

SAR TEST REPORT

Equipment Under Test	Notebook
Model No.	M72R
FCC ID	U9M-M72R
Applicant	CLEVO CO.
Address of Applicant	No.129, Hsing-Te road, Sun Chung city 241, Taipei Hsien, Taiwan, R.O.C
Date of Receipt	2007.05.18
Date of Test(s)	2007.05.23-2007.05.25
Date of Issue	2007.06.21

Standards:

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

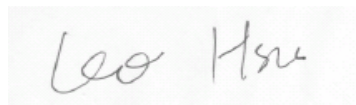
In the configuration tested, the EUT complied with the standards specified above.

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.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS Taiwan EC Services or testing done by SGS Taiwan EC Services in connection with distribution or use of the product described in this report must be approved by SGS Taiwan EC Services in writing.

Tested by : LEO HSU



Date : 2007.05.30

Approved by : DIKIN YANG



Date : 2007.06.21

Contents

1. General Information

1.1 Testing Laboratory.....	3
1.2 Details of Applicant.....	3
1.3 Description of EUT.....	3
1.4 Test Environment.....	4
1.5 Operation description.....	4
1.6 The SAR Measurement System.....	5
1.7 System Components.....	6
1.8 SAR System Verification.....	8
1.9 Tissue Simulant Fluid for the Frequency Band	9
1.10 Test Standards and Limits.....	10

2. Summary of Results.....

3. Instruments List.....

4. Measurement values.....

GSM 850MHz- testing in GPRS mode

4.1.1 Vertical position, lowest channel.....	14
4.1.2 Vertical position, middle channel.....	15
4.1.3 Vertical position, highest channel.....	16
4.1.4 Horizontal position, lowest channel.....	17
4.1.5 Horizontal position, middle channel.....	18
4.1.6 Horizontal position, highest channel.....	19

PCS 1900MHz- testing in GPRS mode

4.2.1 Vertical position, lowest channel.....	20
4.2.2 Vertical position, middle channel.....	21
4.2.3 Vertical position, highest channel.....	22
4.2.4 Horizontal position, lowest channel.....	23
4.2.5 Horizontal position, middle channel.....	24
4.2.6 Horizontal position, highest channel.....	25

System Verification

4.3.1 GSM 850MHz Body.....	26
4.3.2 PCS 1900MHz Body.....	27

1. General Information

1.1 Testing Laboratory

SGS Taiwan Ltd. EC Lab	
5F, No. 134, Wukung 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

Name	CLEVO CO.
Address	No.129, Hsing-Te road, Sun Chung city 241, Taipei Hsien, Taiwan, R.O.C
Country	Taiwan
Telephone	+886-2-2278-9696
Fax	+886-2-2278-4787
Contact Person	Mr. HY Sung
E-mail	hysung@clevo.com.tw

1.3 Description of EUT

Product Name	Notebook	
Model Number	M73S	
IMEI	352678010229422	
Mode of Operation	GSM,GPRS 900/1800/850/1900, WCDMA B1	
Modulation mode	GMSK/QPSK	
Duty Cycle	GSM	GPRS
	1/8	1/2
Maximum RF Conducted Power (Average)	GSM 850	PCS 1900
	31.92 dBm	28.79 dBm
TX Frequency range	GSM 850	PCS 1900
	824.2-848.8 MHz	1850.2-1909.8 MHz

Channel Number (ARFCN)	GSM 850	PCS 1900
	128-251	512-810
Power Supply	14.8Vdc re-chargeable battery or 19Vdc by AC/DC power adapter	
	Battery Model:	M720SBAT-4, Supplier: LI SHIN
	Adapter Model	0335A1965, Supplier: LI SHIN
Antenna Type	PIFA Antenna	
Antenna Gain	GSM 850	PCS 1900
	-2.4 dBi	1.82 dBi
Max. SAR Measured (1 g)	0.499 W/kg (At Configuration 1 GSM1900 661 Channel, testing in GPRS mode, Uplink solt=4)	



Note:

1. EGPRS mode(power class E2, 24dBm) was not measured because maximum averaged output power is more than 3 dB lower in EGPRS mode than in GPRS mode.

1.4 Test Environment

Ambient Temperature: 22.1° C
Tissue Simulating Liquid: 21.6° C
Relative Humidity: 62 %

1.5 Operation description

The EUT type is Notebook. When uses it, it will be defined as a portable device since the Notebook will place in the thigh, so SAR measurement is mandatory. The EUT is controlled by using a Communication simulate Tester (Agilent 8960), and the

communication between the EUT and the tester is established by air link. Measurements are performed respectively on the lowest, middle and highest channels of the operating band(s). The EUT is set to maximum power level during all tests, and at the beginning of each test the battery is fully charged.

Value of Crest Factors are 2 for GPRS mode (GPRS multi-slot=4) and 1 for WCDMA Band 1 were used for SAR testing according to the nature of the EUT. The test configuration tested at the low, middle and high frequency channels. By using the program subordinated in the computer, and change into the written channel, and then test of set in highest power. Finally, we will test it by dividing into 2 configurations:

Configuration 1: Right side of the Notebook of EUT is vertical with flat phantom and spacing between EUT and Phantom- in contact 15mm.

Configuration 2: Bottom face of the Notebook is paralleled with flat phantom and Notebook is contact it.

1.6 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 3526-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation $SAR = \sigma (|E|^2) / \rho$ where σ and ρ are the conductivity and mass density of the tissue-simulant.

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

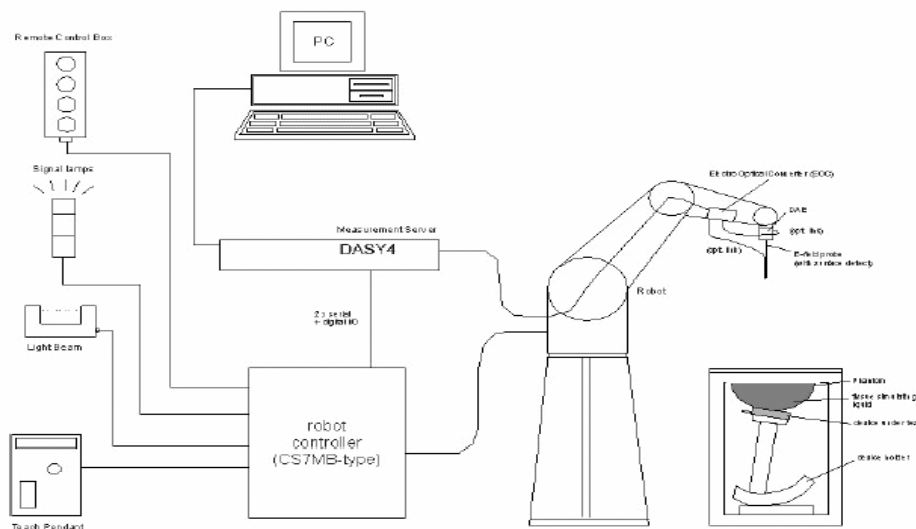


Fig. a The microwave circuit arrangement used for SAR system verification


- A standard high precision 6-axis robot (Stabile RX family) with controller, teach pendant and software. An arm extension 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.
 - 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 hand-held mobile phones.
 - Tissue simulating liquid mixed according to the given recipes.
 - Validation dipole kits allowing to validate the proper functioning of the system.


