/m³ Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

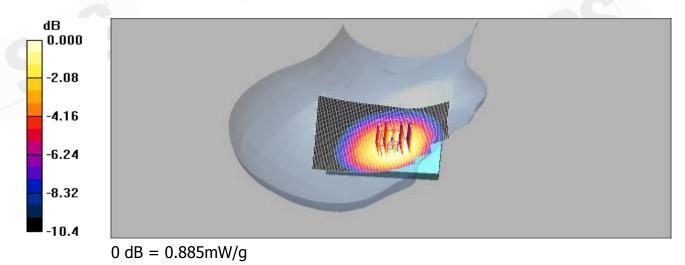
RE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.904 mW/g

RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.30 V/m; Power Drift = -0.101 dBPeak SAR (extrapolated) = 1.06 W/kg

SAR(1 g) = 0.848 mW/g; SAR(10 g) = 0.635 mW/g

Maximum value of SAR (measured) = 0.885 mW/g



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Report No. : ES/2008/C0010 Page : 30 of 161

Date/Time: 2008/12/17 02:38:11

Re Cheek_CH251

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3 Medium: Head 850 MHz Medium parameters used: f = 849 MHz; $\sigma = 0.914$ mho/m; $\varepsilon_r = 42.1$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

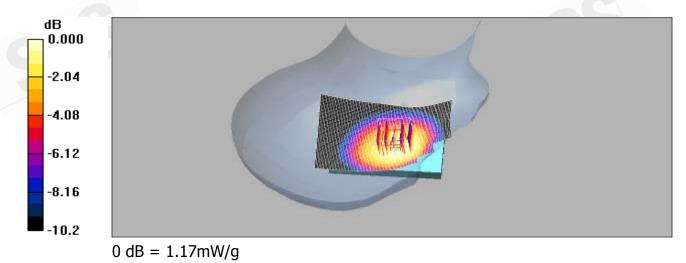
RE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.16 mW/g

RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.4 V/m; Power Drift = 0.016 dBPeak SAR (extrapolated) = 1.40 W/kg

SAR(1 g) = 1.11 mW/g; SAR(10 g) = 0.826 mW/g

Maximum value of SAR (measured) = 1.17 mW/g



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Report No. : ES/2008/C0010 Page : 31 of 161

Date/Time: 2008/12/17 04:58:40

Le Cheek_CH128

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3 Medium: Head 850 MHz Medium parameters used (interpolated): f = 824.2 MHz; $\sigma = 0.89$ mho/m; $\epsilon_r = 42.4$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

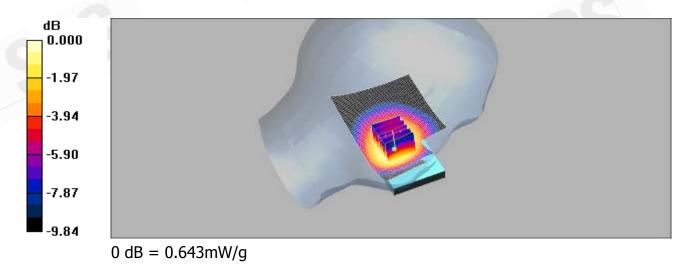
LE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.653 mW/g

LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.45 V/m; Power Drift = -0.160 dBPeak SAR (extrapolated) = 0.795 W/kg

SAR(1 g) = 0.611 mW/g; SAR(10 g) = 0.453 mW/g

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



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Report No. : ES/2008/C0010 Page : 32 of 161

Date/Time: 2008/12/17 05:28:03

Le Cheek_CH190

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3 Medium: Head 850 MHz Medium parameters used: f = 837 MHz; $\sigma = 0.902$ mho/m; $\varepsilon_r = 42.3$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

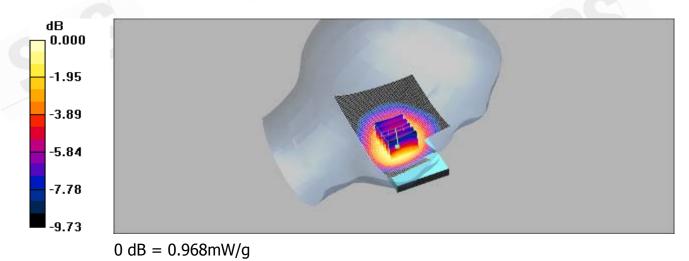
LE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dv=15mm Maximum value of SAR (interpolated) = 0.968 mW/g

LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.8 V/m; Power Drift = 0.023 dB Peak SAR (extrapolated) = 1.18 W/kg

SAR(1 g) = 0.916 mW/g; SAR(10 g) = 0.674 mW/g

Maximum value of SAR (measured) = 0.968 mW/g



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Report No. : ES/2008/C0010 Page : 33 of 161

Date/Time: 2008/12/17 05:57:11

Le Cheek_CH251

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3 Medium: Head 850 MHz Medium parameters used: f = 849 MHz; $\sigma = 0.914$ mho/m; $\varepsilon_r = 42.1$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

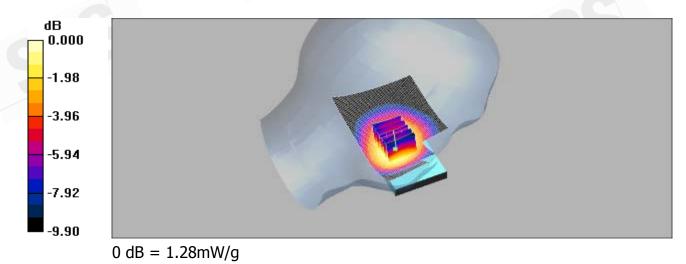
LE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.29 mW/g

LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.4 V/m; Power Drift = 0.000 dBPeak SAR (extrapolated) = 1.56 W/kg

SAR(1 g) = 1.22 mW/g; SAR(10 g) = 0.891 mW/g

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



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Report No. : ES/2008/C0010 Page : 34 of 161

Date/Time: 2008/12/17 03:09:03

Re Tilt_CH128

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3 Medium: Head 850 MHz Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.89 mho/m; ϵ_r = 42.4; ρ = 1000 kg/m³ Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

RE Tilt/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.360 mW/g

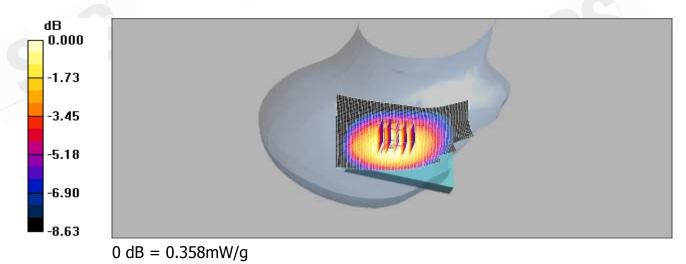
RE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.3 V/m; Power Drift = 0.026 dBPeak SAR (extrapolated) = 0.442 W/kg

SAR(1 g) = 0.344 mW/g; SAR(10 g) = 0.259 mW/g

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Maximum value of SAR (measured) = 0.358 mW/g



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Report No. : ES/2008/C0010 Page : 35 of 161

Date/Time: 2008/12/17 03:40:20

Re Tilt_CH190

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3 Medium: Head 850 MHz Medium parameters used: f = 837 MHz; $\sigma = 0.902$ mho/m; $\varepsilon_r = 42.3$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

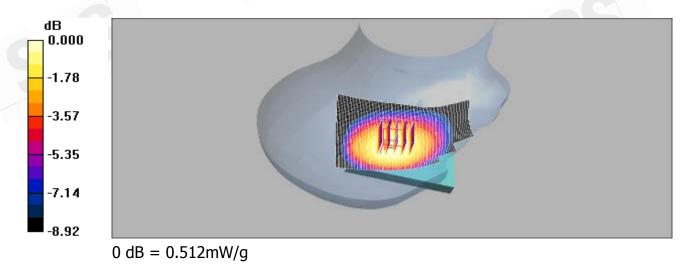
RE Tilt/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.509 mW/g

RE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.8 V/m; Power Drift = -0.026 dBPeak SAR (extrapolated) = 0.625 W/kg

SAR(1 g) = 0.491 mW/g; SAR(10 g) = 0.367 mW/g

Maximum value of SAR (measured) = 0.512 mW/g



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Report No. : ES/2008/C0010 Page : 36 of 161

Date/Time: 2008/12/17 04:13:16

Re Tilt_CH251

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3 Medium: Head 850 MHz Medium parameters used: f = 849 MHz; σ = 0.914 mho/m; ϵ_r = 42.1; ρ = 1000 kg/m³ Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

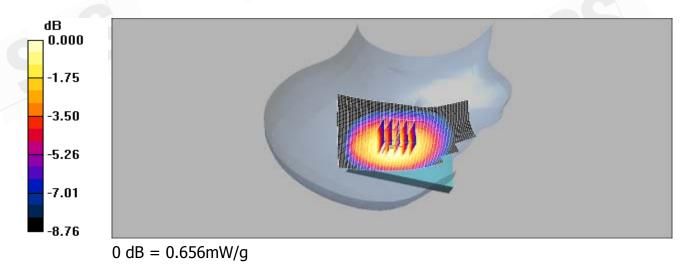
RE Tilt/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.660 mW/g

RE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.5 V/m; Power Drift = 0.039 dBPeak SAR (extrapolated) = 0.803 W/kg

SAR(1 g) = 0.626 mW/g; SAR(10 g) = 0.469 mW/g

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



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Report No. : ES/2008/C0010 Page : 37 of 161

Date/Time: 2008/12/17 06:30:27

Le Tilt_CH128

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3 Medium: Head 850 MHz Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.89 mho/m; ϵ_r = 42.4; ρ = 1000 kg/m³ Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

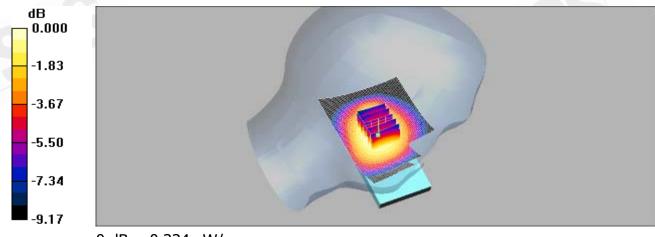
LE Tilt/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.337 mW/g

LE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.8 V/m; Power Drift = -0.001 dB Peak SAR (extrapolated) = 0.413 W/kg

SAR(1 g) = 0.320 mW/g; SAR(10 g) = 0.241 mW/g

Maximum value of SAR (measured) = 0.334 mW/g



 $0 \, dB = 0.334 mW/g$

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Report No. : ES/2008/C0010 Page : 38 of 161

Date/Time: 2008/12/17 07:02:30

Le Tilt_CH190

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3 Medium: Head 850 MHz Medium parameters used: f = 837 MHz; σ = 0.902 mho/m; ϵ_r = 42.3; ρ = 1000 kg/m³ Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

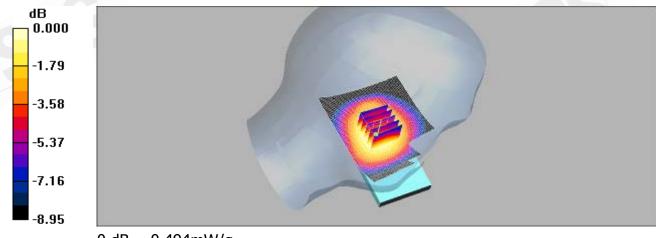
LE Tilt/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.504 mW/g

LE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.5 V/m; Power Drift = -0.060 dBPeak SAR (extrapolated) = 0.598 W/kg

SAR(1 g) = 0.475 mW/g; SAR(10 g) = 0.357 mW/g

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



 $0 \, dB = 0.494 \, mW/g$

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Report No. : ES/2008/C0010 Page : 39 of 161

Date/Time: 2008/12/17 07:30:37

Le Tilt_CH251

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3 Medium: Head 850 MHz Medium parameters used: f = 849 MHz; σ = 0.914 mho/m; ϵ_r = 42.1; ρ = 1000 kg/m³ Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

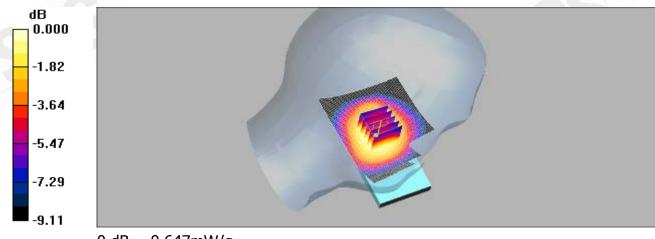
LE Tilt/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.656 mW/g

LE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.5 V/m; Power Drift = -0.083 dBPeak SAR (extrapolated) = 0.786 W/kg

SAR(1 g) = 0.619 mW/g; SAR(10 g) = 0.463 mW/g

Maximum value of SAR (measured) = 0.647 mW/g



 $0 \, dB = 0.647 \, mW/g$

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Report No. : ES/2008/C0010 Page : 40 of 161

Date/Time: 2008/12/18 05:35:07

BODY_CH128

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:4 Medium: Muscle 900 MHz Medium parameters used (interpolated): f = 824.2 MHz; $\sigma = 0.943$ mho/m; $\epsilon_r = 55.3$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

- Probe: EX3DV3 SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.03 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.69 V/m; Power Drift = -0.129 dB

Peak SAR (extrapolated) = 1.27 W/kg

SAR(1 g) = 0.969 mW/g; SAR(10 g) = 0.712 mW/g

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

BODY/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm,

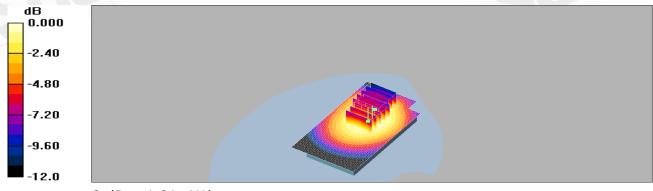
dz=5mm

Reference Value = 9.69 V/m; Power Drift = -0.129 dB

Peak SAR (extrapolated) = 1.27 W/kg

SAR(1 g) = 0.933 mW/g; SAR(10 g) = 0.668 mW/g

Maximum value of SAR (measured) = 1.01 mW/g



$0 \, dB = 1.01 \, mW/q$

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Report No. : ES/2008/C0010 Page : 41 of 161

Date/Time: 2008/12/18 06:08:20

BODY_CH190

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:4 Medium: Muscle 900 MHz Medium parameters used: f = 837 MHz; $\sigma = 0.958$ mho/m; $\epsilon_r =$ 55.3; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

- Probe: EX3DV3 SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

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

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.3 V/m; Power Drift = -0.188 dB

Peak SAR (extrapolated) = 1.50 W/kg

SAR(1 g) = 1.16 mW/g; SAR(10 g) = 0.848 mW/g

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

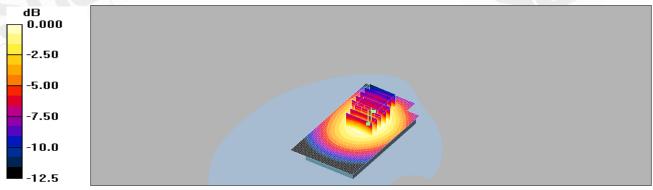
BODY/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm,

dz=5mm

Reference Value = 11.3 V/m; Power Drift = -0.188 dB

Peak SAR (extrapolated) = 1.49 W/kg

SAR(1 g) = 1.1 mW/g; SAR(10 g) = 0.783 mW/gMaximum value of SAR (measured) = 1.20 mW/g



$0 \, dB = 1.20 \, mW/g$

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Report No. : ES/2008/C0010 Page : 42 of 161

Date/Time: 2008/12/18 06:38:34

BODY_CH251

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:4 Medium: Muscle 900 MHz Medium parameters used: f = 849 MHz; $\sigma = 0.971$ mho/m; $\epsilon_r =$ 55.1; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

- Probe: EX3DV3 SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.48 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.4 V/m; Power Drift = 0.049 dB

Peak SAR (extrapolated) = 1.89 W/kg

SAR(1 g) = 1.43 mW/g; SAR(10 g) = 1.04 mW/g

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

BODY/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm,

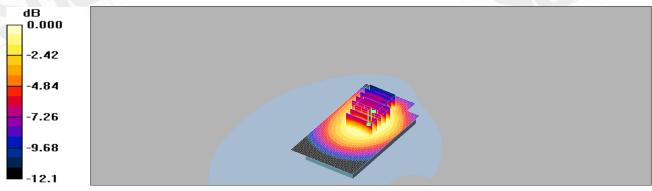
dz=5mm

Reference Value = 11.4 V/m; Power Drift = 0.049 dB

Peak SAR (extrapolated) = 1.91 W/kg

SAR(1 g) = 1.35 mW/g; SAR(10 g) = 0.957 mW/g

Maximum value of SAR (measured) = 1.50 mW/g



$0 \, dB = 1.50 \, mW/g$

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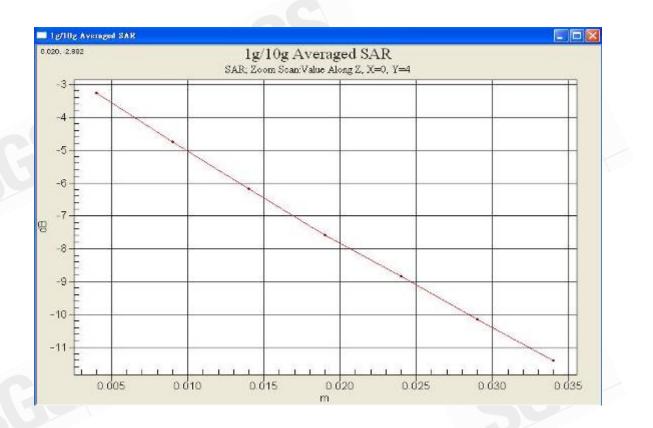
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Date/Time: 2008/12/18 16:23:37

BODY_CH251_repeated for EUT front to phantom

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:4 Medium: Muscle 900 MHz Medium parameters used: f = 849 MHz; $\sigma = 0.971$ mho/m; $\epsilon_r =$ 55.1; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

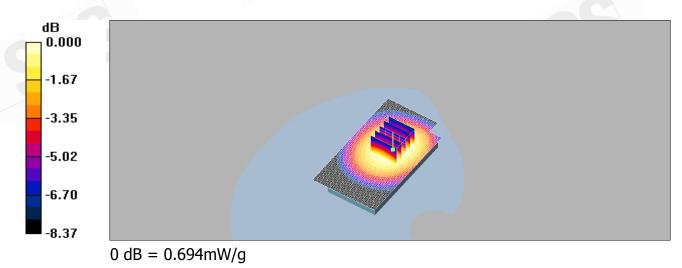
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.714 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,

dz=5mmReference Value = 9.15 V/m; Power Drift = -0.125 dBPeak SAR (extrapolated) = 0.850 W/kg

SAR(1 g) = 0.662 mW/g; SAR(10 g) = 0.496 mW/g

Maximum value of SAR (measured) = 0.694 mW/g



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Date/Time: 2008/12/18 17:02:31

BODY_CH251_repeated Memory card

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:4 Medium: Muscle 900 MHz Medium parameters used: f = 849 MHz; $\sigma = 0.971$ mho/m; $\epsilon_r =$ 55.1; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

- Probe: EX3DV3 SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.39 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.9 V/m; Power Drift = -0.089 dB

Peak SAR (extrapolated) = 1.72 W/kg

SAR(1 g) = 1.31 mW/g; SAR(10 g) = 0.959 mW/g

Maximum value of SAR (measured) = 1.39 mW/g

BODY/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm,

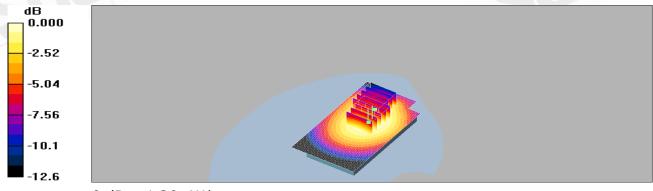
dz=5mm

Reference Value = 11.9 V/m; Power Drift = -0.089 dB

Peak SAR (extrapolated) = 1.78 W/kg

SAR(1 g) = 1.24 mW/g; SAR(10 g) = 0.889 mW/g

Maximum value of SAR (measured) = 1.36 mW/g



 $0 \, dB = 1.36 \, mW/q$

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Date/Time: 2008/12/18 17:48:52

BODY_CH251_repeated Bluetooth active

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:4 Medium: Muscle 900 MHz Medium parameters used: f = 849 MHz; σ = 0.971 mho/m; ϵ_r = 55.1; ρ = 1000 kg/m³ Phantom section: Elst Section

Phantom section: Flat Section

- Probe: EX3DV3 SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

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

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.6 V/m; Power Drift = -0.173 dB

