

# SAR TEST REPORT

**Equipment Under Test :** GSM 850&PCS1900MHz MOBILE PHONE  
**Model No. :** SVLE6  
**Market name:** OT-E265a  
**FCC ID:** RAD035  
**Applicant :** T&A Mobile Phones  
**Address of Applicant :** 3/F,B2 Block, Digital Technology Yard,  
Gaoxin Nan Qi Road,Nan Shan District,  
Shenzhen, Guangdong, P.R. China  
**Date of Receipt :** 2006.05.08  
**Date of Test :** 2006.05.25 – 2006.05.30  
**Date of Issue :** 2006.06.23

Standards:

## FCC OET Bulletin 65 supplement C, ANSI/IEEE C95.1, C95.3, IEEE 1528-2003

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-CSTC Shanghai GSM Lab or testing done by SGS-CSTC Shanghai GSM Lab must approve SGS Shanghai GSM Lab in connection with distribution or use of the product described in this report in writing.

Tested by :

*Roger Ruan*

Date :

2006.06.23

Approved by :

*Zhang Yuan*

Date :

2006.06.23

# Contents

|   |           |
|---|-----------|
| <b>1. General Information</b>                                       | <b>7</b>  |
| 1.1 Test Laboratory   | 7         |
| 1.2 Details of Applicant  | 7         |
| 1.3 Description of EUT(s)   | 7         |
| 1.4 Test Environment  | 8         |
| 1.5 Operation Configuration   | 8         |
| 1.6 The SAR Measurement System                                      | 8         |
| 1.7 SAR System Verification   | 10        |
| 1.8 Tissue Simulant Fluid for the Frequency Band 850MHz and 1900MHZ | 11        |
| 1.9 Test Standards and Limits                                       | 12        |
| <b>2. Summary of Results</b>  | <b>13</b> |
| <b>3. Instruments List</b>  | <b>17</b> |
| <b>4. Measurements</b>  | <b>18</b> |
| 4.1 LeftHandSide-Cheek-GSM850-Low-off                               | 18        |
| GSM850-LeftHandSide-Cheek-Low-off                                   | 18        |
| 4.2 LeftHandSide-Cheek-GSM850-Middle-off                            | 19        |
| GSM850-LeftHandSide-Cheek-Mid-off                                   | 19        |
| 4.3 LeftHandSide-Cheek-GSM850-High-off                              | 21        |
| GSM850-LeftHandSide-Cheek-High-off                                  | 21        |
| 4.4 LeftHandSide-Tilt-GSM850-Low-off                                | 23        |
| GSM850-LeftHandSide-Tilt-Low-off                                    | 23        |
| 4.5 LeftHandSide-Tilt-GSM850-Middle-off                             | 25        |
| GSM850-LeftHandSide-Tilt-Mid-off                                    | 25        |
| 4.6 LeftHandSide-Tilt-GSM850-High-off                               | 27        |
| GSM850-LeftHandSide-Tilt-High-off                                   | 27        |
| <b>LeftHandSide-Cheek-GSM850-Low-off (Maximum Value)</b>            | <b>29</b> |
| GSM850-LeftHandSide-Cheek-Low-off(conventional)                     | 29        |
| 4.7 RightHandSide-Cheek-GSM850-Low-off                              | 31        |
| GSM850-RightHandSide-Cheek-Low-off                                  | 31        |
| 4.8 RightHandSide-Cheek-GSM850-Middle-off                           | 33        |

|  |           |
|--|-----------|
| GSM850-RightHandSide-Cheek-Mid-off.....                        | 33        |
| <b>4.9 RightHandSide-Cheek-GSM850-High-off.....</b>            | <b>35</b> |
| GSM850-RightHandSide-Cheek-High-off.....                       | 35        |
| <b>4.10 RightHandSide-Tilt-GSM850-Low-off.....</b>             | <b>37</b> |
| GSM850-RightHandSide-Tilt-Low-off.....                         | 37        |
| <b>4.11 RightHandSide-Tilt-GSM850-Middle-off.....</b>          | <b>39</b> |
| GSM850-RightHandSide-Tilt-Mid-off.....                         | 39        |
| <b>4.12 RightHandSide-Tilt-GSM850-High-off.....</b>            | <b>41</b> |
| GSM850-RightHandSide-Tilt-High-off.....                        | 41        |
| <b>RightHandSide-Cheek-GSM850-Low-off (Maximum Value).....</b> | <b>43</b> |
| GSM850-RightHandSide-Cheek-Low-off(conventional).....          | 43        |
| <b>4.13 Body-Worn-GSM850-Low-off.....</b>                      | <b>45</b> |
| GSM850-Body-Worn-Low-off.....                                  | 45        |
| <b>4.14 Body-Worn-GSM850-Middle-off.....</b>                   | <b>47</b> |
| GSM850-Body-Worn-Mid-off.....                                  | 47        |
| <b>4.15 Body-Worn-GSM850-High-off.....</b>                     | <b>48</b> |
| GSM850-Body-Worn-High-off.....                                 | 49        |
| <b>Body-Worn-GSM850-Low-off (Maximum Value).....</b>           | <b>50</b> |
| GSM850-Body-Worn-Low-off(conventional).....                    | 50        |
| <b>4.16 LeftHandSide-Cheek-GSM850-Low-on.....</b>              | <b>52</b> |
| GSM850-LeftHandSide-Cheek-Low-on.....                          | 52        |
| <b>4.17 LeftHandSide-Cheek-GSM850-Middle-on.....</b>           | <b>53</b> |
| GSM850-LeftHandSide-Cheek-Mid-on.....                          | 53        |
| <b>4.18 LeftHandSide-Cheek-GSM850-High-on.....</b>             | <b>55</b> |
| GSM850-LeftHandSide-Cheek-High-on.....                         | 55        |
| <b>4.19 LeftHandSide-Tilt-GSM850-Low-on.....</b>               | <b>57</b> |
| GSM850-LeftHandSide-Tilt-Low-on.....                           | 57        |
| <b>4.20 LeftHandSide-Tilt-GSM850-Middle-on.....</b>            | <b>59</b> |
| GSM850-LeftHandSide-Tilt-Mid-on.....                           | 59        |
| <b>4.21 LeftHandSide-Tilt-GSM850-High-on.....</b>              | <b>61</b> |
| GSM850-LeftHandSide-Tilt-High-on.....                          | 61        |
| <b>LeftHandSide-Cheek-GSM850-Low-on(Maximum Value).....</b>    | <b>63</b> |
| GSM850-LeftHandSide-Cheek-Low-on(conventional).....            | 63        |
| <b>4.22 RightHandSide-Cheek-GSM850-Low-on.....</b>             | <b>65</b> |
| GSM850-RightHandSide-Cheek-Low-on.....                         | 65        |

|  |           |
|--|-----------|
| <b>4.23 RightHandSide-Cheek-GSM850-Middle-on.....</b>          | <b>67</b> |
| GSM850-RightHandSide-Cheek-Mid-on .....                        | 67        |
| <b>4.24 RightHandSide-Cheek-GSM850-High-on.....</b>            | <b>69</b> |
| GSM850-RightHandSide-Cheek-High-on .....                       | 69        |
| <b>4.25 RightHandSide-Tilt-GSM850-Low-on .....</b>             | <b>71</b> |
| GSM850-RightHandSide-Tilt-Low-on .....                         | 71        |
| <b>4.26 RightHandSide-Tilt-GSM850-Middle-on .....</b>          | <b>73</b> |
| GSM850-RightHandSide-Tilt-Mid-on.....                          | 73        |
| <b>4.27 RightHandSide-Tilt-GSM850-High-on .....</b>            | <b>75</b> |
| GSM850-RightHandSide-Tilt-High-on .....                        | 75        |
| <b>RightHandSide-Cheek-GSM850-Low-on (Maximum Value).....</b>  | <b>77</b> |
| GSM850-RightHandSide-Cheek-Low-on(conventional) .....          | 77        |
| <b>4.28 Body-Worn-GSM850-Low-on .....</b>                      | <b>79</b> |
| GSM850-Body-Worn-Low-on .....                                  | 79        |
| <b>4.29 Body-Worn-GSM850-Middle-on .....</b>                   | <b>81</b> |
| GSM850-Body-Worn-Mid-on .....                                  | 81        |
| <b>4.30 Body-Worn-GSM850-High-on .....</b>                     | <b>83</b> |
| GSM850-Body-Worn-High-on.....                                  | 83        |
| <b>Body-Worn-GSM850-Low-on (Maximum Value).....</b>            | <b>84</b> |
| GSM850-Body-Worn-Low-on(conventional) .....                    | 84        |
| <b>4.31 LeftHandSide-Cheek-PCS1900-Low-off .....</b>           | <b>86</b> |
| PCS1900-LeftHandSide-Cheek-Low-off .....                       | 86        |
| <b>4.32 LeftHandSide-Cheek-PCS1900-Middle-off.....</b>         | <b>87</b> |
| PCS1900-LeftHandSide-Cheek-Mid-off.....                        | 88        |
| <b>4.33 LeftHandSide-Cheek-PCS1900-High-off .....</b>          | <b>89</b> |
| PCS1900-LeftHandSide-Cheek-High-off .....                      | 90        |
| <b>4.34 LeftHandSide-Tilt-PCS1900-Low-off .....</b>            | <b>91</b> |
| PCS1900-LeftHandSide-Tilt-Low-off .....                        | 92        |
| <b>4.35 LeftHandSide-Tilt-PCS1900-Middle-off .....</b>         | <b>93</b> |
| PCS1900-LeftHandSide-Tilt-Mid-off.....                         | 94        |
| <b>4.36 LeftHandSide-Tilt-PCS1900-High-off.....</b>            | <b>95</b> |
| PCS1900-LeftHandSide-Tilt-High-off.....                        | 96        |
| <b>LeftHandSide-Tilt-PCS1900-Low-off (Maximum Value) .....</b> | <b>97</b> |
| PCS1900-LeftHandSide-Tilt-Low-off(conventional) .....          | 98        |
| <b>4.37 RightHandSide-Cheek-PCS1900-Low-off .....</b>          | <b>99</b> |

PCS1900-RightHandSide-Cheek-Low-off ..... 99

**4.38 RightHandSide-Cheek-PCS1900-Middle-off ..... 101**

PCS1900-RightHandSide-Cheek-Mid-off ..... 102

**4.39 RightHandSide-Cheek-PCS1900-High-off..... 103**

PCS1900-RightHandSide-Cheek-High-off ..... 104

**4.40 RightHandSide-Tilt-PCS1900-Low-off..... 105**

PCS1900-RightHandSide-Tilt-Low-off ..... 106

**4.41 RightHandSide-Tilt-PCS1900-Middle-off..... 107**

PCS1900-RightHandSide-Tilt-Mid-off..... 108

**4.42 RightHandSide-Tilt-PCS1900-High-off ..... 109**

PCS1900-RightHandSide-Tilt-High-off ..... 110

**RightHandSide-Tilt-PCS1900-Low-off (Maximum Value)..... 111**

PCS1900-RightHandSide-Tilt-Low-off(conventional)..... 112

**4.43 Body-Worn-PCS1900-Low-off ..... 113**

PCS1900-Body-Worn-Low-off ..... 114

**4.44 Body-Worn-PCS1900-Middle-off ..... 115**

PCS1900-Body-Worn-Mid-off ..... 116

**4.45 Body-Worn-PCS1900-High-off ..... 117**

PCS1900-Body-Worn-High-off ..... 118

**Body-Worn-PCS1900-Low-off (Maximum Value) ..... 119**

PCS1900-Body-Worn-Low-Off(conventioal) ..... 120

**4.46 LeftHandSide-Cheek-PCS1900-Low-on ..... 121**

PCS1900-LeftHandSide-Cheek-Low-on ..... 122

**4.47 LeftHandSide-Cheek-PCS1900-Middle-on ..... 123**

PCS1900-LeftHandSide-Cheek-Mid-on ..... 124

**4.48 LeftHandSide-Cheek-PCS1900-High-on ..... 125**

PCS1900-LeftHandSide-Cheek-High-on..... 126

**4.49 LeftHandSide-Tilt-PCS1900-Low-on..... 127**

PCS1900-LeftHandSide-Tilt-Low-on..... 128

**4.50 LeftHandSide-Tilt-PCS1900-Middle-on ..... 129**

PCS1900-LeftHandSide-Tilt-Mid-on ..... 130

**4.51 LeftHandSide-Tilt-PCS1900-High-on..... 131**

PCS1900-LeftHandSide-Tilt-High-on ..... 132

**LeftHandSide-Tilt-PCS1900-Low-on (Maximum Value) ..... 133**

PCS1900-LeftHandSide-Tilt-Low-on(conventional) ..... 134

|  |            |
|--|------------|
| <b>4.52 RightHandSide-Cheek-PCS1900-Low-on.....</b>                | <b>135</b> |
| PCS1900-RightHandSide-Cheek-Low-on .....                           | 135        |
| <b>4.53 RightHandSide-Cheek-PCS1900-Middle-on .....</b>            | <b>137</b> |
| PCS1900-RightHandSide-Cheek-Mid-on .....                           | 138        |
| <b>4.54 RightHandSide-Cheek-PCS1900-High-on.....</b>               | <b>139</b> |
| PCS1900-RightHandSide-Cheek-High-on.....                           | 140        |
| <b>4.55 RightHandSide-Tilt-PCS1900-Low-on .....</b>                | <b>141</b> |
| PCS1900-RightHandSide-Tilt-Low-on.....                             | 142        |
| <b>4.56 RightHandSide-Tilt-PCS1900-Middle-on.....</b>              | <b>143</b> |
| PCS1900-RightHandSide-Tilt-Mid-on .....                            | 144        |
| <b>4.57 RightHandSide-Tilt-PCS1900-High-on .....</b>               | <b>145</b> |
| PCS1900-RightHandSide-Tilt-High-on .....                           | 146        |
| <b>RightHandSide-Cheek-PCS1900-Low-on (Maximum Value) .....</b>    | <b>147</b> |
| PCS1900-RightHandSide-Cheek-Low-on(conventional).....              | 148        |
| <b>4.58 Body-Worn-PCS1900-Low-on.....</b>                          | <b>149</b> |
| PCS1900-Body-Worn-Low-on.....                                      | 150        |
| <b>4.59 Body-Worn-PCS1900-Middle-on.....</b>                       | <b>151</b> |
| PCS1900-Body-Worn-Mid-on.....                                      | 152        |
| <b>4.60 Body-Worn-PCS1900-High-on .....</b>                        | <b>153</b> |
| PCS1900-Body-Worn-High-on .....                                    | 154        |
| <b>Body-Worn-GSM1900-Low-on (Maximum Value).....</b>               | <b>155</b> |
| PCS1900-Body-Worn-Low-on(conventional).....                        | 156        |
| <b>Appendix .....</b>  | <b>158</b> |
| <b>1. Photographs of Test Setup.....</b>                           | <b>158</b> |
| <b>2. Photographs of the EUT .....</b>                             | <b>162</b> |
| <b>3. Photographs of the battery.....</b>                          | <b>163</b> |
| <b>4. Photograph of the charger .....</b>                          | <b>164</b> |
| <b>5. Probe Calibration certificate.....</b>                       | <b>165</b> |
| <b>6. Uncertainty analysis .....</b>                               | <b>174</b> |
| <b>7. Phantom description .....</b>                                | <b>175</b> |
| <b>8. System validation from original equipment supplier .....</b> | <b>176</b> |

# 1. General Information

## 1.1 Test Laboratory

GSM Lab  
 SGS-CSTC Standards Technical Services Co.Ltd Shanghai Branch  
 9F,the 3<sup>rd</sup> Building, No.889, Yishan Rd, Xuhui District, Shanghai, China  
 Zip code: 200233  
 Telephone: +86 (0) 21 6495 1616  
 Fax: +86 (0) 21 6495 3679  
 Internet: <http://www.cn.sgs.com>

## 1.2 Details of Applicant

Name: T&A Mobile Phones  
 Address: 3/F,B2 Block, Digital Technology Yard,  
 Gaoxin Nan Qi Road,Nan Shan District,  
 Shenzhen, Guangdong, P.R. China

## 1.3 Description of EUT(s)

|                            |                               |                   |
|----------------------------|-------------------------------|-------------------|
| Brand name                 | ALCATEL                       |                   |
| Model No.                  | SVLE6                         |                   |
| Market Name                | OT-E265a                      |                   |
| Serial No.                 | IMEI: 01091000000079-2        |                   |
| Battery Type               | 4.2V Lithium-Ion              |                   |
| Antenna Type               | Internal Antenna              |                   |
| Operation Mode             | GSM850/PCS1900                |                   |
| Modulation Mode            | GMSK                          |                   |
| Frequency range            | GSM850                        | Tx: 824~849 MHz   |
|                            |                               | Rx: 869~894 MHz   |
|                            | PCS1900                       | Tx: 1850~1910 MHz |
|                            |                               | Rx: 1930~1990 MHz |
| Maximum RF Conducted Power | GSM850: 33dBm, PCS1900: 30dBm |                   |

#### **1.4 Test Environment**

Ambient temperature: 22.0° C

Tissue Simulating Liquid: 22° C

Relative Humidity: 29%

#### **1.5 Operation Configuration**

Configuration 1: GSM 850, LeftHandSide Cheek & 15° Tilt Position,off

Configuration 2: GSM 850, RightHandSide Cheek & 15° Tilt Position,off

Configuration 3: GSM 850, BodyWorn (1.5cm between EUT and phantom),off

Configuration 4: GSM 850, LeftHandSide Cheek & 15° Tilt Position,on

Configuration 5: GSM 850, RightHandSide Cheek & 15° Tilt Position,on

Configuration 6: GSM 850, BodyWorn (1.5cm between EUT and phantom),on

Configuration 7: PCS 1900, LeftHandSide Cheek & 15° Tilt Position,off

Configuration 8: PCS 1900, RightHandSide Cheek & 15° Tilt Position,off

Configuration 9: PCS 1900, BodyWorn (1.5cm between EUT and phantom),off

Configuration 10: PCS 1900, LeftHandSide Cheek & 15° Tilt Position,on

Configuration 11: PCS 1900, RightHandSide Cheek & 15° Tilt Position,on

Configuration 12: PCS 1900, BodyWorn (1.5cm between EUT and phantom),on

#### **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 ES3DV3 3088 E-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation  $SAR = \sigma (|E_i|^2) / \rho$  where  $\sigma$  and  $\rho$  are the conductivity and mass density of the tissue-simulant.

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



- Y A standard high precision 6-axis robot (Stabile RX family) with controller, teach pendant and software. An arm extension for accommodation the data acquisition electronics (DAE).
- Y 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.
- Y 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.
- Y The Electro-optical converter (EOC) performs the conversion between optical and electrical of the signals for the digital communication to DAE and for the analog signal from the optical surface detection. The EOC is connected to the measurement server.

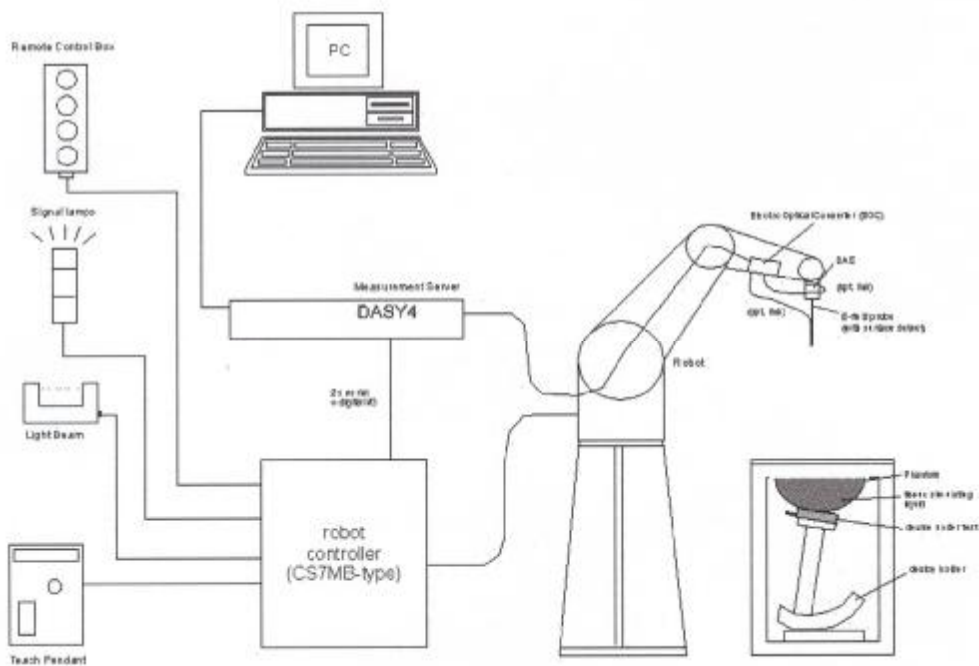


Fig. a SAR System Configuration

- Y 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.
- Y A probe alignment unit which improves the (absolute) accuracy of the probe positioning.

- ÿ A computer operating Windows 2000.
- ÿ DASY4 software.
- ÿ Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- ÿ The SAM twin phantom enabling testing left-hand, right-hand and body-worn usage.
- ÿ The device holder for handheld mobile phones.
- ÿ Tissue simulating liquid mixed according to the given recipes.
- ÿ Validation dipole kits allowing validating the proper functioning of the system.

### 1.7 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 +/- 10% from the target SAR values. These tests were done at 900MHz and 1900MHz. 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°C, the relative humidity was in the range 60% and the liquid depth above the ear reference points was above 15 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.

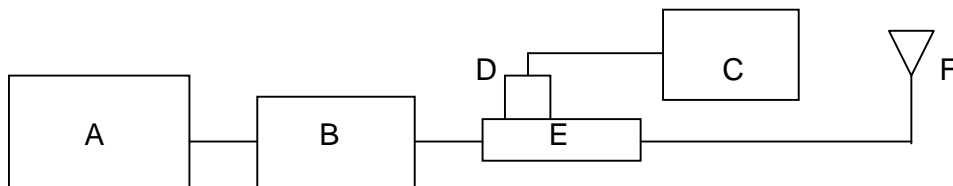


Fig. b the microwave circuit arrangement used for SAR system verification

A. Agilent Model E4438C Signal Generator

- B. Mini-Circuit Model ZHL-42 Preampifier
- C. Agilent Model E4416A Power Meter
- D. Agilent Model 8481H Power Sensor
- E. HT CP6100 20N Dual directional coupler
- F. Reference dipole antenna

| Validation Kit   | Frequency MHz | Target SAR 1g (250mW) | Target SAR 10g (250mW) | Measured SAR 1g | Measured SAR 10g | Measured Date |
|------------------|---------------|-----------------------|------------------------|-----------------|------------------|---------------|
| ES3DV3<br>SN3088 | 850<br>Head   | 2.6                   | 1.67                   | 2.69            | 1.68             | 2006-05-30    |
| ES3DV3<br>SN3088 | 850<br>Body   | 2.69                  | 1.74                   | 2.77            | 1.75             | 2006-05-25    |
| ES3DV3<br>SN3088 | 1900<br>Head  | 9.89                  | 5.16                   | 9.63            | 5.05             | 2006-05-26    |
| ES3DV3<br>SN3088 | 1900<br>Body  | 9.81                  | 5.22                   | 9.62            | 5.14             | 2006-05-29    |

Table1. Result System Validation

### 1.8 Tissue Simulant Fluid for the Frequency Band 850MHz and 1900MHZ

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 Agilent E5071B Network Analyzer (300 KHz-8500 MHz). The Conductivity ( $\sigma$ ) and Permittivity ( $\rho$ ) are listed in Table 2. For the SAR measurement given in this report. The temperature variation of the Tissue Simulant Fluid was 22°C.

| Frequency (MHz) | Tissue Type | Limit/Measured       | Permittivity ( $\rho$ ) | Conductivity ( $\sigma$ ) | Simulated Tissue Temp (°C) |
|-----------------|-------------|----------------------|-------------------------|---------------------------|----------------------------|
| 850             | Head        | Measured, 2006-05-30 | 41.67                   | 0.877                     | 22.5                       |
|                 |             | Recommended Limit    | 41.5±5%                 | 0.97±5%                   | 20-24                      |
|                 | Body        | Measured, 2006-05-25 | 52.55                   | 0.996                     | 22.5                       |

|             |             |                             |                |                |              |
|-------------|-------------|-----------------------------|----------------|----------------|--------------|
|             |             | <b>Recommended Limit</b>    | <b>55.0±5%</b> | <b>1.05±5%</b> | <b>20-24</b> |
| <b>1900</b> | <b>Head</b> | <b>Measured, 2006-05-26</b> | <b>39.53</b>   | <b>1.443</b>   | <b>22.3</b>  |
|             |             | <b>Recommended Limit</b>    | <b>40.0±5%</b> | <b>1.40±5%</b> | <b>20-24</b> |
|             | <b>Body</b> | <b>Measured, 2006-05-29</b> | <b>51.55</b>   | <b>1.524</b>   | <b>22.6</b>  |
|             |             | <b>Recommended Limit</b>    | <b>53.3±5%</b> | <b>1.52±5%</b> | <b>20-24</b> |

Table 2. Dielectric parameters for the Frequency Band 850MHz&1900MHZ

**1.9 Test Standards and Limits**

According to FCC 47 CFR §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, 3KHz to 300GHz," ANSI/IEEE C95.1-1992, Copyright 1992 by the Institute of Electrical & Electronics Engineers, Inc., New York, New York 10071.

| <b>Human Exposure</b>       | <b>Uncontrolled Environment<br/>General Population</b> |
|-----------------------------|--|
| Spatial Peak SAR<br>(Brain) | 1.60 mW/g<br>(averaged over a mass of 1g)              |

Table3. 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. Summary of Results

### Result of Fast SAR Scan

| Frequency Band(MHz) | EUT position                      | Conducted Output Power (dBm) | 1g Avg. (mW/g) | Power Drift | Amb. Temp (°C) | Verdict |
|---------------------|-----------------------------------|------------------------------|----------------|-------------|----------------|---------|
| <b>GSM 850 OFF</b>  | LeftHandSide Cheek, Low Channel   | 32.8                         | 0.733          | -0.006      | 22             | PASS    |
|                     | LeftHandSide Cheek, Mid Channel   | 32.7                         | 0.527          | 0.011       | 22             | PASS    |
|                     | LeftHandSide Cheek, High Channel  | 32.5                         | 0.485          | -0.011      | 22             | PASS    |
|                     | LeftHandSide Tilt, Low Channel    | 32.8                         | 0.604          | 0.001       | 22             | PASS    |
|                     | LeftHandSide Tilt, Mid Channel    | 32.7                         | 0.419          | 0.036       | 22             | PASS    |
|                     | LeftHandSide Tilt, High Channel   | 32.5                         | 0.390          | -0.036      | 22             | PASS    |
|                     | RightHandSide Cheek, Low Channel  | 32.8                         | 0.813          | -0.097      | 22             | PASS    |
|                     | RightHandSide Cheek, Mid Channel  | 32.7                         | 0.571          | 0.004       | 22             | PASS    |
|                     | RightHandSide Cheek, High Channel | 32.5                         | 0.509          | 0.018       | 22             | PASS    |
|                     | RightHandSide Tilt, Low Channel   | 32.8                         | 0.663          | -0.009      | 22             | PASS    |
|                     | RightHandSide Tilt, Mid Channel   | 32.7                         | 0.453          | 0.051       | 22             | PASS    |
|                     | RightHandSide Tilt, High Channel  | 32.5                         | 0.408          | 0.045       | 22             | PASS    |
|                     | BodyWorn, Low Channel             | 32.8                         | 0.613          | -0.102      | 22             | PASS    |
|                     | BodyWorn, Mid Channel             | 32.7                         | 0.536          | 0.043       | 22             | PASS    |
|                     | BodyWorn, High Channel            | 32.5                         | 0.463          | 0.019       | 22             | PASS    |
| <b>GSM 850 ON</b>   | LeftHandSide Cheek, Low Channel   | 32.8                         | 0.952          | -0.138      | 22             | PASS    |
|                     | LeftHandSide Cheek, Mid Channel   | 32.7                         | 0.643          | -0.081      | 22             | PASS    |
|                     | LeftHandSide Cheek, High Channel  | 32.5                         | 0.555          | -0.075      | 22             | PASS    |
|                     | LeftHandSide Tilt, Low Channel    | 32.8                         | 0.436          | -0.028      | 22             | PASS    |
|                     | LeftHandSide Tilt, Mid Channel    | 32.7                         | 0.309          | -0.001      | 22             | PASS    |
|                     | LeftHandSide Tilt, High Channel   | 32.5                         | 0.271          | -0.021      | 22             | PASS    |
|                     | RightHandSide Cheek, Low Channel  | 32.8                         | 0.947          | -0.081      | 22             | PASS    |

|                         |                                   |      |       |        |    |      |
|-------------------------|-----------------------------------|------|-------|--------|----|------|
|                         | RightHandSide Cheek, Mid Channel  | 32.7 | 0.627 | -0.042 | 22 | PASS |
|                         | RightHandSide Cheek, High Channel | 32.5 | 0.546 | -0.001 | 22 | PASS |
|                         | RightHandSide Tilt, Low Channel   | 32.8 | 0.483 | -0.007 | 22 | PASS |
|                         | RightHandSide Tilt, Mid Channel   | 32.7 | 0.327 | 0.027  | 22 | PASS |
|                         | RightHandSide Tilt, High Channel  | 32.5 | 0.281 | 0.016  | 22 | PASS |
|                         | BodyWorn, Low Channel             | 32.8 | 0.820 | 0.063  | 22 | PASS |
|                         | BodyWorn, Mid Channel             | 32.7 | 0.685 | 0.045  | 22 | PASS |
|                         | BodyWorn, High Channel            | 32.5 | 0.629 | 0.041  | 22 | PASS |
| <b>GSM 1900<br/>OFF</b> | LeftHandSide Cheek, Low Channel   | 29.4 | 0.113 | -0.016 | 22 | PASS |
|                         | LeftHandSide Cheek, Mid Channel   | 29.6 | 0.069 | 0.098  | 22 | PASS |
|                         | LeftHandSide Cheek, High Channel  | 29.4 | 0.042 | 0.128  | 22 | PASS |
|                         | LeftHandSide Tilt, Low Channel    | 29.4 | 0.166 | -0.167 | 22 | PASS |
|                         | LeftHandSide Tilt, Mid Channel    | 29.6 | 0.110 | -0.064 | 22 | PASS |
|                         | LeftHandSide Tilt, High Channel   | 29.4 | 0.070 | -0.089 | 22 | PASS |
|                         | RightHandSide Cheek, Low Channel  | 29.4 | 0.094 | -0.029 | 22 | PASS |
|                         | RightHandSide Cheek, Mid Channel  | 29.6 | 0.055 | 0.037  | 22 | PASS |
|                         | RightHandSide Cheek, High Channel | 29.4 | 0.035 | 0.138  | 22 | PASS |
|                         | RightHandSide Tilt, Low Channel   | 29.4 | 0.159 | -0.046 | 22 | PASS |
|                         | RightHandSide Tilt, Mid Channel   | 29.6 | 0.105 | 0.043  | 22 | PASS |
|                         | RightHandSide Tilt, High Channel  | 29.4 | 0.067 | 0.064  | 22 | PASS |
|                         | BodyWorn, Low Channel             | 29.4 | 0.510 | 0.030  | 22 | PASS |
|                         | BodyWorn, Mid Channel             | 29.6 | 0.434 | -0.023 | 22 | PASS |
|                         | BodyWorn, High Channel            | 29.4 | 0.463 | 0.007  | 22 | PASS |
| <b>GSM 1900<br/>ON</b>  | LeftHandSide Cheek, Low Channel   | 29.4 | 0.089 | -0.183 | 22 | PASS |
|                         | LeftHandSide Cheek, Mid Channel   | 29.6 | 0.060 | 0.084  | 22 | PASS |
|                         | LeftHandSide Cheek, High Channel  | 29.4 | 0.039 | 0.082  | 22 | PASS |
|                         | LeftHandSide Tilt, Low Channel    | 29.4 | 0.105 | -0.001 | 22 | PASS |

|  |                                   |      |       |        |    |      |
|--|-----------------------------------|------|-------|--------|----|------|
|  | LeftHandSide Tilt, Mid Channel    | 29.6 | 0.089 | -0.048 | 22 | PASS |
|  | LeftHandSide Tilt, High Channel   | 29.4 | 0.065 | 0.013  | 22 | PASS |
|  | RightHandSide Cheek, Low Channel  | 29.4 | 0.101 | -0.007 | 22 | PASS |
|  | RightHandSide Cheek, Mid Channel  | 29.6 | 0.073 | 0.114  | 22 | PASS |
|  | RightHandSide Cheek, High Channel | 29.4 | 0.042 | 0.072  | 22 | PASS |
|  | RightHandSide Tilt, Low Channel   | 29.4 | 0.091 | -0.023 | 22 | PASS |
|  | RightHandSide Tilt, Mid Channel   | 29.6 | 0.079 | 0.017  | 22 | PASS |
|  | RightHandSide Tilt, High Channel  | 29.4 | 0.053 | 0.045  | 22 | PASS |
|  | BodyWorn, Low Channel             | 29.4 | 0.670 | -0.018 | 22 | PASS |
|  | BodyWorn, Mid Channel             | 29.6 | 0.562 | -0.015 | 22 | PASS |
|  | BodyWorn, High Channel            | 29.4 | 0.351 | 0.022  | 22 | PASS |

### Maximum Values of 1g SAR

| Frequency Band(MHz) | EUT position                    | Conducted Output Power (dBm) | 1g Average (W/Kg) | Power Drift (dB) | Amb. Temp (°C) | Verdict |
|---------------------|---------------------------------|------------------------------|-------------------|------------------|----------------|---------|
| <b>850 OFF</b>      | LeftHandSide Cheek,Low Channel  | 32.8                         | 0.716             | -0.015           | 22             | PASS    |
|                     | RightHandSide Cheek,Low Channel | 32.8                         | 0.773             | -0.023           | 22             | PASS    |
|                     | BodyWorn, Low Channel           | 32.8                         | 0.601             | -0.009           | 22             | PASS    |
| <b>850 ON</b>       | LeftHandSide Cheek,Low Channel  | 32.8                         | 0.905             | 0.028            | 22             | PASS    |
|                     | RightHandSide Cheek,Low Channel | 32.8                         | 0.942             | -0.039           | 22             | PASS    |
|                     | BodyWorn, Low Channel           | 32.8                         | 0.926             | 0.011            | 22             | PASS    |
| <b>1900 OFF</b>     | LeftHandSide Tilt, Low Channel  | 29.4                         | 0.178             | 0.045            | 22             | PASS    |
|                     | RightHandSide Tilt,Low Channel  | 29.4                         | 0.163             | -0.017           | 22             | PASS    |
|                     | BodyWorn, Low Channel           | 29.4                         | 0.493             | 0.025            | 22             | PASS    |
| <b>1900 ON</b>      | LeftHandSide Tilt, Low Channel  | 29.4                         | 0.160             | 0.006            | 22             | PASS    |
|                     | RightHandSide Cheek,Low Channel | 29.4                         | 0.098             | 0.037            | 22             | PASS    |
|                     | BodyWorn, Low Channel           | 29.4                         | 0.797             | -0.044           | 22             | PASS    |

Note:

1. In GSM850 band, the low, middle and high channels are CH128/824.2MHz, CH189/836.4MHz and CH251/848.8MHz separately.
2. In PCS1900 band, the low, middle and high channels are CH512/1805.2MHz, CH661/1880.0MHz and CH810/1909.8MHz separately.
3. For the Bodyworn measurements the sample was only placed with the antenna toward the phantom since this position delivers the highest SAR values.
4. For the Bodyworn measurements, the distance from the sample to the phantom is 1.5 cm.
5. The testing performed with Slide On and Slide Off mode.



### 3. Instruments List

| Instrument                               | Model          | Serial number   | NO.         | Date of last Calibration |
|--|----------------|-----------------|-------------|--------------------------|
| Desktop PC                               | COMPAQ EVO     | N/A             | GSM-SAR-025 | N/A                      |
| Dasy 4 software                          | V 4.6 build 23 | N/A             | GSM-SAR-001 | N/A                      |
| Probe                                    | ES3DV3         | 3088            | GSM-SAR-034 | 2005.09.13               |
| DAE                                      | DAE3           | 569             | GSM-SAR-023 | 2005.11.17               |
| Phantom                                  | SAM 12         | TP-1283         | GSM-SAR-005 | N/A                      |
| Robot                                    | RX90L          | F03/5V32A1/A01  | GSM-SAR-008 | N/A                      |
| 900MHz system validation dipole          | D900V2         | 184             | GSM-SAR-013 | 2005.8.22                |
| 1900MHz system validation dipole         | D1900V2        | 5d028           | GSM-SAR-020 | 2005.8.25                |
| Dielectric probe kit                     | 85070D         | US01440168      | GSM-SAR-016 | 2005.12.19               |
| Agilent network analyzer                 | E5071B         | MY42100549      | GSM-SAR-007 | 2005.12.19               |
| Agilent signal generator                 | E4438          | 14438CATO-19719 | GSM-SAR-008 | 2005.12.19               |
| Mini-Circuits preamplifier               | ZHL-42         | D041905         | GSM-SAR-033 | 2006.05.15               |
| Agilent power meter                      | E4416A         | GB41292095      | GSM-SAR-010 | 2005.12.19               |
| Agilent power sensor                     | 8481H          | MY41091234      | GSM-SAR-011 | 2005.12.19               |
| HT CP6100 20N Coupling                   | 6100           | SCP301480120    | GSM-SAR-012 | 2005.12.19               |
| R&S Universal radio communication tester | CMU200         | 103633          | GSM-AUD-002 | 2005.12.20               |

## 4. Measurements

### 4.1 LeftHandSide-Cheek-GSM850-Low-off

Date/Time: 2006-5-30 18:46:38

Test Laboratory: SGS-GSM

GSM850-LeftHandSide-Cheek-Low-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used (interpolated):  $f = 824.2$  MHz;  $\sigma = 0.866$  mho/m;  $\epsilon_r = 41.8$ ;  
 $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

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

Reference Value = 29.9 V/m; Power Drift = -0.006 dB

Motorola Fast SAR: SAR(1 g) = 0.733 mW/g; SAR(10 g) = 0.523 mW/g

**Info:** Interpolated medium parameters used for SAR evaluation.

Maximum value of SAR (interpolated) = 0.774 mW/g



0 dB = 0.774mW/g

#### ***4.2 LeftHandSide-Cheek-GSM850-Middle-off***

Date/Time: 2006-5-30 18:57:45

Test Laboratory: SGS-GSM

GSM850-LeftHandSide-Cheek-Mid-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

Communication System: GSM850-GSM Mode; Frequency: 836.4 MHz; Duty Cycle: 1:8.3

Medium: HSL850 Medium parameters used (interpolated):  $f = 836.4$  MHz;  $\sigma = 0.878$  mho/m;  $\epsilon_r = 41.7$ ;  
 $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

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

Reference Value = 25.1 V/m; Power Drift = 0.011 dB

Motorola Fast SAR: SAR(1 g) = 0.527 mW/g; SAR(10 g) = 0.375 mW/g

**Info: Interpolated medium parameters used for SAR evaluation.**

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



0 dB = 0.558mW/g

### ***4.3 LeftHandSide-Cheek-GSM850-High-off***

Date/Time: 2006-5-30 19:10:46

Test Laboratory: SGS-GSM

GSM850-LeftHandSide-Cheek-High-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used:  $f = 849$  MHz;  $\sigma = 0.89$  mho/m;  $\epsilon_r = 41.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

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

Reference Value = 24.0 V/m; Power Drift = -0.011 dB

Motorola Fast SAR: SAR(1 g) = 0.485 mW/g; SAR(10 g) = 0.345 mW/g

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



0 dB = 0.512mW/g

#### **4.4 LeftHandSide-Tilt-GSM850-Low-off**

Date/Time: 2006-5-30 19:22:11

Test Laboratory: SGS-GSM

GSM850-LeftHandSide-Tilt-Low-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used (interpolated):  $f = 824.2$  MHz;  $\sigma = 0.866$  mho/m;  $\epsilon_r = 41.8$ ;  
 $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt Position - Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

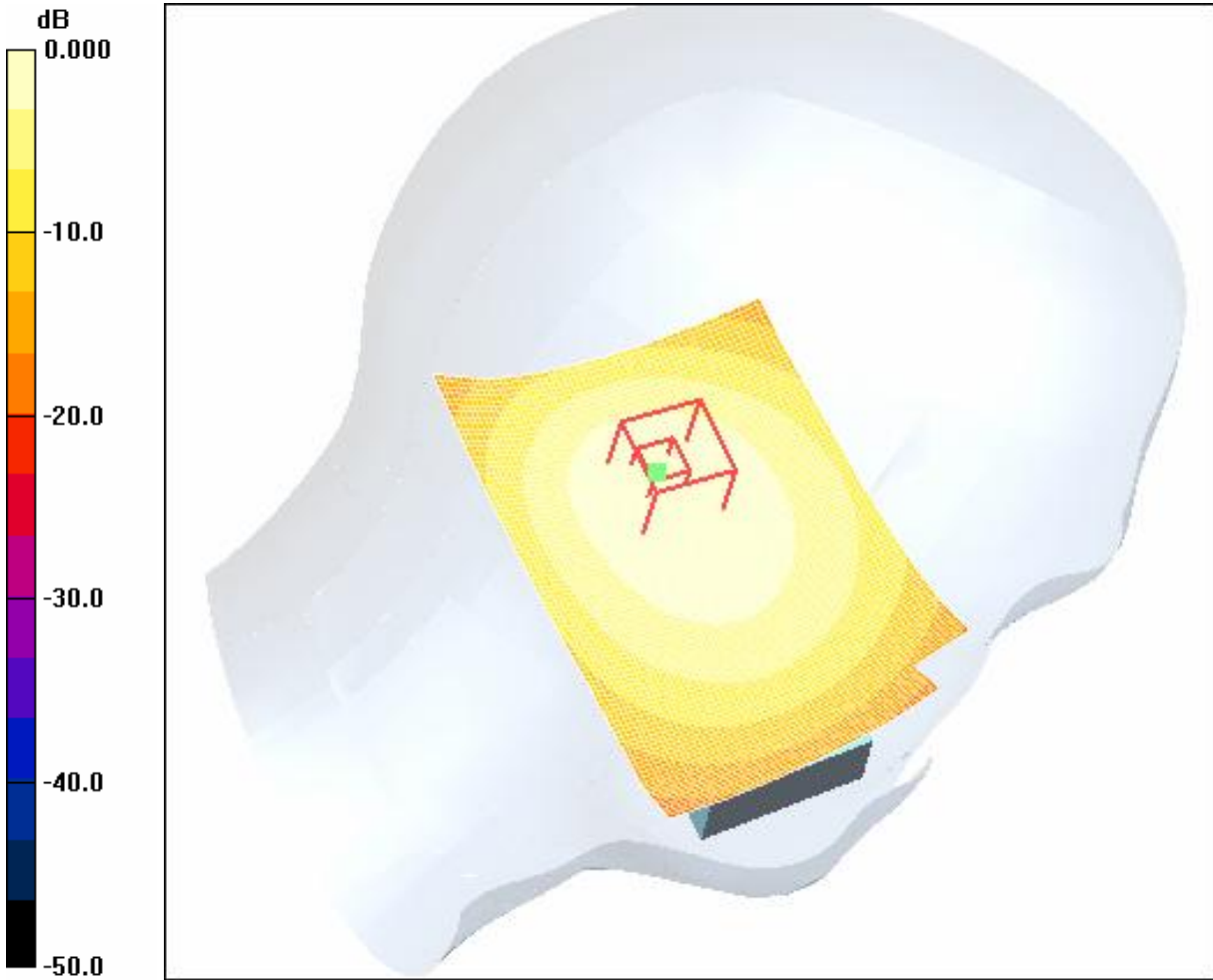
Reference Value = 26.0 V/m; Power Drift = 0.001 dB

Motorola Fast SAR: SAR(1 g) = 0.604 mW/g; SAR(10 g) = 0.410 mW/g

**Info: Interpolated medium parameters used for SAR evaluation.**

Maximum value of SAR (interpolated) = 0.666 mW/g





0 dB = 0.666mW/g

#### ***4.5 LeftHandSide-Tilt-GSM850-Middle-off***

Date/Time: 2006-5-30 19:34:10

Test Laboratory: SGS-GSM

GSM850-LeftHandSide-Tilt-Mid-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

Communication System: GSM850-GSM Mode; Frequency: 836.4 MHz; Duty Cycle: 1:8.3

Medium: HSL850 Medium parameters used (interpolated):  $f = 836.4$  MHz;  $\sigma = 0.878$  mho/m;  $\epsilon_r = 41.7$ ;  
 $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

