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# SAR TEST REPORT

| <b>Equipment Under Test</b> | Pocket Pc mobile Phone                                  |  |  |
|-----------------------------|---|--|--|
| Model Name                  | I306SP  |  |  |
| Company Name                | Mobile XP Technology Co., LTD                           |  |  |
| Company Address             | No.9 Shangdi East Road, Haidian District Beijing 100085 |  |  |
|                             | P.R.China   |  |  |
| Date of Receipt             | 2007.08.08  |  |  |
| Date of Test(s)             | 2007.08.29-2007.08.31                                   |  |  |
| Date of Issue               | 2007.10.03  |  |  |

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 Electronics & Communication Laboratory Services or testing done by SGS Taiwan Electronics & Communication Laboratory Services in connection with distribution or use of the product described in this report must be approved by SGS Taiwan Electronics & Communication Laboratory Services in writing.

Tested by : RICKY HUANG Date : 2007.09.11

Approved by : DIKIN YANG Date : 2007.10.03

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# 1. General Information

# 1.1 Testing Laboratory

| SGS Taiwan Ltd. EC Lab                  |                  |  |  |
|---|------------------|--|--|
| 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    | Mobile XP Technology Co., LTD                           |
|-----------------|---|
| Company Address | No.9 Shangdi East Road, Haidian District Beijing 100085 |
| Company Address | P.R.China   |
| Telephone       | +861062981099   |
| Fax             | +861062981099-601                                       |
| Contact Person  | Sudan Yang  |
| E-mail          | Yangxudong@mbpchina.com                                 |

# 1.3 Description of EUT

| EUT Name                             | Pocket Pc mobile Phone |      |  |  |
|--------------------------------------|------------------------|------|--|--|
| Model Name                           | I306SP                 |      |  |  |
| Brand Name                           | JAMA201                |      |  |  |
| IMEI Code                            | 3060000000000200       |      |  |  |
| Mode of Operation                    | GSM /GPRS              |      |  |  |
| Modulation mode                      | GMSK/QPSK              |      |  |  |
| Duty Cycle                           | GSM                    | GPRS |  |  |
| Duty Cycle                           | 1/8                    | 1/4  |  |  |
| Maximum RF Conducted Power (Average) | 28.7 dBm               |      |  |  |

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| TX Frequency Range (MHz)       | 1850-1910   |  |  |  |
|--------------------------------|---|--|--|--|
| Channel Number (ARFCN)         | 512-810   |  |  |  |
| Battery Type                   | 3.7V Lith   | ium-Ion  |  |  |
| Antenna Type                   | PIFA  |  |  |  |
| Antenna Gain<br>(Average, dBi) | 0.67  |  |  |  |
| H/W Version                    | BP01  |  |  |  |
| S/W Version                    | 7239  |  |  |  |
|                                | Head  | Body   |  |  |
| Max. SAR Measured<br>(1 g)     | 0.571 W/kg (At GSM1900 Right-Tilt 512 Channel repeated with Bluetooth active) | 0.715 W/kg<br>(At GSM 1900 GPRS mode<br>661 Channel) |  |  |

#### 1.4 Test Environment

Ambient Temperature: 22.2° C Tissue Simulating Liquid: 21.7° C

Relative Humidity: 62 %

### 1.5 Operation description

- 1. The EUT is controlled by using a Wireless Communication 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.
- 2. In each band perform SAR testing for each operation mode using the center frequency on both the left and right sides of the head, cheek and tilt positions to find the maximum mass-averaged SAR value of these configurations (the worst case configuration).
- 3. Measure the low-end and the high-end frequencies of the configuration giving rise to the maximum mass-averaged SAR in head positions.
- 4. For highest SAR configuration in this band repeated with Bluetooth & Memory card.
- 5. During the SAR testing, the DASY4 system checks power drift by comparing the -field strength of one specific location measured at the beginning with that measured at the end of the SAR testing

### 1.6 The SAR Measurement System

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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 EX3DV4 3578-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR=  $\sigma$  ( $|Ei|^2$ )/  $\rho$  where  $\sigma$  and  $\rho$  are the conductivity and mass density of the tissue-simulant.

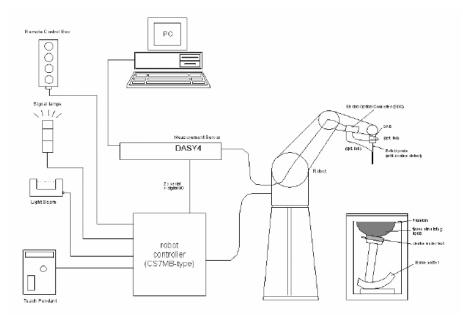


Fig.a The microwave circuit arrangement used for SAR system verification

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

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

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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 handheld mobile phones.
  - Tissue simulating liquid mixed according to the given recipes.
  - Validation dipole kits allowing to validate the proper functioning of the system.

# 1.7 System Components

# **EX3DV4 E-Field Probe**

| Symmetrical design with triangular core                                 | W. F. Comments  |  |  |
|---|---|--|--|
| Built-in shielding against static charges                               |   |  |  |
| PEEK enclosure material (resistant to                                   |   |  |  |
| organic solvents, e.g., DGBE)   |   |  |  |
| Basic Broad Band Calibration in air                                     |   |  |  |
| Conversion Factors (CF) for HSL1900                                     |   |  |  |
| Additional CF for other liquids and                                     |   |  |  |
| frequencies upon request  |   |  |  |
|   | EX3DV4 E-Field Probe  |  |  |
| 10 MHz to $>$ 6 GHz; Linearity: $\pm$ 0.2 dB (30                        | MHz to 6 GHz)   |  |  |
| ± 0.3 dB in HSL (rotation around probe axis                             | 5)  |  |  |
| ± 0.5 dB in tissue material (rotation normal to probe axis)             |   |  |  |
| e: 10 μW/g to > 100 mW/g;   |   |  |  |
| Linearity: $\pm$ 0.2 dB (noise: typically < 1 $\mu$ W,                  | /g)   |  |  |
| Overall length: 330 mm (Tip: 20 mm)                                     | rall length: 330 mm (Tip: 20 mm)  |  |  |
| Tip diameter: 2.5 mm (Body: 12 mm)                                      |   |  |  |
| Typical distance from probe tip to dipole centers: 1 mm                 |   |  |  |
| 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%.  |   |  |  |
|   | Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE) Basic Broad Band Calibration in air Conversion Factors (CF) for HSL1900 Additional CF for other liquids and frequencies upon request  10 MHz to > 6 GHz; Linearity: ± 0.2 dB (30 ± 0.3 dB in HSL (rotation around probe axis ± 0.5 dB in tissue material (rotation normal 10 μW/g to > 100 mW/g; Linearity: ± 0.2 dB (noise: typically < 1 μW, Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole cerelligh precision dosimetric measurements in (e.g., very strong gradient fields). Only protections of the probability of the protection |  |  |

# **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 |  |  |

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|                  |  | 1 age . 7 01 30  |  |
|------------------|--|--|--|
|                  | 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  | ( WINNESS OF THE STATE OF THE S |  |
| Dimensions:      | Height: 251 mm;<br>Length: 1000 mm;<br>Width: 500 mm   |  |  |

### **DEVICE HOLDER**

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



**Device Holder** 

# 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 +/- 5% from the target SAR values. These tests were done at 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

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laboratory was in the range 22.2°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.