1.7 System Components

EX3DV3 E-Field Probe


Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Calibration	Basic Broad Band Calibration in air Conversion Factors (CF) for HSL850/1900 Additional CF for other liquids and frequencies upon request	
Frequency	10 MHz to > 6 GHz, Linearity: ± 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: ± 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 scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.
-------------	--

SAM PHANTOM V4.0C

Construction:	<p>The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528-200X, CENELEC 50361 and IEC 62209.</p> <p>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.</p>	
Shell Thickness:	2 ± 0.2 mm	
Filling Volume:	Approx. 25 liters	
Dimensions:	Height: 251 mm; Length: 1000 mm; Width: 500 mm	

DEVICE HOLDER

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

1.8 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 $\pm 10\%$ from the target SAR values. These tests were done at 850&1900 MHz. The tests were conducted on the same days as the measurement of the DUT. The obtained results from the system accuracy verification are displayed in the table 1 (SAR values are normalized to 1W forward power delivered to the dipole). 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.

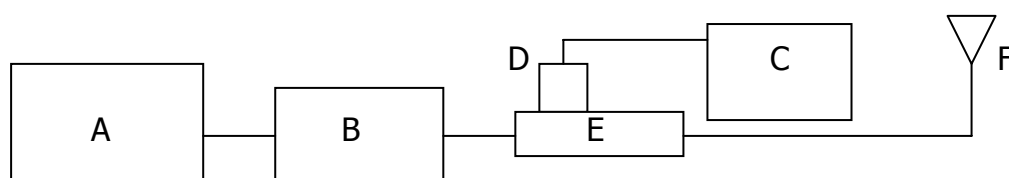
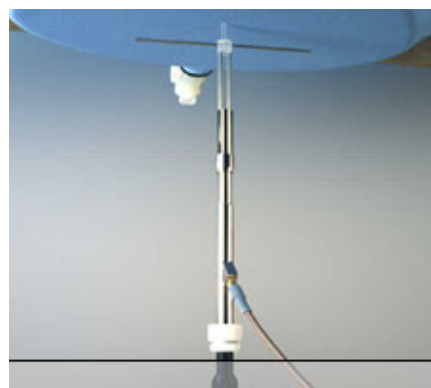


Fig.b The microwave circuit arrangement used for SAR system verification

- 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
- E. Agilent Model 778D Dual directional coupling
- F. Reference dipole antenna



Photograph of the dipole Antenna

Validation Kit	Frequency Hz	Target SAR (1g) (Pin=250mW)	Target SAR (10g) (Pin=250mW)	Measured SAR (1g)	Measured SAR (10g)	Measured Date
D850V2 S/N: 178	850 MHz (Body)	2.66 m W/g	1.71 m W/g	2.63 m W/g	1.71 m W/g	2007-05-23
D1900V2 S/N: 5d027	1900 MHz (Body)	9.67 m W/g	5.16 m W/g	9.6 m W/g	5.01 m W/g	2007-05-24

Table 1. Results system validation

1.9 Tissue Simulant Fluid for the Frequency Band

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

All dielectric parameters of tissue simulates were measured within 24 hours of SAR measurement. The depth of the tissue simulant in the ear reference point of the phantom was 15cm±5mm during all tests. (Fig .2)

Frequency (MHz)	Tissue type	Measurement date/ Limits	Dielectric Parameters		
			ρ	σ (S/m)	Simulated Tissue Temperature(° C)
850	Body	Measured, 2007.05.23	56.1	0.962	21.7
		Recommended Limits	52.3-58.0	0.92-1.10	20-24
1900	Body	Measured, 2007.05.24	52.2	1.61	21.6
		Recommended Limits	50.6-56.0	1.38-1.60	20-24

Table 2. Dielectric Parameters of Tissue Simulant Fluid

The composition of the brain tissue simulating liquid for 900 & 1900 MHz is:

Ingredient	900Mhz(Head)	900Mhz(Body)	1900Mhz(Head)	1900Mhz(Body)
DGMBE	X	X	444.52 g	300.67
Water	532.98 g	632.68	552.42 g	716.56
Sale	18.3 g	11.72	3.06 g	4.0
Preventol D-7	2.4 g	1.2	X	X
Cellulose	3.2 g	X	X	X
Sugar	766.0 g	600 g	X	X
Total amount	1 L (1.0kg)	1 L (1.0kg)	1 L (1.0kg)	1 L (1.0kg)

Table 3. Recipes for tissue simulating liquid

1.10 Test Standards and Limits

According to FCC 47CFR §2.1093(d) The limits to be used for evaluation are based generally on criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate ("SAR") in Section 4.2 of "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," ANSI/IEEE C95.1-1992, Copyright 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017. These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in "Biological Effects and Exposure Criteria for

Radio frequency Electromagnetic Fields,” NCRP Report No. 86, Section 17.4.5. Copyright NCRP, 1986, Bethesda, Maryland 20814. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards. The criteria to be used are specified in paragraphs (d)(1) and (d)(2) of this section and shall apply for portable devices transmitting in the frequency range from 100 kHz to 6 GHz. Portable devices that transmit at frequencies above 6 GHz are to be evaluated in terms of the MPE limits specified in § 1.1310 of this chapter. Measurements and calculations to demonstrate compliance with MPE field strength or power density limits for devices operating above 6 GHz should be made at a minimum distance of 5 cm from the radiating source.