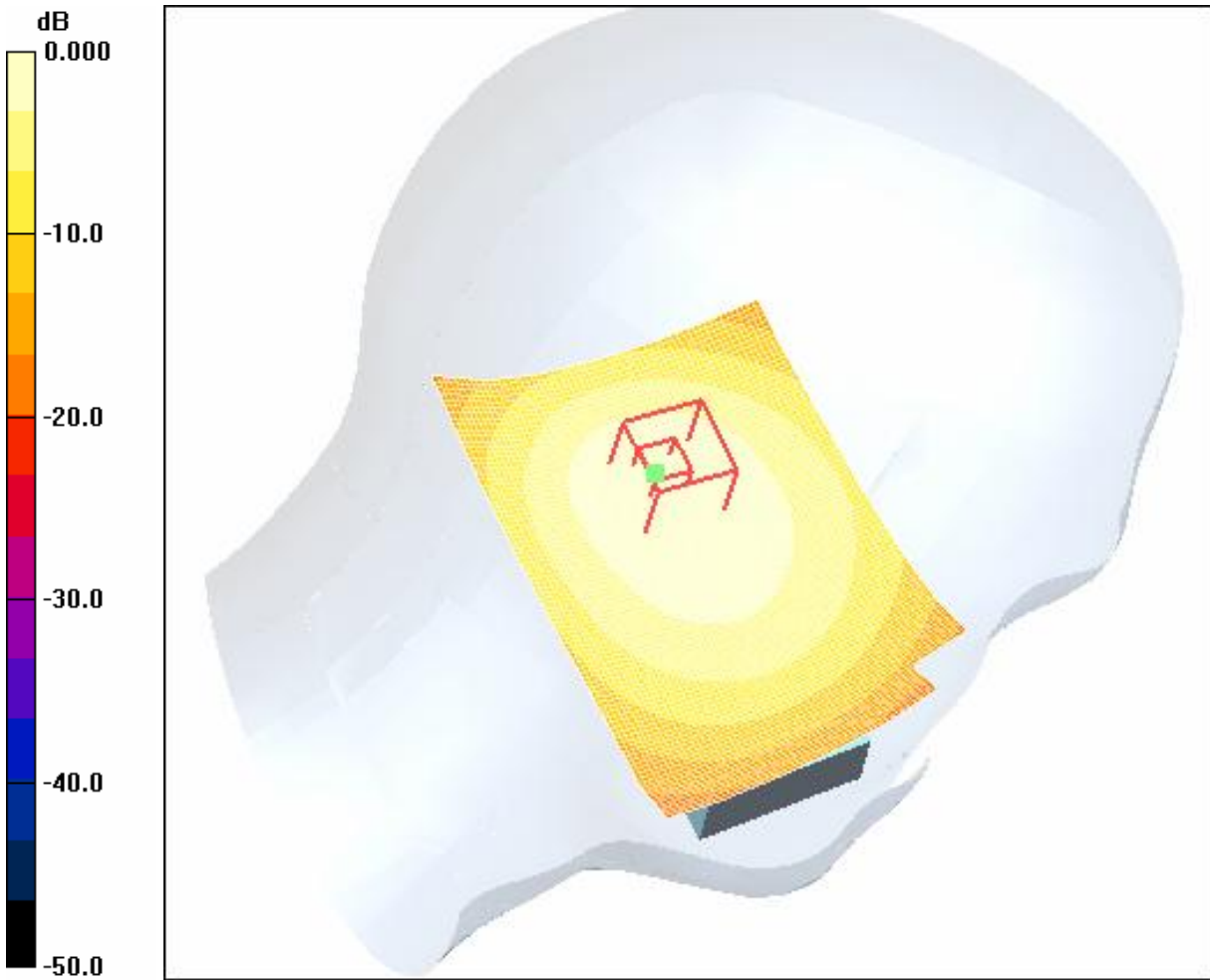
Tilt Position - Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 21.5 V/m; Power Drift = 0.036 dB

Motorola Fast SAR: SAR(1 g) = 0.419 mW/g; SAR(10 g) = 0.284 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

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



0 dB = 0.462mW/g

#### **4.6 LeftHandSide-Tilt-GSM850-High-off**

Date/Time: 2006-5-30 19:43:26

Test Laboratory: SGS-GSM

GSM850-LeftHandSide-Tilt-High-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used:  $f = 849$  MHz;  $\sigma = 0.89$  mho/m;  $\epsilon_r = 41.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASYS4 (High Precision Assessment)

**DASY4 Configuration:**

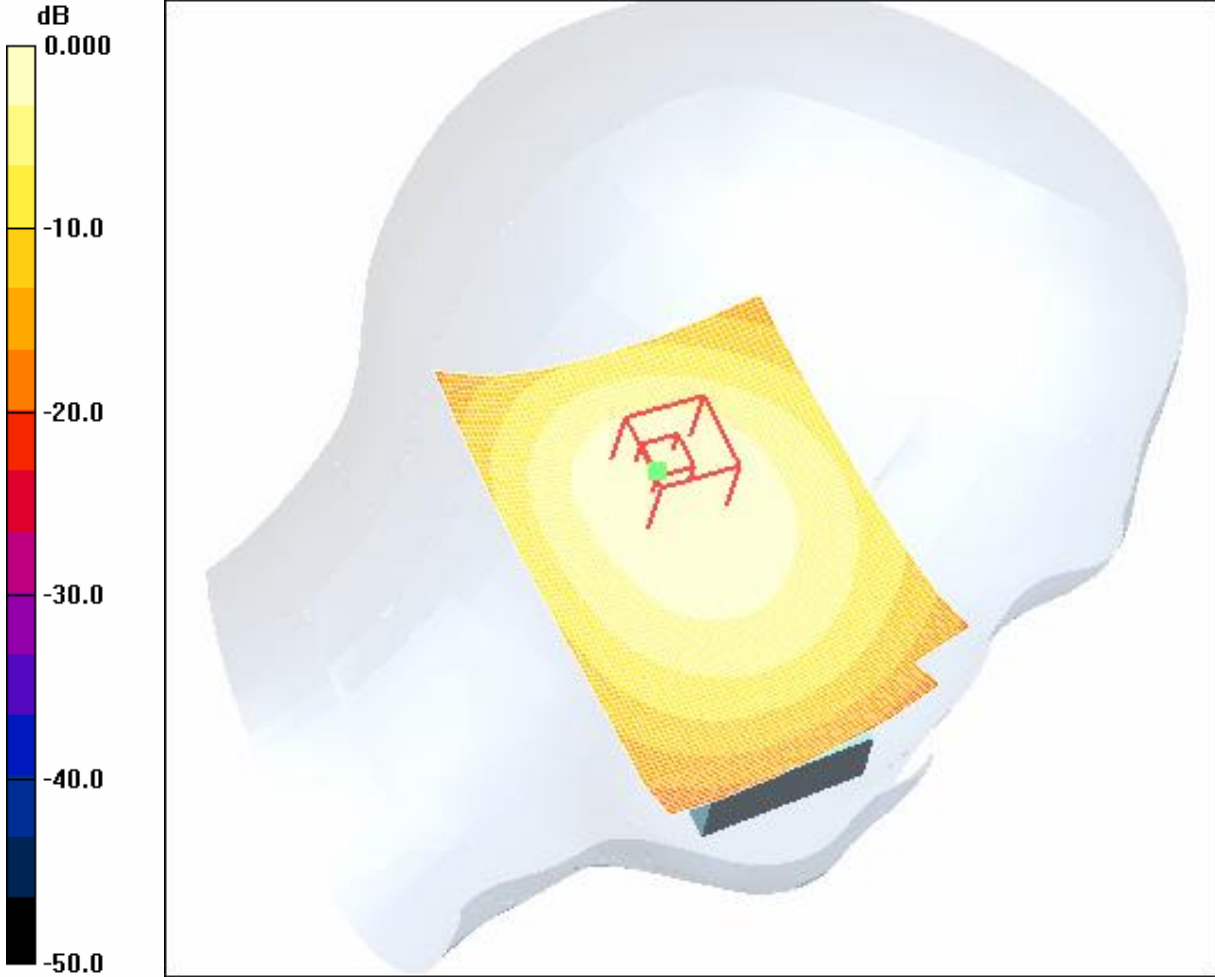
- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

**Tilt Position - High/Area Scan (61x91x1):** Measurement grid: dx=15mm, dy=15mm

Reference Value = 20.7 V/m; Power Drift = -0.036 dB

Motorola Fast SAR: SAR(1 g) = 0.390 mW/g; SAR(10 g) = 0.265 mW/g

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



0 dB = 0.430mW/g

***LeftHandSide-Cheek-GSM850-Low-off (Maximum Value)***

Date/Time: 2006-5-30 19:57:17

Test Laboratory: SGS-GSM

GSM850-LeftHandSide-Cheek-Low-off(conventional)

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used (interpolated):  $f = 824.2$  MHz;  $\sigma = 0.866$  mho/m;  $\epsilon_r = 41.8$ ;  
 $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Maximum Position - Traditional Method/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.768 mW/g

Maximum Position - Traditional Method/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

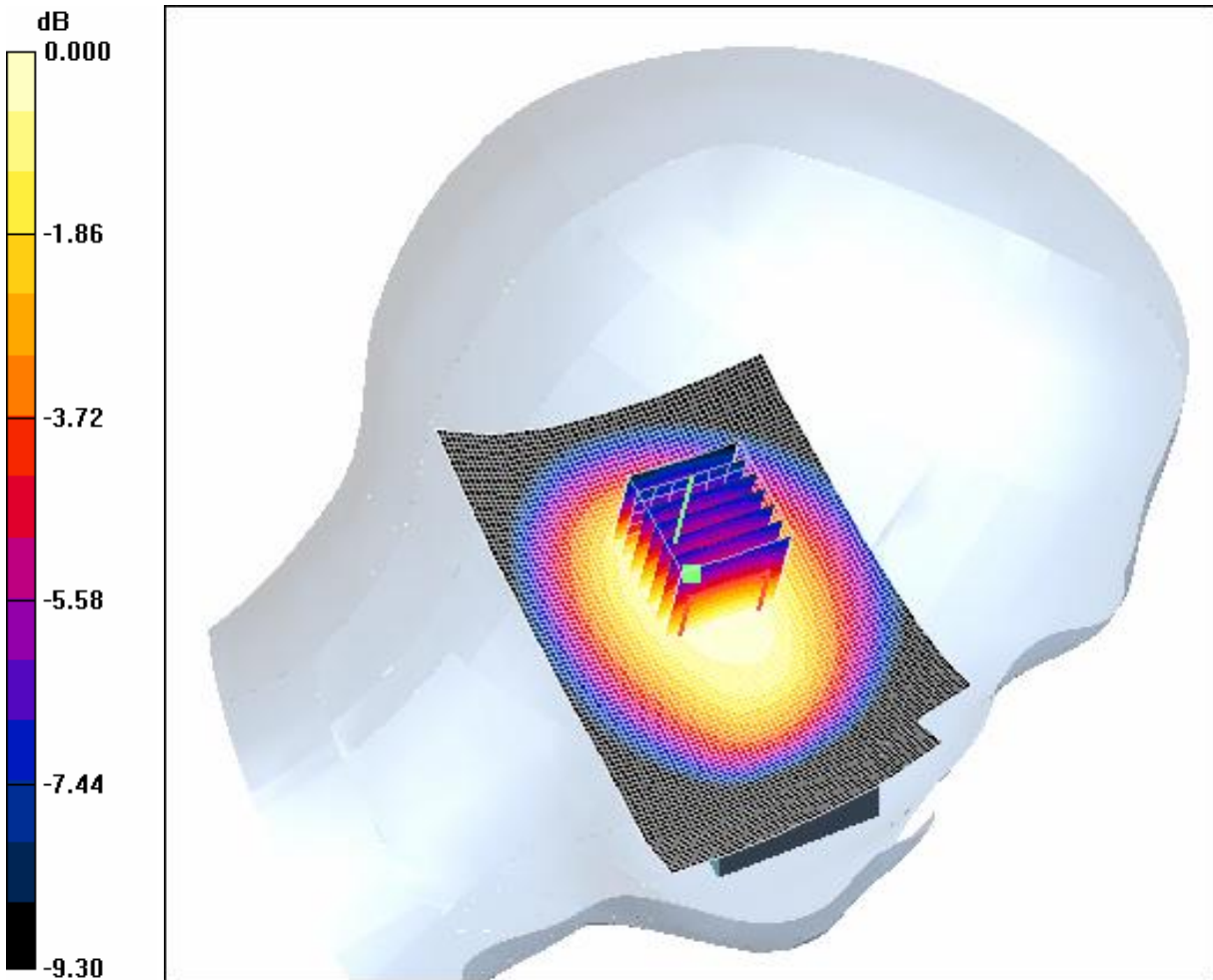
Reference Value = 29.8 V/m; Power Drift = -0.015 dB

Peak SAR (extrapolated) = 0.966 W/kg

SAR(1 g) = 0.716 mW/g; SAR(10 g) = 0.537 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.764 mW/g



0 dB = 0.764mW/g

#### ***4.7 RightHandSide-Cheek-GSM850-Low-off***

Date/Time: 2006-5-30 22:24:29

Test Laboratory: SGS-GSM

GSM850-RightHandSide-Cheek-Low-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used (interpolated):  $f = 824.2$  MHz;  $\sigma = 0.866$  mho/m;  $\epsilon_r = 41.8$ ;  
 $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

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

Reference Value = 31.4 V/m; Power Drift = -0.097 dB

Motorola Fast SAR: SAR(1 g) = 0.813 mW/g; SAR(10 g) = 0.581 mW/g

**Info: Interpolated medium parameters used for SAR evaluation.**

Maximum value of SAR (interpolated) = 0.856 mW/g





0 dB = 0.856mW/g

#### **4.8 RightHandSide-Cheek-GSM850-Middle-off**

Date/Time: 2006-5-30 22:34:52

Test Laboratory: SGS-GSM

GSM850-RightHandSide-Cheek-Mid-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

Communication System: GSM850-GSM Mode; Frequency: 836.4 MHz; Duty Cycle: 1:8.3

Medium: HSL850 Medium parameters used (interpolated):  $f = 836.4$  MHz;  $\sigma = 0.878$  mho/m;  $\epsilon_r = 41.7$ ;  
 $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

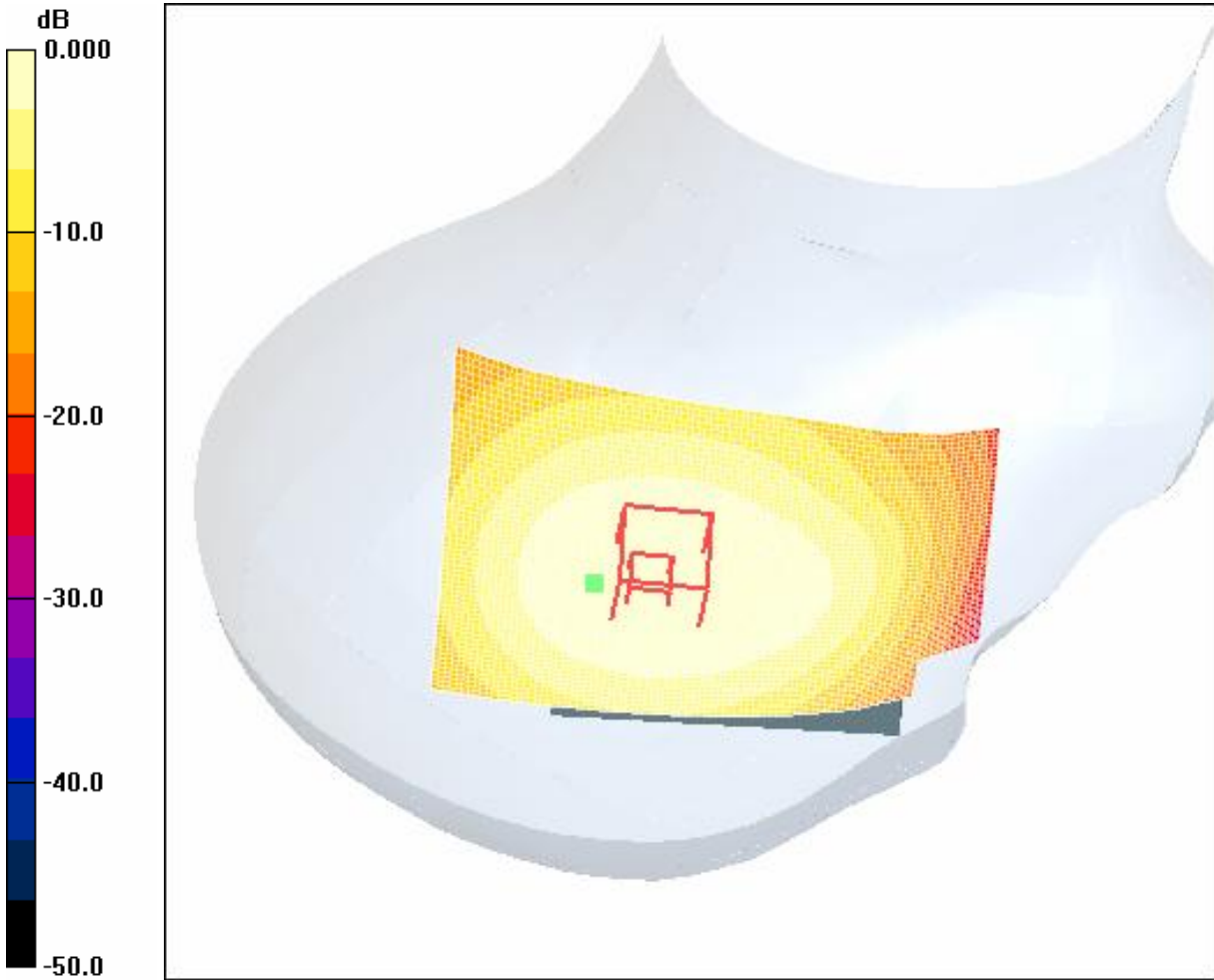
Cheek Position - Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 26.0 V/m; Power Drift = 0.004 dB

Motorola Fast SAR: SAR(1 g) = 0.571 mW/g; SAR(10 g) = 0.407 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.602 mW/g



0 dB = 0.602mW/g

#### **4.9 RightHandSide-Cheek-GSM850-High-off**

Date/Time: 2006-5-30 22:44:05

Test Laboratory: SGS-GSM

GSM850-RightHandSide-Cheek-High-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used:  $f = 849$  MHz;  $\sigma = 0.89$  mho/m;  $\epsilon_r = 41.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

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

Reference Value = 24.4 V/m; Power Drift = 0.018 dB

Motorola Fast SAR: SAR(1 g) = 0.509 mW/g; SAR(10 g) = 0.362 mW/g

Maximum value of SAR (interpolated) = 0.536 mW/g



0 dB = 0.536mW/g

**4.10 RightHandSide-Tilt-GSM850-Low-off**

Date/Time: 2006-5-30 22:55:33

Test Laboratory: SGS-GSM

GSM850-RightHandSide-Tilt-Low-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used (interpolated):  $f = 824.2$  MHz;  $\sigma = 0.866$  mho/m;  $\epsilon_r = 41.8$ ;  
 $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

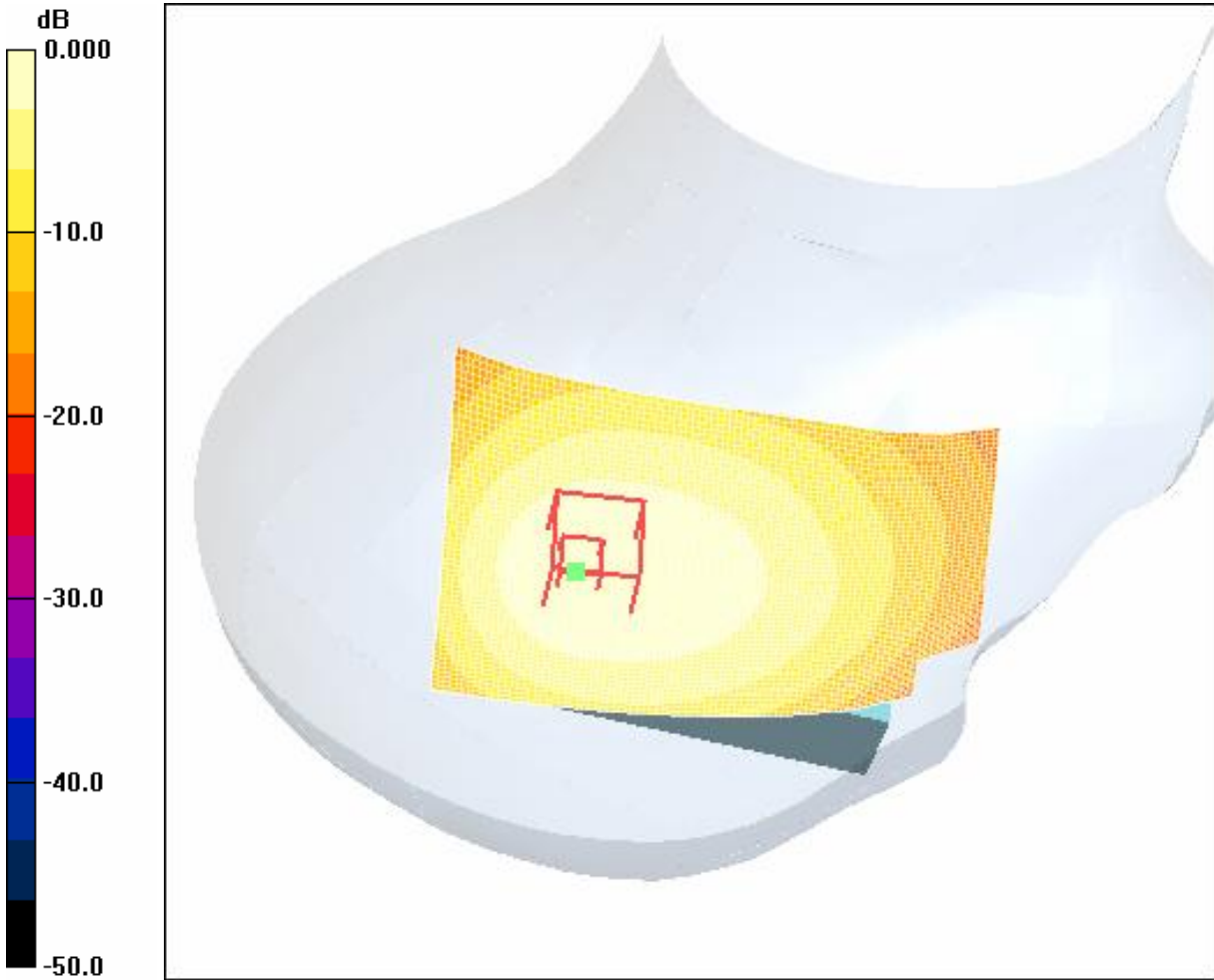
Tilt position - Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 26.8 V/m; Power Drift = -0.009 dB

Motorola Fast SAR: SAR(1 g) = 0.663 mW/g; SAR(10 g) = 0.448 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.723 mW/g



0 dB = 0.723mW/g

#### **4.11 RightHandSide-Tilt-GSM850-Middle-off**

Date/Time: 2006-5-30 23:06:44

Test Laboratory: SGS-GSM

GSM850-RightHandSide-Tilt-Mid-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

Communication System: GSM850-GSM Mode; Frequency: 836.4 MHz; Duty Cycle: 1:8.3

Medium: HSL850 Medium parameters used (interpolated):  $f = 836.4$  MHz;  $\sigma = 0.878$  mho/m;  $\epsilon_r = 41.7$ ;  
 $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position -Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

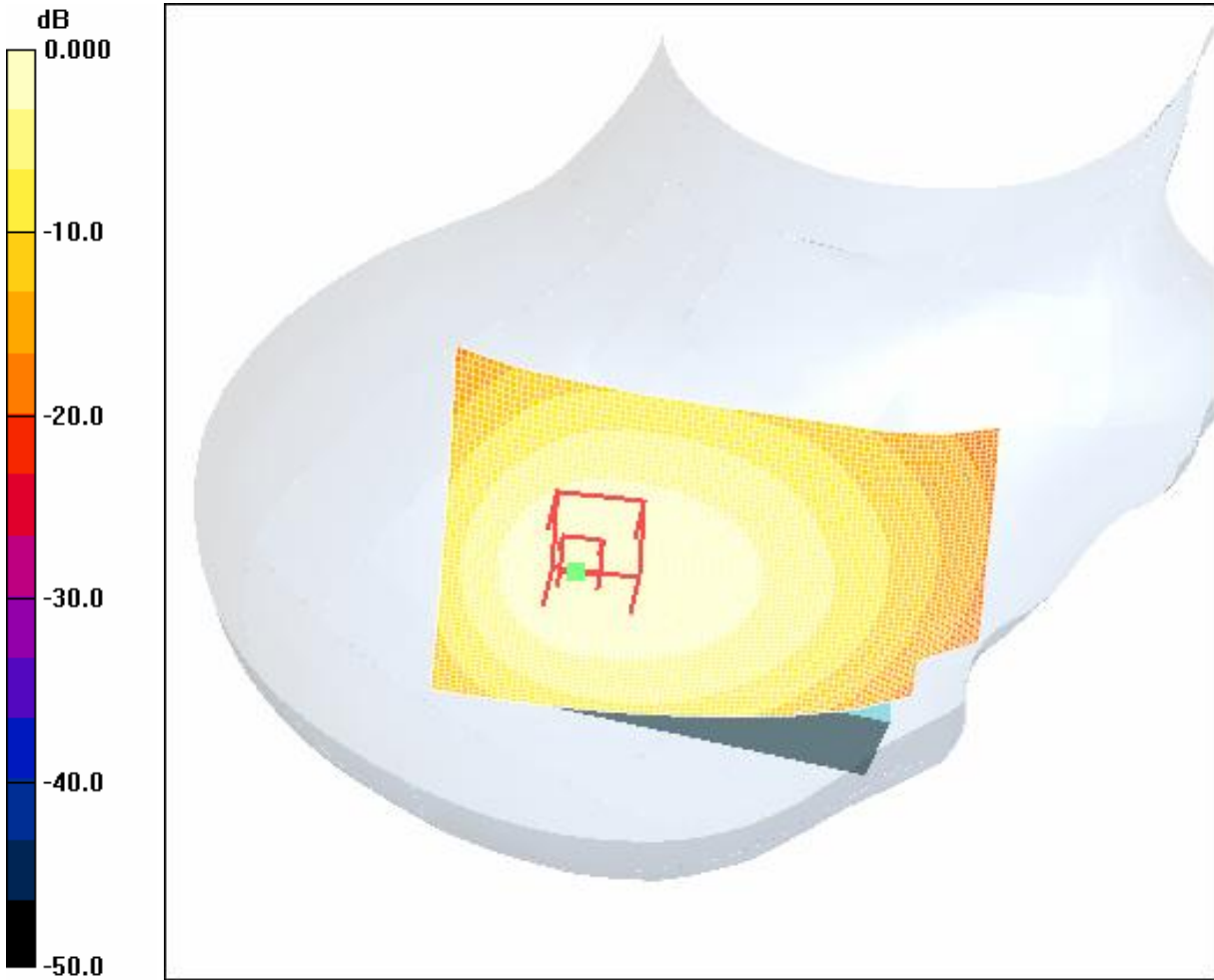
Reference Value = 21.8 V/m; Power Drift = 0.051 dB

Motorola Fast SAR: SAR(1 g) = 0.453 mW/g; SAR(10 g) = 0.305 mW/g

**Info: Interpolated medium parameters used for SAR evaluation.**

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





0 dB = 0.495mW/g

**5.12 RightHandSide-Tilt-GSM850-High-off**

Date/Time: 2006-5-30 23:16:46

Test Laboratory: SGS-GSM

GSM850-RightHandSide-Tilt-High-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used:  $f = 849$  MHz;  $\sigma = 0.89$  mho/m;  $\epsilon_r = 41.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

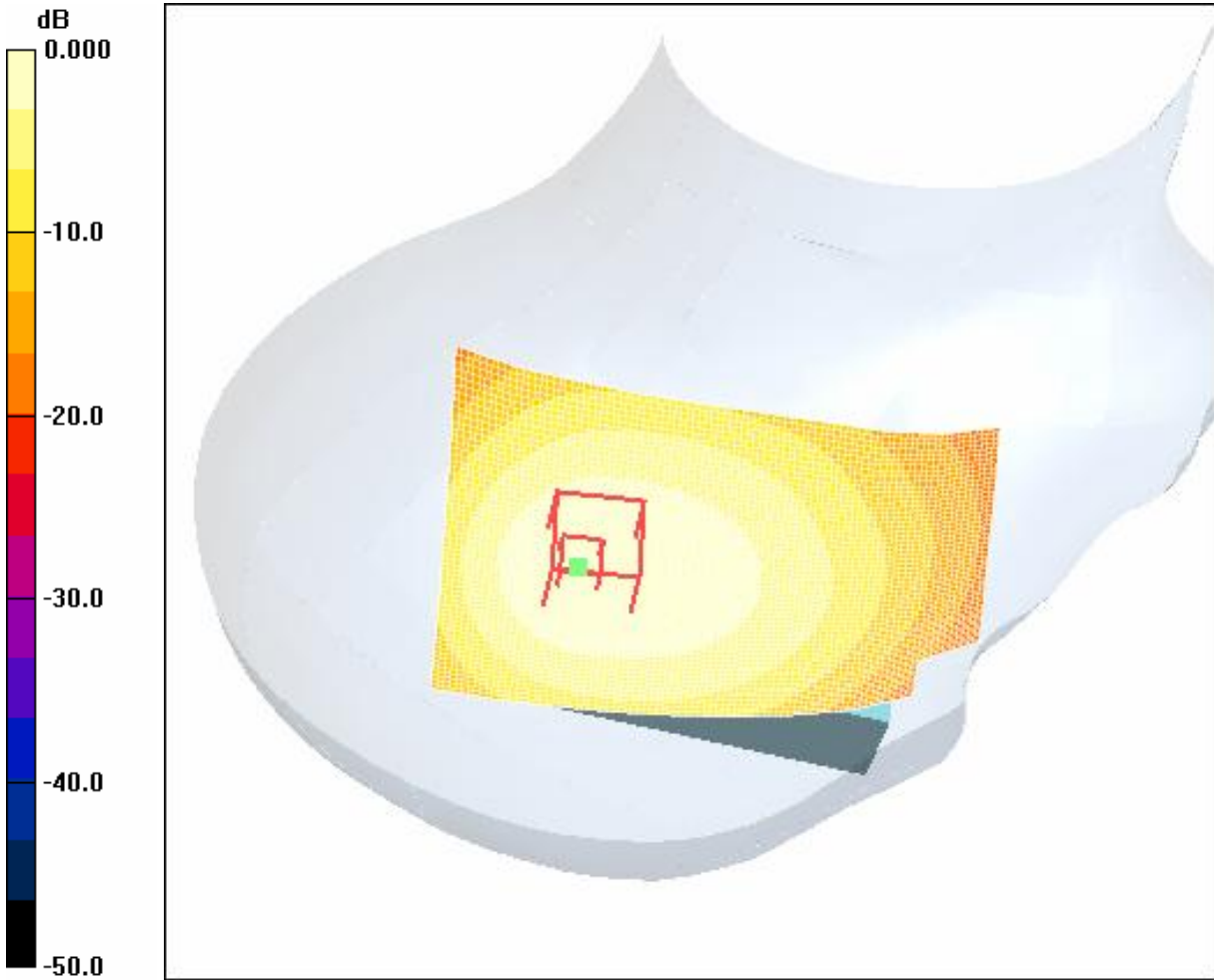
- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 20.7 V/m; Power Drift = 0.045 dB

Motorola Fast SAR: SAR(1 g) = 0.408 mW/g; SAR(10 g) = 0.275 mW/g

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



0 dB = 0.446mW/g

***RightHandSide-Cheek-GSM850-Low-off (Maximum Value)***

Date/Time: 2006-5-30 23:32:34

Test Laboratory: SGS-GSM

GSM850-RightHandSide-Cheek-Low-off(conventional)

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used (interpolated):  $f = 824.2$  MHz;  $\sigma = 0.866$  mho/m;  $\epsilon_r = 41.8$ ;  
 $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Maximum Position - Traditional Method/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

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

Maximum Position - Traditional Method/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

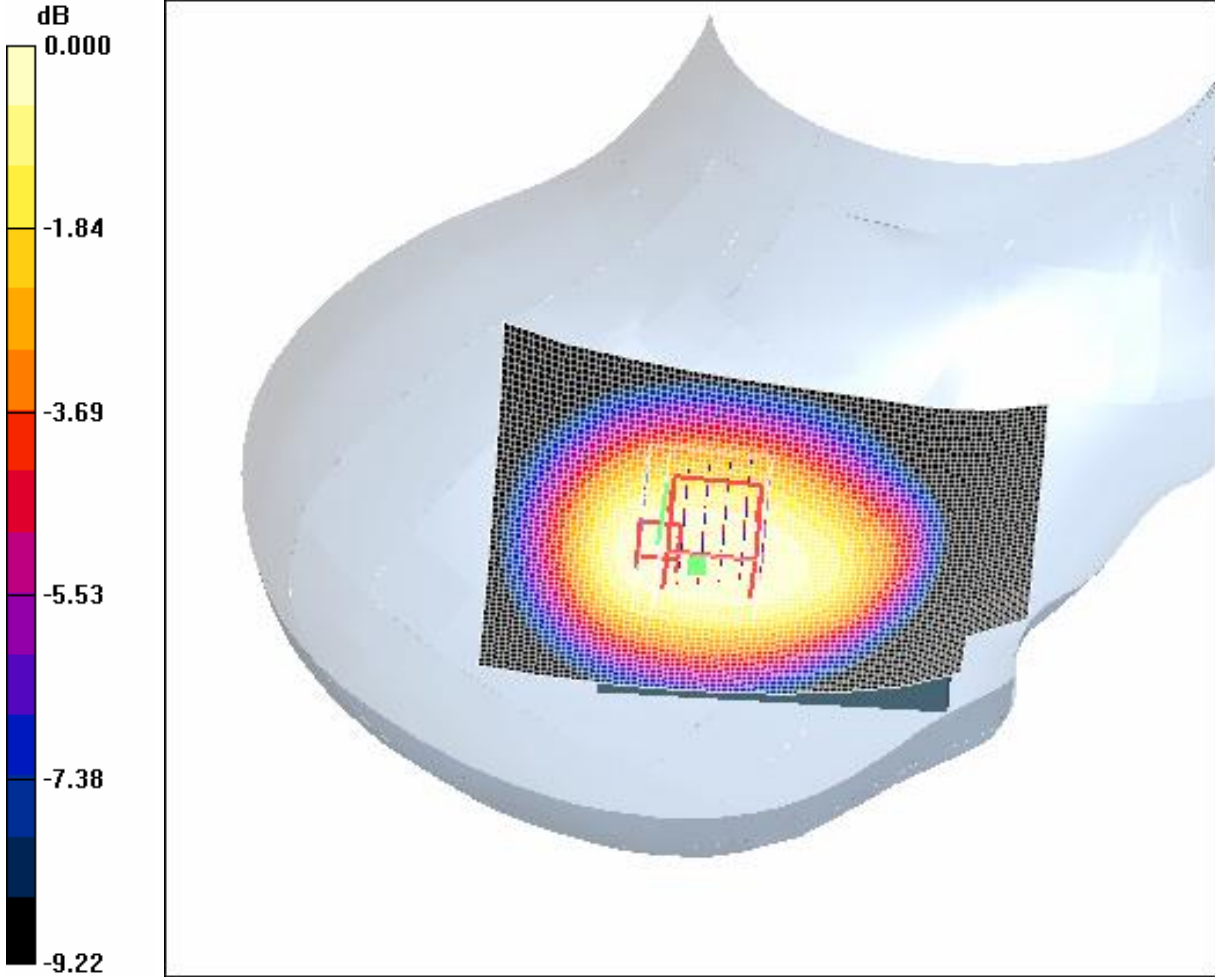
Reference Value = 30.8 V/m; Power Drift = -0.023 dB

Peak SAR (extrapolated) = 1.05 W/kg

SAR(1 g) = 0.773 mW/g; SAR(10 g) = 0.582 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.819 mW/g



0 dB = 0.819mW/g

#### 4.13 Body-Worn-GSM850-Low-off

Date/Time: 2006-5-25 15:21:20

Test Laboratory: SGS-GSM

GSM850-Body-Worn-Low-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL850-Body Medium parameters used:  $f = 824.2$  MHz;  $\sigma = 0.984$  mho/m;  $\epsilon_r = 52.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

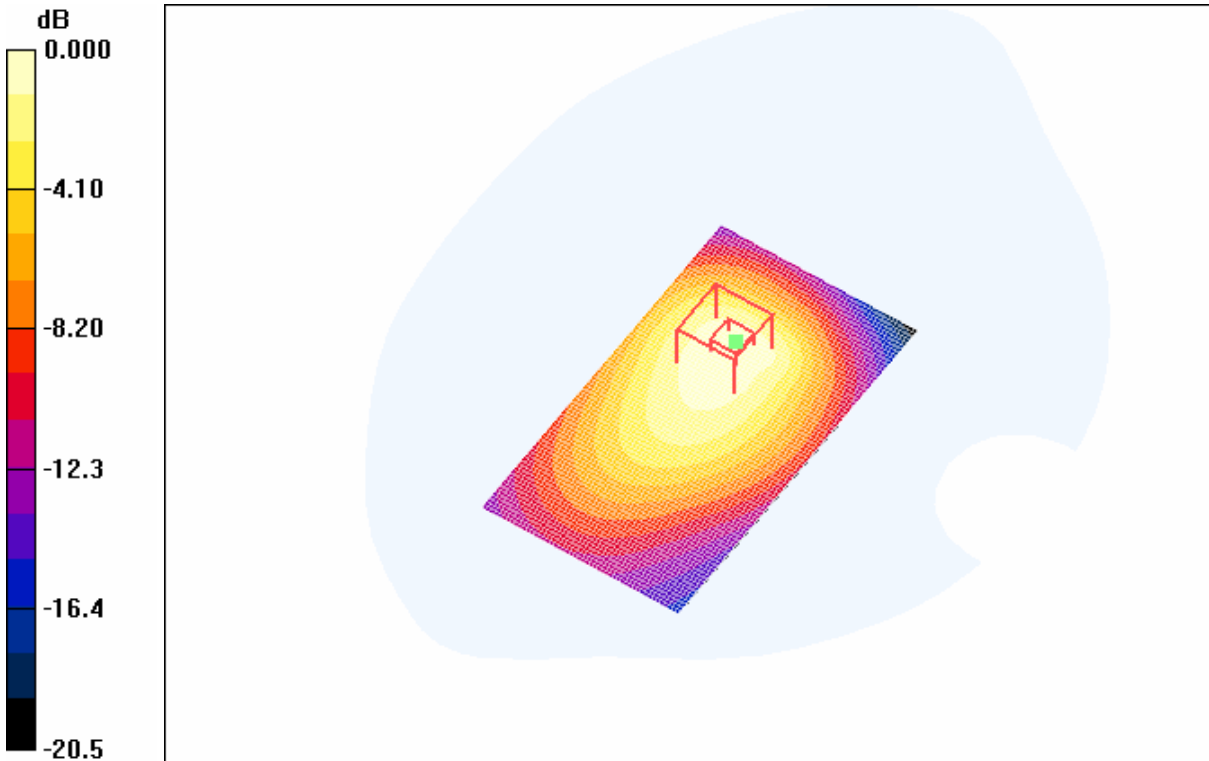
- Probe: ES3DV3 - SN3088; ConvF(5.83, 5.83, 5.83); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body Worn - Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 25.8 V/m; Power Drift = -0.102 dB

Motorola Fast SAR: SAR(1 g) = 0.613 mW/g; SAR(10 g) = 0.422 mW/g

Maximum value of SAR (interpolated) = 0.676 mW/g



0 dB = 0.676mW/g

#### 4.14 Body-Worn-GSM850-Middle-off

Date/Time: 2006-5-25 15:28:59

Test Laboratory: SGS-GSM

GSM850-Body-Worn-Mid-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

Communication System: GSM850-GSM Mode; Frequency: 836.4 MHz; Duty Cycle: 1:8.3

Medium: HSL850-Body Medium parameters used:  $f = 836.4$  MHz;  $\sigma = 0.998$  mho/m;  $\epsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DAS4 (High Precision Assessment)

DASY4 Configuration:

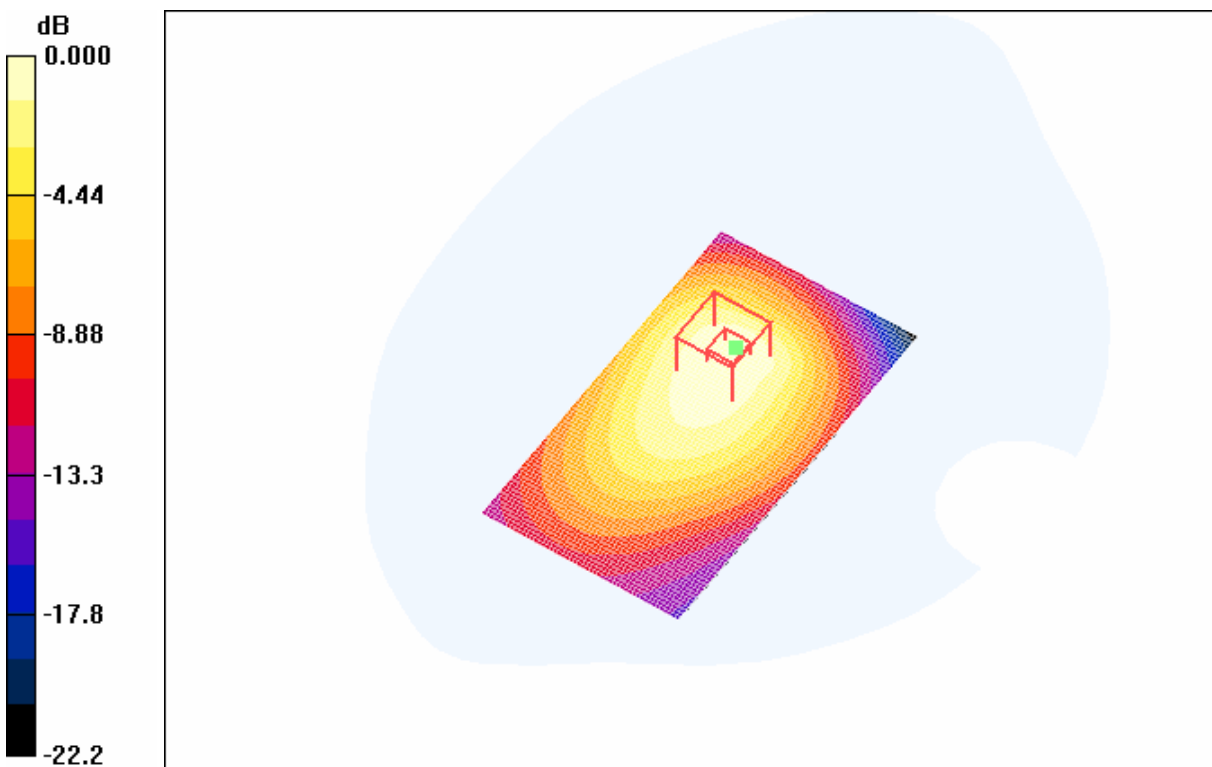
- Probe: ES3DV3 - SN3088; ConvF(5.83, 5.83, 5.83); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body Worn - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 23.5 V/m; Power Drift = 0.043 dB

Motorola Fast SAR: SAR(1 g) = 0.536 mW/g; SAR(10 g) = 0.370 mW/g

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



0 dB = 0.583mW/g

#### 4.15 Body-Worn-GSM850-High-off

Date/Time: 2006-5-25 15:36:34



Test Laboratory: SGS-GSM

## GSM850-Body-Worn-High-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL850-Body Medium parameters used:  $f = 848.8$  MHz;  $\sigma = 1.01$  mho/m;  $\epsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS4 (High Precision Assessment)

### DASY4 Configuration:

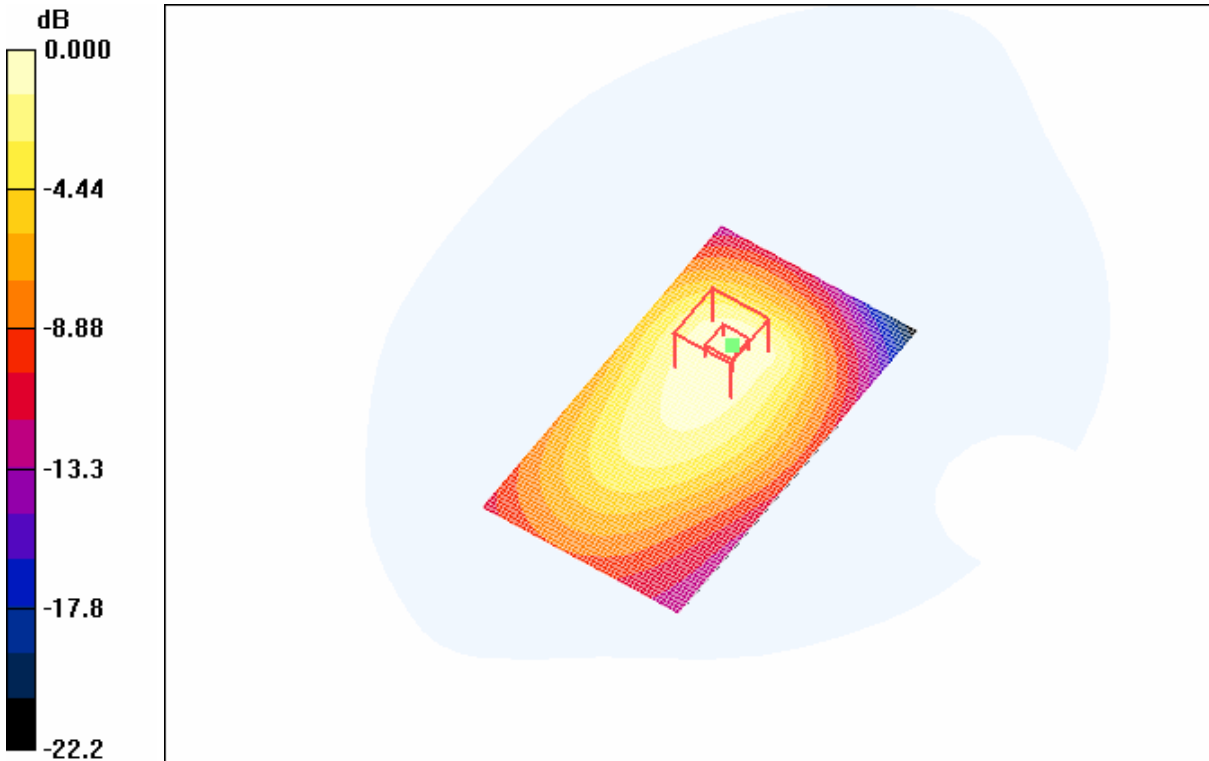
- Probe: ES3DV3 - SN3088; ConvF(5.83, 5.83, 5.83); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body Worn - High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 21.8 V/m; Power Drift = 0.019 dB

Motorola Fast SAR: SAR(1 g) = 0.463 mW/g; SAR(10 g) = 0.320 mW/g

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



0 dB = 0.503mW/g

**Body-Worn-GSM850-Low-off (Maximum Value)**

Date/Time: 2006-5-25 15:52:15

Test Laboratory: SGS-GSM

GSM850-Body-Worn-Low-off(conventional)

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL850-Body Medium parameters used:  $f = 824.2$  MHz;  $\sigma = 0.984$  mho/m;  $\epsilon_r = 52.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DAS4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.83, 5.83, 5.83); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Maximum Position - Tadtional Method/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.662 mW/g

