

## TEST REPORT

Test Report No.: 1-6965/13-21-02-A



### Testing Laboratory

**CETECOM ICT Services GmbH**

Untertürkheimer Straße 6 – 10  
 66117 Saarbrücken/Germany  
 Phone: + 49 681 5 98 - 0  
 Fax: + 49 681 5 98 - 9075  
 Internet: <http://www.cetecom.com>  
 e-mail: [ict@cetecom.com](mailto:ict@cetecom.com)

**Accredited Test Laboratory:**

The testing laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025 (2005) by the Deutsche Akkreditierungsstelle GmbH (DAkkS). The accreditation is valid for the scope of testing procedures as stated in the accreditation certificate with the registration number: D-PL-12076-01-01

### Applicant

**Sony Mobile Communications AB**

Nya Vattentorget  
 22188 Lund/SWEDEN

Phone: +46 46 19 30 00

Contact: Mikael Nilsson  
 e-mail: [Micke.nilsson@sonymobile.com](mailto:Micke.nilsson@sonymobile.com)  
 Phone: +46 7 03 22 75 03  
 Fax: -/-

### Manufacturer

**Sony Mobile Communications AB**

Nya Vattentorget  
 22188 Lund/SWEDEN

### Test Standard/s

IEEE 1528-2003 Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques  
 RSS-102 Issue 4 Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)  
 For further applied test standards please refer to section 3 of this test report.

### Test Item

Kind of test item: Smart Phone with WPC cover  
 Device type: portable device  
**Model name:** **PM-0740-BV / AI-0070**  
 S/N serial number: CB5A1W1HSZ / CB5A1W1HRP  
 FCC-ID: PY7PM-0740  
 IMEI-Number: 004402451795086  
 Hardware status: AP1.1  
 Software status: 17.1.A.0.407  
 Frequency: see technical details  
 Antenna: integrated antenna  
 Battery option: Integrated Li-polymer battery 3.7V  
 Accessories: WPC cover (AI-0070)  
 Test sample status: identical prototype  
 Exposure category: general population / uncontrolled environment

This test report is electronically signed and valid without handwriting signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

### Test Report authorised:

cn=Oleksandr Hnatovskiy,  
 o=CETECOM ICT, ou=HNA-100728,  
 email=Oleksandr.Hnatovskiy@cete  
 com.com, c=DE  
 2014.06.20 11:21:47 +02'00'

Oleksandr Hnatovskiy  
 Testing Manager

### Test performed:

cn=Holger Medrow,  
 o=CETECOM ICT Services  
 GmbH, ou=MED-131202,  
 email=holger.medrow@cete  
 com.com, c=DE  
 2014.06.20 11:24:38 +02'00'

Holger Medrow  
 Agent

## 1 Table of contents

|            |                                                           |    |
|------------|-----------------------------------------------------------|----|
| 1          | Table of contents .....                                   | 2  |
| 2          | General information .....                                 | 4  |
| 2.1        | Notes and disclaimer .....                                | 4  |
| 2.2        | Application details .....                                 | 4  |
| 2.3        | Statement of compliance .....                             | 4  |
| 2.4        | Technical details .....                                   | 5  |
| 2.5        | Transmitter and Antenna Operating Configurations .....    | 6  |
| 3          | Test standards/ procedures references .....               | 7  |
| 3.1        | RF exposure limits .....                                  | 9  |
| 4          | Summary of Measurement Results .....                      | 10 |
| 5          | Test Environment .....                                    | 10 |
| 6          | Test Set-up .....                                         | 11 |
| 6.1        | Measurement system .....                                  | 11 |
| 6.1.1      | System Description .....                                  | 11 |
| 6.1.2      | Test environment .....                                    | 12 |
| 6.1.3      | Probe description .....                                   | 12 |
| 6.1.4      | Phantom description .....                                 | 13 |
| 6.1.5      | Device holder description .....                           | 14 |
| 6.1.6      | Scanning procedure .....                                  | 15 |
| 6.1.7      | Spatial Peak SAR Evaluation .....                         | 16 |
| 6.1.8      | Data Storage and Evaluation .....                         | 17 |
| 6.1.9      | Tissue simulating liquids: dielectric properties .....    | 19 |
| 6.1.10     | Tissue simulating liquids: parameters .....               | 20 |
| 6.1.11     | Measurement uncertainty evaluation for SAR test .....     | 22 |
| 6.1.12     | Measurement uncertainty evaluation for System Check ..... | 26 |
| 6.1.13     | System check .....                                        | 28 |
| 6.1.14     | System check procedure .....                              | 29 |
| 6.1.15     | System validation .....                                   | 30 |
| 7          | Detailed Test Results .....                               | 31 |
| 7.1        | Conducted power measurements .....                        | 31 |
| 7.2        | SAR test results .....                                    | 31 |
| 7.2.1      | Results overview .....                                    | 31 |
| 7.2.2      | General description of test procedures .....              | 39 |
| 8          | Test equipment and ancillaries used for tests .....       | 40 |
| 9          | Observations .....                                        | 40 |
| Annex A:   | System performance check .....                            | 41 |
| Annex B:   | DASY5 measurement results .....                           | 58 |
| Annex B.1: | GSM 850 .....                                             | 58 |
| Annex B.2: | GSM 1900 .....                                            | 61 |
| Annex B.3: | UMTS FDD II .....                                         | 64 |
| Annex B.4: | UMTS FDD IV .....                                         | 67 |
| Annex B.5: | UMTS FDD V .....                                          | 70 |
| Annex B.6: | LTE FDD 2 .....                                           | 73 |
| Annex B.7: | LTE FDD 4 .....                                           | 76 |
| Annex B.8: | LTE FDD 5 .....                                           | 79 |

|                                      |     |
|--------------------------------------|-----|
| Annex B.9: LTE FDD 7 .....           | 82  |
| Annex B.10: LTE FDD 13 .....         | 85  |
| Annex B.11: LTE FDD 17 .....         | 88  |
| Annex B.12: WLAN 2450MHz .....       | 91  |
| Annex B.13: WLAN 5GHz.....           | 94  |
| Annex B.14: Bluetooth 2.4GHz .....   | 96  |
| Annex B.15: Liquid depth .....       | 97  |
| Annex C: Photo documentation.....    | 103 |
| Annex D: Calibration parameters..... | 103 |
| Annex E: Document History .....      | 104 |
| Annex F: Further Information .....   | 104 |

## 2 General information

### 2.1 Notes and disclaimer

The test results of this test report relate exclusively to the test item specified in this test report. CETECOM ICT Services GmbH does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of CETECOM ICT Services GmbH.

This test report is electronically signed and valid without handwriting signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

The testing service provided by CETECOM ICT Services GmbH has been rendered under the current "General Terms and Conditions for CETECOM ICT Services GmbH".

CETECOM ICT Services GmbH will not be liable for any loss or damage resulting from false, inaccurate, inappropriate or incomplete product information provided by the customer.

Under no circumstances does the CETECOM ICT Services GmbH test report include any endorsement or warranty regarding the functionality, quality or performance of any other product or service provided.

Under no circumstances does the CETECOM ICT Services GmbH test report include or imply any product or service warranties from CETECOM ICT Services GmbH, including, without limitation, any implied warranties of merchantability, fitness for purpose, or non-infringement, all of which are expressly disclaimed by CETECOM ICT Services GmbH.

All rights and remedies regarding vendor's products and services for which CETECOM ICT Services GmbH has prepared this test report shall be provided by the party offering such products or services and not by CETECOM ICT Services GmbH.

In no case this test report can be considered as a Letter of Approval.

### 2.2 Application details

|                                    |            |
|------------------------------------|------------|
| Date of receipt of order:          | 2014-06-10 |
| Date of receipt of test item:      | 2014-06-10 |
| Start of test:                     | 2014-06-10 |
| End of test:                       | 2014-06-13 |
| Person(s) present during the test: |            |

### 2.3 Statement of compliance

The SAR values found for the PM-0740-BV / AI-0070 Smart Phone with WPC cover are below the maximum recommended levels of 1.6 W/Kg as averaged over any 1 g tissue according to the FCC rule §2.1093, the ANSI/IEEE C 95.1:1992, the NCRP Report Number 86 for uncontrolled environment, according to the Health Canada's Safety Code 6 and the Industry Canada Radio Standards Specification RSS-102 for General Population/Uncontrolled exposure.

For body worn operation, this device has been tested and meets FCC RF exposure guidelines when used with any accessory that contains no metal and that positions the handset a minimum of 15 mm from the body. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

According to KDB pub 941225 D06 this device has been tested with 10 mm distance to the phantom for operation in WLAN hot spot mode.

According to FCC KDB 648474 D03 the handset has been tested according to all applicable SAR test procedures using the normal battery cover (without the wireless charging hardware, see test report 1-6965/13-04-24). The highest SAR measured for each wireless technology (1xRTT, EVDO, WCDMA, GSM, Wi-Fi etc.), frequency band, operating mode (different modes/configurations within each wireless technology) and exposure condition (head, body-worn accessory, hotspot mode etc.) were repeated using the wireless charging battery cover.

## 2.4 Technical details

| Band tested for this test report    | Technology    | Lowest transmit frequency/MHz | Highest transmit frequency/MHz | Lowest receive Frequency/MHz | Highest receive Frequency/MHz | Kind of modulation | Power Class | Tested power control level | GPRS/EGPRS mobile station class | GPRS/EGPRS multislot class | (E)GPRS voice mode or DTM | Test channel low | Test channel middle | Test channel high | Maximum output power/dBm )* |
|-------------------------------------|---------------|-------------------------------|--------------------------------|------------------------------|-------------------------------|--------------------|-------------|----------------------------|---------------------------------|----------------------------|---------------------------|------------------|---------------------|-------------------|-----------------------------|
| <input type="checkbox"/>            | GSM           | 880.2                         | 914.8                          | 925.2                        | 959.8                         | GMSK 8-PSK         | 4 E2        | 5                          | A                               | 33                         | 11                        | 975              | 37                  | 124               | --                          |
| <input type="checkbox"/>            | GSM DCS       | 1710.2                        | 1784.8                         | 1805.2                       | 1879.8                        | GMSK 8-PSK         | 1 E2        | 0                          | A                               | 33                         | 11                        | 512              | 698                 | 885               | --                          |
| <input checked="" type="checkbox"/> | GSM cellular  | 824.2                         | 848.8                          | 869.2                        | 893.8                         | GMSK 8-PSK         | 4 E2        | 5                          | A                               | 33                         | 11                        | 128              | 190                 | 251               | 33.3                        |
| <input checked="" type="checkbox"/> | GSM PCS       | 1850.2                        | 1909.8                         | 1930.2                       | 1989.8                        | GMSK 8-PSK         | 1 E2        | 0                          | A                               | 33                         | 11                        | 512              | 661                 | 810               | 30.1                        |
| <input type="checkbox"/>            | UMTS FDD I    | 1922.4                        | 1977.6                         | 2112.4                       | 2167.6                        | QPSK               | 3           | max                        | --                              | --                         | --                        | 9612             | 9750                | 9888              | --                          |
| <input checked="" type="checkbox"/> | UMTS FDD II   | 1852.4                        | 1907.6                         | 1932.4                       | 1987.6                        | QPSK               | 3           | max                        | --                              | --                         | --                        | 9262             | 9400                | 9538              | 24.0                        |
| <input checked="" type="checkbox"/> | UMTS FDD IV   | 1712.4                        | 1752.6                         | 2112.4                       | 2152.6                        | QPSK               | 3           | max                        | --                              | --                         | --                        | 1312             | 1412                | 1513              | 22.5                        |
| <input checked="" type="checkbox"/> | UMTS FDD V    | 826.4                         | 846.6                          | 871.4                        | 891.6                         | QPSK               | 3           | max                        | --                              | --                         | --                        | 4132             | 4182                | 4233              | 24.4                        |
| <input type="checkbox"/>            | UMTS FDD VIII | 882.4                         | 912.6                          | 927.4                        | 957.6                         | QPSK               | 3           | max                        | --                              | --                         | --                        | 2712             | 2788                | 2863              | --                          |
| <input type="checkbox"/>            | LTE FDD 1     | 1920                          | 1980                           | 2110                         | 2170                          | QPSK               | 3           | max                        | --                              | --                         | --                        | 18100            | 18300               | 18500             | --                          |
| <input checked="" type="checkbox"/> | LTE FDD 2     | 1850                          | 1910                           | 1930                         | 1990                          | QPSK               | 3           | max                        | --                              | --                         | --                        | 18700            | 18900               | 19100             | 23.7                        |
| <input type="checkbox"/>            | LTE FDD 3     | 1710                          | 1785                           | 1805                         | 1880                          | QPSK               | 3           | max                        | --                              | --                         | --                        | 19300            | 19575               | 19850             | --                          |
| <input checked="" type="checkbox"/> | LTE FDD 4     | 1710                          | 1755                           | 2110                         | 2155                          | QPSK               | 3           | max                        | --                              | --                         | --                        | 20050            | 20175               | 20300             | 22.3                        |
| <input checked="" type="checkbox"/> | LTE FDD 5     | 824                           | 849                            | 869                          | 894                           | QPSK               | 3           | max                        | --                              | --                         | --                        | 20450            | 20525               | 20600             | 23.8                        |
| <input checked="" type="checkbox"/> | LTE FDD 7     | 2500                          | 2570                           | 2620                         | 2690                          | QPSK               | 3           | max                        | --                              | --                         | --                        | 20850            | 21100               | 21350             | 20.7                        |
| <input type="checkbox"/>            | LTE FDD 8     | 880                           | 915                            | 925                          | 960                           | QPSK               | 3           | max                        | --                              | --                         | --                        | 21500            | 21625               | 21750             | --                          |
| <input checked="" type="checkbox"/> | LTE FDD 13    | 777                           | 787                            | 746                          | 756                           | QPSK               | 3           | max                        | --                              | --                         | --                        | 23205            | 23230               | 23255             | 23.9                        |
| <input checked="" type="checkbox"/> | LTE FDD 17    | 704                           | 716                            | 734                          | 746                           | QPSK               | 3           | max                        | --                              | --                         | --                        | 23780            | 23790               | 23800             | 23.7                        |
| <input type="checkbox"/>            | LTE FDD 20    | 832                           | 862                            | 791                          | 821                           | QPSK               | 3           | max                        | --                              | --                         | --                        | 24250            | 24300               | 24350             | --                          |
| <input type="checkbox"/>            | WLAN          | 2412                          | 2472                           | 2412                         | 2472                          | CCK                | --          | max                        | --                              | --                         | --                        | 1                | 7                   | 13                | --                          |
| <input checked="" type="checkbox"/> | WLAN US       | 2412                          | 2462                           | 2412                         | 2462                          | OFDM               | --          | max                        | --                              | --                         | --                        | 1                | 6                   | 11                | 16.0                        |
| <input type="checkbox"/>            | WLAN          | 5180                          | 5240                           | 5180                         | 5240                          | OFDM               | --          | max                        | --                              | --                         | --                        | 36               | --                  | --                | 15.9                        |
| <input checked="" type="checkbox"/> | WLAN          | 5260                          | 5320                           | 5260                         | 5320                          | OFDM               | --          | max                        | --                              | --                         | --                        | 52               | 60                  | 64                | 16.0                        |
| <input type="checkbox"/>            | WLAN          | 5500                          | 5700                           | 5500                         | 5700                          | OFDM               | --          | max                        | --                              | --                         | --                        | --               | 116                 | --                | 17.4                        |
| <input checked="" type="checkbox"/> | WLAN          | 5745                          | 5825                           | 5745                         | 5825                          | OFDM               | --          | max                        | --                              | --                         | --                        | --               | --                  | 165               | 14.1                        |
| <input checked="" type="checkbox"/> | BT            | 2402                          | 2480                           | 2402                         | 2480                          | GFSK               | 3           | max                        | --                              | --                         | --                        | 0                | 39                  | 78                | 8.47                        |

)\*: measured slotted peak power for GSM, averaged max. RMS power for UMTS, LTE, WLAN and BT.

**Features:**

|                |                                                                                                                                                                    |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GSM bands 2.5  | (GPRS, EDGE) class A, Multislot class 33 (max 4 TS Uplink, max 5 TS downlink, max. 6 TS active) DTM class 11 (max 3 TS uplink, max 4 TS downlink, max 5 TS active) |
| Rel 9 HSDPA UE | cat 24 bands 2, 4, 5<br>(QPSK, 16QAM, 64QAM, no MIMO, dual cell, 42.2 Mbps)                                                                                        |
| Rel 9 HSPA UE  | cat: 6 bands 2,4,5<br>(QPSK, no 16QAM, 5.76 Mbps)                                                                                                                  |
| Rel 10 LTE UE  | cat: 4 bands 2,5,7,13,17<br>(QPSK, 16QAM, no MIMO, 50Mbps uplink)<br>Maximum TTI bundling: 4                                                                       |
| BT BR / BT LE  |                                                                                                                                                                    |
| ANT+           |                                                                                                                                                                    |
| RFID 13.56 MHz |                                                                                                                                                                    |

## 2.5 Transmitter and Antenna Operating Configurations

| Simultaneous transmission conditions |                       |
|--------------------------------------|-----------------------|
| GSM / GPRS / EDGE / DTM              | + BT/BLE <sup>1</sup> |
| GSM / GPRS / EDGE / DTM              | + WLAN 2.4GHz         |
| GSM / GPRS / EDGE / DTM              | + WLAN 5GHz           |
| UMTS / HSPA                          | + BT/BLE              |
| UMTS / HSPA                          | + WLAN 2.4GHz         |
| UMTS / HSPA                          | + WLAN 5GHz           |
| LTE                                  | + BT/BLE              |
| LTE                                  | + WLAN 2.4GHz         |
| LTE                                  | + WLAN 5GHz           |
| GSM / GPRS / EDGE / DTM              | + BT + WLAN 5GHz      |
| UMTS / HSPA                          | + BT + WLAN 5GHz      |
| LTE                                  | + BT + WLAN 5GHz      |

Table 1: Simultaneous transmission conditions

Note: BT and WLAN can be active at the same time, but only with interleaving of packages switched on board level. That means that they don't transmit at the same time.

BLE<sup>1</sup> - Bluetooth low energy

**3 Test standards/ procedures references**

| Test Standard              | Version    | Test Standard Description                                                                                                                                                                                                                                                                                                          |
|----------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IEEE 1528-2003             | 2003-04    | Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices:<br>Measurement Techniques                                                                                                                                                     |
| IEEE 1528-2013             | 2014-06    | Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices:<br>Measurement Techniques                                                                                                                                                     |
| RSS-102 Issue 4            | 2010-03    | Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)                                                                                                                                                                                                                                          |
| Canada's Safety Code No. 6 | 99-EHD-237 | Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz                                                                                                                                                                                                                     |
| IEEE Std. C95-3            | 2002       | IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields – RF and Microwave                                                                                                                                                                                                                   |
| IEEE Std. C95-1            | 1992       | IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.                                                                                                                                                                                                        |
| IEC 62209-2                | 2010       | Human exposure to radio frequency fields from hand-held and bodymounted wireless communication devices. Human models, instrumentation, and procedures. Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz) |

## FCC KDBs:

|                         |                     |                                                                                                                    |
|-------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------|
| KDB 865664D01v01        | May 28, 2013        | FCC OET SAR measurement requirements 100 MHz to 6 GHz                                                              |
| KDB 865664D02v01        | May 28, 2013        | RF Exposure Compliance Reporting and Documentation Considerations                                                  |
| KDB 447498D01v05        | February 7, 2014    | Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies                            |
| <b>KDB 648474D03v01</b> | <b>May 28, 2013</b> | <b>Evaluation and Approval Considerations for Wireless Handsets with Specific Wireless Charging Battery Covers</b> |
| KDB 648474D04v01        | May 28, 2013        | SAR Evaluation Considerations for Wireless Handsets                                                                |
| KDB 941225D01v02        | April 10, 2007      | SAR Measurements Procedures for 3G Devices                                                                         |
| KDB 941225D02v01        | December 14, 2009   | 3GPP R6 HSPA and R7 HSPA+ SAR Guidance                                                                             |
| KDB 941225D02v02        | May 28, 2013        | SAR Guidance for HSPA, HSPA+, DC-HSDPA and 1x-Advanced                                                             |
| KDB 941225D05v02        | May 28, 2013        | SAR for LTE Devices                                                                                                |
| KDB 941225D03v01        | December, 2008      | SAR Test Reduction Procedure for GSM/GPRS/EDGE                                                                     |
| KDB 941225D06v01        | May 28, 2013        | SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities                                   |
| KDB 248227D01v01        | May, 2007           | SAR Measurement Procedures for 802.11 a/b/g Transmitters                                                           |
| KDB 450824D01v01        | January, 2007       | SAR Probe Calibration and System Verification considerations for measurements from 150 MHz to 3 GHz                |
| KDB 450824D01v01        | March 4, 2012       | Dipole Requirements for SAR System Validation and Verification                                                     |

### 3.1 RF exposure limits

| Human Exposure                                  | Uncontrolled Environment<br>General Population | Controlled Environment<br>Occupational |
|-------------------------------------------------|------------------------------------------------|----------------------------------------|
| Spatial Peak SAR*<br>(Brain and Trunk)          | <b>1.60 mW/g</b>                               | 8.00 mW/g                              |
| Spatial Average SAR**<br>(Whole Body)           | 0.08 mW/g                                      | 0.40 mW/g                              |
| Spatial Peak SAR***<br>(Hands/Feet/Ankle/Wrist) | 4.00 mW/g                                      | 20.00 mW/g                             |

Table 2: RF exposure limits

The limit applied in this test report is shown in bold letters

Notes:

- \* The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time
- \*\* The Spatial Average value of the SAR averaged over the whole body.
- \*\*\* The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation).

#### 4 Summary of Measurement Results

|                                                                           |                                                             |       |       |               |
|---------------------------------------------------------------------------|-------------------------------------------------------------|-------|-------|---------------|
| <input checked="" type="checkbox"/>                                       | No deviations from the technical specifications ascertained |       |       |               |
| <input type="checkbox"/>                                                  | Deviations from the technical specifications ascertained    |       |       |               |
| Maximum SAR value reported for 1g (W/kg) from test report 1-6965/13-04-24 |                                                             |       |       |               |
|                                                                           |                                                             | PCE   | DTS   | UNII          |
| head                                                                      |                                                             | 1.338 | 0.321 | 0.519         |
| body worn 15 mm distance                                                  |                                                             | 0.486 | 0.166 | 0.578         |
| hotspot operation 10 mm distance                                          |                                                             | 0.821 | 0.219 | not supported |
| collocated situations                                                     | ΣSAR evaluation                                             | 1.579 |       |               |
|                                                                           | SPLSR <sub>i</sub> ≤ 0.040                                  | 0.031 |       |               |

Note: The SAR results from device with WPC cover is not exceeded the maximum SAR results with device without WPC cover.

No hotspot mode function on WLAN 5GHz, therefore SAR testing is not necessary

#### 5 Test Environment

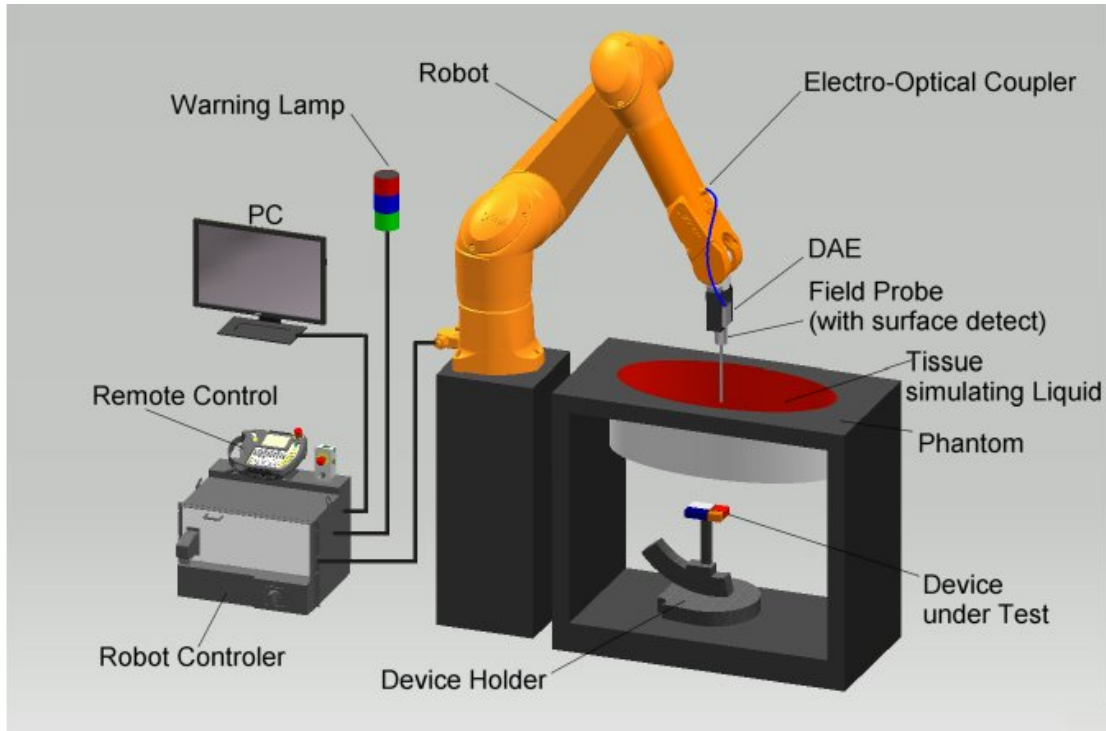
|                            |                                       |
|----------------------------|---------------------------------------|
| Ambient temperature:       | 20 – 24 °C                            |
| Tissue Simulating liquid:  | 20 – 24 °C                            |
| Relative humidity content: | 40 – 50 %                             |
| Air pressure:              | not relevant for this kind of testing |
| Power supply:              | 230 V / 50 Hz                         |

Exact temperature values for each test are shown in the table(s) under 7.1 and/or on the measurement plots.

## 6 Test Set-up

### 6.1 Measurement system

#### 6.1.1 System Description



- The DASYS system for performing compliance tests consists of the following items:
- A standard high precision 6-axis robot (Stäubli RX/TX family) with controller and software. An arm extension for accommodating the data acquisition electronics (DAE).
- A dosimetric probe, i.e. an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid.
- A data acquisition electronic (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DASYS measurement server.
- The DASYS measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation. A computer operating Windows 7.
- DASYS software and SEMCAD data evaluation software.
- Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.
- The generic twin phantom enabling the testing of left-hand and right-hand usage.
- The triple flat and eli phantom for the testing of handheld and body-mounted wireless devices.
- The device holder for handheld mobile phones and mounting device adaptor for laptops
- Tissue simulating liquid mixed according to the given recipes.
- System check dipoles allowing to validate the proper functioning of the system.

### 6.1.2 Test environment

The DASY measurement system is placed in a laboratory room within an environment which avoids influence on SAR measurements by ambient electromagnetic fields and any reflection from the environment. The pictures at the beginning of the photo documentation show a complete view of the test environment. The system allows the measurement of SAR values larger than 0.005 mW/g.

### 6.1.3 Probe description

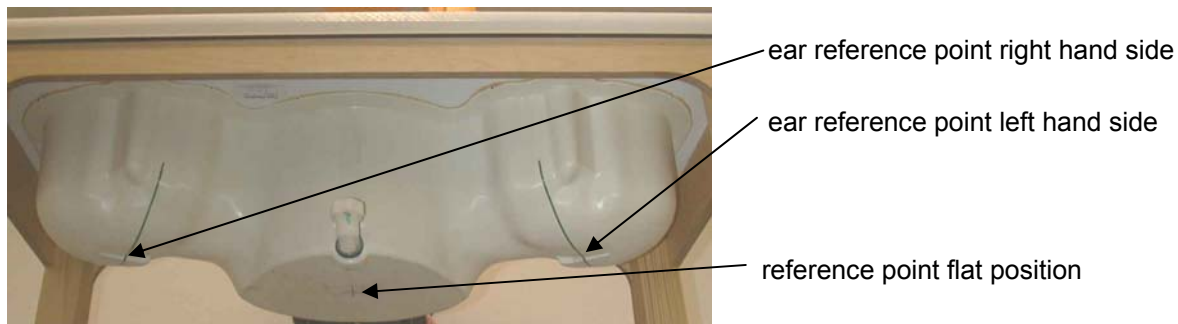
Isotropic E-Field Probe ET3DV6 for Dosimetric Measurements

| Technical data according to manufacturer information |                                                                                                                                                                                                                           |
|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Construction                                         | Symmetrical design with triangular core<br>Built-in optical fiber for surface detection system<br>Built-in shielding against static charges<br>PEEK enclosure material (resistant to organic solvents, e.g., glycolether) |
| Calibration                                          | In air from 10 MHz to 2.5 GHz<br>In head tissue simulating liquid (HSL) at 900 (800-1000) MHz and 1.8 GHz (1700-1910 MHz) (accuracy $\pm 9.5\%$ ; $k=2$ ) Calibration for other liquids and frequencies upon request      |
| Frequency                                            | 10 MHz to 3 GHz (dosimetry); Linearity: $\pm 0.2$ dB (30 MHz to 3 GHz)                                                                                                                                                    |
| Directivity                                          | $\pm 0.2$ dB in HSL (rotation around probe axis)<br>$\pm 0.4$ dB in HSL (rotation normal to probe axis)                                                                                                                   |
| Dynamic range                                        | 5 $\mu$ W/g to > 100 mW/g; Linearity: $\pm 0.2$ dB                                                                                                                                                                        |
| Optical Surface Detection                            | $\pm 0.2$ mm repeatability in air and clear liquids over diffuse reflecting surfaces (ET3DV6 only)                                                                                                                        |
| Dimensions                                           | Overall length: 330 mm<br>Tip length: 16 mm<br>Body diameter: 12 mm<br>Tip diameter: 6.8 mm<br>Distance from probe tip to dipole centers: 2.7 mm                                                                          |
| Application                                          | General dosimetry up to 3 GHz<br>Compliance tests of mobile phones<br>Fast automatic scanning in arbitrary phantoms (ET3DV6)                                                                                              |

#### 6.1.4 Phantom description

The used SAM Phantom meets the requirements specified in FCC KDB865664 D01 for Specific Absorption Rate (SAR) measurements.