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

(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 .4)

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR (Brain)	1.60 m W/g	8.00 m W/g
Spatial Average SAR	0.08 m W/g	0.40 m W/g

(Whole Body)		
Spatial Peak SAR (Hands/Feet/Ankle/Wrist)	4.00 m W/g	20.00 m W/g

Table .4 RF exposure limits

Notes:

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

2.Summary of Results

GSM 850 MHZ- testing in GPRS mode (uplink solt=4)

Configuration 1- Vertical position

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	128	824.2	31.78 dBm	0.050	22.1	21.7
	190	836.6	31.87 dBm	0.057	22.1	21.7
	251	848.8	31.92 dBm	0.062	22.1	21.7

Configuration 2- Horizontal position

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	128	824.2	31.78 dBm	0.013	22.1	21.7
	190	836.6	31.87 dBm	0.013	22.1	21.7
	251	848.8	31.92 dBm	0.013	22.1	21.7

PCS 1900 MHZ- testing in GPRS mode (uplink solt=4)

Configuration 1- Vertical position

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
1900 MHz	512	1850.2	28.69 dBm	0.399	22.1	21.7
	661	1880.0	28.75 dBm	0.499	22.1	21.7
	810	1909.8	28.79 dBm	0.484	22.1	21.7

Configuration 2- Horizontal position

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
1900 MHz	512	1710.2	28.69 dBm	0.109	22.1	21.7
	661	1747.4	28.75 dBm	0.114	22.1	21.7
	810	1784.8	28.79 dBm	0.096	22.1	21.7

3. Instruments List

Manufacturer	Device	Type	Serial number	Date of last calibration
Schmid & Partner Engineering AG	Dosimetric E-Field Probe	EX3DV3	3526	Aug.25.2006
Schmid & Partner Engineering AG	900/1900 MHz System Validation Dipole	D900V2 D1900V2	178 5d027	Feb.19.2007 Mar.20.2007
Schmid & Partner Engineering AG	Data acquisition Electronics	DAE4	547	Mar.21.2007
Schmid & Partner Engineering AG	Software	DASY 4 V4.7 Build 53	N/A	Calibration isn't necessary
Schmid & Partner Engineering AG	Phantom	SAM1	N/A	Calibration isn't necessary
Agilent	Network Analyzer	8753D	3410A05547	Nov.16.2006
Agilent	Dielectric Probe Kit	85070D	US01440168	Calibration isn't necessary
Agilent	Dual-directional coupler	778D	50313	Sep.01.2006
Agilent	RF Signal Generator	8648D	3847M00432	May.22.2007
Agilent	Power Sensor	8481H	MY41091361	May.27.2006
Agilent	8960 Series 10 Wireless Communication Tester	8960	GB44051912	Nov.28.2006

4. Measurements

GPRS_CH128

Date/Time: 2007/5/24 00:42:28

DUT: M72R; Type: GSM;

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:2

Medium: Muscle 850 MHz Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.951$ mho/m;

$\epsilon_r = 56.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(11.63, 11.63, 11.63); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2007/3/5
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

BODY/Area Scan (61x41x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.054 mW/g

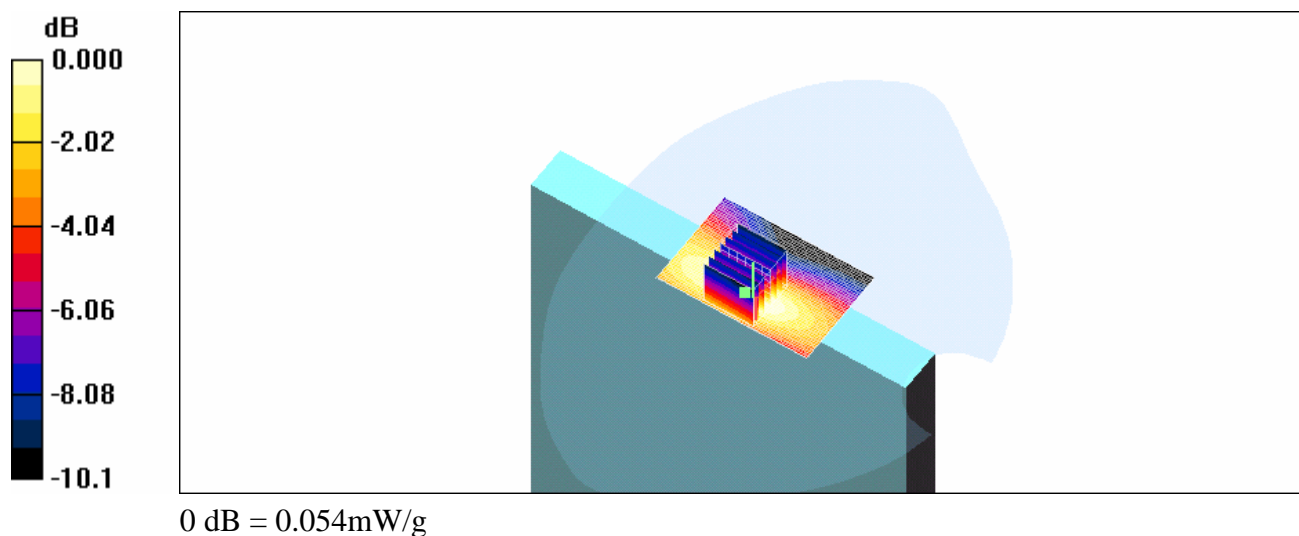
BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.55 V/m; Power Drift = -0.003 dB

Peak SAR (extrapolated) = 0.072 W/kg

SAR(1 g) = 0.050 mW/g; SAR(10 g) = 0.033 mW/g

Maximum value of SAR (measured) = 0.054 mW/g



GPRS_CH190

DUT: M72R; Type: GSM;

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:2

Medium: Muscle 850 MHz Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.962$ mho/m;

$\epsilon_r = 56.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(11.63, 11.63, 11.63); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2007/3/5
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

BODY/Area Scan (61x41x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.061 mW/g

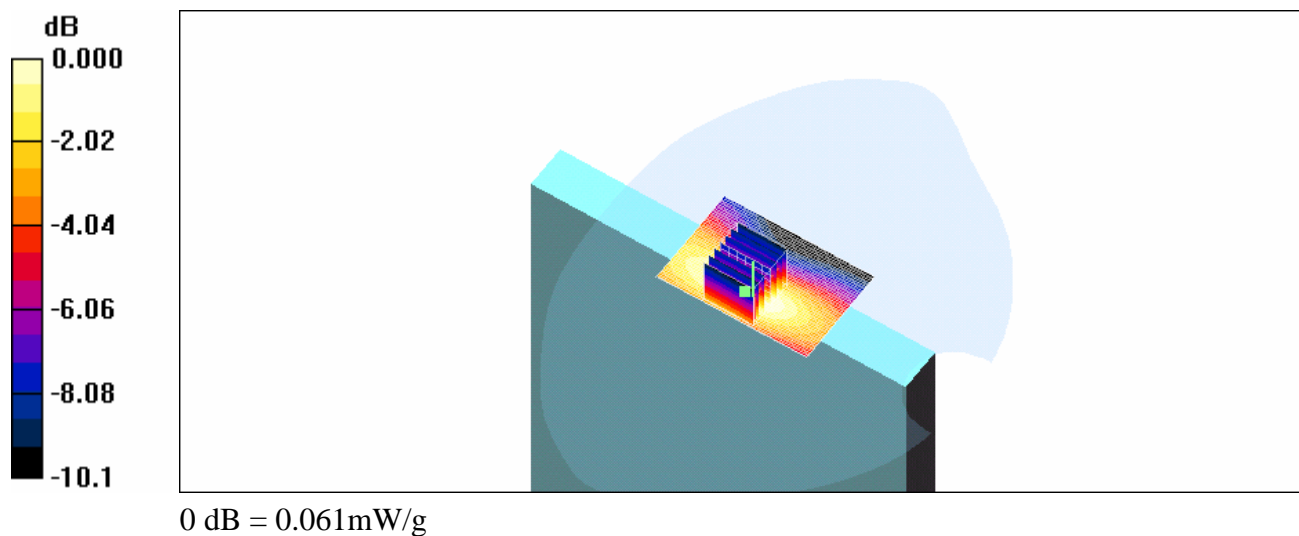
BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.93 V/m; Power Drift = 0.016 dB