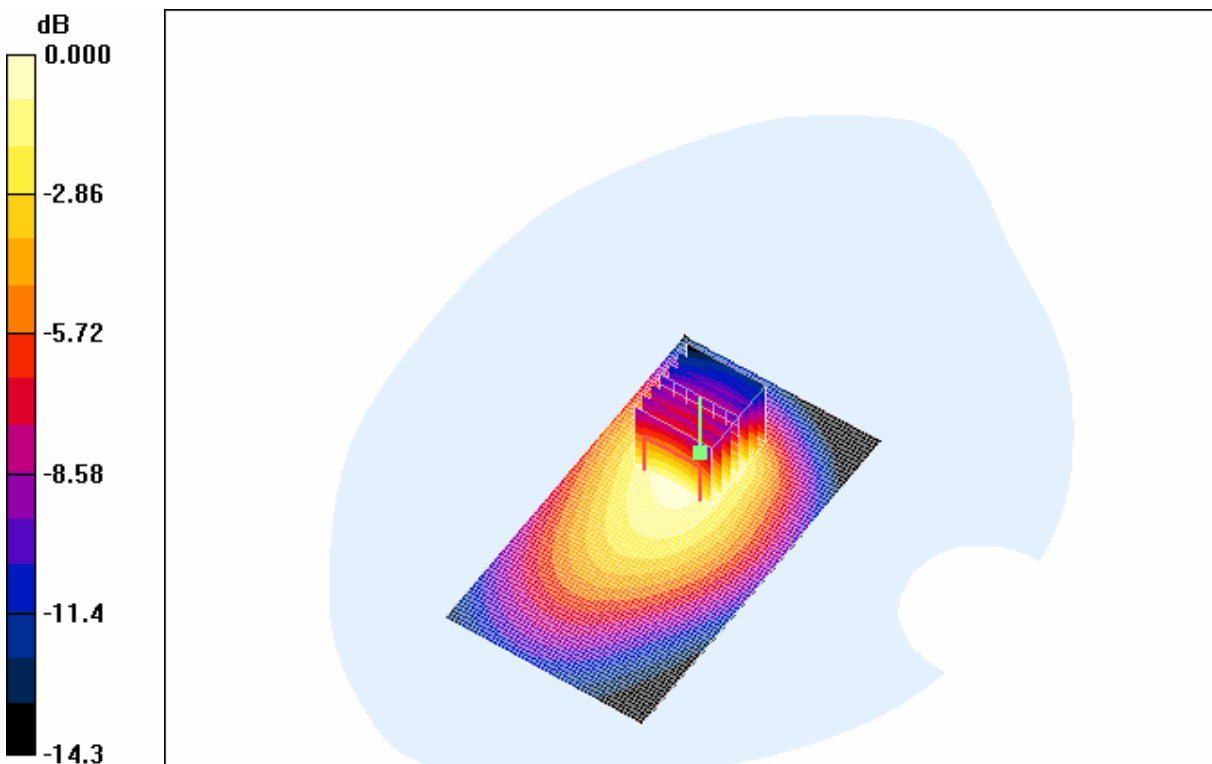
Maximum Position - Tadtional Method/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 25.3 V/m; Power Drift = -0.009 dB

Peak SAR (extrapolated) = 0.882 W/kg

SAR(1 g) = 0.601 mW/g; SAR(10 g) = 0.400 mW/g

Maximum value of SAR (measured) = 0.648 mW/g



0 dB = 0.648mW/g

#### **4.16 LeftHandSide-Cheek-GSM850-Low-on**

Date/Time: 2006-5-30 20:38:41

Test Laboratory: SGS-GSM

GSM850-LeftHandSide-Cheek-Low-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used (interpolated):  $f = 824.2$  MHz;  $\sigma = 0.866$  mho/m;  $\epsilon_r = 41.8$ ;

$\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

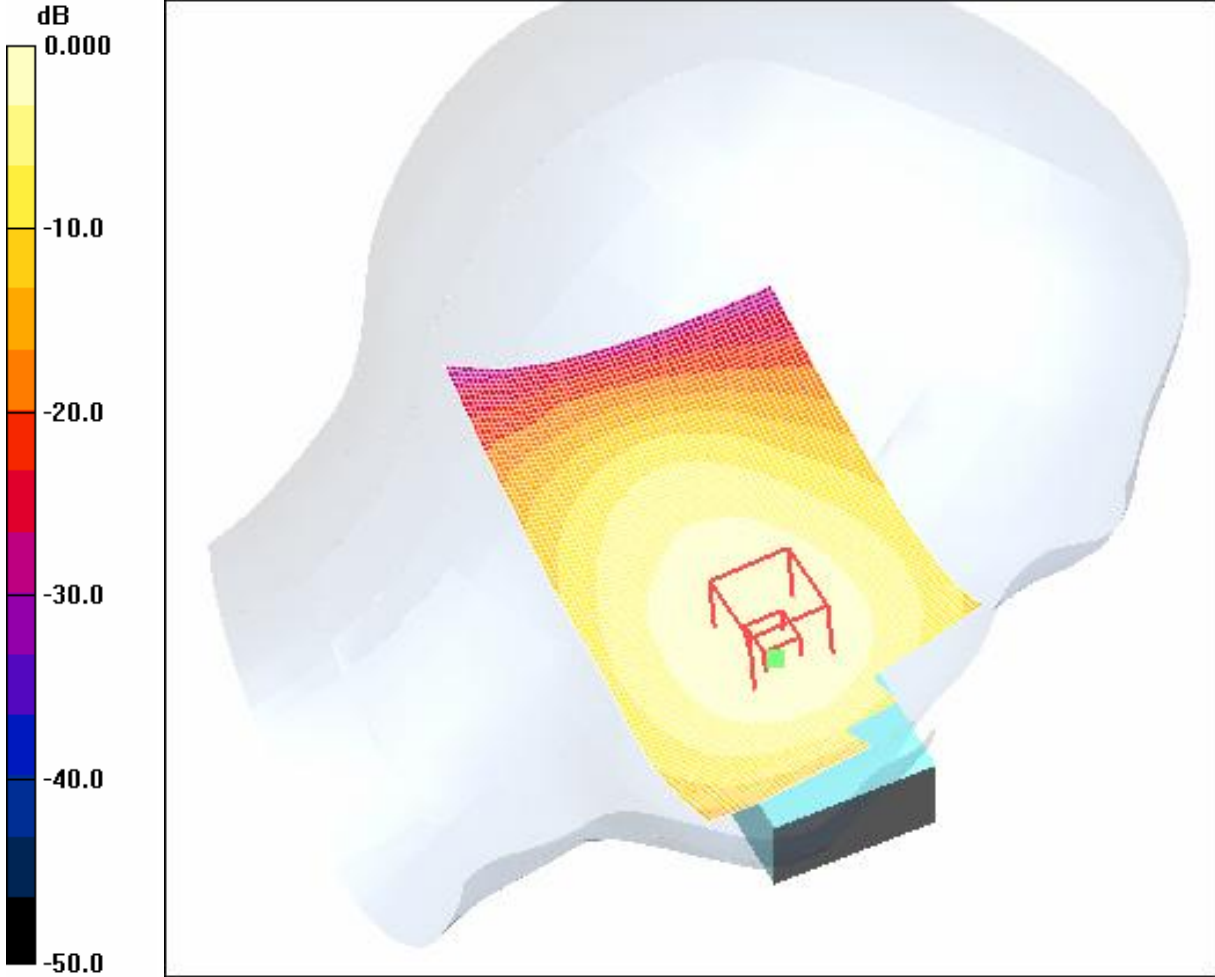
Cheek Position - Low/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 19.3 V/m; Power Drift = -0.138 dB

Motorola Fast SAR: SAR(1 g) = 0.952 mW/g; SAR(10 g) = 0.663 mW/g

**Info: Interpolated medium parameters used for SAR evaluation.**

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



0 dB = 1.02mW/g

**4.17 LeftHandSide-Cheek-GSM850-Middle-on**

Date/Time: 2006-5-30 20:48:21

Test Laboratory: SGS-GSM

GSM850-LeftHandSide-Cheek-Mid-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

Communication System: GSM850-GSM Mode; Frequency: 836.4 MHz; Duty Cycle: 1:8.3

Medium: HSL850 Medium parameters used (interpolated):  $f = 836.4$  MHz;  $\sigma = 0.878$  mho/m;  $\epsilon_r = 41.7$ ;  
 $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

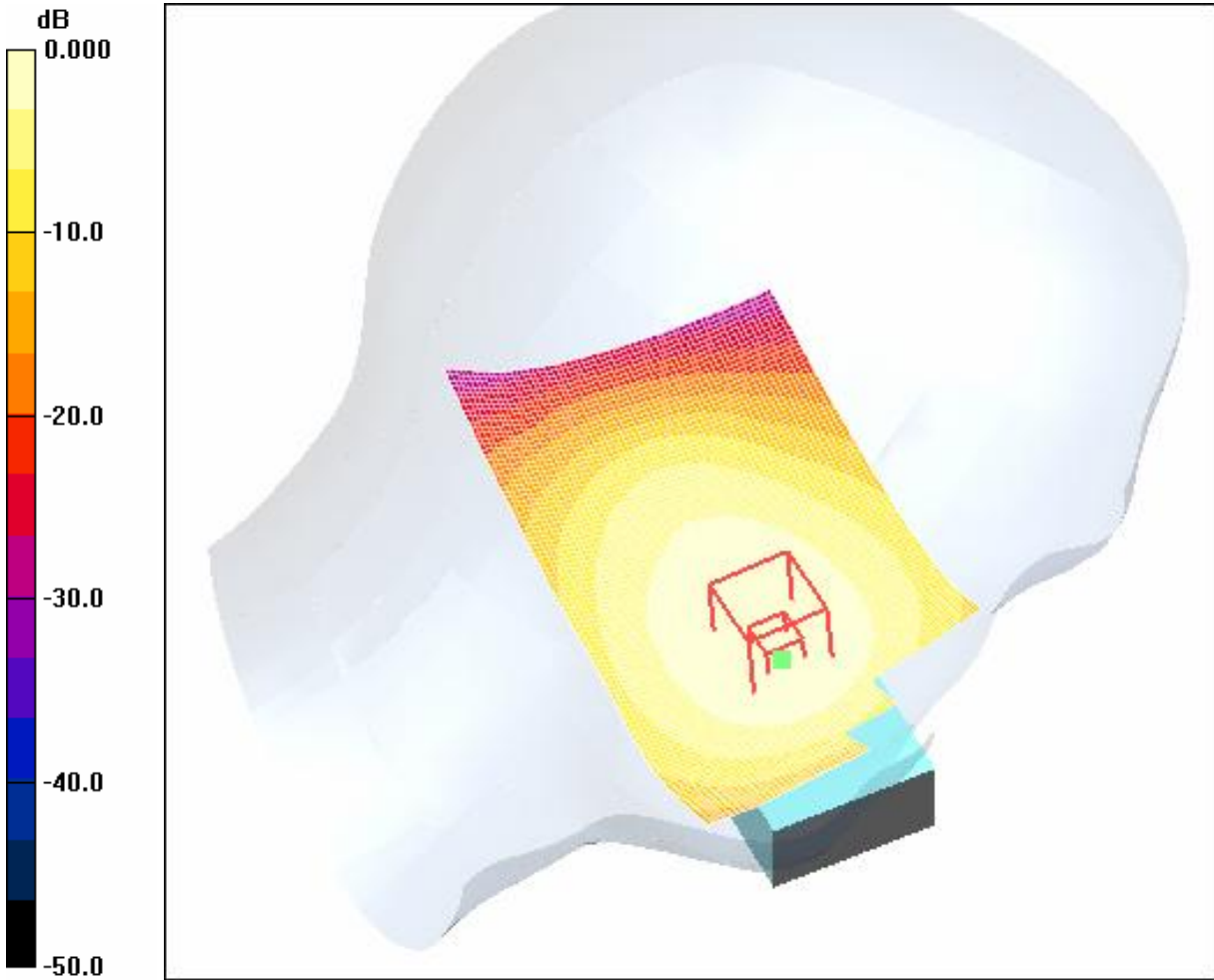
Cheek Position - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 15.9 V/m; Power Drift = -0.081 dB

Motorola Fast SAR: SAR(1 g) = 0.643 mW/g; SAR(10 g) = 0.448 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.687 mW/g



0 dB = 0.687mW/g

#### **4.18 LeftHandSide-Cheek-GSM850-High-on**

Date/Time: 2006-5-30 20:58:06

Test Laboratory: SGS-GSM

GSM850-LeftHandSide-Cheek-High-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used:  $f = 849$  MHz;  $\sigma = 0.89$  mho/m;  $\epsilon_r = 41.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

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

Reference Value = 14.8 V/m; Power Drift = -0.075 dB

Motorola Fast SAR: SAR(1 g) = 0.555 mW/g; SAR(10 g) = 0.388 mW/g

Maximum value of SAR (interpolated) = 0.595 mW/g





0 dB = 0.595mW/g

#### **4.19 LeftHandSide-Tilt-GSM850-Low-on**

Date/Time: 2006-5-30 21:08:13

Test Laboratory: SGS-GSM

GSM850-LeftHandSide-Tilt-Low-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used (interpolated):  $f = 824.2$  MHz;  $\sigma = 0.866$  mho/m;  $\epsilon_r = 41.8$ ;  
 $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

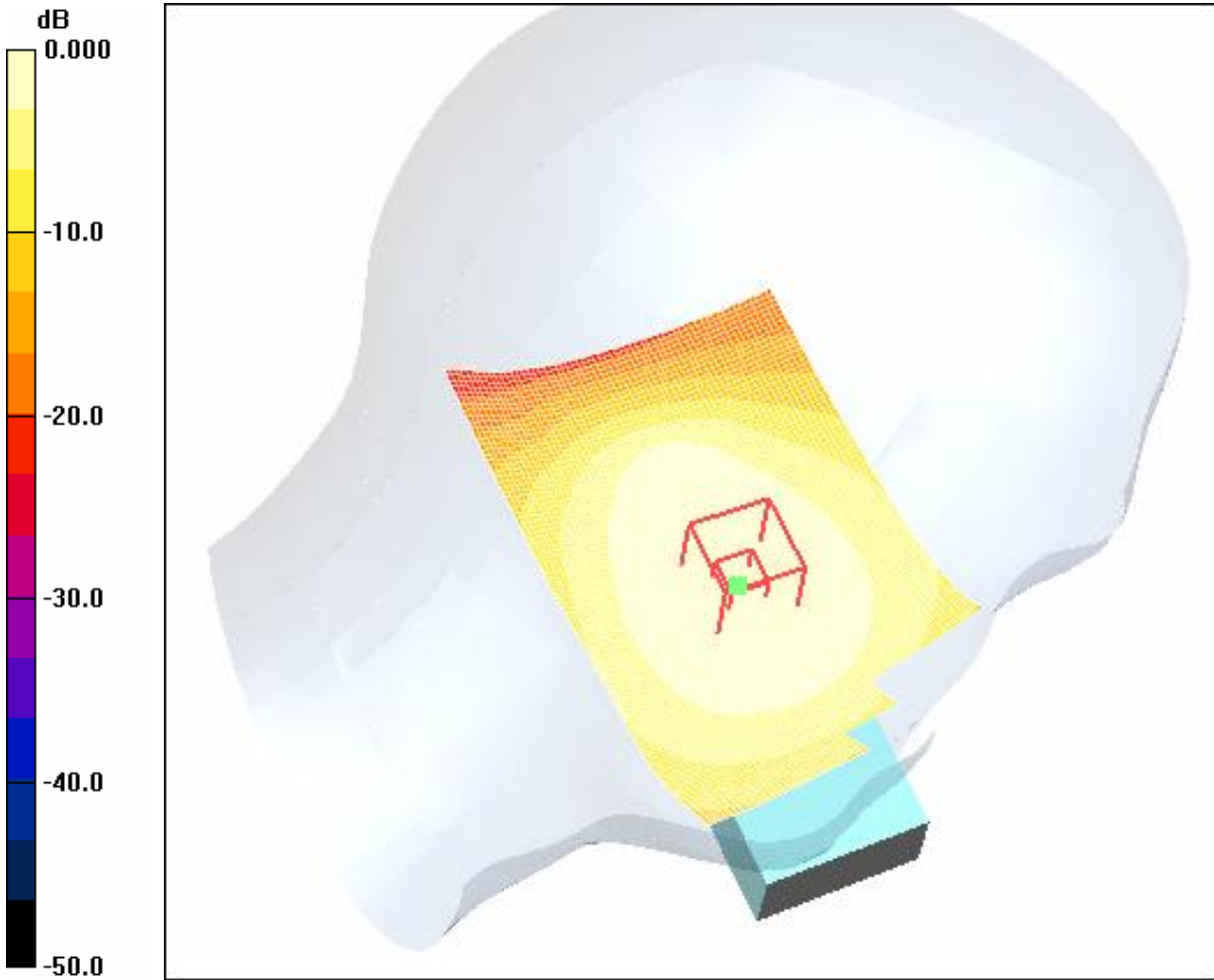
Tilt Position - Low/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 21.6 V/m; Power Drift = -0.028 dB

Motorola Fast SAR: SAR(1 g) = 0.436 mW/g; SAR(10 g) = 0.308 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

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



0 dB = 0.464mW/g

**4.20 LeftHandSide-Tilt-GSM850-Middle-on**

Date/Time: 2006-5-30 21:17:51

Test Laboratory: SGS-GSM

GSM850-LeftHandSide-Tilt-Mid-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

Communication System: GSM850-GSM Mode; Frequency: 836.4 MHz; Duty Cycle: 1:8.3

Medium: HSL850 Medium parameters used (interpolated):  $f = 836.4$  MHz;  $\sigma = 0.878$  mho/m;  $\epsilon_r = 41.7$ ;  
 $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

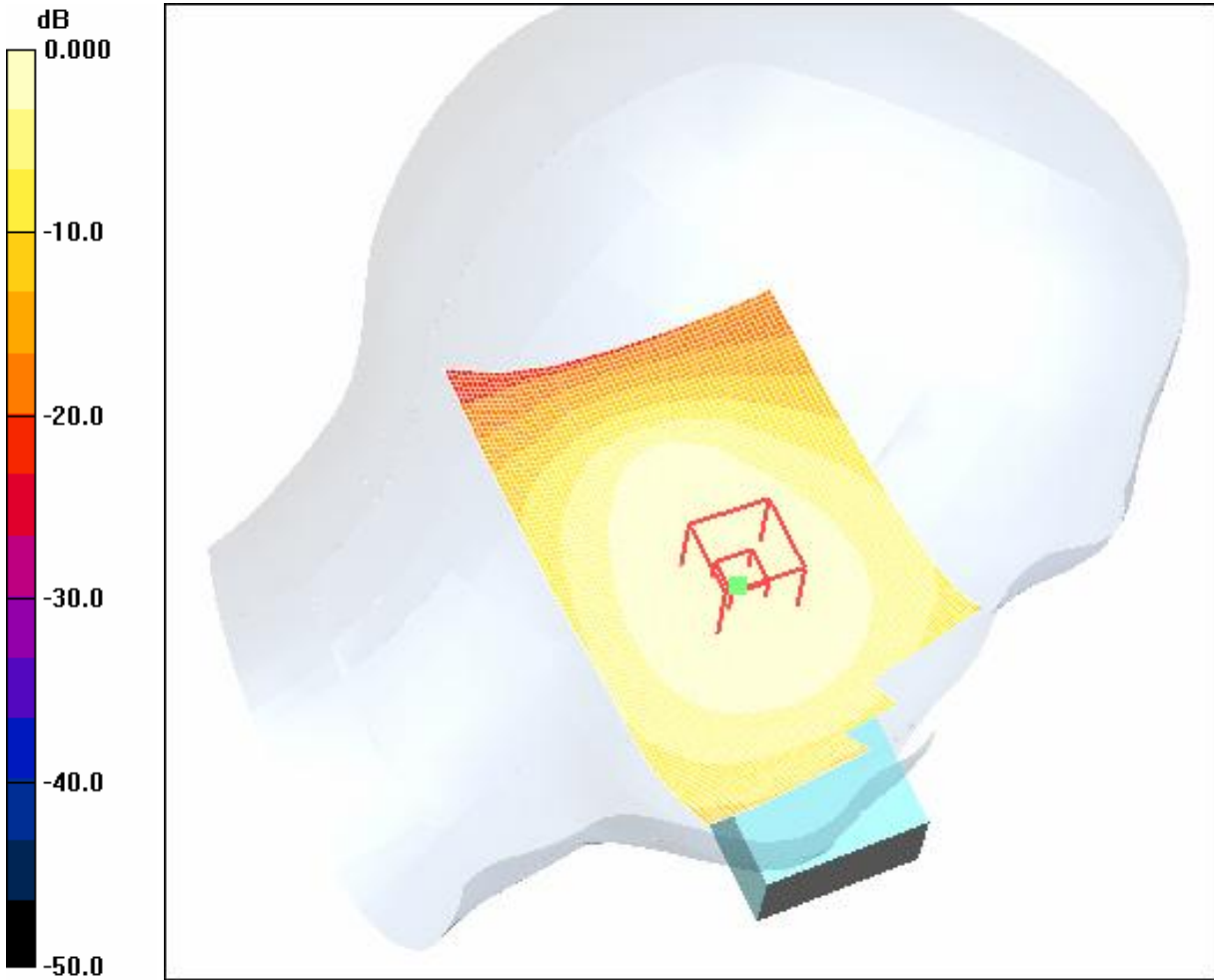
Tilt Position - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 17.8 V/m; Power Drift = -0.001 dB

Motorola Fast SAR: SAR(1 g) = 0.309 mW/g; SAR(10 g) = 0.218 mW/g

**Info: Interpolated medium parameters used for SAR evaluation.**

Maximum value of SAR (interpolated) = 0.328 mW/g



0 dB = 0.328mW/g

**4.21 LeftHandSide-Tilt-GSM850-High-on**

Date/Time: 2006-5-30 21:27:29

Test Laboratory: SGS-GSM

GSM850-LeftHandSide-Tilt-High-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used:  $f = 849$  MHz;  $\sigma = 0.89$  mho/m;  $\epsilon_r = 41.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASYS4 (High Precision Assessment)

**DASY4 Configuration:**

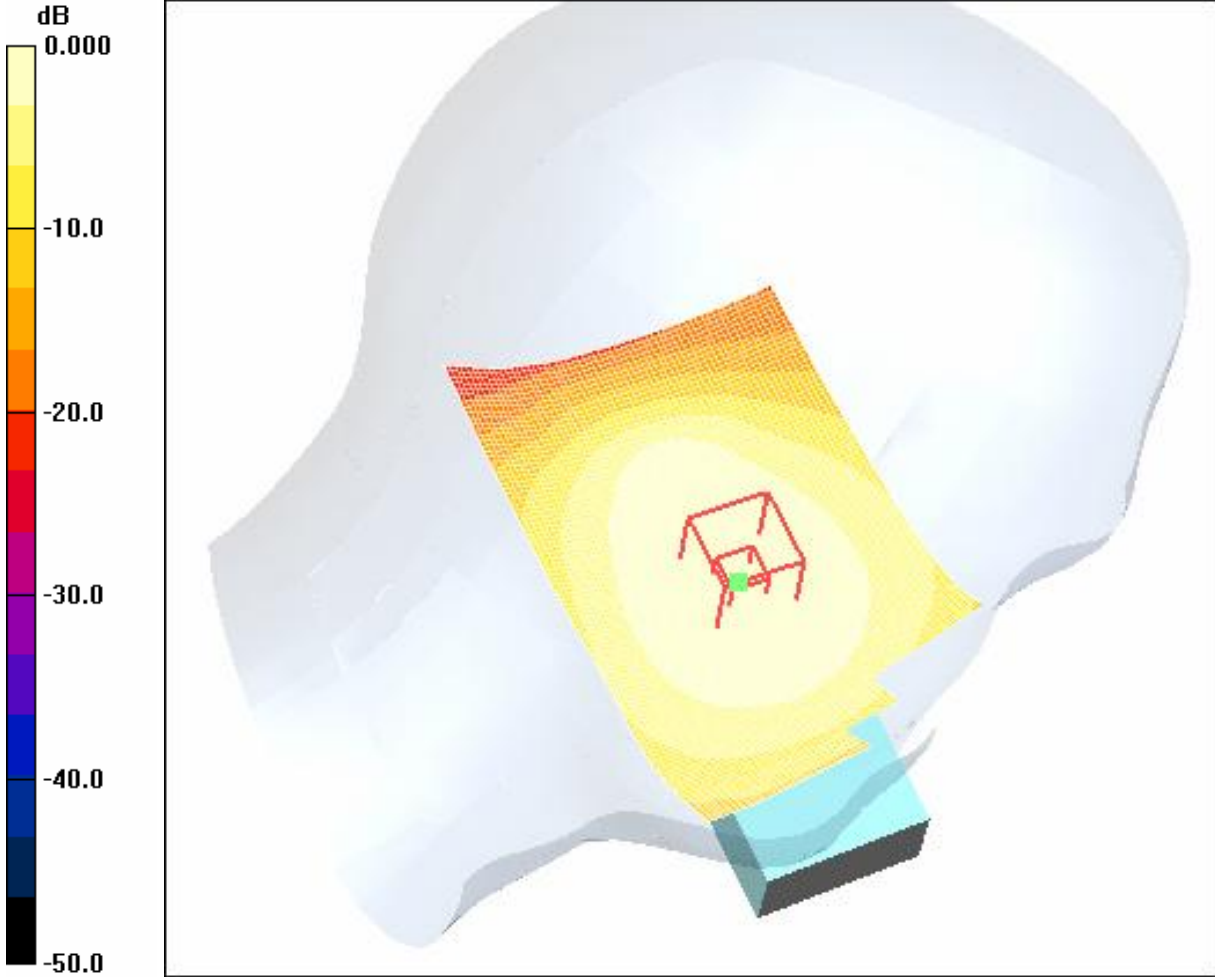
- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

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

Reference Value = 16.5 V/m; Power Drift = -0.021 dB

Motorola Fast SAR: SAR(1 g) = 0.271 mW/g; SAR(10 g) = 0.191 mW/g

Maximum value of SAR (interpolated) = 0.288 mW/g



0 dB = 0.288mW/g

***LeftHandSide-Cheek-GSM850-Low-on(Maximum Value)***

Date/Time: 2006-5-30 21:44:50

Test Laboratory: SGS-GSM

GSM850-LeftHandSide-Cheek-Low-on(conventional)

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used (interpolated):  $f = 824.2$  MHz;  $\sigma = 0.866$  mho/m;  $\epsilon_r = 41.8$ ;  
 $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Maximum Position - Traditional Method/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.965 mW/g

Maximum Position - Traditional Method/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 18.9 V/m; Power Drift = 0.028 dB

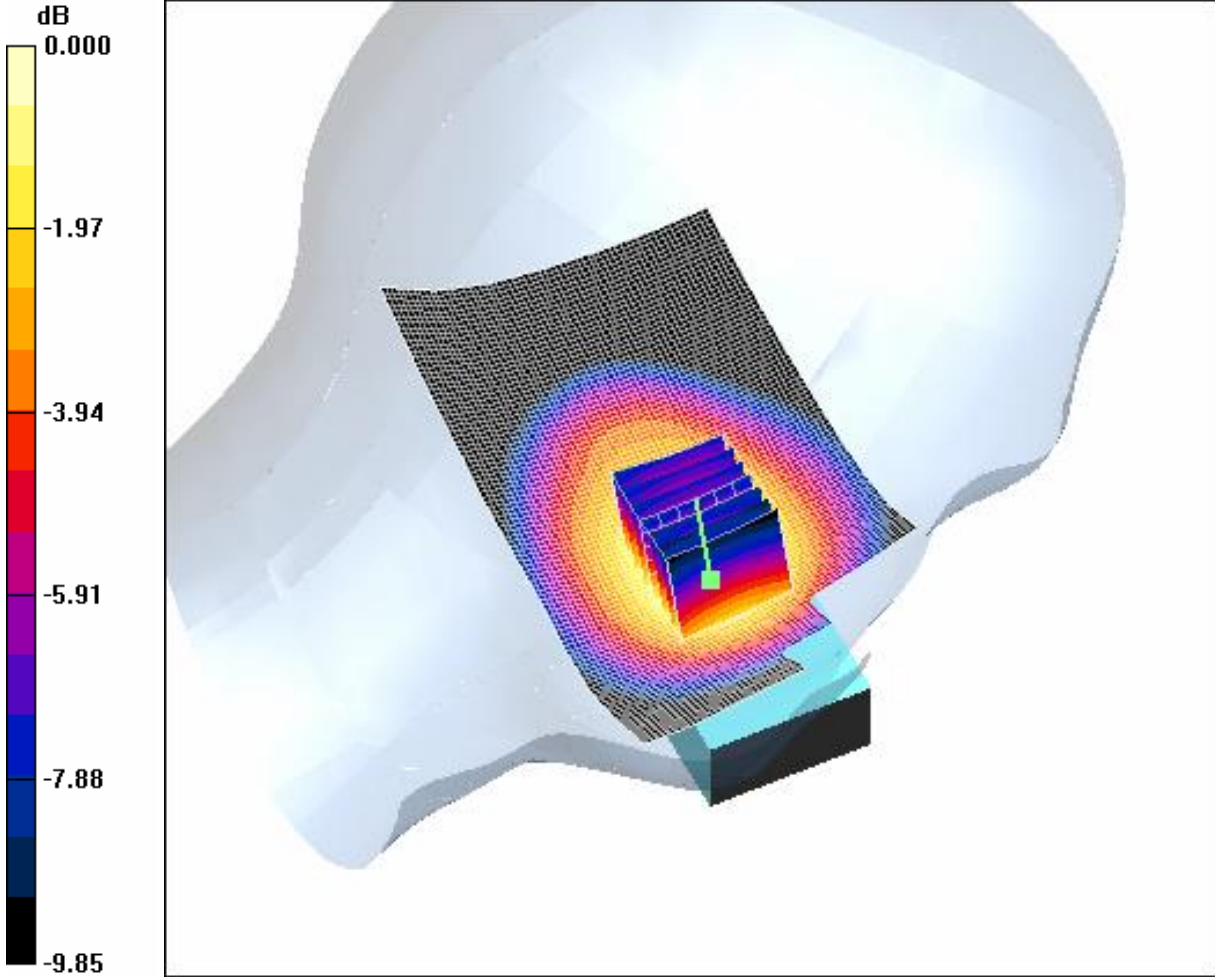
Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.905 mW/g; SAR(10 g) = 0.644 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.972 mW/g





0 dB = 0.972mW/g

#### **4.22 RightHandSide-Cheek-GSM850-Low-on**

Date/Time: 2006-5-31 8:52:16

Test Laboratory: SGS-GSM

GSM850-RightHandSide-Cheek-Low-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used (interpolated):  $f = 824.2$  MHz;  $\sigma = 0.866$  mho/m;  $\epsilon_r = 41.8$ ;  
 $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Cheek Position - Low/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 21.5 V/m; Power Drift = -0.081 dB

Motorola Fast SAR: SAR(1 g) = 0.947 mW/g; SAR(10 g) = 0.667 mW/g

**Info: Interpolated medium parameters used for SAR evaluation.**

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



0 dB = 1.01mW/g

**4.23 RightHandSide-Cheek-GSM850-Middle-on**

Date/Time: 2006-5-31 9:01:21

Test Laboratory: SGS-GSM

GSM850-RightHandSide-Cheek-Mid-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

Communication System: GSM850-GSM Mode; Frequency: 836.4 MHz; Duty Cycle: 1:8.3

Medium: HSL850 Medium parameters used (interpolated):  $f = 836.4$  MHz;  $\sigma = 0.878$  mho/m;  $\epsilon_r = 41.7$ ;  
 $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

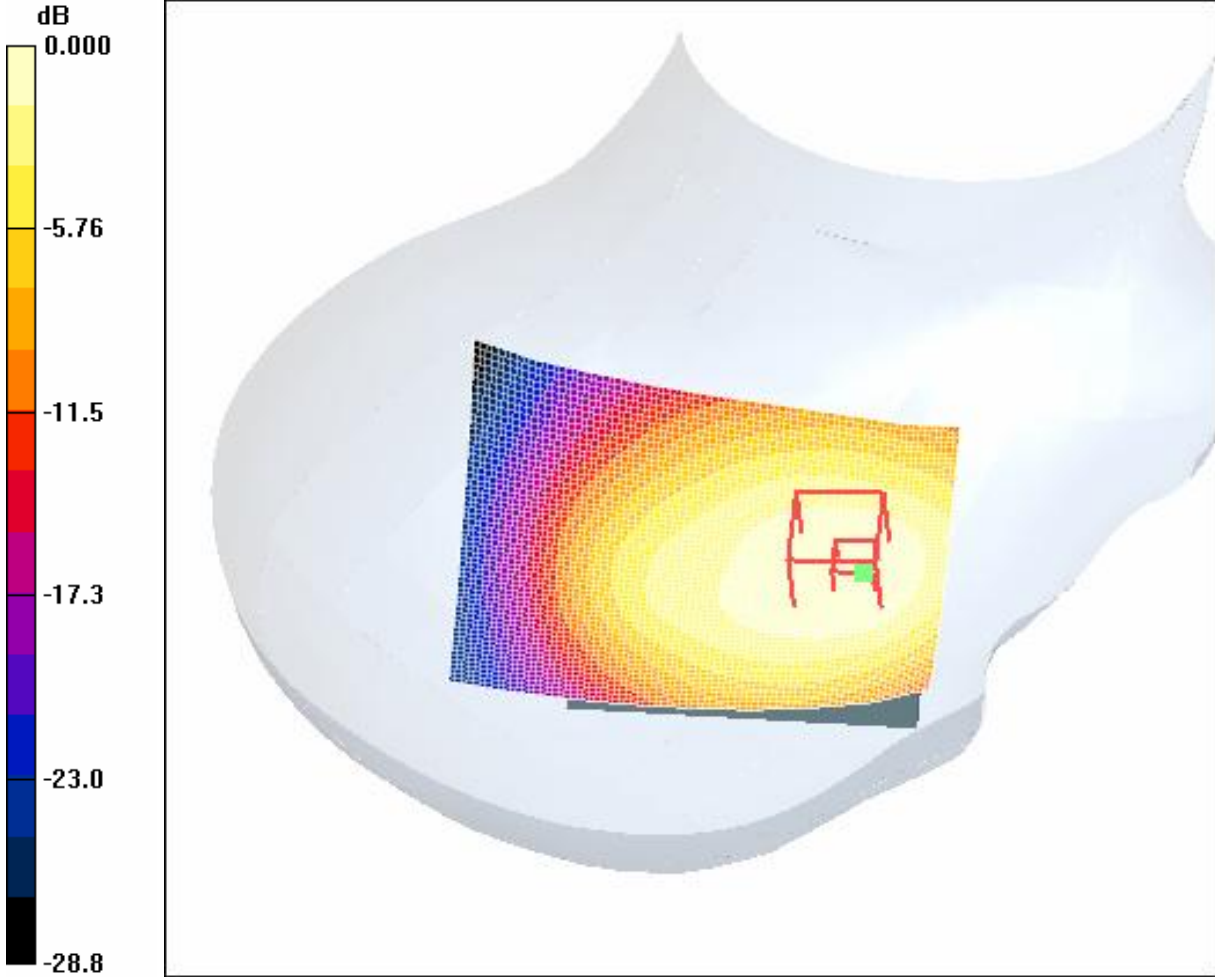
Cheek Position - Middle/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 17.4 V/m; Power Drift = -0.042 dB

Motorola Fast SAR: SAR(1 g) = 0.627 mW/g; SAR(10 g) = 0.440 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 0.672 mW/g



0 dB = 0.672mW/g

#### 4.24 RightHandSide-Cheek-GSM850-High-on

Date/Time: 2006-5-31 9:13:38

Test Laboratory: SGS-GSM

GSM850-RightHandSide-Cheek-High-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used:  $f = 849$  MHz;  $\sigma = 0.89$  mho/m;  $\epsilon_r = 41.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Cheek Position - High/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 16.1 V/m; Power Drift = -0.001 dB

Motorola Fast SAR: SAR(1 g) = 0.546 mW/g; SAR(10 g) = 0.383 mW/g

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



0 dB = 0.584mW/g

**4.25 RightHandSide-Tilt-GSM850-Low-on**

Date/Time: 2006-5-31 9:25:32

Test Laboratory: SGS-GSM

GSM850-RightHandSide-Tilt-Low-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used (interpolated):  $f = 824.2$  MHz;  $\sigma = 0.866$  mho/m;  $\epsilon_r = 41.8$ ;  
 $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

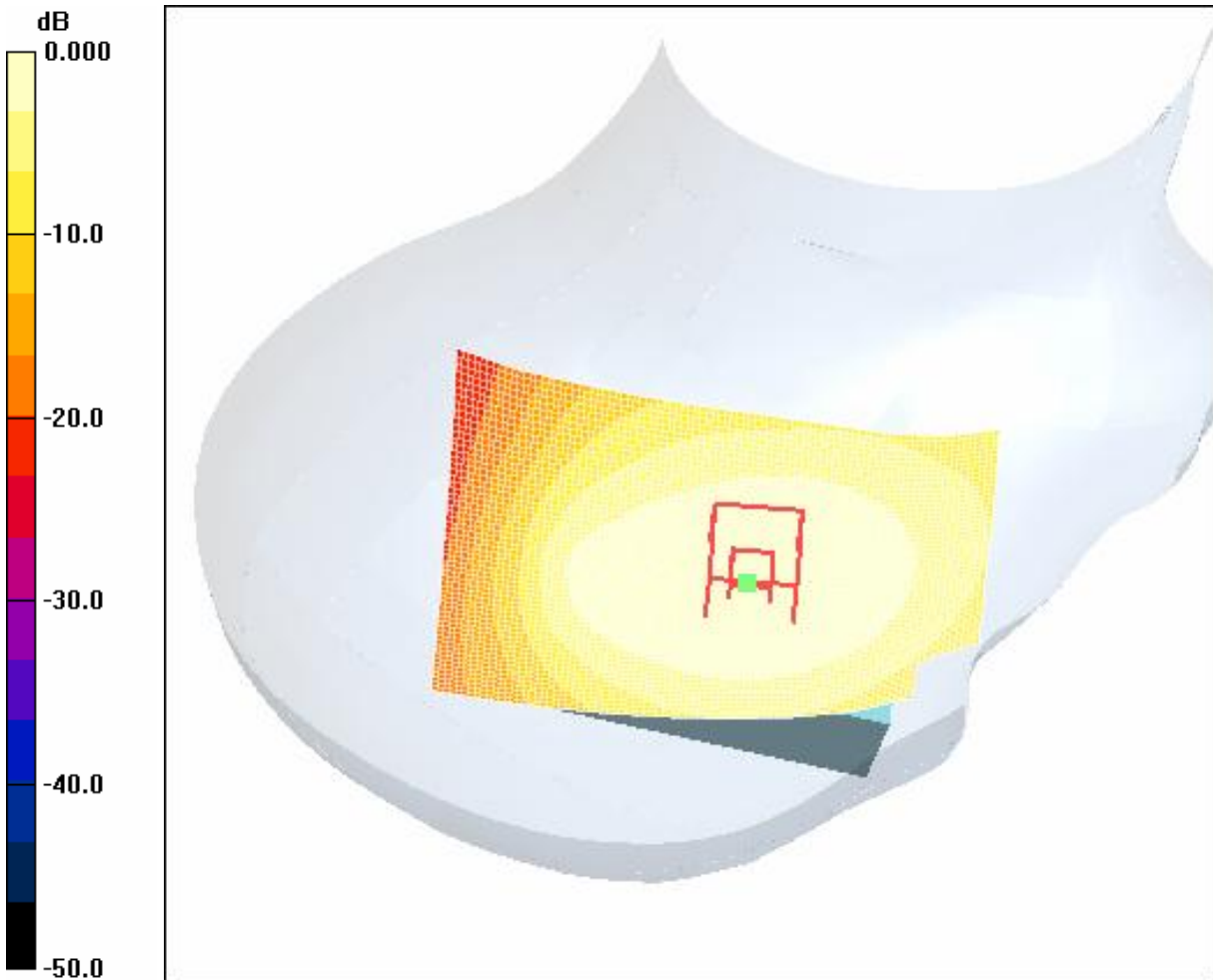
Reference Value = 21.6 V/m; Power Drift = -0.007 dB

Motorola Fast SAR: SAR(1 g) = 0.483 mW/g; SAR(10 g) = 0.341 mW/g

**Info: Interpolated medium parameters used for SAR evaluation.**

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





0 dB = 0.513mW/g

#### ***4.26 RightHandSide-Tilt-GSM850-Middle-on***

Date/Time: 2006-5-31 9:55:07

Test Laboratory: SGS-GSM

GSM850-RightHandSide-Tilt-Mid-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

Communication System: GSM850-GSM Mode; Frequency: 836.4 MHz; Duty Cycle: 1:8.3

Medium: HSL850 Medium parameters used (interpolated):  $f = 836.4$  MHz;  $\sigma = 0.878$  mho/m;  $\epsilon_r = 41.7$ ;  
 $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

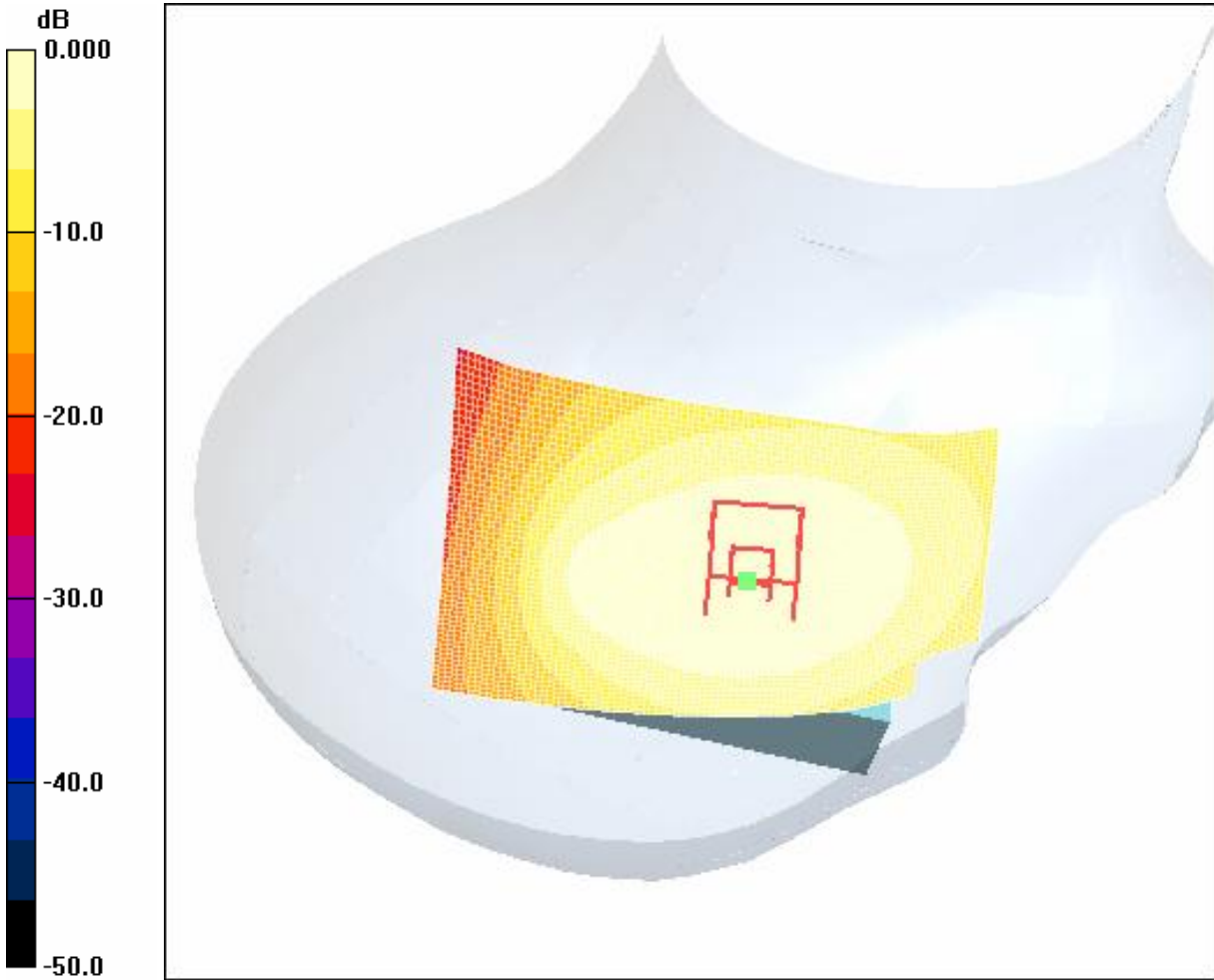
Tilt position -Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 17.5 V/m; Power Drift = 0.027 dB

Motorola Fast SAR: SAR(1 g) = 0.327 mW/g; SAR(10 g) = 0.230 mW/g

**Info: Interpolated medium parameters used for SAR evaluation.**

Maximum value of SAR (interpolated) = 0.348 mW/g



0 dB = 0.348mW/g

**4.27 RightHandSide-Tilt-GSM850-High-on**

Date/Time: 2006-5-31 10:05:28

Test Laboratory: SGS-GSM

GSM850-RightHandSide-Tilt-High-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used:  $f = 849$  MHz;  $\sigma = 0.89$  mho/m;  $\epsilon_r = 41.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASYS4 (High Precision Assessment)