The phantom consists of a fibreglass shell integrated in a wooden table. It allows left-hand and right-hand head as well as body-worn measurements with a maximum liquid depth of 18 cm in head position and 22 cm in planar position (body measurements). The thickness of the Phantom shell is 2 mm +/- 0.1 mm.



Triple Modular Phantom consists of three identical modules which can be installed and removed separately without emptying the liquid. It includes three reference points for phantom installation. Covers prevent evaporation of the liquid. Phantom material is resistant to DGBE based tissue simulating liquids.

### 6.1.5 Device holder description

The DASY device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of 65°. The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. This device holder is used for standard mobile phones or PDA's only. If necessary an additional support of polystyrene material is used.



Larger DUT's (e.g. notebooks) cannot be tested using this device holder. Instead a support of bigger polystyrene cubes and thin polystyrene plates is used to position the DUT in all relevant positions to find and measure spots with maximum SAR values. Therefore those devices are normally only tested at the flat part of the SAM.

### 6.1.6 Scanning procedure

- The DASY installation includes predefined files with recommended procedures for measurements and system check. They are read-only document files and destined as fully defined but unmeasured masks. All test positions (head or body-worn) are tested with the same configuration of test steps differing only in the grid definition for the different test positions.
- The „reference“ and „drift“ measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure. The indicated drift is mainly the variation of the DUT's output power and should vary max. +/- 5 %.
- The highest integrated SAR value is the main concern in compliance test applications. These values can mostly be found at the inner surface of the phantom and cannot be measured directly due to the sensor offset in the probe. To extrapolate the surface values, the measurement distances to the surface must be known accurately. A distance error of 0.5mm could produce SAR errors of 6% at 1800 MHz. Using predefined locations for measurements is not accurate enough. Any shift of the phantom (e.g., slight deformations after filling it with liquid) would produce high uncertainties. For an automatic and accurate detection of the phantom surface, the DASY5 system uses the mechanical surface detection. The detection is always at touch, but the probe will move backward from the surface the indicated distance before starting the measurement.
- The „area scan“ measures the SAR above the DUT or verification dipole on a parallel plane to the surface. It is used to locate the approximate location of the peak SAR with 2D spline interpolation. The robot performs a stepped movement along one grid axis while the local electrical field strength is measured by the probe. The probe is touching the surface of the SAM during acquisition of measurement values. The scan uses different grid spacings for different frequency measurements. Standard grid spacing for head measurements in frequency ranges  $\leq 2$  GHz is 15 mm in x- and y-dimension. For higher frequencies a finer resolution is needed, thus for the grid spacing is reduced according the following table:

| Area scan grid spacing for different frequency ranges |              |
|-------------------------------------------------------|--------------|
| Frequency range                                       | Grid spacing |
| $\leq 2$ GHz                                          | $\leq 15$ mm |
| 2 – 4 GHz                                             | $\leq 12$ mm |
| 4 – 6 GHz                                             | $\leq 10$ mm |

Grid spacing and orientation have no influence on the SAR result. For special applications where the standard scan method does not find the peak SAR within the grid, e.g. mobile phones with flip cover, the grid can be adapted in orientation. Results of this coarse scan are shown in annex B.

- A „zoom scan“ measures the field in a volume around the 2D peak SAR value acquired in the previous „coarse“ scan. It uses a fine meshed grid where the robot moves the probe in steps along all the 3 axis (x,y and z-axis) starting at the bottom of the Phantom. The grid spacing for the cube measurement is varied according to the measured frequency range, the dimensions are given in the following table:

| Zoom scan grid spacing and volume for different frequency ranges |                            |                         |                          |
|------------------------------------------------------------------|----------------------------|-------------------------|--------------------------|
| Frequency range                                                  | Grid spacing for x, y axis | Grid spacing for z axis | Minimum zoom scan volume |
| $\leq 2$ GHz                                                     | $\leq 8$ mm                | $\leq 5$ mm             | $\geq 30$ mm             |
| 2 – 3 GHz                                                        | $\leq 5$ mm                | $\leq 5$ mm             | $\geq 28$ mm             |
| 3 – 4 GHz                                                        | $\leq 5$ mm                | $\leq 4$ mm             | $\geq 28$ mm             |
| 4 – 5 GHz                                                        | $\leq 4$ mm                | $\leq 3$ mm             | $\geq 25$ mm             |
| 5 – 6 GHz                                                        | $\leq 4$ mm                | $\leq 2$ mm             | $\geq 22$ mm             |

DASY is also able to perform repeated zoom scans if more than 1 peak is found during area scan. In this document, the evaluated peak 1g and 10g averaged SAR values are shown in the 2D-graphics in annex B. Test results relevant for the specified standard (see section 3) are shown in table form in section 7.

## 6.1.7 Spatial Peak SAR Evaluation

The spatial peak SAR - value for 1 and 10 g is evaluated after the Cube measurements have been done. The basis of the evaluation are the SAR values measured at the points of the fine cube grid consisting of all points in the three directions x, y and z. The algorithm that finds the maximal averaged volume is separated into three different stages.

- The data between the dipole center of the probe and the surface of the phantom are extrapolated. This data cannot be measured since the center of the dipole is 1 to 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is about 1 mm (see probe calibration sheet). The extrapolated data from a cube measurement can be visualized by selecting 'Graph Evaluated'.
- The maximum interpolated value is searched with a straight-forward algorithm. Around this maximum the SAR - values averaged over the spatial volumes (1g or 10 g) are computed using the 3d-spline interpolation algorithm. If the volume cannot be evaluated (i.e., if a part of the grid was cut off by the boundary of the measurement area) the evaluation will be started on the corners of the bottom plane of the cube.
- All neighbouring volumes are evaluated until no neighbouring volume with a higher average value is found.

### Extrapolation

The extrapolation is based on a least square algorithm [W. Gander, Computermathematik, p.168-180]. Through the points in the first 3 cm along the z-axis, polynomials of order four are calculated. These polynomials are then used to evaluate the points between the surface and the probe tip. The points, calculated from the surface, have a distance of 1 mm from each other.

### Interpolation

The interpolation of the points is done with a 3d-Spline. The 3d-Spline is composed of three one-dimensional splines with the "Not a knot"-condition [W. Gander, Computermathematik, p.141-150] (x, y and z -direction) [Numerical Recipes in C, Second Edition, p.123ff ].

### Volume Averaging

At First the size of the cube is calculated. Then the volume is integrated with the trapezoidal algorithm. 8000 points (20x20x20) are interpolated to calculate the average.

### Advanced Extrapolation

DASY uses the advanced extrapolation option which is able to compensate boundary effects on E-field probes.

## 6.1.8 Data Storage and Evaluation

### Data Storage

The DASY software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension ".DA4", ".DA5x". The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated.

The measured data can be visualized or exported in different units or formats, depending on the selected probe type ([V/m], [A/m], [°C], [mW/g], [mW/cm²], [dBrel], etc.). Some of these units are not available in certain situations or show meaningless results, e.g., a SAR output in a lossless media will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

### Data Evaluation by SEMCAD

The SEMCAD software automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The parameters used in the evaluation are stored in the configuration modules of the software:

|                    |                           |                                         |
|--------------------|---------------------------|-----------------------------------------|
| Probe parameters:  | - Sensitivity             | $\text{Norm}_i, a_{i0}, a_{i1}, a_{i2}$ |
|                    | - Conversion factor       | $\text{ConvF}_i$                        |
|                    | - Diode compression point | $\text{Dcpi}$                           |
| Device parameters: | - Frequency               | $f$                                     |
|                    | - Crest factor            | $cf$                                    |
| Media parameters:  | - Conductivity            | $\sigma$                                |
|                    | - Density                 | $\rho$                                  |

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY components. In the direct measuring mode of the multimeter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics.

If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as:

$$V_i = U_i + U_i^2 \cdot cf/dcp_i$$

with  $V_i$  = compensated signal of channel i (i = x, y, z)  
 $U_i$  = input signal of channel i (i = x, y, z)  
 $cf$  = crest factor of exciting field (DASY parameter)  
 $dcp_i$  = diode compression point (DASY parameter)

From the compensated input signals the primary field data for each channel can be evaluated:

E-field probes:  $E_i = (V_i / Norm_i \cdot ConvF)^{1/2}$

H-field probes:  $H_i = (V_i)^{1/2} \cdot (a_{i0} + a_{i1}f + a_{i2}f^2)/f$

with  $V_i$  = compensated signal of channel i (i = x, y, z)  
 $Norm_i$  = sensor sensitivity of channel i (i = x, y, z)  
[mV/(V/m)<sup>2</sup>] for E-field Probes  
 $ConvF$  = sensitivity enhancement in solution  
 $a_{ij}$  = sensor sensitivity factors for H-field probes  
 $f$  = carrier frequency [GHz]  
 $E_i$  = electric field strength of channel i in V/m  
 $H_i$  = magnetic field strength of channel i in A/m

The RSS value of the field components gives the total field strength (Hermitian magnitude):

$$E_{tot} = (E_x^2 + E_y^2 + E_z^2)^{1/2}$$

The primary field data are used to calculate the derived field units.

$$SAR = (E_{tot}^2 \cdot \sigma) / (\rho \cdot 1000)$$

with  $SAR$  = local specific absorption rate in mW/g  
 $E_{tot}$  = total field strength in V/m  
 $\sigma$  = conductivity in [mho/m] or [Siemens/m]  
 $\rho$  = equivalent tissue density in g/cm<sup>3</sup>

Note that the density is normally set to 1 (or 1.06), to account for actual brain density rather than the density of the simulation liquid. The power flow density is calculated assuming the excitation field to be a free space field.

$$P_{pwe} = E_{tot}^2 / 3770 \quad \text{or} \quad P_{pwe} = H_{tot}^2 \cdot 37.7$$

with  $P_{pwe}$  = equivalent power density of a plane wave in mW/cm<sup>2</sup>  
 $E_{tot}$  = total electric field strength in V/m  
 $H_{tot}$  = total magnetic field strength in A/m

### 6.1.9 Tissue simulating liquids: dielectric properties

The following materials are used for producing the tissue-equivalent materials.

(Liquids used for tests described in section 7. are marked with ☒) :

| Ingredients<br>(% of weight) | Frequency (MHz)              |                                         |                                         |                              |                               |                                          |                                          |                                          |                                          |
|------------------------------|------------------------------|-----------------------------------------|-----------------------------------------|------------------------------|-------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|
|                              | <input type="checkbox"/> 450 | <input checked="" type="checkbox"/> 750 | <input checked="" type="checkbox"/> 835 | <input type="checkbox"/> 900 | <input type="checkbox"/> 1450 | <input checked="" type="checkbox"/> 1750 | <input checked="" type="checkbox"/> 1900 | <input checked="" type="checkbox"/> 2450 | <input checked="" type="checkbox"/> 5000 |
| frequency band               |                              |                                         |                                         |                              |                               |                                          |                                          |                                          |                                          |
| Tissue Type                  | Head                         | Head                                    | Head                                    | Head                         | Head                          | Head                                     | Head                                     | Head                                     | Head                                     |
| Water                        | 38.56                        | 41.1                                    | 41.45                                   | 40.92                        | 52.64                         | 52.64                                    | 54.9                                     | 62.7                                     | 64 - 78                                  |
| Salt (NaCl)                  | 3.95                         | 1.4                                     | 1.45                                    | 1.48                         | 0.61                          | 0.36                                     | 0.18                                     | 0.5                                      | 2 - 3                                    |
| Sugar                        | 56.32                        | 57.0                                    | 56.0                                    | 56.5                         | 0.0                           | 0.0                                      | 0.0                                      | 0.0                                      | 0.0                                      |
| HEC                          | 0.98                         | 0.2                                     | 1.0                                     | 1.0                          | 0.0                           | 0.0                                      | 0.0                                      | 0.0                                      | 0.0                                      |
| Bactericide                  | 0.19                         | 0.2                                     | 0.1                                     | 0.1                          | 0.0                           | 0.0                                      | 0.0                                      | 0.0                                      | 0.0                                      |
| Triton X-100                 | 0.0                          | 0.0                                     | 0.0                                     | 0.0                          | 0.0                           | 0.0                                      | 0.0                                      | 36.8                                     | 0.0                                      |
| DGBE                         | 0.0                          | 0.0                                     | 0.0                                     | 0.0                          | 46.75                         | 47.0                                     | 44.92                                    | 0.0                                      | 0.0                                      |
| Emulsifiers                  | 0.0                          | 0.0                                     | 0.0                                     | 0.0                          | 0.0                           | 0.0                                      | 0.0                                      | 0.0                                      | 9 - 15                                   |
| Mineral Oil                  | 0.0                          | 0.0                                     | 0.0                                     | 0.0                          | 0.0                           | 0.0                                      | 0.0                                      | 0.0                                      | 11 - 18                                  |

Table 3: Head tissue dielectric properties

| Ingredients<br>(% of weight) | Frequency (MHz)              |                                         |                                         |                              |                               |                                          |                                          |                                          |                                          |
|------------------------------|------------------------------|-----------------------------------------|-----------------------------------------|------------------------------|-------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|
|                              | <input type="checkbox"/> 450 | <input checked="" type="checkbox"/> 750 | <input checked="" type="checkbox"/> 835 | <input type="checkbox"/> 900 | <input type="checkbox"/> 1450 | <input checked="" type="checkbox"/> 1750 | <input checked="" type="checkbox"/> 1900 | <input checked="" type="checkbox"/> 2450 | <input checked="" type="checkbox"/> 5000 |
| frequency band               |                              |                                         |                                         |                              |                               |                                          |                                          |                                          |                                          |
| Tissue Type                  | Body                         | Body                                    | Body                                    | Body                         | Body                          | Body                                     | Body                                     | Body                                     | Body                                     |
| Water                        | 51.16                        | 51.7                                    | 52.4                                    | 56.0                         | 70.97                         | 69.91                                    | 69.91                                    | 73.2                                     | 64 - 78                                  |
| Salt (NaCl)                  | 1.49                         | 0.9                                     | 1.40                                    | 0.76                         | 0.43                          | 0.13                                     | 0.13                                     | 0.04                                     | 2 - 3                                    |
| Sugar                        | 46.78                        | 47.2                                    | 45.0                                    | 41.76                        | 0.0                           | 0.0                                      | 0.0                                      | 0.0                                      | 0.0                                      |
| HEC                          | 0.52                         | 0.0                                     | 1.0                                     | 1.21                         | 0.0                           | 0.0                                      | 0.0                                      | 0.0                                      | 0.0                                      |
| Bactericide                  | 0.05                         | 0.1                                     | 0.1                                     | 0.27                         | 0.0                           | 0.0                                      | 0.0                                      | 0.0                                      | 0.0                                      |
| Triton X-100                 | 0.0                          | 0.0                                     | 0.0                                     | 0.0                          | 0.0                           | 0.0                                      | 0.0                                      | 0.0                                      | 0.0                                      |
| DGBE                         | 0.0                          | 0.0                                     | 0.0                                     | 0.0                          | 28.60                         | 29.96                                    | 29.96                                    | 26.7                                     | 0.0                                      |
| Emulsifiers                  | 0.0                          | 0.0                                     | 0.0                                     | 0.0                          | 0.0                           | 0.0                                      | 0.0                                      | 0.0                                      | 9 - 15                                   |
| Mineral Oil                  | 0.0                          | 0.0                                     | 0.0                                     | 0.0                          | 0.0                           | 0.0                                      | 0.0                                      | 0.0                                      | 11 - 18                                  |

Table 4: Body tissue dielectric properties

Salt: 99+% Pure Sodium Chloride

Water: De-ionized, 16MΩ+ resistivity

Sugar: 98+% Pure Sucrose

HEC: Hydroxyethyl Cellulose

DGBE: 99+% Di(ethylene glycol) butyl ether, [2-(2-butoxyethoxy)ethanol]

Triton X-100(ultra pure): Polyethylene glycol mono [4-(1,1,3,3-tetramethylbutyl)phenyl]ether

### 6.1.10 Tissue simulating liquids: parameters

| Liquid<br>HSL    | Freq.<br>(MHz) | Target head tissue |                       | Measurement head tissue |           |              |       |        | Measurement<br>date |
|------------------|----------------|--------------------|-----------------------|-------------------------|-----------|--------------|-------|--------|---------------------|
|                  |                | Permittivity       | Conductivity<br>[S/m] | Permittivity            | Dev.<br>% | Conductivity |       | Dev. % |                     |
|                  |                |                    |                       |                         |           | ε''          | [S/m] |        |                     |
| 750              | 709            | 42.15              | 0.89                  | 42.2                    | 0.1%      | 21.71        | 0.86  | -3.8%  | 2014-06-12          |
|                  | 750            | 41.94              | 0.89                  | 41.7                    | -0.6%     | 21.50        | 0.90  | 0.4%   |                     |
|                  | 782            | 41.78              | 0.90                  | 41.1                    | -1.6%     | 21.30        | 0.93  | 3.4%   |                     |
| 850/900          | 835            | 41.50              | 0.90                  | 41.9                    | 0.9%      | 20.18        | 0.94  | 4.1%   | 2014-06-11          |
|                  | 844            | 41.50              | 0.91                  | 41.7                    | 0.5%      | 20.16        | 0.95  | 4.0%   |                     |
|                  | 847            | 41.50              | 0.91                  | 41.7                    | 0.4%      | 20.13        | 0.95  | 3.9%   |                     |
|                  | 849            | 41.50              | 0.92                  | 41.7                    | 0.4%      | 20.11        | 0.95  | 3.8%   |                     |
| 1750             | 1712           | 40.13              | 1.35                  | 40.6                    | 1.3%      | 13.90        | 1.32  | -1.9%  | 2014-06-11          |
|                  | 1720           | 40.11              | 1.35                  | 40.5                    | 1.1%      | 13.80        | 1.32  | -2.5%  |                     |
|                  | 1750           | 40.07              | 1.37                  | 40.5                    | 1.0%      | 14.06        | 1.37  | -0.2%  |                     |
| 1900             | 1880           | 40.00              | 1.40                  | 39.9                    | -0.2%     | 13.13        | 1.37  | -1.9%  | 2014-06-11          |
|                  | 1900           | 40.00              | 1.40                  | 39.9                    | -0.3%     | 13.21        | 1.40  | -0.3%  |                     |
|                  | 1908           | 40.00              | 1.40                  | 39.9                    | -0.4%     | 13.24        | 1.41  | 0.4%   |                     |
|                  | 1910           | 40.00              | 1.40                  | 39.9                    | -0.3%     | 13.24        | 1.41  | 0.5%   |                     |
| 2450<br><br>2600 | 2437           | 39.22              | 1.79                  | 39.0                    | -0.5%     | 13.23        | 1.79  | 0.3%   | 2014-06-12          |
|                  | 2441           | 39.22              | 1.79                  | 39.0                    | -0.5%     | 13.24        | 1.80  | 0.3%   |                     |
|                  | 2450           | 39.20              | 1.80                  | 39.0                    | -0.6%     | 13.25        | 1.81  | 0.3%   |                     |
|                  | 2510           | 39.12              | 1.87                  | 38.8                    | -0.8%     | 13.43        | 1.88  | 0.5%   |                     |
|                  | 2600           | 39.01              | 1.96                  | 38.3                    | -1.7%     | 13.64        | 1.97  | 0.5%   |                     |
| 5GHz             | 5800           | 35.30              | 5.27                  | 35.4                    | 0.2%      | 15.85        | 5.11  | -3.0%  | 2014-06-12          |
|                  | 5825           | 35.27              | 5.30                  | 35.4                    | 0.5%      | 15.64        | 5.07  | -4.3%  |                     |

Table 5: Parameter of the head tissue simulating liquid

| Liquid<br>MSL    | Freq.<br>(MHz) | Target <b>body</b> tissue |                       | Measurement <b>body</b> tissue |           |              |       |        | Measurement<br>date |
|------------------|----------------|---------------------------|-----------------------|--------------------------------|-----------|--------------|-------|--------|---------------------|
|                  |                | Permittivity              | Conductivity<br>[S/m] | Permittivity                   | Dev.<br>% | Conductivity |       | Dev. % |                     |
|                  |                |                           |                       |                                |           | $\epsilon''$ | [S/m] |        |                     |
| 750              | 709            | 55.69                     | 0.96                  | 55.7                           | 0.0%      | 23.81        | 0.94  | -2.2%  | 2014-06-12          |
|                  | 711            | 55.68                     | 0.96                  | 55.7                           | 0.0%      | 23.84        | 0.94  | -1.8%  |                     |
|                  | 750            | 55.53                     | 0.96                  | 55.2                           | -0.6%     | 23.37        | 0.97  | 1.2%   |                     |
|                  | 782            | 55.41                     | 0.97                  | 54.6                           | -1.4%     | 23.11        | 1.01  | 4.1%   |                     |
|                  | 784            | 55.40                     | 0.97                  | 54.6                           | -1.5%     | 23.08        | 1.01  | 4.2%   |                     |
| 850/900          | 824            | 55.24                     | 0.97                  | 54.1                           | -2.0%     | 21.93        | 1.01  | 3.7%   | 2014-06-10          |
|                  | 825            | 55.24                     | 0.97                  | 54.1                           | -2.1%     | 21.93        | 1.01  | 3.8%   |                     |
|                  | 835            | 55.20                     | 0.97                  | 54.0                           | -2.2%     | 21.85        | 1.01  | 4.6%   |                     |
|                  | 844            | 55.17                     | 0.98                  | 53.9                           | -2.4%     | 21.77        | 1.02  | 4.2%   |                     |
| 1750             | 1720           | 53.51                     | 1.47                  | 52.3                           | -2.2%     | 15.48        | 1.48  | 0.8%   | 2014-06-11          |
|                  | 1732           | 53.48                     | 1.48                  | 52.4                           | -2.0%     | 15.51        | 1.49  | 1.2%   |                     |
|                  | 1750           | 53.43                     | 1.49                  | 52.3                           | -2.1%     | 15.83        | 1.54  | 3.5%   |                     |
| 1900             | 1852           | 53.30                     | 1.52                  | 52.7                           | -1.2%     | 14.31        | 1.47  | -3.0%  | 2014-06-11          |
|                  | 1860           | 53.30                     | 1.52                  | 52.6                           | -1.3%     | 14.26        | 1.48  | -2.9%  |                     |
|                  | 1880           | 53.30                     | 1.52                  | 52.8                           | -1.0%     | 14.33        | 1.50  | -1.4%  |                     |
|                  | 1900           | 53.30                     | 1.52                  | 52.6                           | -1.4%     | 14.46        | 1.53  | 0.6%   |                     |
|                  | 1910           | 53.30                     | 1.52                  | 52.5                           | -1.6%     | 14.27        | 1.52  | -0.2%  |                     |
| 2450<br><br>2600 | 2437           | 52.72                     | 1.94                  | 50.4                           | -4.3%     | 14.75        | 2.00  | 3.2%   | 2014-06-11          |
|                  | 2450           | 52.70                     | 1.95                  | 50.5                           | -4.3%     | 14.77        | 2.01  | 3.2%   |                     |
|                  | 2462           | 52.68                     | 1.97                  | 50.6                           | -4.0%     | 14.92        | 2.04  | 3.9%   |                     |
|                  | 2510           | 52.62                     | 2.04                  | 50.4                           | -4.2%     | 14.93        | 2.08  | 2.4%   |                     |
|                  | 2560           | 52.56                     | 2.11                  | 50.2                           | -4.5%     | 15.04        | 2.14  | 1.7%   |                     |
|                  | 2600           | 52.51                     | 2.16                  | 50.0                           | -4.8%     | 15.23        | 2.20  | 1.8%   |                     |
| 5GHz             | 5200           | 49.01                     | 5.30                  | 48.4                           | -1.3%     | 18.04        | 5.22  | -1.6%  | 2014-06-12          |
|                  | 5300           | 48.88                     | 5.42                  | 48.0                           | -1.7%     | 18.23        | 5.37  | -0.8%  |                     |

Table 6: Parameter of the body tissue simulating liquid

Note: The dielectric properties have been measured using the contact probe method at 22°C.