Peak SAR (extrapolated) = 0.081 W/kg

SAR(1 g) = 0.057 mW/g; SAR(10 g) = 0.038 mW/g

Maximum value of SAR (measured) = 0.061 mW/g



GPRS_CH251

DUT: M72R; Type: GSM;

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:2

Medium: Muscle 850 MHz Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.975$ mho/m;

$\epsilon_r = 56$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(11.63, 11.63, 11.63); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2007/3/5
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

BODY/Area Scan (61x41x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.068 mW/g

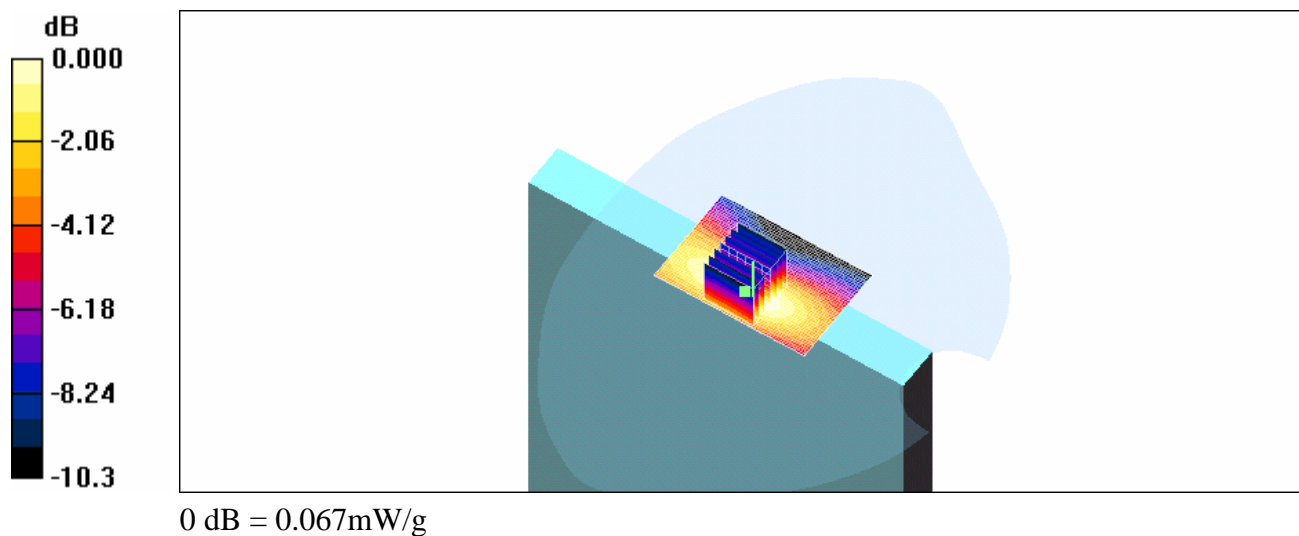
BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.19 V/m; Power Drift = 0.003 dB

Peak SAR (extrapolated) = 0.091 W/kg

SAR(1 g) = 0.062 mW/g; SAR(10 g) = 0.041 mW/g

Maximum value of SAR (measured) = 0.067 mW/g



GPRS_CH128

DUT: M72R; Type: GSM;

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:2

Medium: Muscle 850 MHz Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.951$ mho/m;

$\epsilon_r = 56.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(11.63, 11.63, 11.63); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2007/3/5
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

BODY/Area Scan (51x51x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.013 mW/g

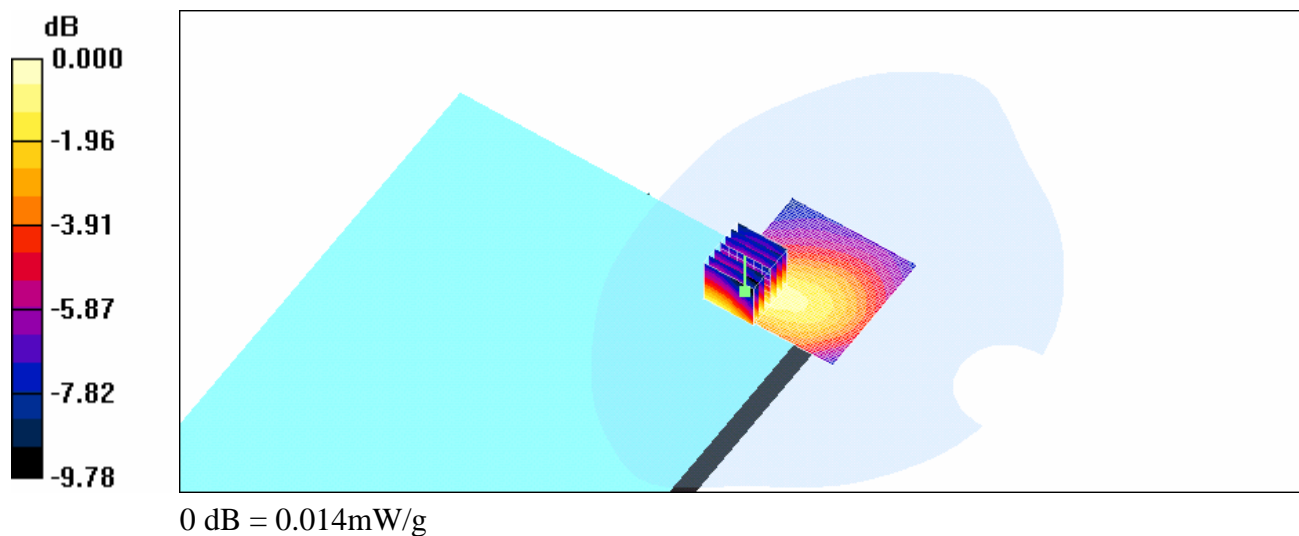
BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.88 V/m; Power Drift = 0.139 dB