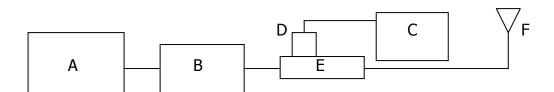
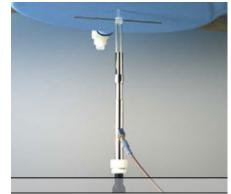


Fig.b The microwave circuit arrangement used for SAR system verification

- 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<br>Kit     | Frequency<br>Hz    | Target SAR<br>(1g)<br>(Pin=250mW) | Target SAR<br>(10g)<br>(Pin=250mW) | Measured<br>SAR<br>(1g) | Measured<br>SAR<br>(10g) | Measured<br>Date |
|-----------------------|--------------------|-----------------------------------|------------------------------------|-------------------------|--------------------------|------------------|
| D1900V2<br>S/N: 5d027 | 1900 MHz<br>(Head) | 9.28 m W/g                        | 4.9 m W/g                          | 9.37 m W/g              | 4.78 m W/g               | 2007-8-29        |
| D1900V2<br>S/N: 5d027 | 1900 MHz<br>(Body) | 9.67 m W/g                        | 5.16 m W/g                         | 9.63 m W/g              | 5.01 m W/g               | 2007-8-31        |

Table 1. Results system validation

### 1.9 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. (Fig .2)

| Frequency | Tissue type | Measurement date/ | Dielectric Parameters |  |                  |
|-----------|-------------|-------------------|-----------------------|--|------------------|
| (MHz)     |             | Limits            | ρ σ (S/m) Simulate    |  | Simulated Tissue |
|           |             |                   | Temperature(°         |  | Temperature(° C) |

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|      |      | Measured, 2007.08.29 | 39.5    | 1.42      | 21.6  |
|------|------|----------------------|---------|-----------|-------|
| 1900 | Head | Recommended Limits   | 38-42.1 | 1.29-1.47 | 20-24 |
| 1000 |      | Measured, 2007.08.31 | 50.8    | 1.56      | 21.7  |
| 1900 | Body | Recommended Limits   | 50.6-56 | 1.38-1.6  | 20-24 |

Table 2. Dielectric Parameters of Tissue Simulant Fluid

The composition of the brain tissue simulating liquid for 1900 band:

| Ingredient    | 1900MHz(Head) | 1900Mhz(Body) |
|---------------|---------------|---------------|
| DGMBE         | 444.52 g      | 300.67        |
| Water         | 552.42 g      | 716.56 g      |
| Salt          | 3.06 g        | 4.0 g         |
| Preventol D-7 | X             | X             |
| Cellulose     | X             | X             |
| Sugar         | X             | X             |
| Total amount  | 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.

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(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)

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

Table .4 RF exposure limits

#### Notes:

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

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# 2.Summary of Results

# PCS 1900 MHZ

| 1 03 17   | OO IVII     |          |                   |                |          |          |
|---|-------------|----------|-------------------|----------------|----------|----------|
| Right Head  | (Cheek Po   | osition) |                   |                |          |          |
| Frequency   | Channel     | MHz      | Conducted Output  | Measured(W/kg) | Amb.     | Liquid   |
|   |             |          | Power (Average)   | 1g             | Temp[°C] | Temp[°C] |
|   | 512         | 1850.2   | 28.7dbm           | 0.444          | 22       | 21.6     |
| 1900 MHz  | 661         | 1880     | 28.5dbm           | 0.330          | 22       | 21.6     |
|   | 810         | 1909.8   | 28.7dbm           | 0.236          | 22       | 21.6     |
| Left Head (Cheek Position)                                    |             |          |                   |                |          |          |
| Frequency   | Channel     | MHz      | Conducted Output  | Measured(W/kg) | Amb.     | Liquid   |
|   |             |          | Power (Average)   | 1g             | Temp[°C] | Temp[°C] |
|   | 512         | 1850.2   | 28.7dbm           | 0.222          | 22       | 21.6     |
| 1900 MHz  | 661         | 1880     | 28.5dbm           | 0170           | 22       | 21.6     |
|   | 810         | 1909.8   | 28.7dbm           | 0.135          | 22       | 21.6     |
| Right Head  | (15° Tilt F | osition  | )                 |                |          |          |
| Frequency   | Channel     | MHz      | Conducted Output  | Measured(W/kg) | Amb.     | Liquid   |
|   |             |          | Power (Average)   | 1g             | Temp[°C] | Temp[°C] |
| 1900 MHz  | 512         | 1850.2   | 28.7dbm           | 0.485          | 22       | 21.6     |
|   | 661         | 1880     | 28.5dbm           | 0.381          | 22       | 21.6     |
|   | 810         | 1909.8   | 28.7dbm           | 0.320          | 22       | 21.6     |
| Left Head (1  | 15° Tilt Po | sition)  |                   |                |          |          |
| Frequency   | Channel     | MHz      | Conducted Output  | Measured(W/kg) | Amb.     | Liquid   |
|   |             |          | Power (Average)   | 1g             | Temp[°C] | Temp[°C] |
|   | 512         | 1850.2   | 28.7dbm           | 0.3            | 22       | 21.6     |
| 1900 MHz  | 661         | 1880     | 28.5dbm           | 0.234          | 22       | 21.6     |
|   | 810         | 1909.8   | 28.7dbm           | 0.196          | 22       | 21.6     |
| Right Head  | (15° Tilt F | osition  | )-repeated with M | lemory Card    |          |          |
| Frequency   | Channel     | MHz      | Conducted Output  | Measured(W/kg) | Amb.     | Liquid   |
|   |             |          | Power (Average)   | 1g             | Temp[°C] | Temp[°C] |
| 1900 MHz  | 810         | 1909.8   | 28.7dbm           | 0.554          | 22.1     | 21.7     |
| Right Head (15° Tilt Position)-repeated with Bluetooth active |             |          |                   |                |          |          |
| Frequency   | Channel     | MHz      | Conducted Output  | Measured(W/kg) | Amb.     | Liquid   |
|   |             |          | Power (Average)   | 1g             | Temp[°C] | Temp[°C] |
| 1900 MHz  | 810         | 1909.8   | 28.7dbm           | 0.571          | 22.1     | 21.7     |
|   |             |          |                   |                |          |          |