### 6.1.11 Measurement uncertainty evaluation for SAR test

| Relative DASY5 Uncertainty Budget for SAR Tests                  |                   |                          |            |               |                |                      |                  |                      |
|------------------------------------------------------------------|-------------------|--------------------------|------------|---------------|----------------|----------------------|------------------|----------------------|
| According to IEEE 1528/2011 and IEC62209-1/2011 (0.3-3GHz range) |                   |                          |            |               |                |                      |                  |                      |
| Error Description                                                | Uncertainty Value | Probability Distribution | Divisor    | $C_i$<br>(1g) | $C_i$<br>(10g) | Standard Uncertainty |                  | $v_i^2$ or $v_{eff}$ |
|                                                                  |                   |                          |            |               |                | $\pm \%$ , (1g)      | $\pm \%$ , (10g) |                      |
| <b>Measurement System</b>                                        |                   |                          |            |               |                |                      |                  |                      |
| Probe calibration                                                | $\pm 6.0 \%$      | Normal                   | 1          | 1             | 1              | $\pm 6.0 \%$         | $\pm 6.0 \%$     | $\infty$             |
| Axial isotropy                                                   | $\pm 4.7 \%$      | Rectangular              | $\sqrt{3}$ | 0.7           | 0.7            | $\pm 1.9 \%$         | $\pm 1.9 \%$     | $\infty$             |
| Hemispherical isotropy                                           | $\pm 9.6 \%$      | Rectangular              | $\sqrt{3}$ | 0.7           | 0.7            | $\pm 3.9 \%$         | $\pm 3.9 \%$     | $\infty$             |
| Boundary effects                                                 | $\pm 1.0 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 0.6 \%$         | $\pm 0.6 \%$     | $\infty$             |
| Probe linearity                                                  | $\pm 4.7 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 2.7 \%$         | $\pm 2.7 \%$     | $\infty$             |
| System detection limits                                          | $\pm 1.0 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 0.6 \%$         | $\pm 0.6 \%$     | $\infty$             |
| Modulation Response                                              | $\pm 2.4 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 1.4 \%$         | $\pm 1.4 \%$     | $\infty$             |
| Readout electronics                                              | $\pm 0.3 \%$      | Normal                   | 1          | 1             | 1              | $\pm 0.3 \%$         | $\pm 0.3 \%$     | $\infty$             |
| Response time                                                    | $\pm 0.8 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 0.5 \%$         | $\pm 0.5 \%$     | $\infty$             |
| Integration time                                                 | $\pm 2.6 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 1.5 \%$         | $\pm 1.5 \%$     | $\infty$             |
| RF ambient noise                                                 | $\pm 3.0 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 1.7 \%$         | $\pm 1.7 \%$     | $\infty$             |
| RF ambient reflections                                           | $\pm 3.0 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 1.7 \%$         | $\pm 1.7 \%$     | $\infty$             |
| Probe positioner                                                 | $\pm 0.4 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 0.2 \%$         | $\pm 0.2 \%$     | $\infty$             |
| Probe positioning                                                | $\pm 2.9 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 1.7 \%$         | $\pm 1.7 \%$     | $\infty$             |
| Max. SAR evaluation                                              | $\pm 2.0 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 1.2 \%$         | $\pm 1.2 \%$     | $\infty$             |
| <b>Test Sample Related</b>                                       |                   |                          |            |               |                |                      |                  |                      |
| Device positioning                                               | $\pm 2.9 \%$      | Normal                   | 1          | 1             | 1              | $\pm 2.9 \%$         | $\pm 2.9 \%$     | 145                  |
| Device holder uncertainty                                        | $\pm 3.6 \%$      | Normal                   | 1          | 1             | 1              | $\pm 3.6 \%$         | $\pm 3.6 \%$     | 5                    |
| Power drift                                                      | $\pm 5.0 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 2.9 \%$         | $\pm 2.9 \%$     | $\infty$             |
| <b>Phantom and Set-up</b>                                        |                   |                          |            |               |                |                      |                  |                      |
| Phantom uncertainty                                              | $\pm 6.1 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 3.5 \%$         | $\pm 3.5 \%$     | $\infty$             |
| SAR correction                                                   | $\pm 1.9 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 0.84           | $\pm 1.1 \%$         | $\pm 0.9 \%$     | $\infty$             |
| Liquid conductivity (meas.)                                      | $\pm 5.0 \%$      | Rectangular              | $\sqrt{3}$ | 0.78          | 0.71           | $\pm 2.3 \%$         | $\pm 2.0 \%$     | $\infty$             |
| Liquid permittivity (meas.)                                      | $\pm 5.0 \%$      | Rectangular              | $\sqrt{3}$ | 0.26          | 0.26           | $\pm 0.8 \%$         | $\pm 0.8 \%$     | $\infty$             |
| Temp. Unc. - Conductivity                                        | $\pm 3.4 \%$      | Rectangular              | $\sqrt{3}$ | 0.78          | 0.71           | $\pm 1.5 \%$         | $\pm 1.4 \%$     | $\infty$             |
| Temp. Unc. - Permittivity                                        | $\pm 0.4 \%$      | Rectangular              | $\sqrt{3}$ | 0.23          | 0.26           | $\pm 0.1 \%$         | $\pm 0.1 \%$     | $\infty$             |
| <b>Combined Uncertainty</b>                                      |                   |                          |            |               |                | $\pm 11.3 \%$        | $\pm 11.3 \%$    | 330                  |
| <b>Expanded Std. Uncertainty</b>                                 |                   |                          |            |               |                | $\pm 22.7 \%$        | $\pm 22.5 \%$    |                      |

Table 7: Measurement uncertainties

Worst-Case uncertainty budget for DASY5 assessed according to IEEE 1528/2011 and IEC 62209-1/2011 draft standards. The budget is valid for the frequency range 300MHz -3 GHz and represents a worst-case analysis. For specific tests and configurations, the uncertainty could be considerable smaller.

| Relative DASY5 Uncertainty Budget for SAR Tests     |                   |                          |         |                |                |                      |            |                                                 |
|-----------------------------------------------------|-------------------|--------------------------|---------|----------------|----------------|----------------------|------------|-------------------------------------------------|
| According to IEC62209-2/2010 (30 MHz - 6 GHz range) |                   |                          |         |                |                |                      |            |                                                 |
| Error Description                                   | Uncertainty Value | Probability Distribution | Divisor | c <sub>i</sub> | c <sub>i</sub> | Standard Uncertainty |            | v <sub>i</sub> <sup>2</sup> or v <sub>eff</sub> |
|                                                     |                   |                          |         | (1g)           | (10g)          | ± %, (1g)            | ± %, (10g) |                                                 |
| Measurement System                                  |                   |                          |         |                |                |                      |            |                                                 |
| Probe calibration                                   | ± 6.6 %           | Normal                   | 1       | 1              | 1              | ± 6.6 %              | ± 6.6 %    | ∞                                               |
| Axial isotropy                                      | ± 4.7 %           | Rectangular              | √ 3     | 0.7            | 0.7            | ± 1.9 %              | ± 1.9 %    | ∞                                               |
| Hemispherical isotropy                              | ± 9.6 %           | Rectangular              | √ 3     | 0.7            | 0.7            | ± 3.9 %              | ± 3.9 %    | ∞                                               |
| Boundary effects                                    | ± 2.0 %           | Rectangular              | √ 3     | 1              | 1              | ± 1.2 %              | ± 1.2 %    | ∞                                               |
| Probe linearity                                     | ± 4.7 %           | Rectangular              | √ 3     | 1              | 1              | ± 2.7 %              | ± 2.7 %    | ∞                                               |
| System detection limits                             | ± 1.0 %           | Rectangular              | √ 3     | 1              | 1              | ± 0.6 %              | ± 0.6 %    | ∞                                               |
| Modulation Response                                 | ± 2.4 %           | Rectangular              | √ 3     | 1              | 1              | ± 1.4 %              | ± 1.4 %    | ∞                                               |
| Readout electronics                                 | ± 0.3 %           | Normal                   | 1       | 1              | 1              | ± 0.3 %              | ± 0.3 %    | ∞                                               |
| Response time                                       | ± 0.8 %           | Rectangular              | √ 3     | 1              | 1              | ± 0.5 %              | ± 0.5 %    | ∞                                               |
| Integration time                                    | ± 2.6 %           | Rectangular              | √ 3     | 1              | 1              | ± 1.5 %              | ± 1.5 %    | ∞                                               |
| RF ambient noise                                    | ± 3.0 %           | Rectangular              | √ 3     | 1              | 1              | ± 1.7 %              | ± 1.7 %    | ∞                                               |
| RF ambient reflections                              | ± 3.0 %           | Rectangular              | √ 3     | 1              | 1              | ± 1.7 %              | ± 1.7 %    | ∞                                               |
| Probe positioner                                    | ± 0.8 %           | Rectangular              | √ 3     | 1              | 1              | ± 0.5 %              | ± 0.5 %    | ∞                                               |
| Probe positioning                                   | ± 6.7 %           | Rectangular              | √ 3     | 1              | 1              | ± 3.9 %              | ± 3.9 %    | ∞                                               |
| Post-processing                                     | ± 4.0 %           | Rectangular              | √ 3     | 1              | 1              | ± 2.3 %              | ± 2.3 %    | ∞                                               |
| Test Sample Related                                 |                   |                          |         |                |                |                      |            |                                                 |
| Device positioning                                  | ± 2.9 %           | Normal                   | 1       | 1              | 1              | ± 2.9 %              | ± 2.9 %    | 145                                             |
| Device holder uncertainty                           | ± 3.6 %           | Normal                   | 1       | 1              | 1              | ± 3.6 %              | ± 3.6 %    | 5                                               |
| Power drift                                         | ± 5.0 %           | Rectangular              | √ 3     | 1              | 1              | ± 2.9 %              | ± 2.9 %    | ∞                                               |
| Phantom and Set-up                                  |                   |                          |         |                |                |                      |            |                                                 |
| Phantom uncertainty                                 | ± 7.9 %           | Rectangular              | √ 3     | 1              | 1              | ± 4.6 %              | ± 4.6 %    | ∞                                               |
| SAR correction                                      | ± 1.9 %           | Rectangular              | √ 3     | 1              | 0.84           | ± 1.1 %              | ± 0.9 %    | ∞                                               |
| Liquid conductivity (meas.)                         | ± 5.0 %           | Rectangular              | √ 3     | 0.78           | 0.71           | ± 2.3 %              | ± 2.0 %    | ∞                                               |
| Liquid permittivity (meas.)                         | ± 5.0 %           | Rectangular              | √ 3     | 0.26           | 0.26           | ± 0.8 %              | ± 0.8 %    | ∞                                               |
| Temp. Unc. - Conductivity                           | ± 3.4 %           | Rectangular              | √ 3     | 0.78           | 0.71           | ± 1.5 %              | ± 1.4 %    | ∞                                               |
| Temp. Unc. - Permittivity                           | ± 0.4 %           | Rectangular              | √ 3     | 0.23           | 0.26           | ± 0.1 %              | ± 0.1 %    | ∞                                               |
| Combined Uncertainty                                |                   |                          |         |                |                | ± 12.7 %             | ± 12.6 %   | 330                                             |
| Expanded Std. Uncertainty                           |                   |                          |         |                |                | ± 25.4 %             | ± 25.3 %   |                                                 |

Table 8: Measurement uncertainties. Worst-Case uncertainty budget for DASY5 assessed according to according to IEC 62209-2/2010 standard. The budget is valid for the frequency range 30MHz - 6 GHz and represents a worst-case analysis. For specific tests and configurations, the uncertainty could be considerable smaller.

| Relative DASY5 Uncertainty Budget for SAR Tests                |                   |                          |            |               |                |                      |                  |                      |
|----------------------------------------------------------------|-------------------|--------------------------|------------|---------------|----------------|----------------------|------------------|----------------------|
| According to IEEE 1528-2003, IEC 62209-1 for the 3-6 GHz range |                   |                          |            |               |                |                      |                  |                      |
| Error Description                                              | Uncertainty Value | Probability Distribution | Divisor    | $c_i$<br>(1g) | $c_i$<br>(10g) | Standard Uncertainty |                  | $v_i^2$ or $v_{eff}$ |
|                                                                |                   |                          |            |               |                | $\pm \%$ , (1g)      | $\pm \%$ , (10g) |                      |
| <b>Measurement System</b>                                      |                   |                          |            |               |                |                      |                  |                      |
| Probe calibration                                              | $\pm 6.6 \%$      | Normal                   | 1          | 1             | 1              | $\pm 6.6 \%$         | $\pm 6.6 \%$     | $\infty$             |
| Axial isotropy                                                 | $\pm 4.7 \%$      | Rectangular              | $\sqrt{3}$ | 0.7           | 0.7            | $\pm 1.9 \%$         | $\pm 1.9 \%$     | $\infty$             |
| Hemispherical isotropy                                         | $\pm 9.6 \%$      | Rectangular              | $\sqrt{3}$ | 0.7           | 0.7            | $\pm 3.9 \%$         | $\pm 3.9 \%$     | $\infty$             |
| Boundary effects                                               | $\pm 2.0 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 1.2 \%$         | $\pm 1.2 \%$     | $\infty$             |
| Probe linearity                                                | $\pm 4.7 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 2.7 \%$         | $\pm 2.7 \%$     | $\infty$             |
| System detection limits                                        | $\pm 1.0 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 0.6 \%$         | $\pm 0.6 \%$     | $\infty$             |
| Readout electronics                                            | $\pm 0.3 \%$      | Normal                   | 1          | 1             | 1              | $\pm 0.3 \%$         | $\pm 0.3 \%$     | $\infty$             |
| Response time                                                  | $\pm 0.8 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 0.5 \%$         | $\pm 0.5 \%$     | $\infty$             |
| Integration time                                               | $\pm 2.6 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 1.5 \%$         | $\pm 1.5 \%$     | $\infty$             |
| RF ambient noise                                               | $\pm 3.0 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 1.7 \%$         | $\pm 1.7 \%$     | $\infty$             |
| RF ambient reflections                                         | $\pm 3.0 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 1.7 \%$         | $\pm 1.7 \%$     | $\infty$             |
| Probe positioner                                               | $\pm 0.8 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 0.5 \%$         | $\pm 0.5 \%$     | $\infty$             |
| Probe positioning                                              | $\pm 6.7 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 3.9 \%$         | $\pm 3.9 \%$     | $\infty$             |
| Max. SAR evaluation                                            | $\pm 4.0 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 2.3 \%$         | $\pm 2.3 \%$     | $\infty$             |
| <b>Test Sample Related</b>                                     |                   |                          |            |               |                |                      |                  |                      |
| Device positioning                                             | $\pm 2.9 \%$      | Normal                   | 1          | 1             | 1              | $\pm 2.9 \%$         | $\pm 2.9 \%$     | 145                  |
| Device holder uncertainty                                      | $\pm 3.6 \%$      | Normal                   | 1          | 1             | 1              | $\pm 3.6 \%$         | $\pm 3.6 \%$     | 5                    |
| Power drift                                                    | $\pm 5.0 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 2.9 \%$         | $\pm 2.9 \%$     | $\infty$             |
| <b>Phantom and Set-up</b>                                      |                   |                          |            |               |                |                      |                  |                      |
| Phantom uncertainty                                            | $\pm 4.0 \%$      | Rectangular              | $\sqrt{3}$ | 1             | 1              | $\pm 2.3 \%$         | $\pm 2.3 \%$     | $\infty$             |
| Liquid conductivity (target)                                   | $\pm 5.0 \%$      | Rectangular              | $\sqrt{3}$ | 0.64          | 0.43           | $\pm 1.8 \%$         | $\pm 1.2 \%$     | $\infty$             |
| Liquid conductivity (meas.)                                    | $\pm 5.0 \%$      | Rectangular              | $\sqrt{3}$ | 0.64          | 0.43           | $\pm 1.8 \%$         | $\pm 1.2 \%$     | $\infty$             |
| Liquid permittivity (target)                                   | $\pm 5.0 \%$      | Rectangular              | $\sqrt{3}$ | 0.6           | 0.49           | $\pm 1.7 \%$         | $\pm 1.4 \%$     | $\infty$             |
| Liquid permittivity (meas.)                                    | $\pm 5.0 \%$      | Rectangular              | $\sqrt{3}$ | 0.6           | 0.49           | $\pm 1.7 \%$         | $\pm 1.4 \%$     | $\infty$             |
| <b>Combined Uncertainty</b>                                    |                   |                          |            |               |                | $\pm 12.1 \%$        | $\pm 11.9 \%$    | 330                  |
| <b>Expanded Std. Uncertainty</b>                               |                   |                          |            |               |                | $\pm 24.3 \%$        | $\pm 23.8 \%$    |                      |

Table 9: Measurement uncertainties

Worst-Case uncertainty budget for DASY5 valid for 3G communication signals and frequency range 3 - 6 GHz. Probe calibration error reflects uncertainty of the EX3D probe. For specific tests and configurations, the uncertainty could be considerable smaller.

| Relative DASY5 Uncertainty Budget for SAR Tests                |                   |                          |         |                |                |                      |            |                                                 |
|----------------------------------------------------------------|-------------------|--------------------------|---------|----------------|----------------|----------------------|------------|-------------------------------------------------|
| According to IEEE 1528/2011 and IEC62209-1/2011 (3-6GHz range) |                   |                          |         |                |                |                      |            |                                                 |
| Error Description                                              | Uncertainty Value | Probability Distribution | Divisor | c <sub>i</sub> | c <sub>i</sub> | Standard Uncertainty |            | v <sub>i</sub> <sup>2</sup> or v <sub>eff</sub> |
|                                                                |                   |                          |         | (1g)           | (10g)          | ± %, (1g)            | ± %, (10g) |                                                 |
| Measurement System                                             |                   |                          |         |                |                |                      |            |                                                 |
| Probe calibration                                              | ± 6.6 %           | Normal                   | 1       | 1              | 1              | ± 6.6 %              | ± 6.6 %    | ∞                                               |
| Axial isotropy                                                 | ± 4.7 %           | Rectangular              | √ 3     | 0.7            | 0.7            | ± 1.9 %              | ± 1.9 %    | ∞                                               |
| Hemispherical isotropy                                         | ± 9.6 %           | Rectangular              | √ 3     | 0.7            | 0.7            | ± 3.9 %              | ± 3.9 %    | ∞                                               |
| Boundary effects                                               | ± 2.0 %           | Rectangular              | √ 3     | 1              | 1              | ± 1.2 %              | ± 1.2 %    | ∞                                               |
| Probe linearity                                                | ± 4.7 %           | Rectangular              | √ 3     | 1              | 1              | ± 2.7 %              | ± 2.7 %    | ∞                                               |
| System detection limits                                        | ± 1.0 %           | Rectangular              | √ 3     | 1              | 1              | ± 0.6 %              | ± 0.6 %    | ∞                                               |
| Modulation Response                                            | ± 2.4 %           | Rectangular              | √ 3     | 1              | 1              | ± 1.4 %              | ± 1.4 %    | ∞                                               |
| Readout electronics                                            | ± 0.3 %           | Normal                   | 1       | 1              | 1              | ± 0.3 %              | ± 0.3 %    | ∞                                               |
| Response time                                                  | ± 0.8 %           | Rectangular              | √ 3     | 1              | 1              | ± 0.5 %              | ± 0.5 %    | ∞                                               |
| Integration time                                               | ± 2.6 %           | Rectangular              | √ 3     | 1              | 1              | ± 1.5 %              | ± 1.5 %    | ∞                                               |
| RF ambient noise                                               | ± 3.0 %           | Rectangular              | √ 3     | 1              | 1              | ± 1.7 %              | ± 1.7 %    | ∞                                               |
| RF ambient reflections                                         | ± 3.0 %           | Rectangular              | √ 3     | 1              | 1              | ± 1.7 %              | ± 1.7 %    | ∞                                               |
| Probe positioner                                               | ± 0.8 %           | Rectangular              | √ 3     | 1              | 1              | ± 0.5 %              | ± 0.5 %    | ∞                                               |
| Probe positioning                                              | ± 6.7 %           | Rectangular              | √ 3     | 1              | 1              | ± 3.9 %              | ± 3.9 %    | ∞                                               |
| Max. SAR evaluation                                            | ± 4.0 %           | Rectangular              | √ 3     | 1              | 1              | ± 2.3 %              | ± 2.3 %    | ∞                                               |
| Test Sample Related                                            |                   |                          |         |                |                |                      |            |                                                 |
| Device positioning                                             | ± 2.9 %           | Normal                   | 1       | 1              | 1              | ± 2.9 %              | ± 2.9 %    | 145                                             |
| Device holder uncertainty                                      | ± 3.6 %           | Normal                   | 1       | 1              | 1              | ± 3.6 %              | ± 3.6 %    | 5                                               |
| Power drift                                                    | ± 5.0 %           | Rectangular              | √ 3     | 1              | 1              | ± 2.9 %              | ± 2.9 %    | ∞                                               |
| Phantom and Set-up                                             |                   |                          |         |                |                |                      |            |                                                 |
| Phantom uncertainty                                            | ± 6.6 %           | Rectangular              | √ 3     | 1              | 1              | ± 3.8 %              | ± 3.8 %    | ∞                                               |
| SAR correction                                                 | ± 1.9 %           | Rectangular              | √ 3     | 1              | 0.84           | ± 1.1 %              | ± 0.9 %    | ∞                                               |
| Liquid conductivity (meas.)                                    | ± 5.0 %           | Rectangular              | √ 3     | 0.78           | 0.71           | ± 2.3 %              | ± 2.0 %    | ∞                                               |
| Liquid permittivity (meas.)                                    | ± 5.0 %           | Rectangular              | √ 3     | 0.26           | 0.26           | ± 0.8 %              | ± 0.8 %    | ∞                                               |
| Temp. Unc. - Conductivity                                      | ± 3.4 %           | Rectangular              | √ 3     | 0.78           | 0.71           | ± 1.5 %              | ± 1.4 %    | ∞                                               |
| Temp. Unc. - Permittivity                                      | ± 0.4 %           | Rectangular              | √ 3     | 0.23           | 0.26           | ± 0.1 %              | ± 0.1 %    | ∞                                               |
| Combined Uncertainty                                           |                   |                          |         |                |                | ± 12.4 %             | ± 12.4 %   | 330                                             |
| Expanded Std. Uncertainty                                      |                   |                          |         |                |                | ± 24.9 %             | ± 24.8 %   |                                                 |

Table 10: Measurement uncertainties

Worst-Case uncertainty budget for DASY5 assessed according to IEEE 1528/2011 and IEC 62209-1/2011 draft standards. The budget is valid for the frequency range 3GHz -6GHz and represents a worst-case analysis. For specific tests and configurations, the uncertainty could be considerable smaller.

### 6.1.12 Measurement uncertainty evaluation for System Check

| Uncertainty of a System Performance Check with DASY5 System<br>for the 0.3 - 3 GHz range |                      |                             |         |                |                |                      |            |                                                    |
|------------------------------------------------------------------------------------------|----------------------|-----------------------------|---------|----------------|----------------|----------------------|------------|----------------------------------------------------|
| Source of<br>uncertainty                                                                 | Uncertainty<br>Value | Probability<br>Distribution | Divisor | c <sub>i</sub> | c <sub>i</sub> | Standard Uncertainty |            | v <sub>i</sub> <sup>2</sup> or<br>v <sub>eff</sub> |
|                                                                                          |                      |                             |         | (1g)           | (10g)          | ± %, (1g)            | ± %, (10g) |                                                    |
| Measurement System                                                                       |                      |                             |         |                |                |                      |            |                                                    |
| Probe calibration                                                                        | ± 6.0 %              | Normal                      | 1       | 1              | 1              | ± 6.0 %              | ± 6.0 %    | ∞                                                  |
| Axial isotropy                                                                           | ± 4.7 %              | Rectangular                 | √ 3     | 0.7            | 0.7            | ± 1.9 %              | ± 1.9 %    | ∞                                                  |
| Hemispherical isotropy                                                                   | ± 0.0 %              | Rectangular                 | √ 3     | 0.7            | 0.7            | ± 0.0 %              | ± 0.0 %    | ∞                                                  |
| Boundary effects                                                                         | ± 1.0 %              | Rectangular                 | √ 3     | 1              | 1              | ± 0.6 %              | ± 0.6 %    | ∞                                                  |
| Probe linearity                                                                          | ± 4.7 %              | Rectangular                 | √ 3     | 1              | 1              | ± 2.7 %              | ± 2.7 %    | ∞                                                  |
| System detection limits                                                                  | ± 1.0 %              | Rectangular                 | √ 3     | 1              | 1              | ± 0.6 %              | ± 0.6 %    | ∞                                                  |
| Readout electronics                                                                      | ± 0.3 %              | Normal                      | 1       | 1              | 1              | ± 0.3 %              | ± 0.3 %    | ∞                                                  |
| Response time                                                                            | ± 0.0 %              | Rectangular                 | √ 3     | 1              | 1              | ± 0.0 %              | ± 0.0 %    | ∞                                                  |
| Integration time                                                                         | ± 0.0 %              | Rectangular                 | √ 3     | 1              | 1              | ± 0.0 %              | ± 0.0 %    | ∞                                                  |
| RF ambient conditions                                                                    | ± 3.0 %              | Rectangular                 | √ 3     | 1              | 1              | ± 1.7 %              | ± 1.7 %    | ∞                                                  |
| Probe positioner                                                                         | ± 0.4 %              | Rectangular                 | √ 3     | 1              | 1              | ± 0.2 %              | ± 0.2 %    | ∞                                                  |
| Probe positioning                                                                        | ± 2.9 %              | Rectangular                 | √ 3     | 1              | 1              | ± 1.7 %              | ± 1.7 %    | ∞                                                  |
| Max. SAR evaluation                                                                      | ± 1.0 %              | Rectangular                 | √ 3     | 1              | 1              | ± 0.6 %              | ± 0.6 %    | ∞                                                  |
| Test Sample Related                                                                      |                      |                             |         |                |                |                      |            |                                                    |
| Dev. of experimental dipole                                                              | ± 0.0 %              | Rectangular                 | √ 3     | 1              | 1              | ± 0.0 %              | ± 0.0 %    | ∞                                                  |
| Source to liquid distance                                                                | ± 2.0 %              | Rectangular                 | √ 3     | 1              | 1              | ± 1.2 %              | ± 1.2 %    | ∞                                                  |
| Power drift                                                                              | ± 3.4 %              | Rectangular                 | √ 3     | 1              | 1              | ± 2.0 %              | ± 2.0 %    | ∞                                                  |
| Phantom and Set-up                                                                       |                      |                             |         |                |                |                      |            |                                                    |
| Phantom uncertainty                                                                      | ± 4.0 %              | Rectangular                 | √ 3     | 1              | 1              | ± 2.3 %              | ± 2.3 %    | ∞                                                  |
| SAR correction                                                                           | ± 1.9 %              | Rectangular                 | √ 3     | 1              | 0.84           | ± 1.1 %              | ± 0.9 %    | ∞                                                  |
| Liquid conductivity (meas.)                                                              | ± 5.0 %              | Normal                      | 1       | 0.78           | 0.71           | ± 3.9 %              | ± 3.6 %    | ∞                                                  |
| Liquid permittivity (meas.)                                                              | ± 5.0 %              | Normal                      | 1       | 0.26           | 0.26           | ± 1.3 %              | ± 1.3 %    | ∞                                                  |
| Temp. unc. - Conductivity                                                                | ± 1.7 %              | Rectangular                 | √ 3     | 0.78           | 0.71           | ± 0.8 %              | ± 0.7 %    | ∞                                                  |
| Temp. unc. - Permittivity                                                                | ± 0.3 %              | Rectangular                 | √ 3     | 0.23           | 0.26           | ± 0.0 %              | ± 0.0 %    | ∞                                                  |
| Combined Uncertainty                                                                     |                      |                             |         |                |                | ± 9.1 %              | ± 8.9 %    | 330                                                |
| Expanded Std.<br>Uncertainty                                                             |                      |                             |         |                |                | ± 18.2 %             | ± 17.9 %   |                                                    |

Table 11: Measurement uncertainties of the System Check with DASY5 (0.3-3GHz)

| Uncertainty of a System Performance Check with DASY5 System<br>for the 3 - 6 GHz range |                      |                             |         |                |                |                      |            |                                |
|----------------------------------------------------------------------------------------|----------------------|-----------------------------|---------|----------------|----------------|----------------------|------------|--------------------------------|
| Source of<br>uncertainty                                                               | Uncertainty<br>Value | Probability<br>Distribution | Divisor | c <sub>i</sub> | c <sub>i</sub> | Standard Uncertainty |            | v <sub>i</sub> <sup>2</sup> or |
|                                                                                        |                      |                             |         | (1g)           | (10g)          | ± %, (1g)            | ± %, (10g) | v <sub>eff</sub>               |
| Measurement System                                                                     |                      |                             |         |                |                |                      |            |                                |
| Probe calibration                                                                      | ± 6.6 %              | Normal                      | 1       | 1              | 1              | ± 6.6 %              | ± 6.6 %    | ∞                              |
| Axial isotropy                                                                         | ± 4.7 %              | Rectangular                 | √ 3     | 0.7            | 0.7            | ± 1.9 %              | ± 1.9 %    | ∞                              |
| Hemispherical isotropy                                                                 | ± 0.0 %              | Rectangular                 | √ 3     | 0.7            | 0.7            | ± 0.0 %              | ± 0.0 %    | ∞                              |
| Boundary effects                                                                       | ± 1.0 %              | Rectangular                 | √ 3     | 1              | 1              | ± 0.6 %              | ± 0.6 %    | ∞                              |
| Probe linearity                                                                        | ± 4.7 %              | Rectangular                 | √ 3     | 1              | 1              | ± 2.7 %              | ± 2.7 %    | ∞                              |
| System detection limits                                                                | ± 1.0 %              | Rectangular                 | √ 3     | 1              | 1              | ± 0.6 %              | ± 0.6 %    | ∞                              |
| Readout electronics                                                                    | ± 0.3 %              | Normal                      | 1       | 1              | 1              | ± 0.3 %              | ± 0.3 %    | ∞                              |
| Response time                                                                          | ± 0.0 %              | Rectangular                 | √ 3     | 1              | 1              | ± 0.0 %              | ± 0.0 %    | ∞                              |
| Integration time                                                                       | ± 0.0 %              | Rectangular                 | √ 3     | 1              | 1              | ± 0.0 %              | ± 0.0 %    | ∞                              |
| RF ambient conditions                                                                  | ± 3.0 %              | Rectangular                 | √ 3     | 1              | 1              | ± 1.7 %              | ± 1.7 %    | ∞                              |
| Probe positioner                                                                       | ± 0.8 %              | Rectangular                 | √ 3     | 1              | 1              | ± 0.5 %              | ± 0.5 %    | ∞                              |
| Probe positioning                                                                      | ± 6.7 %              | Rectangular                 | √ 3     | 1              | 1              | ± 3.9 %              | ± 3.9 %    | ∞                              |
| Max. SAR evaluation                                                                    | ± 1.0 %              | Rectangular                 | √ 3     | 1              | 1              | ± 0.6 %              | ± 0.6 %    | ∞                              |
| Test Sample Related                                                                    |                      |                             |         |                |                |                      |            |                                |
| Dev. of experimental dipole                                                            | ± 0.0 %              | Rectangular                 | √ 3     | 1              | 1              | ± 0.0 %              | ± 0.0 %    | ∞                              |
| Source to liquid distance                                                              | ± 2.0 %              | Rectangular                 | √ 3     | 1              | 1              | ± 1.2 %              | ± 1.2 %    | ∞                              |
| Power drift                                                                            | ± 3.4 %              | Rectangular                 | √ 3     | 1              | 1              | ± 2.0 %              | ± 2.0 %    | ∞                              |
| Phantom and Set-up                                                                     |                      |                             |         |                |                |                      |            |                                |
| Phantom uncertainty                                                                    | ± 4.0 %              | Rectangular                 | √ 3     | 1              | 1              | ± 2.3 %              | ± 2.3 %    | ∞                              |
| SAR correction                                                                         | ± 1.9 %              | Rectangular                 | √ 3     | 1              | 0.84           | ± 1.1 %              | ± 0.9 %    | ∞                              |
| Liquid conductivity (meas.)                                                            | ± 5.0 %              | Normal                      | 1       | 0.78           | 0.71           | ± 3.9 %              | ± 3.6 %    | ∞                              |
| Liquid permittivity (meas.)                                                            | ± 5.0 %              | Normal                      | 1       | 0.26           | 0.26           | ± 1.3 %              | ± 1.3 %    | ∞                              |
| Temp. unc. - Conductivity                                                              | ± 1.7 %              | Rectangular                 | √ 3     | 0.78           | 0.71           | ± 0.8 %              | ± 0.7 %    | ∞                              |
| Temp. unc. - Permittivity                                                              | ± 0.3 %              | Rectangular                 | √ 3     | 0.23           | 0.26           | ± 0.0 %              | ± 0.0 %    | ∞                              |
| Combined Uncertainty                                                                   |                      |                             |         |                |                | ± 10.1 %             | ± 10.0 %   | 330                            |
| Expanded Std.<br>Uncertainty                                                           |                      |                             |         |                |                | ± 20.2 %             | ± 19.9 %   |                                |

Table 12: Measurement uncertainties of the System Check with DASY5 (3-6GHz)

Note: Worst case probe calibration uncertainty has been applied for all probes used during the measurements.