Peak SAR (extrapolated) = 1.87 W/kg

SAR(1 g) = 1.42 mW/g; SAR(10 g) = 1.03 mW/g

Maximum value of SAR (measured) = 1.50 mW/g

BODY/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm,

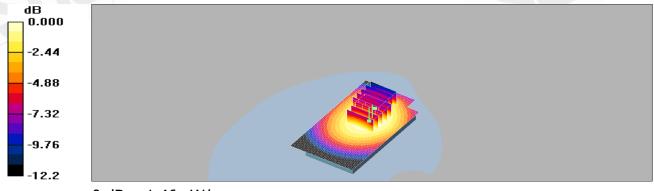
dz=5mm

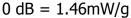
Reference Value = 12.6 V/m; Power Drift = -0.173 dBPeak SAR (extrapolated) = 1.82 W/kg

 $\frac{1}{2} = \frac{1}{2} = \frac{1}$

SAR(1 g) = 1.33 mW/g; SAR(10 g) = 0.950 mW/g

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





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Date/Time: 2008/12/18 20:23:21

BODY_CH251_ repeated with WELLDONE Battery

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:4 Medium: Muscle 900 MHz Medium parameters used: f = 849 MHz; $\sigma = 0.971$ mho/m; $\epsilon_r =$ 55.1; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

- Probe: EX3DV3 SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.47 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.9 V/m; Power Drift = -0.145 dB

Peak SAR (extrapolated) = 1.80 W/kg

SAR(1 g) = 1.36 mW/g; SAR(10 g) = 0.996 mW/g

Maximum value of SAR (measured) = 1.44 mW/g

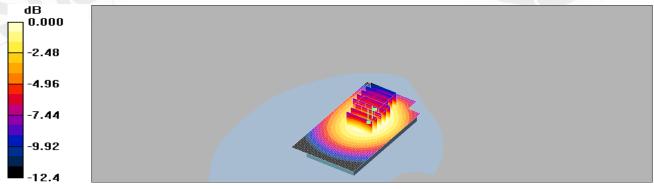
BODY/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm,

dz=5mm

Reference Value = 12.9 V/m; Power Drift = -0.145 dBPeak SAR (extrapolated) = 1.74 W/kg

SAR(1 g) = 1.27 mW/g; SAR(10 g) = 0.906 mW/g

Maximum value of SAR (measured) = 1.40 mW/g



$0 \, dB = 1.40 \, mW/q$

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Report No. : ES/2008/C0010 Page : 48 of 161

Date/Time: 2008/12/17 09:17:34

Re Cheek_CH512

DUT: SAPP 300;

Communication System: GSM1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3 Medium: Head 1900 MHz Medium parameters used (interpolated): f = 1850.2 MHz; $\sigma = 1.44$ mho/m; $\epsilon_r = 41.4$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

DASY4 Configuration:

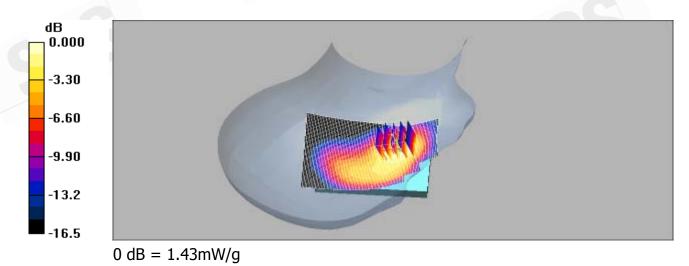
- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

RE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.48 mW/g

RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.0 V/m; Power Drift = -0.107 dBPeak SAR (extrapolated) = 2.21 W/kg

SAR(1 g) = 1.3 mW/g; SAR(10 g) = 0.753 mW/gMaximum value of SAR (measured) = 1.43 mW/g



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Report No. : ES/2008/C0010 Page : 49 of 161

Date/Time: 2008/12/17 09:45:57

Re Cheek_CH661

DUT: SAPP 300;

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3 Medium: Head 1900 MHz Medium parameters used: f = 1880 MHz; $\sigma = 1.47$ mho/m; $\epsilon_r =$ 41.3; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

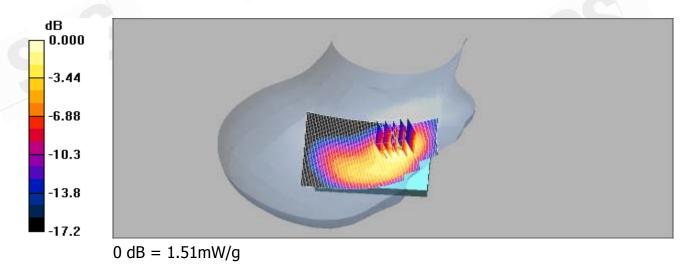
RE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.57 mW/g

RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.5 V/m; Power Drift = 0.058 dB Peak SAR (extrapolated) = 2.31 W/kg

SAR(1 g) = 1.37 mW/g; SAR(10 g) = 0.784 mW/g

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



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Report No. : ES/2008/C0010 Page : 50 of 161

Date/Time: 2008/12/17 10:17:27

Re Cheek_CH810

DUT: SAPP 300;

Communication System: GSM1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3 Medium: Head 1900 MHz Medium parameters used: f = 1910 MHz; $\sigma = 1.49$ mho/m; $\epsilon_r =$ 41.1; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

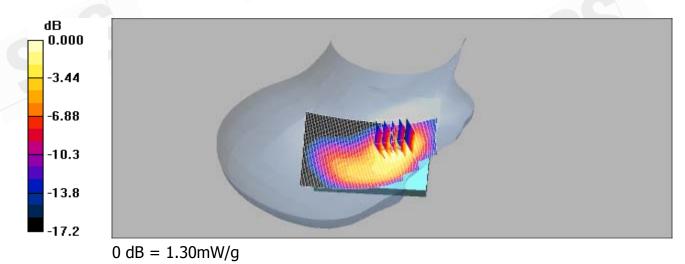
RE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.35 mW/g

RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.9 V/m; Power Drift = -0.048 dBPeak SAR (extrapolated) = 2.01 W/kg

SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.673 mW/g

Maximum value of SAR (measured) = 1.30 mW/g



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Report No. : ES/2008/C0010 Page : 51 of 161

Date/Time: 2008/12/17 12:39:17

Le Cheek_CH512

DUT: SAPP 300;

Communication System: GSM1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3 Medium: Head 1900 MHz Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.44 mho/m; ϵ_r = 41.4; ρ = 1000 kg/m³ Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

LE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.05 mW/g

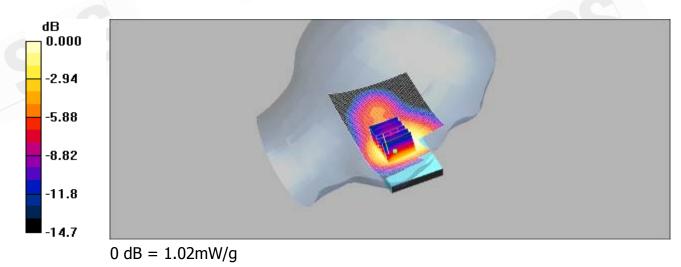
LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.3 V/m; Power Drift = -0.050 dBPeak SAR (extrapolated) = 1.42 W/kg

SAR(1 g) = 0.955 mW/g; SAR(10 g) = 0.603 mW/g

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



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Report No. : ES/2008/C0010 Page : 52 of 161

Date/Time: 2008/12/17 13:10:23

Le Cheek_CH661

DUT: SAPP 300;

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3 Medium: Head 1900 MHz Medium parameters used: f = 1880 MHz; $\sigma = 1.47$ mho/m; $\epsilon_r =$ 41.3; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

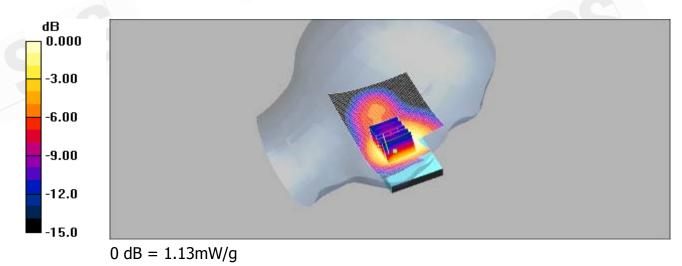
LE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.17 mW/g

LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.6 V/m; Power Drift = -0.133 dB Peak SAR (extrapolated) = 1.56 W/kg

SAR(1 g) = 1.05 mW/g; SAR(10 g) = 0.660 mW/g

Maximum value of SAR (measured) = 1.13 mW/g



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Report No. : ES/2008/C0010 Page : 53 of 161

Date/Time: 2008/12/17 13:39:15

Le Cheek_CH810

DUT: SAPP 300;

Communication System: GSM1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3 Medium: Head 1900 MHz Medium parameters used: f = 1910 MHz; σ = 1.49 mho/m; ϵ_r = 41.1; ρ = 1000 kg/m³ Phantom section.

Phantom section: Left Section

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

LE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

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

LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.3 V/m; Power Drift = -0.120 dB

Peak SAR (extrapolated) = 1.40 W/kg

SAR(1 g) = 0.935 mW/g; SAR(10 g) = 0.581 mW/g

Maximum value of SAR (measured) = 1.00 mW/g

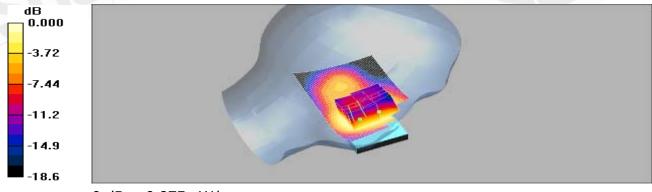
LE Cheek/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.3 V/m; Power Drift = -0.120 dB

Peak SAR (extrapolated) = 1.23 W/kg

SAR(1 g) = 0.804 mW/g; SAR(10 g) = 0.519 mW/g

Maximum value of SAR (measured) = 0.875 mW/g



 $0 \, dB = 0.875 \, mW/g$

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Report No. : ES/2008/C0010 Page : 54 of 161

Date/Time: 2008/12/17 10:49:28

Re Tilt_CH512

DUT: SAPP 300;

Communication System: GSM1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3 Medium: Head 1900 MHz Medium parameters used (interpolated): f = 1850.2 MHz; $\sigma = 1.44$ mho/m; $\epsilon_r = 41.4$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

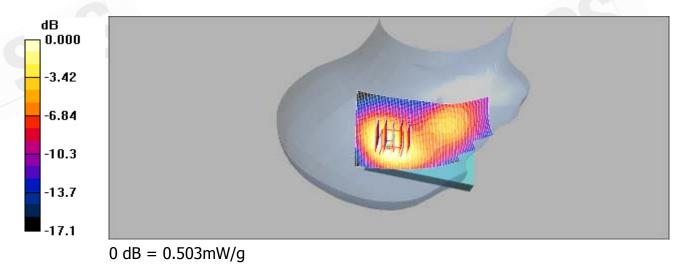
RE Tilt/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.546 mW/g

RE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.2 V/m; Power Drift = 0.009 dBPeak SAR (extrapolated) = 0.709 W/kg

SAR(1 g) = 0.479 mW/g; SAR(10 g) = 0.304 mW/g

Maximum value of SAR (measured) = 0.503 mW/g



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Report No. : ES/2008/C0010 Page : 55 of 161

Date/Time: 2008/12/17 11:21:08

Re Tilt_CH661

DUT: SAPP 300;

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3 Medium: Head 1900 MHz Medium parameters used: f = 1880 MHz; $\sigma = 1.47$ mho/m; $\epsilon_r =$ 41.3; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

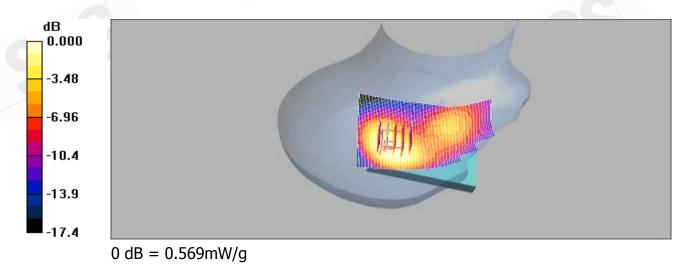
RE Tilt/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.614 mW/g

RE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.5 V/m; Power Drift = -0.028 dB Peak SAR (extrapolated) = 0.805 W/kg

SAR(1 g) = 0.542 mW/g; SAR(10 g) = 0.340 mW/g

Maximum value of SAR (measured) = 0.569 mW/g



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Report No. : ES/2008/C0010 Page : 56 of 161

Date/Time: 2008/12/17 11:51:02

Re Tilt_CH810

DUT: SAPP 300;

Communication System: GSM1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3 Medium: Head 1900 MHz Medium parameters used: f = 1910 MHz; $\sigma = 1.49$ mho/m; $\epsilon_r =$ 41.1; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

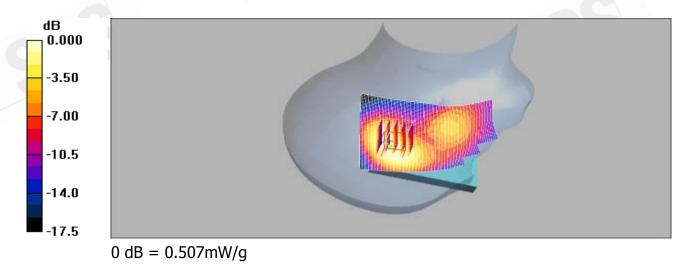
RE Tilt/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.533 mW/g

RE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.7 V/m; Power Drift = 0.015 dBPeak SAR (extrapolated) = 0.735 W/kg

SAR(1 g) = 0.479 mW/g; SAR(10 g) = 0.297 mW/g

Maximum value of SAR (measured) = 0.507 mW/g



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Report No. : ES/2008/C0010 Page : 57 of 161

Date/Time: 2008/12/17 14:13:14

Le Tilt_CH512

DUT: SAPP 300;

Communication System: GSM1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3 Medium: Head 1900 MHz Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.44 mho/m; ϵ_r = 41.4; ρ = 1000 kg/m³ Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

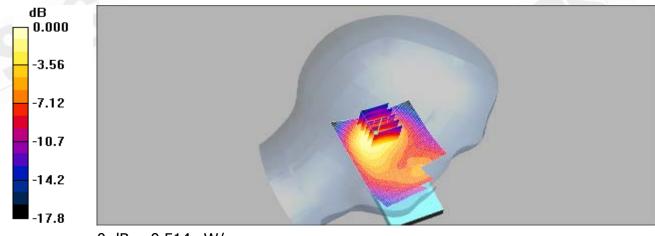
LE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.519 mW/g

LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.7 V/m; Power Drift = -0.029 dBPeak SAR (extrapolated) = 0.740 W/kg

SAR(1 g) = 0.469 mW/g; SAR(10 g) = 0.283 mW/g

Maximum value of SAR (measured) = 0.514 mW/g



 $0 \, dB = 0.514 \, mW/g$

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Report No. : ES/2008/C0010 Page : 58 of 161

Date/Time: 2008/12/17 14:45:45

Le Tilt_CH661

DUT: SAPP 300;

Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3 Medium: Head 1900 MHz Medium parameters used: f = 1880 MHz; σ = 1.47 mho/m; ϵ_r = 41.3; ρ = 1000 kg/m³ Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

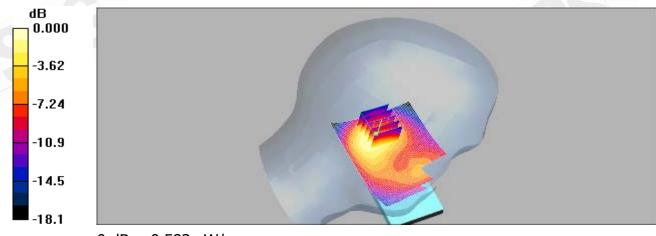
LE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.594 mW/g

LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.7 V/m; Power Drift = -0.022 dBPeak SAR (extrapolated) = 0.845 W/kg

SAR(1 g) = 0.531 mW/g; SAR(10 g) = 0.316 mW/g

Maximum value of SAR (measured) = 0.583 mW/g



 $0 \, dB = 0.583 \, mW/g$

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Report No. : ES/2008/C0010 Page : 59 of 161

Date/Time: 2008/12/17 15:14:15

Le Tilt_CH810

DUT: SAPP 300;

Communication System: GSM1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3 Medium: Head 1900 MHz Medium parameters used: f = 1910 MHz; σ = 1.49 mho/m; ϵ_r = 41.1; ρ = 1000 kg/m³ Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

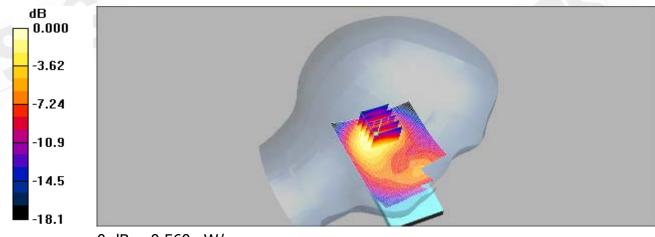
LE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.573 mW/g

LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.2 V/m; Power Drift = -0.052 dBPeak SAR (extrapolated) = 0.825 W/kg

SAR(1 g) = 0.508 mW/g; SAR(10 g) = 0.298 mW/g

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



 $0 \, dB = 0.560 \, mW/g$

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Report No. : ES/2008/C0010 Page : 60 of 161

Date/Time: 2008/12/18 08:14:12

BODY_CH512

DUT: SAPP 300;

Communication System: GSM1900; Frequency: 1850.2 MHz; Duty Cycle: 1:4 Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1850.2 MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 51.4$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

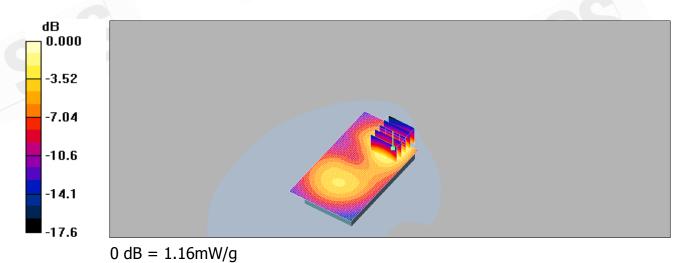
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.14 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.3 V/m; Power Drift = -0.009 dB Peak SAR (extrapolated) = 1.80 W/kg

SAR(1 g) = 1.05 mW/g; SAR(10 g) = 0.598 mW/g

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





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Report No. : ES/2008/C0010 Page : 61 of 161

Date/Time: 2008/12/18 08:47:01

BODY_CH661

DUT: SAPP 300;

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:4 Medium: M1800 & 1900 Medium parameters used: f = 1880 MHz; $\sigma = 1.56$ mho/m; $\varepsilon_r = 51.3$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

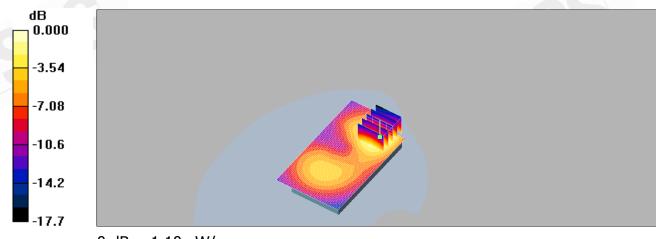
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.08 mW/g

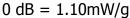
BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.6 V/m; Power Drift = 0.086 dBPeak SAR (extrapolated) = 1.72 W/kg

SAR(1 g) = 0.999 mW/g; SAR(10 g) = 0.566 mW/g

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





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Report No. : ES/2008/C0010 Page : 62 of 161

Date/Time: 2008/12/18 09:16:49

BODY_CH810

DUT: SAPP 300;

Communication System: GSM1900; Frequency: 1909.8 MHz; Duty Cycle: 1:4 Medium: M1800 & 1900 Medium parameters used: f = 1910 MHz; $\sigma = 1.58$ mho/m; $\varepsilon_r = 51.1$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

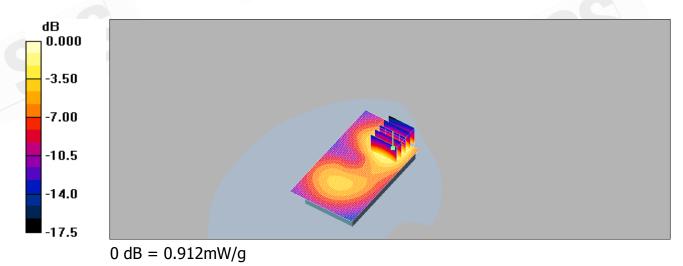
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.887 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.1 V/m; Power Drift = 0.042 dBPeak SAR (extrapolated) = 1.43 W/kg

SAR(1 g) = 0.825 mW/g; SAR(10 g) = 0.467 mW/g

Maximum value of SAR (measured) = 0.912 mW/g



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Report No. : ES/2008/C0010 Page : 63 of 161