Peak SAR (extrapolated) = 0.017 W/kg

SAR(1 g) = 0.013 mW/g; SAR(10 g) = 0.00899 mW/g

Maximum value of SAR (measured) = 0.014 mW/g



GPRS_CH190

DUT: M72R; Type: GSM;

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:2

Medium: Muscle 850 MHz Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.962$ mho/m;

$\epsilon_r = 56.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(11.63, 11.63, 11.63); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2007/3/5
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

BODY/Area Scan (51x51x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.014 mW/g

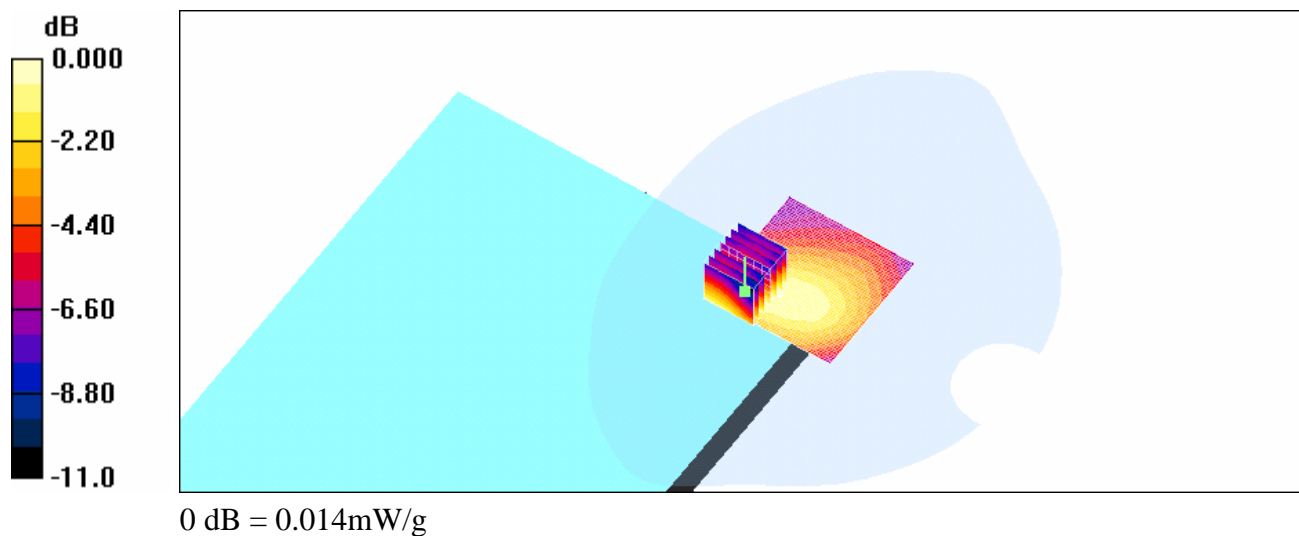
BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.06 V/m; Power Drift = -0.002 dB

Peak SAR (extrapolated) = 0.018 W/kg

SAR(1 g) = 0.013 mW/g; SAR(10 g) = 0.00927 mW/g

Maximum value of SAR (measured) = 0.014 mW/g



GPRS_CH251

DUT: M72R; Type: GSM;

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:2

Medium: Muscle 850 MHz Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.975$ mho/m;

$\epsilon_r = 56$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(11.63, 11.63, 11.63); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2007/3/5
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

BODY/Area Scan (51x51x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.013 mW/g

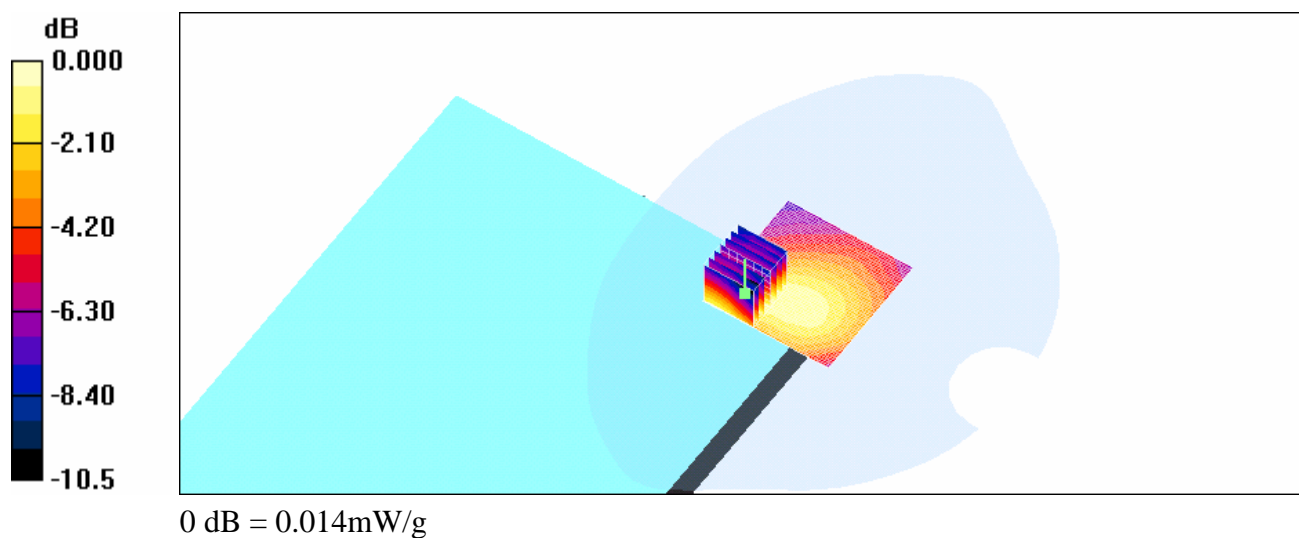
BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.08 V/m; Power Drift = 0.032 dB

Peak SAR (extrapolated) = 0.017 W/kg

SAR(1 g) = 0.013 mW/g; SAR(10 g) = 0.0088 mW/g

Maximum value of SAR (measured) = 0.014 mW/g



GPRS_CH512

DUT: M72R; Type: GSM;

Communication System: GSM1900; Frequency: 1850.2 MHz; Duty Cycle: 1:2

Medium: M1800 & 1900 Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.55$ mho/m; $\epsilon_r = 52.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.64, 9.64, 9.64); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2007/3/5
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