### 6.1.13 System check

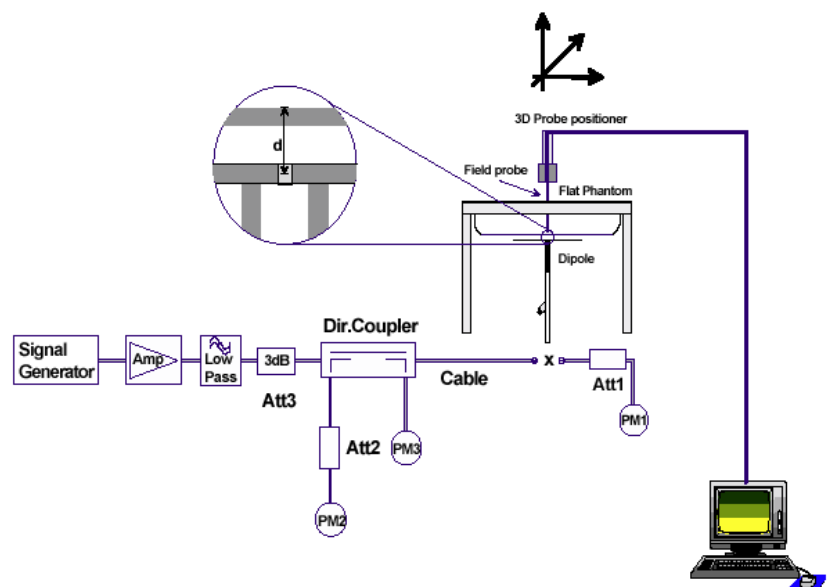
The system check is performed for verifying the accuracy of the complete measurement system and performance of the software. The system check is performed with tissue equivalent material according to IEEE 1528. The following table shows system check results for all frequency bands and tissue liquids used during the tests (plot(s) see annex A).

| System performance check (1000 mW) |                  |                                             |                                              |                                 |                          |                                  |                           |               |
|------------------------------------|------------------|---------------------------------------------|----------------------------------------------|---------------------------------|--------------------------|----------------------------------|---------------------------|---------------|
| System validation Kit              | Frequency        | Target SAR <sub>1g</sub> /mW/g<br>(+/- 10%) | Target SAR <sub>10g</sub> /mW/g<br>(+/- 10%) | Measured SAR <sub>1g</sub> mW/g | SAR <sub>1g</sub> dev. % | Measured SAR <sub>10g</sub> mW/g | SAR <sub>10g</sub> dev. % | Measured date |
| D750V3<br>S/N: 1041                | 750 MHz<br>head  | 8.52                                        | 5.56                                         | 8.98                            | 5.4%                     | 5.87                             | 5.6%                      | 2014-06-12    |
| D750V3<br>S/N: 1041                | 750 MHz<br>body  | 8.75                                        | 5.79                                         | 9.02                            | 3.1%                     | 6.00                             | 3.6%                      | 2014-06-12    |
| D835V2<br>S/N: 4d153               | 835 MHz<br>head  | 9.58                                        | 6.21                                         | 10.30                           | 7.5%                     | 6.74                             | 8.5%                      | 2014-06-11    |
| D835V2<br>S/N: 4d153               | 835 MHz<br>head  | 9.58                                        | 6.21                                         | 9.53                            | -0.5%                    | 6.29                             | 1.3%                      | 2014-06-13    |
| D835V2<br>S/N: 4d153               | 835 MHz<br>body  | 9.40                                        | 6.12                                         | 9.93                            | 5.6%                     | 6.64                             | 8.5%                      | 2014-06-10    |
| D835V2<br>S/N: 4d153               | 835 MHz<br>body  | 9.40                                        | 6.12                                         | 9.07                            | -3.5%                    | 6.04                             | -1.3%                     | 2014-06-11    |
| D1750V2<br>S/N: 1093               | 1750 MHz<br>head | 36.60                                       | 19.30                                        | 36.50                           | -0.3%                    | 20.20                            | 4.7%                      | 2014-06-11    |
| D1750V2<br>S/N: 1093               | 1750 MHz<br>head | 36.60                                       | 19.30                                        | 36.50                           | -0.3%                    | 19.80                            | 2.6%                      | 2014-06-13    |
| D1750V2<br>S/N: 1093               | 1750 MHz<br>body | 37.90                                       | 20.30                                        | 36.40                           | -4.0%                    | 20.30                            | 0.0%                      | 2014-06-11    |
| D1900V2<br>S/N: 5d009              | 1900 MHz<br>head | 40.10                                       | 21.00                                        | 39.30                           | -2.0%                    | 21.60                            | 2.9%                      | 2014-06-11    |
| D1900V2<br>S/N: 5d009              | 1900 MHz<br>body | 40.90                                       | 21.70                                        | 38.10                           | -6.8%                    | 20.80                            | -4.1%                     | 2014-06-11    |
| D2450V2<br>S/N: 710                | 2450 MHz<br>head | 51.50                                       | 24.00                                        | 54.10                           | 5.0%                     | 25.20                            | 5.0%                      | 2014-06-13    |
| D2450V2<br>S/N: 710                | 2450 MHz<br>body | 51.20                                       | 23.90                                        | 53.10                           | 3.7%                     | 24.70                            | 3.3%                      | 2014-06-13    |
| D2600V2<br>S/N: 1040               | 2600 MHz<br>head | 58.00                                       | 26.10                                        | 57.70                           | -0.5%                    | 25.90                            | -0.8%                     | 2014-06-12    |
| D2600V2<br>S/N: 1040               | 2600 MHz<br>body | 56.80                                       | 25.40                                        | 55.10                           | -3.0%                    | 24.80                            | -2.4%                     | 2014-06-11    |
| D5GHzV2<br>S/N: 1055               | 5800 MHz<br>head | 80.10                                       | 22.70                                        | 77.60                           | -3.1%                    | 21.90                            | -3.5%                     | 2014-06-13    |
| D5GHzV2<br>S/N: 1055               | 5200 MHz<br>body | 74.20                                       | 20.80                                        | 71.20                           | -4.0%                    | 20.10                            | -3.4%                     | 2014-06-13    |

Table 13: Results system check

### 6.1.14 System check procedure

The system check is performed by using a validation dipole which is positioned parallel to the planar part of the SAM phantom at the reference point. The distance of the dipole to the SAM phantom is determined by a plexiglass spacer. The dipole is connected to the signal source consisting of signal generator and amplifier via a directional coupler, N-connector cable and adaption to SMA. It is fed with a power of 1000 mW for frequencies below 2 GHz or 100 mW for frequencies above 2 GHz. To adjust this power a power meter is used. The power sensor is connected to the cable before the system check to measure the power at this point and do adjustments at the signal generator. At the outputs of the directional coupler both return loss as well as forward power are controlled during the validation to make sure that emitted power at the dipole is kept constant. This can also be checked by the power drift measurement after the test (result on plot). System check results have to be equal or near the values determined during dipole calibration (target SAR in table above) with the relevant liquids and test system.



### 6.1.15 System validation

The system validation is performed in a similar way as a system check. It needs to be performed once a SAR measurement system has been established and allows an evaluation of the system accuracy with all components used together with the specified system. It has to be repeated at least once a year or when new system components are used (DAE, probe, phantom, dipole, liquid type).

In addition to the procedure used during system check a system validation also includes checks of probe isotropy, probe modulation factor and RF signal.

The following table lists the system validations relevant for this test report:

| Probe Calibration Point<br>f / MHz | Test<br>System      | DASY<br>SW | Dipole<br>Type / SN | Probe<br>Type / SN | Calibrated signal<br>type(s) | DAE unit<br>Type / SN | Validation done         |                         |
|------------------------------------|---------------------|------------|---------------------|--------------------|------------------------------|-----------------------|-------------------------|-------------------------|
|                                    |                     |            |                     |                    |                              |                       | Head tissue<br>simulant | Body tissue<br>simulant |
| 2450                               | Saarbrücken / SAR-1 | V52.8.7    | D2450V2 / 710       | ES3DV3 / 3320      | CW                           | DAE3 / 413            | 2014-05                 | 2014-05                 |
| 5800                               | Saarbrücken / SAR-1 | V52.8.7    | D5GHzV2 / 1055      | EX3DV4 / 3944      | CW                           | DAE3 / 413            | 2013-06                 | 2013-06                 |
| 750                                | Saarbrücken / SAR-2 | V52.8.7    | D750V2 / 1041       | ET3DV6 / 1558      | CW                           | DAE3 / 477            | 2014-05                 | 2014-05                 |
| 835                                | Saarbrücken / SAR-2 | V52.8.7    | D835V2 / 4d153      | ET3DV6 / 1558      | CW                           | DAE3 / 477            | 2014-05                 | 2014-05                 |
| 1750                               | Saarbrücken / SAR-2 | V52.8.7    | D1750V2 / 1093      | ET3DV6 / 1558      | CW                           | DAE3 / 477            | 2014-05                 | 2014-05                 |
| 1900                               | Saarbrücken / SAR-2 | V52.8.7    | D1900V2 / 5d009     | ET3DV6 / 1558      | CW                           | DAE3 / 477            | 2014-05                 | 2014-05                 |
| 2450                               | Saarbrücken / SAR-2 | V52.8.7    | D2450V2 / 710       | ET3DV6 / 1558      | CW                           | DAE3 / 477            | 2014-05                 | 2014-05                 |
| 2600                               | Saarbrücken / SAR-2 | V52.8.7    | D2600V2 / 1040      | ES3DV3 / 3944      | CW                           | DAE3 / 477            | 2014-06                 | 2014-06                 |
| 5200                               | Saarbrücken / SAR-2 | V52.8.7    | D5GHzV2 / 1055      | EX3DV4 / 3944      | CW                           | DAE3 / 477            | 2013-06                 | 2013-06                 |
| 835                                | Saarbrücken / SAR-3 | V52.8.7    | D835V2 / 4d153      | ES3DV3 / 3326      | CW                           | DAE4 / 1387           | 2013-09                 | 2013-10                 |
| 1750                               | Saarbrücken / SAR-3 | V52.8.7    | D1750V2 / 1093      | ES3DV3 / 3326      | CW                           | DAE4 / 1387           | 2013-09                 | 2013-10                 |
| 2600                               | Saarbrücken / SAR-3 | V52.8.7    | D2600V2 / 1040      | ES3DV3 / 3944      | CW                           | DAE4 / 1387           | 2013-11                 | 2013-11                 |

## 7 Detailed Test Results

### 7.1 Conducted power measurements

See results in the test report 1-6965/13-04-24

### 7.2 SAR test results

#### 7.2.1 Results overview

| measured / extrapolated SAR numbers - Head - GSM 850 MHz - DTM |             |            |             |                              |          |                                 |              |                           |              |             |
|----------------------------------------------------------------|-------------|------------|-------------|------------------------------|----------|---------------------------------|--------------|---------------------------|--------------|-------------|
| Ch.                                                            | Freq. (MHz) | time slots | Position    | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) |              | liquid (°C) |
|                                                                |             |            |             | declared**                   | measured | Measured                        | Extrapolated | measured                  | extrap.      |             |
| 251                                                            | 848.8       | 2          | right cheek | 31.0                         | 30.7     | <b>0.672</b>                    | <b>0.720</b> | <b>0.489</b>              | <b>0.524</b> | 22.0        |
| 251                                                            | 848.8       | 2          | right cheek | 31.0                         | 30.7     | 0.402                           | 0.431        | 0.293                     | 0.314        | 22.5        |

Table 14: Test results head SAR GSM 850MHz (see SAR plot Annex B.1:GSM 850page 58)

| measured / extrapolated SAR numbers - hotspot mode - GSM 850 MHz |             |            |            |          |                              |          |                                 |              |                           |              |             |
|------------------------------------------------------------------|-------------|------------|------------|----------|------------------------------|----------|---------------------------------|--------------|---------------------------|--------------|-------------|
| Ch.                                                              | Freq. (MHz) | time slots | dist. (mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) |              | liquid (°C) |
|                                                                  |             |            |            |          | declared**                   | measured | measured                        | extrapolated | meas.                     | extrap.      |             |
| 128                                                              | 824.2       | 2          | 10         | rear     | 31.0                         | 31.0     | <b>0.496</b>                    | <b>0.496</b> | <b>0.383</b>              | <b>0.383</b> | 22.6        |
| 128                                                              | 824.2       | 2          | 10         | rear     | 31.0                         | 31.0     | 0.255                           | 0.255        | 0.190                     | 0.190        | 22.4        |

Table 15: Test results hotspot mode SAR GSM 850MHz (see SAR plot Annex B.1:GSM 850page 58)

| measured / extrapolated SAR numbers - Body worn - GSM 850 MHz |             |            |            |          |                              |          |                                 |              |                           |              |             |
|---------------------------------------------------------------|-------------|------------|------------|----------|------------------------------|----------|---------------------------------|--------------|---------------------------|--------------|-------------|
| Ch.                                                           | Freq. (MHz) | time slots | dist. (mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) |              | liquid (°C) |
|                                                               |             |            |            |          | declared**                   | measured | measured                        | extrapolated | meas.                     | extrap.      |             |
| 128                                                           | 824.2       | 2          | 15         | front    | 31.0                         | 31.0     | <b>0.431</b>                    | <b>0.431</b> | <b>0.329</b>              | <b>0.329</b> | 22.6        |
| 128                                                           | 824.2       | 2          | 15         | front    | 31.0                         | 31.0     | 0.266                           | 0.266        | 0.200                     | 0.200        | 22.4        |

Table 16: Test results body worn SAR GSM 850 MHz (see SAR plot Annex B.1:GSM 850page 58)

\*\* - maximum possible output power declared by manufacturer

Yellow marked are the highest SAR measured results from test report 1-6965/13-04-24

| measured / extrapolated SAR numbers - Head - GSM 1900 MHz - DTM |             |            |             |                              |          |                                 |              |                           |              |             |
|-----------------------------------------------------------------|-------------|------------|-------------|------------------------------|----------|---------------------------------|--------------|---------------------------|--------------|-------------|
| Ch.                                                             | Freq. (MHz) | time slots | Position    | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) |              | liquid (°C) |
|                                                                 |             |            |             | declared**                   | measured | measured                        | extrapolated | meas.                     | extrap.      |             |
| 810                                                             | 1910        | 3          | right cheek | 26.5                         | 26.4     | <b>0.530</b>                    | <b>0.542</b> | <b>0.291</b>              | <b>0.298</b> | 21.5        |
| 810                                                             | 1910        | 3          | right cheek | 26.5                         | 26.4     | 0.572                           | 0.585        | 0.315                     | 0.322        | 22.5        |

Table 17: Test results head SAR GSM 1900MHz (see SAR plot Annex B.2: GSM 1900 page 61)

| measured / extrapolated SAR numbers - hotspot mode - GSM 1900 MHz |             |            |            |          |                              |          |                                 |              |                           |              |             |
|-------------------------------------------------------------------|-------------|------------|------------|----------|------------------------------|----------|---------------------------------|--------------|---------------------------|--------------|-------------|
| Ch.                                                               | Freq. (MHz) | time slots | dist. (mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) |              | liquid (°C) |
|                                                                   |             |            |            |          | declared**                   | measured | measured                        | extrap.      | meas.                     | extrap.      |             |
| 810                                                               | 1910        | 4          | 10         | front    | 25.5                         | 25.3     | <b>0.559</b>                    | <b>0.585</b> | <b>0.359</b>              | <b>0.376</b> | 21.7        |
| 810                                                               | 1910        | 4          | 10         | front    | 25.5                         | 25.3     | 0.312                           | 0.327        | 0.172                     | 0.180        | 22.3        |

Table 18: Test results hotspot mode SAR GSM 1900 MHz (see SAR plot Annex B.2: GSM 1900 page 61)

| measured / extrapolated SAR numbers - Body worn - GSM 1900 MHz |             |            |            |          |                              |          |                                 |              |                           |              |             |
|----------------------------------------------------------------|-------------|------------|------------|----------|------------------------------|----------|---------------------------------|--------------|---------------------------|--------------|-------------|
| Ch.                                                            | Freq. (MHz) | time slots | dist. (mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) |              | liquid (°C) |
|                                                                |             |            |            |          | declared**                   | measured | measured                        | extrap.      | meas.                     | extrap.      |             |
| 810                                                            | 1909.8      | 4          | 15         | front    | 25.5                         | 25.3     | <b>0.374</b>                    | <b>0.392</b> | <b>0.224</b>              | <b>0.235</b> | 21.7        |
| 810                                                            | 1909.8      | 4          | 15         | front    | 25.5                         | 25.3     | 0.243                           | 0.254        | 0.158                     | 0.165        | 22.3        |

Table 19: Test results body worn SAR GSM 1900 MHz (see SAR plot Annex B.2: GSM 1900 page 61)

\*\* - maximum possible output power declared by manufacturer

Yellow marked are the highest SAR measured results from test report 1-6965/13-04-24

| measured / extrapolated SAR numbers - Head - UMTS FDD II 1880 MHz |             |             |                              |          |                                 |              |                           |         |             |
|-------------------------------------------------------------------|-------------|-------------|------------------------------|----------|---------------------------------|--------------|---------------------------|---------|-------------|
| Ch.                                                               | Freq. (MHz) | Position    | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) |         | liquid (°C) |
|                                                                   |             |             | declared**                   | measured | measured                        | extrapolated | meas.                     | extrap. |             |
| 9538                                                              | 1907.6      | right cheek | 24.0                         | 23.7     | 0.513                           | 0.550        | 0.282                     | 0.302   | 21.9        |
| 9538                                                              | 1907.6      | right cheek | 24.0                         | 23.7     | 0.718                           | 0.769        | 0.395                     | 0.423   | 22.5        |

Table 20: Test results head SAR UMTS FDD II 1880 MHz (see SAR plot Annex B.3: UMTS FDD II page 64)

| measured / extrapolated SAR numbers - hotspot mode - UMTS FDD II 1880 MHz |             |                |            |          |                              |          |                                 |              |                           |         |             |
|---------------------------------------------------------------------------|-------------|----------------|------------|----------|------------------------------|----------|---------------------------------|--------------|---------------------------|---------|-------------|
| Ch.                                                                       | Freq. (MHz) | test condition | dist. (mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) |         | liquid (°C) |
|                                                                           |             |                |            |          | declared**                   | measured | measured                        | extrapolated | meas.                     | extrap. |             |
| 9262                                                                      | 1852.4      | RMC            | 10         | front    | 24.0                         | 24.0     | 0.713                           | 0.713        | 0.454                     | 0.454   | 21.7        |
| 9262                                                                      | 1852.4      | RMC            | 10         | front    | 24.0                         | 24.0     | 0.431                           | 0.431        | 0.244                     | 0.244   | 22.3        |

Table 21: Test results hotspot mode SAR UMTS FDD II 1880 MHz (see SAR plot Annex B.3: UMTS FDD II page 64)

| measured / extrapolated SAR numbers - Body worn - UMTS FDD II 1880 MHz |             |                |            |          |                              |          |                                 |              |                           |         |             |
|------------------------------------------------------------------------|-------------|----------------|------------|----------|------------------------------|----------|---------------------------------|--------------|---------------------------|---------|-------------|
| Ch.                                                                    | Freq. (MHz) | test condition | dist. (mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) |         | liquid (°C) |
|                                                                        |             |                |            |          | declared**                   | measured | measured                        | extrapolated | meas.                     | extrap. |             |
| 9262                                                                   | 1852.4      | RMC            | 15         | front    | 24.0                         | 24.0     | 0.388                           | 0.388        | 0.253                     | 0.253   | 21.7        |
| 9262                                                                   | 1852.4      | RMC            | 15         | front    | 24.0                         | 24.0     | 0.247                           | 0.247        | 0.162                     | 0.162   | 22.3        |

Table 22: Test results body worn SAR UMTS FDD II 1880 MHz (see SAR plot Annex B.3: UMTS FDD II page 64)

| measured / extrapolated SAR numbers - Head - UMTS FDD IV 1700 MHz |             |            |                              |          |                                 |              |                           |         |             |
|-------------------------------------------------------------------|-------------|------------|------------------------------|----------|---------------------------------|--------------|---------------------------|---------|-------------|
| Ch.                                                               | Freq. (MHz) | Position   | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) |         | liquid (°C) |
|                                                                   |             |            | declared**                   | measured | measured                        | extrapolated | meas.                     | extrap. |             |
| 1412                                                              | 1732.4      | left cheek | 22.5                         | 22.5     | 1.310                           | 1.310        | 0.591                     | 0.591   | 21.7        |
| 1312                                                              | 1712.4      | left cheek | 22.5                         | 22.1     | 0.636                           | 0.697        | 0.332                     | 0.364   | 22.5        |

Table 23: Test results head SAR UMTS FDD IV 1700 MHz (see SAR plot Annex B.4: UMTS FDD IV page 67)

| measured / extrapolated SAR numbers - hotspot mode - UMTS FDD IV 1700 MHz |             |                |               |           |                              |          |                                 |              |                           |                           |             |
|---------------------------------------------------------------------------|-------------|----------------|---------------|-----------|------------------------------|----------|---------------------------------|--------------|---------------------------|---------------------------|-------------|
| Ch.                                                                       | Freq. (MHz) | test condition | distance (mm) | Position  | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) | SAR <sub>10g</sub> (W/kg) | liquid (°C) |
|                                                                           |             |                |               |           | declared**                   | measured | measured                        | extrapolated | meas.                     | extrap.                   |             |
| 1412                                                                      | 1732.4      | RMC            | 10            | left edge | 22.5                         | 22.5     | 0.744                           | 0.744        | 0.394                     | 0.394                     | 21.9        |
| 1412                                                                      | 1732.4      | RMC            | 10            | left edge | 22.5                         | 22.5     | 0.175                           | 0.175        | 0.101                     | 0.101                     | 22.4        |

Table 24: Test results hotspot mode SAR UMTS FDD IV 1700 MHz (see SAR plot Annex B.4: UMTS FDD IV page 67)

| measured / extrapolated SAR numbers - Body worn - UMTS FDD IV 1700 MHz |             |                |               |          |                              |          |                                 |              |                           |                           |             |
|------------------------------------------------------------------------|-------------|----------------|---------------|----------|------------------------------|----------|---------------------------------|--------------|---------------------------|---------------------------|-------------|
| Ch.                                                                    | Freq. (MHz) | test condition | distance (mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) | SAR <sub>10g</sub> (W/kg) | liquid (°C) |
|                                                                        |             |                |               |          | declared**                   | measured | measured                        | extrapolated | meas.                     | extrap.                   |             |
| 1413                                                                   | 1732.4      | RMC            | 15            | rear     | 22.5                         | 22.5     | 0.364                           | 0.364        | 0.239                     | 0.239                     | 21.9        |
| 1412                                                                   | 1732.4      | RMC            | 15            | rear     | 22.5                         | 22.5     | 0.182                           | 0.182        | 0.121                     | 0.121                     | 22.4        |

Table 25: Test results body worn SAR UMTS FDD IV 1700 MHz (see SAR plot Annex B.4: UMTS FDD IV page 67)

\*\* - maximum possible output power declared by manufacturer

Yellow marked are the highest SAR measured results from test report 1-6965/13-04-24

| measured / extrapolated SAR numbers - Head - UMTS FDD V 850 MHz |             |             |                              |          |                                 |              |                           |              |             |
|-----------------------------------------------------------------|-------------|-------------|------------------------------|----------|---------------------------------|--------------|---------------------------|--------------|-------------|
| Ch.                                                             | Freq. (MHz) | Position    | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) |              | liquid (°C) |
|                                                                 |             |             | declared**                   | measured | measured                        | extrapolated | meas.                     | extrap.      |             |
| 4233                                                            | 846.6       | right cheek | 24.5                         | 24.3     | <b>0.493</b>                    | <b>0.516</b> | <b>0.351</b>              | <b>0.368</b> | 22.4        |
| 4233                                                            | 846.6       | right cheek | 24.5                         | 24.3     | 0.420                           | 0.440        | 0.306                     | 0.320        | 22.5        |

Table 26: Test results head SAR UMTS FDD V 850 MHz (see SAR plot Annex B.5: UMTS FDD V page 70)

| measured / extrapolated SAR numbers - hotspot mode - UMTS FDD V 850 MHz |             |                |            |          |                              |          |                                 |              |                           |              |             |
|-------------------------------------------------------------------------|-------------|----------------|------------|----------|------------------------------|----------|---------------------------------|--------------|---------------------------|--------------|-------------|
| Ch.                                                                     | Freq. (MHz) | test condition | dist. (mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) |              | liquid (°C) |
|                                                                         |             |                |            |          | declared**                   | measured | measured                        | extrapolated | meas.                     | extrap.      |             |
| 4132                                                                    | 826.4       | RMC            | 10         | rear     | 24.5                         | 24.3     | <b>0.346</b>                    | <b>0.362</b> | <b>0.270</b>              | <b>0.283</b> | 21.6        |
| 4132                                                                    | 826.4       | RMC            | 10         | rear     | 24.5                         | 24.3     | 0.242                           | 0.253        | 0.182                     | 0.191        | 22.4        |

Table 27: Test results hotspot mode SAR UMTS FDD V 850 MHz (see SAR plot Annex B.5: UMTS FDD V page 70)

| measured / extrapolated SAR numbers - Body worn - UMTS FDD V 850 MHz |             |                |            |          |                              |          |                                 |              |                           |              |             |
|----------------------------------------------------------------------|-------------|----------------|------------|----------|------------------------------|----------|---------------------------------|--------------|---------------------------|--------------|-------------|
| Ch.                                                                  | Freq. (MHz) | test condition | dist. (mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) |              | liquid (°C) |
|                                                                      |             |                |            |          | declared**                   | measured | measured                        | extrapolated | meas.                     | extrap.      |             |
| 4132                                                                 | 826.4       | RMC            | 15         | rear     | 24.5                         | 24.3     | <b>0.282</b>                    | <b>0.295</b> | <b>0.213</b>              | <b>0.223</b> | 21.6        |
| 4132                                                                 | 826.4       | RMC            | 15         | rear     | 24.5                         | 24.3     | 0.213                           | 0.223        | 0.159                     | 0.166        | 22.4        |

Table 28: Test results body worn SAR UMTS FDD V 850 MHz (see SAR plot Annex B.5: UMTS FDD V page 70)

| measured / extrapolated SAR numbers - Head - LTE FDD 2 1900 MHz |                |              |            |                              |          |                                 |            |                           |         |                |
|-----------------------------------------------------------------|----------------|--------------|------------|------------------------------|----------|---------------------------------|------------|---------------------------|---------|----------------|
| Ch.                                                             | Freq.<br>(MHz) | RB<br>Offset | Position   | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |            | SAR <sub>10g</sub> (W/kg) |         | liquid<br>(°C) |
|                                                                 |                |              |            | declared**                   | measured | measured                        | xtrapolate | meas.                     | extrap. |                |
| 20MHz BW/1RB/QPSK                                               |                |              |            |                              |          |                                 |            |                           |         |                |
| 18900                                                           | 1880           | low          | left cheek | 24.0                         | 23.1     | 0.607                           | 0.747      | 0.330                     | 0.406   | 21.8           |
| 18900                                                           | 1880           | low          | left cheek | 24.0                         | 23.1     | 0.367                           | 0.452      | 0.200                     | 0.246   | 22.5           |

Table 29: Test results head SAR LTE FDD 2 1900 MHz (see SAR plot in Annex B.6: LTE FDD 2 page 73)

| measured / extrapolated SAR numbers - hotspot mode - LTE FDD 2 1900 MHz |                |              |               |          |                              |          |                                 |         |                           |         |                |
|-------------------------------------------------------------------------|----------------|--------------|---------------|----------|------------------------------|----------|---------------------------------|---------|---------------------------|---------|----------------|
| Ch.                                                                     | Freq.<br>(MHz) | RB<br>offset | dist.<br>(mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |         | SAR <sub>10g</sub> (W/kg) |         | liquid<br>(°C) |
|                                                                         |                |              |               |          | declared**                   | measured | measured                        | extrap. | meas.                     | extrap. |                |
| 20MHz BW/1RB/QPSK                                                       |                |              |               |          |                              |          |                                 |         |                           |         |                |
| 18700                                                                   | 1860           | low          | 10            | rear     | 24.0                         | 23.4     | 0.715                           | 0.821   | 0.401                     | 0.460   | 22.3           |
| 18700                                                                   | 1860           | low          | 10            | rear     | 24.0                         | 23.4     | 0.266                           | 0.305   | 0.161                     | 0.185   | 22.3           |