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|  |   |  | 1  | age . 12  | 01 50   |  |
|--|---|--|--|---|---|--|
| Body worn (testing in GPRS mode)                                     |   |  |  |   |   |  |
| Channel  | MHz   | Conducted Output<br>Power (Average)  | Measured(W/kg)<br>1g   | Amb.<br>Temp[°C]  | Liquid<br>Temp[°C]  |  |
| 512  | 1850.2  | 28.7dbm  | 0.7  | 22.1  | 21.7  |  |
| 661  | 1880  | 28.5dbm  | 0.715  | 22.1  | 21.7  |  |
| 810  | 1909.8  | 28.7dbm  | 0.658  | 22.1  | 21.7  |  |
| Body worn - repeated for EUT front to phantom (testing in GPRS mode) |   |  |  |   |   |  |
| Channel  | MHz   | Conducted Output   | Measured(W/kg)   | Amb.  | Liquid  |  |
|  |   | Power (Average)  | 1g   | Temp[°C]  | Temp[°C]  |  |
| 810  | 1909.8  | 28.7dbm  | 0.225  | 22  | 21.6  |  |
| Body worn - repeated with Headset (testing in GPRS mode)             |   |  |  |   |   |  |
| Channel  | MHz   | Conducted Output   | Measured(W/kg)   | Amb.  | Liquid  |  |
|  |   | Power (Average)  | 1g   | Temp[°C]  | Temp[°C]  |  |
| 810  | 1909.8  | 28.7dbm  | 0.593  | 22  | 21.6  |  |
| Body worn - repeated with Memory Card (testing in GPRS mode)         |   |  |  |   |   |  |
| Channel  | MHz   | <u> </u>   | Measured(W/kg)   | Amb.  | Liquid  |  |
|  |   | Power (Average)  | 1g   | Temp[°C]  | Temp[°C]  |  |
| 810  | 1909.8  | 28.7dbm  | 0.690  | 22  | 21.6  |  |
| Body worn - repeated with Bluetooth active (testing in GPRS mode)    |   |  |  |   |   |  |
| Channel  | MHz   | Conducted Output   | Measured(W/kg)   | Amb.  | Liquid  |  |
|  |   | Power (Average)  | 1g   | Temp[°C]  | Temp[°C]  |  |
| 810  | 1909.8  | 28.7dbm  | 0.714  | 22  | 21.6  |  |
|  | Channel  512 661 810 repeated Channel  810 repeated Channel  810 repeated Channel  810 repeated Channel | Channel         MHz           512         1850.2           661         1880           810         1909.8           repeated for EU           Channel         MHz           810         1909.8           repeated with Mark           Channel         MHz           810         1909.8           repeated with Mark           Channel         MHz           810         1909.8           repeated with Mark           Channel         MHz | Channel MHz Conducted Output Power (Average)  512 1850.2 28.7dbm  661 1880 28.5dbm  810 1909.8 28.7dbm  repeated for EUT front to phantor Channel MHz Conducted Output Power (Average)  810 1909.8 28.7dbm  repeated with Headset (testing in Channel MHz Conducted Output Power (Average)  810 1909.8 28.7dbm  repeated with Memory Card (testing Channel MHz Conducted Output Power (Average)  810 1909.8 28.7dbm  repeated with Memory Card (testing Channel MHz Conducted Output Power (Average)  810 1909.8 28.7dbm  repeated with Bluetooth active (testing Channel MHz Conducted Output Power (Average)  810 1909.8 28.7dbm  repeated With Bluetooth active (testing Channel MHz Conducted Output Power (Average) | Channel         MHz         Conducted Output Power (Average)         Measured(W/kg) 1g           512         1850.2         28.7dbm         0.7           661         1880         28.5dbm         0.715           810         1909.8         28.7dbm         0.658           repeated for EUT front to phantom (testing in GPR           Channel         MHz         Conducted Output Power (Average)         Measured(W/kg) 1g           810         1909.8         28.7dbm         0.225           repeated with Headset (testing in GPRS mode)         Measured(W/kg) 1g           810         1909.8         28.7dbm         0.593           repeated with Memory Card (testing in GPRS mode)         Channel Power (Average)         Measured(W/kg) 1g           810         1909.8         28.7dbm         0.690           repeated with Bluetooth active (testing in GPRS mode)         Channel MHz         Conducted Output Power (Average)         Measured(W/kg) 1g           Channel         MHz         Conducted Output Power (Average)         Measured(W/kg) 1g | (testing in GPRS mode)           Channel         MHz         Conducted Output Power (Average)         Measured(W/kg) 1g         Amb. Temp[°C]           512         1850.2         28.7dbm         0.7         22.1           661         1880         28.5dbm         0.715         22.1           810         1909.8         28.7dbm         0.658         22.1           repeated for EUT front to phantom (testing in GPRS mode)           Channel         MHz         Conducted Output Power (Average)         Measured(W/kg) Temp[°C]         Amb. Temp[°C]           810         1909.8         28.7dbm         0.225         22           repeated with Headset (testing in GPRS mode)           Channel         MHz         Conducted Output Power (Average)         Measured(W/kg) Amb. Temp[°C]         Amb. Temp[°C]           810         1909.8         28.7dbm         0.690         22           repeated with Memory Card (testing in GPRS mode)           Channel         MHz         Conducted Output Power (Average)         Measured(W/kg) Amb. Temp[°C]           810         1909.8         28.7dbm         0.690         22           repeated with Bluetooth active (testing in GPRS mode)           Channel         MHz |  |

Note: SAR measurement results for the Mobile Phone at maximum output power.