BODY/Area Scan (61x41x1): Measurement grid: dx=15mm, dy=15mm

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

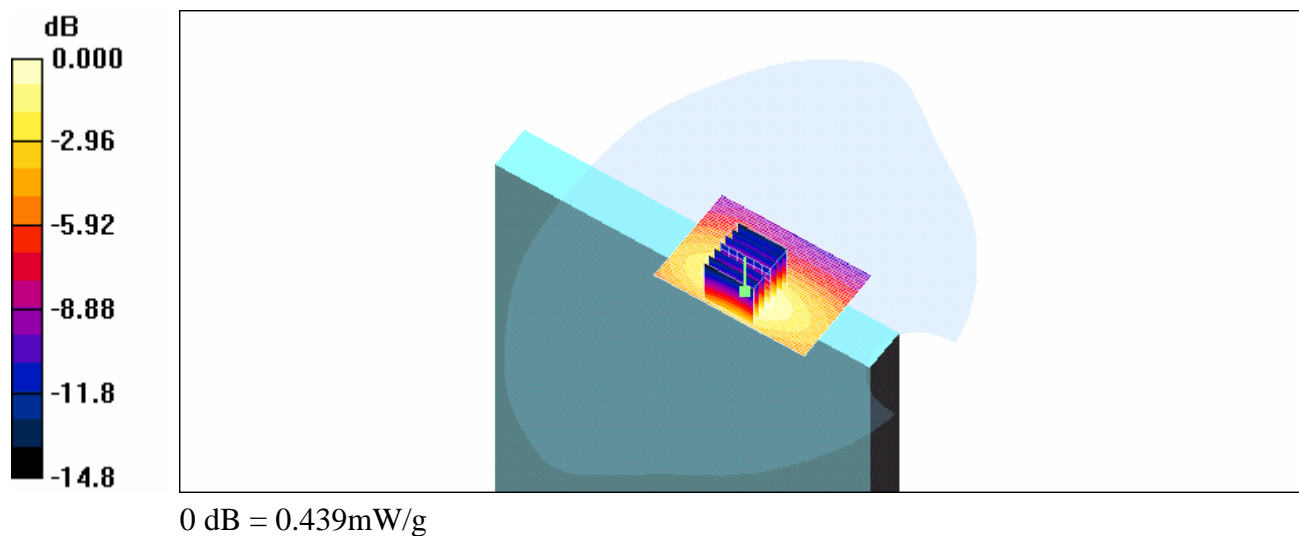
BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.0 V/m; Power Drift = 0.084 dB

Peak SAR (extrapolated) = 0.641 W/kg

SAR(1 g) = 0.399 mW/g; SAR(10 g) = 0.236 mW/g

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



GPRS_CH661

DUT: M72R; Type: GSM;

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:2

Medium: M1800 & 1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.64, 9.64, 9.64); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2007/3/5
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

BODY/Area Scan (61x41x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.551 mW/g

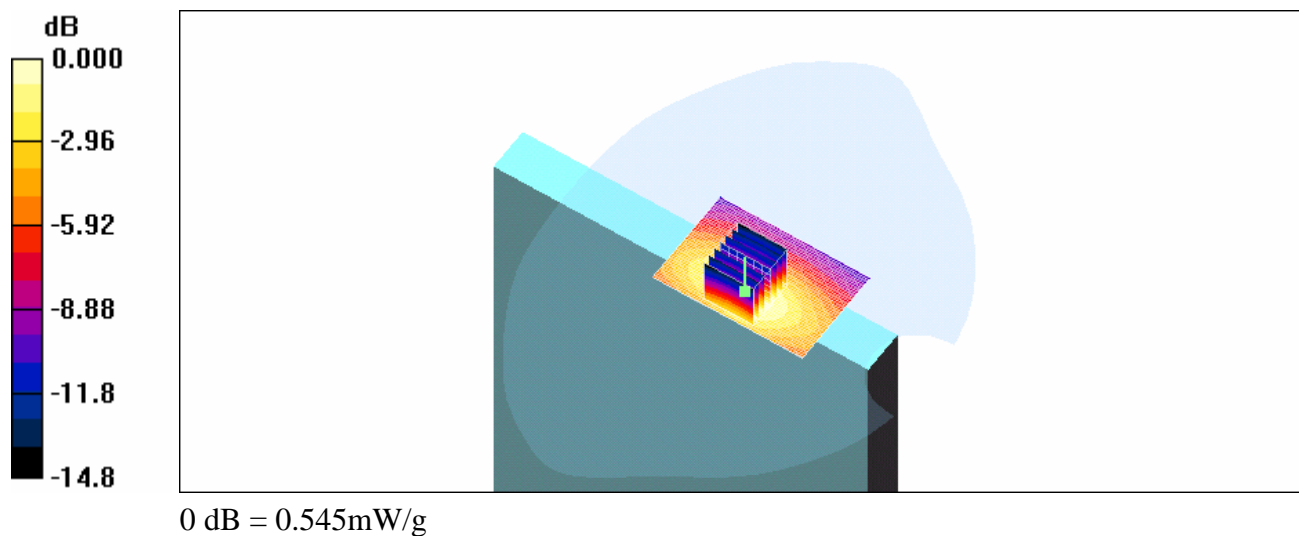
BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.9 V/m; Power Drift = 0.054 dB

Peak SAR (extrapolated) = 0.812 W/kg

SAR(1 g) = 0.499 mW/g; SAR(10 g) = 0.294 mW/g

Maximum value of SAR (measured) = 0.545 mW/g



GPRS_CH810

DUT: M72R; Type: GSM;

Communication System: GSM1900; Frequency: 1909.8 MHz; Duty Cycle: 1:2

Medium: M1800 & 1900 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.6$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.64, 9.64, 9.64); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2007/3/5
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

BODY/Area Scan (61x41x1): Measurement grid: dx=15mm, dy=15mm

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

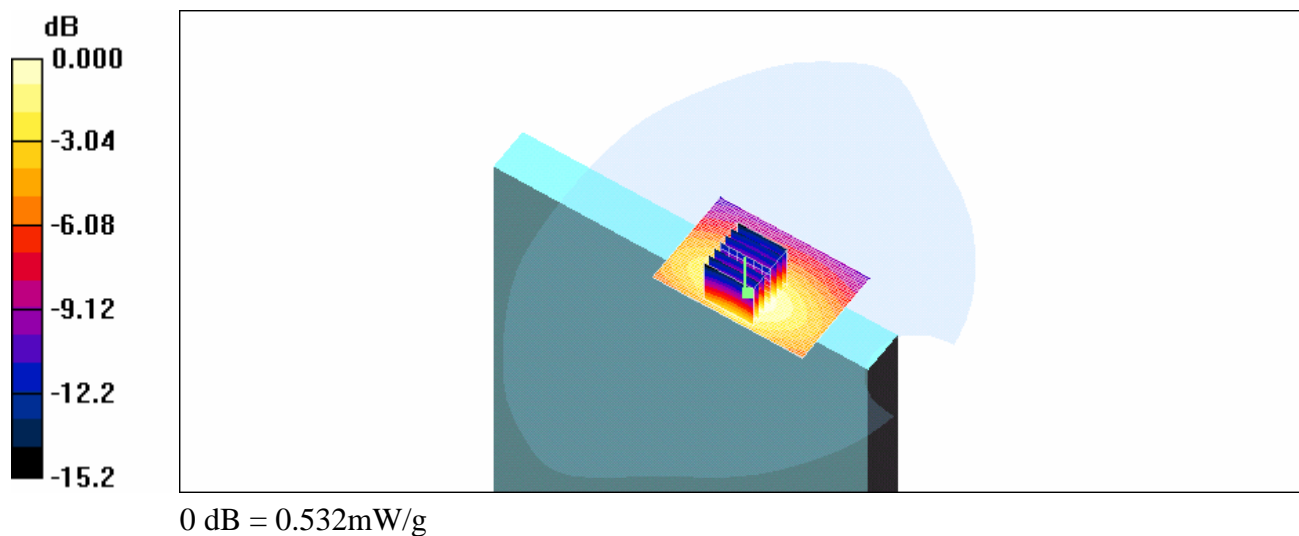
BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.8 V/m; Power Drift = 0.042 dB