Table 30: Test results hotspot mode SAR LTE FDD 2 1900 MHz (see SAR plot in Annex B.6: LTE FDD 2 page 73)

\*\* - maximum possible output power declared by manufacturer

Yellow marked are the highest SAR measured results from test report 1-6965/13-04-24

| measured / extrapolated SAR numbers - Body worn - LTE FDD 2 1900 MHz |                |              |               |          |                              |          |                                 |            |                           |         |                |
|----------------------------------------------------------------------|----------------|--------------|---------------|----------|------------------------------|----------|---------------------------------|------------|---------------------------|---------|----------------|
| Ch.                                                                  | Freq.<br>(MHz) | RB<br>offset | dist.<br>(mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |            | SAR <sub>10g</sub> (W/kg) |         | liquid<br>(°C) |
|                                                                      |                |              |               |          | declared**                   | measured | measured                        | xtrapolate | meas.                     | extrap. |                |
| 20MHz BW/1RB/QPSK                                                    |                |              |               |          |                              |          |                                 |            |                           |         |                |
| 18900                                                                | 1880           | low          | 15            | front    | 24.0                         | 23.1     | 0.395                           | 0.486      | 0.264                     | 0.325   | 22.3           |
| 18900                                                                | 1880           | low          | 15            | front    | 24.0                         | 23.1     | 0.185                           | 0.228      | 0.122                     | 0.150   | 22.3           |

Table 31: Test results body worn SAR LTE FDD 2 1900 MHz (see SAR plot in Annex B.6: LTE FDD 2 page 73)

| measured / extrapolated SAR numbers - Head - LTE FDD 4 1750 MHz |                |              |            |                              |          |                                 |            |                           |         |        |
|-----------------------------------------------------------------|----------------|--------------|------------|------------------------------|----------|---------------------------------|------------|---------------------------|---------|--------|
| Ch.                                                             | Freq.<br>(MHz) | RB<br>offset | Position   | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |            | SAR <sub>10g</sub> (W/kg) |         | liquid |
|                                                                 |                |              |            | declared**                   | measured | measured                        | xtrapolate | meas.                     | extrap. | (°C)   |
| 20MHz BW/1RB/QPSK                                               |                |              |            |                              |          |                                 |            |                           |         |        |
| 20050                                                           | 1720.0         | low          | left cheek | 22.5                         | 22.3     | 1.040                           | 1.089      | 0.494                     | 0.517   | 22.3   |
| 20050                                                           | 1720.0         | low          | left cheek | 22.5                         | 22.3     | 0.524                           | 0.549      | 0.274                     | 0.287   | 22.5   |

Table 32: Test results head SAR LTE FDD 4 1750 MHz (see SAR plot in Annex B.7: LTE FDD 4 page 76)

| measured / extrapolated SAR numbers - hotspot mode - LTE FDD 4 1750 MHz |                |              |               |           |                              |          |                                 |            |                           |         |                |
|-------------------------------------------------------------------------|----------------|--------------|---------------|-----------|------------------------------|----------|---------------------------------|------------|---------------------------|---------|----------------|
| Ch.                                                                     | Freq.<br>(MHz) | RB<br>offset | dist.<br>(mm) | Position  | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |            | SAR <sub>10g</sub> (W/kg) |         | liquid<br>(°C) |
|                                                                         |                |              |               |           | declared**                   | measured | measured                        | xtrapolate | meas.                     | extrap. |                |
| 20MHz BW/1RB/QPSK                                                       |                |              |               |           |                              |          |                                 |            |                           |         |                |
| 20050                                                                   | 1720.0         | low          | 10            | left edge | 22.5                         | 22.3     | 0.617                           | 0.646      | 0.328                     | 0.343   | 22.2           |
| 20050                                                                   | 1720.0         | low          | 10            | left edge | 22.5                         | 22.3     | 0.243                           | 0.254      | 0.136                     | 0.142   | 22.4           |

Table 33: Test results hotspot mode SAR LTE FDD 4 1750 MHz (see SAR plot in Annex B.7: LTE FDD 4 page 76)

| measured / extrapolated SAR numbers - Body worn - LTE FDD 4 1750 MHz |                |              |               |          |                              |          |                                 |            |                           |         |                |
|----------------------------------------------------------------------|----------------|--------------|---------------|----------|------------------------------|----------|---------------------------------|------------|---------------------------|---------|----------------|
| Ch.                                                                  | Freq.<br>(MHz) | RB<br>offset | dist.<br>(mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |            | SAR <sub>10g</sub> (W/kg) |         | liquid<br>(°C) |
|                                                                      |                |              |               |          | declared**                   | measured | measured                        | xtrapolate | meas.                     | extrap. |                |
| 20MHz BW/1RB/QPSK                                                    |                |              |               |          |                              |          |                                 |            |                           |         |                |
| 20175                                                                | 1732.5         | high         | 15            | rear     | 22.5                         | 22.1     | 0.330                           | 0.362      | 0.217                     | 0.238   | 22.2           |
| 20175                                                                | 1732.5         | high         | 15            | rear     | 22.5                         | 22.1     | 0.179                           | 0.196      | 0.118                     | 0.129   | 22.4           |

Table 34: Test results body worn SAR LTE FDD 4 1750 MHz (see SAR plot in Annex B.7: LTE FDD 4 page 76)

| measured / extrapolated SAR numbers - Head - LTE FDD 5 850 MHz |                |              |             |                              |          |                                 |            |                           |         |        |
|----------------------------------------------------------------|----------------|--------------|-------------|------------------------------|----------|---------------------------------|------------|---------------------------|---------|--------|
| Ch.                                                            | Freq.<br>(MHz) | RB<br>offset | Position    | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |            | SAR <sub>10g</sub> (W/kg) |         | liquid |
|                                                                |                |              |             | declared**                   | measured | measured                        | xtrapolate | meas.                     | extrap. | (°C)   |
| 10MHz BW/1RB/QPSK                                              |                |              |             |                              |          |                                 |            |                           |         |        |
| 20600                                                          | 844.0          | low          | right cheek | 24.0                         | 23.7     | 0.439                           | 0.470      | 0.320                     | 0.343   | 22.5   |
| 20600                                                          | 844.0          | low          | right cheek | 24.0                         | 23.7     | 0.321                           | 0.344      | 0.236                     | 0.253   | 22.6   |

Table 35: Test results head SAR LTE FDD 5 850 MHz (see SAR plot in Annex B.8: LTE FDD 5 page 79)

\*\* - maximum possible output power declared by manufacturer

Yellow marked are the highest SAR measured results from test report 1-6965/13-04-24

| measured / extrapolated SAR numbers - hotspot mode - LTE FDD 5 850 MHz |                |              |               |          |                              |          |                                 |            |                           |         |                |
|------------------------------------------------------------------------|----------------|--------------|---------------|----------|------------------------------|----------|---------------------------------|------------|---------------------------|---------|----------------|
| Ch.                                                                    | Freq.<br>(MHz) | RB<br>offset | dist.<br>(mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |            | SAR <sub>10g</sub> (W/kg) |         | liquid<br>(°C) |
|                                                                        |                |              |               |          | declared**                   | measured | measured                        | xtrapolate | meas.                     | extrap. |                |
| 10MHz BW/1RB/QPSK                                                      |                |              |               |          |                              |          |                                 |            |                           |         |                |
| 20600                                                                  | 844.0          | low          | 10            | rear     | 24.0                         | 23.7     | 0.316                           | 0.339      | 0.243                     | 0.260   | 21.6           |
| 20600                                                                  | 844.0          | low          | 10            | rear     | 24.0                         | 23.7     | 0.215                           | 0.230      | 0.160                     | 0.171   | 22.4           |

Table 36: Test results hotspot mode SAR LTE FDD 5 850 MHz (see SAR plot in Annex B.8: LTE FDD 5 page 79)

| measured / extrapolated SAR numbers - Body worn - LTE FDD 5 850 MHz |                |              |               |          |                              |          |                                 |            |                           |         |                |
|---------------------------------------------------------------------|----------------|--------------|---------------|----------|------------------------------|----------|---------------------------------|------------|---------------------------|---------|----------------|
| Ch.                                                                 | Freq.<br>(MHz) | RB<br>offset | dist.<br>(mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |            | SAR <sub>10g</sub> (W/kg) |         | liquid<br>(°C) |
|                                                                     |                |              |               |          | declared**                   | measured | measured                        | xtrapolate | meas.                     | extrap. |                |
| 10MHz BW/1RB/QPSK                                                   |                |              |               |          |                              |          |                                 |            |                           |         |                |
| 20600                                                               | 844.0          | low          | 15            | rear     | 24.0                         | 23.7     | 0.237                           | 0.254      | 0.179                     | 0.192   | 21.6           |
| 20600                                                               | 844.0          | low          | 15            | rear     | 24.0                         | 23.7     | 0.173                           | 0.185      | 0.129                     | 0.138   | 22.4           |

Table 37: Test results body worn SAR LTE FDD 5 850 MHz (see SAR plot in Annex B.8: LTE FDD 5 page 79)

| measured / extrapolated SAR numbers - Head - LTE FDD 7 2600 MHz |                |              |             |                              |          |                                 |            |                    |                         |        |
|-----------------------------------------------------------------|----------------|--------------|-------------|------------------------------|----------|---------------------------------|------------|--------------------|-------------------------|--------|
| Ch.                                                             | Freq.<br>(MHz) | RB<br>offset | Position    | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |            | SAR <sub>10g</sub> | SAR <sub>10g</sub> (°C) | liquid |
|                                                                 |                |              |             | declared**                   | measured | measured                        | xtrapolate | meas.              | extrap.                 |        |
| 20MHz BW/1RB/QPSK                                               |                |              |             |                              |          |                                 |            |                    |                         |        |
| 20850                                                           | 2510           | high         | right cheek | 20.7                         | 20.6     | 1.240                           | 1.269      | 0.446              | 0.456                   | 22.5   |
| 20850                                                           | 2510           | high         | right cheek | 20.7                         | 20.6     | 0.854                           | 0.874      | 0.302              | 0.309                   | 22.1   |

Table 38: Test results head SAR LTE FDD 7 2600 MHz (see SAR plot in Annex B.9: LTE FDD 7 page 82)

| measured / extrapolated SAR numbers - hotspot mode - LTE FDD 7 2600 MHz |                |              |               |            |                              |          |                                 |            |                           |                           |                |
|-------------------------------------------------------------------------|----------------|--------------|---------------|------------|------------------------------|----------|---------------------------------|------------|---------------------------|---------------------------|----------------|
| Ch.                                                                     | Freq.<br>(MHz) | RB<br>offset | dist.<br>(mm) | Position   | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |            | SAR <sub>10g</sub> (W/kg) | SAR <sub>10g</sub> (W/kg) | liquid<br>(°C) |
|                                                                         |                |              |               |            | declared**                   | measured | measured                        | xtrapolate | meas.                     | extrap.                   |                |
| 20MHz BW/1RB/QPSK                                                       |                |              |               |            |                              |          |                                 |            |                           |                           |                |
| 20850                                                                   | 2510           | high         | 10            | right edge | 20.7                         | 20.2     | 0.677                           | 0.760      | 0.304                     | 0.341                     | 22.2           |
| 20850                                                                   | 2510           | high         | 10            | right edge | 20.7                         | 20.2     | 0.320                           | 0.359      | 0.150                     | 0.168                     | 22.5           |

Table 39: Test results hotspot mode SAR LTE FDD 7 2600 MHz (see SAR plot in Annex B.9: LTE FDD 7 page 82)

| measured / extrapolated SAR numbers - Body worn - LTE FDD 7 2600 MHz |                |              |               |          |                              |          |                                 |            |                           |         |                |
|----------------------------------------------------------------------|----------------|--------------|---------------|----------|------------------------------|----------|---------------------------------|------------|---------------------------|---------|----------------|
| Ch.                                                                  | Freq.<br>(MHz) | RB<br>offset | dist.<br>(mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |            | SAR <sub>10g</sub> (W/kg) |         | liquid<br>(°C) |
|                                                                      |                |              |               |          | declared**                   | measured | measured                        | xtrapolate | meas.                     | extrap. |                |
| 20MHz BW/1RB/QPSK                                                    |                |              |               |          |                              |          |                                 |            |                           |         |                |
| 21350                                                                | 2560           | low          | 15            | rear     | 20.7                         | 20.6     | 0.288                           | 0.295      | 0.152                     | 0.156   | 22.2           |
| 21350                                                                | 2560           | low          | 15            | rear     | 20.7                         | 20.6     | 0.133                           | 0.136      | 0.077                     | 0.079   | 22.5           |

Table 40: Test results body worn SAR LTE FDD 7 2600 MHz (see SAR plot in Annex B.9: LTE FDD 7 page 82)

\*\* - maximum possible output power declared by manufacturer

Yellow marked are the highest SAR measured results from test report 1-6965/13-04-24

| measured / extrapolated SAR numbers - Head - LTE FDD 13 700 MHz |                |              |             |                              |          |                                 |            |                           |         |        |
|-----------------------------------------------------------------|----------------|--------------|-------------|------------------------------|----------|---------------------------------|------------|---------------------------|---------|--------|
| Ch.                                                             | Freq.<br>(MHz) | RB<br>offset | Position    | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |            | SAR <sub>10g</sub> (W/kg) |         | liquid |
|                                                                 |                |              |             | declared**                   | measured | measured                        | xtrapolate | meas.                     | extrap. | (°C)   |
| 10MHz BW/1RB/QPSK                                               |                |              |             |                              |          |                                 |            |                           |         |        |
| 23230                                                           | 782.0          | low          | right cheek | 24.0                         | 23.9     | 0.289                           | 0.296      | 0.214                     | 0.219   | 22.5   |
| 23230                                                           | 782.0          | low          | right cheek | 24.0                         | 23.9     | 0.320                           | 0.327      | 0.234                     | 0.239   | 22.1   |

Table 41: Test results head SAR LTE FDD 13 700 MHz (see SAR plot in Annex B.10: LTE FDD 13 page 85)

| measured / extrapolated SAR numbers - hotspot mode - LTE FDD 13 700 MHz |                |              |               |          |                              |          |                                 |            |                           |         |                |
|-------------------------------------------------------------------------|----------------|--------------|---------------|----------|------------------------------|----------|---------------------------------|------------|---------------------------|---------|----------------|
| Ch.                                                                     | Freq.<br>(MHz) | RB<br>offset | dist.<br>(mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |            | SAR <sub>10g</sub> (W/kg) |         | liquid<br>(°C) |
|                                                                         |                |              |               |          | declared**                   | measured | measured                        | xtrapolate | meas.                     | extrap. |                |
| 10MHz BW/1RB/QPSK                                                       |                |              |               |          |                              |          |                                 |            |                           |         |                |
| 23230                                                                   | 782.0          | low          | 10            | front    | 24.0                         | 23.9     | 0.292                           | 0.299      | 0.235                     | 0.240   | 22.6           |
| 23230                                                                   | 782.0          | low          | 10            | front    | 24.0                         | 23.9     | 0.300                           | 0.307      | 0.233                     | 0.238   | 22.0           |

Table 42: Test results hotspot mode SAR LTE FDD 13 700 MHz (see SAR plot in Annex B.10: LTE FDD 13 page 85)

| measured / extrapolated SAR numbers - Body worn - LTE FDD 13 700 MHz |                |              |               |          |                              |          |                                 |            |                           |         |                |
|----------------------------------------------------------------------|----------------|--------------|---------------|----------|------------------------------|----------|---------------------------------|------------|---------------------------|---------|----------------|
| Ch.                                                                  | Freq.<br>(MHz) | RB<br>offset | dist.<br>(mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |            | SAR <sub>10g</sub> (W/kg) |         | liquid<br>(°C) |
|                                                                      |                |              |               |          | declared**                   | measured | measured                        | xtrapolate | meas.                     | extrap. |                |
| 5MHz BW/1RB/QPSK                                                     |                |              |               |          |                              |          |                                 |            |                           |         |                |
| 23255                                                                | 784.5          | high         | 15            | front    | 24.0                         | 23.9     | 0.340                           | 0.348      | 0.258                     | 0.264   | 22.6           |
| 23255                                                                | 784.5          | high         | 15            | front    | 24.0                         | 23.9     | 0.252                           | 0.258      | 0.188                     | 0.192   | 22.0           |

Table 43: Test results body worn SAR LTE FDD 13 700 MHz (see SAR plot in Annex B.10: LTE FDD 13 page 85)

| measured / extrapolated SAR numbers - Head - LTE FDD 17 700 MHz |                |              |             |                              |          |                                 |            |                           |            |                |
|-----------------------------------------------------------------|----------------|--------------|-------------|------------------------------|----------|---------------------------------|------------|---------------------------|------------|----------------|
| Ch.                                                             | Freq.<br>(MHz) | RB<br>offset | Position    | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |            | SAR <sub>10g</sub> (W/kg) |            | liquid<br>(°C) |
|                                                                 |                |              |             | declared**                   | measured | measured                        | xtrapolate | measured                  | xtrapolate |                |
| 10MHz BW/1RB/QPSK                                               |                |              |             |                              |          |                                 |            |                           |            |                |
| 23780                                                           | 709            | mid          | right cheek | 24.0                         | 23.5     | 0.051                           | 0.057      | 0.038                     | 0.043      | 22.5           |
| 23780                                                           | 709            | mid          | right cheek | 24.0                         | 23.5     | 0.074                           | 0.083      | 0.056                     | 0.063      | 22.1           |

Table 44: Test results head SAR LTE FDD 17 700 MHz (see SAR plot in Annex B.11: LTE FDD 17 page 88)

| measured / extrapolated SAR numbers - hotspot mode - LTE FDD 17 700 MHz |                |              |               |          |                              |          |                                 |            |                           |         |                |
|-------------------------------------------------------------------------|----------------|--------------|---------------|----------|------------------------------|----------|---------------------------------|------------|---------------------------|---------|----------------|
| Ch.                                                                     | Freq.<br>(MHz) | RB<br>offset | dist.<br>(mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |            | SAR <sub>10g</sub> (W/kg) |         | liquid<br>(°C) |
|                                                                         |                |              |               |          | declared**                   | measured | measured                        | xtrapolate | meas.                     | extrap. |                |
| 10MHz BW/1RB/QPSK                                                       |                |              |               |          |                              |          |                                 |            |                           |         |                |
| 23800                                                                   | 711            | low          | 10            | rear     | 24.0                         | 23.5     | 0.112                           | 0.126      | 0.087                     | 0.097   | 22.6           |
| 23800                                                                   | 711            | low          | 10            | rear     | 24.0                         | 23.5     | 0.073                           | 0.082      | 0.056                     | 0.062   | 22.0           |

Table 45: Test results hotspot mode SAR LTE FDD 17 700 MHz (see SAR plot in Annex B.11: LTE FDD 17 page 88)

\*\* - maximum possible output power declared by manufacturer

Yellow marked are the highest SAR measured results from test report 1-6965/13-04-24

| measured / extrapolated SAR numbers - Body worn - LTE FDD 17 700 MHz |                |              |               |          |                              |          |                                 |            |                           |         |                |
|----------------------------------------------------------------------|----------------|--------------|---------------|----------|------------------------------|----------|---------------------------------|------------|---------------------------|---------|----------------|
| Ch.                                                                  | Freq.<br>(MHz) | RB<br>offset | dist.<br>(mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |            | SAR <sub>10g</sub> (W/kg) |         | liquid<br>(°C) |
|                                                                      |                |              |               |          | declared**                   | measured | measured                        | xtrapolate | meas.                     | extrap. |                |
| 10MHz BW/1RB/QPSK                                                    |                |              |               |          |                              |          |                                 |            |                           |         |                |
| 23780                                                                | 709            | mid          | 15            | front    | 24.0                         | 23.5     | 0.070                           | 0.078      | 0.056                     | 0.062   | 22.6           |
| 23780                                                                | 709            | mid          | 15            | front    | 24.0                         | 23.5     | 0.062                           | 0.069      | 0.048                     | 0.054   | 22.0           |

Table 46: Test results body worn SAR LTE FDD 17 700 MHz (see SAR plot in Annex B.11: LTE FDD 17 page 88)

| measured / extrapolated SAR numbers - Head - WLAN 2450 MHz |             |            |                              |          |                                 |              |                           |         |             |
|------------------------------------------------------------|-------------|------------|------------------------------|----------|---------------------------------|--------------|---------------------------|---------|-------------|
| Ch.                                                        | Freq. (MHz) | Position   | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) |         | liquid (°C) |
|                                                            |             |            | declared**                   | measured | measured                        | extrapolated | meas.                     | extrap. |             |
| 6                                                          | 2437        | left cheek | 16.4                         | 15.9     | 0.286                           | 0.321        | 0.130                     | 0.146   | 20.9        |
| 6                                                          | 2437        | left cheek | 16.4                         | 15.9     | 0.170                           | 0.191        | 0.074                     | 0.083   | 22.3        |

Table 47: Test results head SAR WLAN 2450 MHz (see SAR plot in Annex B.12: WLAN 2450MHz page 91)

| measured / extrapolated SAR numbers - hotspot mode - WLAN 2450 MHz |             |                |            |          |                              |          |                                 |         |                           |         |             |
|--------------------------------------------------------------------|-------------|----------------|------------|----------|------------------------------|----------|---------------------------------|---------|---------------------------|---------|-------------|
| Ch.                                                                | Freq. (MHz) | Test condition | dist. (mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |         | SAR <sub>10g</sub> (W/kg) |         | liquid (°C) |
|                                                                    |             |                |            |          | declared**                   | measured | measured                        | extrap. | meas.                     | extrap. |             |
| 6                                                                  | 2437        | 1Mbit/s        | 10         | rear     | 16.4                         | 15.9     | 0.195                           | 0.219   | 0.094                     | 0.105   | 21.9        |
| 6                                                                  | 2437        | 1Mbit/s        | 10         | rear     | 16.4                         | 15.9     | 0.159                           | 0.178   | 0.081                     | 0.091   | 22.4        |

Table 48: Test results hotspot mode SAR WLAN 2450 MHz see SAR plot in Annex B.12: WLAN 2450MHz page 91)

\*\* - maximum possible output power declared by manufacturer

Yellow marked are the highest SAR measured results from test report 1-6965/13-04-24

| measured / extrapolated SAR numbers - Body worn - WLAN 2450 MHz |             |                |            |          |                              |          |                                 |              |                           |              |             |
|-----------------------------------------------------------------|-------------|----------------|------------|----------|------------------------------|----------|---------------------------------|--------------|---------------------------|--------------|-------------|
| Ch.                                                             | Freq. (MHz) | Test condition | dist. (mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) |              | liquid (°C) |
|                                                                 |             |                |            |          | declared**                   | measured | measured                        | extrap.      | measured                  | extrap.      |             |
| 11                                                              | 2462        | 1Mbit/s        | 15         | rear     | 14.9                         | 14.5     | <b>0.151</b>                    | <b>0.166</b> | <b>0.072</b>              | <b>0.079</b> | 21.9        |
| 11                                                              | 2462        | 1Mbit/s        | 15         | rear     | 14.9                         | 14.5     | 0.039                           | 0.043        | 0.021                     | 0.023        | 22.4        |

Table 49: Test results body worn SAR WLAN 2450 MHz (see SAR plot in Annex B.12: WLAN 2450MHz page 91)

| measured / extrapolated SAR numbers - Head - WLAN 5 GHz |             |            |                              |          |                                 |              |                           |              |             |
|---------------------------------------------------------|-------------|------------|------------------------------|----------|---------------------------------|--------------|---------------------------|--------------|-------------|
| Ch.                                                     | Freq. (MHz) | Position   | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) |              | liquid (°C) |
|                                                         |             |            | declared**                   | measured | measured                        | extrapolated | meas.                     | extrap.      |             |
| 165                                                     | 5825        | left cheek | 14.4                         | 14.1     | <b>0.484</b>                    | <b>0.519</b> | <b>0.151</b>              | <b>0.162</b> | 22.3        |
| 165                                                     | 5825        | left cheek | 14.4                         | 14.1     | 0.246                           | 0.264        | 0.071                     | 0.076        | 22.1        |

Table 50: Test results head SAR WLAN 5 GHz (see SAR plot in Annex B.13: WLAN 5GHzpage 94)

| measured / extrapolated SAR numbers - Body worn - WLAN 5 GHz |             |                |            |          |                              |          |                                 |              |                           |              |             |
|--------------------------------------------------------------|-------------|----------------|------------|----------|------------------------------|----------|---------------------------------|--------------|---------------------------|--------------|-------------|
| Ch.                                                          | Freq. (MHz) | Test condition | dist. (mm) | Position | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) |              | liquid (°C) |
|                                                              |             |                |            |          | declared**                   | measured | measured                        | extrap.      | meas.                     | extrap.      |             |
| 60                                                           | 5300        | 6Mbit/s        | 15         | rear     | 16.7                         | 16.0     | <b>0.578</b>                    | <b>0.679</b> | <b>0.198</b>              | <b>0.233</b> | 22.0        |
| 60                                                           | 5300        | 6Mbit/s        | 15         | rear     | 16.7                         | 16.0     | 0.541                           | 0.636        | 0.217                     | 0.255        | 22.5        |

Table 51: Test results body worn SAR WLAN 5 GHz (see SAR plot in Annex B.13: WLAN 5GHzpage 94)

| measured / extrapolated SAR numbers - Head - Bluetooth 2450 MHz |             |            |                              |          |                                 |              |                           |              |             |
|-----------------------------------------------------------------|-------------|------------|------------------------------|----------|---------------------------------|--------------|---------------------------|--------------|-------------|
| Ch.                                                             | Freq. (MHz) | Position   | cond. P <sub>max</sub> (dBm) |          | SAR <sub>1g</sub> results(W/kg) |              | SAR <sub>10g</sub> (W/kg) |              | liquid (°C) |
|                                                                 |             |            | declared**                   | measured | measured                        | extrap.      | meas.                     | extrap.      |             |
| 39                                                              | 2441        | left cheek | 10.30                        | 8.47     | <b>0.026</b>                    | <b>0.039</b> | <b>0.012</b>              | <b>0.018</b> | 22.5        |
| 39                                                              | 2441        | left cheek | 10.30                        | 8.47     | 0.018                           | 0.027        | 0.007                     | 0.011        | 22.3        |

Table 52: Test results head SAR Bluetooth 2.4 GHz (see SAR plot in Annex B.14: Bluetooth 2.4GHz page 96)

\*\* - maximum possible output power declared by manufacturer

Yellow marked are the highest SAR measured results from test report 1-6965/13-04-24

## 7.2.2 General description of test procedures

- The DUT is tested using CMU 200 and CMW 500 communications testers as controller unit to set test channels and maximum output power to the DUT, as well as for measuring the conducted peak power.
- Test positions as described in the tables above are in accordance with the specified test standard.
- The device with WPC cover was tested according to FCC KDB 648474 D03 Wireless Chargers Battery Cover v01r02 to all applicable SAR test procedures using the normal battery cover (without the wireless charging hardware see **test report 1-6965/13-04-24**). The **highest SAR measured** for each wireless technology (LTE, WCDMA, GSM, Wi-Fi etc.), frequency band, operating mode (different modes/configurations within each wireless technology) and exposure condition (head, body-worn accessory, hotspot mode etc.) were repeated using the wireless charging battery cover.