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# 3. Instruments List

| Manufacturer                       | Device   | Туре                    | Serial number | Date of last calibration          |
|------------------------------------|--|-------------------------|---------------|-----------------------------------|
| Schmid & Partner<br>Engineering AG | Dosimetric E-Field<br>Probe                        | EX3DV4                  | 3578          | April.24.2007                     |
| Schmid & Partner<br>Engineering AG | 1900 MHz System<br>Validation Dipole               | D1900V2                 | 5d027         | Mar.20.2007                       |
| Schmid & Partner<br>Engineering AG | Data acquisition<br>Electronics                    | DAE4                    | 679           | Apr.20.2007                       |
| Schmid & Partner<br>Engineering AG | Software   | DASY 4 V4.7<br>Build 53 | N/A           | Calibration<br>isn't<br>necessary |
| Schmid & Partner<br>Engineering AG | Phantom  | SAM                     | N/A           | Calibration<br>isn't<br>necessary |
| Agilent                            | Network Analyzer                                   | 8753D                   | 3410A05547    | Nov.16.2006                       |
| Agilent                            | Dielectric Probe Kit                               | 85070D                  | US01440168    | Calibration<br>isn't<br>necessary |
| Agilent                            | Dual-directional coupler                           | 778D                    | 50313         | Aug.21.2007                       |
| Agilent                            | RF Signal Generator                                | 8648D                   | 3847M00432    | May.22.2007                       |
| Agilent                            | Power Sensor                                       | 8481H                   | MY41091361    | Jun.04.2007                       |
| Agilent                            | 8960 Series 10<br>Wireless<br>Communication Tester | 8960                    | GB44051912    | Nov.28.2006                       |

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# 4. Measurements

RE Cheek\_CH512 Date/Time: 2007/8/29 02:27:36

Communication System: GSM1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used (interpolated): f = 1850.2 MHz;  $\sigma = 1.36$  mho/m;

 $\varepsilon_r = 39.7$ ;  $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

# DASY4 Configuration:

• Probe: EX3DV4 - SN3578; ConvF(6.9, 6.9, 6.9); Calibrated: 2007/4/24

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

• Electronics: DAE4 Sn679; Calibrated: 2007/4/20

• Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419

• Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

RE Cheek/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.527 mW/g

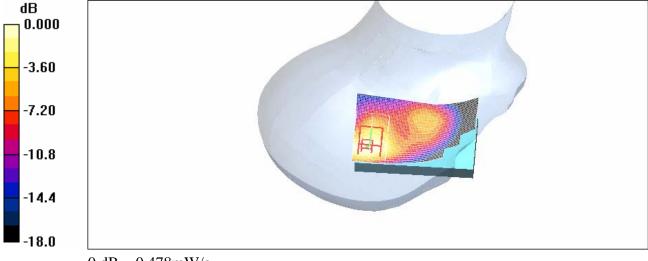
RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.2 V/m: Power Drift = -0.069 dB

Peak SAR (extrapolated) = 0.869 W/kg

### SAR(1 g) = 0.444 mW/g; SAR(10 g) = 0.231 mW/g

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



0 dB = 0.478 mW/g

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# RE Cheek CH661

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used: f = 1880 MHz;  $\sigma$  = 1.39 mho/m;  $\varepsilon$  = 39.6;  $\rho$  =

 $1000 \text{ kg/m}^3$ 

Phantom section: Right Section

### DASY4 Configuration:

• Probe: EX3DV4 - SN3578; ConvF(6.9, 6.9, 6.9); Calibrated: 2007/4/24

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

• Electronics: DAE4 Sn679; Calibrated: 2007/4/20

• Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419

• Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

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

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

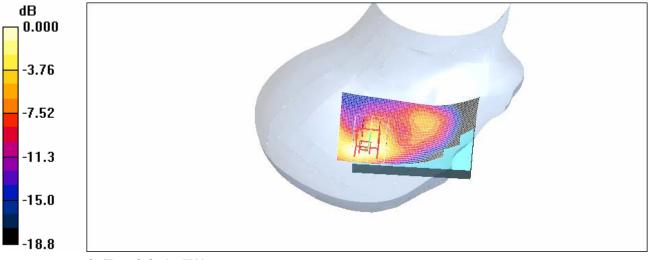
RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.81 V/m; Power Drift = 0.019 dB

Peak SAR (extrapolated) = 0.664 W/kg

# SAR(1 g) = 0.330 mW/g; SAR(10 g) = 0.166 mW/g

Maximum value of SAR (measured) = 0.361 mW/g



0 dB = 0.361 mW/g

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### RE Cheek\_CH810

Communication System: GSM1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used: f = 1910 MHz;  $\sigma$  = 1.43 mho/m;  $\varepsilon$  = 39.5;  $\rho$  =

 $1000 \text{ kg/m}^3$ 

Phantom section: Right Section

### DASY4 Configuration:

• Probe: EX3DV4 - SN3578; ConvF(6.9, 6.9, 6.9); Calibrated: 2007/4/24

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

• Electronics: DAE4 Sn679; Calibrated: 2007/4/20

• Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419

• Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

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

Maximum value of SAR (interpolated) = 0.283 mW/g

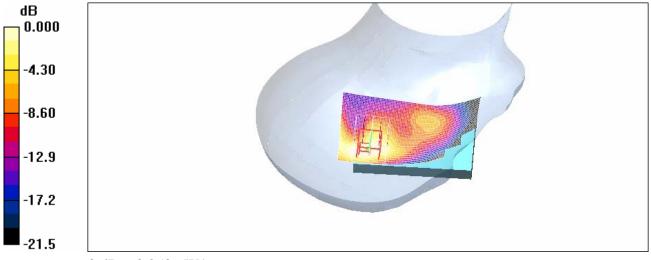
RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.13 V/m; Power Drift = -0.032 dB

Peak SAR (extrapolated) = 0.503 W/kg

# SAR(1 g) = 0.236 mW/g; SAR(10 g) = 0.115 mW/g

Maximum value of SAR (measured) = 0.258 mW/g



0 dB = 0.258 mW/g

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# LE Cheek\_CH512

Communication System: GSM1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used (interpolated): f = 1850.2 MHz;  $\sigma = 1.36$  mho/m;

 $\varepsilon_r = 39.7$ ;  $\rho = 1000 \text{ kg/m}^3$ Phantom section: Left Section

### DASY4 Configuration:

• Probe: EX3DV4 - SN3578; ConvF(6.9, 6.9, 6.9); Calibrated: 2007/4/24

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

• Electronics: DAE4 Sn679; Calibrated: 2007/4/20

• Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419

• Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

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

Maximum value of SAR (interpolated) = 0.260 mW/g

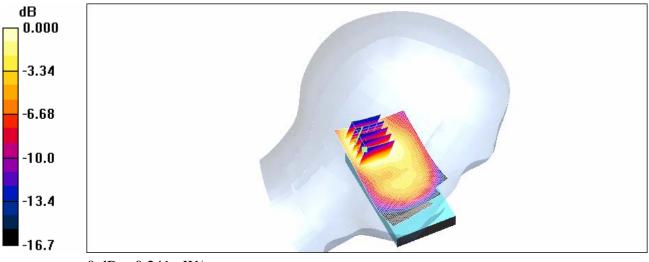
LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.8 V/m; Power Drift = -0.108 dB

Peak SAR (extrapolated) = 0.404 W/kg

SAR(1 g) = 0.222 mW/g; SAR(10 g) = 0.133 mW/g

Maximum value of SAR (measured) = 0.241 mW/g



0 dB = 0.241 mW/g

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# LE Cheek\_CH661

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used: f = 1880 MHz;  $\sigma$  = 1.39 mho/m;  $\varepsilon$  = 39.6;  $\rho$  =