Date/Time: 2008/12/17 17:10:42

Re Cheek_CH1312

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1712.4 MHz; Duty Cycle: 1:1 Medium: Head 1800 MHz Medium parameters used (interpolated): f = 1712.4 MHz; $\sigma = 1.41$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

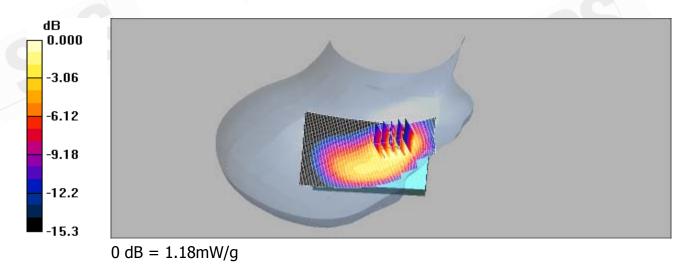
RE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.22 mW/g

RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.97 V/m; Power Drift = -0.053 dB Peak SAR (extrapolated) = 1.73 W/kg

SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.639 mW/g

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



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Report No. : ES/2008/C0010 Page : 64 of 161

Date/Time: 2008/12/17 17:41:46

Re Cheek_CH1412

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1732.6 MHz; Duty Cycle: 1:1 Medium: Head 1800 MHz Medium parameters used (interpolated): f = 1732.6 MHz; $\sigma = 1.42$ mho/m; $\varepsilon_r = 41.5$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

DASY4 Configuration:

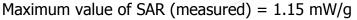
- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

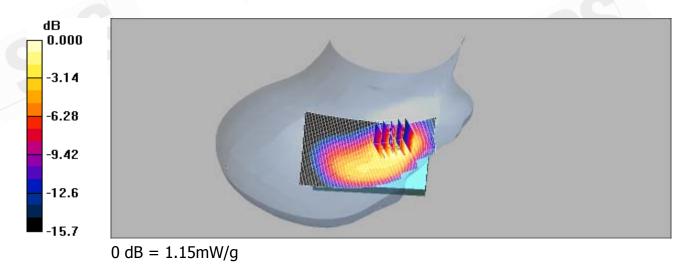
RE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.19 mW/g

RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.74 V/m; Power Drift = -0.080 dBPeak SAR (extrapolated) = 1.71 W/kg

SAR(1 g) = 1.05 mW/g; SAR(10 g) = 0.617 mW/g





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Date/Time: 2008/12/17 18:09:22

Re Cheek_CH1513

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1 Medium: Head 1800 MHz Medium parameters used: f = 1753 MHz; $\sigma = 1.44$ mho/m; $\epsilon_r =$ 41.4; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

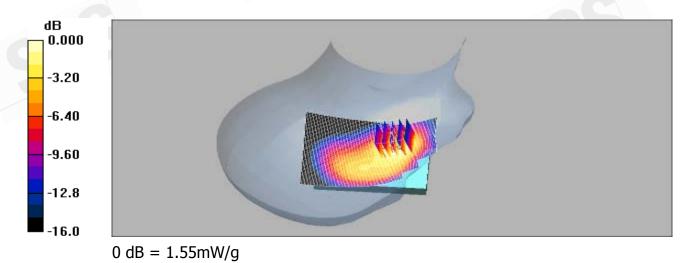
RE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.60 mW/g

RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.3 V/m; Power Drift = 0.000 dB Peak SAR (extrapolated) = 2.31 W/kg

SAR(1 g) = 1.41 mW/g; SAR(10 g) = 0.823 mW/g

Maximum value of SAR (measured) = 1.55 mW/g



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Report No. : ES/2008/C0010 Page : 66 of 161

Date/Time: 2008/12/17 20:29:46

Le Cheek_CH1312

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1712.4 MHz;Duty Cycle: 1:1 Medium: Head 1800 MHz Medium parameters used (interpolated): f = 1712.4 MHz; σ = 1.41 mho/m; ϵ_r = 41.6; ρ = 1000 kg/m³ Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

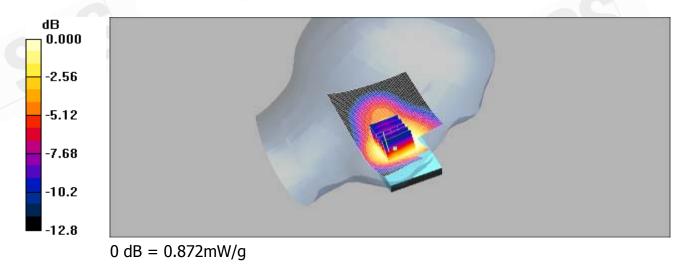
LE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.887 mW/g

LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.4 V/m; Power Drift = -0.142 dB Peak SAR (extrapolated) = 1.21 W/kg

SAR(1 g) = 0.805 mW/g; SAR(10 g) = 0.540 mW/g

Maximum value of SAR (measured) = 0.872 mW/g



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Report No. : ES/2008/C0010 Page : 67 of 161

Date/Time: 2008/12/17 21:00:47

Le Cheek_CH1412

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1732.6 MHz; Duty Cycle: 1:1 Medium: Head 1800 MHz Medium parameters used (interpolated): f = 1732.6 MHz; $\sigma = 1.42$ mho/m; $\varepsilon_r = 41.5$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

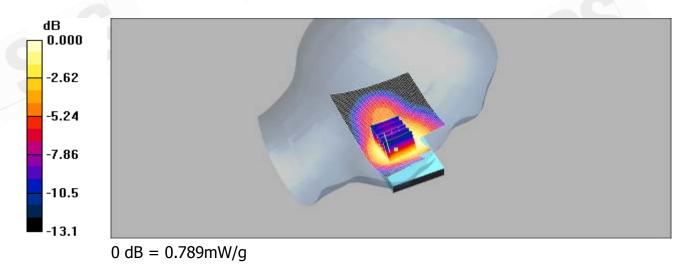
LE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dv=15mm Maximum value of SAR (interpolated) = 0.769 mW/g

LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.2 V/m; Power Drift = 0.034 dB Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.729 mW/g; SAR(10 g) = 0.481 mW/g

Maximum value of SAR (measured) = 0.789 mW/g



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Date/Time: 2008/12/17 21:28:14

Le Cheek_CH1513

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1 Medium: Head 1800 MHz Medium parameters used: f = 1753 MHz; $\sigma = 1.44$ mho/m; $\epsilon_r =$ 41.4; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

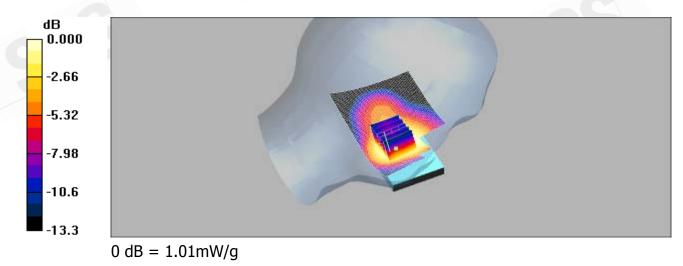
LE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.992 mW/g

LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.9 V/m; Power Drift = -0.048 dB Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 0.932 mW/g; SAR(10 g) = 0.606 mW/g

Maximum value of SAR (measured) = 1.01 mW/g



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Report No. : ES/2008/C0010 Page : 69 of 161

Date/Time: 2008/12/17 18:42:41

Re Tilt_CH1312

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1712.4 MHz; Duty Cycle: 1:1 Medium: Head 1800 MHz Medium parameters used (interpolated): f = 1712.4 MHz; $\sigma = 1.41$ mho/m; $\epsilon_r = 41.6$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

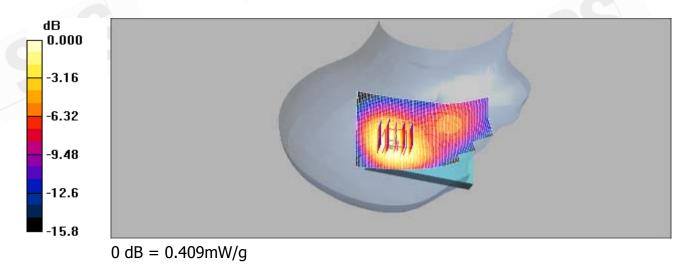
RE Tilt/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.434 mW/g

RE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.7 V/m; Power Drift = 0.019 dBPeak SAR (extrapolated) = 0.549 W/kg

SAR(1 g) = 0.384 mW/g; SAR(10 g) = 0.252 mW/g

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



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Report No. : ES/2008/C0010 Page : 70 of 161

Date/Time: 2008/12/17 19:13:25

Re Tilt_CH1412

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1732.6 MHz; Duty Cycle: 1:1 Medium: Head 1800 MHz Medium parameters used (interpolated): f = 1732.6 MHz; $\sigma = 1.42$ mho/m; $\varepsilon_r = 41.5$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

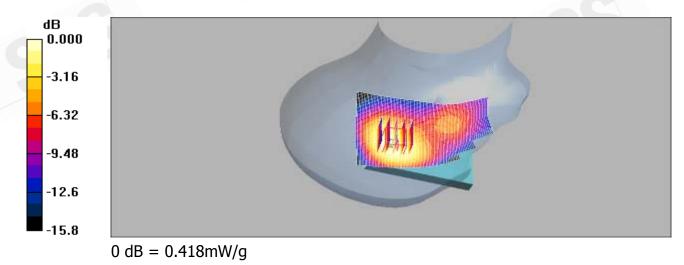
RE Tilt/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.444 mW/g

RE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.9 V/m; Power Drift = -0.001 dB Peak SAR (extrapolated) = 0.558 W/kg

SAR(1 g) = 0.391 mW/g; SAR(10 g) = 0.257 mW/g

Maximum value of SAR (measured) = 0.418 mW/g



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Report No. : ES/2008/C0010 Page : 71 of 161

Date/Time: 2008/12/17 19:41:23

Re Tilt_CH1513

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz;Duty Cycle: 1:1 Medium: Head 1800 MHz Medium parameters used: f = 1753 MHz; σ = 1.44 mho/m; ϵ_r = 41.4; ρ = 1000 kg/m³ Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

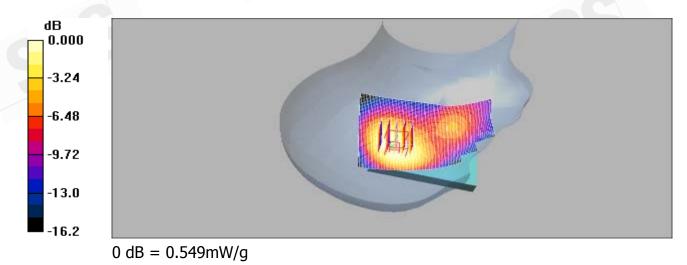
RE Tilt/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.592 mW/g

RE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.1 V/m; Power Drift = 0.050 dBPeak SAR (extrapolated) = 0.754 W/kg

SAR(1 g) = 0.521 mW/g; SAR(10 g) = 0.340 mW/g

Maximum value of SAR (measured) = 0.549 mW/g



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Report No. : ES/2008/C0010 Page : 72 of 161

Date/Time: 2008/12/17 22:11:31

Le Tilt_CH1312

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1712.4 MHz;Duty Cycle: 1:1 Medium: Head 1800 MHz Medium parameters used (interpolated): f = 1712.4 MHz; σ = 1.41 mho/m; ϵ_r = 41.6; ρ = 1000 kg/m³ Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

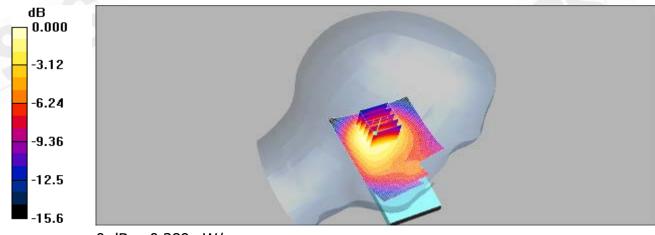
LE Tilt/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.404 mW/g

LE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.1 V/m; Power Drift = 0.012 dBPeak SAR (extrapolated) = 0.542 W/kg

SAR(1 g) = 0.368 mW/g; SAR(10 g) = 0.239 mW/g

Maximum value of SAR (measured) = 0.389 mW/g



 $0 \, dB = 0.389 \, mW/g$

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Report No. : ES/2008/C0010 Page : 73 of 161

Date/Time: 2008/12/17 22:42:28

Le Tilt_CH1412

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1732.6 MHz;Duty Cycle: 1:1 Medium: Head 1800 MHz Medium parameters used (interpolated): f = 1732.6 MHz; σ = 1.42 mho/m; ϵ_r = 41.5; ρ = 1000 kg/m³ Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

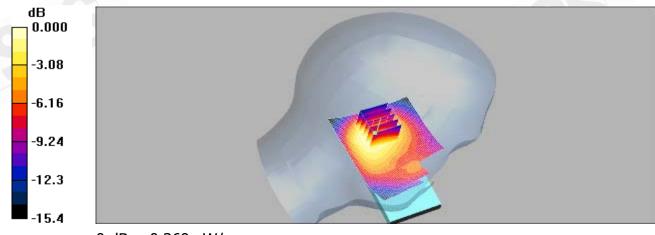
LE Tilt/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.387 mW/g

LE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.0 V/m; Power Drift = -0.034 dBPeak SAR (extrapolated) = 0.525 W/kg

SAR(1 g) = 0.353 mW/g; SAR(10 g) = 0.227 mW/g

Maximum value of SAR (measured) = 0.369 mW/g



 $0 \, dB = 0.369 \, mW/g$

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Report No. : ES/2008/C0010 Page : 74 of 161

Date/Time: 2008/12/17 23:11:20

Le Tilt_CH1513

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz;Duty Cycle: 1:1 Medium: Head 1800 MHz Medium parameters used: f = 1753 MHz; σ = 1.44 mho/m; ϵ_r = 41.4; ρ = 1000 kg/m³ Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

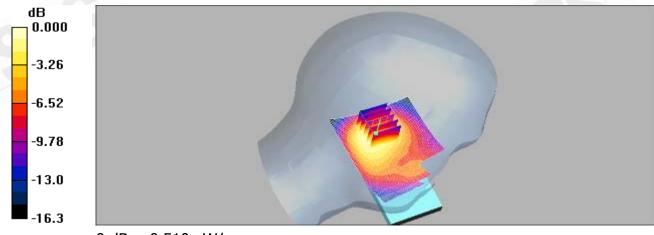
LE Tilt/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.521 mW/g

LE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.5 V/m; Power Drift = 0.012 dBPeak SAR (extrapolated) = 0.725 W/kg

SAR(1 g) = 0.480 mW/g; SAR(10 g) = 0.302 mW/g

Maximum value of SAR (measured) = 0.510 mW/g



 $0 \, dB = 0.510 \, mW/g$

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Date/Time: 2008/12/17 23:57:47

Re Cheek_CH1513_repeated with Memory card

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1 Medium: Head 1800 MHz Medium parameters used: f = 1753 MHz; $\sigma = 1.44$ mho/m; $\epsilon_r =$ 41.4; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

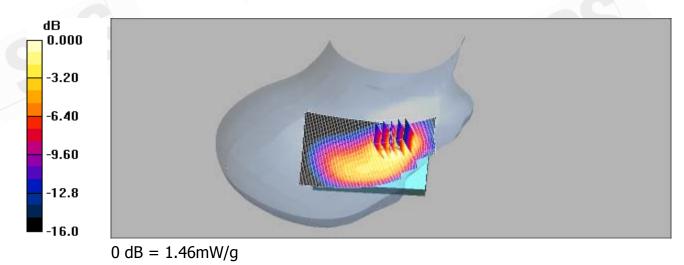
RE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.51 mW/g

RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.3 V/m; Power Drift = -0.201 dBPeak SAR (extrapolated) = 2.17 W/kg

SAR(1 g) = 1.34 mW/g; SAR(10 g) = 0.789 mW/g

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



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Date/Time: 2008/12/18 00:42:45

Re Cheek_CH1513_repeated with Bluetooth active

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1 Medium: Head 1800 MHz Medium parameters used: f = 1753 MHz; $\sigma = 1.44$ mho/m; $\epsilon_r =$ 41.4; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

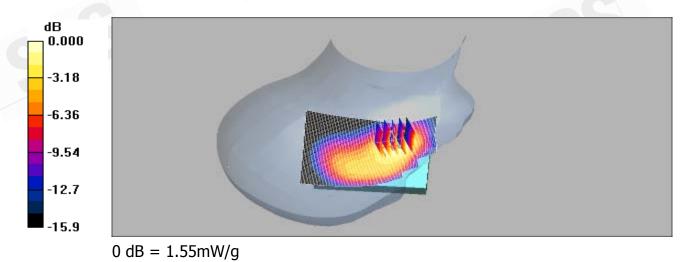
RE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.59 mW/g

RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.0 V/m; Power Drift = -0.103 dBPeak SAR (extrapolated) = 2.28 W/kg

SAR(1 g) = 1.4 mW/g; SAR(10 g) = 0.819 mW/g

Maximum value of SAR (measured) = 1.55 mW/g



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Date/Time: 2008/12/18 03:40:56

Re Cheek_CH1513_ repeated with WELLDONE Battery

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz;Duty Cycle: 1:1 Medium: Head 1800 MHz Medium parameters used: f = 1753 MHz; σ = 1.44 mho/m; ϵ_r = 41.4; ρ = 1000 kg/m³ Phantom section: Right Section

DASY4 Configuration:

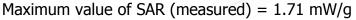
- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

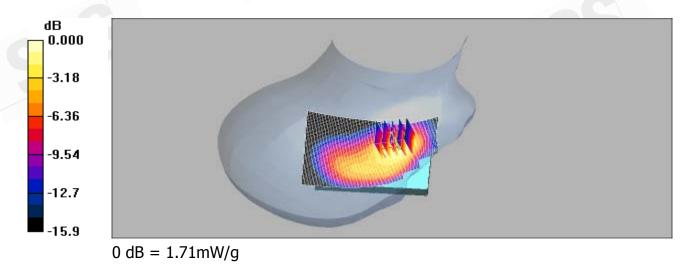
RE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.76 mW/g

RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.4 V/m; Power Drift = -0.020 dBPeak SAR (extrapolated) = 2.52 W/kg

SAR(1 g) = 1.55 mW/g; SAR(10 g) = 0.905 mW/g





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 No.134, Wu Kung Road, '

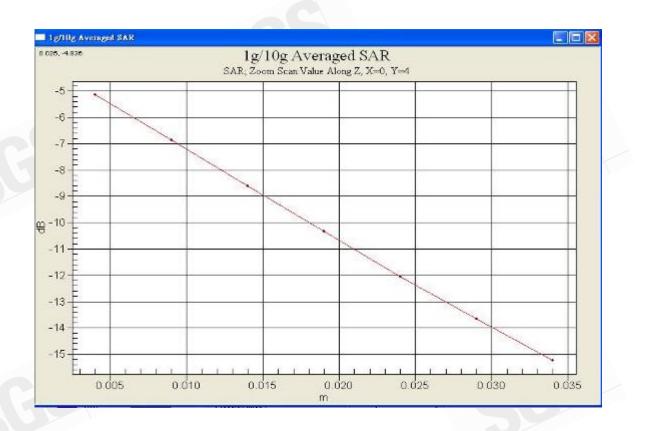
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Report No. : ES/2008/C0010 Page : 78 of 161



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Report No. : ES/2008/C0010 Page : 79 of 161

Date/Time: 2008/12/18 10:57:59

BODY_CH1312

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1712.4 MHz; Duty Cycle: 1:1 Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1712.4 MHz; $\sigma = 1.5$ mho/m; $\varepsilon_r = 51.9$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

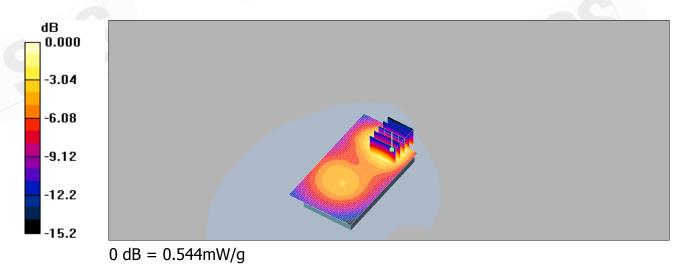
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.530 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.83 V/m; Power Drift = 0.032 dB Peak SAR (extrapolated) = 0.825 W/kg

SAR(1 g) = 0.496 mW/g; SAR(10 g) = 0.290 mW/g

Maximum value of SAR (measured) = 0.544 mW/g



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Report No. : ES/2008/C0010 Page : 80 of 161

Date/Time: 2008/12/18 11:28:44

BODY_CH1412

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1732.6 MHz; Duty Cycle: 1:1 Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1732.6 MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 51.8$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