**DASY4 Configuration:**

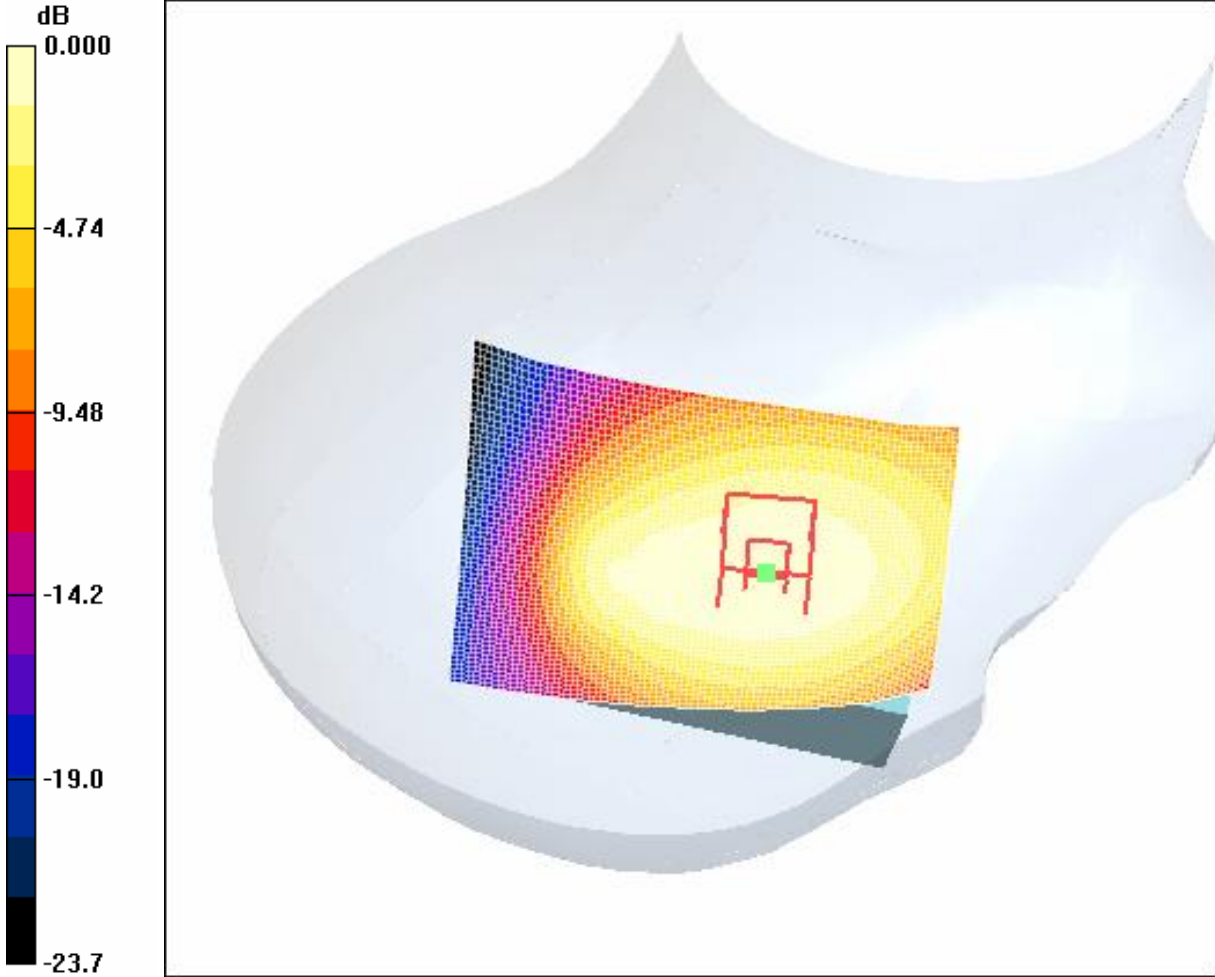
- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

**Tilt position - High/Area Scan (61x81x1):** Measurement grid: dx=15mm, dy=15mm

Reference Value = 16.2 V/m; Power Drift = 0.016 dB

Motorola Fast SAR: SAR(1 g) = 0.281 mW/g; SAR(10 g) = 0.197 mW/g

Maximum value of SAR (interpolated) = 0.299 mW/g



0 dB = 0.299mW/g

***RightHandSide-Cheek-GSM850-Low-on (Maximum Value)***

Date/Time: 2006-5-31 10:22:57

Test Laboratory: SGS-GSM

GSM850-RightHandSide-Cheek-Low-on(conventional)

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL850 Medium parameters used (interpolated):  $f = 824.2$  MHz;  $\sigma = 0.866$  mho/m;  $\epsilon_r = 41.8$ ;  
 $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.91, 5.91, 5.91); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Maximum Position - Traditional Method/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

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

Maximum Position - Traditional Method/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

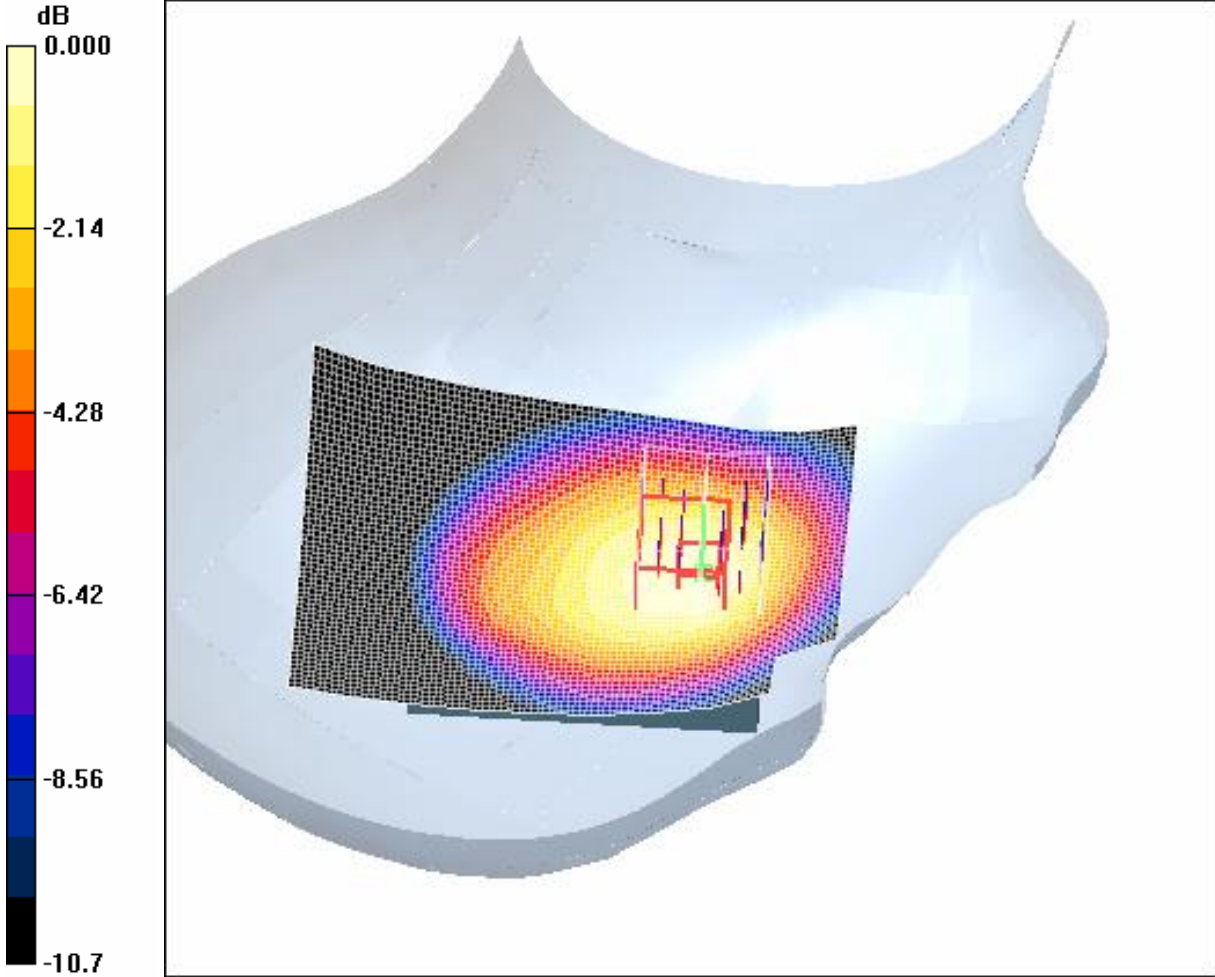
Reference Value = 21.1 V/m; Power Drift = -0.039 dB

Peak SAR (extrapolated) = 1.33 W/kg

SAR(1 g) = 0.942 mW/g; SAR(10 g) = 0.670 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

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



0 dB = 1.01mW/g

**4.28 Body-Worn-GSM850-Low-on**

Date/Time: 2006-5-25 20:06:26

Test Laboratory: SGS-GSM

GSM850-Body-Worn-Low-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL850-Body Medium parameters used:  $f = 824.2$  MHz;  $\sigma = 0.984$  mho/m;  $\epsilon_r = 52.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.83, 5.83, 5.83); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

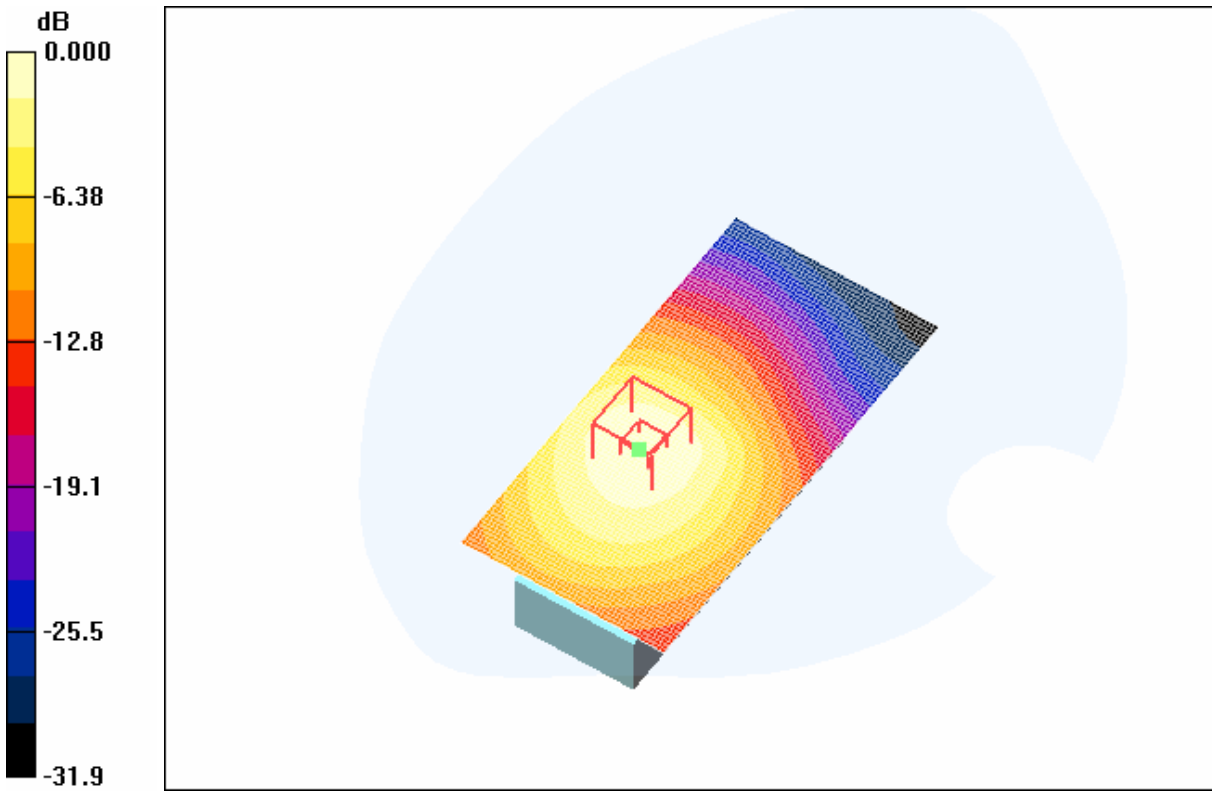
Body Worn - Low/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 5.94 V/m; Power Drift = 0.063 dB

Motorola Fast SAR: SAR(1 g) = 0.820 mW/g; SAR(10 g) = 0.552 mW/g

Maximum value of SAR (interpolated) = 0.883 mW/g





0 dB = 0.883mW/g

#### 4.29 Body-Worn-GSM850-Middle-on

Date/Time: 2006-5-25 20:15:01

Test Laboratory: SGS-GSM

GSM850-Body-Worn-Mid-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

Communication System: GSM850-GSM Mode; Frequency: 836.4 MHz; Duty Cycle: 1:8.3

Medium: HSL850-Body Medium parameters used:  $f = 836.4$  MHz;  $\sigma = 0.998$  mho/m;  $\epsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DAS4 (High Precision Assessment)

DASY4 Configuration:

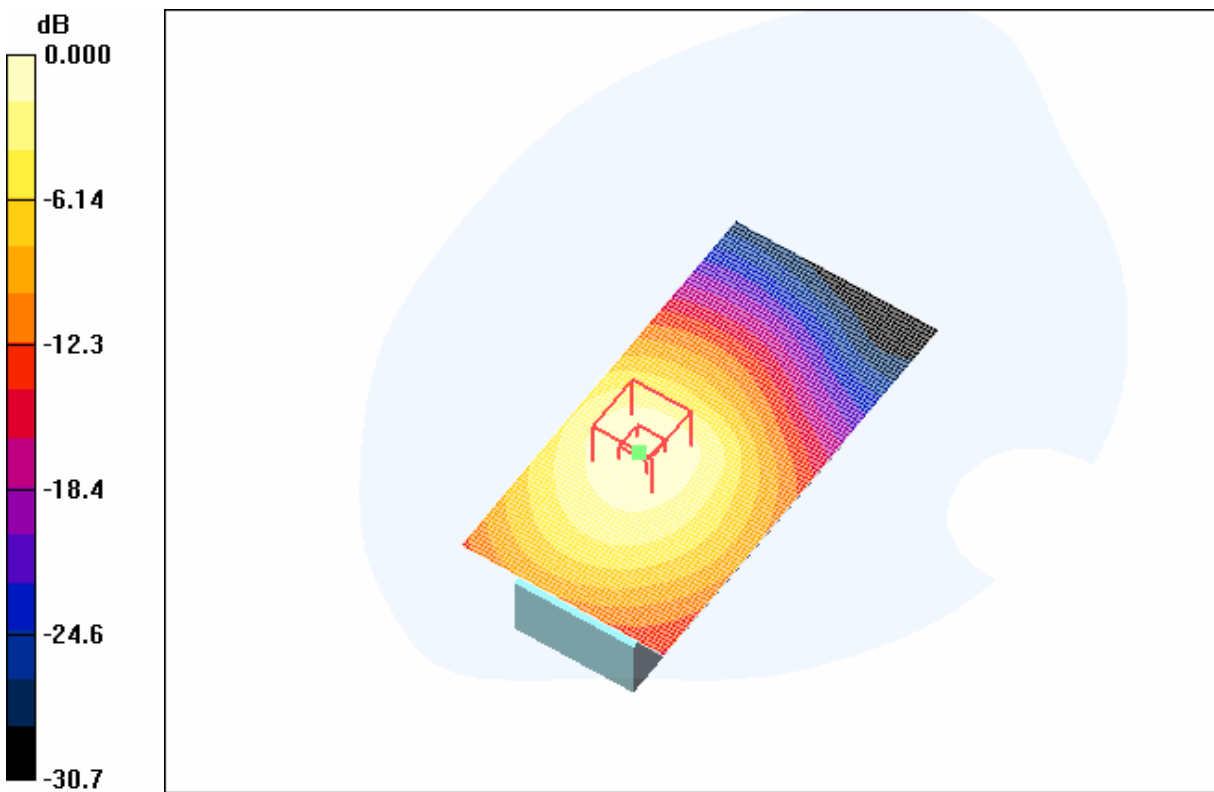
- Probe: ES3DV3 - SN3088; ConvF(5.83, 5.83, 5.83); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body Worn - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 5.34 V/m; Power Drift = 0.045 dB

Motorola Fast SAR: SAR(1 g) = 0.685 mW/g; SAR(10 g) = 0.461 mW/g

Maximum value of SAR (interpolated) = 0.737 mW/g



0 dB = 0.737mW/g

#### **4.30 Body-Worn-GSM850-High-on**

Date/Time: 2006-5-25 20:47:41

Test Laboratory: SGS-GSM

GSM850-Body-Worn-High-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL850-Body Medium parameters used:  $f = 848.8$  MHz;  $\sigma = 1.01$  mho/m;  $\epsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

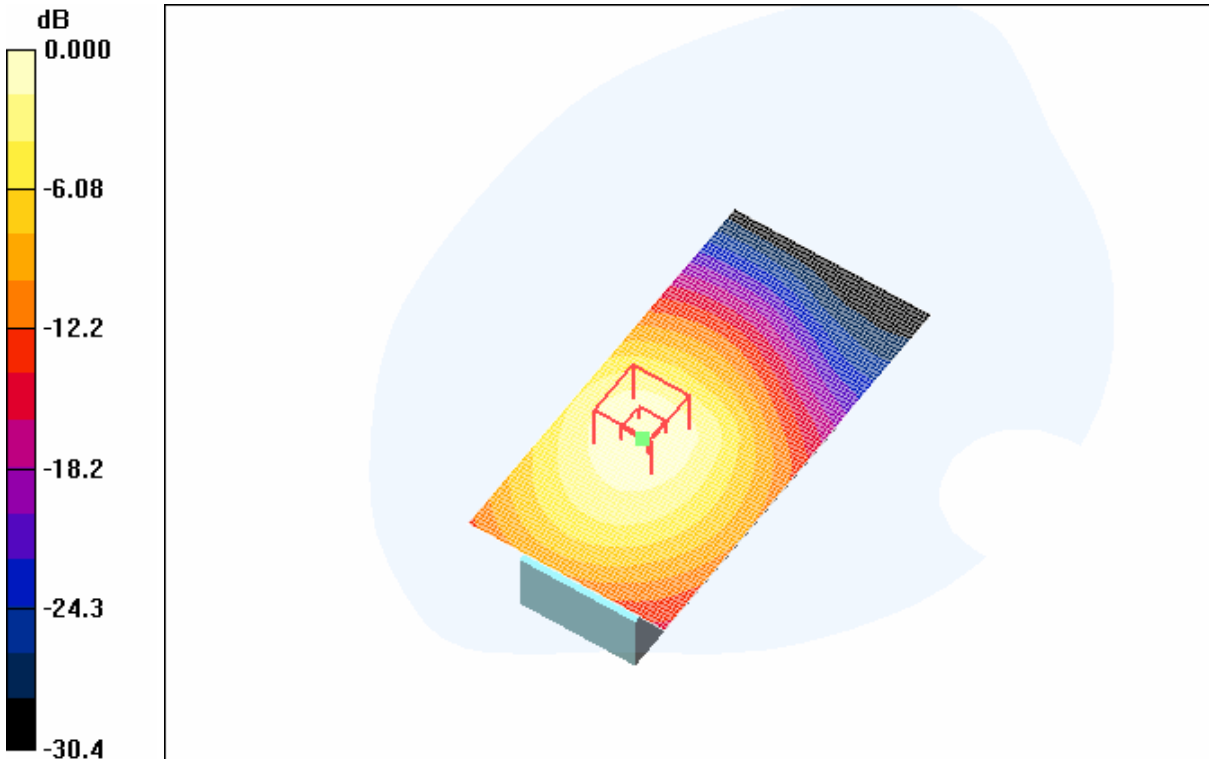
- Probe: ES3DV3 - SN3088; ConvF(5.83, 5.83, 5.83); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body Worn - High/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 4.99 V/m; Power Drift = 0.041 dB

Motorola Fast SAR: SAR(1 g) = 0.629 mW/g; SAR(10 g) = 0.421 mW/g

Maximum value of SAR (interpolated) = 0.680 mW/g



0 dB = 0.680mW/g

**Body-Worn-GSM850-Low-on (Maximum Value)**

Date/Time: 2006-5-25 21:16:20

Test Laboratory: SGS-GSM

GSM850-Body-Worn-Low-on(conventional)

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL850-Body Medium parameters used:  $f = 824.2$  MHz;  $\sigma = 0.984$  mho/m;  $\epsilon_r = 52.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(5.83, 5.83, 5.83); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Maximum Position - Tadtional Method/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.988 mW/g

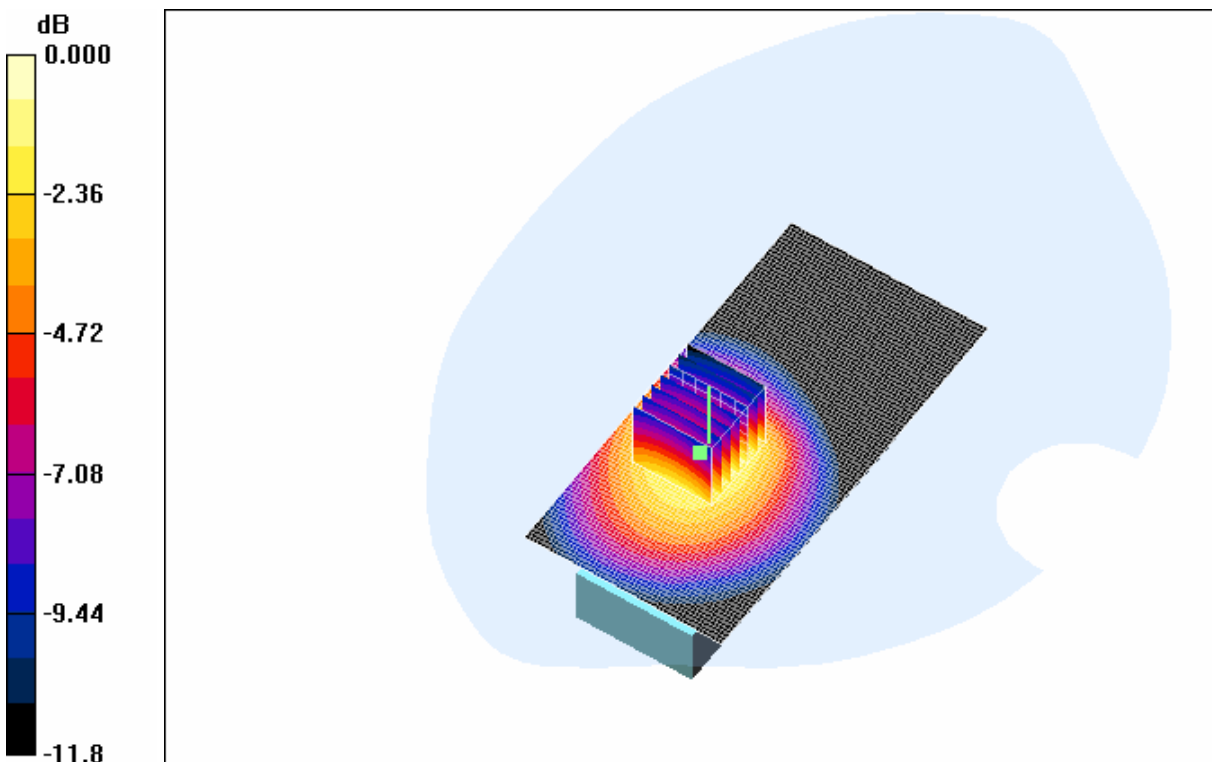
Maximum Position - Tadtional Method/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.08 V/m; Power Drift = 0.011 dB

Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 0.926 mW/g; SAR(10 g) = 0.611 mW/g

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



0 dB = 1.01mW/g

#### **4.31 LeftHandSide-Cheek-PCS1900-Low-off**

Date/Time: 2006-5-27 13:57:13

Test Laboratory: SGS-GSM

PCS1900-LeftHandSide-Cheek-Low-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.42$  mho/m;  $\epsilon_r = 40.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

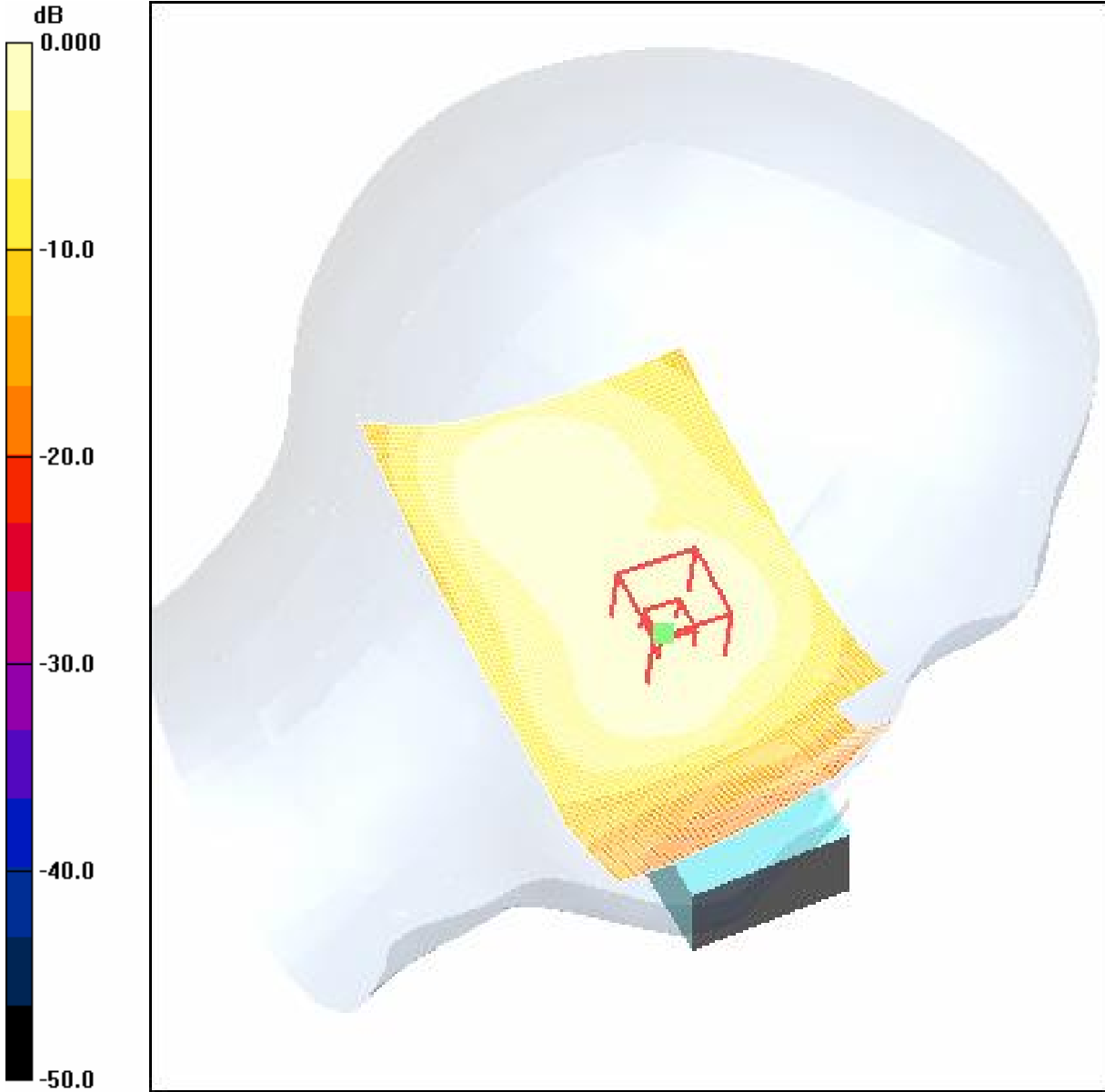
- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

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

Reference Value = 7.45 V/m; Power Drift = -0.016 dB

Motorola Fast SAR: SAR(1 g) = 0.113 mW/g; SAR(10 g) = 0.070 mW/g

Maximum value of SAR (interpolated) = 0.122 mW/g



0 dB = 0.122mW/g

**4.32 LeftHandSide-Cheek-PCS1900-Middle-off**

Date/Time: 2006-5-27 14:17:56

Test Laboratory: SGS-GSM

PCS1900-LeftHandSide-Cheek-Mid-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 40.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

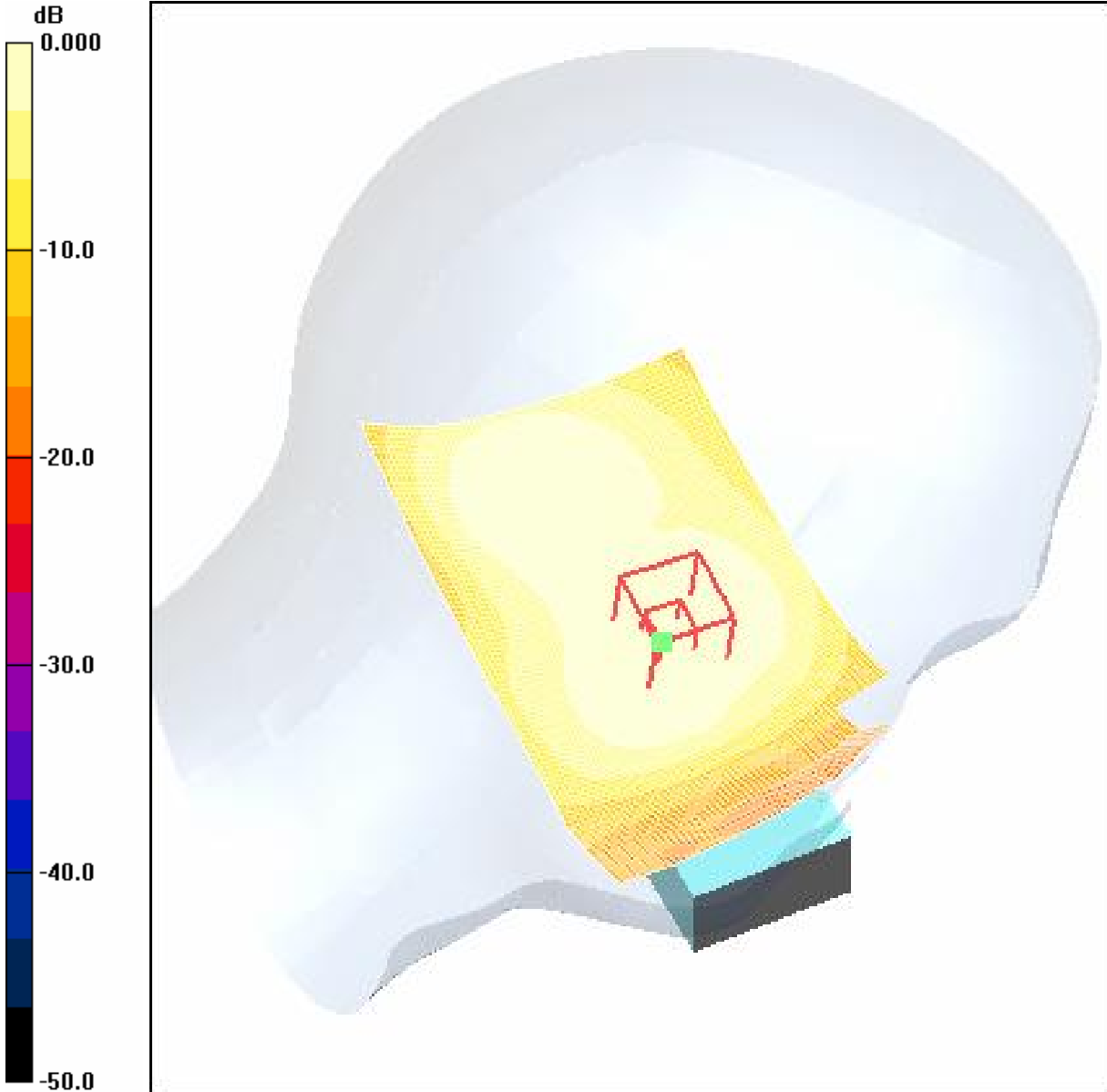
Cheek Position - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 5.41 V/m; Power Drift = 0.098 dB

Motorola Fast SAR: SAR(1 g) = 0.069 mW/g; SAR(10 g) = 0.042 mW/g

Maximum value of SAR (interpolated) = 0.074 mW/g





0 dB = 0.074mW/g

**4.33 LeftHandSide-Cheek-PCS1900-High-off**

Date/Time: 2006-5-27 14:29:44

Test Laboratory: SGS-GSM

PCS1900-LeftHandSide-Cheek-High-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1909.8$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 40$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

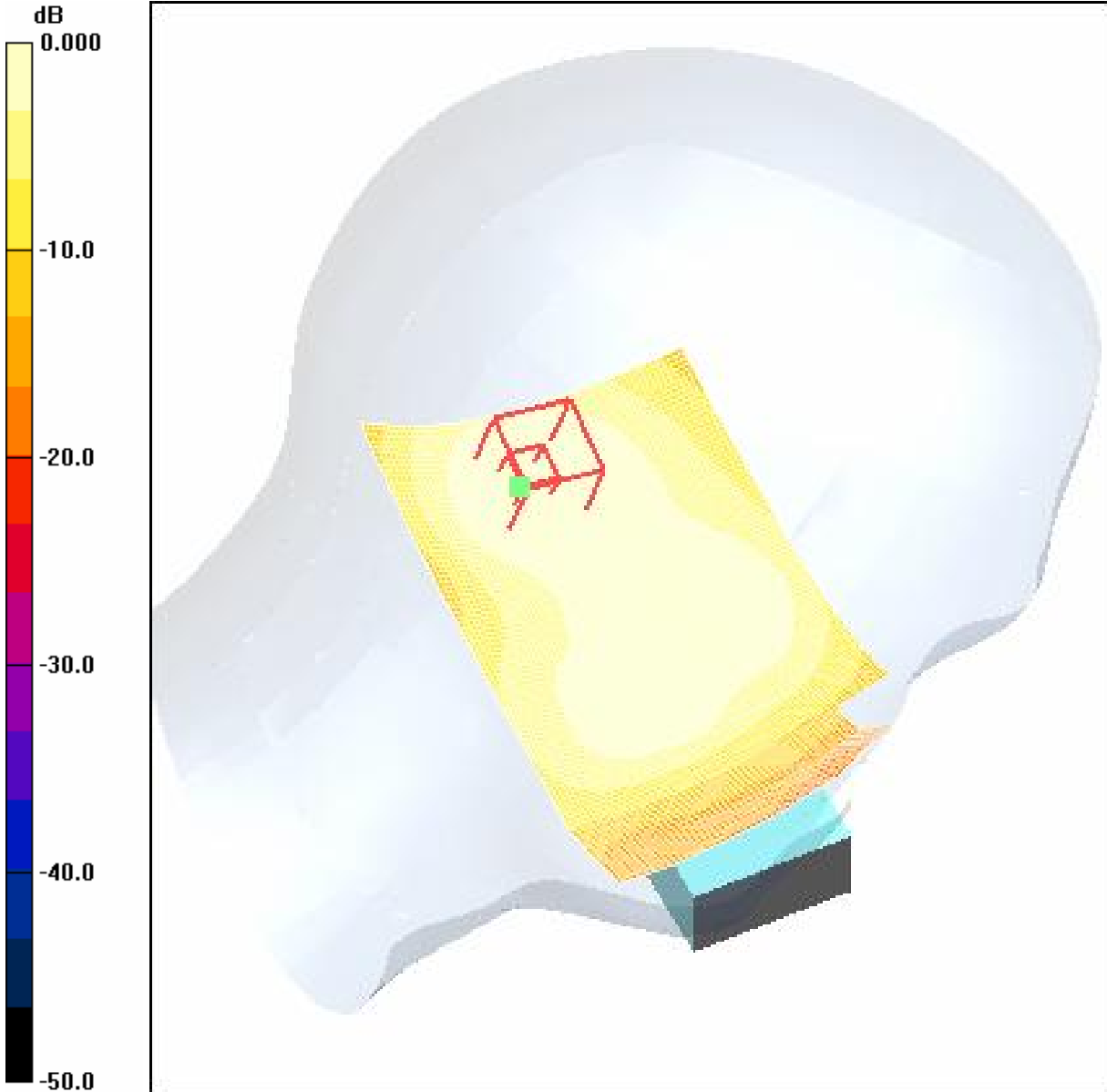
- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

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

Reference Value = 3.86 V/m; Power Drift = 0.128 dB

Motorola Fast SAR: SAR(1 g) = 0.042 mW/g; SAR(10 g) = 0.025 mW/g

Maximum value of SAR (interpolated) = 0.046 mW/g



0 dB = 0.046mW/g

**4.34 LeftHandSide-Tilt-PCS1900-Low-off**

Date/Time: 2006-5-27 14:45:21

Test Laboratory: SGS-GSM

PCS1900-LeftHandSide-Tilt-Low-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.42$  mho/m;  $\epsilon_r = 40.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

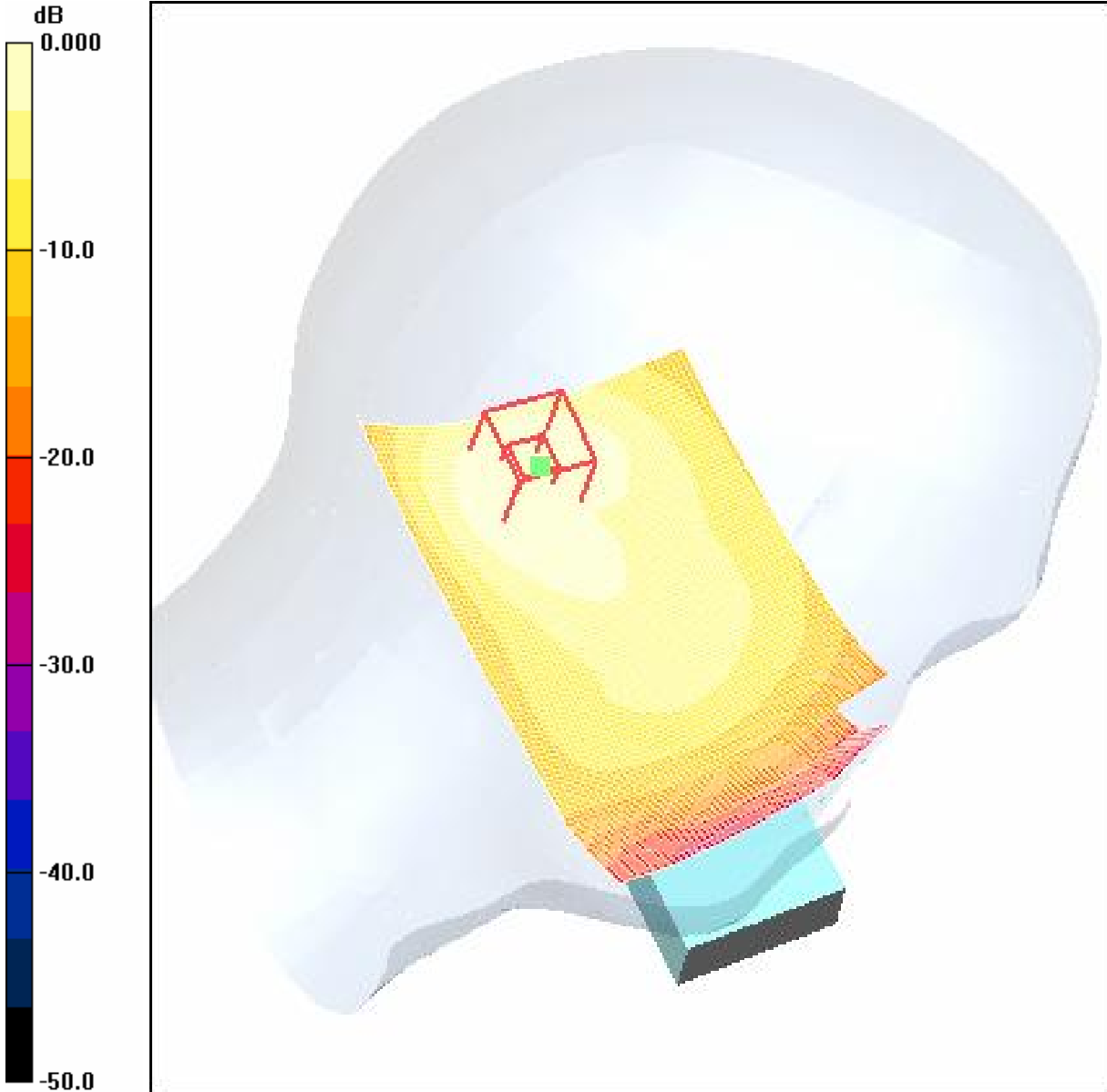
- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - Low/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 9.35 V/m; Power Drift = -0.167 dB

Motorola Fast SAR: SAR(1 g) = 0.166 mW/g; SAR(10 g) = 0.096 mW/g

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



0 dB = 0.185mW/g

**4.35 LeftHandSide-Tilt-PCS1900-Middle-off**

Date/Time: 2006-5-27 15:00:48

Test Laboratory: SGS-GSM

PCS1900-LeftHandSide-Tilt-Mid-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 40.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

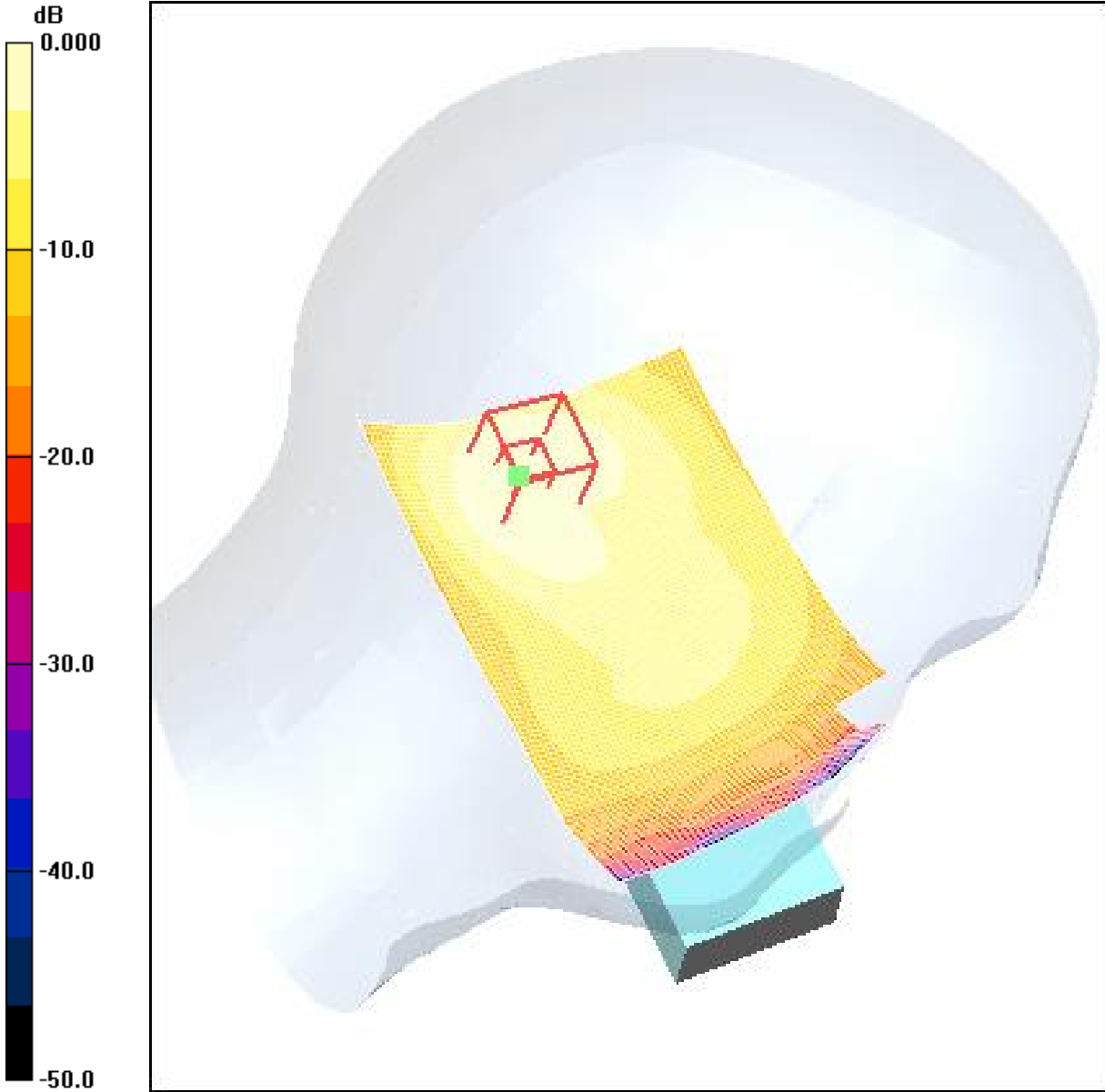
- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

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

Reference Value = 6.76 V/m; Power Drift = -0.064 dB

Motorola Fast SAR: SAR(1 g) = 0.110 mW/g; SAR(10 g) = 0.064 mW/g

Maximum value of SAR (interpolated) = 0.122 mW/g



0 dB = 0.122mW/g

**4.36 LeftHandSide-Tilt-PCS1900-High-off**

Date/Time: 2006-5-27 15:14:38

Test Laboratory: SGS-GSM

## PCS1900-LeftHandSide-Tilt-High-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1909.8$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 40$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASYS4 (High Precision Assessment)

### DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

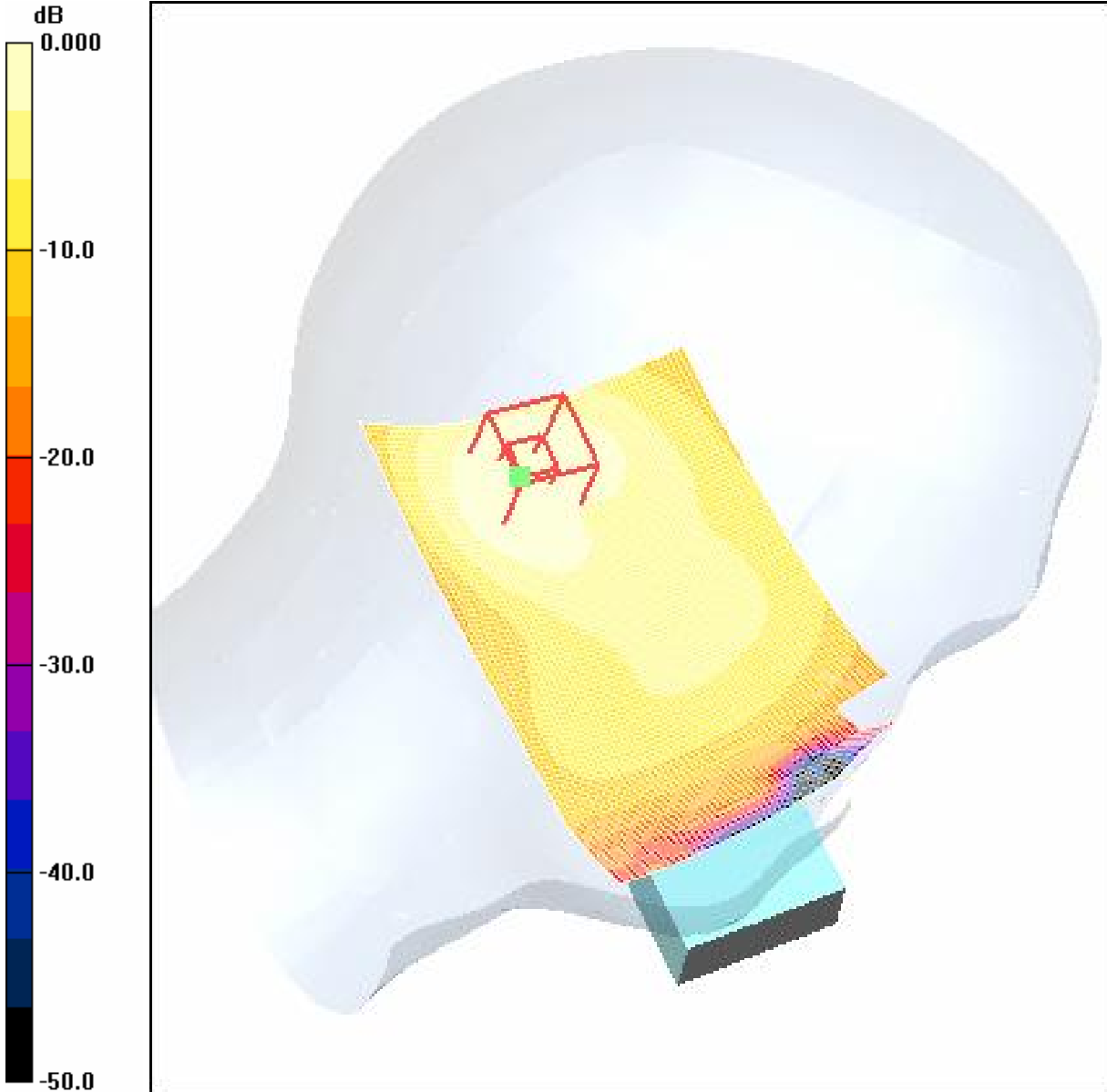
Tilt position - High/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 4.93 V/m; Power Drift = -0.089 dB

Motorola Fast SAR: SAR(1 g) = 0.070 mW/g; SAR(10 g) = 0.040 mW/g

Maximum value of SAR (interpolated) = 0.077 mW/g





0 dB = 0.077mW/g

***LeftHandSide-Tilt-PCS1900-Low-off (Maximum Value)***

Date/Time: 2006-5-27 15:29:32

Test Laboratory: SGS-GSM

PCS1900-LeftHandSide-Tilt-Low-off(conventional)

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.42$  mho/m;  $\epsilon_r = 40.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Maximum Position - Traditional Method/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

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

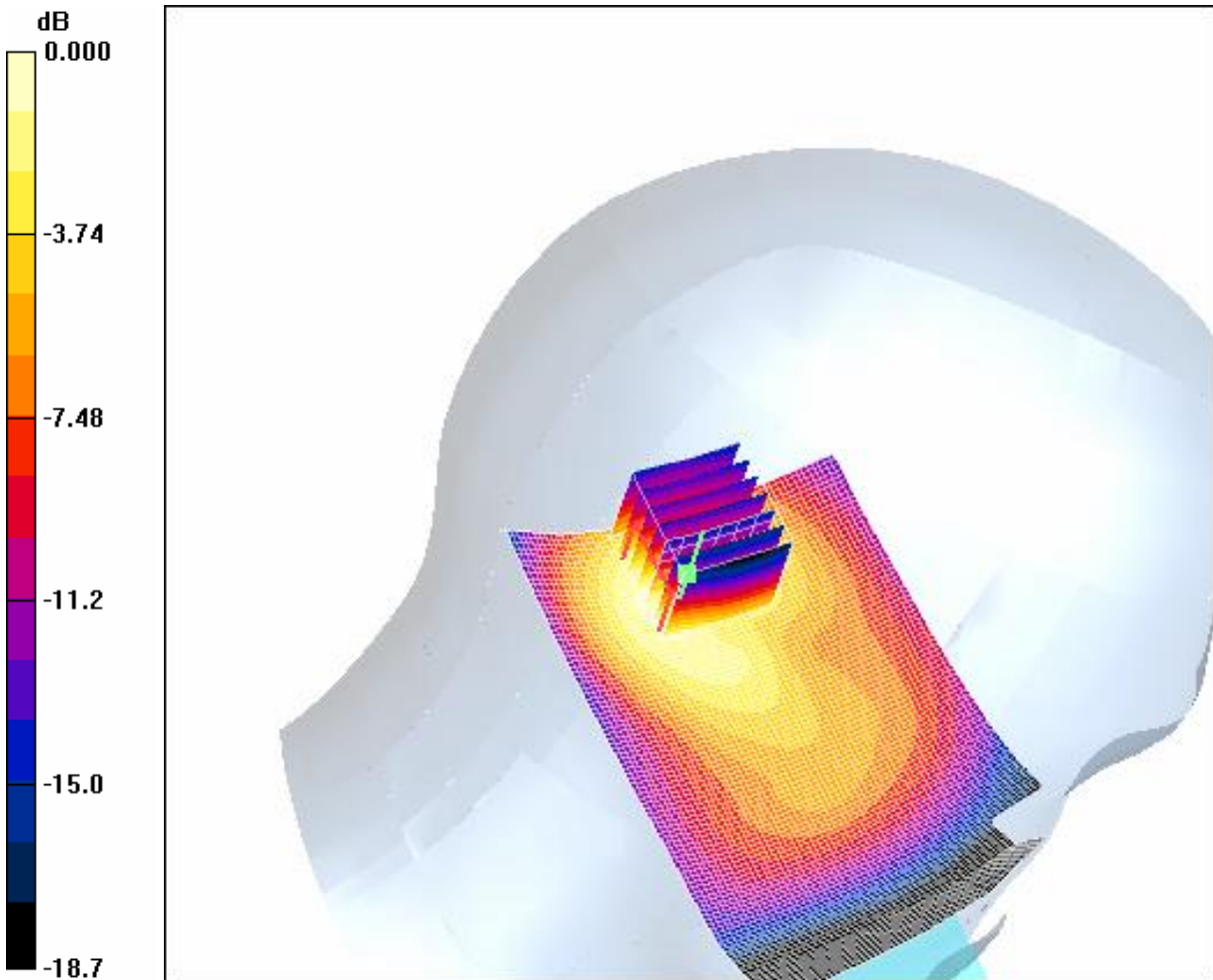
Maximum Position - Traditional Method/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.05 V/m; Power Drift = 0.045 dB

Peak SAR (extrapolated) = 0.300 W/kg

SAR(1 g) = 0.178 mW/g; SAR(10 g) = 0.099 mW/g

Maximum value of SAR (measured) = 0.197 mW/g



0 dB = 0.197mW/g

#### ***4.37 RightHandSide-Cheek-PCS1900-Low-off***

Date/Time: 2006-5-26 21:20:38

Test Laboratory: SGS-GSM

PCS1900-RightHandSide-Cheek-Low-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.42$  mho/m;  $\epsilon_r = 40.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

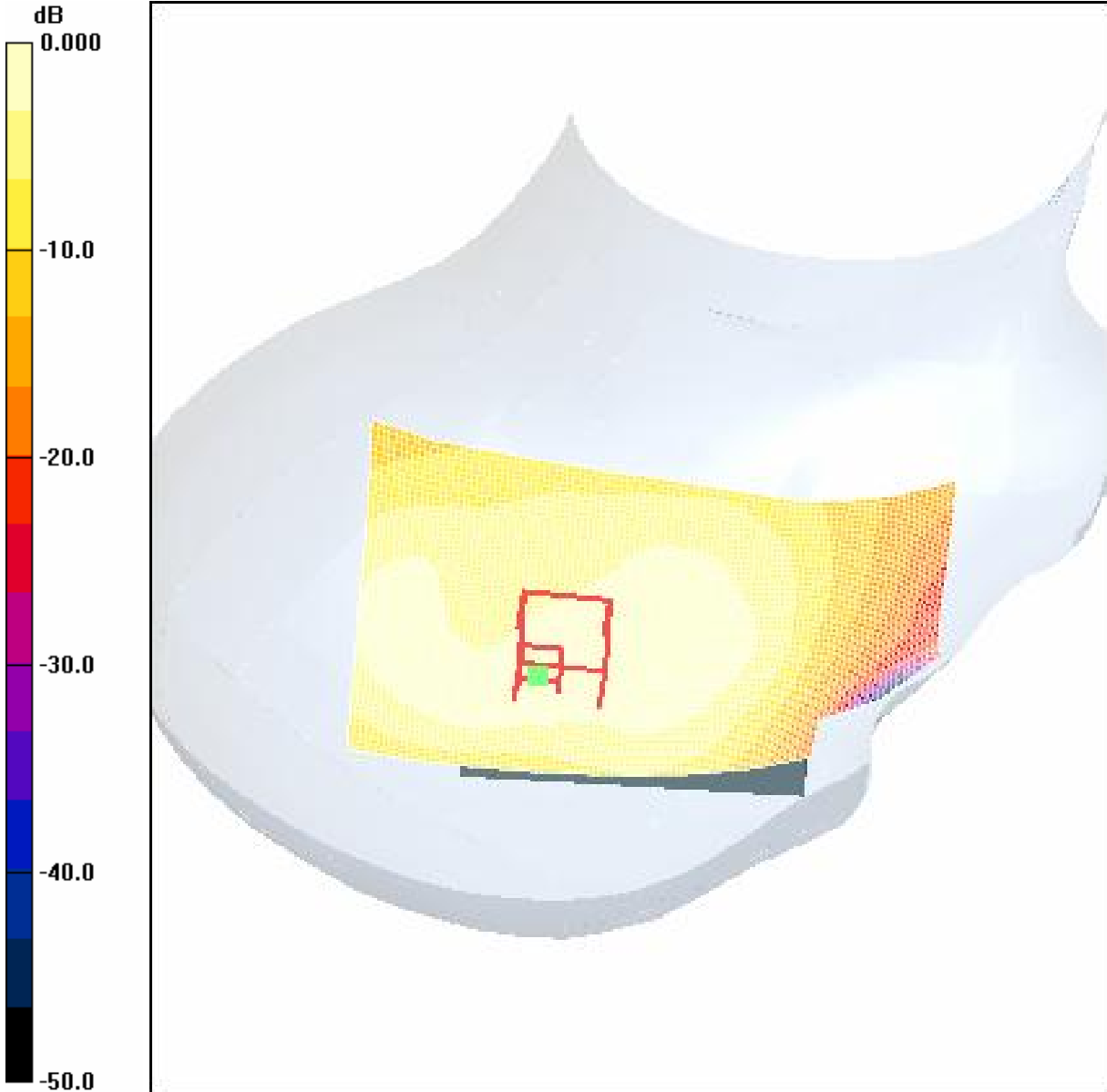
- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

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

Reference Value = 7.31 V/m; Power Drift = -0.029 dB

Motorola Fast SAR: SAR(1 g) = 0.094 mW/g; SAR(10 g) = 0.054 mW/g

Maximum value of SAR (interpolated) = 0.106 mW/g



0 dB = 0.106mW/g

**4.38 RightHandSide-Cheek-PCS1900-Middle-off**

Date/Time: 2006-5-26 21:32:10

Test Laboratory: SGS-GSM

PCS1900-RightHandSide-Cheek-Mid-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 40.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

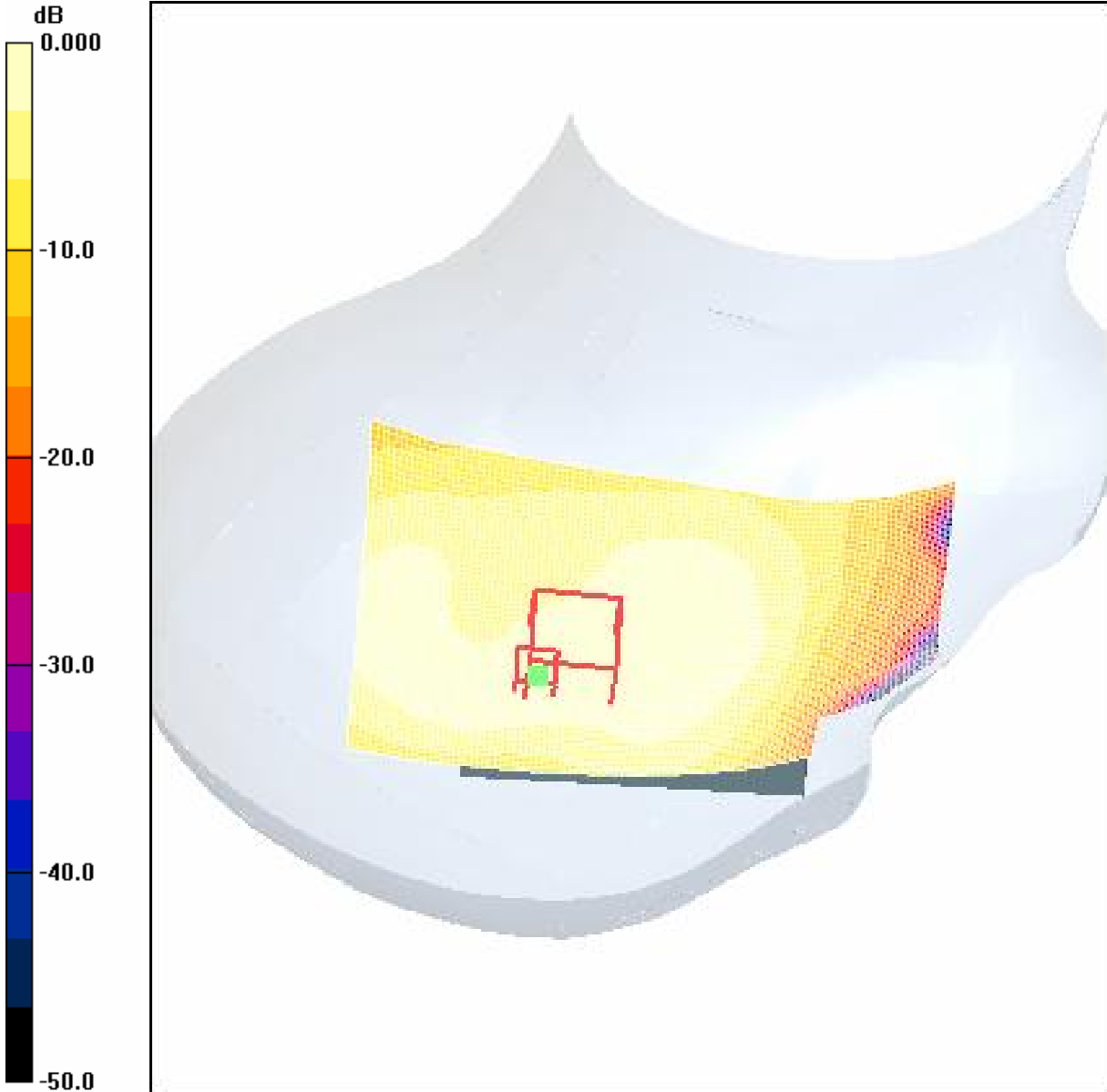
- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

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

Reference Value = 5.42 V/m; Power Drift = 0.037 dB

Motorola Fast SAR: SAR(1 g) = 0.055 mW/g; SAR(10 g) = 0.033 mW/g

Maximum value of SAR (interpolated) = 0.062 mW/g



0 dB = 0.062mW/g

**4.39 RightHandSide-Cheek-PCS1900-High-off**

Date/Time: 2006-5-26 21:43:35

Test Laboratory: SGS-GSM

## PCS1900-RightHandSide-Cheek-High-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1909.8$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 40$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

### DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

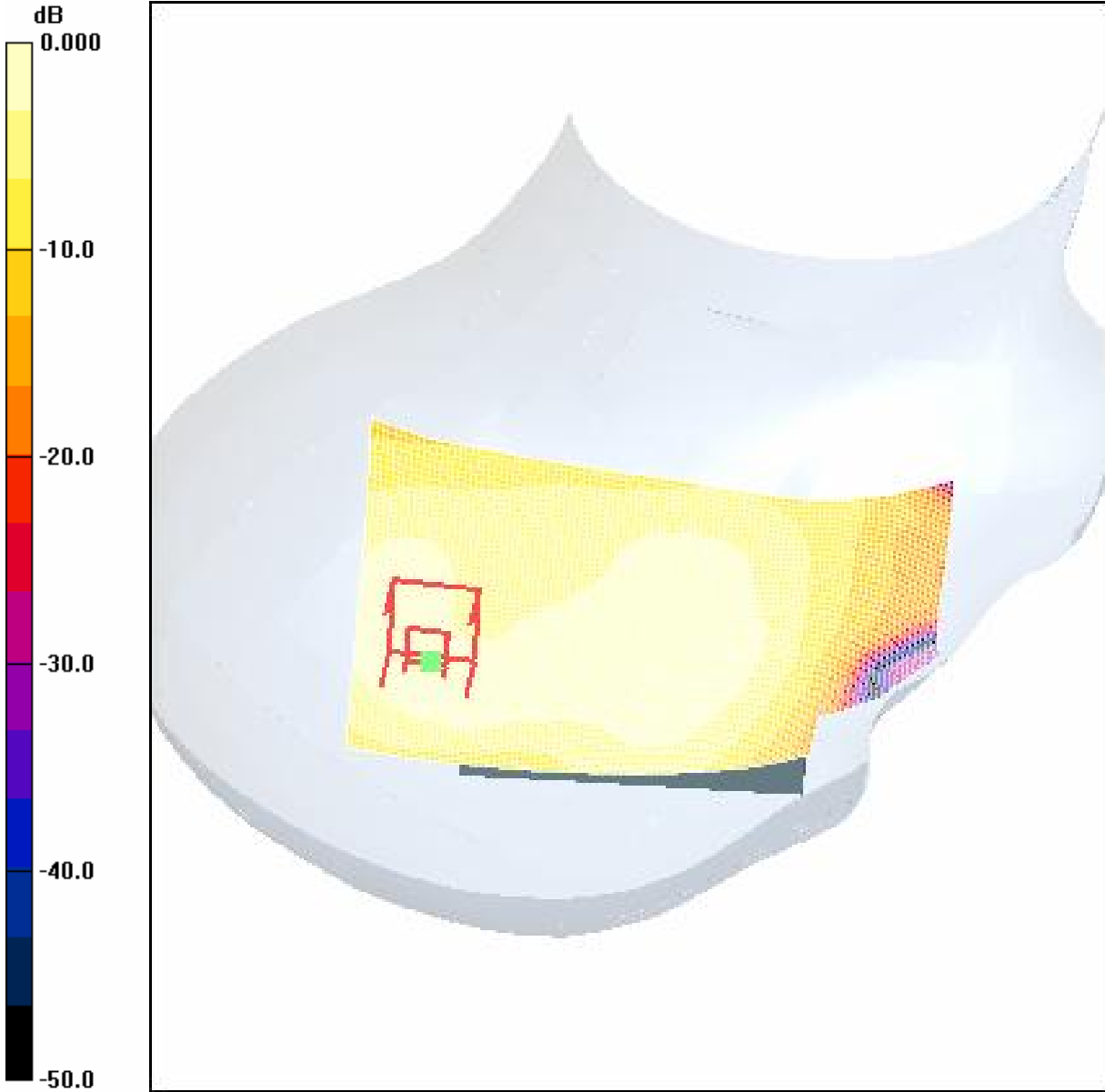
Cheek Position - High/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 4.14 V/m; Power Drift = 0.138 dB

Motorola Fast SAR: SAR(1 g) = 0.035 mW/g; SAR(10 g) = 0.021 mW/g

Maximum value of SAR (interpolated) = 0.040 mW/g





0 dB = 0.040mW/g

**4.40 RightHandSide-Tilt-PCS1900-Low-off**

Date/Time: 2006-5-26 21:55:17

Test Laboratory: SGS-GSM

PCS1900-RightHandSide-Tilt-Low-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.42$  mho/m;  $\epsilon_r = 40.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

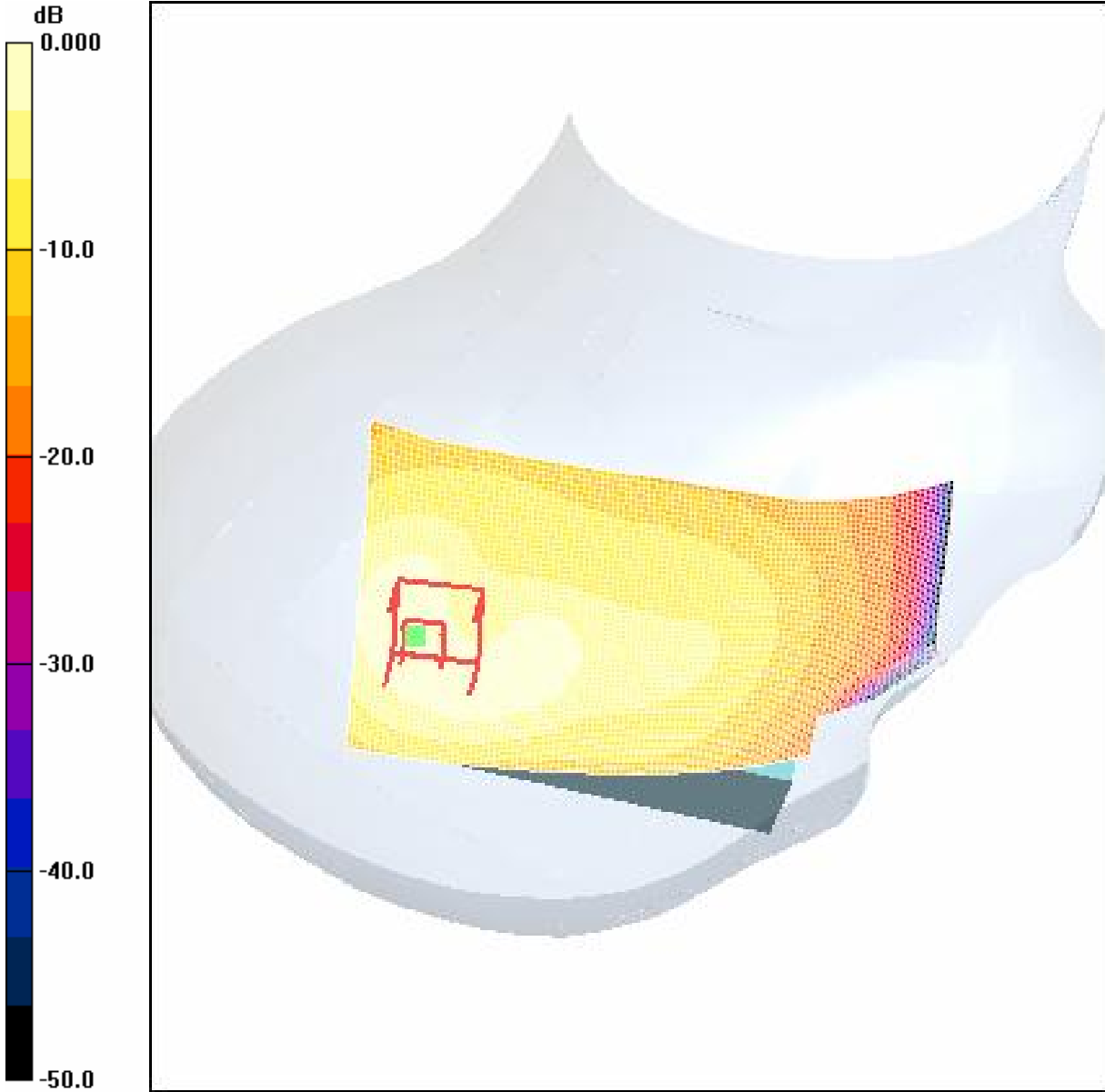
- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - Low/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 9.47 V/m; Power Drift = -0.046 dB

Motorola Fast SAR: SAR(1 g) = 0.159 mW/g; SAR(10 g) = 0.092 mW/g

Maximum value of SAR (interpolated) = 0.181 mW/g



0 dB = 0.181mW/g

**4.41 RightHandSide-Tilt-PCS1900-Middle-off**

Date/Time: 2006-5-26 22:06:47

Test Laboratory: SGS-GSM

PCS1900-RightHandSide-Tilt-Mid-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 40.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

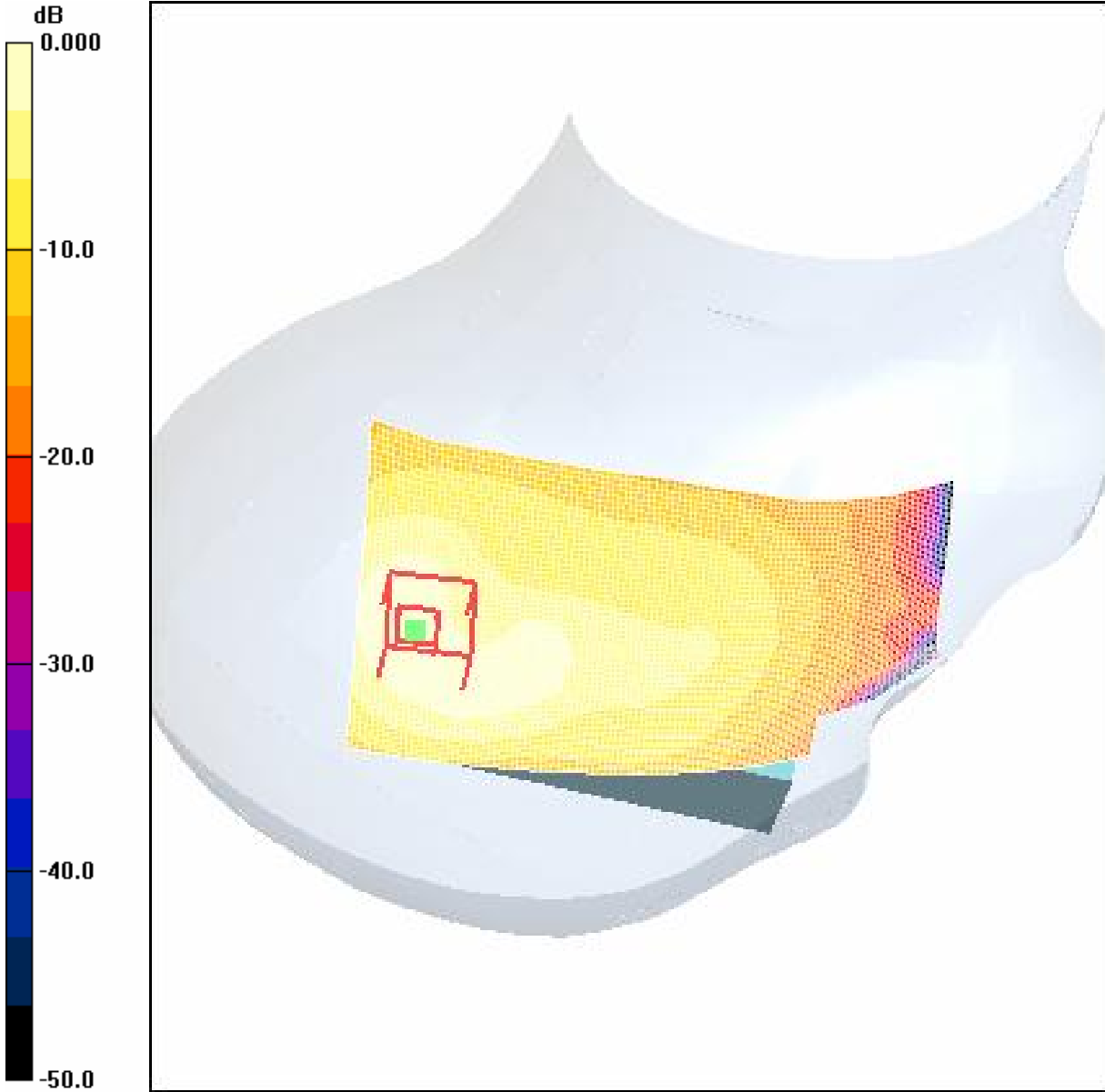
- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

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

Reference Value = 6.95 V/m; Power Drift = 0.043 dB

Motorola Fast SAR: SAR(1 g) = 0.105 mW/g; SAR(10 g) = 0.060 mW/g

Maximum value of SAR (interpolated) = 0.119 mW/g



0 dB = 0.119mW/g

**4.42 RightHandSide-Tilt-PCS1900-High-off**

Date/Time: 2006-5-26 22:18:13

Test Laboratory: SGS-GSM

PCS1900-RightHandSide-Tilt-High-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1909.8$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 40$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

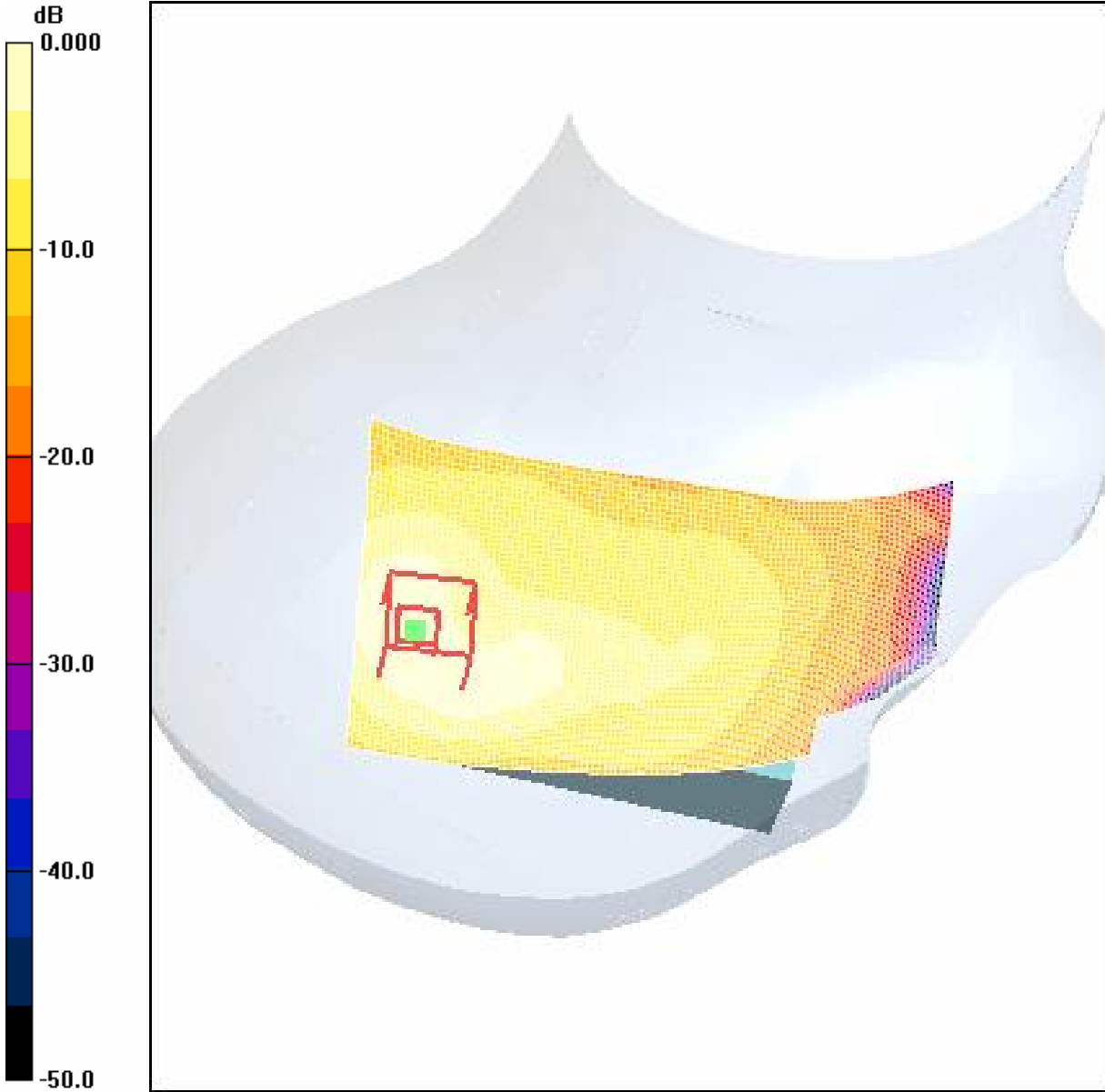
- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - High/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 5.10 V/m; Power Drift = 0.064 dB

Motorola Fast SAR: SAR(1 g) = 0.067 mW/g; SAR(10 g) = 0.038 mW/g

Maximum value of SAR (interpolated) = 0.076 mW/g



0 dB = 0.076mW/g

***RightHandSide-Tilt-PCS1900-Low-off (Maximum Value)***

Date/Time: 2006-5-26 22:40:40

Test Laboratory: SGS-GSM

PCS1900-RightHandSide-Tilt-Low-off(conventional)

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.42$  mho/m;  $\epsilon_r = 40.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Maximum Position - Traditional Method/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.192 mW/g

Maximum Position - Traditional Method/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

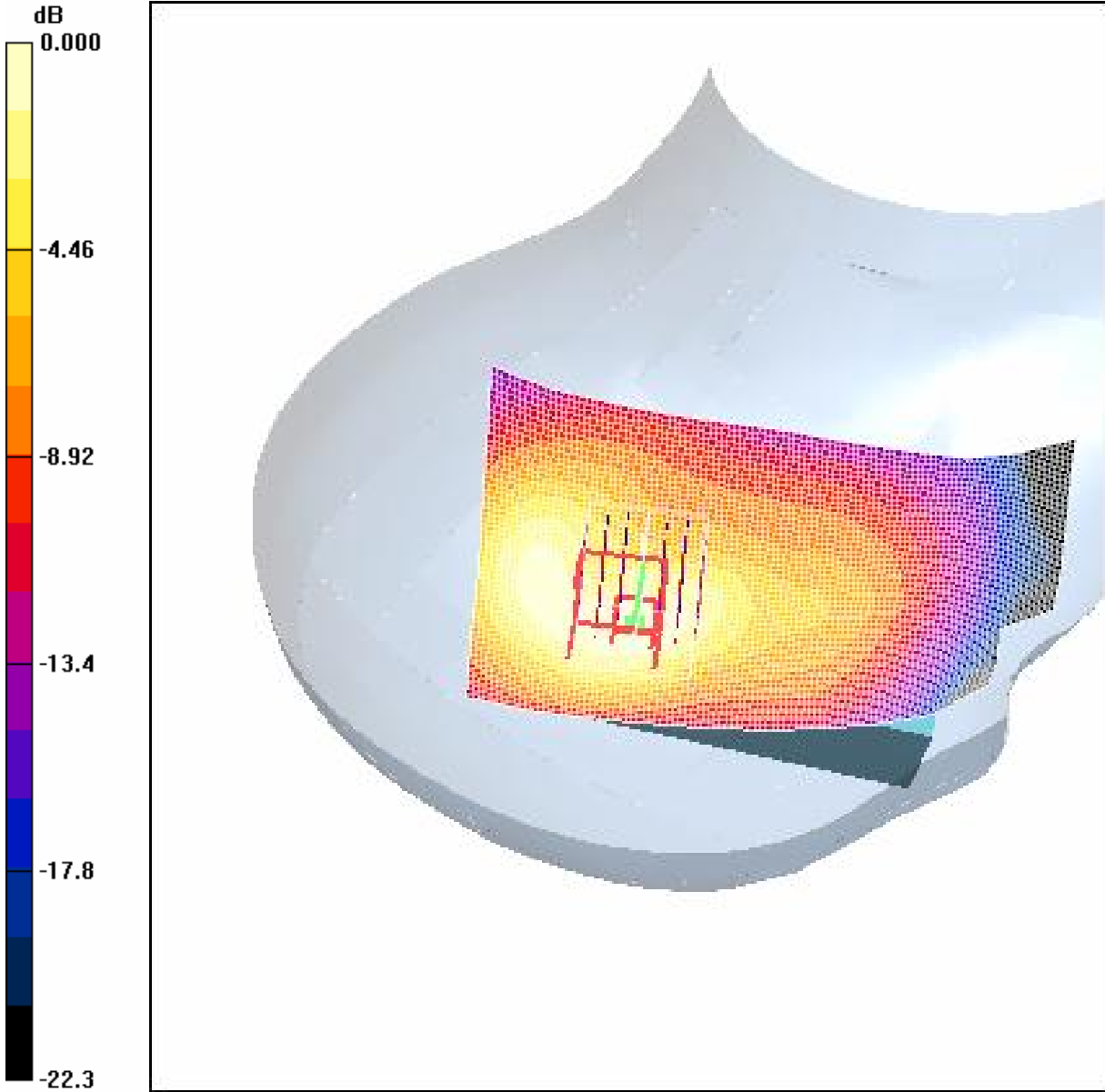
Reference Value = 9.58 V/m; Power Drift = -0.017 dB

Peak SAR (extrapolated) = 0.319 W/kg

SAR(1 g) = 0.163 mW/g; SAR(10 g) = 0.086 mW/g

Maximum value of SAR (measured) = 0.180 mW/g





0 dB = 0.180mW/g

**4.43 Body-Worn-PCS1900-Low-off**

Date/Time: 2006-5-29 13:24:41

Test Laboratory: SGS-GSM

PCS1900-Body-Worn-Low-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL1900-Body Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.49$  mho/m;  $\epsilon_r = 51.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

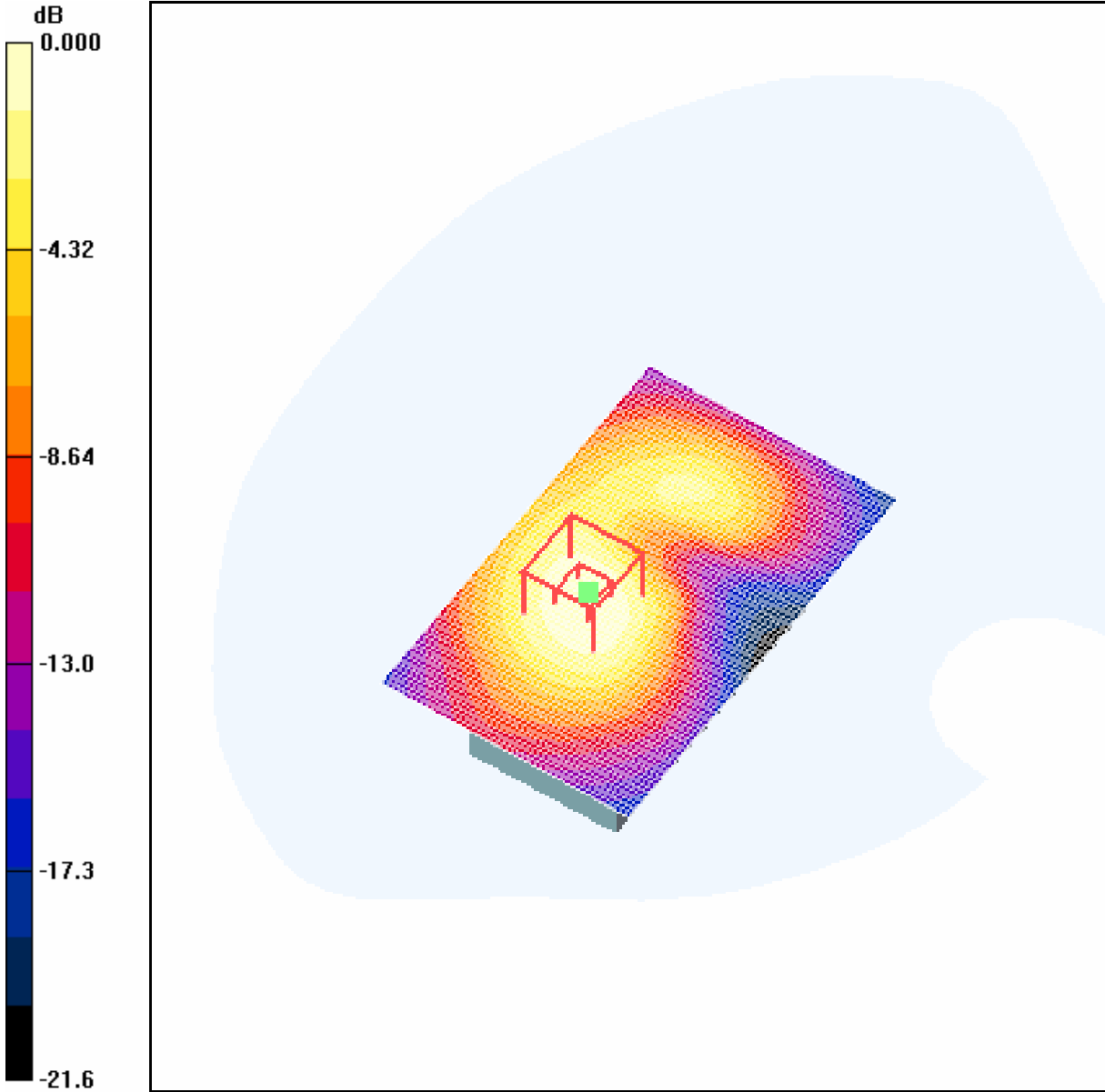
- Probe: ES3DV3 - SN3088; ConvF(4.53, 4.53, 4.53); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body Worn - Low/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 14.2 V/m; Power Drift = 0.030 dB

Motorola Fast SAR: SAR(1 g) = 0.510 mW/g; SAR(10 g) = 0.298 mW/g

Maximum value of SAR (interpolated) = 0.571 mW/g



0 dB = 0.571mW/g

**4.44 Body-Worn-PCS1900-Middle-off**

Date/Time: 2006-5-29 13:08:12

Test Laboratory: SGS-GSM

PCS1900-Body-Worn-Mid-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL1900-Body Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.52$  mho/m;  $\epsilon_r = 51.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

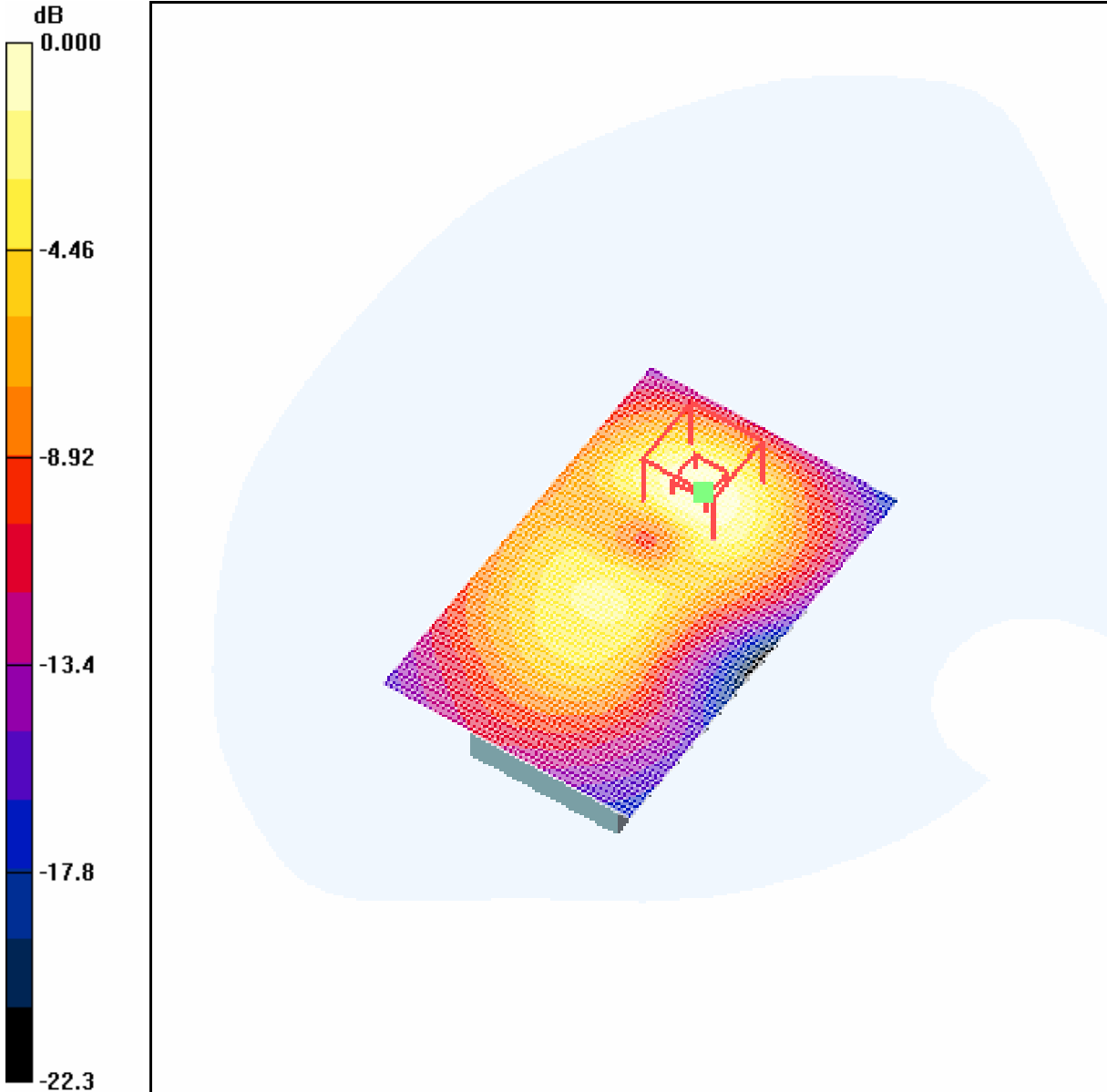
- Probe: ES3DV3 - SN3088; ConvF(4.53, 4.53, 4.53); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body Worn - Middle/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 18.2 V/m; Power Drift = -0.023 dB

Motorola Fast SAR: SAR(1 g) = 0.434 mW/g; SAR(10 g) = 0.228 mW/g

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



0 dB = 0.523mW/g

**4.45 Body-Worn-PCS1900-High-off**

Date/Time: 2006-5-29 13:15:18

Test Laboratory: SGS-GSM

## PCS1900-Body-Worn-High-off

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL1900-Body Medium parameters used:  $f = 1909.8$  MHz;  $\sigma = 1.55$  mho/m;  $\epsilon_r = 51.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS4 (High Precision Assessment)