 $1000 \text{ kg/m}^3$ 

Phantom section: Left Section

### DASY4 Configuration:

• Probe: EX3DV4 - SN3578; ConvF(6.9, 6.9, 6.9); Calibrated: 2007/4/24

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

• Electronics: DAE4 Sn679; Calibrated: 2007/4/20

• Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419

• Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

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

Maximum value of SAR (interpolated) = 0.198 mW/g

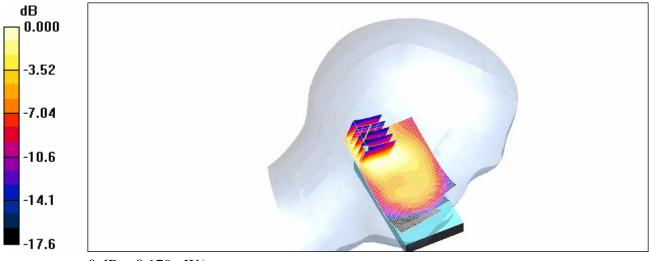
# LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.2 V/m; Power Drift = -0.100 dB

Peak SAR (extrapolated) = 0.319 W/kg

# SAR(1 g) = 0.170 mW/g; SAR(10 g) = 0.091 mW/g

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



0 dB = 0.179 mW/g

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# LE Cheek\_CH810

Communication System: GSM1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used: f = 1910 MHz;  $\sigma$  = 1.43 mho/m;  $\varepsilon$  = 39.5;  $\rho$  =

 $1000 \text{ kg/m}^3$ 

Phantom section: Left Section

### DASY4 Configuration:

• Probe: EX3DV4 - SN3578; ConvF(6.9, 6.9, 6.9); Calibrated: 2007/4/24

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

• Electronics: DAE4 Sn679; Calibrated: 2007/4/20

• Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419

• Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

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

Maximum value of SAR (interpolated) = 0.150 mW/g

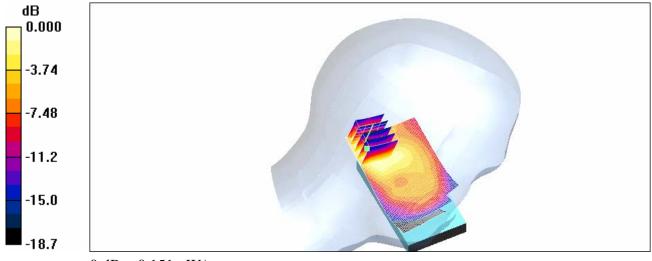
# LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.75 V/m; Power Drift = -0.116 dB

Peak SAR (extrapolated) = 0.249 W/kg

# SAR(1 g) = 0.135 mW/g; SAR(10 g) = 0.070 mW/g

Maximum value of SAR (measured) = 0.151 mW/g



0 dB = 0.151 mW/g

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### RE Tilt\_CH512

Communication System: GSM1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used (interpolated): f = 1850.2 MHz;  $\sigma = 1.36$  mho/m;

 $\varepsilon_r = 39.7$ ;  $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

### DASY4 Configuration:

• Probe: EX3DV4 - SN3578; ConvF(6.9, 6.9, 6.9); Calibrated: 2007/4/24

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

• Electronics: DAE4 Sn679; Calibrated: 2007/4/20

• Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419

• Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

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

Maximum value of SAR (interpolated) = 0.573 mW/g

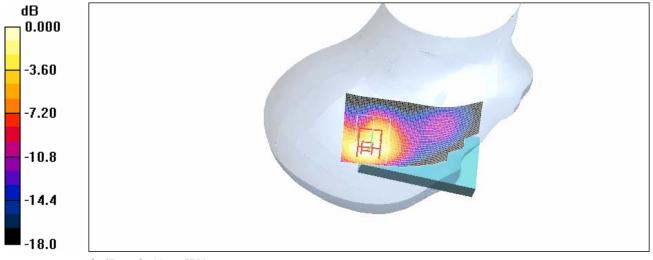
RE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.0 V/m; Power Drift = -0.088 dB

Peak SAR (extrapolated) = 0.988 W/kg

# SAR(1 g) = 0.485 mW/g; SAR(10 g) = 0.246 mW/g

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



0 dB = 0.516 mW/g

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### RE Tilt\_CH661

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used: f = 1880 MHz;  $\sigma$  = 1.39 mho/m;  $\varepsilon$  = 39.6;  $\rho$  =

 $1000 \text{ kg/m}^3$ 

Phantom section: Right Section

### DASY4 Configuration:

• Probe: EX3DV4 - SN3578; ConvF(6.9, 6.9, 6.9); Calibrated: 2007/4/24

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

• Electronics: DAE4 Sn679; Calibrated: 2007/4/20

• Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419

• Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

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

Maximum value of SAR (interpolated) = 0.451 mW/g

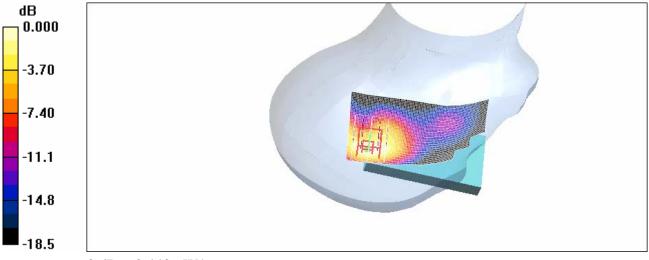
RE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.8 V/m; Power Drift = -0.034 dB

Peak SAR (extrapolated) = 0.792 W/kg

# SAR(1 g) = 0.381 mW/g; SAR(10 g) = 0.186 mW/g

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



0 dB = 0.443 mW/g

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# RE Tilt\_CH810

Communication System: GSM1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used: f = 1910 MHz;  $\sigma$  = 1.43 mho/m;  $\varepsilon$  = 39.5;  $\rho$  =

 $1000 \text{ kg/m}^3$ 

Phantom section: Right Section

### DASY4 Configuration:

• Probe: EX3DV4 - SN3578; ConvF(6.9, 6.9, 6.9); Calibrated: 2007/4/24

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

• Electronics: DAE4 Sn679; Calibrated: 2007/4/20

• Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419

• Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

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

Maximum value of SAR (interpolated) = 0.368 mW/g

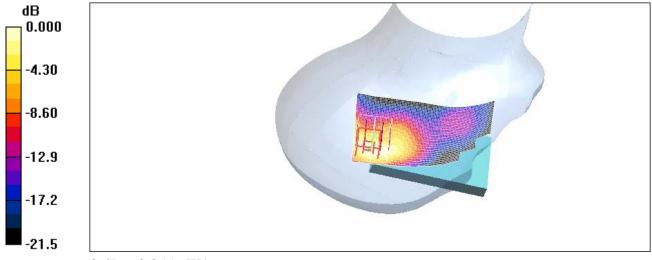
RE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.70 V/m; Power Drift = 0.169 dB