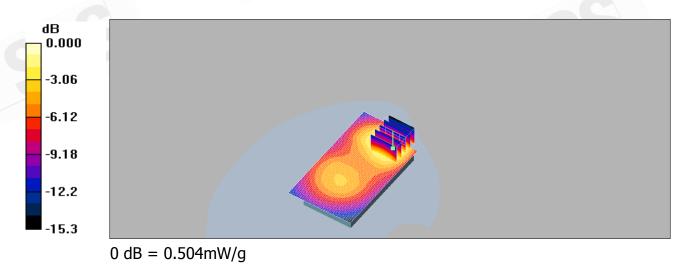
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.498 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.34 V/m; Power Drift = 0.071 dB Peak SAR (extrapolated) = 0.770 W/kg

SAR(1 g) = 0.464 mW/g; SAR(10 g) = 0.272 mW/g

Maximum value of SAR (measured) = 0.504 mW/g



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Report No. : ES/2008/C0010 Page : 81 of 161

Date/Time: 2008/12/18 11:58:25

BODY_CH1513

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1 Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1752.6 MHz; $\sigma = 1.52$ mho/m; $\varepsilon_r = 51.7$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

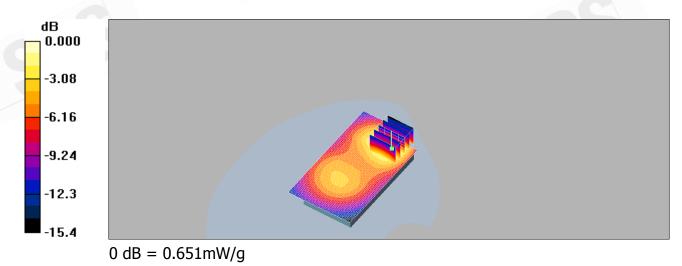
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.620 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.46 V/m; Power Drift = 0.129 dBPeak SAR (extrapolated) = 0.985 W/kg

SAR(1 g) = 0.592 mW/g; SAR(10 g) = 0.345 mW/g

Maximum value of SAR (measured) = 0.651 mW/g



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Date/Time: 2008/12/18 12:32:38

BODY_CH1312_repeated with HSDPA mode

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1712.4 MHz; Duty Cycle: 1:1 Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1712.4 MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 51.9$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

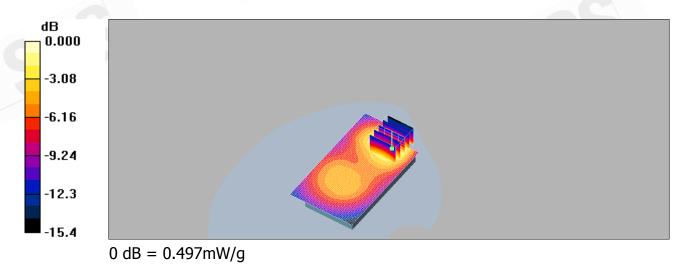
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.479 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.17 V/m; Power Drift = 0.081 dB Peak SAR (extrapolated) = 0.754 W/kg

SAR(1 g) = 0.450 mW/g; SAR(10 g) = 0.261 mW/g

Maximum value of SAR (measured) = 0.497 mW/g



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Date/Time: 2008/12/18 13:03:08

BODY_CH1412_ repeated with HSDPA mode

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1732.6 MHz; Duty Cycle: 1:1 Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1732.6 MHz; $\sigma = 1.51$ mho/m; $\varepsilon_r = 51.8$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

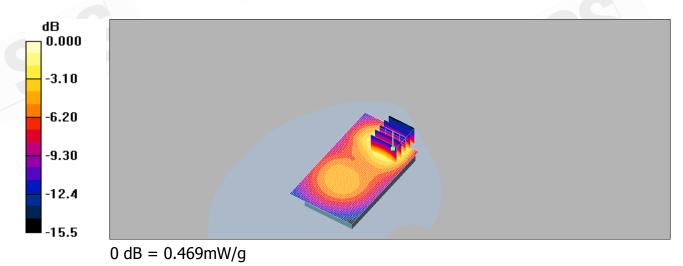
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.453 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.86 V/m; Power Drift = 0.078 dBPeak SAR (extrapolated) = 0.720 W/kg

SAR(1 g) = 0.430 mW/g; SAR(10 g) = 0.252 mW/g

Maximum value of SAR (measured) = 0.469 mW/g



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Date/Time: 2008/12/18 13:35:26

BODY_CH1513_ repeated with HSDPA mode

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1 Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1752.6 MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 51.7$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

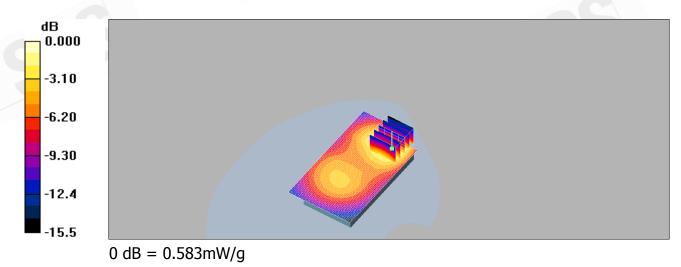
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.572 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,

dz=5mmReference Value = 9.05 V/m; Power Drift = -0.011 dBPeak SAR (extrapolated) = 0.887 W/kg

SAR(1 g) = 0.532 mW/g; SAR(10 g) = 0.310 mW/g

Maximum value of SAR (measured) = 0.583 mW/g



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Date/Time: 2008/12/18 14:07:10

BODY_CH1312_ repeated with HSUPA mode

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1712.4 MHz; Duty Cycle: 1:1 Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1712.4 MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 51.9$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

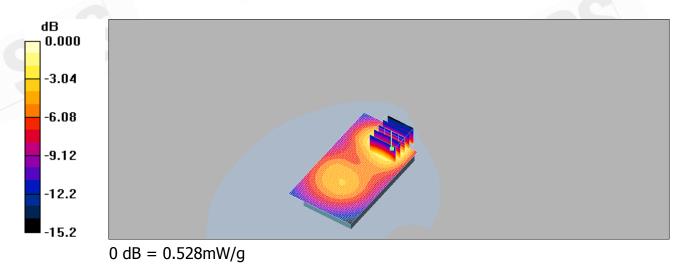
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.509 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,

dz=5mmReference Value = 8.72 V/m; Power Drift = -0.047 dB Peak SAR (extrapolated) = 0.799 W/kg

SAR(1 g) = 0.479 mW/g; SAR(10 g) = 0.279 mW/g

Maximum value of SAR (measured) = 0.528 mW/g



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Date/Time: 2008/12/18 14:37:33

BODY_CH1412_ repeated with HSUPA mode

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1732.6 MHz; Duty Cycle: 1:1 Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1732.6 MHz; $\sigma = 1.51$ mho/m; $\varepsilon_r = 51.8$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

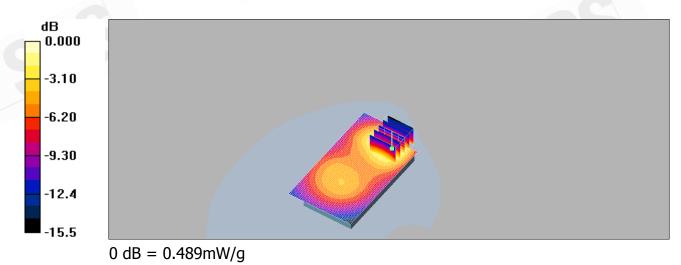
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.475 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.16 V/m; Power Drift = 0.023 dBPeak SAR (extrapolated) = 0.742 W/kg

SAR(1 g) = 0.445 mW/g; SAR(10 g) = 0.260 mW/g

Maximum value of SAR (measured) = 0.489 mW/g



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Date/Time: 2008/12/18 15:11:50

BODY_CH1513_ repeated with HSUPA mode

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1 Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1752.6 MHz; $\sigma = 1.52$ mho/m; $\varepsilon_r = 51.7$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

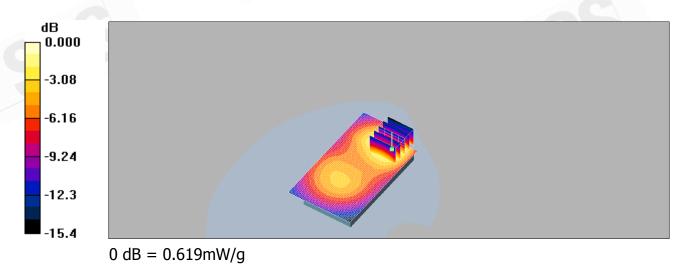
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.609 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.27 V/m; Power Drift = -0.009 dB Peak SAR (extrapolated) = 0.941 W/kg

SAR(1 g) = 0.565 mW/g; SAR(10 g) = 0.330 mW/g

Maximum value of SAR (measured) = 0.619 mW/g



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Date/Time: 2008/12/22 07:21:29

BODY_WLAN 802.11b_CH1

DUT: SAPP 300;

Communication System: Wireless LAN; Frequency: 2412 MHz; Duty Cycle: 1:1 Medium: Muscle 2450 Medium parameters used: f = 2412 MHz; $\sigma = 2.02$ mho/m; $\varepsilon_r = 53.4$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(8.18, 8.18, 8.18); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

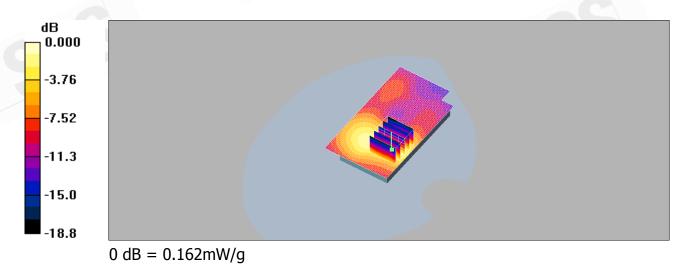
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.155 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,

dz=5mmReference Value = 5.60 V/m; Power Drift = -0.078 dBPeak SAR (extrapolated) = 0.260 W/kg

SAR(1 g) = 0.143 mW/g; SAR(10 g) = 0.075 mW/g

Maximum value of SAR (measured) = 0.162 mW/g



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Date/Time: 2008/12/22 07:59:05

BODY_ WLAN 802.11b _CH6

DUT: SAPP 300;

Communication System: Wireless LAN; Frequency: 2437 MHz; Duty Cycle: 1:1 Medium: Muscle 2450 Medium parameters used: f = 2437 MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(8.18, 8.18, 8.18); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

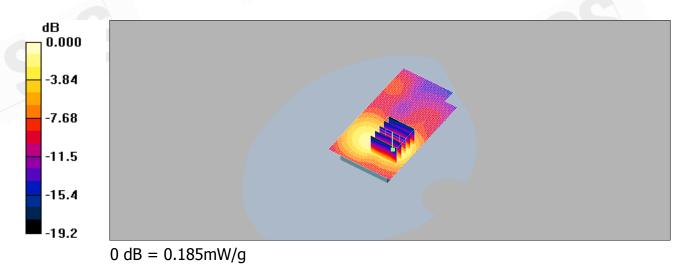
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.176 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,

dz=5mmReference Value = 6.16 V/m; Power Drift = -0.162 dBPeak SAR (extrapolated) = 0.299 W/kg

SAR(1 g) = 0.163 mW/g; SAR(10 g) = 0.084 mW/g

Maximum value of SAR (measured) = 0.185 mW/g



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Date/Time: 2008/12/22 08:36:09

BODY_ WLAN 802.11b_CH11

DUT: SAPP 300;

Communication System: Wireless LAN; Frequency: 2462 MHz; Duty Cycle: 1:1 Medium: Muscle 2450 Medium parameters used: f = 2462 MHz; $\sigma = 2.08$ mho/m; $\varepsilon_r = 53.1$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(8.18, 8.18, 8.18); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

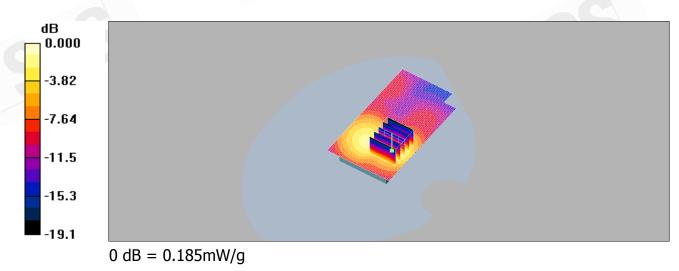
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.169 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,

dz=5mmReference Value = 5.75 V/m; Power Drift = -0.034 dB Peak SAR (extrapolated) = 0.301 W/kg

SAR(1 g) = 0.162 mW/g; SAR(10 g) = 0.083 mW/g

Maximum value of SAR (measured) = 0.185 mW/g



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Date/Time: 2008/12/22 09:20:54

BODY_WLAN 802.11b_CH6_ repeated for EUT front to phantom

DUT: SAPP 300;

Communication System: Wireless LAN; Frequency: 2437 MHz; Duty Cycle: 1:1 Medium: Muscle 2450 Medium parameters used: f = 2437 MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(8.18, 8.18, 8.18); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

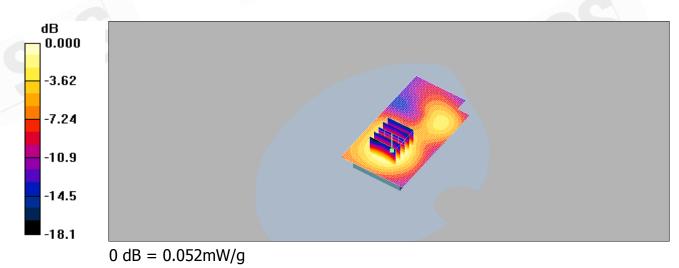
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.057 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,

dz=5mmReference Value = 3.84 V/m; Power Drift = -0.135 dBPeak SAR (extrapolated) = 0.080 W/kg

SAR(1 g) = 0.049 mW/g; SAR(10 g) = 0.029 mW/g

Maximum value of SAR (measured) = 0.052 mW/g



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Date/Time: 2008/12/22 10:08:36

BODY_ WLAN 802.11b_CH6_repeated with Memory card

DUT: SAPP 300;

Communication System: Wireless LAN; Frequency: 2437 MHz;Duty Cycle: 1:1 Medium: Muscle 2450 Medium parameters used: f = 2437 MHz; σ = 2.03 mho/m; ϵ_r = 53.2; ρ = 1000 kg/m³ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(8.18, 8.18, 8.18); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

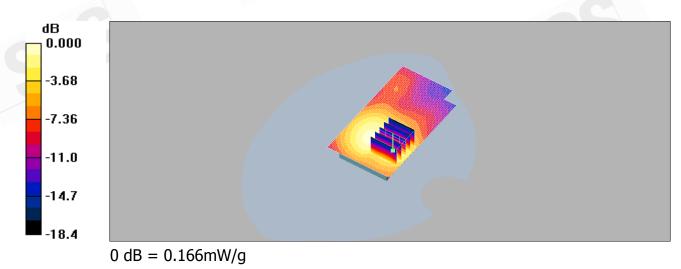
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.159 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,

dz=5mm Reference Value = 6.53 V/m; Power Drift = -0.023 dB Peak SAR (extrapolated) = 0.266 W/kg

SAR(1 g) = 0.147 mW/g; SAR(10 g) = 0.078 mW/g

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



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Date/Time: 2008/12/22 10:53:51

BODY_ WLAN 802.11b_CH6_repeated with Bluetooth active

DUT: SAPP 300;

Communication System: Wireless LAN; Frequency: 2437 MHz;Duty Cycle: 1:1 Medium: Muscle 2450 Medium parameters used: f = 2437 MHz; σ = 2.03 mho/m; ϵ_r = 53.2; ρ = 1000 kg/m³ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(8.18, 8.18, 8.18); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

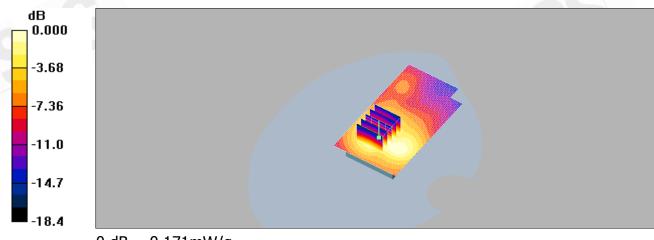
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.169 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.62 V/m; Power Drift = 0.130 dBPeak SAR (extrapolated) = 0.262 W/kg

SAR(1 g) = 0.154 mW/g; SAR(10 g) = 0.088 mW/g

Maximum value of SAR (measured) = 0.171 mW/g



 $0 \, dB = 0.171 \, mW/g$

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Date/Time: 2008/12/22 11:39:54

BODY_ WLAN 802.11b_CH6_repeated with WELLDONE Battery

DUT: SAPP 300;

Communication System: Wireless LAN; Frequency: 2437 MHz; Duty Cycle: 1:1 Medium: Muscle 2450 Medium parameters used: f = 2437 MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(8.18, 8.18, 8.18); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

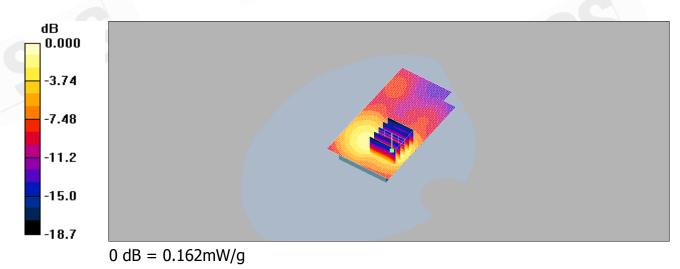
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.162 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,

dz=5mmReference Value = 6.23 V/m; Power Drift = -0.185 dB Peak SAR (extrapolated) = 0.265 W/kg

SAR(1 g) = 0.145 mW/g; SAR(10 g) = 0.075 mW/g

Maximum value of SAR (measured) = 0.162 mW/g



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f (886-2) 2298-0488



Date/Time: 2008/12/22 12:26:07

BODY_ WLAN 802.11g_CH1

DUT: SAPP 300;

Communication System: Wireless LAN; Frequency: 2412 MHz; Duty Cycle: 1:1 Medium: Muscle 2450 Medium parameters used: f = 2412 MHz; $\sigma = 2.02$ mho/m; $\varepsilon_r = 53.4$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(8.18, 8.18, 8.18); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

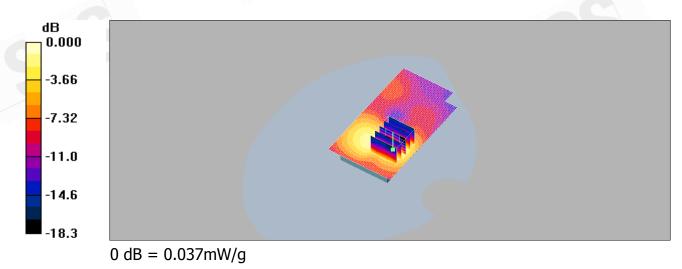
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.034 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.64 V/m; Power Drift = 0.067 dBPeak SAR (extrapolated) = 0.059 W/kg

SAR(1 g) = 0.033 mW/g; SAR(10 g) = 0.017 mW/g

Maximum value of SAR (measured) = 0.037 mW/g



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Date/Time: 2008/12/22 13:12:50

BODY_ WLAN 802.11g_CH6

DUT: SAPP 300;

Communication System: Wireless LAN; Frequency: 2437 MHz; Duty Cycle: 1:1 Medium: Muscle 2450 Medium parameters used: f = 2437 MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(8.18, 8.18, 8.18); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

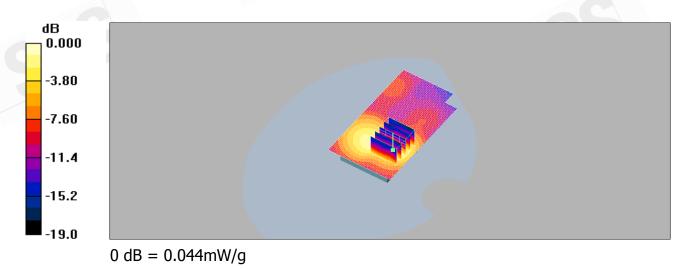
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.040 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,

dz=5mmReference Value = 2.81 V/m; Power Drift = -0.075 dBPeak SAR (extrapolated) = 0.071 W/kg

SAR(1 g) = 0.039 mW/g; SAR(10 g) = 0.020 mW/g

Maximum value of SAR (measured) = 0.044 mW/g



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f (886-2) 2298-0488



Date/Time: 2008/12/22 13:56:39

BODY_ WLAN 802.11g _CH11

DUT: SAPP 300;

Communication System: Wireless LAN; Frequency: 2462 MHz; Duty Cycle: 1:1 Medium: Muscle 2450 Medium parameters used: f = 2462 MHz; $\sigma = 2.08$ mho/m; $\varepsilon_r = 53.1$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(8.18, 8.18, 8.18); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