### DASY4 Configuration:

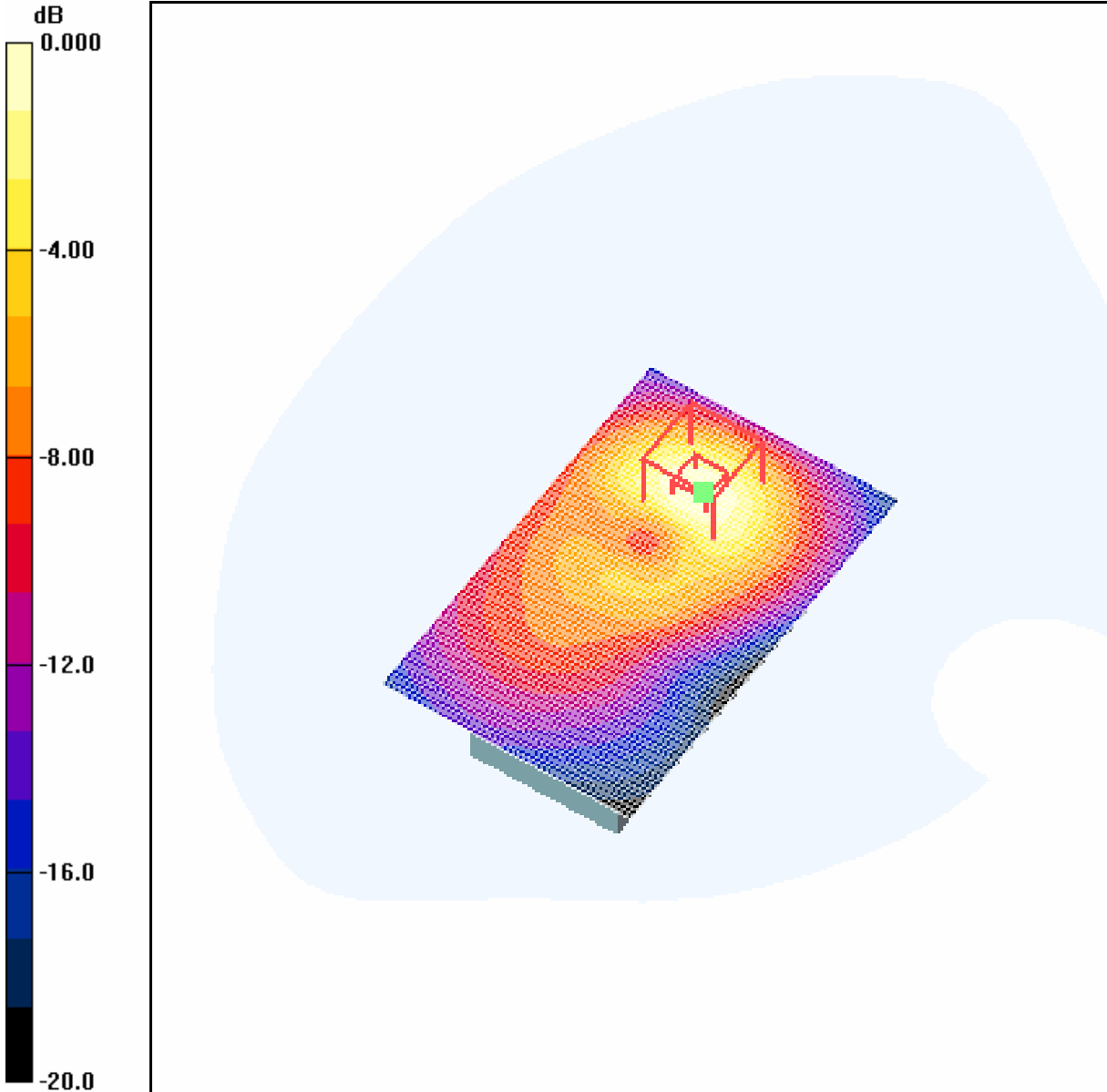
- Probe: ES3DV3 - SN3088; ConvF(4.53, 4.53, 4.53); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body Worn - High/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 18.3 V/m; Power Drift = 0.007 dB

Motorola Fast SAR: SAR(1 g) = 0.463 mW/g; SAR(10 g) = 0.242 mW/g

Maximum value of SAR (interpolated) = 0.553 mW/g



0 dB = 0.553mW/g

***Body-Worn-PCS1900-Low-off (Maximum Value)***

Date/Time: 2006-5-29 13:35:41

Test Laboratory: SGS-GSM

PCS1900-Body-Worn-Low-Off(conventional)

DUT: GSM10000064D-OFF; Type: Body; Serial: 20060525

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

Medium: HSL1900-Body Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.49$  mho/m;  $\epsilon_r = 51.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASYS4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.53, 4.53, 4.53); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Maximum Position - Tadtional Method/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

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

Maximum Position - Tadtional Method/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

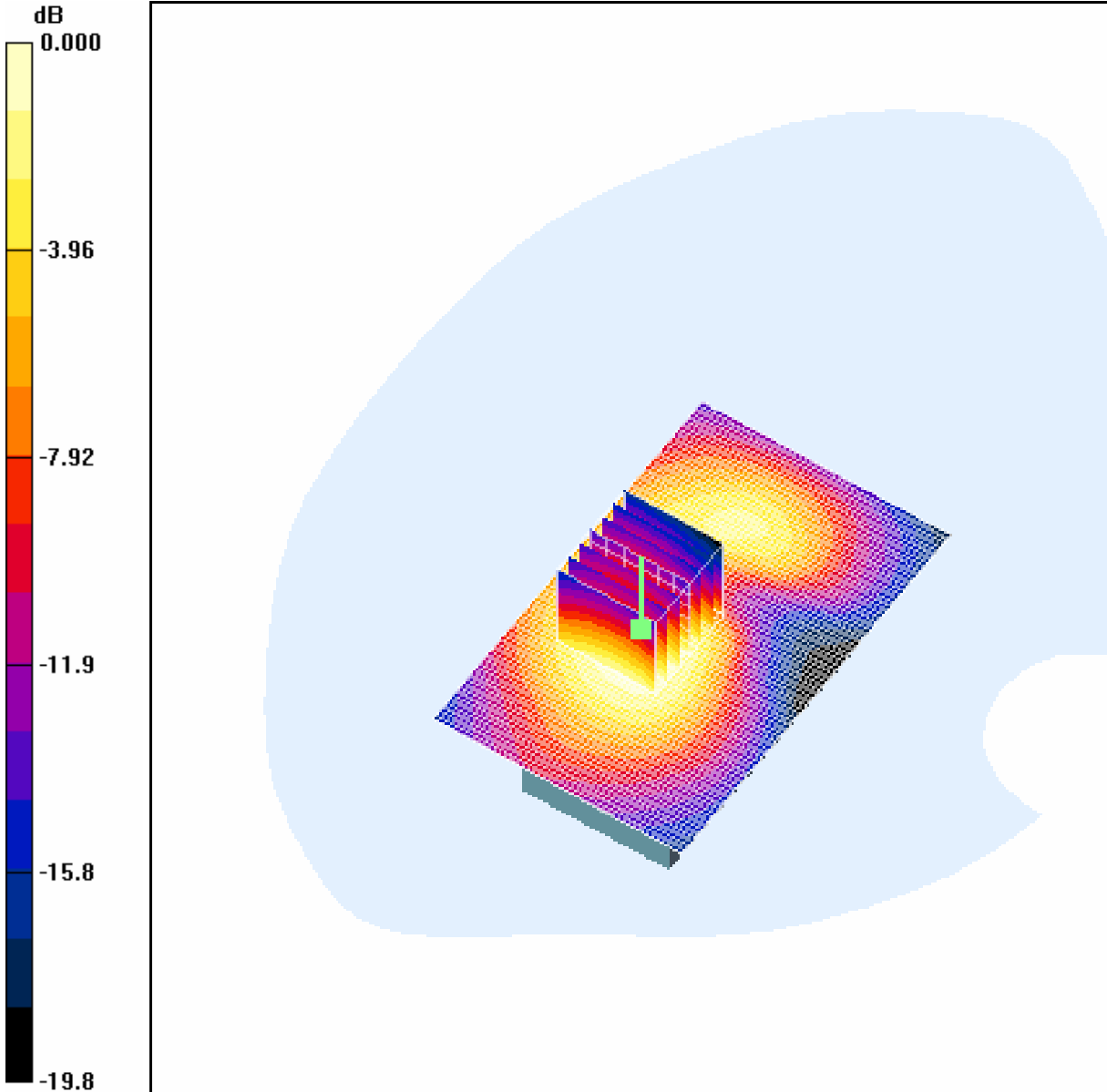
Reference Value = 14.3 V/m; Power Drift = 0.025 dB

Peak SAR (extrapolated) = 0.758 W/kg

SAR(1 g) = 0.493 mW/g; SAR(10 g) = 0.294 mW/g

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





0 dB = 0.535mW/g

**4.46 LeftHandSide-Cheek-PCS1900-Low-on**

Date/Time: 2006-5-27 11:45:38

Test Laboratory: SGS-GSM

PCS1900-LeftHandSide-Cheek-Low-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.42$  mho/m;  $\epsilon_r = 40.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

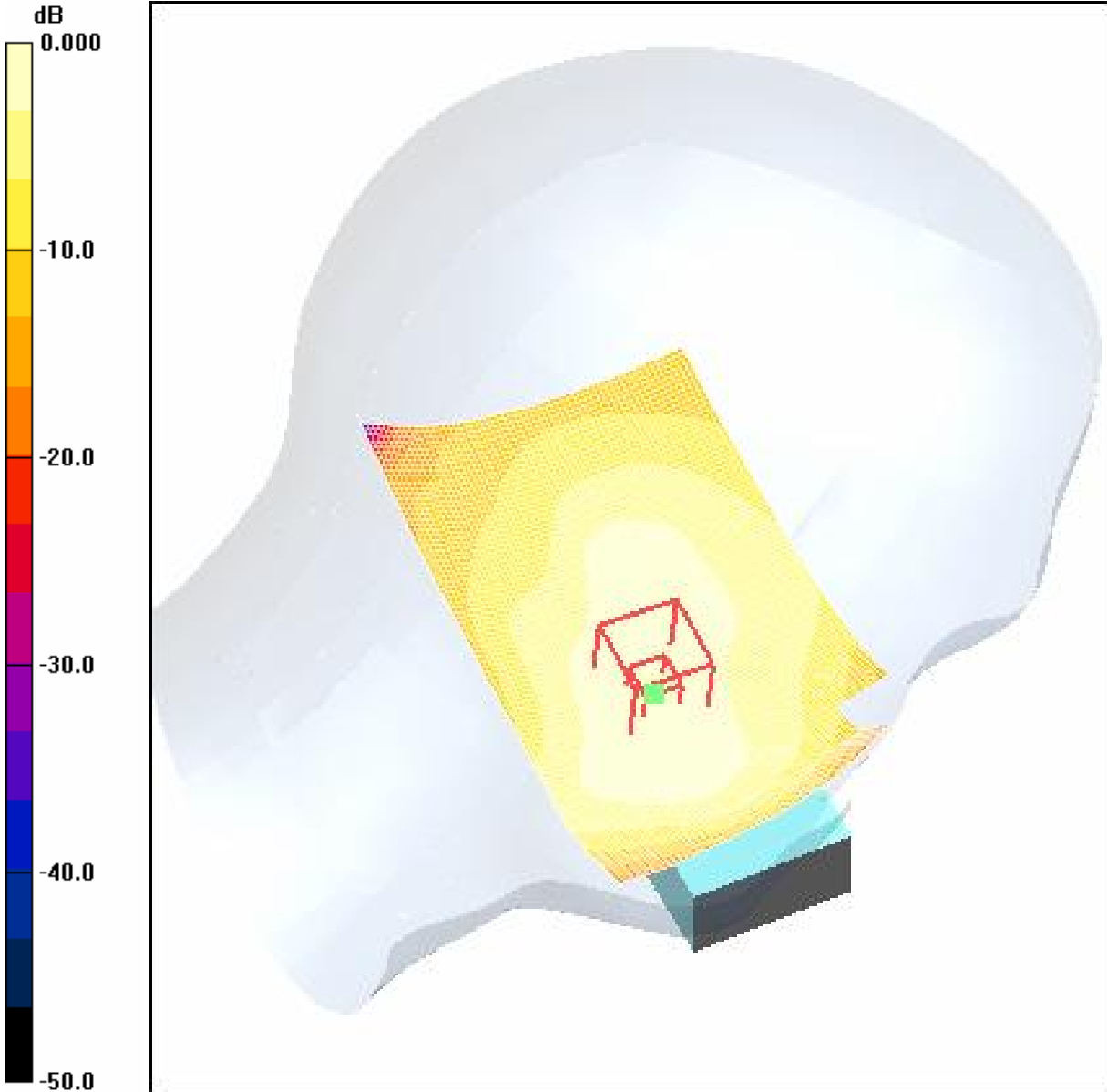
- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

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

Reference Value = 6.45 V/m; Power Drift = -0.183 dB

Motorola Fast SAR: SAR(1 g) = 0.089 mW/g; SAR(10 g) = 0.053 mW/g

Maximum value of SAR (interpolated) = 0.099 mW/g



0 dB = 0.099mW/g

**4.47 LeftHandSide-Cheek-PCS1900-Middle-on**

Date/Time: 2006-5-27 11:57:46

Test Laboratory: SGS-GSM

**PCS1900-LeftHandSide-Cheek-Mid-on**

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 40.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

**DASY4 Configuration:**

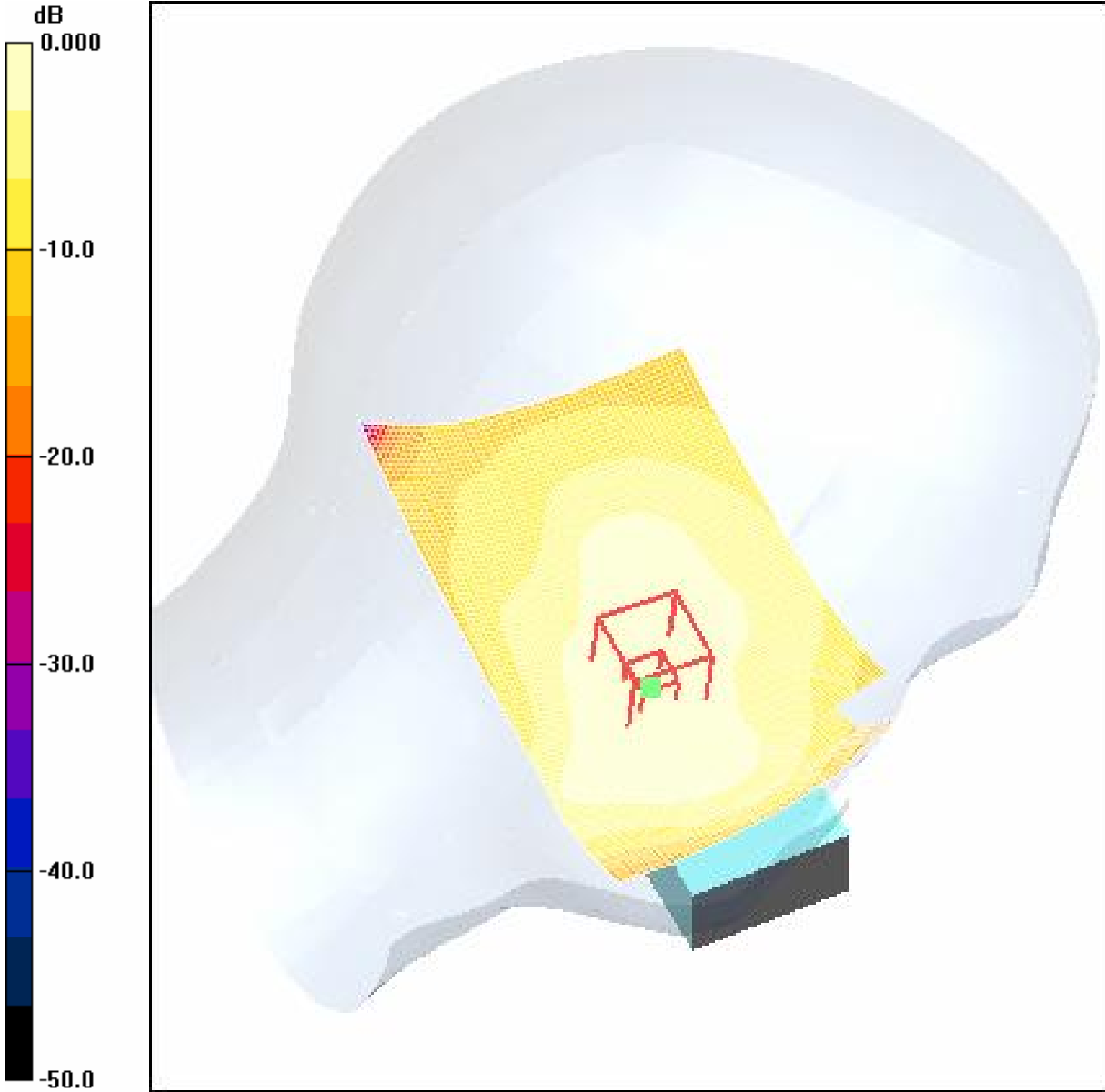
- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

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

Reference Value = 5.41 V/m; Power Drift = 0.084 dB

Motorola Fast SAR: SAR(1 g) = 0.060 mW/g; SAR(10 g) = 0.036 mW/g

Maximum value of SAR (interpolated) = 0.066 mW/g



0 dB = 0.066mW/g

**4.48 LeftHandSide-Cheek-PCS1900-High-on**

Date/Time: 2006-5-27 12:17:50

Test Laboratory: SGS-GSM

## PCS1900-LeftHandSide-Cheek-High-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1909.8$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 40$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

### DASY4 Configuration:

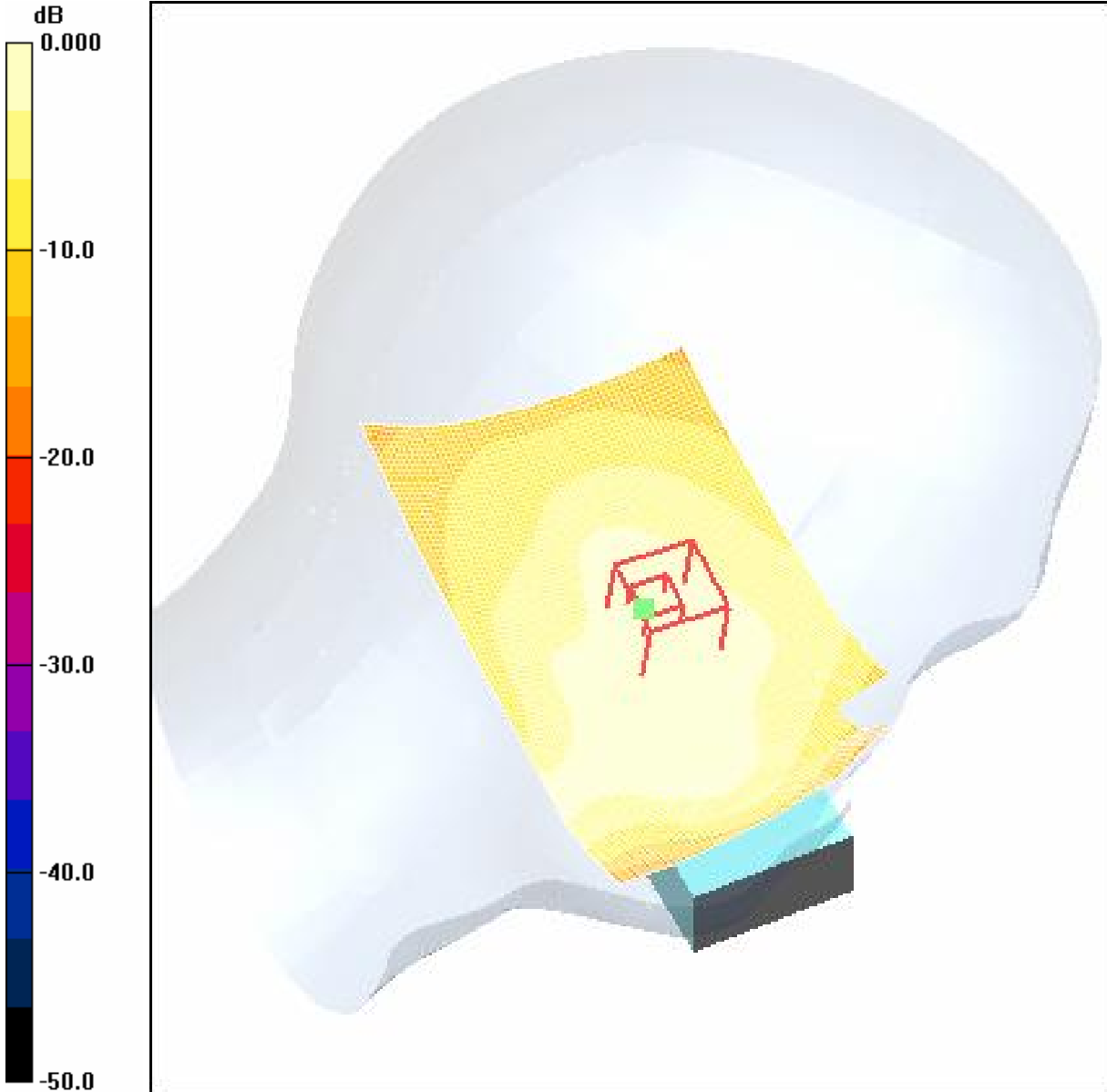
- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

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

Reference Value = 4.31 V/m; Power Drift = 0.082 dB

Motorola Fast SAR: SAR(1 g) = 0.039 mW/g; SAR(10 g) = 0.024 mW/g

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



0 dB = 0.044mW/g

**4.49 LeftHandSide-Tilt-PCS1900-Low-on**

Date/Time: 2006-5-27 12:30:24

Test Laboratory: SGS-GSM

PCS1900-LeftHandSide-Tilt-Low-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.42$  mho/m;  $\epsilon_r = 40.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

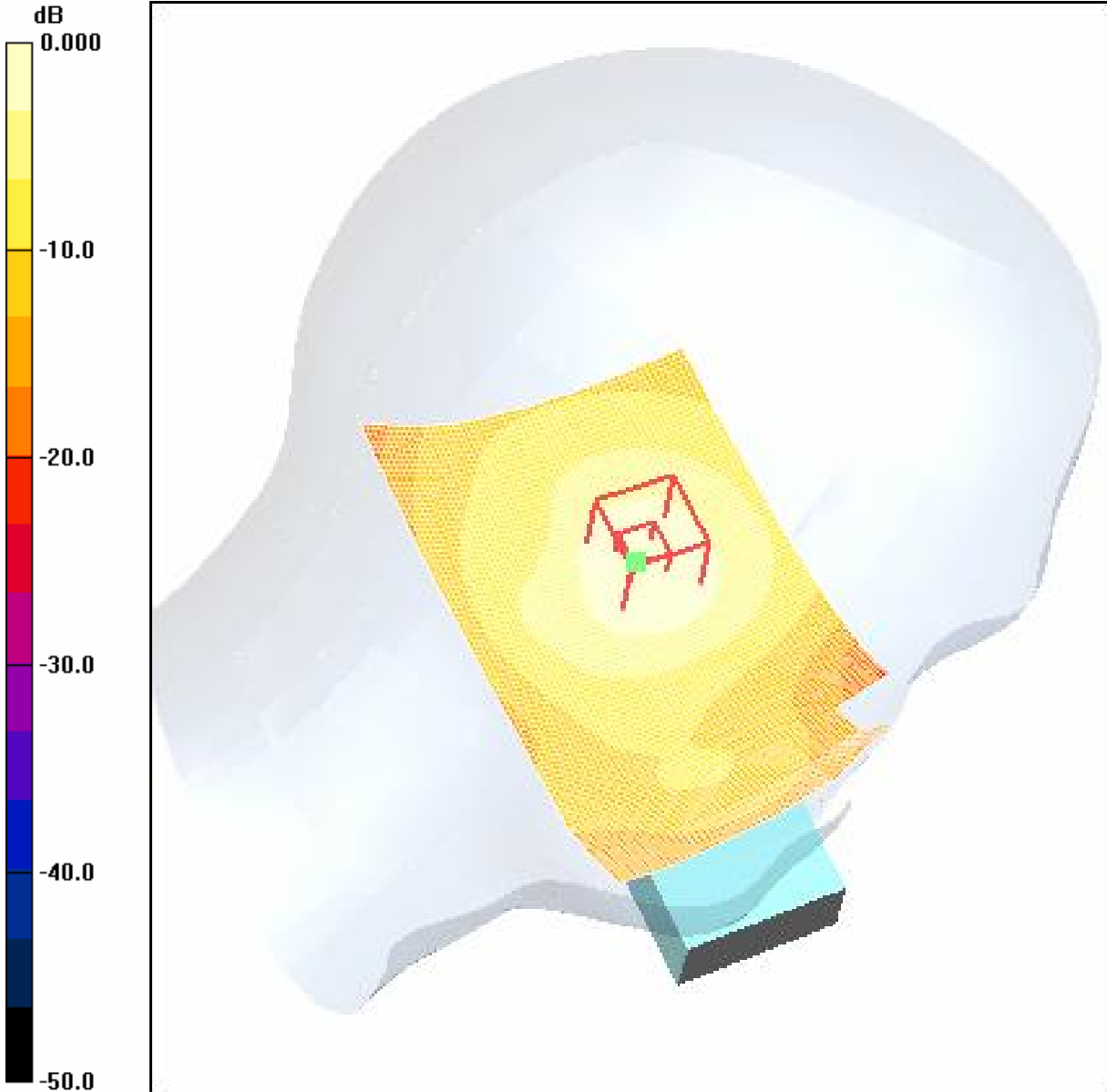
Tilt position - Low/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 8.21 V/m; Power Drift = -0.001 dB

Motorola Fast SAR: SAR(1 g) = 0.105 mW/g; SAR(10 g) = 0.061 mW/g

Maximum value of SAR (interpolated) = 0.119 mW/g





0 dB = 0.119mW/g

**4.50 LeftHandSide-Tilt-PCS1900-Middle-on**

Date/Time: 2006-5-27 12:42:16

Test Laboratory: SGS-GSM

PCS1900-LeftHandSide-Tilt-Mid-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 40.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

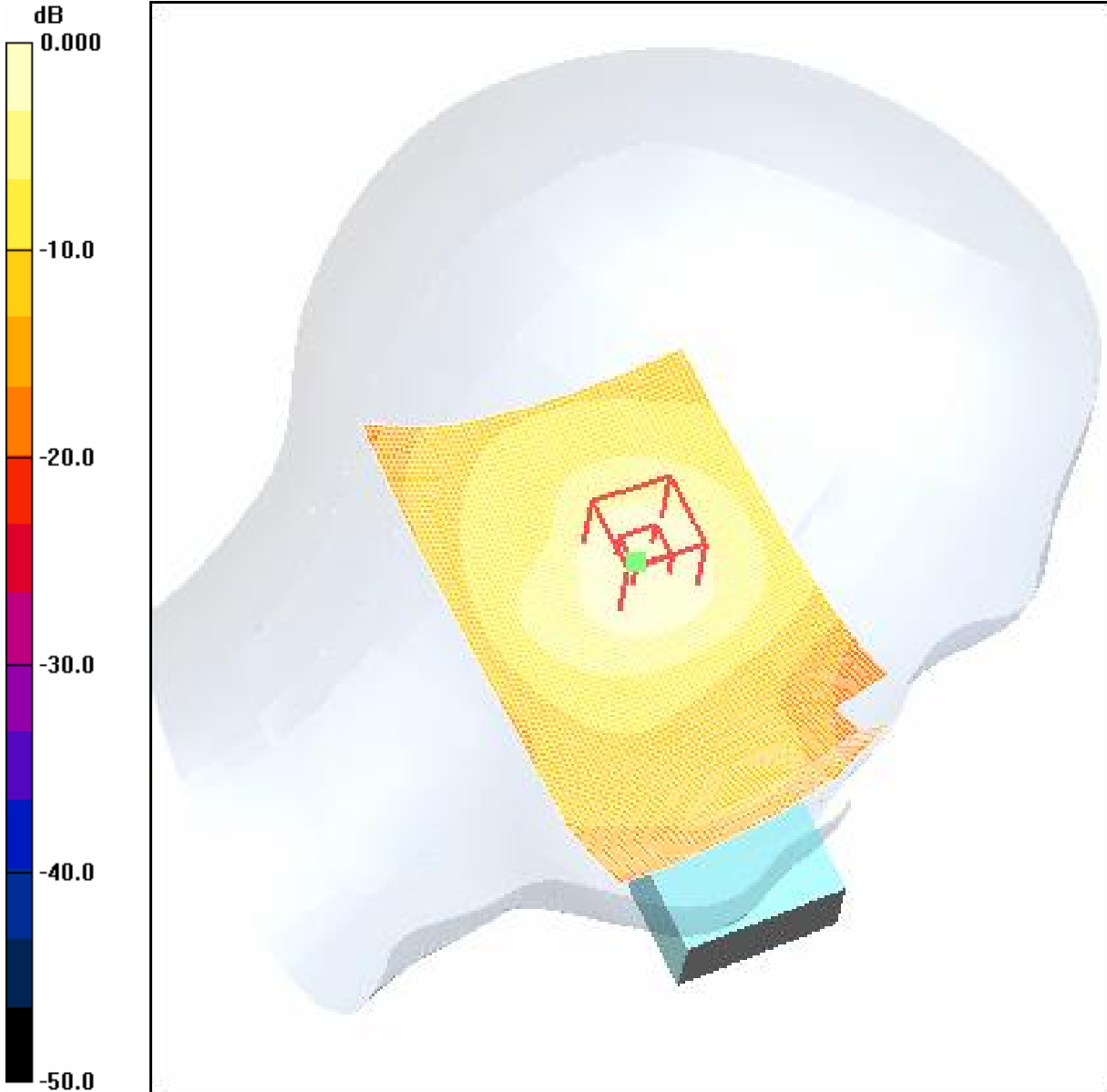
- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

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

Reference Value = 7.43 V/m; Power Drift = -0.048 dB

Motorola Fast SAR: SAR(1 g) = 0.089 mW/g; SAR(10 g) = 0.051 mW/g

Maximum value of SAR (interpolated) = 0.101 mW/g



0 dB = 0.101mW/g

**4.51 LeftHandSide-Tilt-PCS1900-High-on**

Date/Time: 2006-5-27 12:58:18

Test Laboratory: SGS-GSM

PCS1900-LeftHandSide-Tilt-High-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1909.8$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 40$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

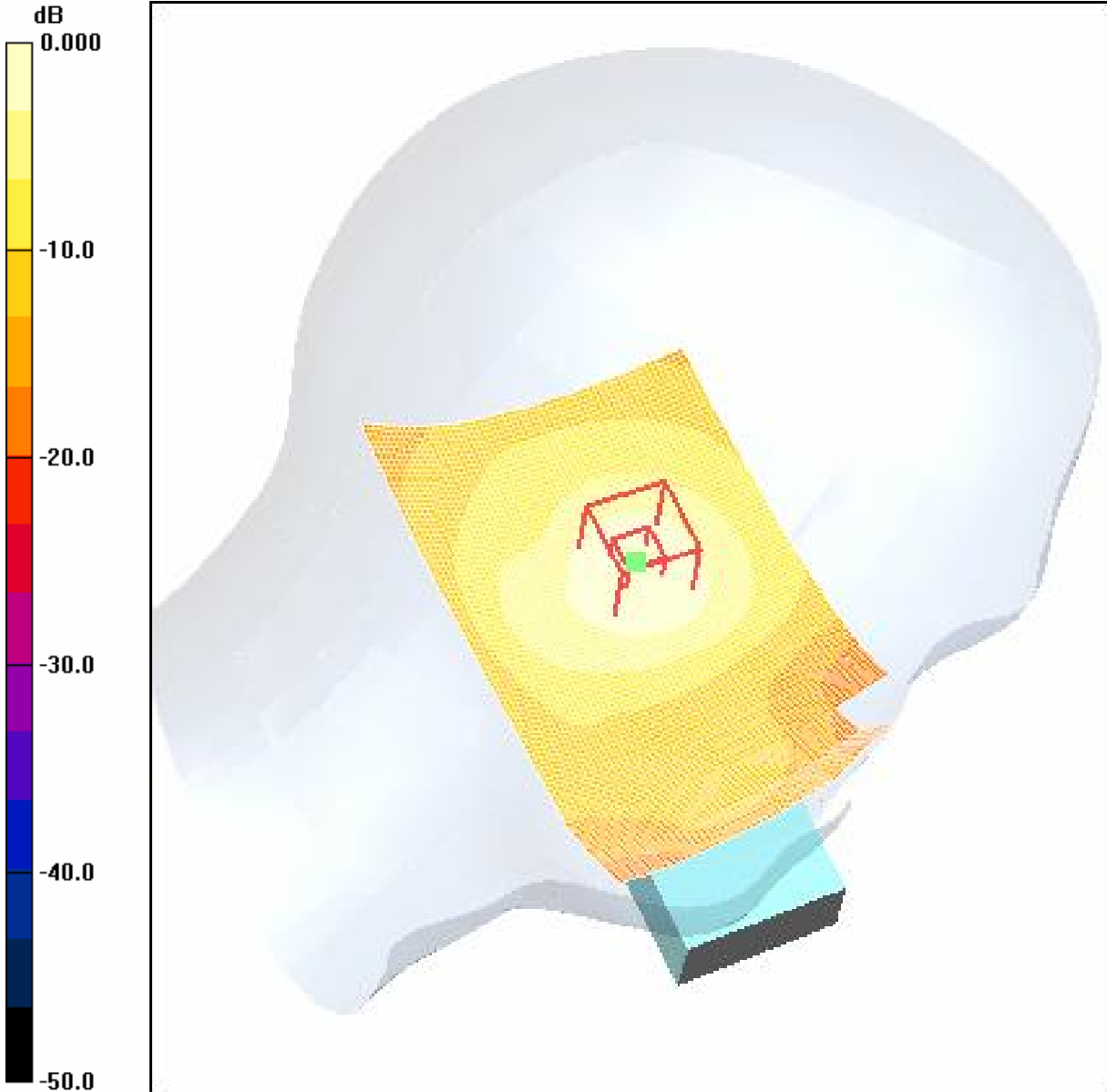
- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - High/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 6.43 V/m; Power Drift = 0.013 dB

Motorola Fast SAR: SAR(1 g) = 0.065 mW/g; SAR(10 g) = 0.037 mW/g

Maximum value of SAR (interpolated) = 0.074 mW/g



0 dB = 0.074mW/g

***LeftHandSide-Tilt-PCS1900-Low-on (Maximum Value)***

Date/Time: 2006-5-27 16:44:45

Test Laboratory: SGS-GSM

PCS1900-LeftHandSide-Tilt-Low-on(conventional)

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.42$  mho/m;  $\epsilon_r = 40.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Maximum Position - Traditional Method/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.164 mW/g

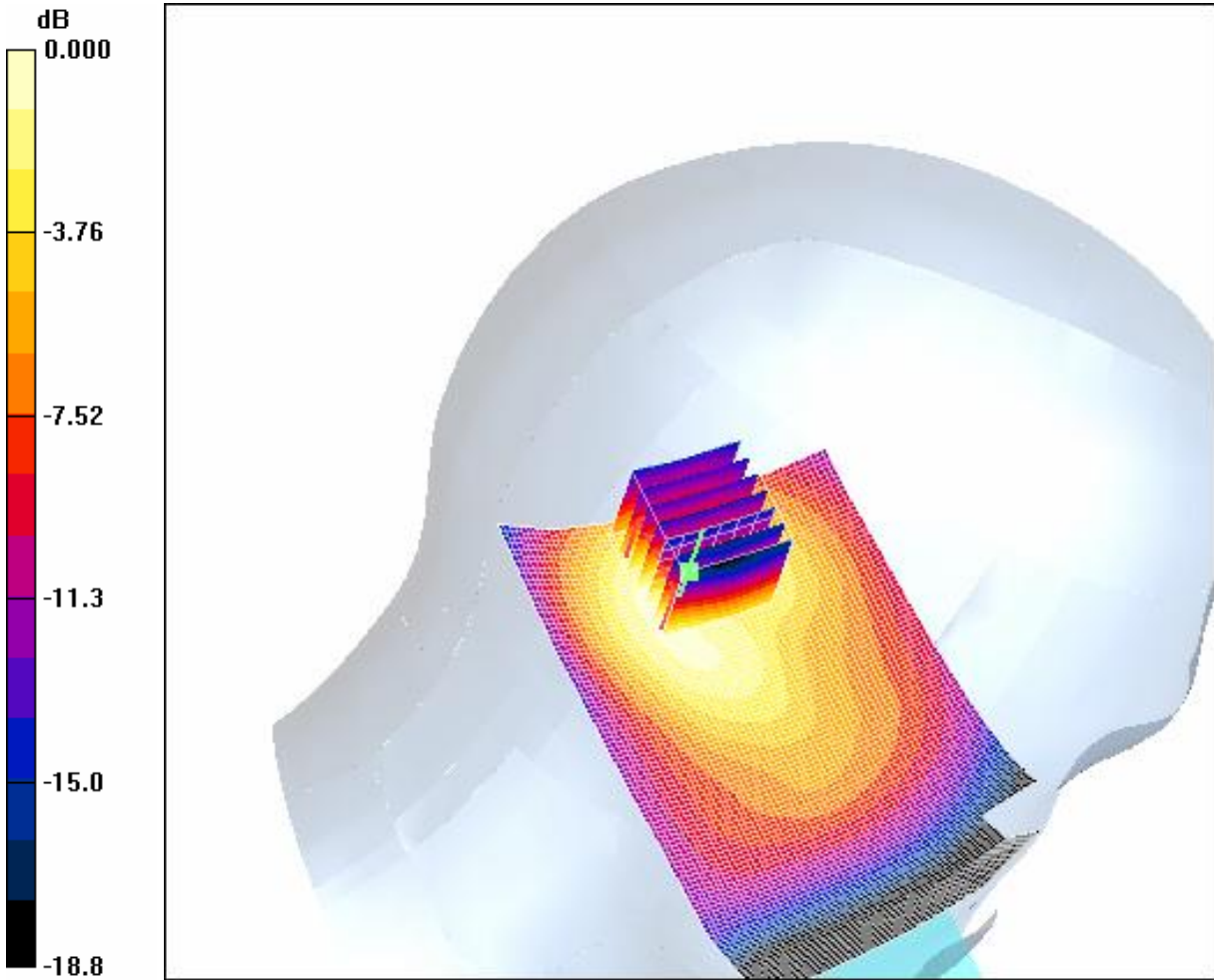
Maximum Position - Traditional Method/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.53 V/m; Power Drift = 0.006 dB

Peak SAR (extrapolated) = 0.271 W/kg

SAR(1 g) = 0.160 mW/g; SAR(10 g) = 0.090 mW/g

Maximum value of SAR (measured) = 0.176 mW/g



0 dB = 0.176mW/g

**4.52 RightHandSide-Cheek-PCS1900-Low-on**

Date/Time: 2006-5-26 23:32:15

Test Laboratory: SGS-GSM

PCS1900-RightHandSide-Cheek-Low-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.42$  mho/m;  $\epsilon_r = 40.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

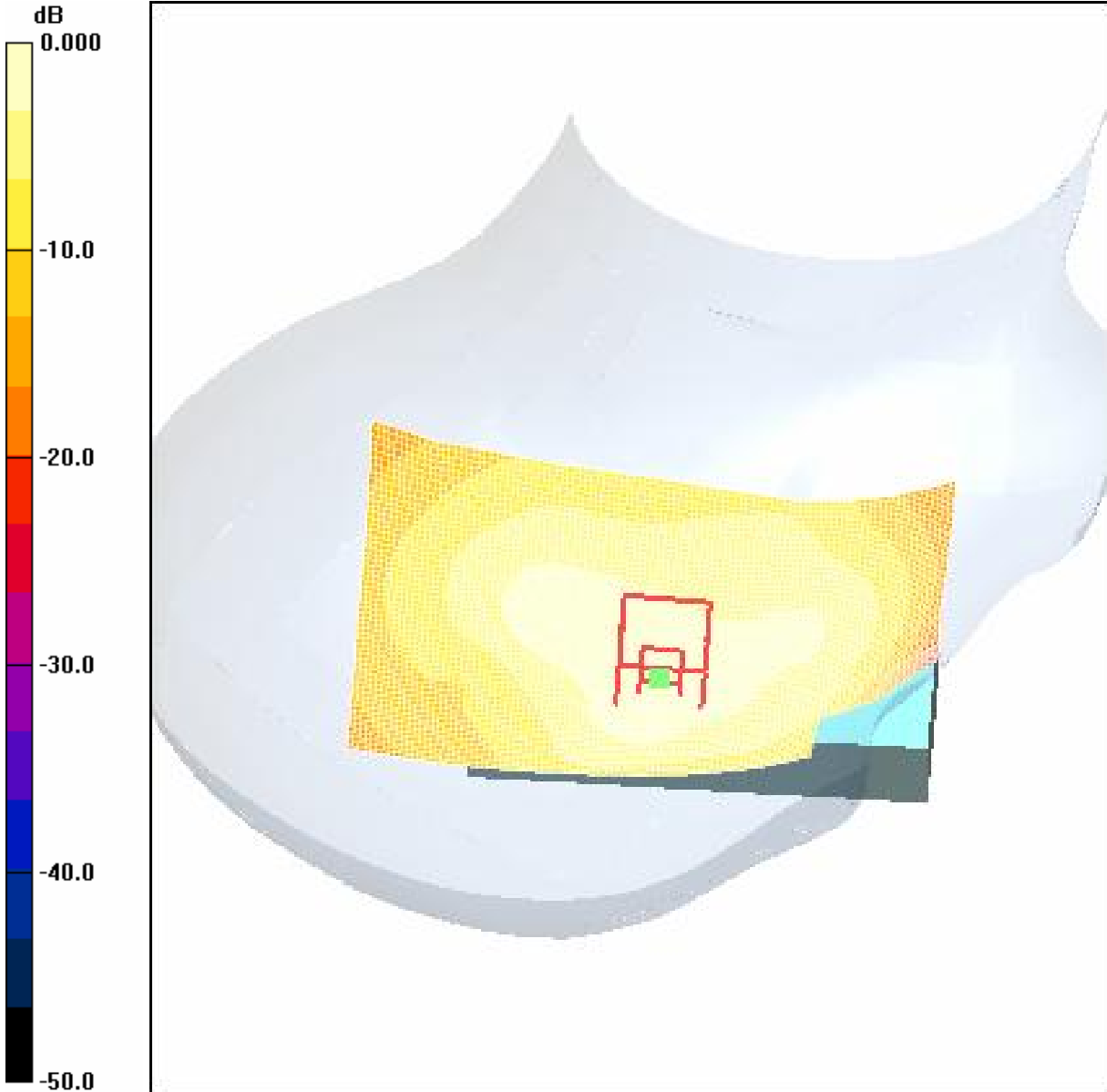
Cheek Position - Low/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 7.46 V/m; Power Drift = -0.007 dB

Motorola Fast SAR: SAR(1 g) = 0.101 mW/g; SAR(10 g) = 0.060 mW/g

Maximum value of SAR (interpolated) = 0.112 mW/g





0 dB = 0.112mW/g

**4.53 RightHandSide-Cheek-PCS1900-Middle-on**

Date/Time: 2006-5-26 23:45:18

Test Laboratory: SGS-GSM

PCS1900-RightHandSide-Cheek-Mid-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 40.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

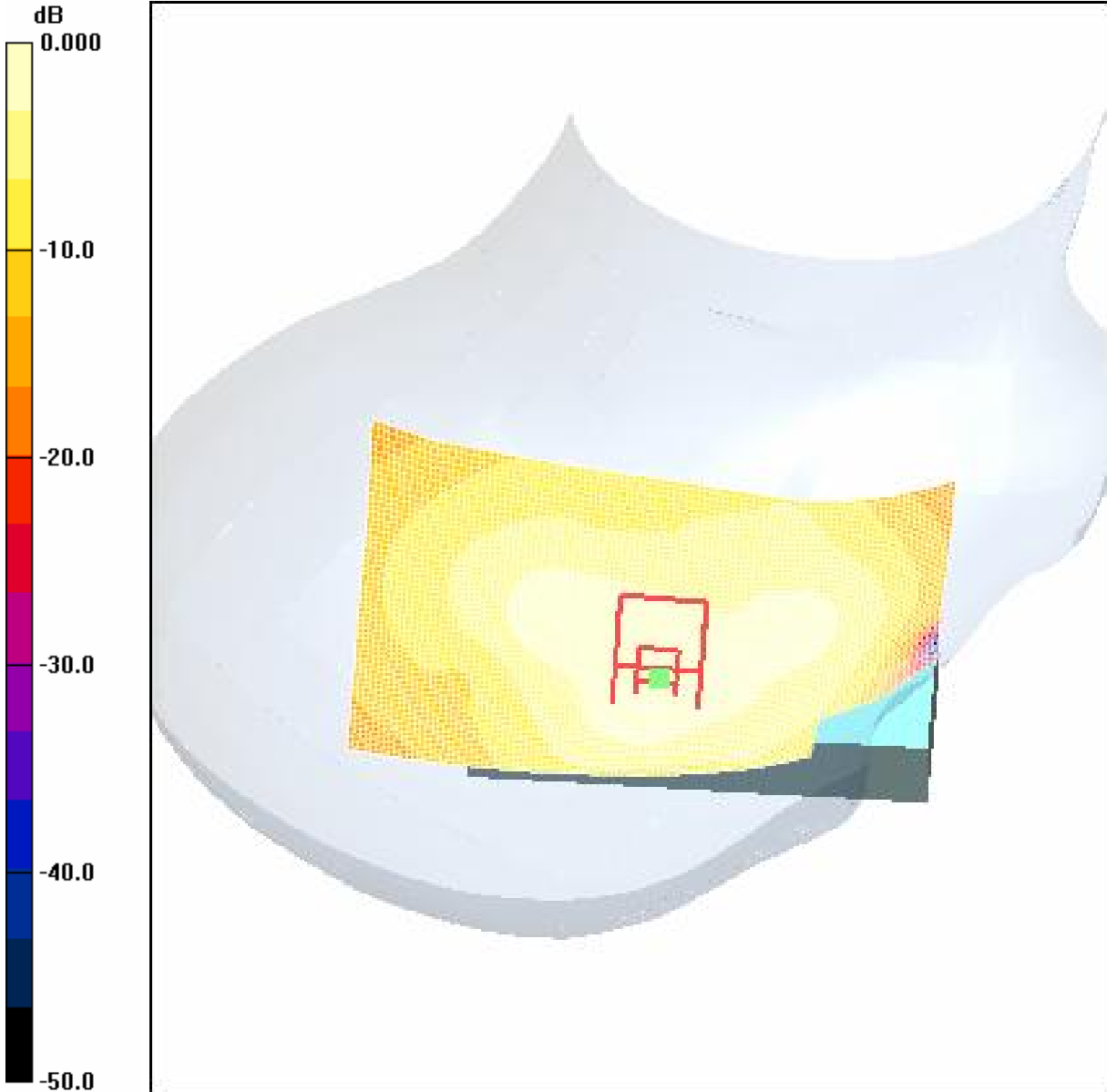
- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