Peak SAR (extrapolated) = 0.794 W/kg

SAR(1 g) = 0.484 mW/g; SAR(10 g) = 0.287 mW/g

Maximum value of SAR (measured) = 0.532 mW/g



GPRS_CH512

DUT: M72R; Type: GSM;

Communication System: GSM1900; Frequency: 1850.2 MHz; Duty Cycle: 1:2

Medium: M1800 & 1900 Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.55$ mho/m; $\epsilon_r = 52.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.64, 9.64, 9.64); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2007/3/5
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

BODY/Area Scan (51x51x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.121 mW/g

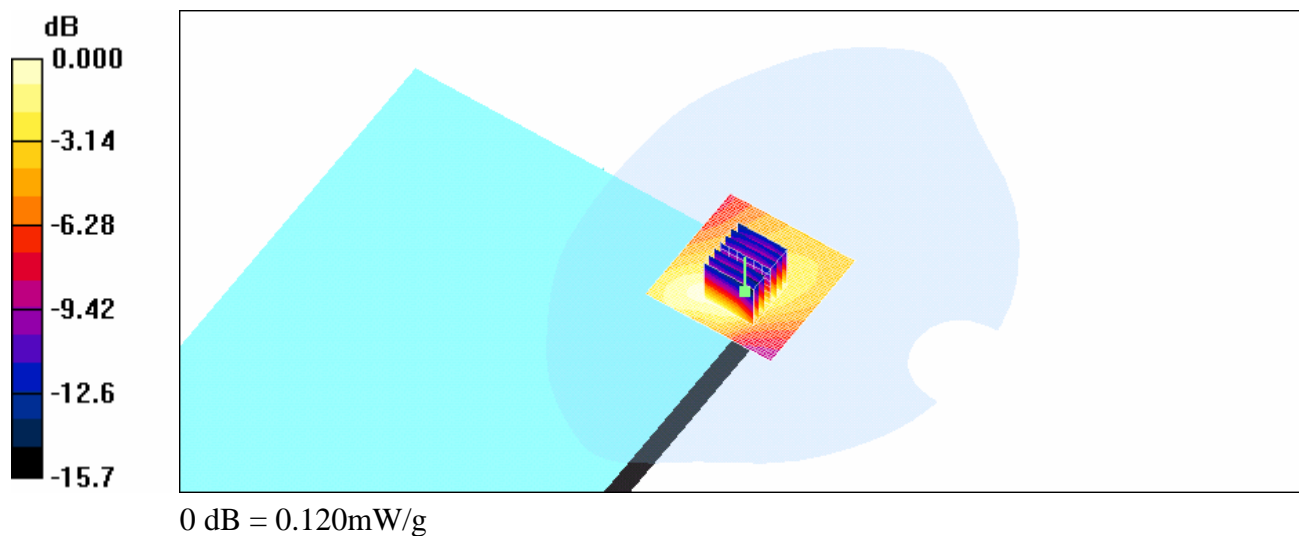
BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.57 V/m; Power Drift = -0.087 dB

Peak SAR (extrapolated) = 0.177 W/kg

SAR(1 g) = 0.109 mW/g; SAR(10 g) = 0.065 mW/g

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



GPRS_CH661

DUT: M72R; Type: GSM;

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:2

Medium: M1800 & 1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.64, 9.64, 9.64); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2007/3/5
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

BODY/Area Scan (51x51x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.126 mW/g

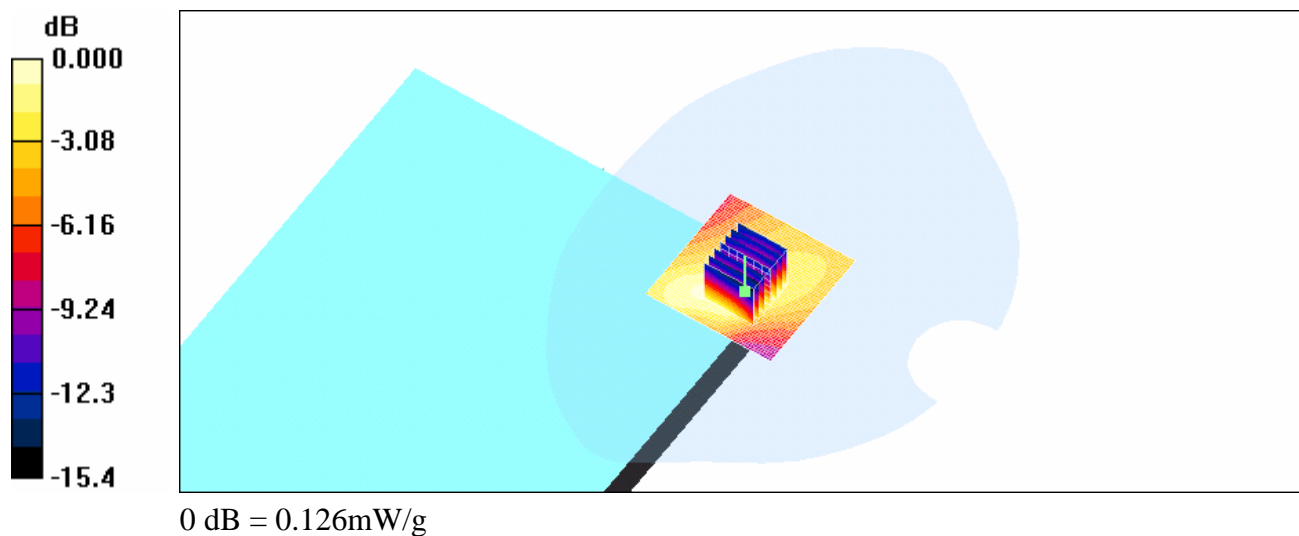
BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.75 V/m; Power Drift = -0.005 dB