## 8 Test equipment and ancillaries used for tests

To simplify the identification of the test equipment and/or ancillaries which were used, the reporting of the relevant test cases only refer to the test item number as specified in the table below.

| Equipment                            | Type             | Manufacturer                    | Serial No. | Last Calibration   | Frequency (months) |
|--------------------------------------|------------------|---------------------------------|------------|--------------------|--------------------|
| Dosimetric E-Field Probe             | ET3DV6           | Schmid & Partner Engineering AG | 1558       | August 22, 2013    | 12                 |
| Dosimetric E-Field Probe             | ES3DV3           |                                 | 3320       | May 09, 2014       | 12                 |
| Dosimetric E-Field Probe             | ES3DV3           |                                 | 3326       | September 02, 2013 | 12                 |
| Dosimetric E-Field Probe             | EX3DV4           |                                 | 3944       | August 02, 2013    | 12                 |
| 750 MHz System Validation Dipole     | D750V3           |                                 | 1041       | August 15, 2013    | 24                 |
| 835 MHz System Validation Dipole     | D835V2           |                                 | 4d153      | June 06, 2013      | 24                 |
| 1750 MHz System Validation Dipole    | D1750V2          |                                 | 1093       | June 06, 2013      | 24                 |
| 1900 MHz System Validation Dipole    | D1900V2          |                                 | 5d009      | May 15, 2013       | 24                 |
| 2450 MHz System Validation Dipole    | D2450V2          |                                 | 710        | August 13, 2012    | 24                 |
| 2600 MHz System Validation Dipole    | D2600V2          |                                 | 1040       | August 15, 2013    | 24                 |
| 5 GHz System Validation Dipole       | D5GHZV2          |                                 | 1055       | August 19, 2013    | 24                 |
| Data acquisition electronics         | DAE3V1           |                                 | 408        | September 30, 2013 | 12                 |
| Data acquisition electronics         | DAE3V1           |                                 | 413        | May 22, 2014       | 12                 |
| Data acquisition electronics         | DAE3V1           |                                 | 477        | May 14, 2014       | 12                 |
| Data acquisition electronics         | DAE4             |                                 | 1387       | August 28, 2013    | 12                 |
| Software                             | DASY52 52.8.7    |                                 | ---        | N/A                | --                 |
| Triple Modular Flat Phantom V5.1     | QD 000 P51 C     |                                 | 1154       | N/A                | --                 |
| SAM Twin Phantom V5.0                | QD 000 P40 C     |                                 | 1813       | N/A                | --                 |
| Universal Radio Communication Tester | CMU 200          | Rohde & Schwarz                 | 106826     | January 27, 2014   | 24                 |
| Universal Radio Communication Tester | CMW500           | Rohde & Schwarz                 | 102375     | January 16, 2013   | 24                 |
| Network Analyser 300 kHz to 6 GHz    | 8753ES           | Hewlett Packard)*               | US39174436 | January 28, 2014   | 24                 |
| Dielectric Probe Kit                 | 85070C           | Hewlett Packard                 | US99360146 | N/A                | 12                 |
| Signal Generator                     | 8671B            | Hewlett Packard                 | 2823A00656 | January 22, 2014   | 24                 |
| Amplifier                            | 25S1G4 (25 Watt) | Amplifier Research              | 20452      | N/A                | --                 |
| Power Meter                          | NRP              | Rohde & Schwarz                 | 101367     | January 21, 2014   | 24                 |
| Power Meter Sensor                   | NRP Z22          | Rohde & Schwarz                 | 100227     | January 21, 2014   | 12                 |
| Power Meter Sensor                   | NRP Z22          | Rohde & Schwarz                 | 100234     | January 21, 2014   | 12                 |
| Directional Coupler                  | 778D             | Hewlett Packard                 | 19171      | January 21, 2014   | 12                 |

)\* : Network analyzer probe calibration against air, distilled water and a shorting block performed before measuring liquid parameters.

## 9 Observations

No observations exceeding those reported with the single test cases have been made.

## Annex A: System performance check

Date/Time: 12.06.2014 15:32:46

### SystemPerformanceCheck-D750 head 2014-06-12

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1041

Communication System: UID 0, CW (0); Communication System Band: D750 (750.0 MHz); Frequency: 750 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 750$  MHz;  $\sigma = 0.897$  S/m;  $\epsilon_r = 41.695$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(6.15, 6.15, 6.15); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: SAM front; Type: QD000P40CC; Serial: TP-1042
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

### HSL750/d=15mm, Pin=1000 mW, dist=4.0mm/Area Scan (51x51x1): Interpolated

grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 9.57 W/kg

### HSL750/d=15mm, Pin=1000 mW, dist=4.0mm/Zoom Scan (7x8x7)/Cube 0:

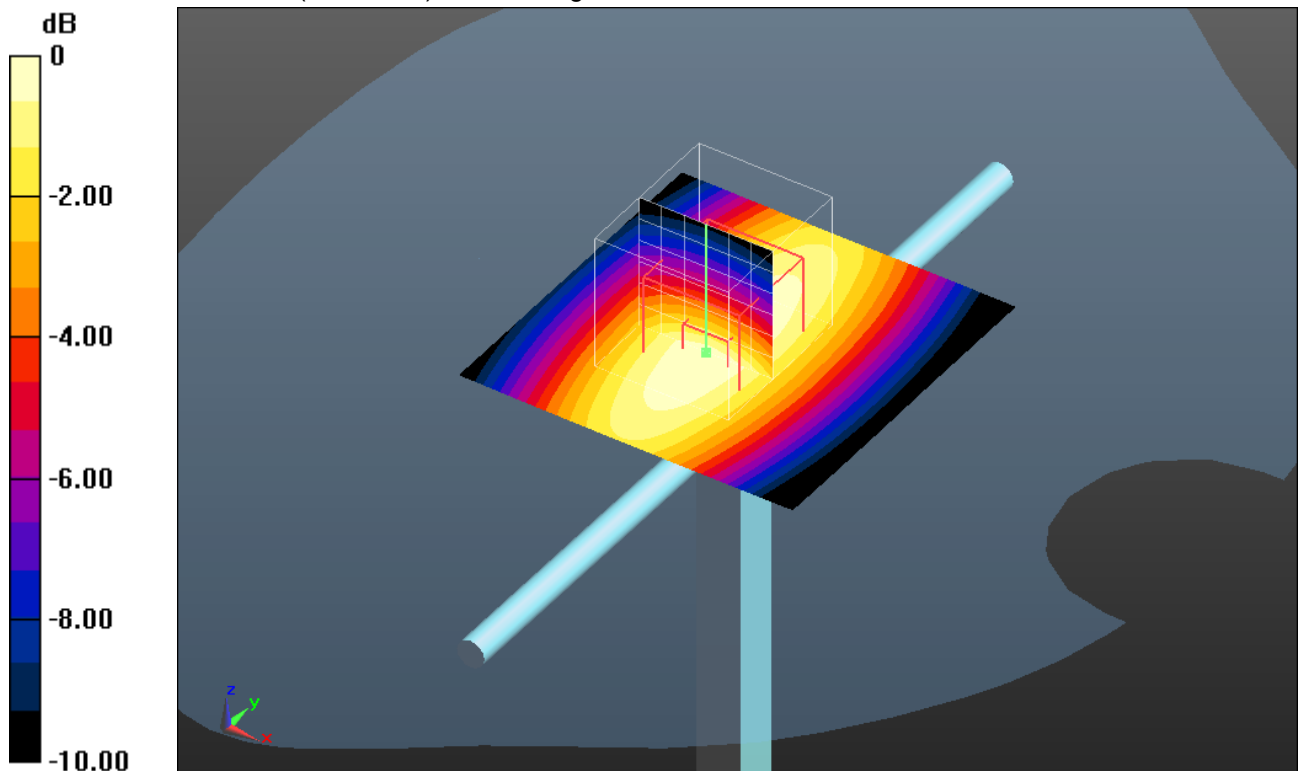
Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 107.5 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 13.5 W/kg

**SAR(1 g) = 8.98 W/kg; SAR(10 g) = 5.87 W/kg**

Maximum value of SAR (measured) = 9.74 W/kg



0 dB = 9.74 W/kg = 9.89 dBW/kg

#### Additional information:

ambient temperature: 23.0°C; liquid temperature: 22.1°C

Date/Time: 12.06.2014 14:57:19

## SystemPerformanceCheck-D750 body 2014-06-12

**DUT: Dipole 750 MHz; Type: D750V3; Serial: 1041**

Communication System: UID 0, CW (0); Communication System Band: D750 (750.0 MHz); Frequency: 750 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.968 \text{ S/m}$ ;  $\epsilon_r = 55.669$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.73, 5.73, 5.73); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

### MSL750/d=15mm, Pin=1000 mW, dist=4.0mm/Area Scan (51x51x1):

Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $9.62 \text{ W/kg}$

### MSL750/d=15mm, Pin=1000 mW, dist=4.0mm/Zoom Scan (7x7x7)/Cube 0:

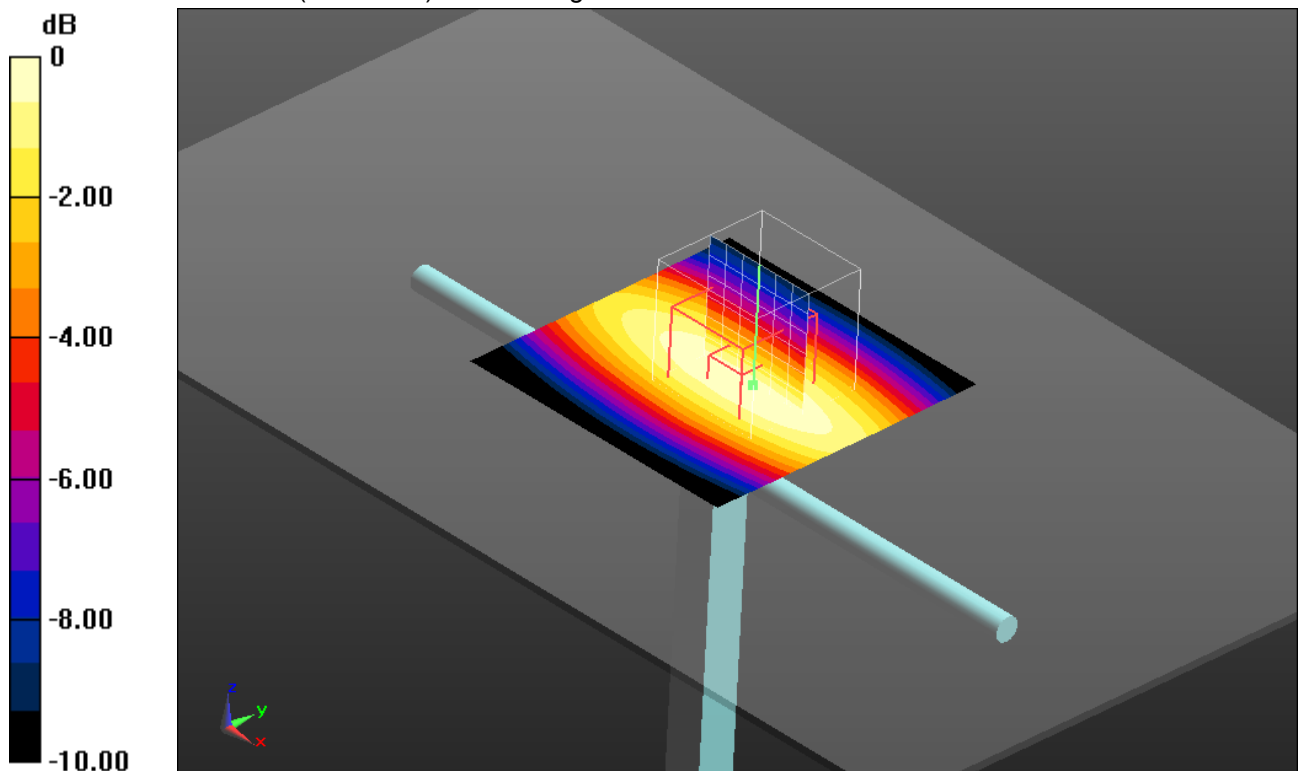
Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $104.5 \text{ V/m}$ ; Power Drift =  $-0.04 \text{ dB}$

Peak SAR (extrapolated) =  $12.9 \text{ W/kg}$

**SAR(1 g) =  $9.02 \text{ W/kg}$ ; SAR(10 g) =  $6 \text{ W/kg}$**

Maximum value of SAR (measured) =  $9.74 \text{ W/kg}$



0 dB =  $9.74 \text{ W/kg}$  =  $9.89 \text{ dBW/kg}$

#### Additional information:

ambient temperature:  $22.9^\circ\text{C}$ ; liquid temperature:  $22.0^\circ\text{C}$

Date/Time: 11.06.2014 16:51:10

## SystemPerformanceCheck-D835 head 2014-06-11

**DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d153**

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.937$  S/m;  $\epsilon_r = 41.86$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.89, 5.89, 5.89); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: SAM front; Type: QD000P40CC; Serial: TP-1042
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**HSL835/d=15mm, Pin=1000 mW, dist=4.0mm/Area Scan (51x51x1):** Interpolated  
grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 10.9 W/kg

**HSL835/d=15mm, Pin=1000 mW, dist=4.0mm/Zoom Scan (7x7x7)/Cube 0:**

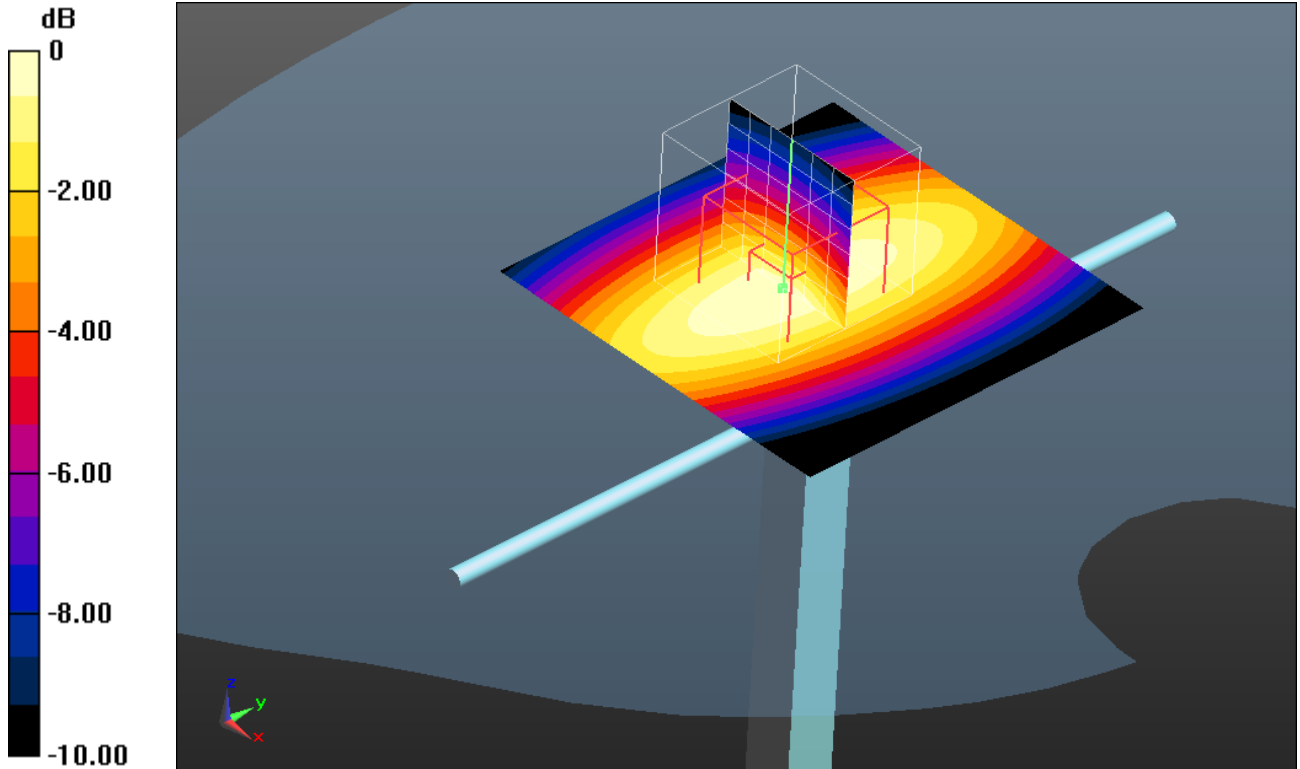
Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 110.2 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 15.1 W/kg

**SAR(1 g) = 10.3 W/kg; SAR(10 g) = 6.74 W/kg**

Maximum value of SAR (measured) = 11.1 W/kg



0 dB = 11.1 W/kg = 10.45 dBW/kg

### Additional information:

ambient temperature: 23.8°C; liquid temperature: 22.5°C

Date/Time: 6/13/2014 9:40:49 AM

## SystemPerformanceCheck-D835 head 2014-06-13

**DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d153**

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.937$  S/m;  $\epsilon_r = 41.86$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ES3DV3 - SN3326; ConvF(6.25, 6.25, 6.25); Calibrated: 9/2/2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.0, 32.0$
- Electronics: DAE4 Sn1387; Calibrated: 8/28/2013
- Phantom: SAM front; Type: QD000P40CC; Serial: TP:1041
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**HSL835/d=15mm, Pin=1000 mW, dist=4.0mm/Area Scan (51x51x1):** Interpolated  
grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 10.2 W/kg

**HSL835/d=15mm, Pin=1000 mW, dist=4.0mm/Zoom Scan (7x7x7)/Cube 0:**

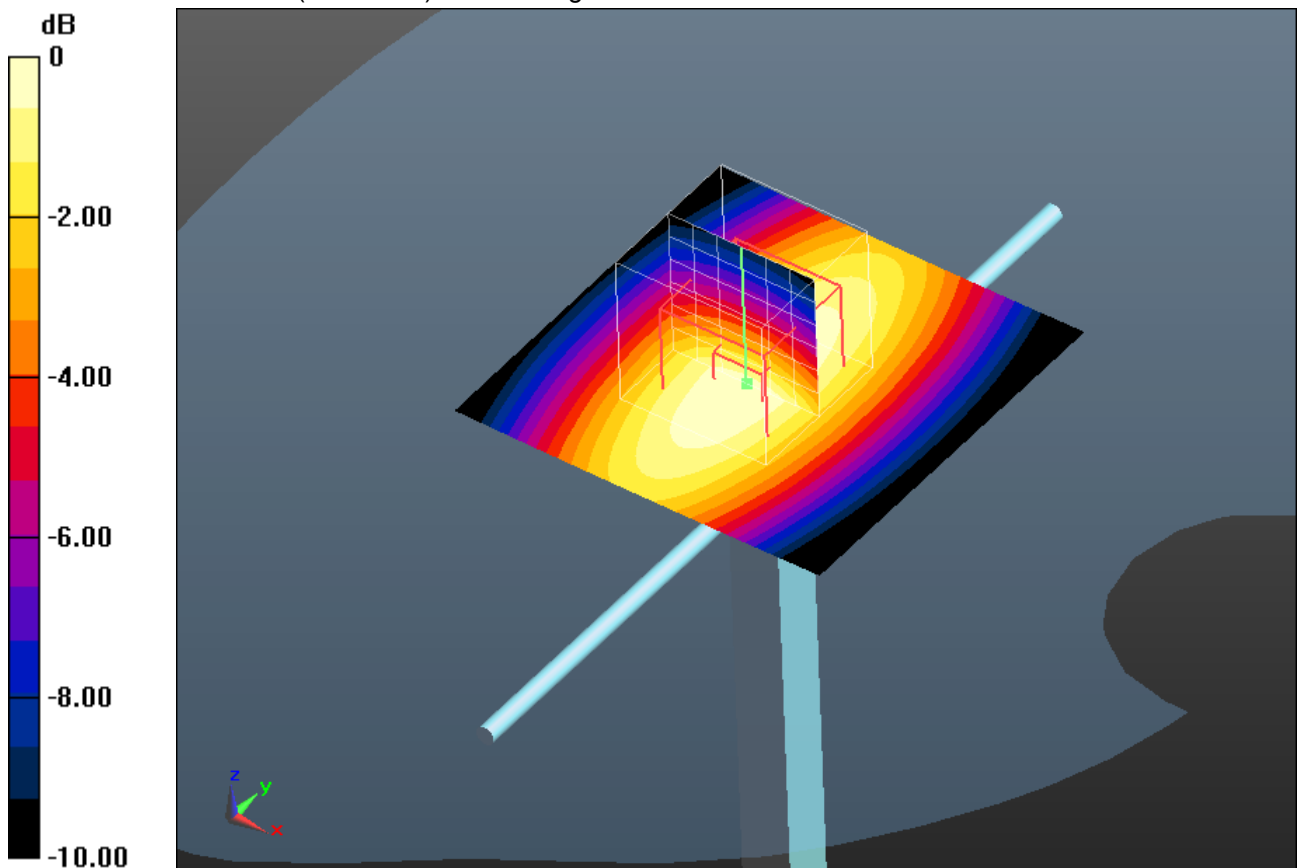
Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 106.9 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 13.9 W/kg

**SAR(1 g) = 9.53 W/kg; SAR(10 g) = 6.29 W/kg**

Maximum value of SAR (measured) = 10.3 W/kg



0 dB = 10.3 W/kg = 10.13 dBW/kg

### Additional information:

ambient temperature: 23.4°C; liquid temperature: 22.6°C

Date/Time: 10.06.2014 15:16:12

## SystemPerformanceCheck-D835 body 2014-06-10

**DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d153**

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 835$  MHz;  $\sigma = 1.015$  S/m;  $\epsilon_r = 53.98$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.64, 5.64, 5.64); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**MSL835/d=15mm, Pin=1000mW/Area Scan (51x51x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 10.8 W/kg

**MSL835/d=15mm, Pin=1000mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:

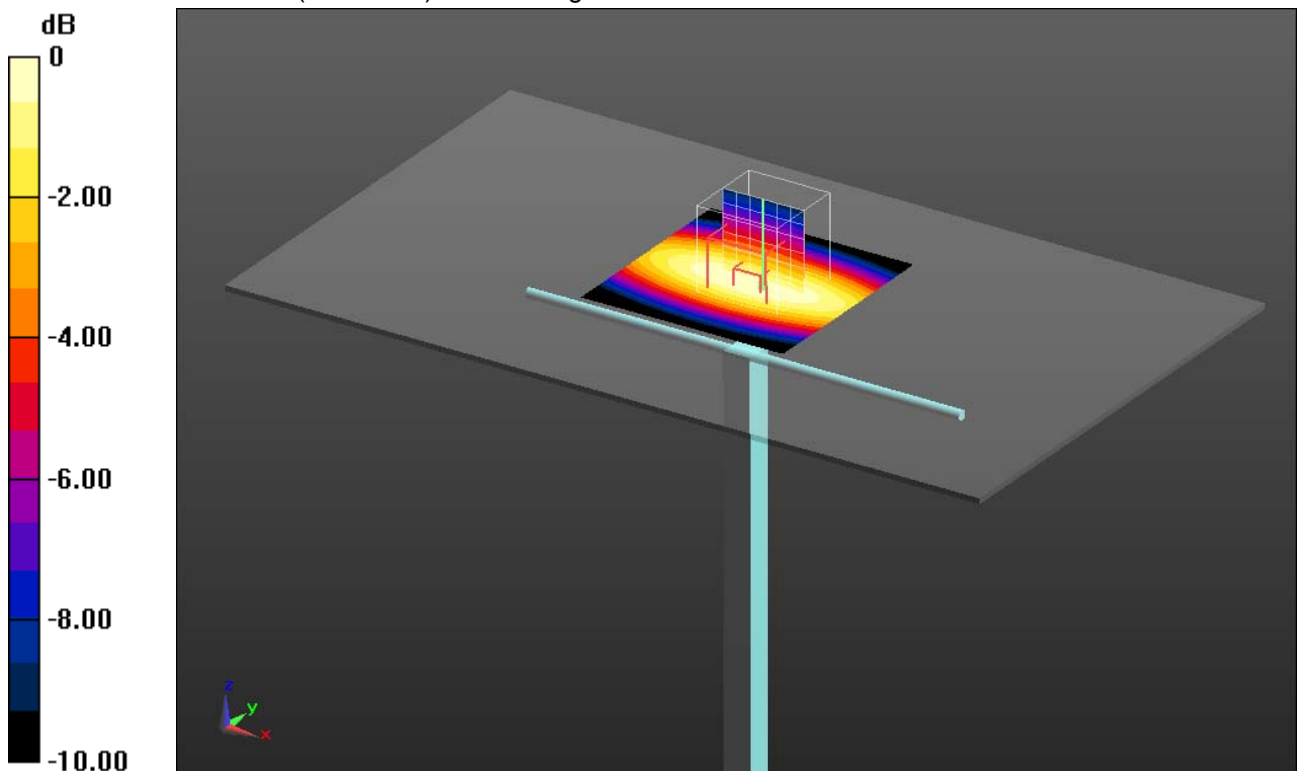
$dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 109.4 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 13.7 W/kg

**SAR(1 g) = 9.93 W/kg; SAR(10 g) = 6.64 W/kg**

Maximum value of SAR (measured) = 10.7 W/kg



0 dB = 10.7 W/kg = 10.29 dBW/kg

### Additional information:

ambient temperature: 23.0°C; liquid temperature: 22.4°C

Date/Time: 11.06.2014 11:05:18

## SystemPerformanceCheck-D835 body 2014-06-11

**DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d153**

Communication System: UID 0, CW (0); Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 1.015 \text{ S/m}$ ;  $\epsilon_r = 53.98$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.64, 5.64, 5.64); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

### MSL835/d=15mm, Pin=1000 mW, dist=4.0mm/Area Scan (51x51x1):

Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $9.62 \text{ W/kg}$

### MSL835/d=15mm, Pin=1000 mW, dist=4.0mm/Zoom Scan (8x7x7)/Cube 0:

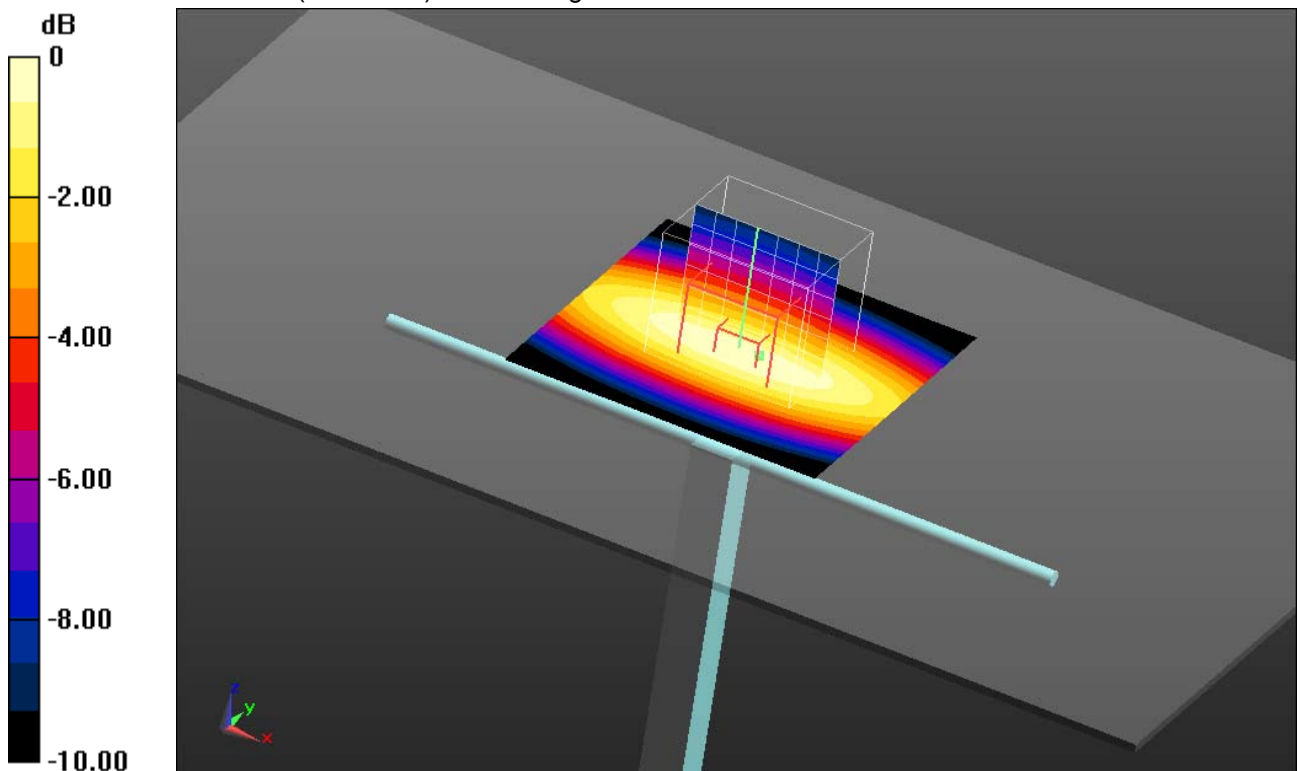
Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $103.6 \text{ V/m}$ ; Power Drift =  $0.02 \text{ dB}$

Peak SAR (extrapolated) =  $12.6 \text{ W/kg}$

**SAR(1 g) =  $9.07 \text{ W/kg}$ ; SAR(10 g) =  $6.04 \text{ W/kg}$**

Maximum value of SAR (measured) =  $9.84 \text{ W/kg}$



0 dB =  $9.84 \text{ W/kg}$  =  $9.93 \text{ dBW/kg}$

#### Additional information:

ambient temperature:  $23.6^\circ\text{C}$ ; liquid temperature:  $22.4^\circ\text{C}$

Date/Time: 11.06.2014 21:21:29

**SystemPerformanceCheck-D1750 head 2014-06-11****DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1093**

Communication System: UID 0, CW (0); Communication System Band: D1750 (1750.0 MHz); Frequency: 1750 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.369$  S/m;  $\epsilon_r = 40.491$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.93, 4.93, 4.93); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: SAM front; Type: QD000P40CC; Serial: TP-1042
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**HSL1750/d=10mm, Pin=1000mW/Area Scan (51x51x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 46.3 W/kg