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

Reference Value = 6.22 V/m; Power Drift = 0.114 dB

Motorola Fast SAR: SAR(1 g) = 0.073 mW/g; SAR(10 g) = 0.043 mW/g

Maximum value of SAR (interpolated) = 0.081 mW/g



0 dB = 0.081mW/g

**4.54 RightHandSide-Cheek-PCS1900-High-on**

Date/Time: 2006-5-26 23:56:41

Test Laboratory: SGS-GSM

PCS1900-RightHandSide-Cheek-High-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1909.8$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 40$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

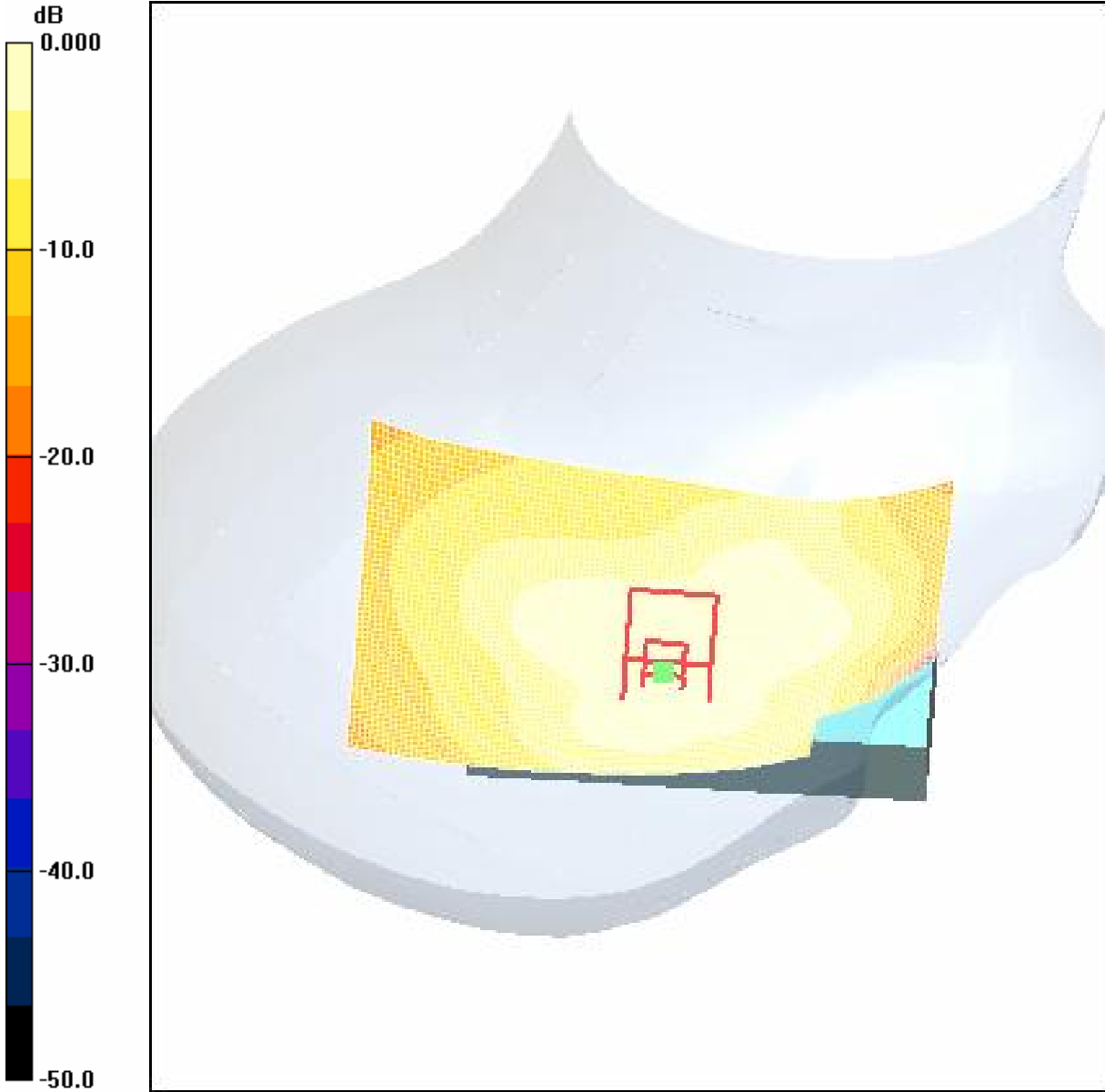
- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

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

Reference Value = 4.61 V/m; Power Drift = 0.072 dB

Motorola Fast SAR: SAR(1 g) = 0.042 mW/g; SAR(10 g) = 0.026 mW/g

Maximum value of SAR (interpolated) = 0.046 mW/g



0 dB = 0.046mW/g

**4.55 RightHandSide-Tilt-PCS1900-Low-on**

Date/Time: 2006-5-27 10:34:52

Test Laboratory: SGS-GSM

PCS1900-RightHandSide-Tilt-Low-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.42$  mho/m;  $\epsilon_r = 40.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

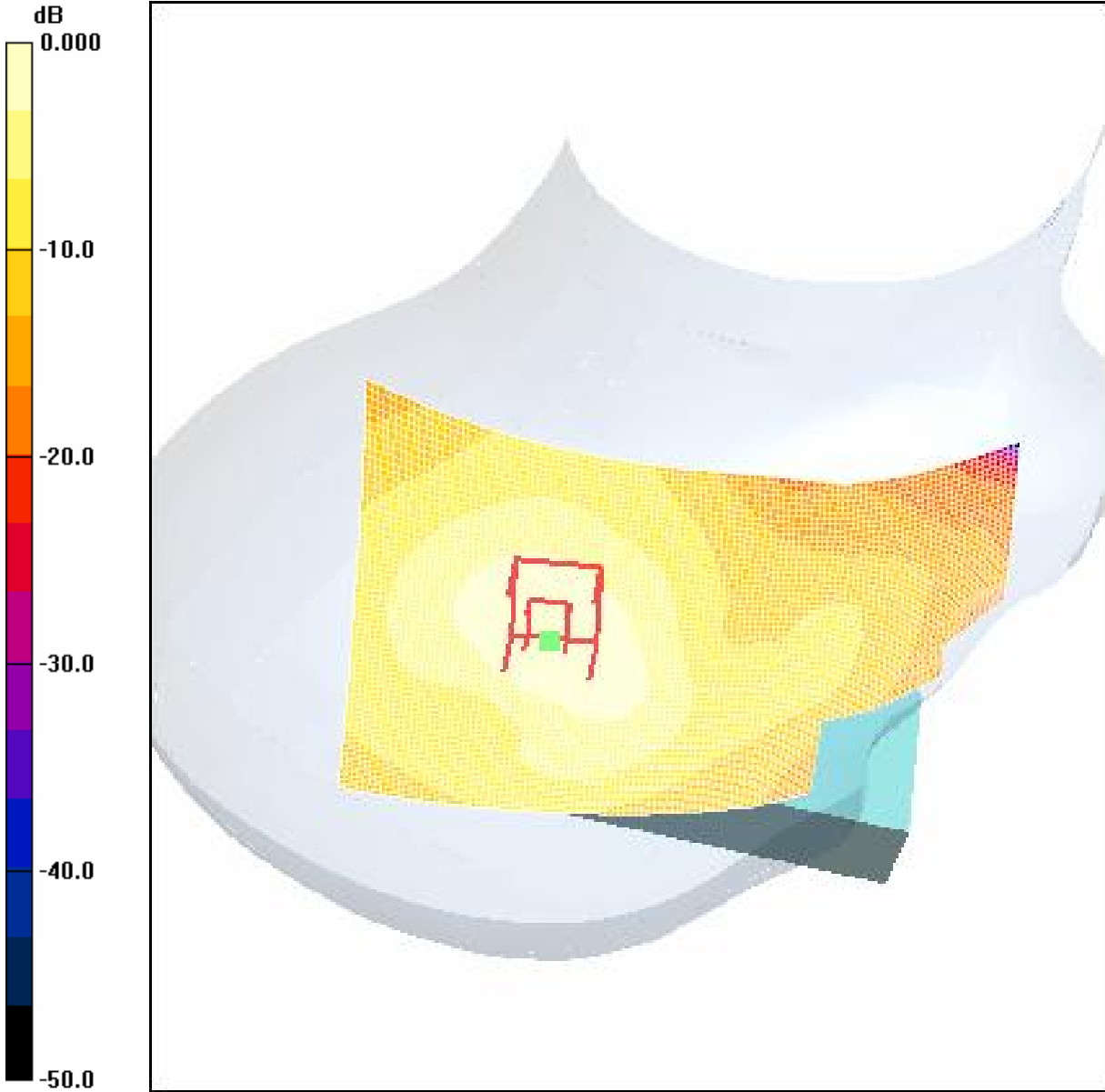
- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - Low/Area Scan (71x111x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 8.28 V/m; Power Drift = -0.023 dB

Motorola Fast SAR: SAR(1 g) = 0.091 mW/g; SAR(10 g) = 0.054 mW/g

Maximum value of SAR (interpolated) = 0.101 mW/g



0 dB = 0.101mW/g

**4.56 RightHandSide-Tilt-PCS1900-Middle-on**

Date/Time: 2006-5-27 10:15:13

Test Laboratory: SGS-GSM

PCS1900-RightHandSide-Tilt-Mid-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 40.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASYS4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

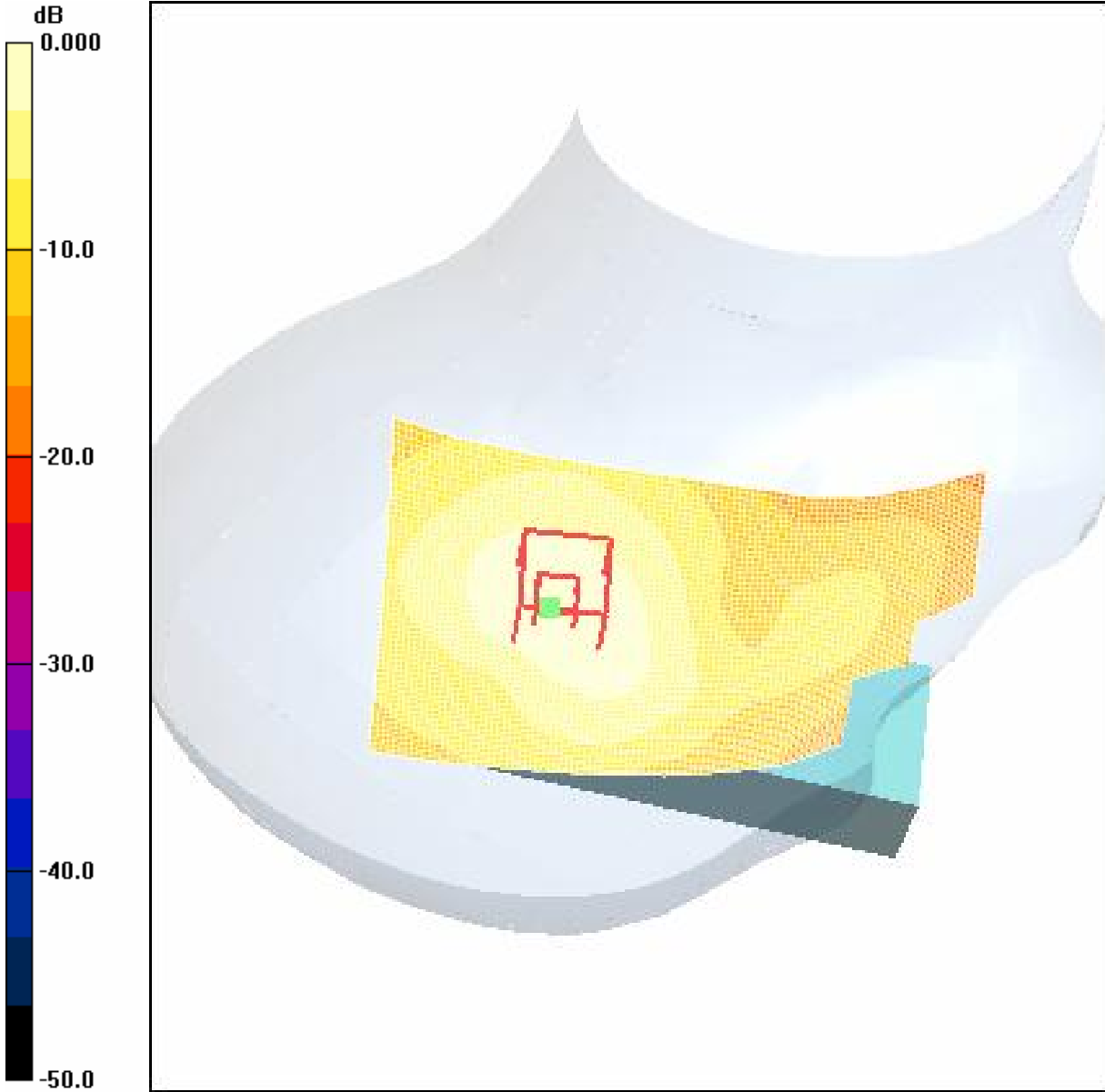
Tilt position -Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 7.60 V/m; Power Drift = 0.017 dB

Motorola Fast SAR: SAR(1 g) = 0.079 mW/g; SAR(10 g) = 0.047 mW/g

Maximum value of SAR (interpolated) = 0.088 mW/g





0 dB = 0.088mW/g

**4.57 RightHandSide-Tilt-PCS1900-High-on**

Date/Time: 2006-5-27 10:51:10

Test Laboratory: SGS-GSM

## PCS1900-RightHandSide-Tilt-High-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1909.8$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 40$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASYS4 (High Precision Assessment)

### DASY4 Configuration:

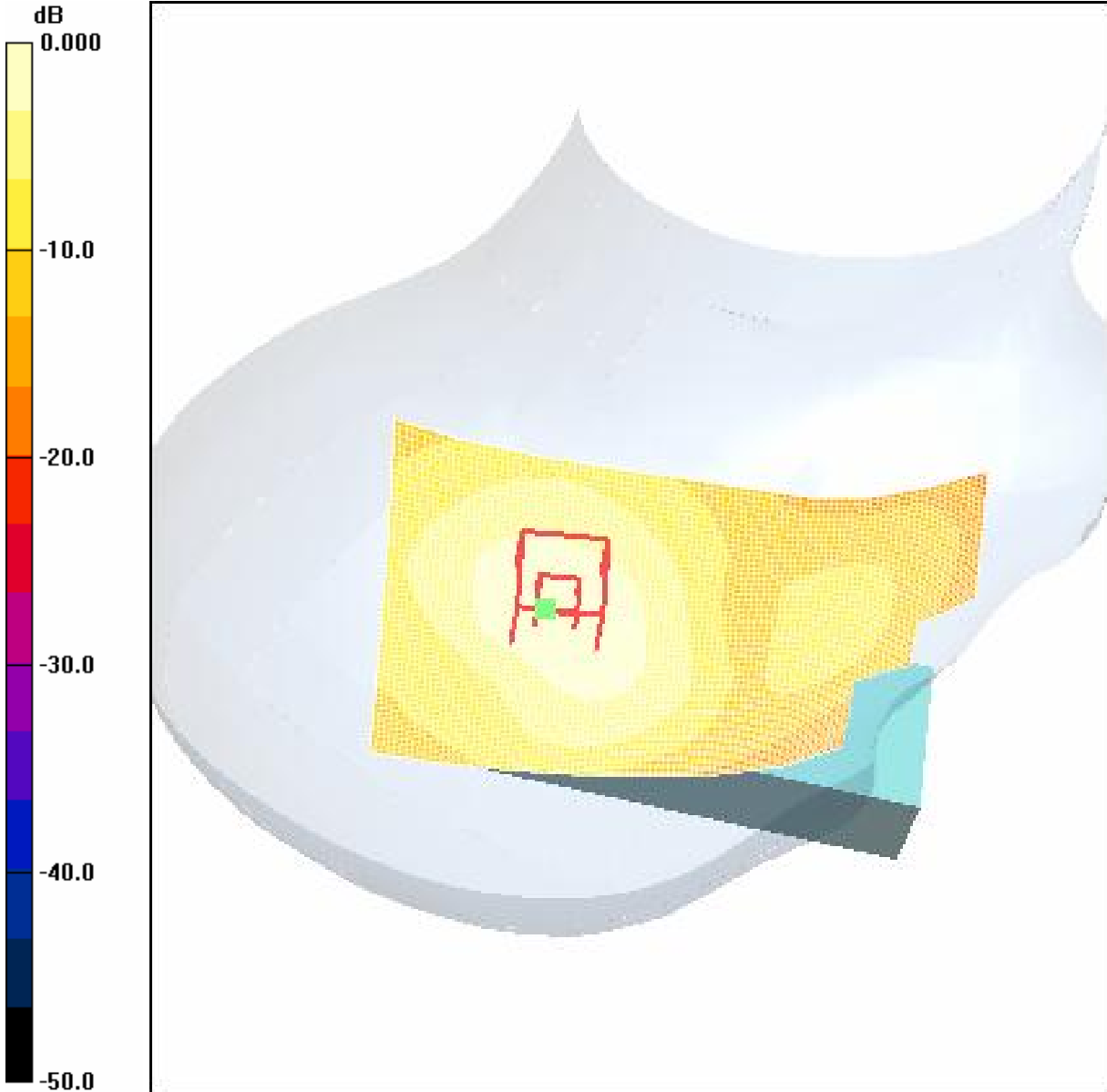
- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASYS4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Tilt position - High/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 6.20 V/m; Power Drift = 0.045 dB

Motorola Fast SAR: SAR(1 g) = 0.053 mW/g; SAR(10 g) = 0.031 mW/g

Maximum value of SAR (interpolated) = 0.059 mW/g



0 dB = 0.059mW/g

***RightHandSide-Cheek-PCS1900-Low-on (Maximum Value)***

Date/Time: 2006-5-27 11:08:35

Test Laboratory: SGS-GSM

**PCS1900-RightHandSide-Cheek-Low-on(conventional)**

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL1900 Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.42$  mho/m;  $\epsilon_r = 40.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

**DASY4 Configuration:**

- Probe: ES3DV3 - SN3088; ConvF(4.93, 4.93, 4.93); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

**Maximum Position - Traditional Method/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.109 mW/g

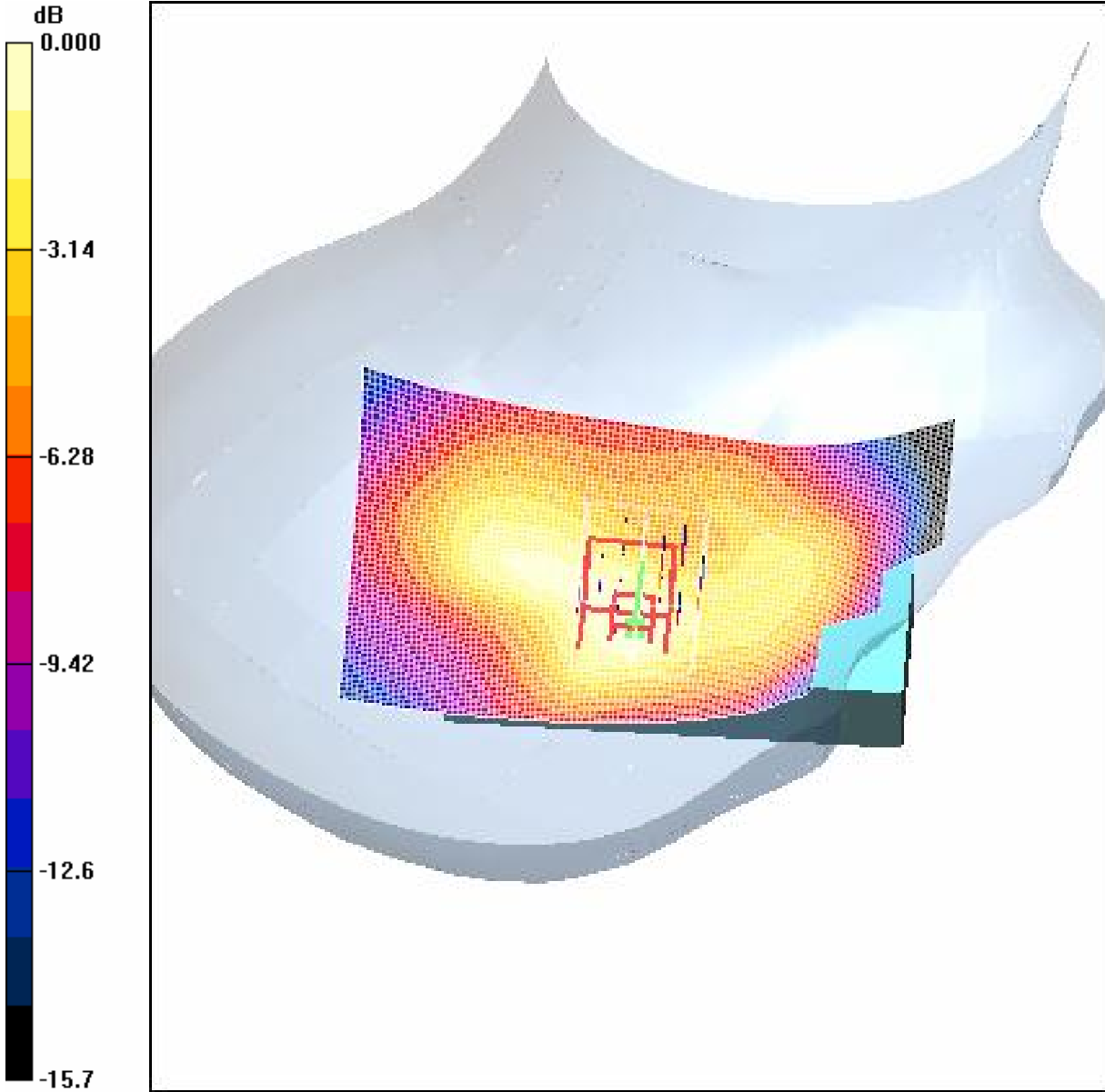
**Maximum Position - Traditional Method/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.76 V/m; Power Drift = 0.037 dB

Peak SAR (extrapolated) = 0.147 W/kg

SAR(1 g) = 0.098 mW/g; SAR(10 g) = 0.060 mW/g

Maximum value of SAR (measured) = 0.107 mW/g



0 dB = 0.107mW/g

**4.58 Body-Worn-PCS1900-Low-on**

Date/Time: 2006-5-29 14:00:37

Test Laboratory: SGS-GSM

PCS1900-Body-Worn-Low-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL1900-Body Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.49$  mho/m;  $\epsilon_r = 51.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

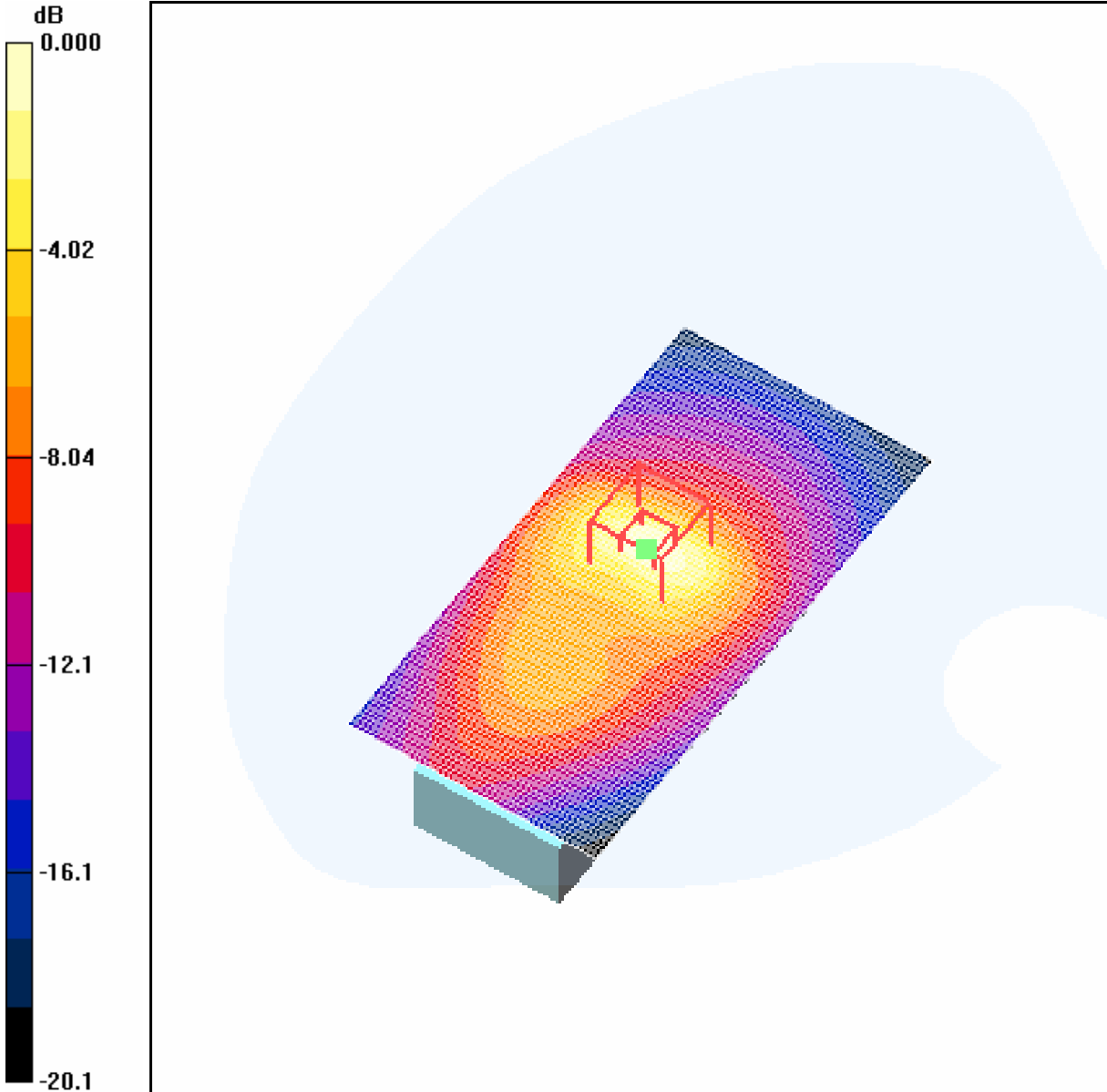
- Probe: ES3DV3 - SN3088; ConvF(4.53, 4.53, 4.53); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body Worn - Low/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 8.33 V/m; Power Drift = -0.018 dB

Motorola Fast SAR: SAR(1 g) = 0.670 mW/g; SAR(10 g) = 0.335 mW/g

Maximum value of SAR (interpolated) = 0.838 mW/g



0 dB = 0.838mW/g

**4.59 Body-Worn-PCS1900-Middle-on**

Date/Time: 2006-5-29 14:08:57

Test Laboratory: SGS-GSM

## PCS1900-Body-Worn-Mid-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL1900-Body Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.52$  mho/m;  $\epsilon_r = 51.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

### DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.53, 4.53, 4.53); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

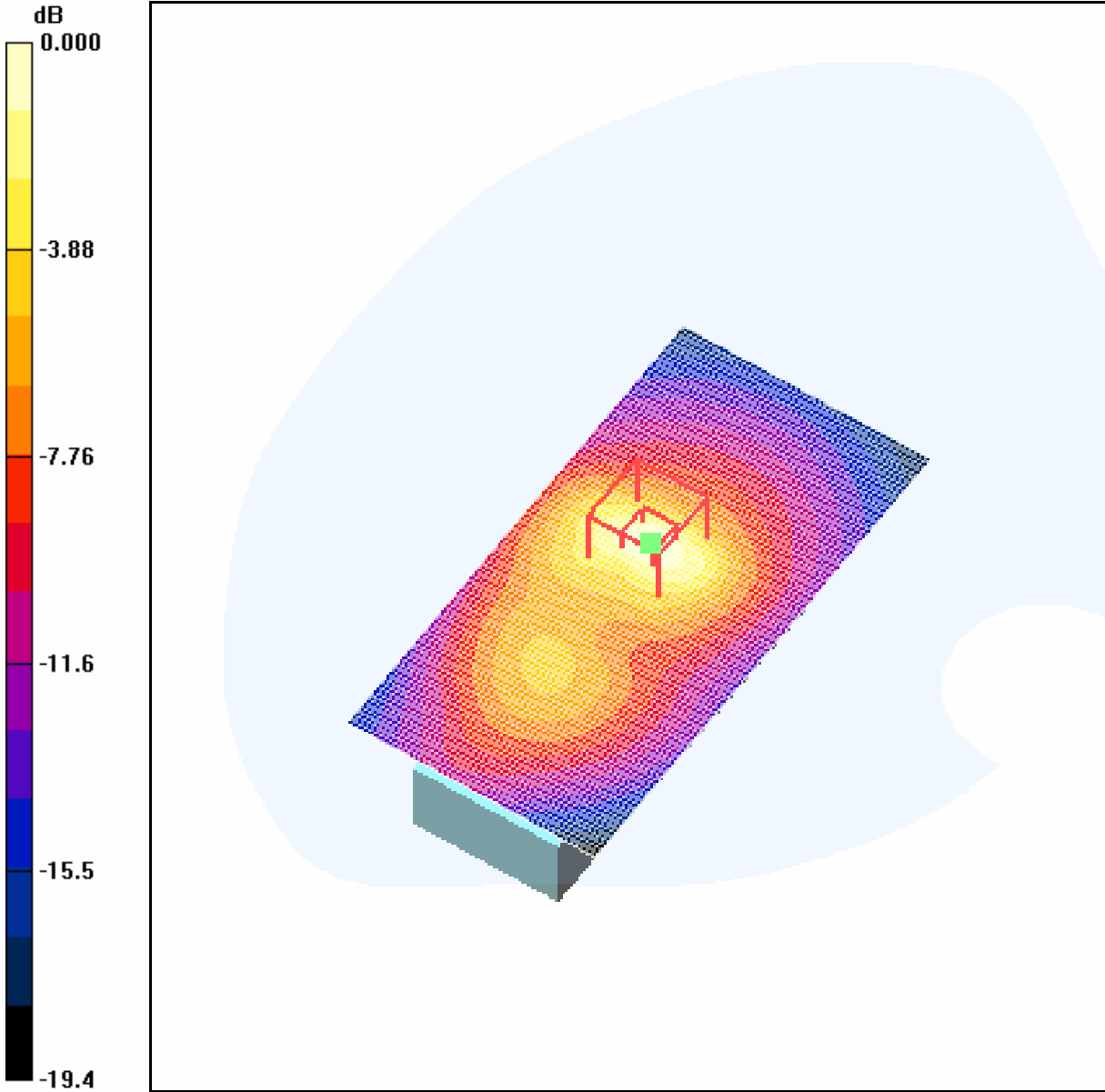
Body Worn - Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 8.61 V/m; Power Drift = -0.015 dB

Motorola Fast SAR: SAR(1 g) = 0.562 mW/g; SAR(10 g) = 0.280 mW/g

Maximum value of SAR (interpolated) = 0.693 mW/g





0 dB = 0.693mW/g

**4.60 Body-Worn-PCS1900-High-on**

Date/Time: 2006-5-29 14:17:10

Test Laboratory: SGS-GSM

## PCS1900-Body-Worn-High-on

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL1900-Body Medium parameters used:  $f = 1909.8$  MHz;  $\sigma = 1.55$  mho/m;  $\epsilon_r = 51.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

### DASY4 Configuration:

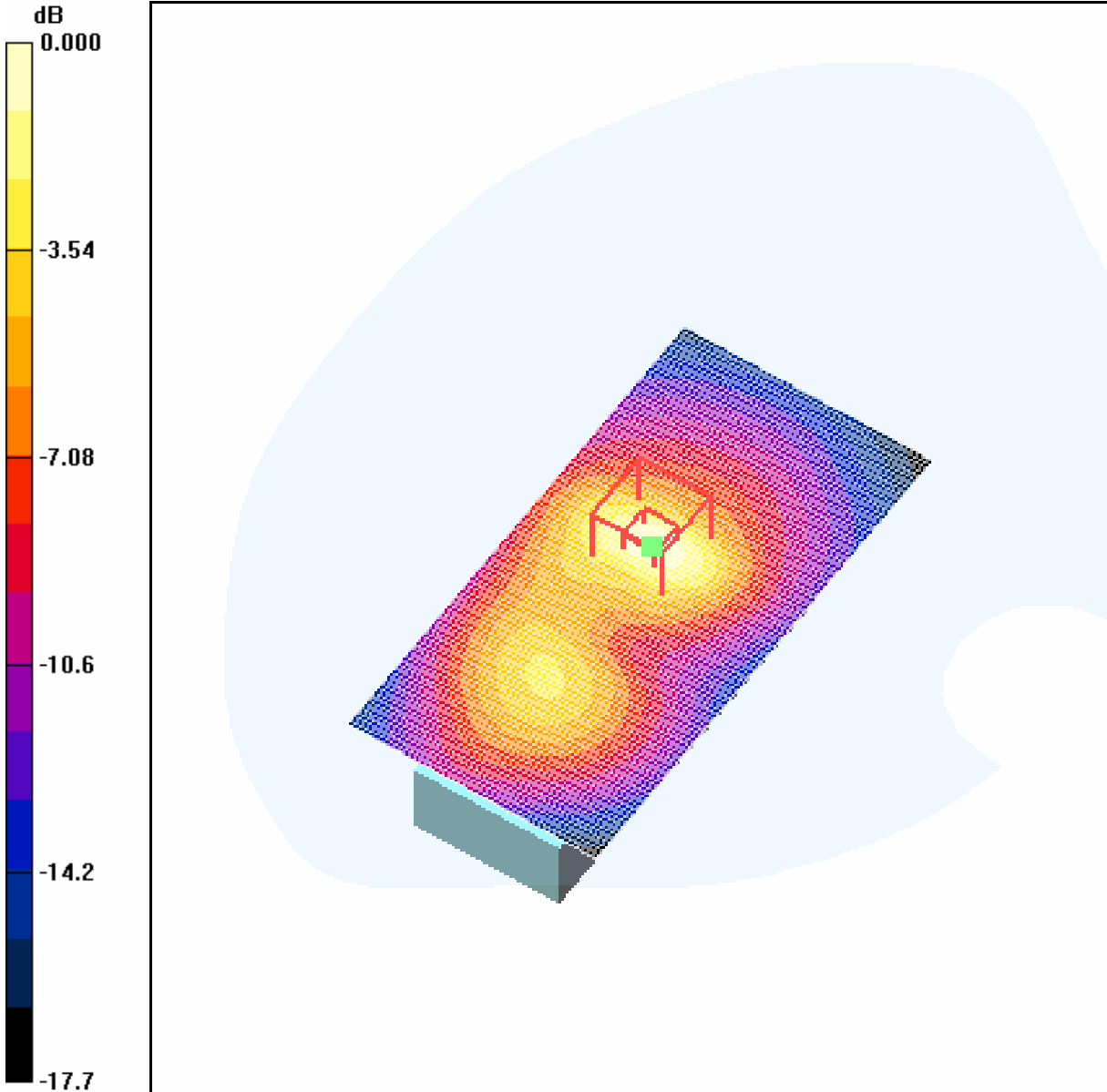
- Probe: ES3DV3 - SN3088; ConvF(4.53, 4.53, 4.53); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body Worn - High/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 7.29 V/m; Power Drift = 0.022 dB

Motorola Fast SAR: SAR(1 g) = 0.351 mW/g; SAR(10 g) = 0.174 mW/g

Maximum value of SAR (interpolated) = 0.432 mW/g



0 dB = 0.432mW/g

**Body-Worn-GSM1900-Low-on (Maximum Value)**

Date/Time: 2006-5-29 14:00:37

Test Laboratory: SGS-GSM

PCS1900-Body-Worn-Low-on(conventional)

DUT: GSM10000064D-ON; Type: Body; Serial: 20060525

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

Medium: HSL1900-Body Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.49$  mho/m;  $\epsilon_r = 51.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3088; ConvF(4.53, 4.53, 4.53); Calibrated: 2005-9-13
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn569; Calibrated: 2005-11-17
- Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1283
- Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 160

Body Worn - Low/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Reference Value = 8.33 V/m; Power Drift = -0.018 dB

Motorola Fast SAR: SAR(1 g) = 0.670 mW/g; SAR(10 g) = 0.335 mW/g

Maximum value of SAR (interpolated) = 0.838 mW/g

Maximum Position - Tadtional Method/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.836 mW/g

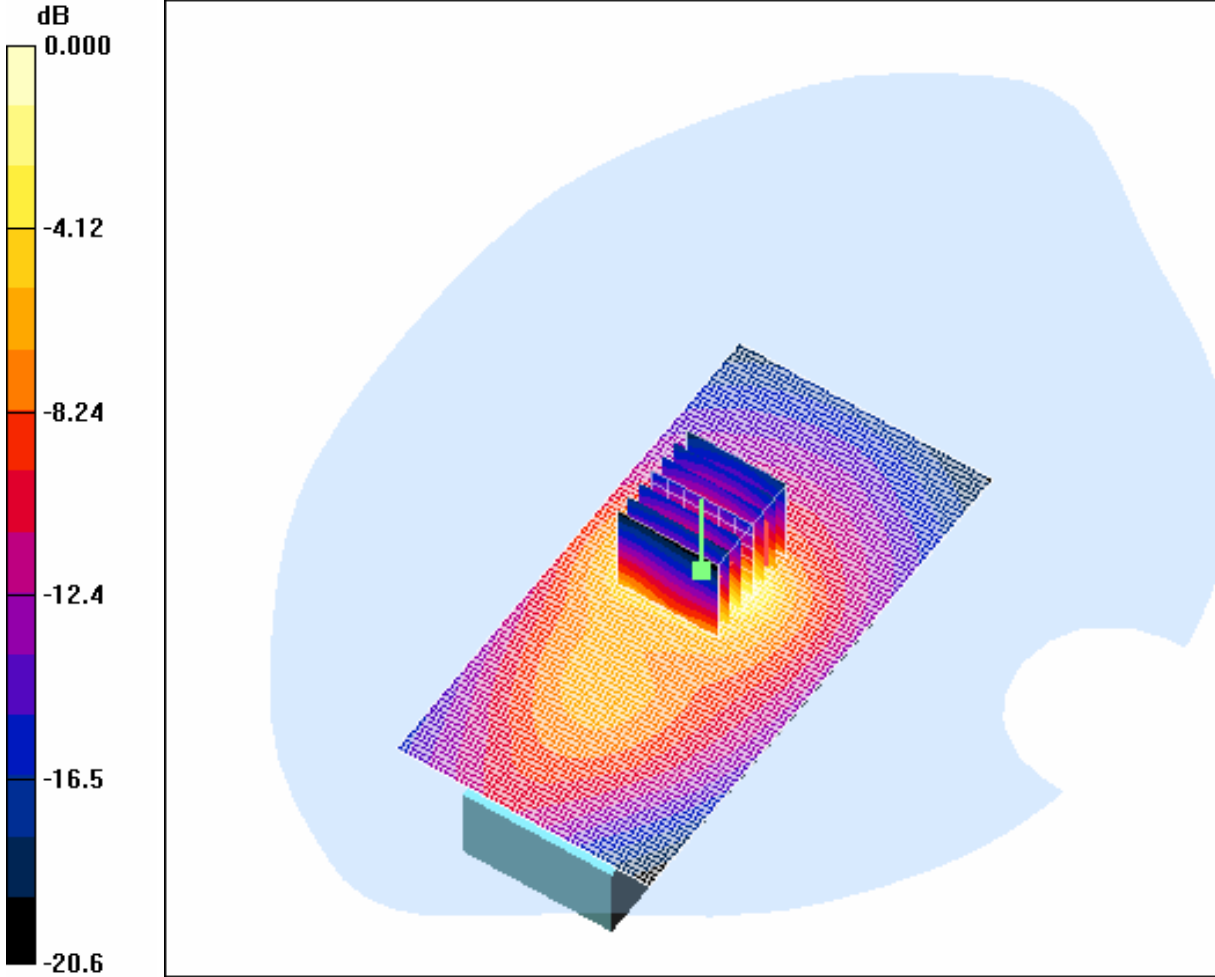
Maximum Position - Tadtional Method/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.28 V/m; Power Drift = -0.044 dB

Peak SAR (extrapolated) = 1.48 W/kg

SAR(1 g) = 0.797 mW/g; SAR(10 g) = 0.384 mW/g

Maximum value of SAR (measured) = 0.918 mW/g



0 dB = 0.918mW/g

# Appendix

## 1. Photographs of Test Setup

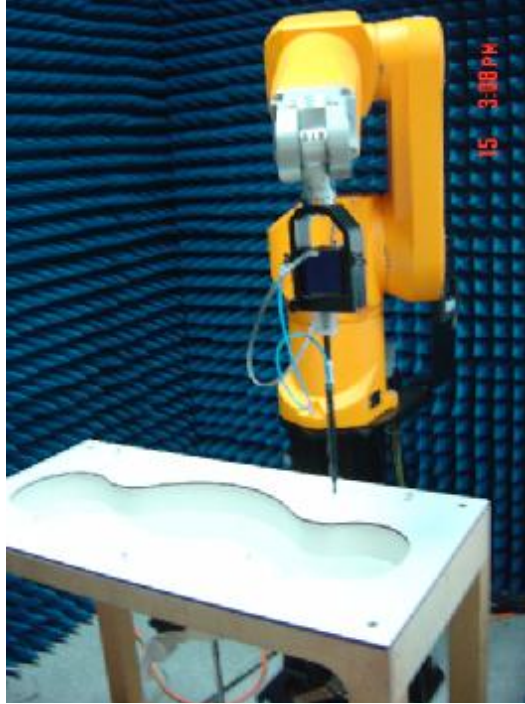


Fig.1 Photograph of the SAR measurement System

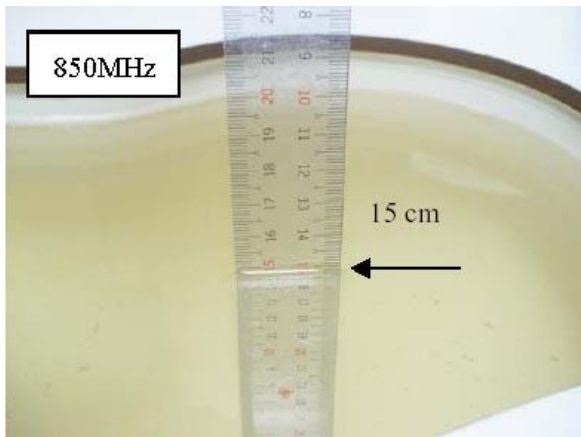


Fig.2 Photograph of the Tissue Simulant Fluid Liquid depth 15cm for Left-Head Side

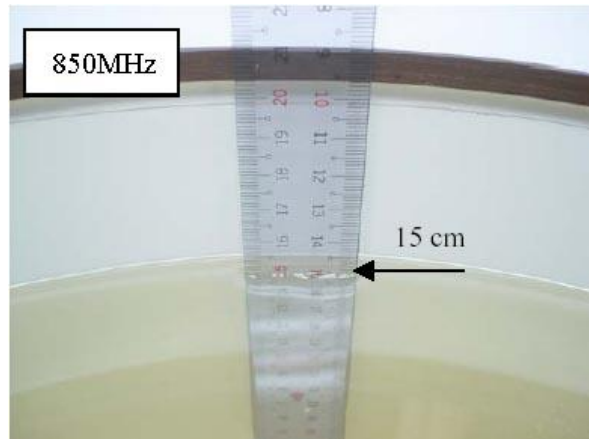


Fig.3 Photograph of the Tissue Simulant Liquid depth 15cm for Body-Worn

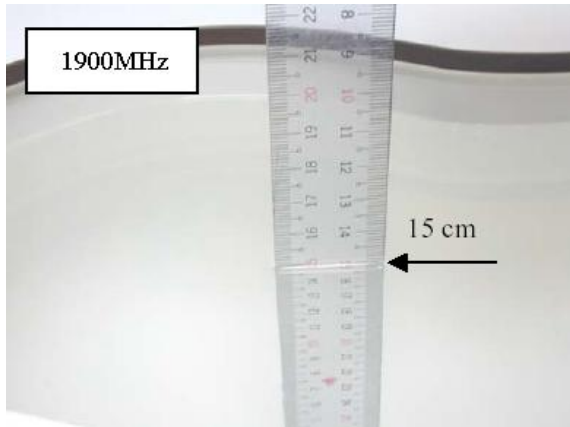


Fig.4 Photograph of the Tissue Simulant Fluid Liquid depth 15cm for Right-Head Side