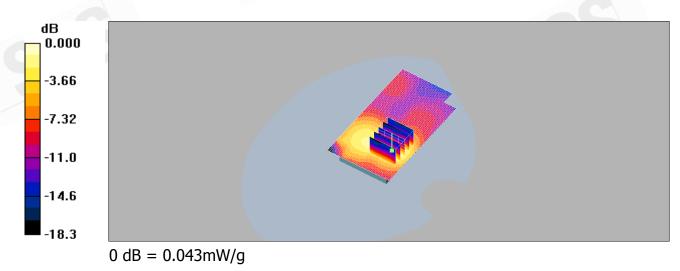
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.039 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,

dz=5mmReference Value = 2.79 V/m; Power Drift = -0.114 dBPeak SAR (extrapolated) = 0.072 W/kg

SAR(1 g) = 0.038 mW/g; SAR(10 g) = 0.020 mW/g

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



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Report No. : ES/2008/C0010 Page : 98 of 161

Date/Time: 2008/12/24 08:14:06

Le Cheek_CH251

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3 Medium: Head 850 MHz Medium parameters used: f = 849 MHz; $\sigma = 0.913$ mho/m; $\varepsilon_r = 41.7$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Left Section

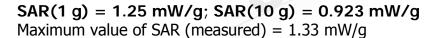
DASY4 Configuration:

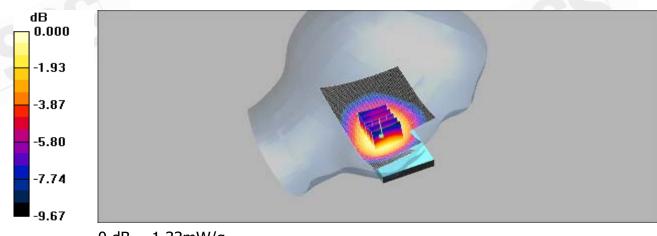
- Probe: EX3DV3 SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

LE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.35 mW/g

LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.6 V/m; Power Drift = -0.161 dB Peak SAR (extrapolated) = 1.58 W/kg





 $0 \, dB = 1.33 mW/g$

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Report No. : ES/2008/C0010 Page : 99 of 161

Date/Time: 2008/12/24 15:10:37

BODY_CH251

DUT: SAPP 300;

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:4 Medium: Muscle 900 MHz Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.951 mho/m; ϵ_r = 54.1; ρ = 1000 kg/m³ Phantom section: Flat Section

- Probe: EX3DV3 SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.43 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.8 V/m; Power Drift = -0.148 dB

Peak SAR (extrapolated) = 1.78 W/kg

SAR(1 g) = 1.35 mW/g; SAR(10 g) = 0.980 mW/g

Maximum value of SAR (measured) = 1.43 mW/g

BODY/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm,

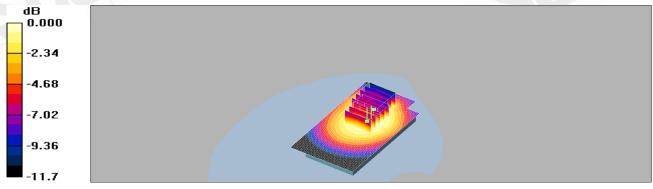
dz=5mm

Reference Value = 11.8 V/m; Power Drift = -0.148 dB

Peak SAR (extrapolated) = 1.82 W/kg

SAR(1 g) = 1.26 mW/g; SAR(10 g) = 0.898 mW/g

Maximum value of SAR (measured) = 1.39 mW/g



 $0 \, dB = 1.39 \, mW/g$

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Report No. : ES/2008/C0010 Page : 101 of 161

Date/Time: 2008/12/24 10:42:13

Re Cheek_CH661

DUT: SAPP 300;

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3 Medium: Head 1900 MHz Medium parameters used: f = 1880 MHz; $\sigma = 1.47$ mho/m; $\epsilon_r =$ 41.1; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

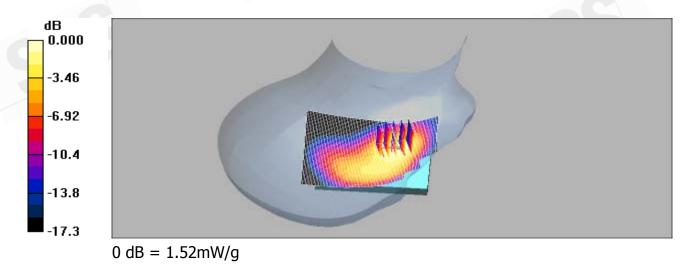
RE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.55 mW/g

RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.0 V/m; Power Drift = 0.033 dB Peak SAR (extrapolated) = 2.33 W/kg

SAR(1 g) = 1.37 mW/g; SAR(10 g) = 0.779 mW/g

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



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Report No. : ES/2008/C0010 Page : 102 of 161

Date/Time: 2008/12/24 16:31:10

BODY_CH512

DUT: SAPP 300;

Communication System: GSM1900; Frequency: 1850.2 MHz; Duty Cycle: 1:4 Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1850.2 MHz; $\sigma = 1.52$ mho/m; $\varepsilon_r = 52.5$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

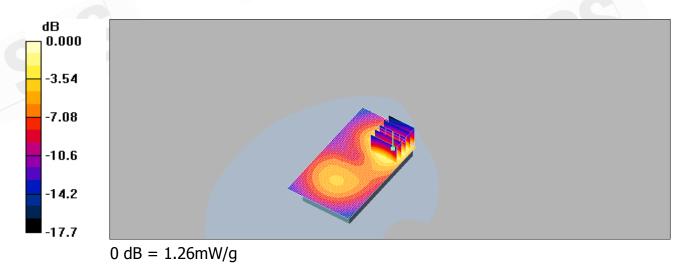
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.26 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.1 V/m; Power Drift = 0.004 dBPeak SAR (extrapolated) = 2.00 W/kg

SAR(1 g) = 1.15 mW/g; SAR(10 g) = 0.641 mW/g

Maximum value of SAR (measured) = 1.26 mW/g



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Date/Time: 2008/12/24 12:56:54

Re Cheek_CH1513_repeated with WELLDONE Battery

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1 Medium: Head 1800 MHz Medium parameters used: f = 1753 MHz; $\sigma = 1.34$ mho/m; $\epsilon_r =$ 41.4; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

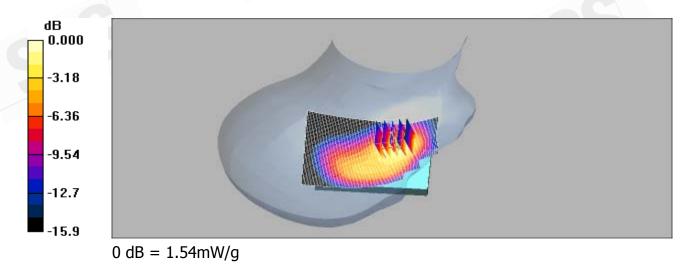
RE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 1.52 mW/g

RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.1 V/m; Power Drift = 0.113 dBPeak SAR (extrapolated) = 2.29 W/kg

SAR(1 g) = 1.39 mW/g; SAR(10 g) = 0.809 mW/g

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



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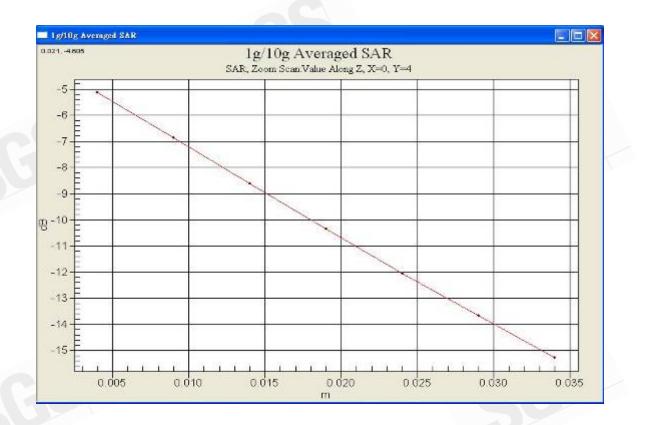
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Date/Time: 2008/12/24 17:52:35

BODY_CH1513

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1 Medium: M1800 & 1900 Medium parameters used: f = 1753 MHz; $\sigma = 1.45$ mho/m; $\varepsilon_r = 52.3$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

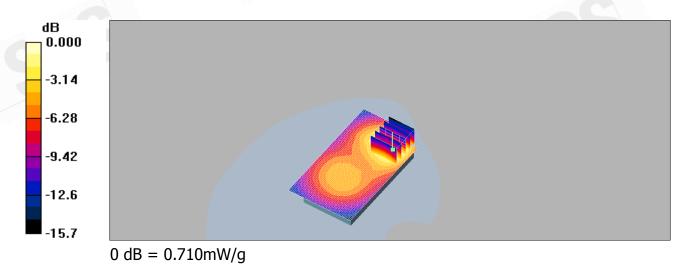
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.701 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,

dz=5mmReference Value = 9.58 V/m; Power Drift = 0.147 dB Peak SAR (extrapolated) = 1.10 W/kg

SAR(1 g) = 0.646 mW/g; SAR(10 g) = 0.374 mW/g

Maximum value of SAR (measured) = 0.710 mW/g



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Report No. : ES/2008/C0010 Page : 106 of 161

Date/Time: 2008/12/24 18:30:14

BODY_CH1513_repeated with HSDPA mode

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1 Medium: M1800 & 1900 Medium parameters used: f = 1753 MHz; $\sigma = 1.45$ mho/m; $\varepsilon_r = 52.3$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

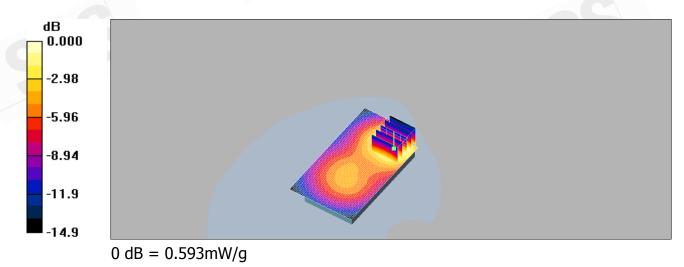
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.610 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,

dz=5mmReference Value = 8.41 V/m; Power Drift = 0.015 dB Peak SAR (extrapolated) = 0.898 W/kg

SAR(1 g) = 0.546 mW/g; SAR(10 g) = 0.325 mW/g

Maximum value of SAR (measured) = 0.593 mW/g



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Report No. : ES/2008/C0010 Page : 107 of 161

Date/Time: 2008/12/24 19:05:23

BODY_CH1513_repeated with HSUPA mode

DUT: SAPP 300;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1 Medium: M1800 & 1900 Medium parameters used: f = 1753 MHz; $\sigma = 1.45$ mho/m; $\varepsilon_r = 52.3$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

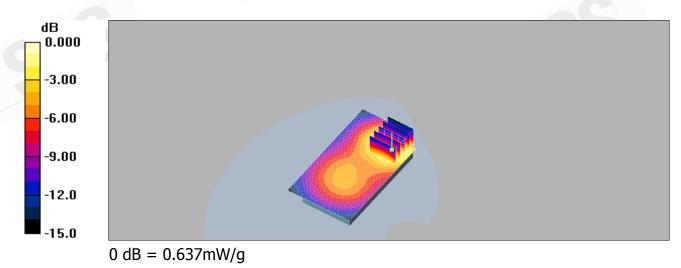
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.660 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.72 V/m; Power Drift = 0.031 dBPeak SAR (extrapolated) = 0.969 W/kg

SAR(1 g) = 0.588 mW/g; SAR(10 g) = 0.350 mW/g

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



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Date/Time: 2008/12/24 20:25:17

BODY_ WLAN 802.11b_CH6

DUT: SAPP 300;

Communication System: Wireless LAN; Frequency: 2437 MHz; Duty Cycle: 1:1 Medium: Muscle 2450 Medium parameters used: f = 2437 MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 53.3$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(8.18, 8.18, 8.18); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

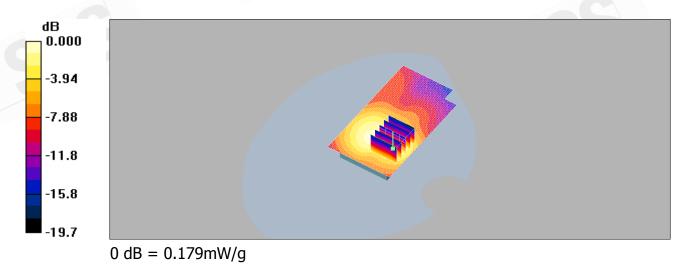
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.164 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,

dz=5mmReference Value = 6.43 V/m; Power Drift = -0.010 dB Peak SAR (extrapolated) = 0.286 W/kg

SAR(1 g) = 0.157 mW/g; SAR(10 g) = 0.084 mW/g

Maximum value of SAR (measured) = 0.179 mW/g



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Date/Time: 2008/12/24 20:57:41

BODY_ WLAN 802.11g_CH6

DUT: SAPP 300;

Communication System: Wireless LAN; Frequency: 2437 MHz; Duty Cycle: 1:1 Medium: Muscle 2450 Medium parameters used: f = 2437 MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 53.3$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(8.18, 8.18, 8.18); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

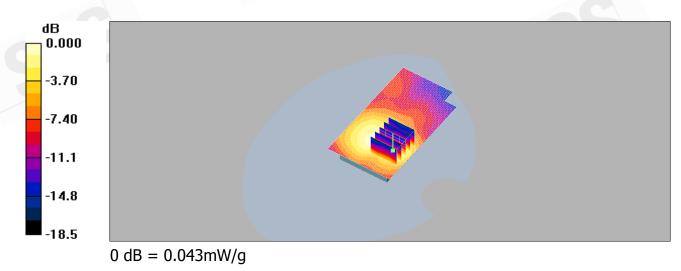
BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.038 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.05 V/m; Power Drift = 0.072 dB Peak SAR (extrapolated) = 0.068 W/kg

SAR(1 g) = 0.037 mW/g; SAR(10 g) = 0.019 mW/g

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



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BODY_Bluetooth_CH0

DUT: SAPP 300;

Communication System: Bluetooth; Frequency: 2402 MHz; Duty Cycle: 1:1 Medium: Muscle 2450 Medium parameters used: f = 2402 MHz; $\sigma = 2.03 \text{ mho/m}$; $\epsilon_r = 53.3$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

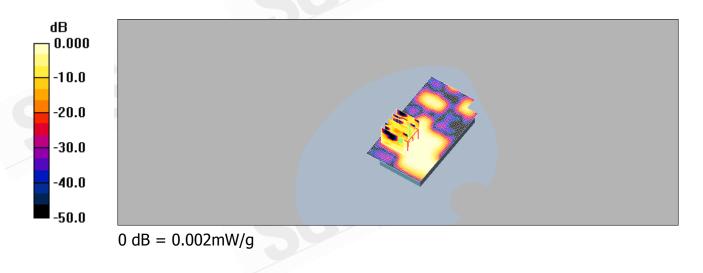
DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(8.18, 8.18, 8.18); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM2; Type: SAM 4.0; Serial: TP:1270
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.003 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0.380 V/m; Power Drift = 0.126 dB Peak SAR (extrapolated) = 0.008 W/kg SAR(1 g) = 0.00234 mW/g; SAR(10 g) = 0.00102 mW/gMaximum value of SAR (measured) = 0.002 mW/g



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BODY_Bluetooth_CH39

DUT: SAPP 300;

Communication System: Bluetooth; Frequency: 2441 MHz;Duty Cycle: 1:1 Medium: Muscle 2450 Medium parameters used: f = 2441 MHz; σ = 2.03 mho/m; ϵ_r = 53.2; ρ = 1000 kg/m³ Phantom section: Flat Section

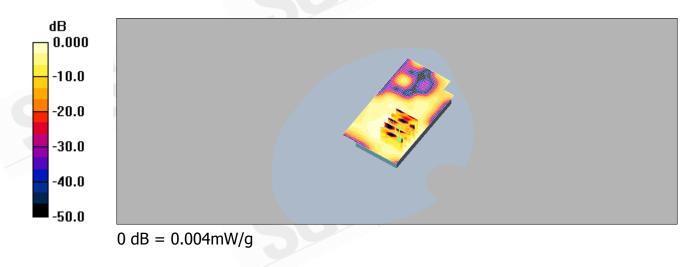
DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(8.18, 8.18, 8.18); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM2; Type: SAM 4.0; Serial: TP:1270
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.004 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0.794 V/m; Power Drift = 0.11 dB Peak SAR (extrapolated) = 0.006 W/kg SAR(1 g) = 0.0031 mW/g; SAR(10 g) = 0.00145 mW/g Maximum value of SAR (measured) = 0.004 mW/g



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BODY_Bluetooth_CH78

DUT: SAPP 300;

Communication System: Bluetooth; Frequency: 2480 MHz; Duty Cycle: 1:1 Medium: Muscle 2450 Medium parameters used: f = 2480 MHz; $\sigma = 2.08$ mho/m; $\varepsilon_r = 53.3$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

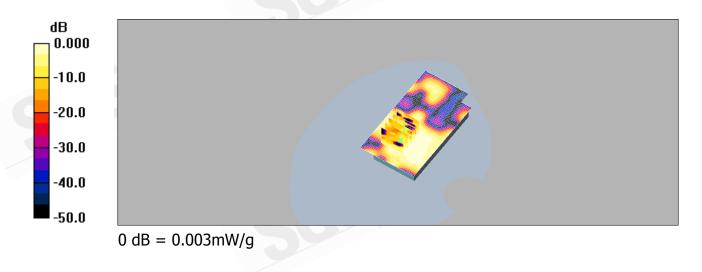
DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(8.18, 8.18, 8.18); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM2; Type: SAM 4.0; Serial: TP:1270
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

BODY/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.003 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0.564 V/m; Power Drift = 0.124 dBPeak SAR (extrapolated) = 0.006 W/kg SAR(1 g) = 0.00242 mW/g; SAR(10 g) = 0.00115 mW/gMaximum value of SAR (measured) = 0.003 mW/g



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Report No. : ES/2008/C0010 Page : 113 of 161

Date/Time: 2008/12/17 00:36:15

DUT: Dipole 835 MHz;

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1 Medium: Head 900 MHz Medium parameters used: f = 835 MHz; σ = 0.908 mho/m; ϵ_r = 42.4; ρ = 1000 kg/m³ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

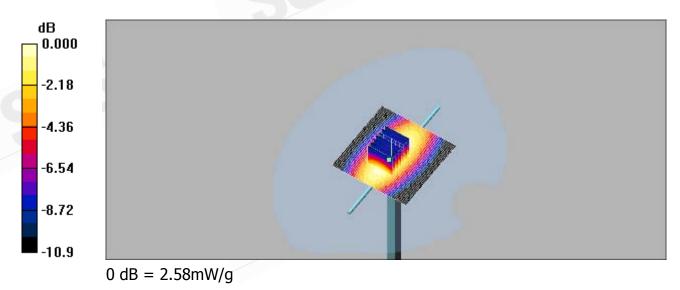
Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 2.60 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 53.3 V/m; Power Drift = 0.004 dB Peak SAR (extrapolated) = 3.66 W/kg

SAR(1 g) = 2.4 mW/g; SAR(10 g) = 1.55 mW/g

Maximum value of SAR (measured) = 2.58 mW/g



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Date/Time: 2008/12/18 04:52:29

DUT: Dipole 835 MHz;

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1 Medium: Muscle 900 MHz Medium parameters used (interpolated): f = 835 MHz; $\sigma = 0.947$ mho/m; $\epsilon_r = 54.3$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

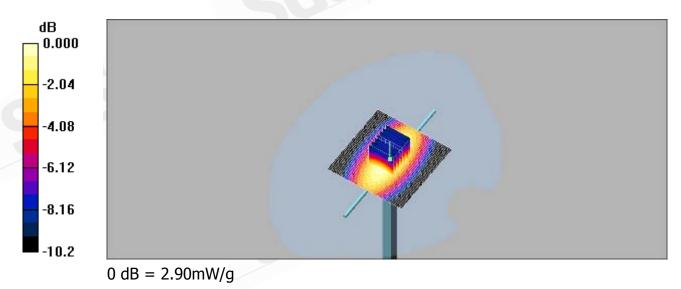
DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 2.90 mW/gPin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mmReference Value = 55.6 V/m; Power Drift = 0.010 dB Peak SAR (extrapolated) = 4.00 W/kg

SAR(1 g) = 2.53 mW/g; SAR(10 g) = 1.77 mW/g

Maximum value of SAR (measured) = 2.90 mW/g



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Date/Time: 2008/12/17 08:46:24

DUT: Dipole 1900 MHz;

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1 Medium: Head 1900MHz Medium parameters used: f = 1900 MHz; $\sigma = 1.41$ mho/m; $\epsilon_r =$ 41.2; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section

DASY4 Configuration:

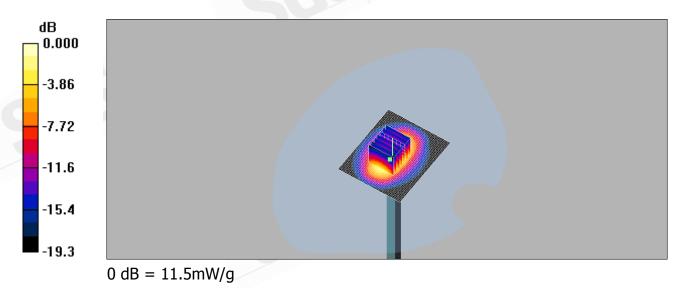
- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Pin=250mw/Area Scan (51x61x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 13.4 mW/gPin=250mw/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mmReference Value = 90.7 V/m; Power Drift = -0.009 dB Peak SAR (extrapolated) = 19.8 W/kg

SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.24 mW/g

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Maximum value of SAR (measured) = 11.5 mW/g



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Date/Time: 2008/12/18 07:46:52

DUT: Dipole 1900 MHz;

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1 Medium: M1800 & 1900 Medium parameters used: f = 1900 MHz; σ = 1.57 mho/m; ϵ_r = 51.1; ρ = 1000 kg/m³ Phantom section: Flat Section

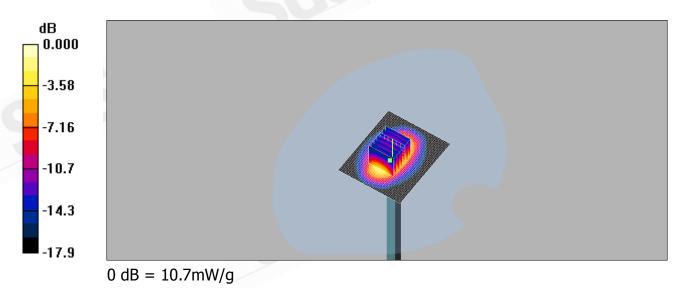
DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Pin=250mW/Area Scan (51x61x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 12.5 mW/g Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 82.4 V/m; Power Drift = -0.018 dB Peak SAR (extrapolated) = 17.3 W/kg

SAR(1 g) = 9.43 mW/g; SAR(10 g) = 5 mW/g

Maximum value of SAR (measured) = 10.7 mW/g



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Report No. : ES/2008/C0010 Page : 117 of 161

Date/Time: 2008/12/17 16:21:33

DUT: Dipole 1800 MHz;

Communication System: CW; Frequency: 1800 MHz;Duty Cycle: 1:1 Medium: Head 1800 MHz Medium parameters used: f = 1800 MHz; σ = 1.39 mho/m; ϵ_r = 41.2; ρ = 1000 kg/m³ Phantom section: Flat Section

DASY4 Configuration:

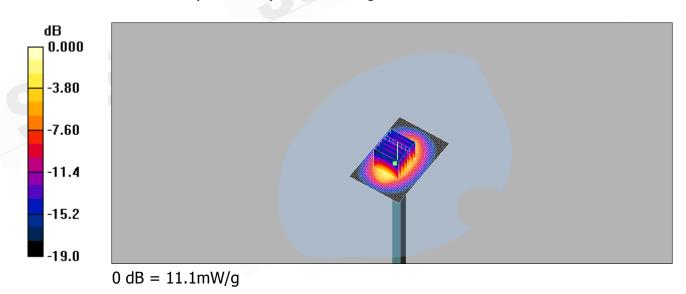
- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Pin=250mW/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 11.5 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,

dy=5mm, dz=5mm Reference Value = 88.1 V/m; Power Drift = -0.037 dB Peak SAR (extrapolated) = 18.8 W/kg

SAR(1 g) = 9.98 mW/g; SAR(10 g) = 5.13 mW/g Maximum value of SAR (measured) = 11.1 mW/g



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Report No. : ES/2008/C0010 Page : 118 of 161

Date/Time: 2008/12/18 10:28:43

DUT: Dipole 1800 MHz;

Communication System: CW; Frequency: 1800 MHz;Duty Cycle: 1:1 Medium: M1800 & 1900 Medium parameters used: f = 1800 MHz; σ = 1.47 mho/m; ϵ_r = 51.5; ρ = 1000 kg/m³ Phantom section: Flat Section

DASY4 Configuration:

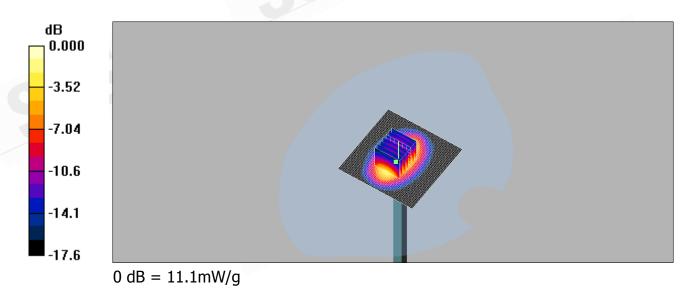
- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Pin=250mW /Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 11.8 mW/g

Pin=250mW /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,

dy=5mm, dz=5mm Reference Value = 86.3 V/m; Power Drift = -0.007 dB Peak SAR (extrapolated) = 18.0 W/kg

SAR(1 g) = 9.96 mW/g; SAR(10 g) = 5.29 mW/g Maximum value of SAR (measured) = 11.1 mW/g



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Report No. : ES/2008/C0010 Page : 119 of 161

Date/Time: 2008/12/22 12:53:47

DUT: Dipole 2450 MHz;

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1 Medium: M 2450 Medium parameters used: f = 2450 MHz; σ = 2.05 mho/m; ϵ_r = 53.1; ρ = 1000 kg/m³ Phantom section: Flat Section

DASY4 Configuration:

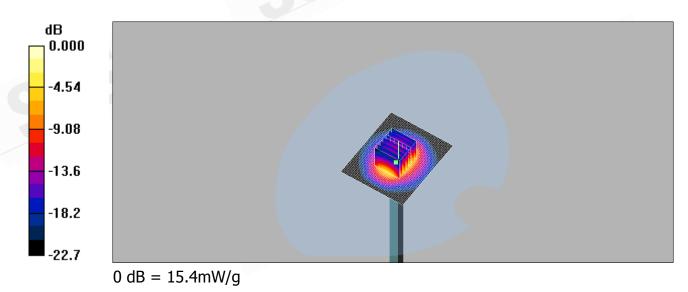
- Probe: EX3DV3 SN3526; ConvF(8.18, 8.18, 8.18); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Pin=250mW/Area Scan (51x61x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 18.6 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,

dy=5mm, dz=5mm Reference Value = 85.6 V/m; Power Drift = -0.016 dB Peak SAR (extrapolated) = 28.3 W/kg

SAR(1 g) = 13.6 mW/g; SAR(10 g) = 6.25 mW/gMaximum value of SAR (measured) = 15.4 mW/g



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Report No. : ES/2008/C0010 Page : 120 of 161

Date/Time: 2008/12/24 07:21:41

DUT: Dipole 835 MHz;

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1 Medium: Head 900 MHz Medium parameters used: f = 835 MHz; σ = 0.896 mho/m; ϵ_r = 41.6; ρ = 1000 kg/m³ Phantom section: Flat Section

DASY4 Configuration:

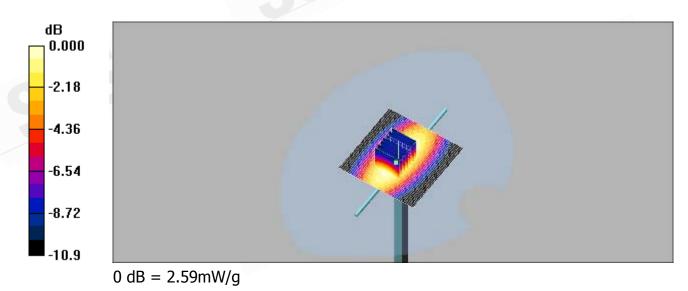
- Probe: EX3DV3 SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 2.60 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,

dy=5mm, dz=5mm Reference Value = 53.7 V/m; Power Drift = -0.003 dB Peak SAR (extrapolated) = 3.66 W/kg

SAR(1 g) = 2.38 mW/g; SAR(10 g) = 1.55 mW/gMaximum value of SAR (measured) = 2.59 mW/g



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Report No. : ES/2008/C0010 Page : 121 of 161

Date/Time: 2008/12/24 14:03:14

DUT: Dipole 835 MHz;

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1 Medium: Muscle 900 MHz Medium parameters used (interpolated): f = 835 MHz; σ = 0.946 mho/m; ϵ_r = 54.3; ρ = 1000 kg/m³ Phantom section: Flat Section

DASY4 Configuration:

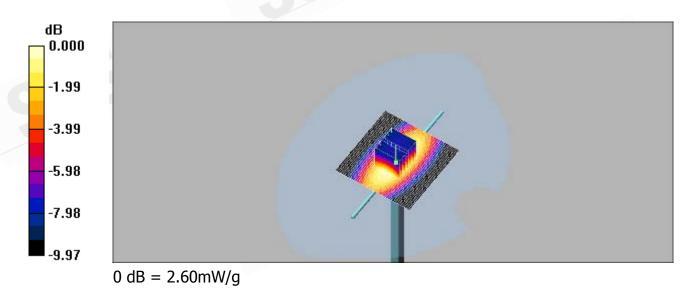
- Probe: EX3DV3 SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 2.60 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,

dy=5mm, dz=5mm Reference Value = 52.8 V/m; Power Drift = -0.012 dB Peak SAR (extrapolated) = 3.57 W/kg

SAR(1 g) = 2.39 mW/g; SAR(10 g) = 1.6 mW/g Maximum value of SAR (measured) = 2.60 mW/g



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 t (886-2) 2299-3279

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Report No. : ES/2008/C0010 Page : 122 of 161

Date/Time: 2008/12/24 09:35:32

DUT: Dipole 1900 MHz;

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1 Medium: Head 1900MHz Medium parameters used: f = 1900 MHz; σ = 1.41 mho/m; ϵ_r = 40.9; ρ = 1000 kg/m³ Phantom section: Flat Section

DASY4 Configuration:

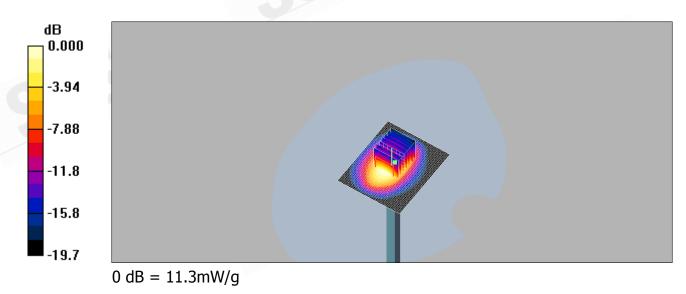
- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Pin=250mw/Area Scan (51x61x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 12.5 mW/g

Pin=250mw/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,

dy=5mm, dz=5mm Reference Value = 86.2 V/m; Power Drift = 0.007 dB Peak SAR (extrapolated) = 19.5 W/kg

SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.37 mW/gMaximum value of SAR (measured) = 11.3 mW/g



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Report No. : ES/2008/C0010 Page : 123 of 161

Date/Time: 2008/12/24 15:47:17

DUT: Dipole 1900 MHz;

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1 Medium: M1800 & 1900 Medium parameters used: f = 1900 MHz; σ = 1.58 mho/m; ϵ_r = 52.6; ρ = 1000 kg/m³ Phantom section: Flat Section

DASY4 Configuration:

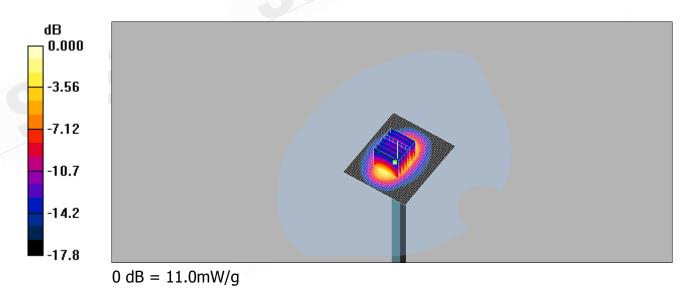
- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Pin=250mW/Area Scan (51x61x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 12.9 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,

dy=5mm, dz=5mm Reference Value = 83.3 V/m; Power Drift = -0.014 dB Peak SAR (extrapolated) = 17.7 W/kg

SAR(1 g) = 9.77 mW/g; SAR(10 g) = 5.14 mW/g Maximum value of SAR (measured) = 11.0 mW/g



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Report No. : ES/2008/C0010 Page : 124 of 161

Date/Time: 2008/12/24 11:50:17

DUT: Dipole 1800 MHz;

Communication System: CW; Frequency: 1800 MHz;Duty Cycle: 1:1 Medium: Head 1800 MHz Medium parameters used: f = 1800 MHz; σ = 1.4 mho/m; ϵ_r = 41.2; ρ = 1000 kg/m³ Phantom section: Flat Section

DASY4 Configuration:

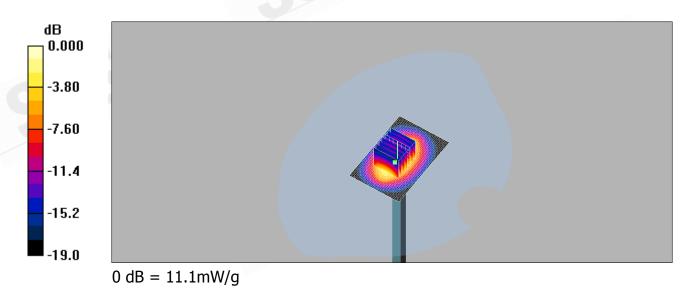
- Probe: EX3DV3 SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Pin=250mW/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 11.6 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,

dy=5mm, dz=5mm Reference Value = 88.1 V/m; Power Drift = -0.023 dB Peak SAR (extrapolated) = 18.8 W/kg

SAR(1 g) = 9.97 mW/g; SAR(10 g) = 5.15 mW/g Maximum value of SAR (measured) = 11.1 mW/g



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Report No. : ES/2008/C0010 Page : 125 of 161

Date/Time: 2008/12/24 17:04:03

DUT: Dipole 1800 MHz;

Communication System: CW; Frequency: 1800 MHz;Duty Cycle: 1:1 Medium: M1800 & 1900 Medium parameters used: f = 1800 MHz; σ = 1.49 mho/m; ϵ_r = 52.3; ρ = 1000 kg/m³ Phantom section: Flat Section

DASY4 Configuration:

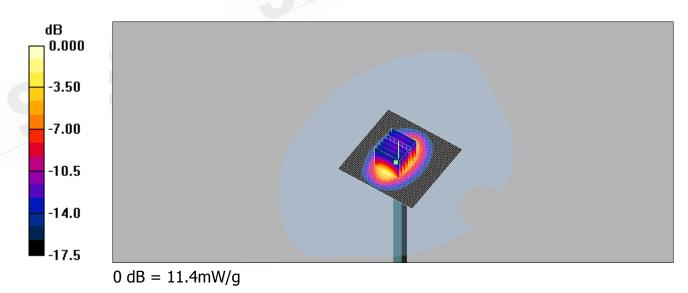
- Probe: EX3DV3 SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Pin=250mW /Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 12.1 mW/g

Pin=250mW /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,

dy=5mm, dz=5mm Reference Value = 86.6 V/m; Power Drift = -0.094 dB Peak SAR (extrapolated) = 18.3 W/kg

SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.3 mW/gMaximum value of SAR (measured) = 11.4 mW/g



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Report No. : ES/2008/C0010 Page : 126 of 161

Date/Time: 2008/12/24 19:37:03

DUT: Dipole 2450 MHz;

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1 Medium: M 2450 Medium parameters used: f = 2450 MHz; σ = 2.05 mho/m; ϵ_r = 53; ρ = 1000 kg/m³ Phantom section: Flat Section

DASY4 Configuration:

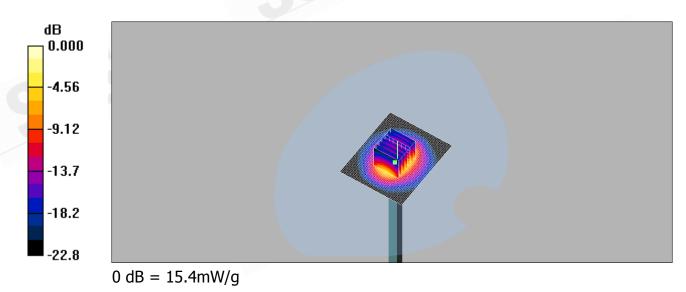
- Probe: EX3DV3 SN3526; ConvF(8.18, 8.18, 8.18); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2008/1/24
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Pin=250mW/Area Scan (51x61x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 18.6 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,

dy=5mm, dz=5mm Reference Value = 85.5 V/m; Power Drift = -0.004 dB Peak SAR (extrapolated) = 28.2 W/kg

SAR(1 g) = 13.6 mW/g; SAR(10 g) = 6.25 mW/gMaximum value of SAR (measured) = 15.4 mW/g



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DUT: Dipole 2450 MHz;

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1 Medium: M 2450 Medium parameters used: f = 2450 MHz; σ = 2.05 mho/m; ϵ_r = 53; ρ = 1000 kg/m³ Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 SN3526; ConvF(8.18, 8.18, 8.18); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM2; Type: SAM 4.0; Serial: TP:1270
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Pin=250mW/Area Scan (51x61x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 18.7 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,

dy=5mm, dz=5mm Reference Value = 87.5 V/m; Power Drift = -0.009 dB Peak SAR (extrapolated) = 29.8 W/kg SAR(1 g) = 13.8 mW/g; SAR(10 g) = 6.22 mW/g Maximum value of SAR (measured) = 15.8 mW/g



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Taiwan I td



consisted by the Swiss Accreditation	Switzerland	Accreditation	Swiss Calibration Service
ne Swiss Accreditation Service i ultilateral Agreement for the rec	s one of the signatories	to the EA	
lient SGS (Auden)	agrictori or canoration o		o: DAE4-547_Jan08
CALIBRATION CI	ERTIFICATE		
bject	DAE4 - SD 000 D0	04 BA - SN: 547	
Calibration procedure(s)	QA CAL-06.v12 Calibration proced	ture for the data acquisition ele	ctronics (DAE)
Calibration date:	January 24, 2008		
Condition of the calibrated item	In Tolerance		Constant in the second
The measurements and the uncert	ainties with confidence pro	nal standards, which realize the physical u sbability are given on the following pages a r facility: environment temperature (22 ± 3)	nd are part of the certificate.
The measurements and the uncert All celibrations have been conduct Calibration Equipment used (M&TE	ainties with confidence pro ed in the closed laboratory E ontical for calibration)	abability are given on the following pages a (22 ± 3)	nd are part of the certificate. *C and humidity < 70%.
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The measurements and the uncert All osibilations have been conducts Calibration Equipment used (M&TE Primary Standards Fluke Process Calibrator Type 702 Keithley Multimeter Type 2001 Secondary Standards	entices with confidence pro ed in the closed laboratory contical for calibration) ID # SN: 6295803 SN: 0810278 ID #	bability are given on the following pages a facility: environment temperature (22 ± 3) Cal Date (Calibrated by, Cartificate No.) 04-Oct-07 (Eical AG, No: 6467) 03-Oct-07 (Eical AG, No: 6465) Check Date (in house)	rd are part of the certificate. *C and humidity < 70%. Scheduled Calibration Oct-08 Oct-08 Scheduled Check
The measurements and the uncert All calibrations have been conduct Calibration Equipment used (M&TE Primary Standards Floke Process Calibrator Type 702 Keithley Multimeter Type 2001 Secondary Standards	entices with confidence pro- ed in the closed laboratory E ontical for calibration) ID # SN: 6295803 SN: 0810275 ID # SE UMS 006 AB 1004	bability are given on the following pages a facility: environment temperature (22 ± 3) O4-Oct-07 (Elcal AG, No: 6467) 03-Oct-07 (Elcal AG, No: 6465) Ohack Date (in house) 25-Jun-07 (SPEAG, in house check)	rd are part of the certificate. *C and humidity < 70%. Scheduled Calibration Oct-08 Oct-08 Scheduled Check In house check Jun-08
The measurements and the uncert All celibrations have been conducts Calibration Equipment used (M&TE Primary Standards Fluke Process Calibrator Type 702 Kelthey Multimeter Type 2001 Secondary Standards Calibrator Box V1.1	ainties with confidence proved in the closed laboratory contical for calibration) ID # SN: 6295803 SN: 0810278 ID # SE UMS 006 AB 1004	bability are given on the following pages a facility: environment temperature (22 ± 3) Out-Oct-07 (Elcal AG, No: 6467) 03-Oct-07 (Elcal AG, No: 6465) Check Date (in house) 25-Jun-07 (SPEAG, in house check) Function	rd are part of the certificate. *C and humidity < 70%. Scheduled Calibration Oct-08 Oct-08 Scheduled Check In house check Jun-08
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Report No. : ES/2008/C0010 Page : 129 of 161