Peak SAR (extrapolated) = 0.189 W/kg

SAR(1 g) = 0.114 mW/g; SAR(10 g) = 0.068 mW/g

Maximum value of SAR (measured) = 0.126 mW/g



GPRS_CH810

DUT: M72R; Type: GSM;

Communication System: GSM1900; Frequency: 1909.8 MHz; Duty Cycle: 1:2

Medium: M1800 & 1900 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.6$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.64, 9.64, 9.64); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2007/3/5
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

BODY/Area Scan (51x51x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.105 mW/g

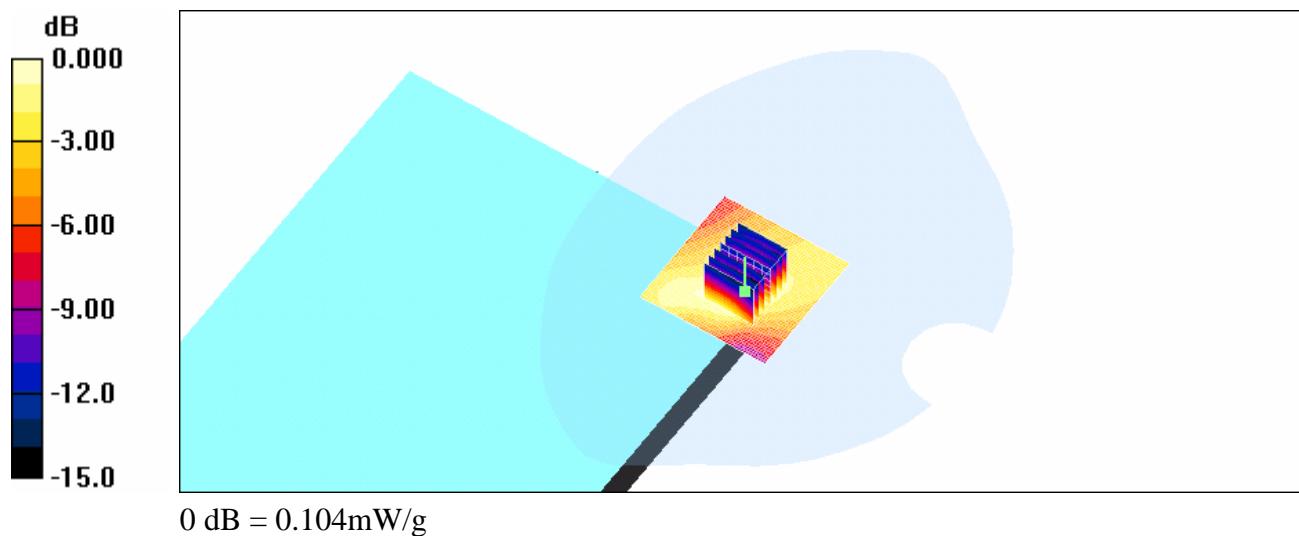
BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.36 V/m; Power Drift = 0.060 dB

Peak SAR (extrapolated) = 0.157 W/kg

SAR(1 g) = 0.096 mW/g; SAR(10 g) = 0.057 mW/g

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



SAR System Performance Verification

DUT: Dipole 900 MHz; Type: D900V2; Serial: SN:178

Communication System: CW; Frequency: 900 MHz; Duty Cycle: 1:1

Medium: Muscle 900 MHz Medium parameters used: $f = 900 \text{ MHz}$; $\sigma = 0.962 \text{ mho/m}$; $\epsilon_r = 56.1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(11.63, 11.63, 11.63); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2007/3/5
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Pin=250mW/Area Scan (61x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 2.85 mW/g

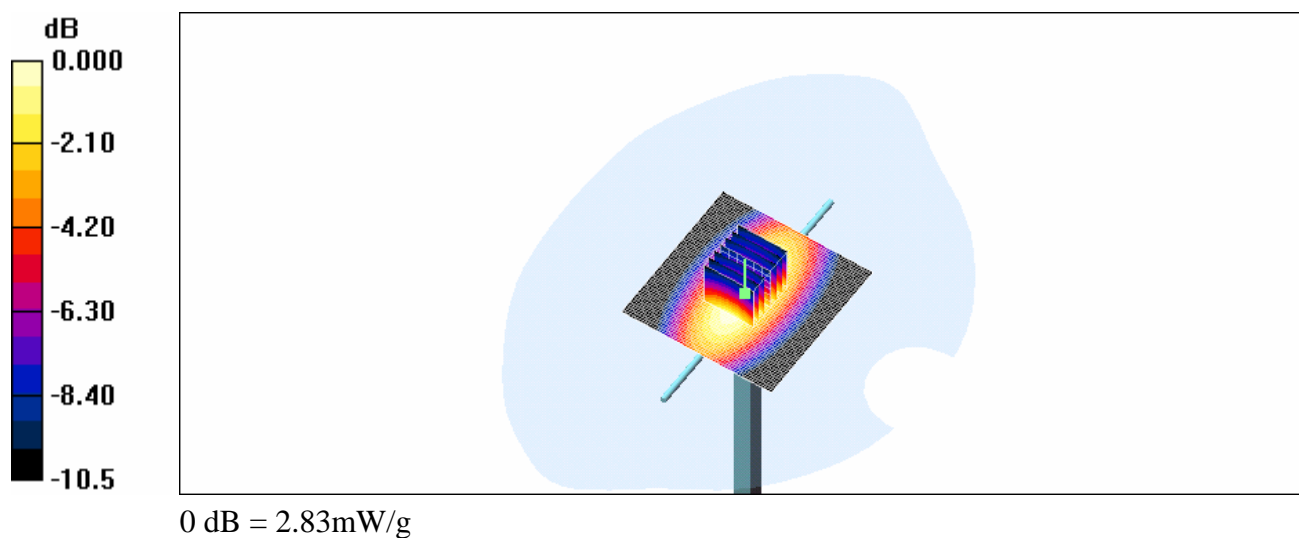
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 52.8 V/m; Power Drift = -0.059 dB

Peak SAR (extrapolated) = 3.95 W/kg

SAR(1 g) = 2.63 mW/g; SAR(10 g) = 1.71 mW/g

Maximum value of SAR (measured) = 2.83 mW/g



SAR System Performance Verification

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: SN:5d027

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: M1800 & 1900 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.61$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.64, 9.64, 9.64); Calibrated: 2006/8/25
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2007/3/5
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Pin=250mW/Area Scan (51x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 12.7 mW/g

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

Reference Value = 83.2 V/m; Power Drift = -0.033 dB

Peak SAR (extrapolated) = 17.4 W/kg

SAR(1 g) = 9.6 mW/g; SAR(10 g) = 5.01 mW/g

Maximum value of SAR (measured) = 10.8 mW/g