Peak SAR (extrapolated) = 0.676 W/kg

# SAR(1 g) = 0.320 mW/g; SAR(10 g) = 0.152 mW/g

Maximum value of SAR (measured) = 0.355 mW/g



0 dB = 0.355 mW/g

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# LE Tilt CH512

Communication System: GSM1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used (interpolated): f = 1850.2 MHz;  $\sigma = 1.36$  mho/m;

 $\varepsilon_r = 39.7$ ;  $\rho = 1000 \text{ kg/m}^3$ Phantom section: Left Section

### DASY4 Configuration:

• Probe: EX3DV4 - SN3578; ConvF(6.9, 6.9, 6.9); Calibrated: 2007/4/24

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

• Electronics: DAE4 Sn679; Calibrated: 2007/4/20

• Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419

• Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

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

Maximum value of SAR (interpolated) = 0.360 mW/g

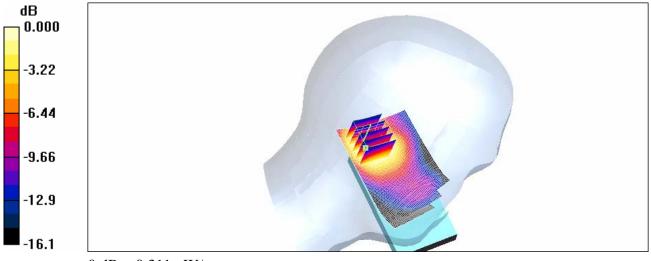
LE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.6 V/m; Power Drift = -0.022 dB

Peak SAR (extrapolated) = 0.548 W/kg

# SAR(1 g) = 0.300 mW/g; SAR(10 g) = 0.173 mW/g

Maximum value of SAR (measured) = 0.311 mW/g



0 dB = 0.311 mW/g

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# LE Tilt CH661

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used: f = 1880 MHz;  $\sigma$  = 1.39 mho/m;  $\varepsilon$  = 39.6;  $\rho$  =

 $1000 \text{ kg/m}^3$ 

Phantom section: Left Section

# DASY4 Configuration:

• Probe: EX3DV4 - SN3578; ConvF(6.9, 6.9, 6.9); Calibrated: 2007/4/24

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

• Electronics: DAE4 Sn679; Calibrated: 2007/4/20

• Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419

• Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

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

Maximum value of SAR (interpolated) = 0.276 mW/g

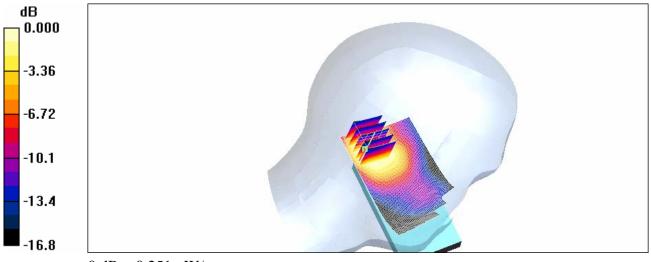
LE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.3 V/m; Power Drift = 0.005 dB

Peak SAR (extrapolated) = 0.435 W/kg

# SAR(1 g) = 0.234 mW/g; SAR(10 g) = 0.127 mW/g

Maximum value of SAR (measured) = 0.251 mW/g



0 dB = 0.251 mW/g

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### LE Tilt CH810

Communication System: GSM1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used: f = 1910 MHz;  $\sigma = 1.43$  mho/m;  $\varepsilon_r = 39.5$ ;  $\rho =$ 

 $1000 \text{ kg/m}^3$ 

Phantom section: Left Section

### DASY4 Configuration:

• Probe: EX3DV4 - SN3578; ConvF(6.9, 6.9, 6.9); Calibrated: 2007/4/24

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

• Electronics: DAE4 Sn679; Calibrated: 2007/4/20

• Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419

• Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

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

Maximum value of SAR (interpolated) = 0.227 mW/g

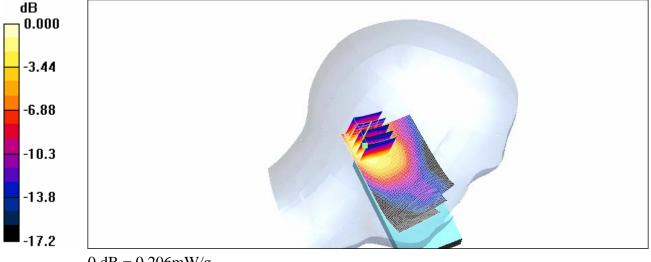
# LE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.43 V/m; Power Drift = 0.004 dB

Peak SAR (extrapolated) = 0.362 W/kg

# SAR(1 g) = 0.196 mW/g; SAR(10 g) = 0.104 mW/g

Maximum value of SAR (measured) = 0.206 mW/g



0 dB = 0.206 mW/g

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# RE Tilt\_CH512 \_ repeated with Memory Card

Communication System: GSM1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used (interpolated): f = 1850.2 MHz;  $\sigma = 1.36$  mho/m;

 $\varepsilon_r = 39.7$ ;  $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

### DASY4 Configuration:

• Probe: EX3DV4 - SN3578; ConvF(6.9, 6.9, 6.9); Calibrated: 2007/4/24

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

• Electronics: DAE4 Sn679; Calibrated: 2007/4/20

• Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419

• Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

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

Maximum value of SAR (interpolated) = 0.649 mW/g

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

Reference Value = 15.3 V/m; Power Drift = -0.045 dB

Peak SAR (extrapolated) = 1.16 W/kg

# SAR(1 g) = 0.554 mW/g; SAR(10 g) = 0.275 mW/g

Maximum value of SAR (measured) = 0.620 mW/g



0 dB = 0.620 mW/g

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# RE Tilt\_CH512 \_ repeated with Bluetooth active

Communication System: GSM1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used (interpolated): f = 1850.2 MHz;  $\sigma = 1.36$  mho/m;

 $\varepsilon_r = 39.7$ ;  $\rho = 1000 \text{ kg/m}^3$ Phantom section: Right Section