Client SGS (Auden)		certificates	
CALIBRATION	CERTIFICAT		x EX3-3526_Aug08
Object	EX3DV3 - SN:3		
Calibration procedure(s)		QA CAL-14.v3 and QA CAL-23.v3 edure for dosimetric E-field probes	
Calibration date:	August 26, 2008		
Condition of the calibrated item	In Tolerance		
All calibrations have been condu Calibration Equipment used (M8	ucted in the closed laborate	probability are given on the following pages an ory facility: environment temperature $(22 \pm 3)^\circ$ C	
Calibration Equipment used (M8 Primary Standards	ucted in the closed laborate		
Calibration Equipment used (M& Primary Standards Power meter E4419B Power sensor E4412A	LICED IN the closed laboration ATE critical for calibration) ID # GB41293874 MY41495277	Cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788)	and humidity < 70%. Scheduled Calibration Apr-09 Apr-09
Calibration Equipment used (M8 Primary Standards Power meter E4419B Power sensor E4412A Power sensor E4412A	Licted in the closed laboration ATE critical for calibration) ID # GB41293874 MY41495277 MY41498087	Cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788)	Scheduled Calibration Apr-09 Apr-09 Apr-09
Calibration Equipment used (M8 Primary Standards Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator	Licted in the closed laboration LID # GB41293874 MY41495277 MY41498087 SN: S5054 (3c)	Cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Jul-08 (No. 217-00865)	Sand humidity < 70%. Scheduled Calibration Apr-09 Apr-09 Jul-09
Calibration Equipment used (M8 Primary Standards Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator Reference 30 dB Attenuator	Licted in the closed laboration ATE critical for calibration) ID # GB41293874 MY41495277 MY41498087	Cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788)	Scheduled Calibration Apr-09 Apr-09 Apr-09
Calibration Equipment used (M8 Primary Standards Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator Reference 30 dB Attenuator Reference 30 dB Attenuator Reference 30 dB Attenuator	Licted in the closed laboration LID # GB41293974 MY41495277 MY41495087 SN: 55054 (3c) SN: 55054 (3cb) SN: 55129 (30b) SN: 3013	Cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Jul-08 (No. 217-00785) 31-Mar-08 (No. 217-00787) 1-Jul-08 (No. 217-00786) 2-Jan-08 (No. 217-00786) 2-Jan-08 (No. 213-00866)	c and humidity < 70%. Scheduled Calibration Apr-09 Apr-09 Jul-09 Jul-09 Jul-09 Jul-09 Jan-09
Calibration Equipment used (M8 Primary Standards Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 24 BA Attenuator Reference 20 dB Attenuator Reference 30 dB Attenuator Reference Probe ES3DV2 DAE4	LID # GB41293874 MY41495277 MY4149687 SN: 55054 (3c) SN: 55086 (20b) SN: 55129 (30b) SN: 3013 SN: 660	Cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00786) 1-Jul-08 (No. 217-00865) 31-Mar-08 (No. 217-00866) 2-Jan-08 (No. ES3-3013_Jan08) 3-Sep-07 (No. DAE4-660_Sep07)	C and humidity < 70%. Scheduled Calibration Apr-09 Apr-09 Jul-09 Jul-09 Jul-09 Jul-09 Jan-09 Sep-08
Calibration Equipment used (M8 Primary Standards Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator Reference 20 dB Attenuator Reference 20 dB Attenuator Reference Probe ES3DV2 DAE4 Secondary Standards	LID # GB41293874 MY41495277 MY41496277 MY41498087 SN: 55054 (3c) SN: 55129 (30b) SN: 3013 SN: 660 ID #	Cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00786) 1-Jul-08 (No. 217-00787) 1-Jul-08 (No. 217-00787) 1-Jul-08 (No. 217-00866) 2-Jan-08 (No. ES3-3013_Jan08) 3-Sep-07 (No. DAE4-660_Sep07) Check Date (in house)	C and humidity < 70%. Scheduled Calibration Apr-09 Apr-09 Jul-09 Jul-09 Jul-09 Jul-09 Jan-09 Sep-08 Scheduled Check
Calibration Equipment used (M8 Primary Standards Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator Reference 20 dB Attenuator Reference 20 dB Attenuator Reference Probe ES3DV2 DAE4 Secondary Standards RF generator HP 8648C	LID # GB41293874 MY41495277 MY4149687 SN: 55054 (3c) SN: 55086 (20b) SN: 55129 (30b) SN: 3013 SN: 660	Cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00786) 1-Jul-08 (No. 217-00865) 31-Mar-08 (No. 217-00866) 2-Jan-08 (No. ES3-3013_Jan08) 3-Sep-07 (No. DAE4-660_Sep07)	C and humidity < 70%. Scheduled Calibration Apr-09 Apr-09 Jul-09 Jul-09 Jul-09 Jul-09 Jan-09 Sep-08
Calibration Equipment used (M8 Primary Standards Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator Reference 20 dB Attenuator Reference 20 dB Attenuator Reference Probe ES3DV2 DAE4 Secondary Standards RF generator HP 8648C	Licted in the closed laboration LID # GB41293974 MY41495277 MY41498087 SN: 55054 (3c) SN: 55054 (3c) SN: 55129 (30b) SN: 3013 SN: 660 LID # US3642U01700	Cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Jul-08 (No. 217-00788) 1-Jul-08 (No. 217-00787) 1-Jul-08 (No. 217-00865) 31-Mar-08 (No. 217-00866) 2-Jan-08 (No. ES3-3013_Jan08) 3-Sep-07 (No. DAE4-660_Sep07) Check Date (in house) 4-Aug-99 (in house check Oct-07)	c and humidity < 70%. Scheduled Calibration Apr-09 Apr-09 Jul-09 Jul-09 Jul-09 Jan-09 Sep-08 Scheduled Check In house check: Oct-09
Calibration Equipment used (M8 Primary Standards Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 3 dB Attenuator Reference 20 dB Attenuator Reference 20 dB Attenuator Reference Probe ES3DV2 DAE4 Secondary Standards RF generator HP 8648C Network Analyzer HP 8753E	LID # ID # GB41293874 MY41495277 MY41495087 SN: 55054 (3c) SN: 55086 (20b) SN: 55129 (30b) SN: 55129 (30b) SN: 3013 SN: 660 ID # US3642U01700 US3642U01700 US37390585	Cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00786) 1-Jul-08 (No. 217-00786) 31-Mar-08 (No. 217-00787) 1-Jul-08 (No. ES3-3013_Jan08) 3-Sep-07 (No. DAE4-660_Sep07) Check Date (in house) 4-Aug-99 (in house check Oct-07) 18-Oct-01 (in house check Oct-07)	c and humidity < 70%. Scheduled Calibration Apr-09 Apr-09 Jul-09 Apr-09 Jul-09 Jul-09 Sep-08 Scheduled Check In house check: Oct-09 In house check: Oct-08
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Calibration Equipment used (M8 Primary Standards Power meter E4419B Power sensor E4412A Power sensor E4412A Reference 30 dB Attenuator Reference 30 dB Attenuator Reference Probe ES3DV2 DAE4 Secondary Standards RF generator HP 8648C Network Analyzer HP 8753E Calibrated by:	Licted in the closed laboration LID # GB41293874 MY41495277 MY41498087 SN: S5054 (3c) SN: S5056 (2ob) SN: S5096 (2ob) SN: S5129 (30b) SN: 3013 SN: 660 LD # US3642U01700 US37390585 Name Katja Pokovic	Cal Date (Certificate No.) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00788) 1-Apr-08 (No. 217-00786) 31-Mar-08 (No. 217-00787) 1-Jul-08 (No. 217-00787) 1-Jul-08 (No. 217-00787) 2-Jan-08 (No. 217-00787) 2-Jan-08 (No. 217-00787) 1-Jul-08 (No. 217-00787) 2-Jan-08 (No. 217-00787) 1-Jul-08 (No. 217-00787) 1-Jul-08 (No. 217-00787) 2-Jan-08 (No. 217-00787) 1-Jul-08 (No. 217-00788) 1-Jul-08 (No. 2	c and humidity < 70%. Scheduled Calibration Apr-09 Apr-09 Jul-09 Apr-09 Jul-09 Jul-09 Sep-08 Scheduled Check In house check: Oct-09 In house check: Oct-08

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Schweizerischer Kalibrierdiens

Service suisse d'étalonnage

Servizio svizzero di taratura

Swiss Calibration Service Accreditation No.: SCS 108

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



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Glossary:

TSL NORMx,y,z ConvF DCP Polarization ϕ Polarization 9

tissue simulating liquid sensitivity in free space sensitivity in TSL / NORMx,y,z diode compression point φ rotation around probe axis 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
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held b) 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 (no uncertainty required). DCP does not depend on frequency nor media.
- 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: EX3-3526_Aug08

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EX3DV3 SN:3526

August 26, 2008

Probe EX3DV3

SN:3526

Manufactured: Last calibrated: Recalibrated: March 19, 2004 August 29, 2007 August 26, 2008

Calibrated for DASY Systems (Note: non-compatible with DASY2 system!)

Certificate No: EX3-3526_Aug08

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EX3DV3 SN:3526

August 26, 2008

DASY - Parameters of Probe: EX3DV3 SN:3526

Sensitivity in Free Space^A

Diode Compression^B

NormX	0.99 ± 10.1%	μ V/(V/m) ²	DCP X	93 mV
NormY	0.81 ± 10.1%	$\mu V/(V/m)^2$	DCP Y	94 mV
NormZ	0.89 ± 10.1%	μ V/(V/m) ²	DCP Z	94 mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect

Typical SAR gradient: 5 % per mm TSL 900 MHz

Sensor Cente	r to Phantom Surface Distance	2.0 mm	3.0 mm
SAR _{be} [%]	Without Correction Algorithm	8.9	5.3
SAR _{be} [%]	With Correction Algorithm	0.8	0.4

Typical SAR gradient: 10 % per mm 1810 MHz TSL

Sensor Cer	ter to Phantom Surface Distance	2.0 mm	3.0 mm
SAR _{be} [%]	Without Correction Algorithm	6.8	3.6
SAR _{be} [%]	With Correction Algorithm	0.5	0.2

Sensor Offset

1.0 mm Probe Tip to Sensor Center

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

^A The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Page 8).

^B Numerical linearization parameter: uncertainty not required.

Certificate No: EX3-3526_Aug08

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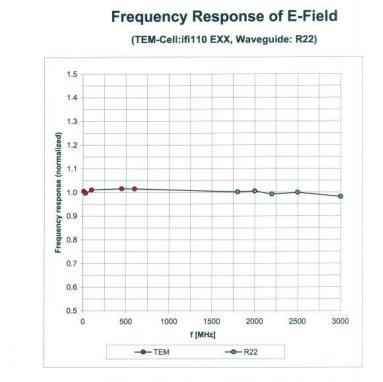
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EX3DV3 SN:3526

August 26, 2008



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

Certificate No: EX3-3526_Aug08

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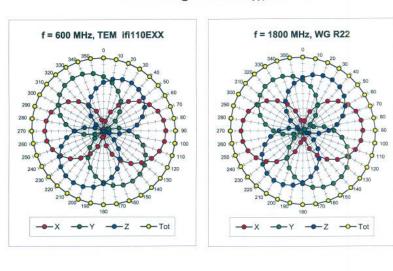
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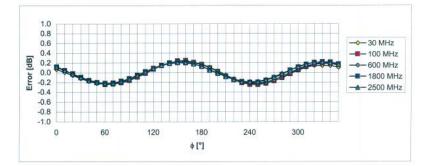
Report No. : ES/2008/C0010 Page : 134 of 161

EX3DV3 SN:3526

August 26, 2008



Receiving Pattern (ϕ), $\vartheta = 0^{\circ}$



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

Certificate No: EX3-3526_Aug08

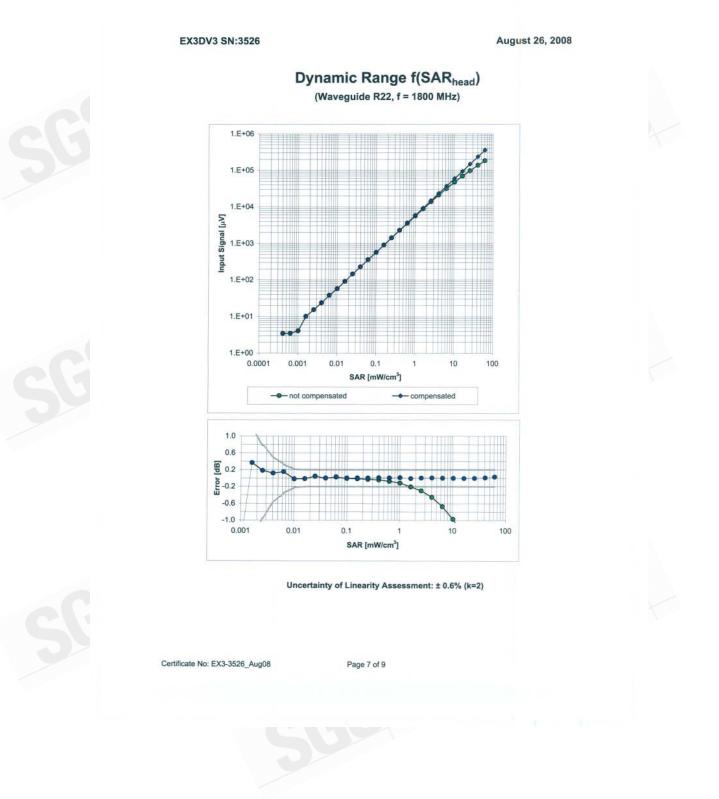
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EX3DV3 SN:3526

August 26, 2008

f [MHz]	Validity [MHz] ^C	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty	
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.54	0.76	10.93 ± 11.0% (k	:=2)
1810	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.52	0.68	9.46 ± 11.0% (k	=2)
1950	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.58	0.61	9.15 ± 11.0% (k	=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.42	0.74	8.49 ± 11.0% (k	:=2)
2600	± 50 / ± 100	Head	39.0 ± 5%	1.96 ± 5%	0.42	0.75	8.53 ± 11.0% (k	=2)
3500	± 50 / ± 100	Head	37.9 ± 5%	2.91 ± 5%	0.30	1.20	8.15 ± 13.1% (k	=2)
5200	± 50 / ± 100	Head	36.0 ± 5%	4.66 ± 5%	0.40	1.65	5.68 ± 13.1% (k	=2)
5500	± 50 / ± 100	Head	35.6 ± 5%	4.96 ± 5%	0.40	1.65	5.01 ± 13.1% (k	=2)
5800	± 50 / ± 100	Head	35.3 ± 5%	5.27 ± 5%	0.40	1.65	4.90 ± 13.1% (k	=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.66	0.68	10.87 ± 11.0% (k	=2)
1810	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.50	0.74	9.28 ± 11.0% (k	=2)
1950	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.45	0.78	9.17 ± 11.0% (k	=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.44	0.80	8.18 ± 11.0% (k	=2)
2600	± 50 / ± 100	Body	52.5 ± 5%	2.16 ± 5%	0.47	0.76	8.14 ± 11.0% (k	=2)
3500	± 50 / ± 100	Body	51.3 ± 5%	3.31 ± 5%	0.30	1.20	7.36 ± 13.1% (k	=2)
5200	± 50 / ± 100	Body	49.0 ± 5%	5.30 ± 5%	0.40	1.70	4.89 ± 13.1% (k	=2)
5500	± 50 / ± 100	Body	48.6 ± 5%	5.65 ± 5%	0.40	1.70	4.39 ± 13.1% (k	=2)
5800	± 50 / ± 100	Body	48.2 ± 5%	6.00 ± 5%	0.40	1.70	4.44 ± 13.1% (k	=2)

Conversion Factor Assessment

^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: EX3-3526_Aug08

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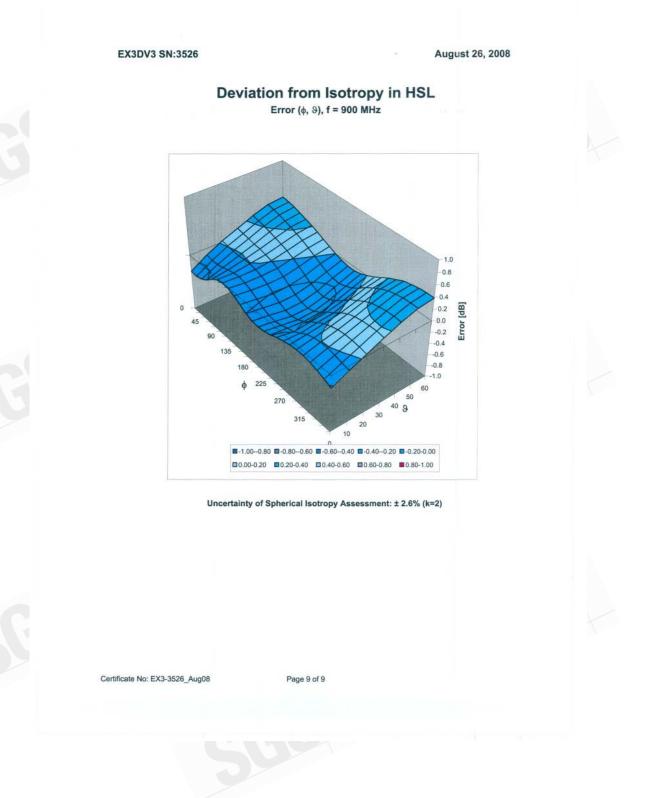
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7. Uncertainty Analysis

Error Description	Uncertainty value	Prob. Dist.	Div.	$\begin{pmatrix} (c_i) \\ 1 g \end{pmatrix}$	$\begin{pmatrix} (c_i) \\ 10g \end{pmatrix}$	Std. Unc. (1g)	Std. Unc. (10g)	$\left \begin{array}{c} (v_i) \\ v_{eff} \end{array} \right $
Measurement System								
Probe Calibration	$\pm 4.8 \%$	N	1	1	1	$\pm 4.8\%$	$\pm 4.8\%$	∞
Axial Isotropy	$\pm 4.7\%$	R	$\sqrt{3}$	0.7	0.7	$\pm 1.9\%$	$\pm 1.9 \%$	∞
Hemispherical Isotropy	$\pm 9.6 \%$	R	$\sqrt{3}$	0.7	0.7	$\pm 3.9\%$	$\pm 3.9\%$	∞
Boundary Effects	$\pm 1.0 \%$	R	$\sqrt{3}$	1	1	$\pm 0.6\%$	$\pm 0.6 \%$	∞
Linearity	$\pm 4.7 \%$	R	$\sqrt{3}$	1	1	$\pm 2.7\%$	$\pm 2.7 \%$	∞
System Detection Limits	$\pm 1.0 \%$	R	$\sqrt{3}$	1	1	$\pm 0.6\%$	$\pm 0.6 \%$	∞
Readout Electronics	$\pm 1.0 \%$	N	1	1	1	±1.0%	$\pm 1.0 \%$	∞
Response Time	$\pm 0.8 \%$	R	$\sqrt{3}$	1	1	$\pm 0.5 \%$	$\pm 0.5 \%$	∞
Integration Time	$\pm 2.6 \%$	R	$\sqrt{3}$	1	1	$\pm 1.5\%$	$\pm 1.5 \%$	∞
RF Ambient Conditions	$\pm 3.0 \%$	R	$\sqrt{3}$	1	1	±1.7%	$\pm 1.7 \%$	∞
Probe Positioner	$\pm 0.4\%$	R	$\sqrt{3}$	1	1	$\pm 0.2\%$	$\pm 0.2 \%$	∞
Probe Positioning	$\pm 2.9 \%$	R	$\sqrt{3}$	1	1	$\pm 1.7\%$	$\pm 1.7\%$	∞
Max. SAR Eval.	±1.0%	R	$\sqrt{3}$	1	1	$\pm 0.6\%$	±0.6 %	∞
Test Sample Related								
Device Positioning	$\pm 2.9\%$	N	1	1	1	$\pm 2.9\%$	$\pm 2.9 \%$	875
Device Holder	$\pm 3.6\%$	N	1	1	1	$\pm 3.6\%$	$\pm 3.6 \%$	5
Power Drift	$\pm 5.0 \%$	R	$\sqrt{3}$	1	1	$\pm 2.9\%$	$\pm 2.9\%$	∞
Phantom and Setup								
Phantom Uncertainty	$\pm 4.0 \%$	R	$\sqrt{3}$	1	1	$\pm 2.3\%$	$\pm 2.3 \%$	∞
Liquid Conductivity (target)	$\pm 5.0 \%$	R	$\sqrt{3}$	0.64	0.43	$\pm 1.8\%$	$\pm 1.2 \%$	∞
Liquid Conductivity (meas.)	$\pm 2.5 \%$	N	1	0.64	0.43	$\pm 1.6 \%$	$\pm 1.1 \%$	∞
Liquid Permittivity (target)	$\pm 5.0 \%$	R	$\sqrt{3}$	0.6	0.49	$\pm 1.7\%$	$\pm 1.4 \%$	∞
Liquid Permittivity (meas.)	$\pm 2.5 \%$	N	1	0.6	0.49	$\pm 1.5 \%$	$\pm 1.2 \%$	∞
Combined Std. Uncertainty						$\pm 10.3 \%$	$\pm 10.0 \%$	331
Expanded STD Uncertain	ty					$\pm 20.6\%$	$\pm 20.1\%$	

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8. Phantom description

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Scre	TUO OF	Partner	Engineering AG	
COLUMN TWO IS	distant strength	COLUMN STATE	the standard state of the state	-

Zeughausstrasse 43, 8004 Zurich, Switzerland Phone +41 1 245 9700, Fax +41 1 245 9779 info@speeg.com, http://www.speeg.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	

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Tests

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 – 6 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 [1] [2]

IEC 62209 Part I

[3] [4] (*) 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 the other documents.