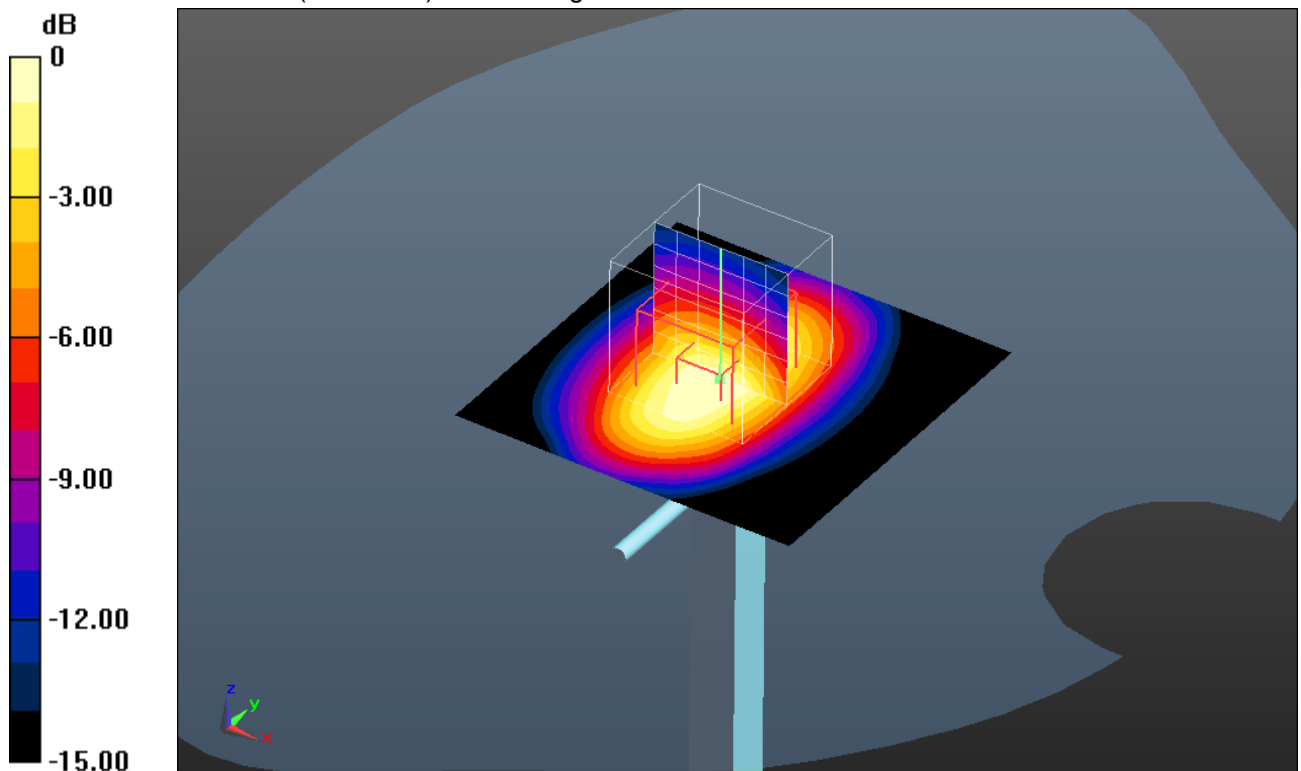
**HSL1750/d=10mm, Pin=1000mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 178.4 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 59.1 W/kg

**SAR(1 g) = 36.5 W/kg; SAR(10 g) = 20.2 W/kg**

Maximum value of SAR (measured) = 41.2 W/kg



0 dB = 41.2 W/kg = 16.15 dBW/kg

**Additional information:**

ambient temperature: 23.3°C; liquid temperature: 22.5°C

Date/Time: 6/13/2014 12:02:08 PM

## SystemPerformanceCheck-D1750 head 2014-06-13

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1093**

Communication System: UID 0, CW (0); Communication System Band: D1750 (1750.0 MHz); Frequency: 1750 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.369$  S/m;  $\epsilon_r = 40.491$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ES3DV3 - SN3326; ConvF(5.4, 5.4, 5.4); Calibrated: 9/2/2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.0, 32.0$
- Electronics: DAE4 Sn1387; Calibrated: 8/28/2013
- Phantom: SAM front; Type: QD000P40CC; Serial: TP:1041
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**HSL1750/d=10mm, Pin=1000mW/Area Scan (51x51x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 45.3 W/kg

**HSL1750/d=10mm, Pin=1000mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:

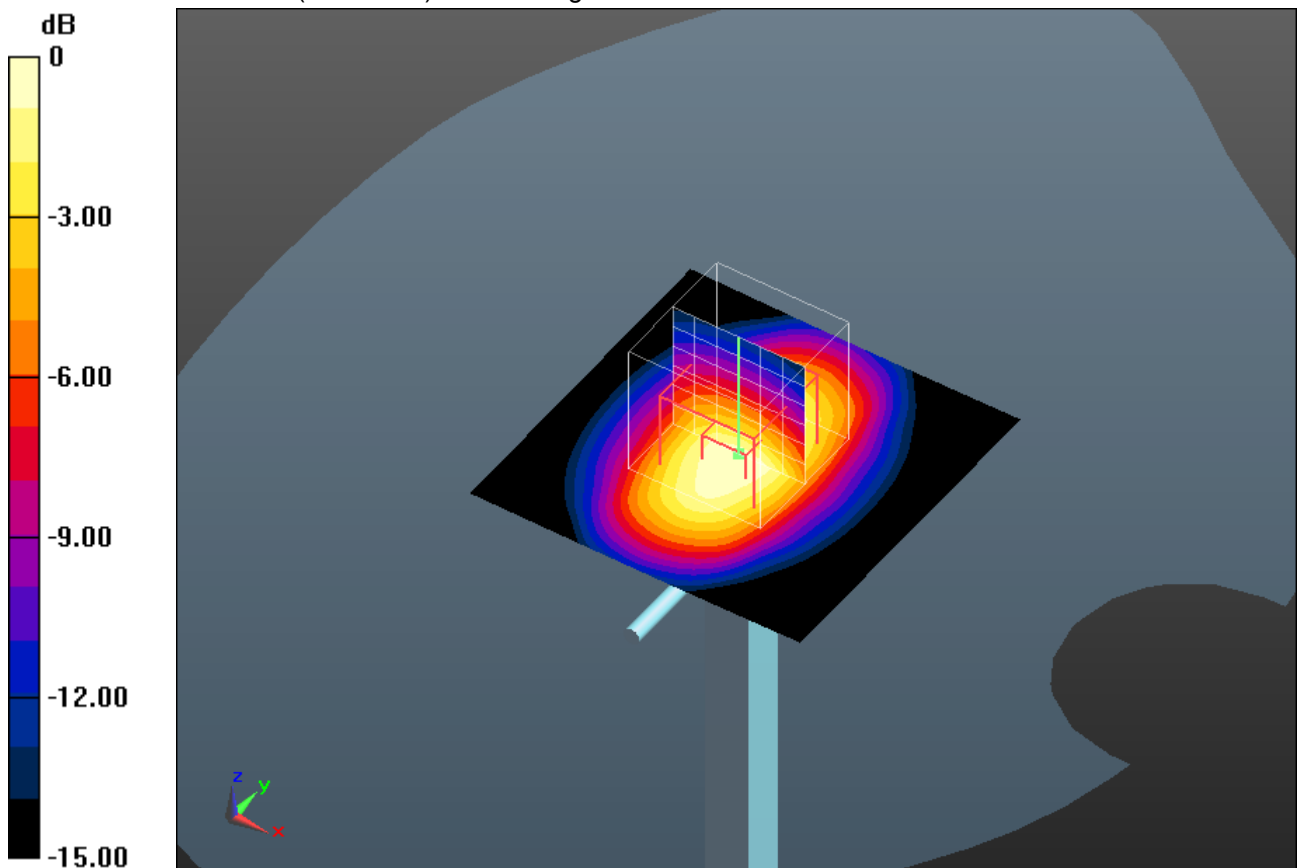
$dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 176.2 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 64.1 W/kg

**SAR(1 g) = 36.5 W/kg; SAR(10 g) = 19.8 W/kg**

Maximum value of SAR (measured) = 41.0 W/kg



0 dB = 41.0 W/kg = 16.13 dBW/kg

### Additional information:

ambient temperature: 23.0°C; liquid temperature: 22.3°C

Date/Time: 11.06.2014 15:55:33

## SystemPerformanceCheck-D1750 body 2014-06-11

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1093**

Communication System: UID 0, CW (0); Communication System Band: D1750 (1750.0 MHz); Frequency: 1750 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.541$  S/m;  $\epsilon_r = 52.336$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.41, 4.41, 4.41); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**MSL1750/d=10mm, Pin=1000mW/Area Scan (51x51x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 50.7 W/kg

**MSL1750/d=10mm, Pin=1000mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:

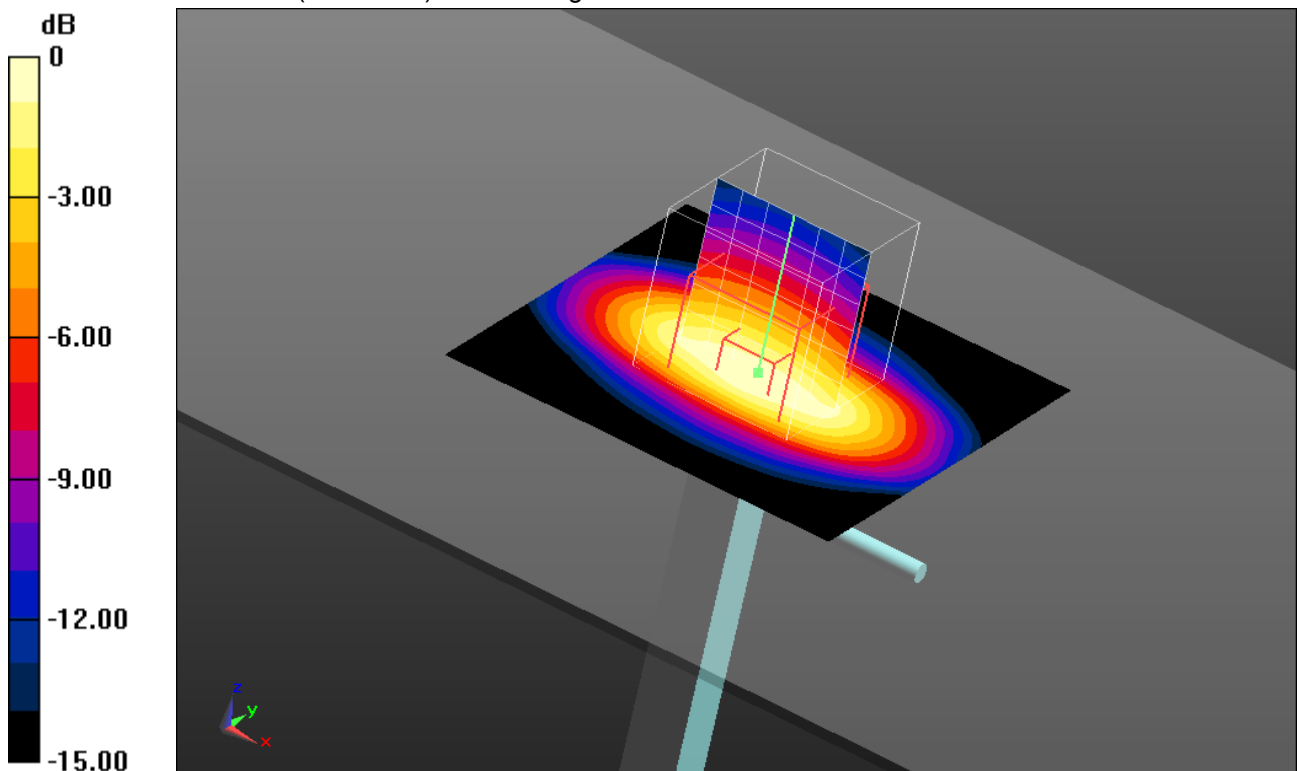
$dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 177.8 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 55.4 W/kg

**SAR(1 g) = 36.4 W/kg; SAR(10 g) = 20.3 W/kg**

Maximum value of SAR (measured) = 41.4 W/kg



0 dB = 41.4 W/kg = 16.17 dBW/kg

### Additional information:

ambient temperature: 23.7°C; liquid temperature: 22.4°C

Date/Time: 11.06.2014 14:13:44

## SystemPerformanceCheck-D1900 head 2014-06-11

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d009**

Communication System: UID 0, CW (0); Communication System Band: D1900 (1900.0 MHz); Frequency: 1900 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.396$  S/m;  $\epsilon_r = 39.877$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.75, 4.75, 4.75); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: SAM front; Type: QD000P40CC; Serial: TP-1042
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

### HSL1900/d=10mm, Pin=1000 mW, dist=4.0mm/Area Scan (51x51x1):

Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 54.4 W/kg

### HSL1900/d=10mm, Pin=1000 mW, dist=4.0mm/Zoom Scan (7x7x7)/Cube 0:

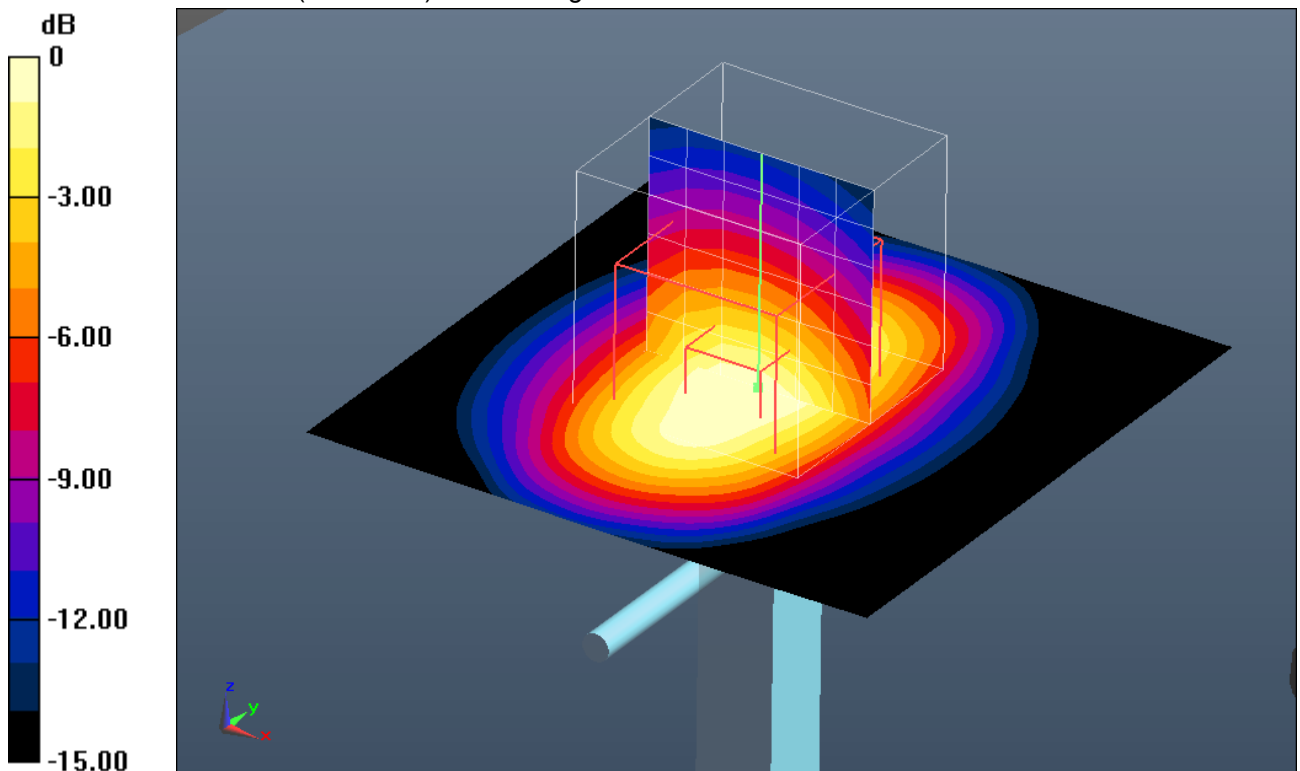
Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 190.0 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 63.9 W/kg

**SAR(1 g) = 39.3 W/kg; SAR(10 g) = 21.6 W/kg**

Maximum value of SAR (measured) = 44.3 W/kg



0 dB = 44.3 W/kg = 16.46 dBW/kg

#### Additional information:

ambient temperature: 23.6°C; liquid temperature: 22.5°C

Date/Time: 11.06.2014 11:44:36

## SystemPerformanceCheck-D1900 body 2014-06-11

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d009**

Communication System: UID 0, CW (0); Communication System Band: D1900 (1900.0 MHz); Frequency: 1900 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.544$  S/m;  $\epsilon_r = 52.407$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.21, 4.21, 4.21); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

### MSL1900/d=10mm, Pin=1000 mW, dist=4.0mm/Area Scan (51x51x1):

Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 53.8 W/kg

### MSL1900/d=10mm, Pin=1000 mW, dist=4.0mm/Zoom Scan (7x7x7)/Cube 0:

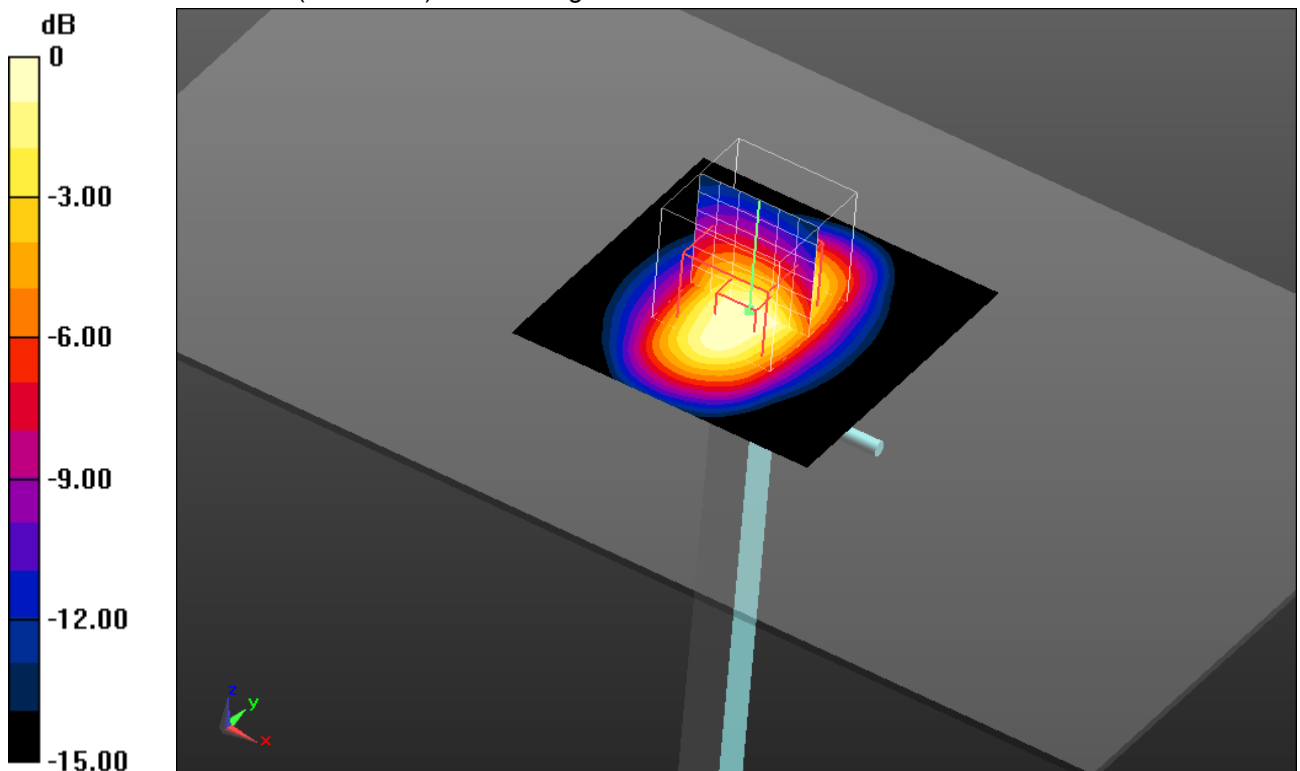
Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 180.6 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 61.9 W/kg

**SAR(1 g) = 38.1 W/kg; SAR(10 g) = 20.8 W/kg**

Maximum value of SAR (measured) = 43.2 W/kg



0 dB = 43.2 W/kg = 16.35 dBW/kg

#### Additional information:

ambient temperature: 23.4°C; liquid temperature: 22.3°C

Date/Time: 13.06.2014 08:43:09

**SystemPerformanceCheck-D2450 head 2014-06-13****DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 710**

Communication System: UID 0, CW (0); Communication System Band: D2450 (2450.0 MHz); Frequency: 2450 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.806$  S/m;  $\epsilon_r = 38.955$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ES3DV3 - SN3320; ConvF(4.4, 4.4, 4.4); Calibrated: 09.05.2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.0, 32.0$
- Electronics: DAE3 Sn413; Calibrated: 22.05.2014
- Phantom: SAM; Type: QD000P40C; Serial: TP1150
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**HSL2450/d=10mm, Pin=1000 mW, dist=4.0mm 2/Area Scan (81x81x1):**Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 65.8 W/kg

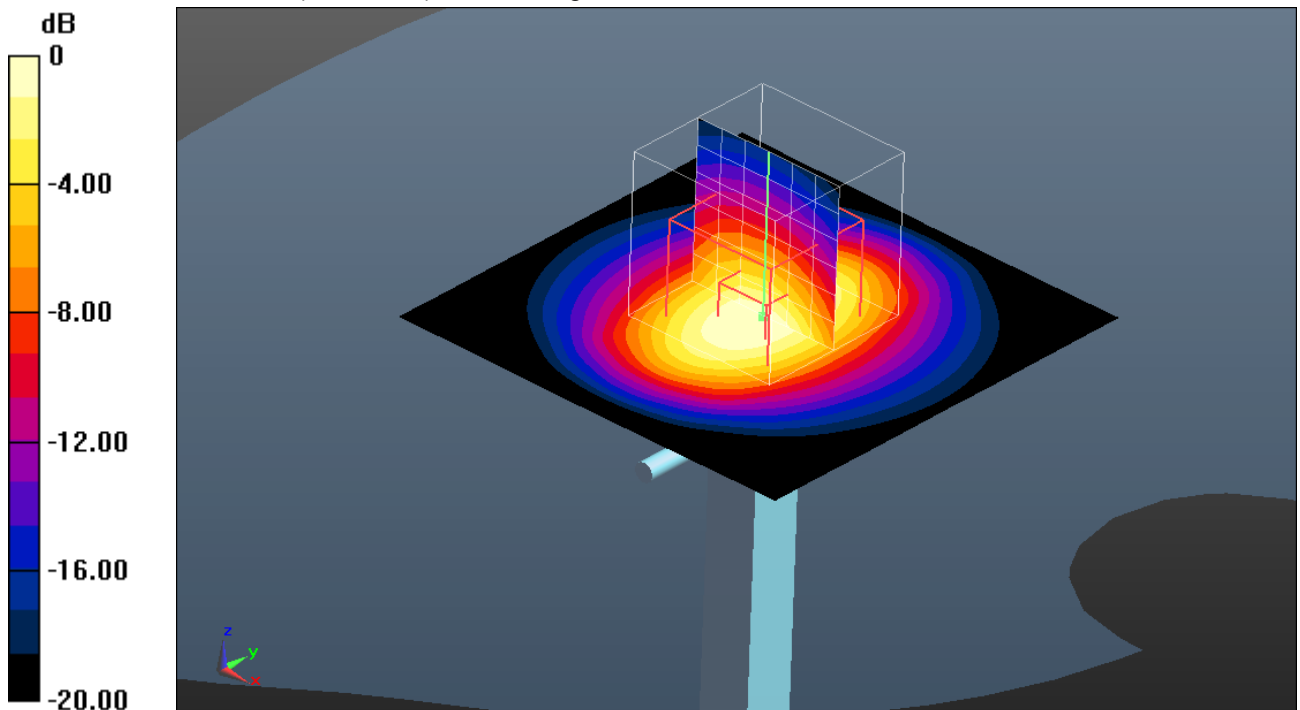
**HSL2450/d=10mm, Pin=1000 mW, dist=4.0mm 2/Zoom Scan (7x7x7)/Cube****0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 186.6 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 113 W/kg

**SAR(1 g) = 54.1 W/kg; SAR(10 g) = 25.2 W/kg**

Maximum value of SAR (measured) = 62.0 W/kg



0 dB = 62.0 W/kg = 17.92 dBW/kg

**Additional information:**

ambient temperature: 23.3°C; liquid temperature: 22.3°C

Date/Time: 13.06.2014 10:47:17

## SystemPerformanceCheck-D2450 body 2014-06-13

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 710**

Communication System: UID 0, CW (0); Communication System Band: D2450 (2450.0 MHz); Frequency: 2450 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 2.013$  S/m;  $\epsilon_r = 50.456$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(3.81, 3.81, 3.81); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

### MSL2450/d=10mm, Pin=1000 mW, dist=4.0mm/Area Scan (81x81x1):

Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 63.9 W/kg

### MSL2450/d=10mm, Pin=1000 mW, dist=4.0mm/Zoom Scan (7x7x7)/Cube 0:

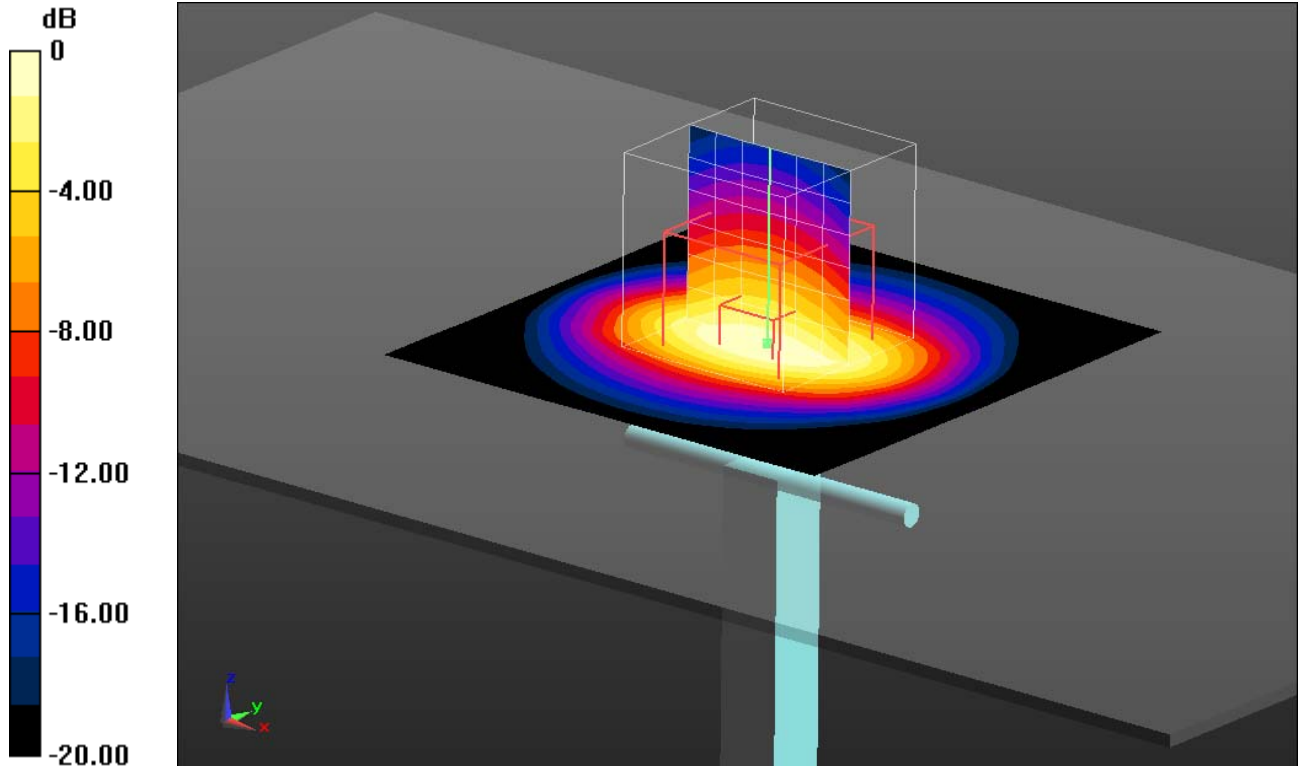
Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 176.5 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 123 W/kg

**SAR(1 g) = 53.1 W/kg; SAR(10 g) = 24.7 W/kg**

Maximum value of SAR (measured) = 58.4 W/kg



0 dB = 58.4 W/kg = 17.66 dBW/kg

#### Additional information:

ambient temperature: 23.4°C; liquid temperature: 22.4°C

Date/Time: 12.06.2014 16:00:54

**SystemPerformanceCheck-D2600 head 2014-06-12****DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1040**

Communication System: UID 0, CW (0); Communication System Band: D2600 (2600.0 MHz); Frequency: 2600 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 1.974$  S/m;  $\epsilon_r = 38.339$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.43, 7.43, 7.43); Calibrated: 02.08.2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE3 Sn413; Calibrated: 22.05.2014
- Phantom: SAM; Type: QD000P40C; Serial: TP1150
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**HSL2450\_2600/d=10mm, Pin=1000 mW, dist=2.0mm/Area Scan (81x81x1):**Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 90.8 W/kg