### DASY4 Configuration:

• Probe: EX3DV4 - SN3578; ConvF(6.9, 6.9, 6.9); Calibrated: 2007/4/24

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

• Electronics: DAE4 Sn679; Calibrated: 2007/4/20

• Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419

• Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

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

Maximum value of SAR (interpolated) = 0.678 mW/g

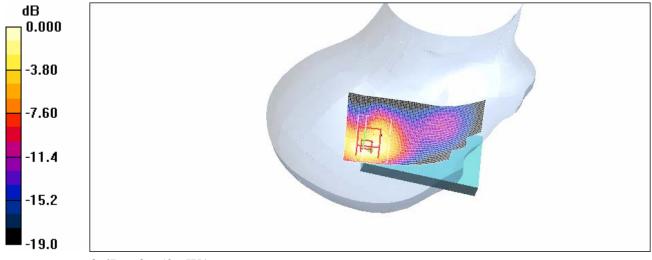
RE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.8 V/m; Power Drift = -0.053 dB

Peak SAR (extrapolated) = 1.19 W/kg

# SAR(1 g) = 0.571 mW/g; SAR(10 g) = 0.285 mW/g

Maximum value of SAR (measured) = 0.652 mW/g



0 dB = 0.652 mW/g

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### Body CH512

Communication System: GSM1900; Frequency: 1850.2 MHz; Duty Cycle: 1:4

Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1850.2 MHz;  $\sigma$  = 1.51 mho/m;  $\varepsilon_r$ 

= 51.1;  $\rho$  = 1000 kg/m<sup>3</sup> Phantom section: Flat Section

# DASY4 Configuration:

• Probe: EX3DV4 - SN3578; ConvF(6.97, 6.97, 6.97); Calibrated: 2007/4/24

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

• Electronics: DAE4 Sn679; Calibrated: 2007/4/20

• 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 (41x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.865 mW/g

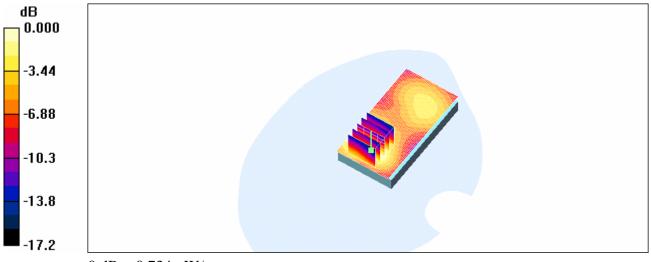
Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.8 V/m; Power Drift = -0.105 dB

Peak SAR (extrapolated) = 1.13 W/kg

# SAR(1 g) = 0.700 mW/g; SAR(10 g) = 0.413 mW/g

Maximum value of SAR (measured) = 0.734 mW/g



0 dB = 0.734 mW/g

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### Body\_CH661

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:4

Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1880 MHz;  $\sigma$  = 1.54 mho/m;  $\varepsilon_r$  =

50.9;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Flat Section

### DASY4 Configuration:

- Probe: EX3DV4 SN3578; ConvF(6.97, 6.97, 6.97); Calibrated: 2007/4/24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn679; Calibrated: 2007/4/20
- 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 (41x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.874 mW/g

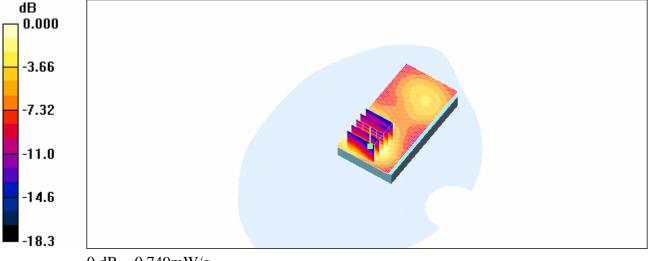
Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.3 V/m; Power Drift = -0.023 dB

Peak SAR (extrapolated) = 1.17 W/kg

# SAR(1 g) = 0.715 mW/g; SAR(10 g) = 0.413 mW/g

Maximum value of SAR (measured) = 0.749 mW/g



0 dB = 0.749 mW/g

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# Body CH810

Communication System: GSM1900; Frequency: 1909.8 MHz; Duty Cycle: 1:4

Medium: M1800 & 1900 Medium parameters used: f = 1910 MHz;  $\sigma$  = 1.57 mho/m;  $\varepsilon$  = 50.7;  $\rho$  =

 $1000 \text{ kg/m}^3$ 

Phantom section: Flat Section

### DASY4 Configuration:

• Probe: EX3DV4 - SN3578; ConvF(6.97, 6.97, 6.97); Calibrated: 2007/4/24

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

• Electronics: DAE4 Sn679; Calibrated: 2007/4/20

• 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 (41x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.762 mW/g

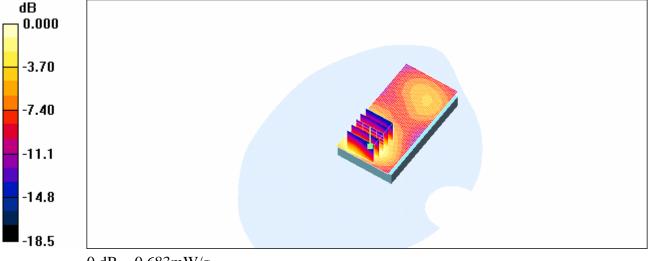
Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.0 V/m; Power Drift = -0.050 dB

Peak SAR (extrapolated) = 1.10 W/kg

# SAR(1 g) = 0.658 mW/g; SAR(10 g) = 0.366 mW/g

Maximum value of SAR (measured) = 0.683 mW/g



0 dB = 0.683 mW/g

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# Body\_CH661\_ repeated in EUT front to Phantom

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:4

Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1880 MHz;  $\sigma$  = 1.54 mho/m;  $\varepsilon_r$  =

50.9;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Flat Section

### DASY4 Configuration:

- Probe: EX3DV4 SN3578; ConvF(6.97, 6.97, 6.97); Calibrated: 2007/4/24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn679; Calibrated: 2007/4/20
- 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 (41x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.251 mW/g

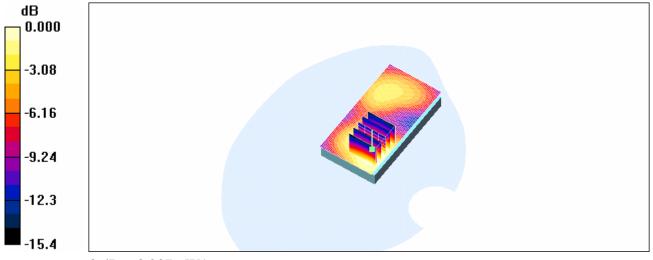
Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.33 V/m; Power Drift = -0.166 dB

Peak SAR (extrapolated) = 0.364 W/kg

# SAR(1 g) = 0.225 mW/g; SAR(10 g) = 0.135 mW/g

Maximum value of SAR (measured) = 0.237 mW/g



0 dB = 0.237 mW/g

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# Body\_CH661\_ repeated with Headset

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:4

Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1880 MHz;  $\sigma$  = 1.54 mho/m;  $\varepsilon_r$  =