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].

07.07.2005

Date Signature / Stamp

D e 8

to & Partner Engineering AG Inusadanse 43, 8004 Zuridi Switzerland I 141 - 245 8700 Faw 40 245 9779 ng.

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Doc No 881 - QD 000 P40 C - F

Page 1 (1)

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9. System Validation from Original equipment supplier

Accredited by the Swiss Accred		Accreditation No.	wiss Calibration Service
Multilateral Agreement for the n	IN CONCERNMENT OF CAMPAC		
Client SGS (Auden)	CREW-KILL	Certificate No: D	835V2-4d063_Jun08
CALIBRATION O	ERTIFICATE	Manufacture and the second	
Object	D835V2 - SN: 40	1063	
			and the statement of the
Calibration procedure(s)	QA CAL-05.v7 Calibration proce	dure for dipole validation kits	
	CHILDREN WELLS NOT		No. of Concession, Name
Calibration date:	June 06, 2008	AUTO AND THE REAL OF A	
Condition of the calibrated item	In Tolerance		Carl Statement of the second
Condition of the calibrated item.	In roierance		Player, Marriel and Street, St
The measurements and the unce	rtainties with confidence p	ional standards, which realize the physical units of robability are given on the following pages and an ry facility: environment temperature (22 ± 3)°C an	e part of the certificate.
The measurements and the unce	rtainties with confidence p ted in the closed laborato	robability are given on the following pages and an	e part of the certificate.
The measurements and the unce All calibrations have been conduc Calibration Equipment used (M&T Primary Standards	tainties with confidence p ted in the closed laborato TE critical for calibration)	robability are given on the following pages and an ry facility: environment temperature (22 ± 3)°C and Cal Date (Calibrated by, Certificate No.)	e part of the certificate. d humidity < 70%. Scheduled Calibration
The measurements and the unce All calibrations have been conduc Calibration Equipment used (M&T Primary Standards Power meter EPM-442A	tainties with confidence p ted in the closed laborato TE critical for calibration) ID # GB37480704	robability are given on the following pages and an ry facility: environment temperature (22 ± 3)°C and Cal Date (Calibrated by, Certificate No.) 04-Oct-07 (METAS, No. 217-00736)	e part of the certificate. d humidity < 70%. Scheduled Calibration Oct-08
The measurements and the unce All calibrations have been conduc Calibration Equipment used (M&T Primary Standards	taintiles with confidence p ted in the closed laborato TE critical for calibration) ID # CIB37480704 US37292783	robability are given on the following pages and an ry facility: environment temperature (22 ± 3)°C and Cal Date (Calibrated by, Certificate No.) 04-Oct-07 (METAS, No. 217-00736) 04-Oct-07 (METAS, No. 217-00736)	e part of the certificate. d humidity < 70%. Scheduled Calibration
The measurements and the unce All calibrations have been conduc Calibration Equipment used (M&T Primary Standards Power meter EPM-442A Power sensor HP 8481A	tainties with confidence p ted in the closed laborato TE critical for calibration) ID # GB37480704	robability are given on the following pages and an ry facility: environment temperature (22 ± 3)°C and Cal Date (Calibrated by, Certificate No.) 04-Oct-07 (METAS, No. 217-00736)	e part of the certificate. d humidity < 70%. Scheduled Calibration Oct-08 Oct-08
The measurements and the unce All calibrations have been conduc Calibration Equipment used (M&T Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator Type-N mismatch combination Reference Probe ES3DV2	tainties with confidence p ted in the closed laborato TE critical for calibration) ID # GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 / 06327 SN: 3025	Cal Date (Calibrated by, Certificate No.) 04-Oct-07 (METAS, No. 217-00736) 04-Oct-07 (METAS, No. 217-00736) 04-Oct-07 (METAS, No. 217-00736) 07-Aug-07 (METAS, No. 217-00718) 08-Aug-07 (No. 217-00721) 28-Apr-08 (No. ES3-3025_Apr06)	e part of the certificate. d humidity < 70%. Scheduled Calibration Oct-08 Oct-08 Aug-06 Aug-06 Apr-09
The measurements and the unce All calibrations have been conduc Calibration Equipment used (M&T Primary Standards Power meter EPM-442A Power sensor HP 8481A Reference 20 dB Attenuator	tainties with confidence p ted in the closed laborato TE critical for calibration) ID # GB37490704 US37292783 SN: 5086 (20g) SN: 5047.2 / 06327	robability are given on the following pages and an ry facility: environment temperature (22 ± 3)°C and Cal Date (Calibrated by, Certificate No.) 04-Oct-07 (METAS, No. 217-00736) 04-Oct-07 (METAS, No. 217-00736) 07-Aug-07 (METAS, No 217-00718) 08-Aug-07 (No. 217-00721)	e part of the certificate. d humidity < 70%. Scheduled Calibration Oct-08 Oct-08 Oct-08 Aug-08 Aug-08
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Report No. : ES/2008/C0010 Page : 141 of 161

DASY4 Validation Report for Head TSL

Date/Time: 05.06.2008 14:11:53

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d063

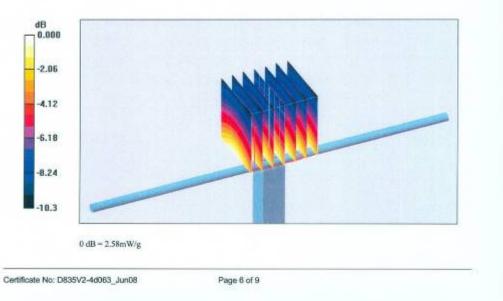
Communication System: CW-835; Frequency: 835 MHz; Duty Cycle: 1:1 Medium: HSL 900 MHz; Medium parameters used: f = 835 MHz; $\sigma = 0.879$ mho/m; $\varepsilon_r = 40.3$; $\rho = 1000$ kg/m³ Phantom section: Flat Section Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

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

Pin=250mW; dip=15mm; dist=3.4mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 55.3 V/m; Power Drift = -0.021 dB

Peak SAR (extrapolated) = 3.36 W/kg SAR(1 g) = 2.29 mW/g; SAR(10 g) = 1.52 mW/g Maximum value of SAR (measured) = 2.58 mW/g



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Member of SGS Group



Report No. : ES/2008/C0010 Page : 142 of 161

DASY4 Validation Report for Body TSL

Date/Time: 06.06.2008 14:01:1

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d063

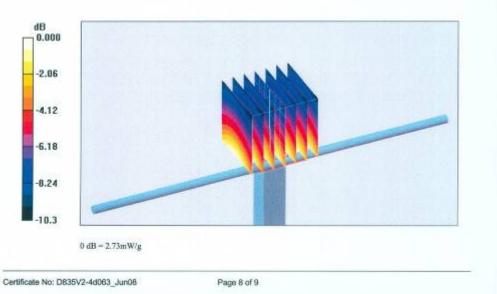
Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1 Medium: MSL900; Medium parameters used: f = 835 MHz; $\sigma = 0.99$ mho/m; $\epsilon_r = 53.4$; $\rho = 1000$ kg/m³ Phantom section: Flat Section Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

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

Pin = 250mW, d = 15mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 53.6 V/m; Power Drift = 0.010 dB Peak SAR (extrapolated) = 3.53 W/kg SAR(1 g) = 2.44 mW/g; SAR(10 g) = 1.61 mW/g Maximum value of SAR (measured) = 2.73 mW/g



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Report No. : ES/2008/C0010 Page : 143 of 161

Calibration Laboratory of SWISS Schweizerischer Kalibrierdienst S Schmid & Partner Service suisse d'étalonnage CRUBRA C AC-MRA Engineering AG Servizio svizzero di taratura s Zeughausstrasse 43, 8004 Zurich, Switzerland Swiss Calibration Service Accreditation No.: SCS 108 Accredited by the Swiss Federal Office of Metrology and Accreditation The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates Certificate No: D1900V2-5d027_Apr08 SGS (Auden) Client CALIBRATION CERTIFICATE D1900V2 - SN: 5d027 Object Calibration procedure(s) QA CAL-05.v7 Calibration procedure for dipole validation kits April 15, 2008 Calibration date: Condition of the calibrated item In Tolerance 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 (Calibrated by, Certificate No.) Scheduled Calibration Primary Standards ID N GB37480704 Power meter EPM-442A 04-Oct-07 (No. 217-00736) Oct-08 Power sensor HP 8481A US37292783 04-Oct-07 (No. 217-00736) Oct-08 Reference 20 dB Attenuator SN: 5086 (20g) 07-Aug-07 (No. 217-00718) Aug-08 SN: 5047.2 / 06327 08-Aug-07 (No. 217-00721) Type-N mismatch combination Aug-08 Mar-09 SN: 3025 01-Mar-08 (No. ES3-3025 Mar08) Reference Probe ES3DV2 DAE4 14-Mar-08 (No. DAE4-601_Mar08) SN: 601 Mar-09 Secondary Standards ID # Check Date (in house) Scheduled Check 18-Oct-02 (in house check Oct-07) In house check: Oct-08 Power sensor HP 8481A MY41092317 RF generator R&S SMT-06 100005 4-Aug-99 (in house check Oct-07) In house check: Oct-09 Network Analyzer HP 8753E US37390585 S4206 18-Oct-01 (In house check Oct-07) In house check: Oct-08 Name Function Calibrated by: Laboratory Technician Marcel Fehr Katja Pokovic Technical Manager Approved by: issued: April 17, 2008 This calibration certificate shall not be reproduced except in full without written approval of the laboratory Certificate No: D1900V2-5d027 Apr08 Page 1 of 9

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DASY4 Validation Report for Head TSL

Date/Time: 08.04.2008 13:49:58

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d027

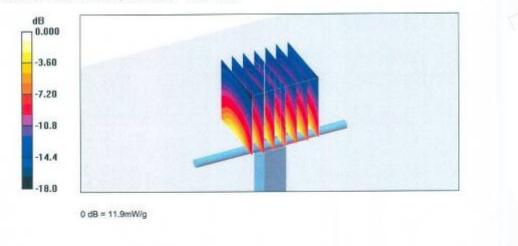
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1 Medium: HSL U10 BB; Medium parameters used: f = 1900 MHz; σ = 1.47 mho/m; ϵ_r = 40.1; ρ = 1000 kg/m³ Phantom section: Flat Section Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 SN3025; ConvF(4.9, 4.9, 4.9); Calibrated: 01.03.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA: ;
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 172

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 92.2 V/m; Power Drift = 0.033 dB Peak SAR (extrapolated) = 19.1 W/kg SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.3 mW/g

Maximum value of SAR (measured) = 11.9 mW/g



Certificate No: D1900V2-5d027_Apr08

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DASY4 Validation Report for Body TSL

Date/Time: 15.04.2008 13:51:25

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d027

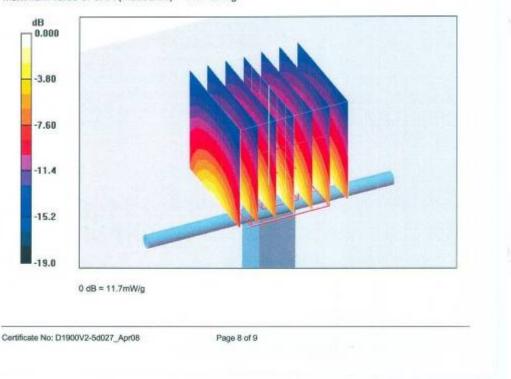
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1 Medium: MSL U10 BB; Medium parameters used: f = 1900 MHz; σ = 1.56 mho/m; ε, = 51.6; ρ = 1000 kg/m³ Phantom section: Flat Section Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 SN3025; ConvF(4.5, 4.5, 4.5); Calibrated: 01.03.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; ;
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 172

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 89.3 V/m; Power Drift = -0.022 dB Peak SAR (extrapolated) = 17.4 W/kg SAR(1 g) = 9.64 mW/g; SAR(10 g) = 5.07 mW/g Maximum value of SAR (measured) = 11.7 mW/g



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Accredited by the Swiss Accred The Swiss Accreditation Servic	e is one of the signatorie	s to the EA	No.: SCS 108
Aultilateral Agreement for the r	ecognition of calibration		D1800V2-2d061_Apr08
CALIBRATION	CERTIFICATE		
Object	D1800V2 - SN: 2	d061	
Calibration procedure(s)	QA CAL-05.v7 Calibration proce	dure for dipole validation kits	
Calibration date:	April 15, 2008		
	Constant and the second second		
This calibration certificate docum The measurements and the unce	ertainties with confidence p	onal standards, which realize the physical units robability are given on the following pages and γ facility: environment temperature (22 ± 3)°C (are part of the certificate.
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This calibration certificate docum The measurements and the unce All calibrations have been condu Calibration Equipment used (M& Primary Standards Power meter EPM-442A Power sensor HP 8481A	ents the traceability to nati entainties with confidence p cted in the closed laborator TE oritical for calibration) ID # GB37480704 US37292783 SN: 5086 (20g) SN: 5047.2 / 06327 SN: 5047.2 / 06327 SN: 5025 SN: 601 ID # MY41092317 100005	coability are given on the following pages and y facility: environment temperature (22 ± 3)°C i O4-Oct-07 (No. 217-00736) 04-Oct-07 (No. 217-00736) 04-Oct-07 (No. 217-00736) 06-Aug-07 (No. 217-00736) 06-Aug-07 (No. 217-00736) 06-Aug-07 (No. 217-00736) 06-Aug-07 (No. 217-00721) 01-Mar-08 (No. ES3-3025_Mar08) 14-Mar-08 (No. DAE4-601_Mar08) Check Date (in house) 18-Oct-02 (in house check Oct-07) 4-Aug-99 (in house check Oct-07)	see part of the certificate. and humidity < 70%. Scheduled Calibration Oct-08 Oct-08 Oct-08 Aug-08 Aug-08 Aug-08 Mar-09 Mar-09 Mar-09 Scheduled Check In house check: Oct-08 In house check: Oct-09
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Report No. : ES/2008/C0010 Page : 147 of 161

DASY4 Validation Report for Head TSL

Date/Time: 08.04.2008 11:57:19

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: SN:2d061

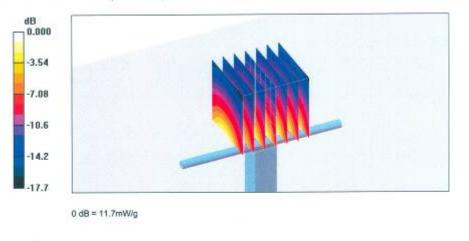
Communication System: CW; Frequency: 1800 MHz;Duty Cycle: 1:1 Medium: HSL U10 BB; Medium parameters used: f = 1800 MHz; σ = 1.41 mho/m; ε, = 40.2; p = 1000 kg/m³ Phantom section: Flat Section Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 SN3025; ConvF(4.96, 4.96, 4.96); Calibrated: 01.03.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; ;
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 172

Pin = 250 mW; dip = 10 mm, scan at 3.4mm/Zoom Scan (dist=3.4mm, probe 0deg) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 91.0 V/m; Power Drift = 0.040 dB Peak SAR (extrapolated) = 18.1 W/kg SAR(1 g) = 9.86 mW/g; SAR(10 g) = 5.14 mW/g Maximum value of SAR (measured) = 11.7 mW/g



Certificate No: D1800V2-2d061 Apr08

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Report No. : ES/2008/C0010 Page : 148 of 161

DASY4 Validation Report for Body TSL

Date/Time: 15.04.2008 10:21:05

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: SN:2d061

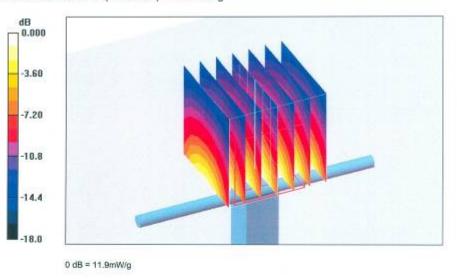
Communication System: CW; Frequency: 1800 MHz; Duty Cycle: 1:1 Medium: MSL U10; Medium parameters used: f = 1800 MHz; σ = 1.5 mho/m; ε, = 51.5; ρ = 1000 kg/m³ Phantom section: Flat Section Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 SN3025; ConvF(4.73, 4.73, 4.73); Calibrated: 01.03.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom; Flat Phantom 5.0 (back); Type: QD000P50AA; ;
- Measurement SW: DASY4, V4.7 Build 55: Postprocessing SW: SEMCAD, V1.8 Build 172

Pin = 250 mW; dip = 10 mm, scan at 3.4mm/Zoom Scan (dist=3.4mm, probe 0deg) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 91.2 V/m; Power Drift = 0.005 dB Peak SAR (extrapolated) = 17.6 W/kg SAR(1 g) = 9.87 mW/g; SAR(10 g) = 5.25 mW/g Maximum value of SAR (measured) = 11.9 mW/g



Certificate No: D1800V2-2d061_Apr08

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Report No. : ES/2008/C0010 Page : 149 of 161

			000 100
Accredited by the Swiss Accred The Swiss Accreditation Servic Multilateral Agreement for the n	e is one of the signatorie	s to the EA	on No.: SCS 108
Client SGS (Auden)			No: D2450V2-727_Apr08
CALIBRATION C	ERTIFICATE		
Object	D2450V2 - SN: 7	27	
Calibration procedure(s)	QA CAL-05.v7 Calibration proce	dure for dipole validation kits	
Calibration date:	April 11, 2008		
Condition of the calibrated item	In Tolerance		
The measurements and the unor All calibrations have been condu	intainties with confidence p ched in the closed laborator	anal standards, which realize the physical robability are given on the following pages ry facility: environment temperature 122 ± 3	and are part of the certificate.
The measurements and the unce	intainties with confidence p ched in the closed laborator	robability are given on the following pages	and are part of the certificate.
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SGS Taiwan Ltd.
No.134, Wu Kung Road, Wuku Industrial Zone, Taipei County, Taiwan /台比縣五股工業區五工路 134 號

f (886-2) 2298-0488 t (886-2) 2299-3279 www.tw.sgs.com



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Date/Time: 11.04.2008 15:23:03

DASY4 Validation Report for Body TSL

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN727

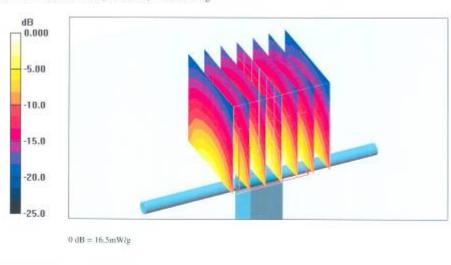
Communication System: CW-2450; Frequency: 2450 MHz; Duty Cycle: 1:1 Medium: MSL U10; Medium parameters used: f = 2450 MHz; $\sigma = 1.99 \text{ mho/m}$; $e_r = 51$; $\rho = 1000 \text{ kg/m}^3$ Phantom section: Flat Section Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 SN3025; ConvF(4.07, 4.07, 4.07); Calibrated: 01.03.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection) .
- Electronics: DAE4 Sn601: Calibrated: 14.03 2008
- Phantom; Flat Phantom 5.0 (back); Type; QD000P50AA
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 172

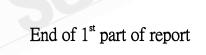
Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 93.5 V/m; Power Drift = 0.010 dB Peak SAR (extrapolated) = 26.5 W/kg SAR(1 g) = 13.2 mW/g; SAR(10 g) = 6.15 mW/g Maximum value of SAR (measured) = 16.5 mW/g



Certificate No: D2450V2-727 Apr08

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No.134, Wu Kung Road, Wuku Industrial Zone, Taipei County, Taiwan /台北縣五股工業區五工路 134 號 Faiwan Ltd. t (886-2) 2299-3279 f (886-2) 2298-0488 www.tw.sgs.com

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