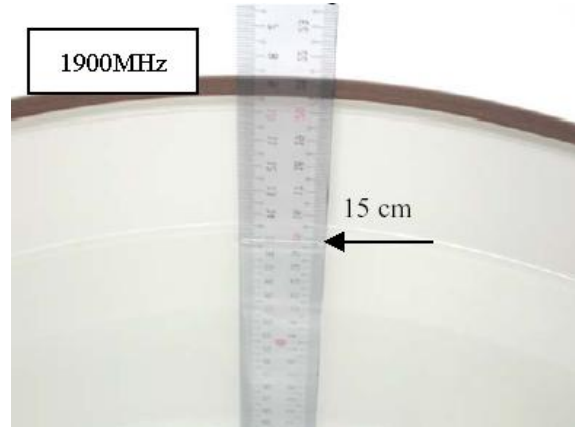


Fig.5 Photograph of the Tissue Simulant Liquid depth 15cm for Body-Worn

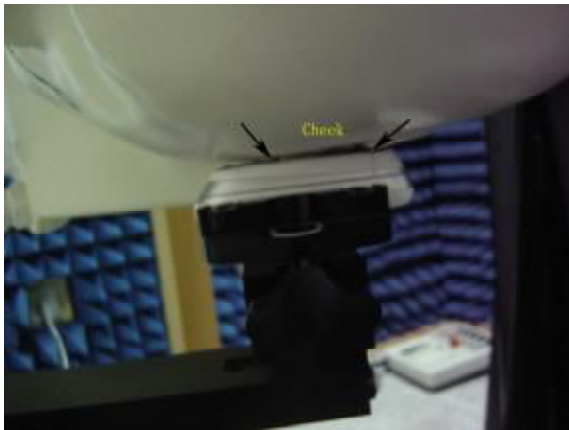


Fig.6 Photograph of the Left Hand Side Cheek,off status

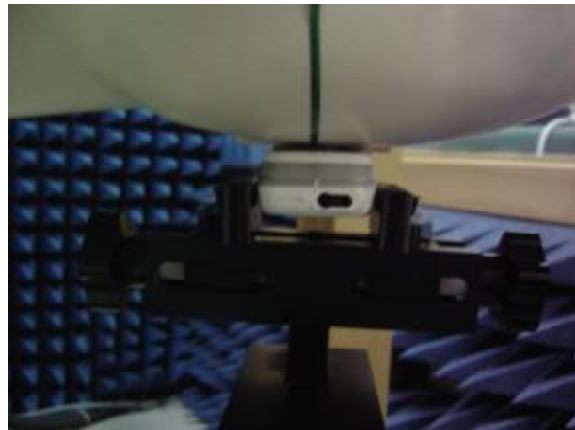


Fig.7 Photograph of the Left Hand Side Tilt ,off status



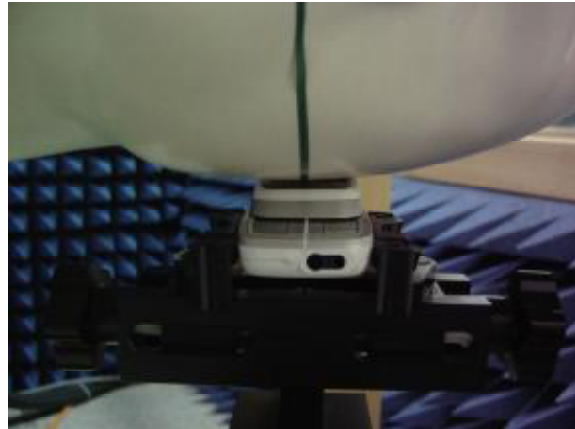
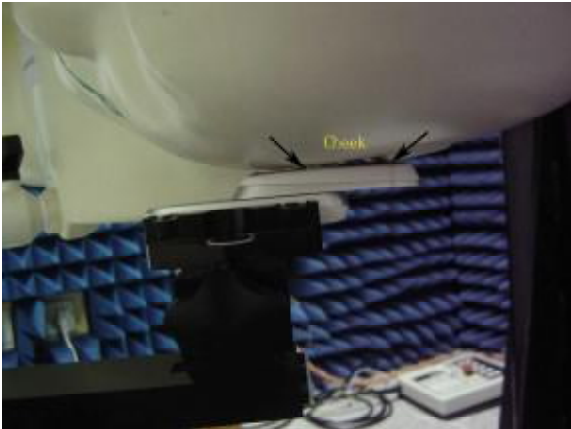


Fig.8 Photograph of the Left Hand Side Cheek,on status

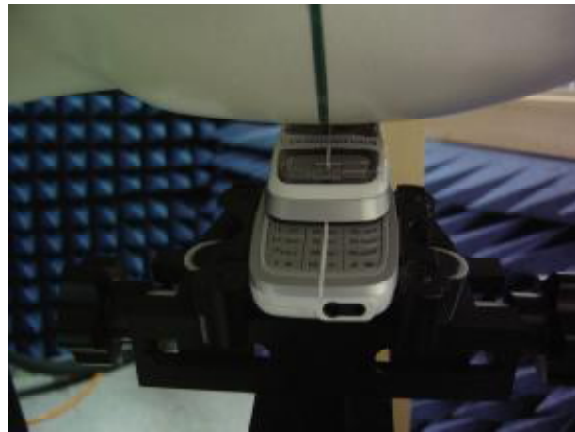


Fig.9 Photograph of the Left Hand Side Tilt ,on status

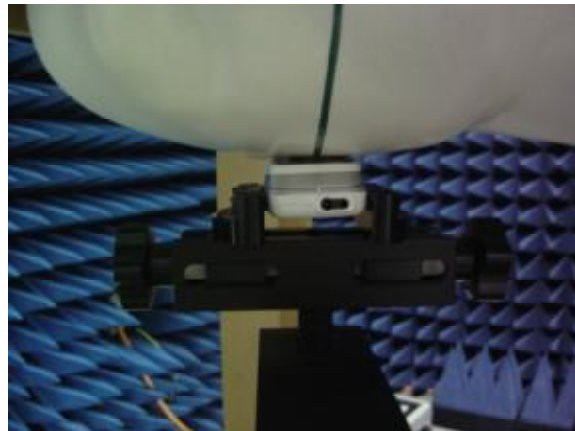
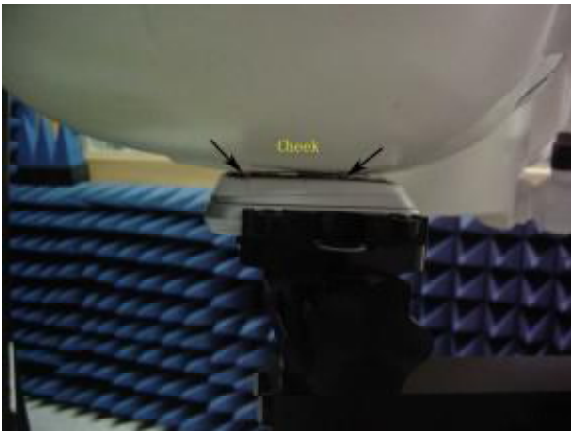


Fig.10 Photograph of the Right Hand Side Cheek ,off status



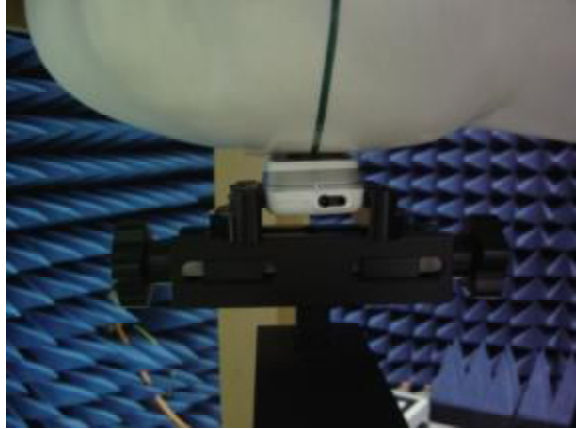
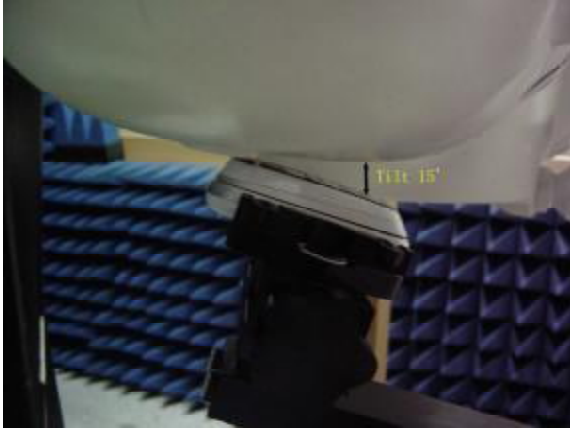


Fig.11 Photograph of the Right Hand Side Tilt,off status

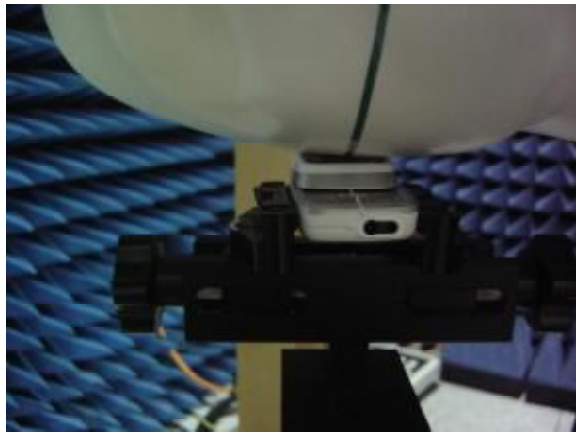
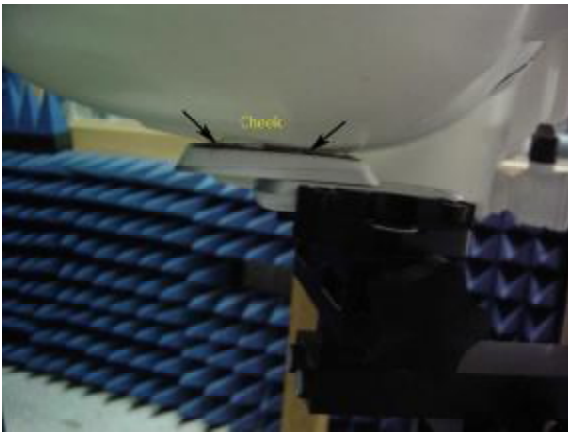


Fig.12 Photograph of the Right Hand Side Cheek ,on status

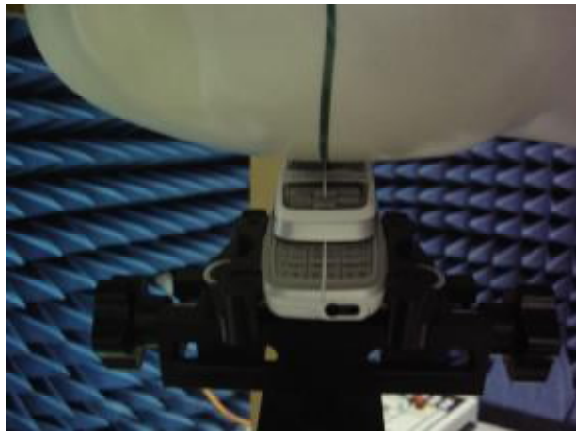
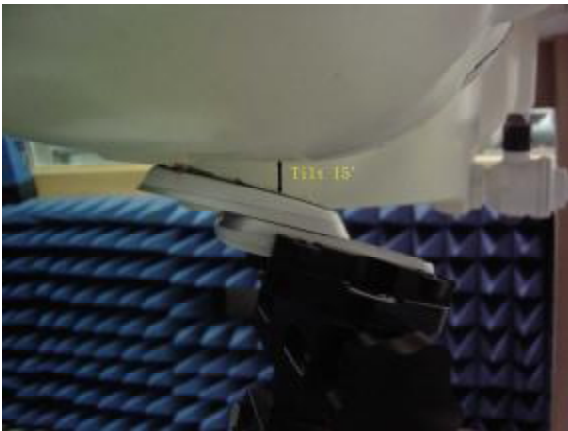


Fig.13 Photograph of the Right Hand Side Tilt,on status

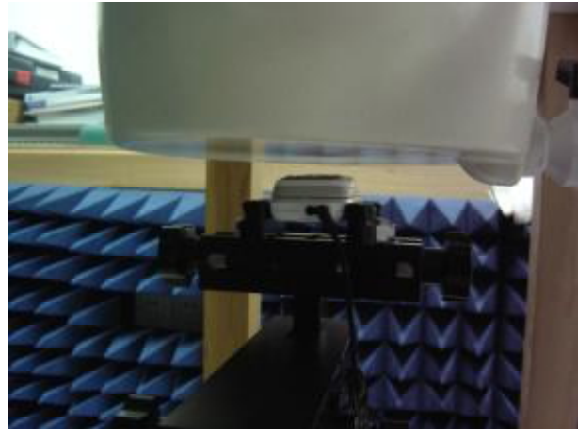


Fig.14 Photograph of the BodyWorn ,off status

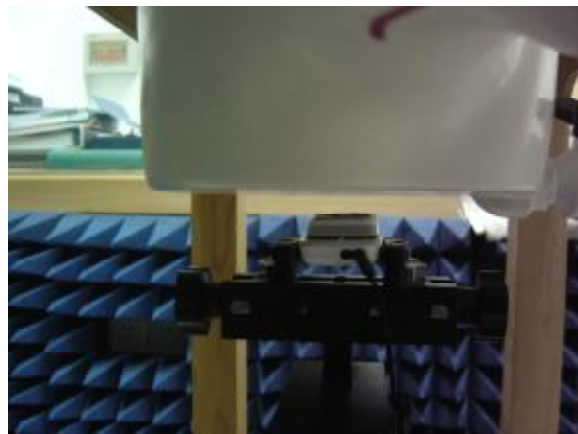
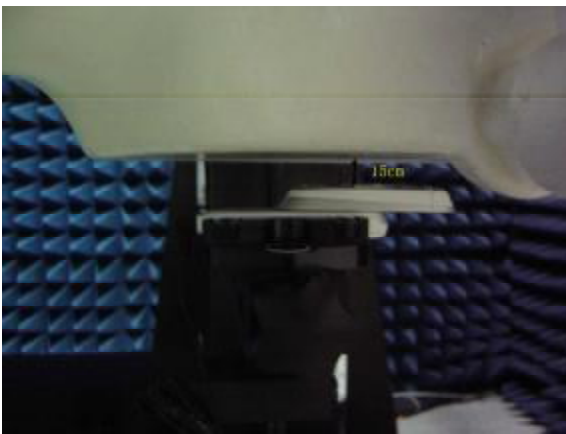


Fig.15 Photograph of the BodyWorn ,on status

## 2. Photographs of the EUT



Fig.16 Front View off&on



Fig.17 Back View

### 3. Photographs of the battery



Fig.18 Front view of battery

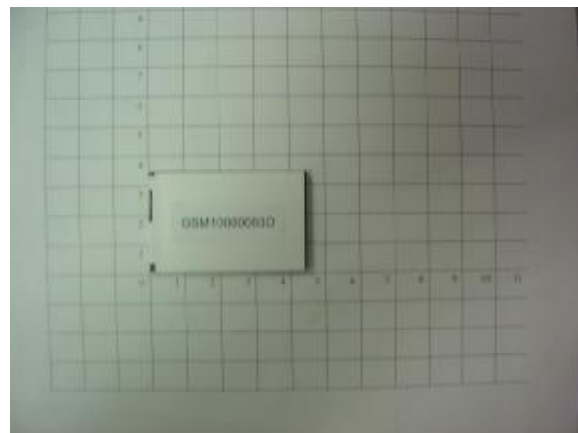


Fig.19 Back view of battery

**4. Photograph of the charger**



Fig.20 Charger

**5. Probe Calibration certificate**

**Calibration Laboratory of  
 Schmid & Partner  
 Engineering AG**  
 Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**S** Service suisse d'étalonnage  
**C** Servizio svizzero di taratura  
**S** Swiss Calibration Service

Accredited by the Swiss Federal Office of Metrology and Accreditation  
 The Swiss Accreditation Service is one of the signatories to the EA  
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **SGS-CSTS (MTT)**

Certificate No: **ES3-3088\_Sep05**

**CALIBRATION CERTIFICATE**

Object: **ES3DV3 - SN.3088**

Calibration procedure(s): **QA CAL-01.v5  
 Calibration procedure for dosimetric E-field probes**

Calibration date: **September 13, 2005**

Condition of the calibrated item: **In Tolerance**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility; environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards          | ID #            | Cal Date (Calibrated by, Certificate No.) | Scheduled Calibration |
|----------------------------|-----------------|---|-----------------------|
| Power meter E4419B         | GB41293874      | 3-May-05 (METAS, No. 251-00466)           | May-06                |
| Power sensor E4412A        | MY41495277      | 3-May-05 (METAS, No. 251-00466)           | May-06                |
| Power sensor E4412A        | MY41499087      | 3-May-05 (METAS, No. 251-00466)           | May-06                |
| Reference 3 dB Attenuator  | SN: S5054 (3c)  | 11-Aug-05 (METAS, No. 251-00499)          | Aug-06                |
| Reference 20 dB Attenuator | SN: S5086 (20b) | 3-May-05 (METAS, No. 251-00467)           | May-06                |
| Reference 30 dB Attenuator | SN: S5129 (30b) | 11-Aug-05 (METAS, No. 251-00500)          | Aug-06                |
| Reference Probe ES3DV2     | SN: 3013        | 7-Jan-05 (SPEAG, No. ES3-3013_Jan05)      | Jan-06                |
| DAE4                       | SN: 654         | 29-Nov-04 (SPEAG, No. DAE4-654_Nov04)     | Nov-05                |

| Secondary Standards       | ID #         | Check Date (in house)                    | Scheduled Check        |
|---------------------------|--------------|--|------------------------|
| RF generator HP 8648C     | US3642U01700 | 4-Aug-06 (SPEAG, in house check Dec-03)  | In house check: Dec-05 |
| Network Analyzer HP 8753E | US37390585   | 18-Oct-01 (SPEAG, in house check Nov-04) | In house check: Nov-05 |

|                |                            |  |            |
|----------------|----------------------------|--|------------|
| Calibrated by: | Name: <b>Nico Vetterli</b> | Function: <b>Laboratory Technician</b> | Signature: |
| Approved by:   | Name: <b>Katja Pokovic</b> | Function: <b>Technical Manager</b>     | Signature: |

Issued: September 15, 2005

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

**Calibration Laboratory of**  
Schmid & Partner  
Engineering AG  
Zeughausstrasse 43, 8004 Zurich, Switzerland



**S** Schweizerischer Kalibrierdienst  
**C** Service suisse d'étalonnage  
**S** Servizio svizzero di taratura  
**S** Swiss Calibration Service

Accredited by the Swiss Federal Office of Metrology and Accreditation  
The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

**Glossary:**

|                          |  |
|--------------------------|--|
| TSL                      | tissue simulating liquid   |
| NORM <sub>x,y,z</sub>    | sensitivity in free space  |
| ConF                     | sensitivity in TSL / NORM <sub>x,y,z</sub>   |
| DCP                      | diode compression point  |
| Polarization $\varphi$   | $\varphi$ rotation around probe axis   |
| Polarization $\vartheta$ | $\vartheta$ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis |

**Calibration is Performed According to the Following Standards:**

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- CENELEC EN 50361, "Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz - 3 GHz), July 2001

**Methods Applied and Interpretation of Parameters:**

- NORM<sub>x,y,z</sub>**: Assessed for E-field polarization  $\vartheta = 0$  ( $f \leq 900$  MHz in TEM-cell;  $f > 1800$  MHz: R22 waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not effect the E<sup>2</sup>-field uncertainty inside TSL (see below *ConvF*).
- NORM(*f*)<sub>x,y,z</sub> = NORM<sub>x,y,z</sub> \* frequency\_response** (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- DCP<sub>x,y,z</sub>**: DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800$  MHz) and inside waveguide using analytical field distributions based on power measurements for  $f > 800$  MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM<sub>x,y,z</sub> \* *ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from  $\pm 50$  MHz to  $\pm 100$  MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

ES3DV3 SN:3088

September 13, 2005

# Probe ES3DV3

## SN:3088

Manufactured: July 20, 2005  
Calibrated: September 13, 2005

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

ES3DV3 SN:3088

September 13, 2005

**DASY - Parameters of Probe: ES3DV3 SN:3088**

Sensitivity in Free Space<sup>A</sup>

Diode Compression<sup>B</sup>

|       |              |                                     |       |       |
|-------|--------------|-------------------------------------|-------|-------|
| NormX | 1.32 ± 10.1% | $\mu\text{V}/(\text{V}/\text{m})^2$ | DCP X | 95 mV |
| NormY | 1.24 ± 10.1% | $\mu\text{V}/(\text{V}/\text{m})^2$ | DCP Y | 95 mV |
| NormZ | 1.23 ± 10.1% | $\mu\text{V}/(\text{V}/\text{m})^2$ | DCP Z | 95 mV |

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect

| TSL | 900 MHz   | Typical SAR gradient: 5 % per mm  |        |        |
|-----|---|-----------------------------------|--------|--------|
|     | Sensor Center to Phantom Surface Distance           |                                   | 3.0 mm | 4.0 mm |
|     | SAR <sub>iso</sub> [%] Without Correction Algorithm |                                   | 5.8    | 2.7    |
|     | SAR <sub>iso</sub> [%] With Correction Algorithm    |                                   | 0.0    | 0.1    |
| TSL | 1750 MHz  | Typical SAR gradient: 10 % per mm |        |        |
|     | Sensor Center to Phantom Surface Distance           |                                   | 3.0 mm | 4.0 mm |
|     | SAR <sub>iso</sub> [%] Without Correction Algorithm |                                   | 7.6    | 4.5    |
|     | SAR <sub>iso</sub> [%] With Correction Algorithm    |                                   | 0.1    | 0.2    |

Sensor Offset

Probe Tip to Sensor Center 2.0 mm

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

<sup>A</sup> The uncertainties of NormX,Y,Z do not affect the E<sup>2</sup>-field uncertainty inside TSL (see Page 8).

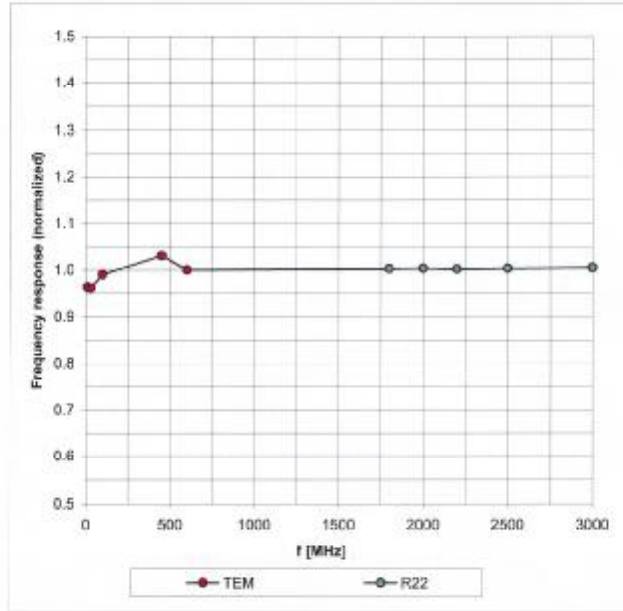
<sup>B</sup> Numerical linearization parameter: uncertainty not required.



ES3DV3 SN:3088

September 13, 2005

### Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)

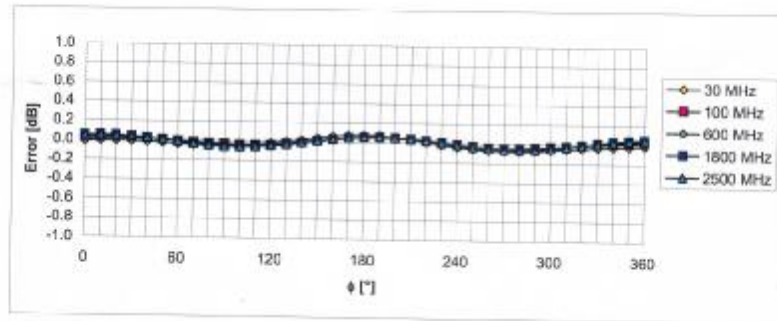
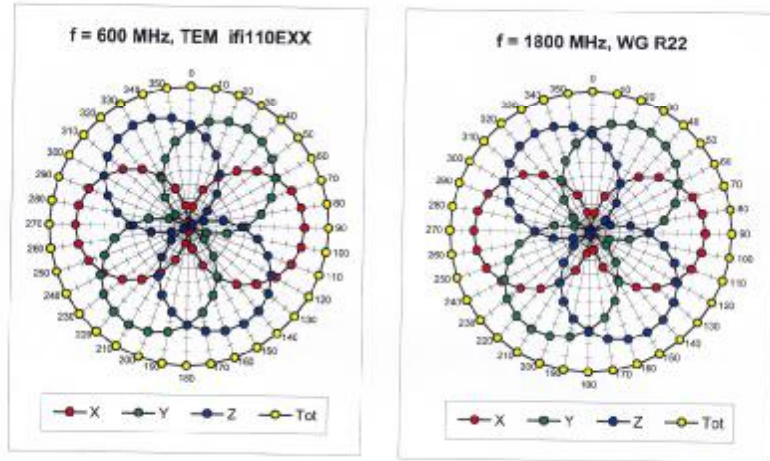


Uncertainty of Frequency Response of E-field:  $\pm 6.3\%$  (k=2)

ES3DV3 SN:3088

September 13, 2005

### Receiving Pattern ( $\phi$ ), $\theta = 0^\circ$

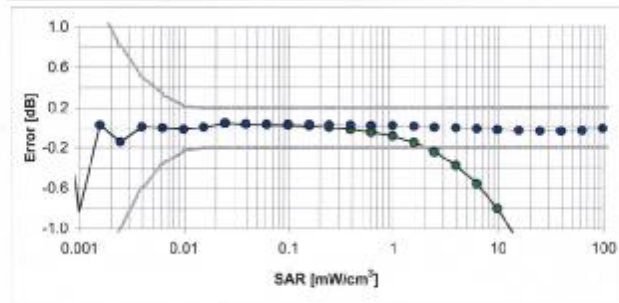
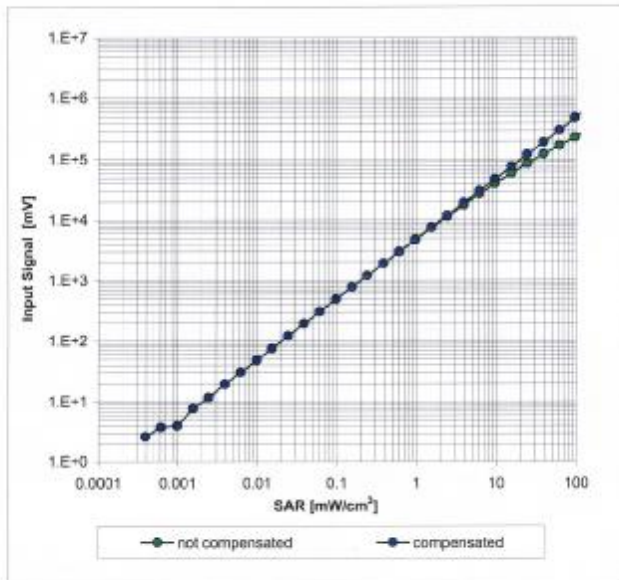


Uncertainty of Axial Isotropy Assessment:  $\pm 0.5\%$  ( $k=2$ )

ES3DV3 SN:3088

September 13, 2005

### Dynamic Range $f(\text{SAR}_{\text{head}})$ (Waveguide R22, $f = 1800$ MHz)

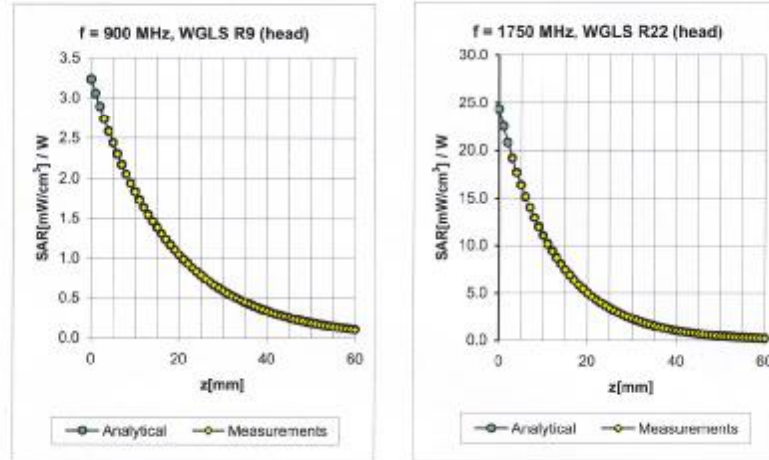


Uncertainty of Linearity Assessment:  $\pm 0.6\%$  ( $k=2$ )

ES3DV3 SN:3088

September 13, 2005

### Conversion Factor Assessment



| f [MHz] | Validity [MHz] <sup>c</sup> | TSL  | Permittivity | Conductivity | Alpha | Depth | ConvF Uncertainty  |
|---------|-----------------------------|------|--------------|--------------|-------|-------|--------------------|
| 900     | ± 50 / ± 100                | Head | 41.5 ± 5%    | 0.97 ± 5%    | 0.47  | 1.40  | 5.91 ± 11.0% (k=2) |
| 1750    | ± 50 / ± 100                | Head | 40.1 ± 5%    | 1.37 ± 5%    | 0.24  | 2.39  | 4.97 ± 11.0% (k=2) |
| 1900    | ± 50 / ± 100                | Head | 40.0 ± 5%    | 1.40 ± 5%    | 0.27  | 2.28  | 4.93 ± 11.0% (k=2) |
| 2000    | ± 50 / ± 100                | Head | 40.0 ± 5%    | 1.40 ± 5%    | 0.25  | 2.34  | 4.87 ± 11.0% (k=2) |
| 900     | ± 50 / ± 100                | Body | 55.0 ± 5%    | 1.05 ± 5%    | 0.61  | 1.25  | 5.83 ± 11.0% (k=2) |
| 1750    | ± 50 / ± 100                | Body | 53.4 ± 5%    | 1.49 ± 5%    | 0.28  | 2.53  | 4.61 ± 11.0% (k=2) |
| 1900    | ± 50 / ± 100                | Body | 53.3 ± 5%    | 1.52 ± 5%    | 0.28  | 2.57  | 4.53 ± 11.0% (k=2) |
| 2000    | ± 50 / ± 100                | Body | 53.3 ± 5%    | 1.52 ± 5%    | 0.32  | 2.11  | 4.47 ± 11.0% (k=2) |

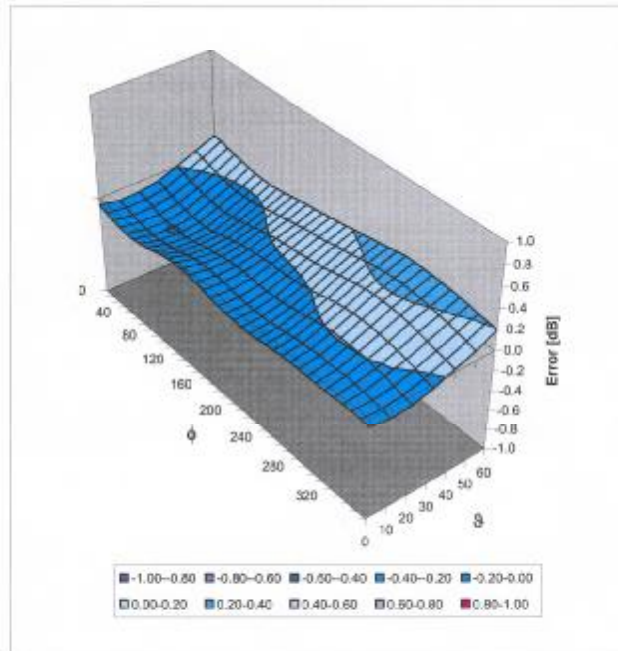
<sup>c</sup> The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

ES3DV3 SN:3088

September 13, 2005

### Deviation from Isotropy in HSL

Error ( $\phi, \theta$ ),  $f = 900$  MHz



Uncertainty of Spherical Isotropy Assessment:  $\pm 2.6\%$  ( $k=2$ )

**6. Uncertainty analysis**

| Error Description                    | Tol.<br>(± %) | Prob.<br>dist.            | Div.       | ( $c_i$ )<br>(1g) | ( $c_i$ )<br>(10g) | Std. unc. (± %) |             | ( $v_i$ ) |
|--------------------------------------|---------------|---------------------------|------------|-------------------|--------------------|-----------------|-------------|-----------|
| <b>Measurement System</b>            |               |                           |            |                   |                    |                 |             |           |
| Probe Calibration                    | 4.8           | N                         | 1          | 1                 | 1                  | 4.8             | 4.8         | ∞         |
| Axial Isotropy                       | 4.7           | R                         | $\sqrt{3}$ | 1                 | 1                  | 2.7             | 2.7         | ∞         |
| Hemispherical Isotropy               | 0             | R                         | $\sqrt{3}$ | 1                 | 1                  | 0               | 0           | ∞         |
| Boundary Effects                     | 1.0           | R                         | $\sqrt{3}$ | 1                 | 1                  | 0.6             | 0.6         | ∞         |
| Linearity                            | 4.7           | R                         | $\sqrt{3}$ | 1                 | 1                  | 2.7             | 2.7         | ∞         |
| System Detection Limit               | 1.0           | R                         | $\sqrt{3}$ | 1                 | 1                  | 0.6             | 0.6         | ∞         |
| Readout Electronics                  | 1.0           | N                         | 1          | 1                 | 1                  | 1.0             | 1.0         | ∞         |
| Response Time                        | 0             | R                         | $\sqrt{3}$ | 1                 | 1                  | 0               | 0           | ∞         |
| Integration Time                     | 0             | R                         | $\sqrt{3}$ | 1                 | 1                  | 0               | 0           | ∞         |
| RF Ambient Conditions                | 3.0           | R                         | $\sqrt{3}$ | 1                 | 1                  | 1.7             | 1.7         | ∞         |
| Probe Positioner                     | 0.4           | R                         | $\sqrt{3}$ | 1                 | 1                  | 0.2             | 0.2         | ∞         |
| Probe Positioning                    | 2.9           | R                         | $\sqrt{3}$ | 1                 | 1                  | 1.7             | 1.7         | ∞         |
| Algorithms for Max. SAR Eval.        | 1.0           | R                         | $\sqrt{3}$ | 1                 | 1                  | 0.6             | 0.6         | ∞         |
| <b>Dipole</b>                        |               |                           |            |                   |                    |                 |             |           |
| Dipole Axis to Liquid Distance       | 2.0           | R                         | $\sqrt{3}$ | 1                 | 1                  | 1.2             | 1.2         | ∞         |
| Input power and SAR drift meas.      | 4.7           | R                         | $\sqrt{3}$ | 1                 | 1                  | 2.7             | 2.7         | ∞         |
| <b>Phantom and Tissue Param.</b>     |               |                           |            |                   |                    |                 |             |           |
| Phantom Uncertainty                  | 4.0           | R                         | $\sqrt{3}$ | 1                 | 1                  | 2.3             | 2.3         | ∞         |
| Liquid Conductivity (target)         | 5.0           | R.                        | $\sqrt{3}$ | 0.64              | 0.43               | 1.8             | 1.2         | ∞         |
| Liquid Conductivity (meas.)          | 2.5           | N                         | 1          | 0.64              | 0.43               | 1.6             | 1.1         | ∞         |
| Liquid Permittivity (target)         | 5.0           | R                         | $\sqrt{3}$ | 0.6               | 0.49               | 1.7             | 1.4         | ∞         |
| Liquid Permittivity (meas.)          | 2.5           | N                         | 1          | 0.6               | 0.49               | 1.5             | 1.2         | ∞         |
| <b>Combined Standard Uncertainty</b> |               |                           |            |                   |                    | <b>8.4</b>      | <b>8.1</b>  | <b>∞</b>  |
| <b>Coverage Factor for 95%</b>       |               | <b><math>k_p=2</math></b> |            |                   |                    |                 |             |           |
| <b>Expanded Uncertainty</b>          |               |                           |            |                   |                    | <b>16.8</b>     | <b>16.2</b> |           |

Dasy4 Uncertainty Budget

7. Phantom description

# Schmid & Partner Engineering AG

Zoeghausstrasse 43, 8004 Zurich, Switzerland, Phone +41 1 245 97 00, Fax +41 1 245 97 79

## Certificate of conformity / First Article Inspection

|                       |  |
|-----------------------|--|
| Item                  | SAM Twin Phantom V4.0  |
| Type No               | QD 000 P40 CA  |
| Series No             | TP-1150 and higher   |
| Manufacturer / Origin | Unterse Composite<br>Hauptstr. 69<br>CH-8559 Fruttwilen<br>Switzerland |

### Tests

The series production process used allows the limitation to test of first articles. Complete tests were made on the pre-series Type No. QD 000 P40 AA, Serial No. TP-1001 and on the series first article Type No. QD 000 P40 BA, Serial No. TP-1006. Certain parameters have been retested using further series units (called samples).

| Test                 | Requirement   | Details  | Units tested              |
|----------------------|---|--|---------------------------|
| Shape                | Compliance with the geometry according to the CAD model.                                | ITIS CAD File (*)  | First article, Samples    |
| Material thickness   | Compliant with the requirements according to the standards                              | 2mm +/- 0.2mm in specific areas                                      | First article, Samples    |
| Material parameters  | Dielectric parameters for required frequencies  | 200 MHz - 3 GHz<br>Relative permittivity < 5<br>Loss tangent < 0.05. | Material sample TP 104-5  |
| Material resistivity | The material has been tested to be compatible with the liquids defined in the standards | Liquid type HSL 1800 and others according to the standard.           | Pre-series, First article |

### Standards

- [1] CENELEC EN 50361
- [2] IEEE P1528-200x draft 6.5
- [3] IEC PT 62209 draft 0.9
- (\*) The ITIS CAD file is derived from [2] and is also within the tolerance requirements of the shapes of [1] and [3].

### Conformity

Based on the sample tests above, we certify that this item is in compliance with the uncertainty requirements of SAR measurements specified in standard [1] and draft standards [2] and [3].

Date: 28.02.2002

Signature / Stamp

*F. Rombult*

**Schmid & Partner  
Engineering AG**

Zoeghausstrasse 43, CH-8004 Zurich  
Tel. +41 1 245 97 00, Fax +41 1 245 97 79

*Volker Kofen*

### 8. System validation from original equipment supplier

#### DASY4 Validation Report for Head TSL

Date/Time: 19.08.2005 14:48:37

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:184**

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

Medium: HSL 900 MHz;

Medium parameters used:  $f = 900$  MHz;  $\sigma = 0.96$  mho/m;  $\epsilon_r = 42.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(5.95, 5.95, 5.95); Calibrated: 26.10.2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.01.2005
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA
- Measurement SW: DASY4, V4.6 Build 9; Postprocessing SW: SEMCAD, V1.8 Build 151

**Pin = 250 mW; d = 15 mm/Area Scan (81x81x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.81 mW/g

**Pin = 250 mW; d = 15 mm/Zoom Scan 2 (7x7x7)/Cube 0:**

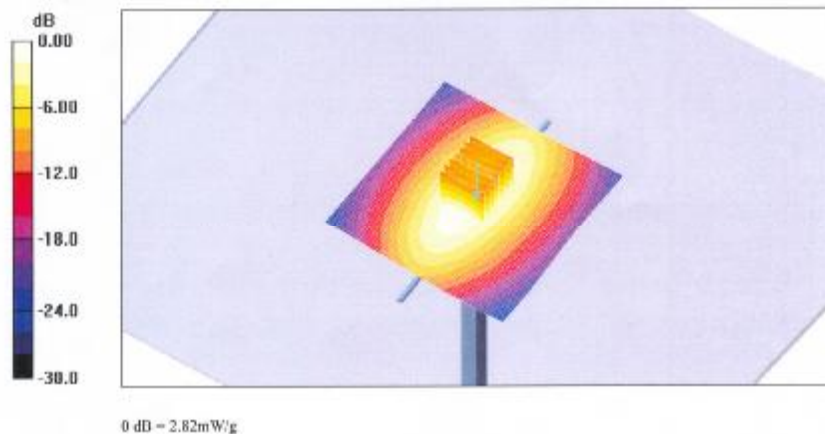
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56.9 V/m; Power Drift = -0.018 dB

Peak SAR (extrapolated) = 3.84 W/kg

SAR(1 g) = 2.6 mW/g; SAR(10 g) = 1.67 mW/g

Maximum value of SAR (measured) = 2.82 mW/g





**DASY4 Validation Report for Body TSL**

Date/Time: 22.08.2005 16:14:01

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:184**

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

Medium: MSL 900 MHz;

Medium parameters used:  $f = 900$  MHz;  $\sigma = 1.07$  mho/m;  $\epsilon_r = 54.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

**DASY4 Configuration:**

- Probe: ET3DV6 - SN1507; ConvF(5.77, 5.77, 5.77); Calibrated: 26.10.2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.01.2005
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA
- Measurement SW: DASY4, V4.6 Build 9; Postprocessing SW: SEMCAD, V1.8 Build 151

**Pin = 250 mW; d = 15 mm 2/Area Scan (81x81x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.94 mW/g

**Pin = 250 mW; d = 15 mm 2/Zoom Scan (7x7x7)/Cube 0:**

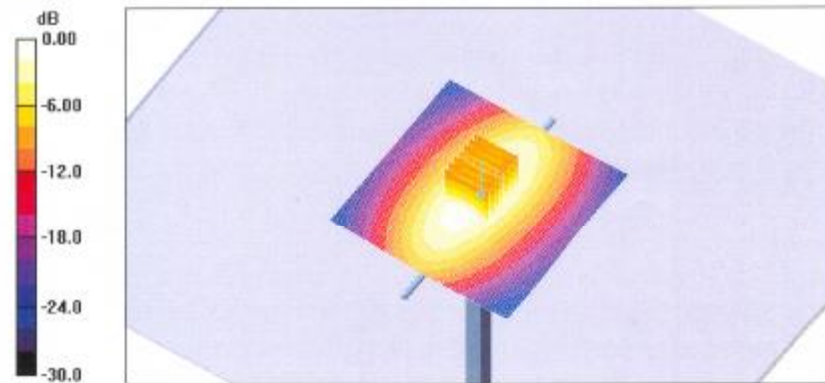
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 55.3 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 3.90 W/kg

**SAR(1 g) = 2.69 mW/g; SAR(10 g) = 1.74 mW/g**

Maximum value of SAR (measured) = 2.96 mW/g



0 dB = 2.96mW/g

**DASY4 Validation Report for Head TSL**

Date/Time: 25.08.2005 17:04:02

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d028**

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

Medium: HSL 1900 MHz;

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 38.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(4.96, 4.96, 4.96); Calibrated: 26.10.2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.01.2005
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA
- Measurement SW: DASY4, V4.6 Build 9; Postprocessing SW: SEMCAD, V1.8 Build 151

**Pin = 250 mW; d = 10 mm/Area Scan (61x81x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 11.8 mW/g

**Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:**

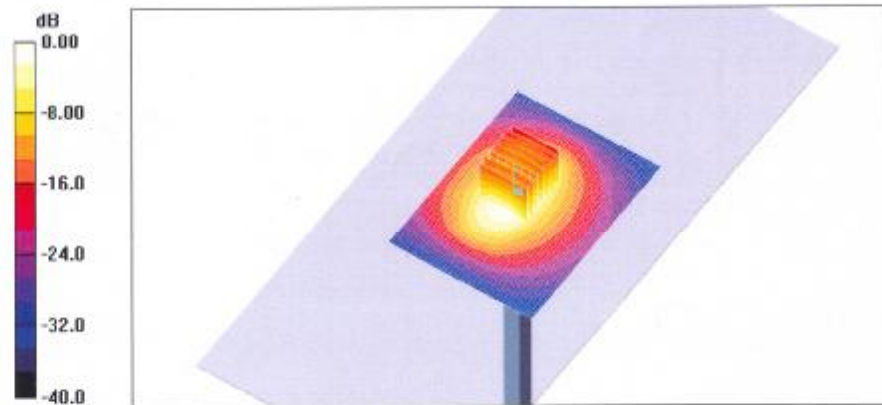
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 91.5 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 17.2 W/kg

**SAR(1 g) = 9.89 mW/g; SAR(10 g) = 5.16 mW/g**

Maximum value of SAR (measured) = 11.2 mW/g



0 dB = 11.2mW/g

**DASY4 Validation Report for Body TSL**

Date/Time: 26.08.2005 15:32:29

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d028**

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

Medium: MSL 1900 MHz;

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.6$  mho/m;  $\epsilon_r = 53.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>.

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507; ConvF(4.43, 4.43, 4.43); Calibrated: 26.10.2004
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.01.2005
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA
- Measurement SW: DASY4, V4.6 Build 9; Postprocessing SW: SEMCAD, V1.8 Build 151

**Pin = 250 mW; d = 10 mm 2/Area Scan (81x81x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 11.2 mW/g

**Pin = 250 mW; d = 10 mm 2/Zoom Scan (7x7x7)/Cube 0:**

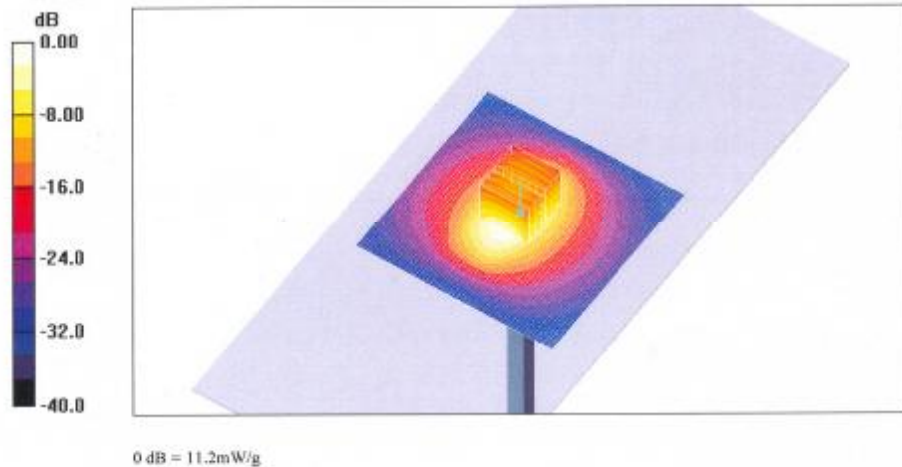
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 86.7 V/m; Power Drift = -0.025 dB

Peak SAR (extrapolated) = 16.4 W/kg

**SAR(1 g) = 9.81 mW/g; SAR(10 g) = 5.22 mW/g**

Maximum value of SAR (measured) = 11.2 mW/g



**The end**