50.9;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Flat Section

### DASY4 Configuration:

• Probe: EX3DV4 - SN3578; ConvF(6.97, 6.97, 6.97); Calibrated: 2007/4/24

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

• Electronics: DAE4 Sn679; Calibrated: 2007/4/20

• 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 (41x81x1): Measurement grid: dx=15mm, dy=15mm

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

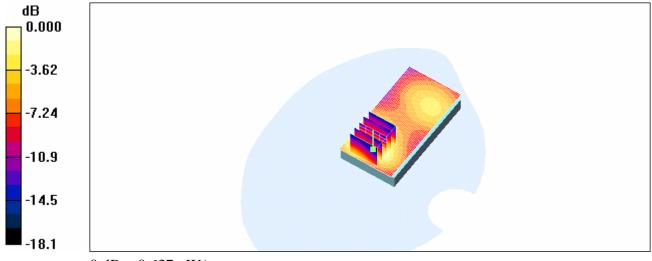
Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.2 V/m; Power Drift = -0.006 dB

Peak SAR (extrapolated) = 0.988 W/kg

# SAR(1 g) = 0.593 mW/g; SAR(10 g) = 0.344 mW/g

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



0 dB = 0.637 mW/g

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# Body CH661 repeated with Memory Card

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:4

Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1880 MHz;  $\sigma$  = 1.54 mho/m;  $\varepsilon_r$  =

50.9;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Flat Section

### DASY4 Configuration:

- Probe: EX3DV4 SN3578; ConvF(6.97, 6.97, 6.97); Calibrated: 2007/4/24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn679; Calibrated: 2007/4/20
- 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 (41x81x1): Measurement grid: dx=15mm, dy=15mm

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

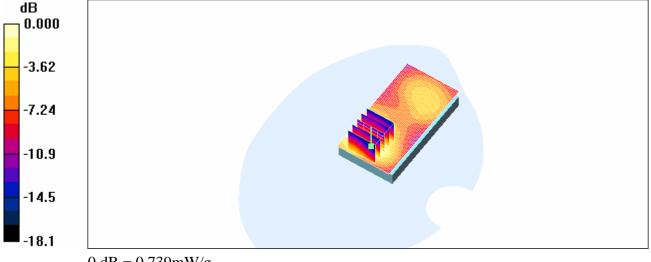
# Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.0 V/m; Power Drift = -0.162 dB

Peak SAR (extrapolated) = 1.13 W/kg

# SAR(1 g) = 0.690 mW/g; SAR(10 g) = 0.395 mW/g

Maximum value of SAR (measured) = 0.739 mW/g



0 dB = 0.739 mW/g

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# Body\_CH661\_ repeated with Bluetooth active

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:4

Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1880 MHz;  $\sigma$  = 1.54 mho/m;  $\varepsilon_r$  =

50.9;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Flat Section

### DASY4 Configuration:

- Probe: EX3DV4 SN3578; ConvF(6.97, 6.97, 6.97); Calibrated: 2007/4/24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn679; Calibrated: 2007/4/20
- 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 (41x81x1): Measurement grid: dx=15mm, dy=15mm

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

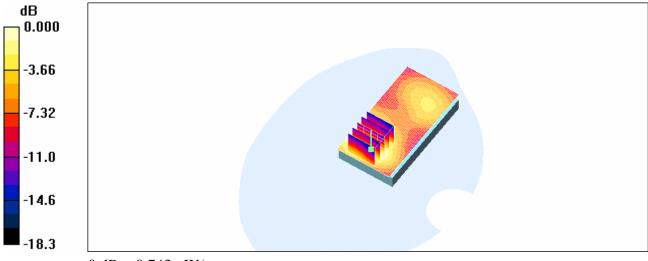
# Body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.2 V/m; Power Drift = -0.062 dB

Peak SAR (extrapolated) = 1.14 W/kg

# SAR(1 g) = 0.714 mW/g; SAR(10 g) = 0.418 mW/g

Maximum value of SAR (measured) = 0.743 mW/g



0 dB = 0.743 mW/g

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# SAR System Performance Verification

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2

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

Medium: Head 1900MHz Medium parameters used: f = 1900 MHz;  $\sigma = 1.42$  mho/m;  $\varepsilon_r = 39.5$ ;  $\rho =$ 

 $1000 \text{ kg/m}^3$ 

Phantom section: Flat Section

### DASY4 Configuration:

• Probe: EX3DV4 - SN3578; ConvF(6.9, 6.9, 6.9); Calibrated: 2007/4/24

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

• Electronics: DAE4 Sn679; Calibrated: 2007/4/20

• 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) = 12.3 mW/g

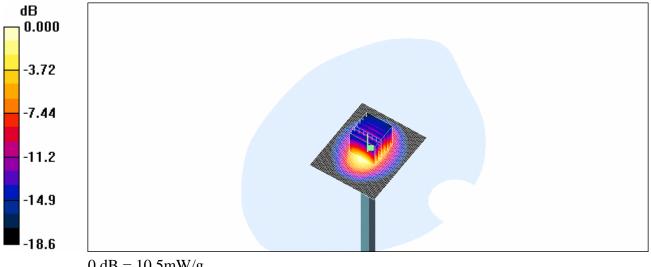
Pin=250mw/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 86.4 V/m; Power Drift = -0.035 dB

Peak SAR (extrapolated) = 17.7 W/kg

### SAR(1 g) = 9.37 mW/g; SAR(10 g) = 4.78 mW/g

Maximum value of SAR (measured) = 10.5 mW/g



0 dB = 10.5 mW/g

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# SAR System Performance Verification

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2

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

Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1900 MHz;  $\sigma$  = 1.56 mho/m;  $\varepsilon_r$  =

50.8;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Flat Section

### DASY4 Configuration:

• Probe: EX3DV4 - SN3578; ConvF(6.9, 6.9, 6.9); Calibrated: 2007/4/24

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

• Electronics: DAE4 Sn679; Calibrated: 2007/4/20

• 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) = 13.1 mW/g

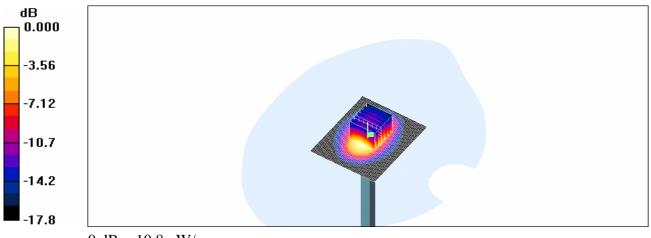
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 83.3 V/m; Power Drift = -0.025 dB

Peak SAR (extrapolated) = 17.6 W/kg

### SAR(1 g) = 9.63 mW/g; SAR(10 g) = 5.01 mW/g

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



0 dB = 10.8 mW/g