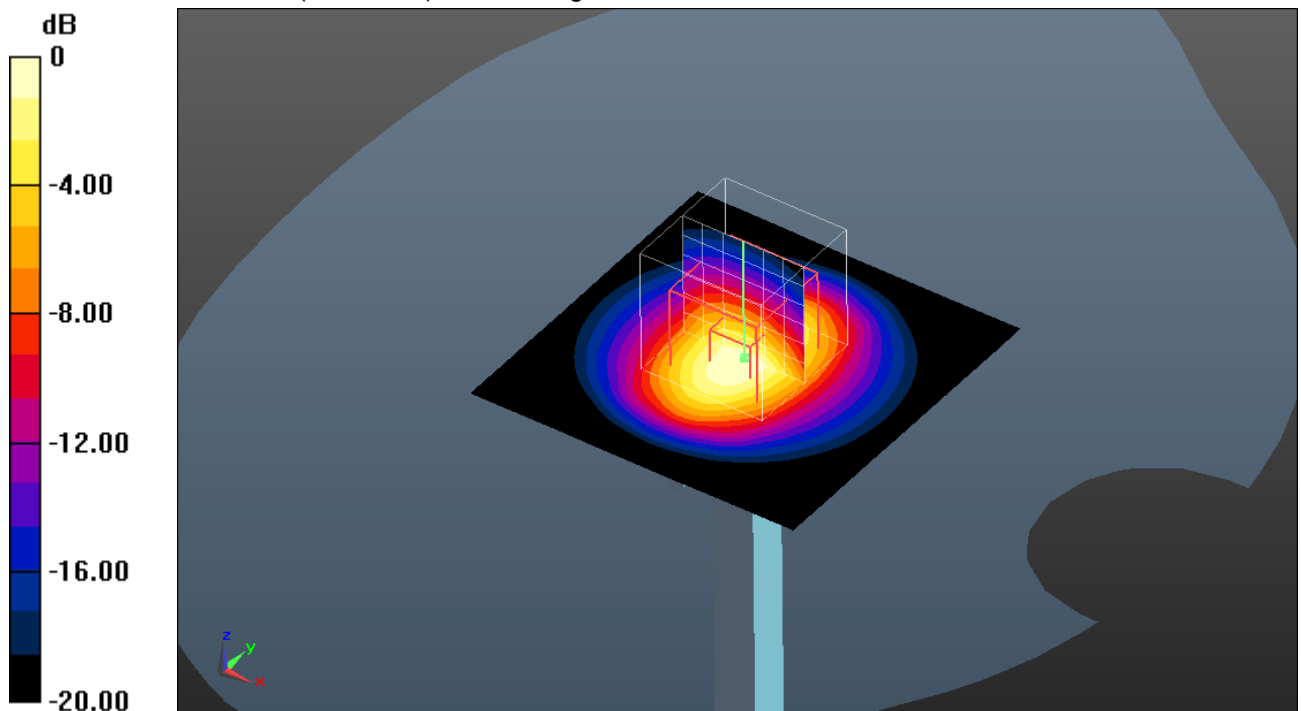
**HSL2450\_2600/d=10mm, Pin=1000 mW, dist=2.0mm/Zoom Scan****(7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 215.1 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 122 W/kg

**SAR(1 g) = 57.7 W/kg; SAR(10 g) = 25.9 W/kg**

Maximum value of SAR (measured) = 89.4 W/kg



0 dB = 89.4 W/kg = 19.51 dBW/kg

**Additional information:**

ambient temperature: 22.9°C; liquid temperature: 22.1°C

Date/Time: 6/11/2014 9:08:04 AM

**SystemPerformanceCheck-D2600 body 2014-06-11****DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1040**

Communication System: UID 0, CW (0); Communication System Band: D2600 (2600.0 MHz); Frequency: 2600 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.203$  S/m;  $\epsilon_r = 49.972$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.27, 7.27, 7.27); Calibrated: 8/2/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1387; Calibrated: 8/28/2013
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**MSL2450\_2600/d=10mm, Pin=1000 mW, dist=2.0mm/Area Scan (81x81x1):**Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 88.1 W/kg

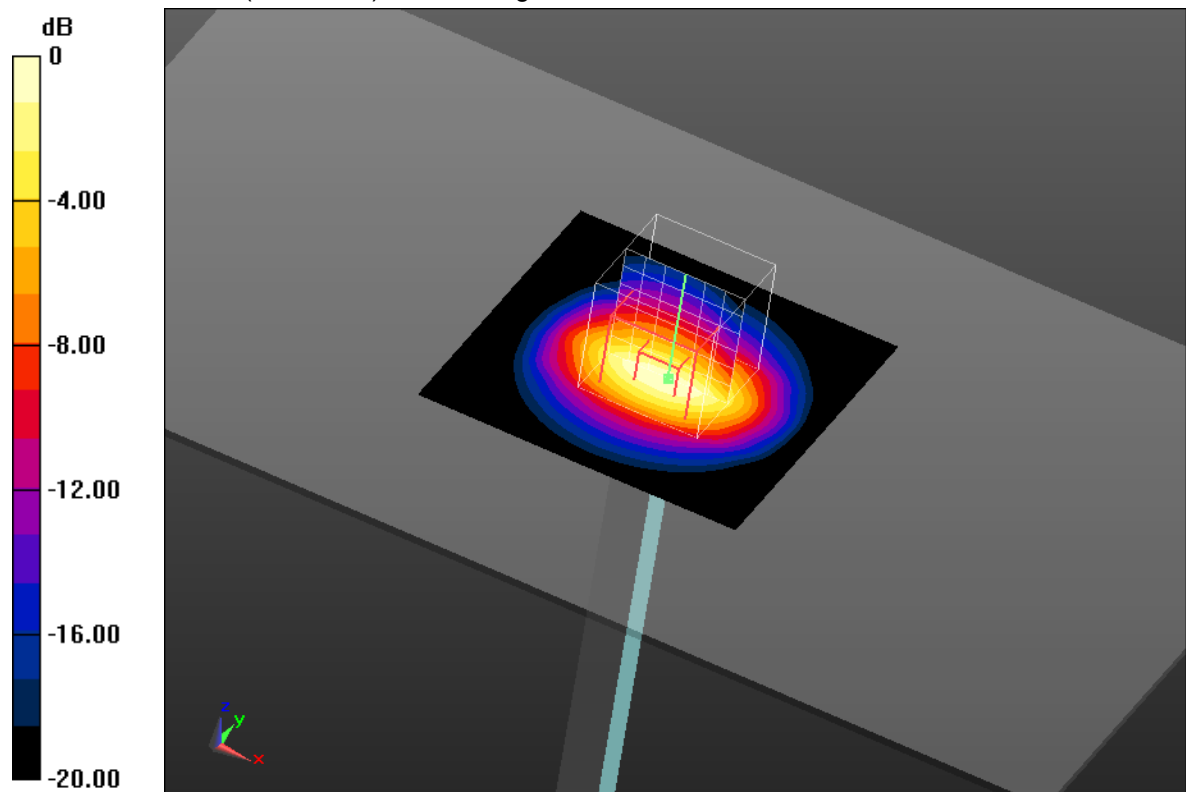
**MSL2450\_2600/d=10mm, Pin=1000 mW, dist=2.0mm/Zoom Scan****(7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 199.7 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 117 W/kg

**SAR(1 g) = 55.1 W/kg; SAR(10 g) = 24.8 W/kg**

Maximum value of SAR (measured) = 85.6 W/kg



0 dB = 85.6 W/kg = 19.32 dBW/kg

**Additional information:**

ambient temperature: 23.8°C; liquid temperature: 22.5°C

Date/Time: 13.06.2014 16:11:44

**SystemPerformanceCheck-D5GHz head 2014-06-13****DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1055**

Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz);

Frequency: 5800 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 5800$  MHz;  $\sigma = 5.114$  S/m;  $\epsilon_r = 35.361$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: EX3DV4 - SN3944; ConvF(4.75, 4.75, 4.75); Calibrated: 02.08.2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 23.0$
- Electronics: DAE3 Sn413; Calibrated: 22.05.2014
- Phantom: SAM; Type: QD000P40C; Serial: TP1150
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**HSL 5GHz/d=10mm, Pin=100mW 5.8GHz/Area Scan (61x61x1):** Interpolated grid: $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 18.0 W/kg

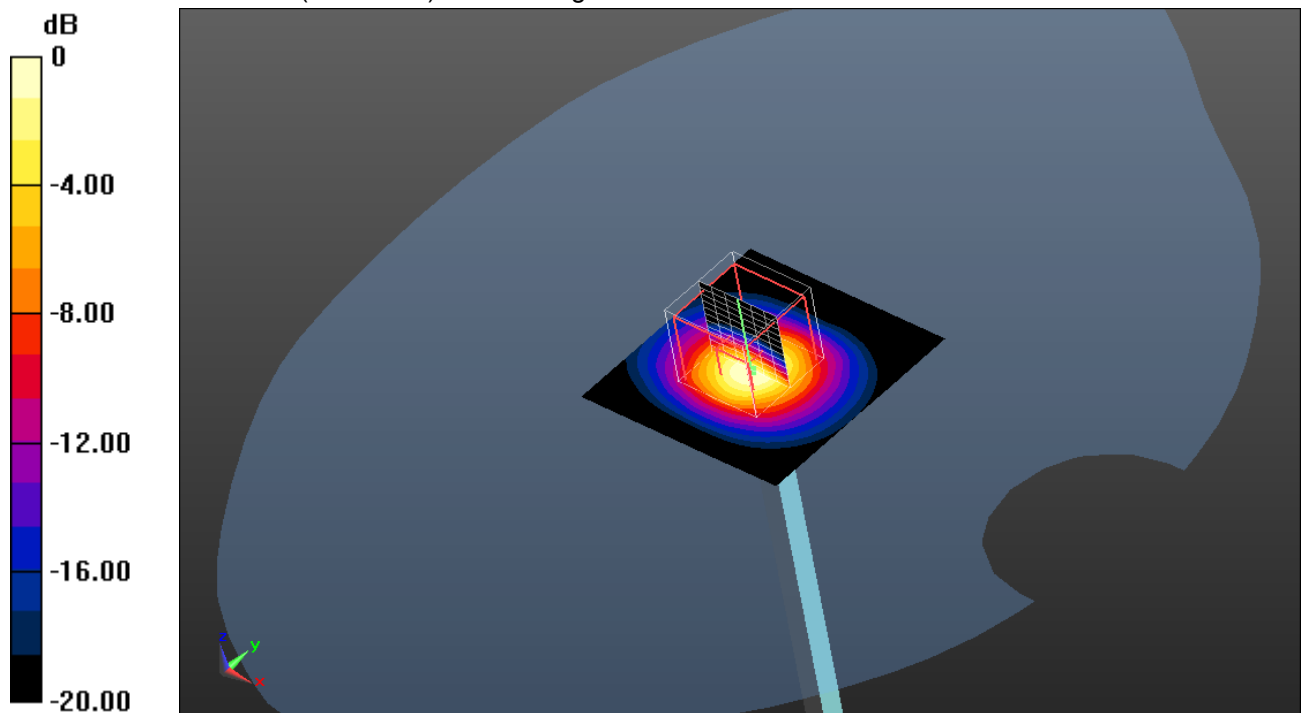
**HSL 5GHz/d=10mm, Pin=100mW 5.8GHz/Zoom Scan (7x7x12)/Cube 0:**Measurement grid:  $dx=4$ mm,  $dy=4$ mm,  $dz=2$ mm

Reference Value = 59.917 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 36.0 W/kg

**SAR(1 g) = 7.76 W/kg; SAR(10 g) = 2.19 W/kg**

Maximum value of SAR (measured) = 16.5 W/kg



0 dB = 16.5 W/kg = 12.17 dBW/kg

**Additional information:**

ambient temperature: 22.3°C; liquid temperature: 22.1°C

Date/Time: 13.06.2014 13:41:29

## SystemPerformanceCheck-D5GHz body 2014-06-13

**DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1055**

Communication System: UID 0, CW (0); Communication System Band: D5GHz (5000.0 - 6000.0 MHz);

Frequency: 5200 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 5200$  MHz;  $\sigma = 5.217$  S/m;  $\epsilon_r = 48.385$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: EX3DV4 - SN3944; ConvF(4.47, 4.47, 4.47); Calibrated: 02.08.2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 23.0$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

### MSL 5GHz/d=10mm, Pin=100mW 5.2GHz/Area Scan (61x61x1): Interpolated grid:

$dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 16.0 W/kg

### MSL 5GHz/d=10mm, Pin=100mW 5.2GHz/Zoom Scan (8x8x12)/Cube 0:

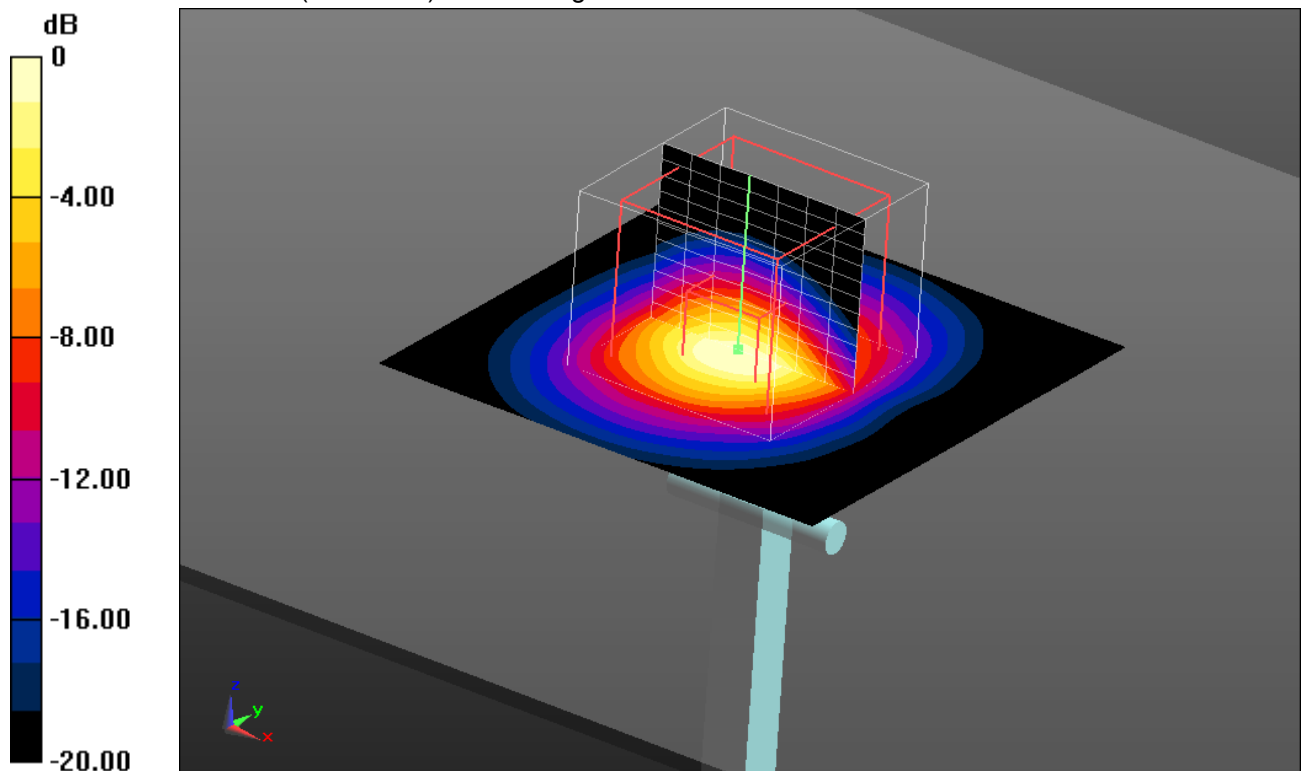
Measurement grid:  $dx=4$ mm,  $dy=4$ mm,  $dz=2$ mm

Reference Value = 59.485 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 27.2 W/kg

**SAR(1 g) = 7.12 W/kg; SAR(10 g) = 2.01 W/kg**

Maximum value of SAR (measured) = 14.5 W/kg



0 dB = 14.5 W/kg = 11.61 dBW/kg

#### Additional information:

ambient temperature: 23.7°C; liquid temperature: 22.4°C

**Annex B: DASY5 measurement results****Annex B.1: GSM 850**

Date/Time: 6/11/2014 5:12:06 PM

**IEEE1528-head****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, GSM/GPRS 2TS (0); Communication System Band: GSM 850; Frequency: 848.8 MHz; Communication System PAR: 6.021 dB; PMF: 2.00009

Medium parameters used:  $f = 849$  MHz;  $\sigma = 0.95$  S/m;  $\epsilon_r = 41.656$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.89, 5.89, 5.89); Calibrated: 8/22/2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 5/14/2014
- Phantom: SAM front; Type: QD000P40CC; Serial: TP-1042
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7331)

**GSM 850 - Right-Hand-Side - HSL 835/Touch Position - High DTM - 2TS/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.417 W/kg

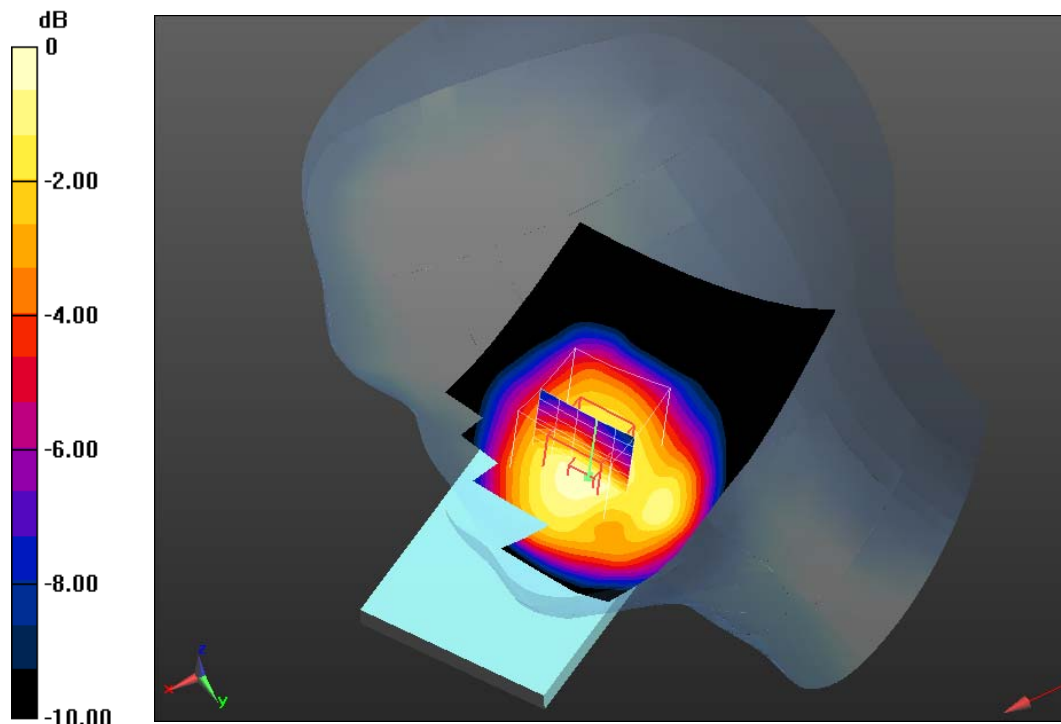
**GSM 850 - Right-Hand-Side - HSL 835/Touch Position - High DTM - 2TS/Zoom Scan (6x6x7)/Cube 0:** Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 21.62 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.553 W/kg

**SAR(1 g) = 0.402 W/kg; SAR(10 g) = 0.293 W/kg**

Maximum value of SAR (measured) = 0.432 W/kg



0 dB = 0.432 W/kg = -3.65 dBW/kg

**Additional information:**

ambient temperature: 23.8°C; liquid temperature: 22.5°C

Date/Time: 10.06.2014 16:46:18

**FCC-body****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, GSM/GPRS 2TS (0); Communication System Band: GSM 850; Frequency: 824.2 MHz; Communication System PAR: 6.021 dB; PMF: 2.00009

Medium parameters used (interpolated):  $f = 824.2$  MHz;  $\sigma = 1.006$  S/m;  $\epsilon_r = 54.107$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.64, 5.64, 5.64); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**GSM 850 - hotspot - MSL835/Rear Low 10mm/Area Scan (71x121x1):**Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.267 W/kg

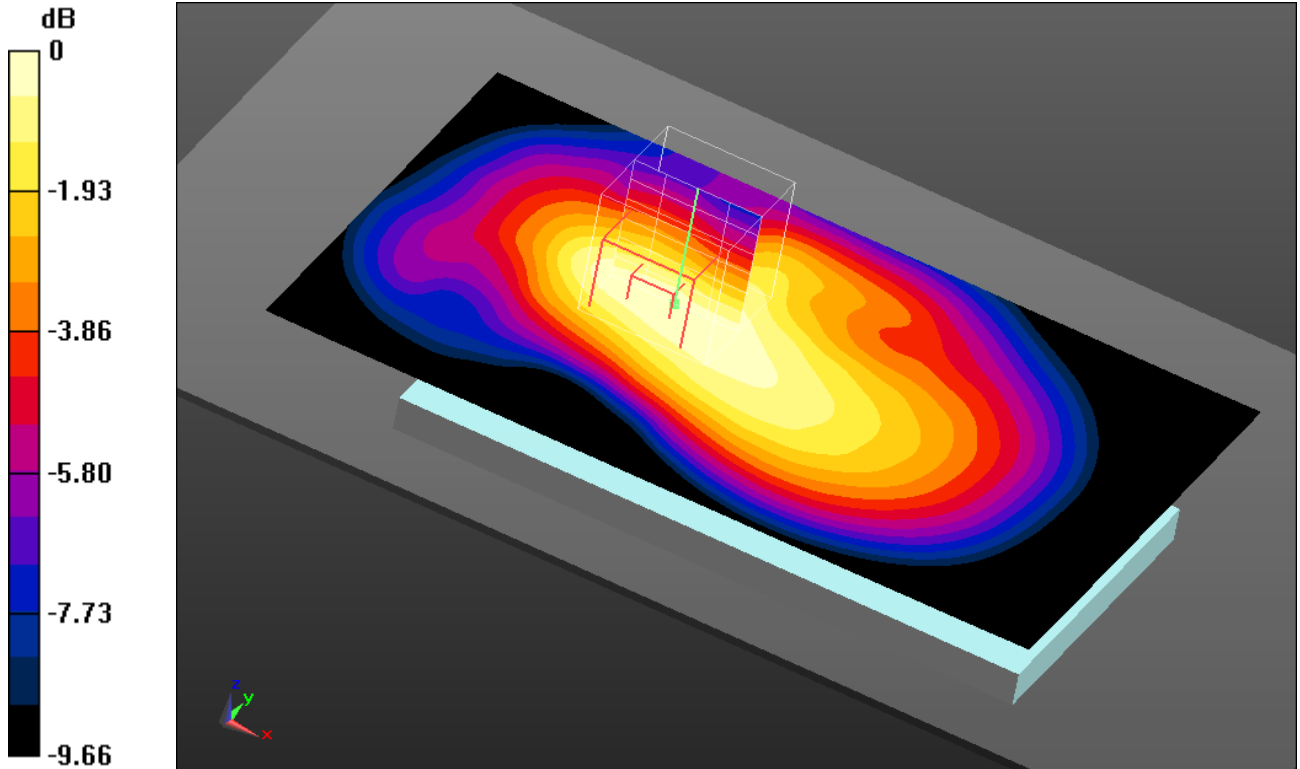
**GSM 850 - hotspot - MSL835/Rear Low 10mm/Zoom Scan (5x5x7)/Cube 0:**Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 17.098 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.302 W/kg

**SAR(1 g) = 0.255 W/kg; SAR(10 g) = 0.190 W/kg**

Maximum value of SAR (measured) = 0.270 W/kg



0 dB = 0.270 W/kg = -5.69 dBW/kg

**Additional information:**

position or distance of DUT to SAM: 10mm

ambient temperature: 23.0°C; liquid temperature: 22.4°C

Date/Time: 10.06.2014 16:28:37

**FCC-body****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, GSM/GPRS 2TS (0); Communication System Band: GSM 850; Frequency: 824.2 MHz; Communication System PAR: 6.021 dB; PMF: 2.00009

Medium parameters used (interpolated):  $f = 824.2$  MHz;  $\sigma = 1.006$  S/m;  $\epsilon_r = 54.107$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.64, 5.64, 5.64); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**GSM 850 - body worn - MSL835/Front Low 15mm/Area Scan (71x121x1):**Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.270 W/kg

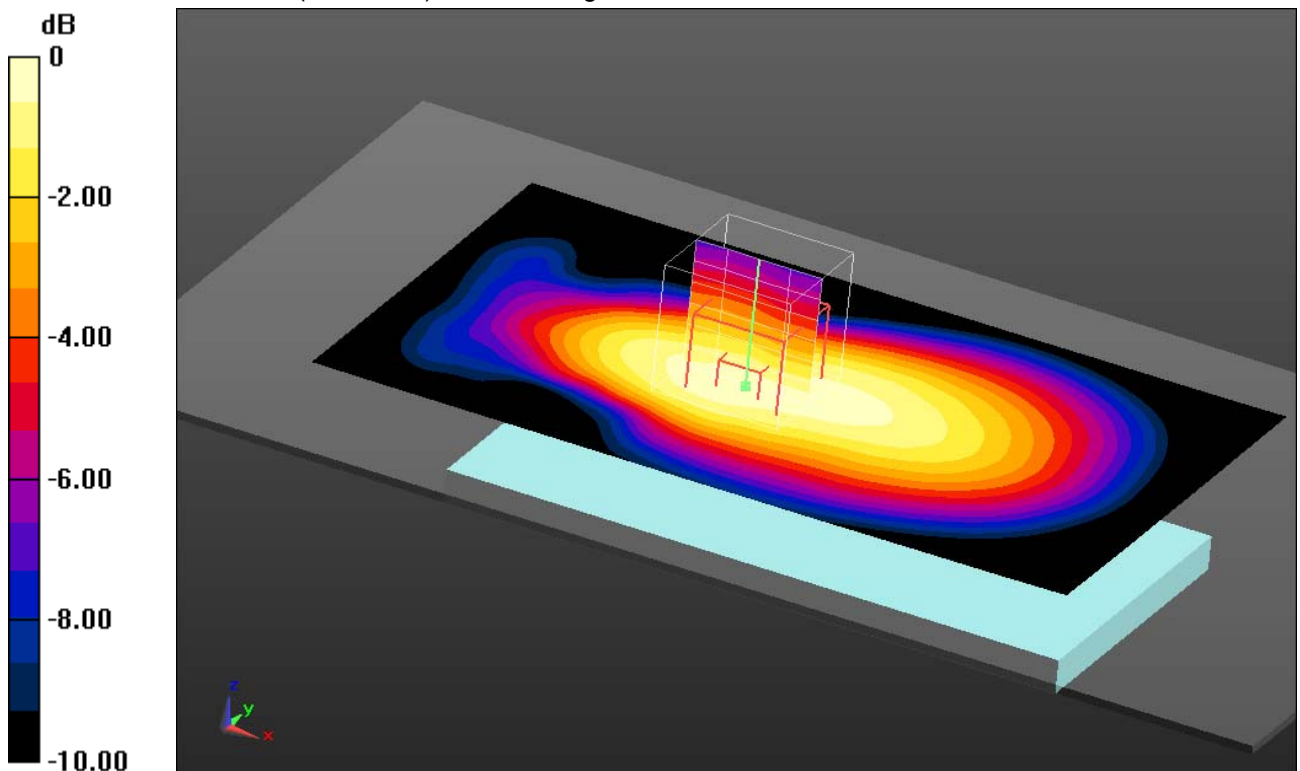
**GSM 850 - body worn - MSL835/Front Low 15mm/Zoom Scan (5x5x7)/Cube****0:** Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 17.444 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 0.318 W/kg

**SAR(1 g) = 0.266 W/kg; SAR(10 g) = 0.200 W/kg**

Maximum value of SAR (measured) = 0.281 W/kg



0 dB = 0.281 W/kg = -5.51 dBW/kg

**Additional information:**

position or distance of DUT to SAM: 15mm

ambient temperature: 23.0°C; liquid temperature: 22.4°C

**Annex B.2: GSM 1900**

Date/Time: 6/11/2014 2:33:33 PM

**IEEE1528-head****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, GSM/GPRS 3TS (0); Communication System Band: GSM 1900; Frequency: 1909.8 MHz; Communication System PAR: 4.314 dB; PMF: 1.64324

Medium parameters used:  $f = 1910$  MHz;  $\sigma = 1.407$  S/m;  $\epsilon_r = 39.861$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.75, 4.75, 4.75); Calibrated: 8/22/2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 5/14/2014
- Phantom: SAM front; Type: QD000P40CC; Serial: TP-1042
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7331)

**GSM 1900 - Right-Hand-Side - HSL 1900/Touch Position - High DTM -****3TS/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.706 W/kg

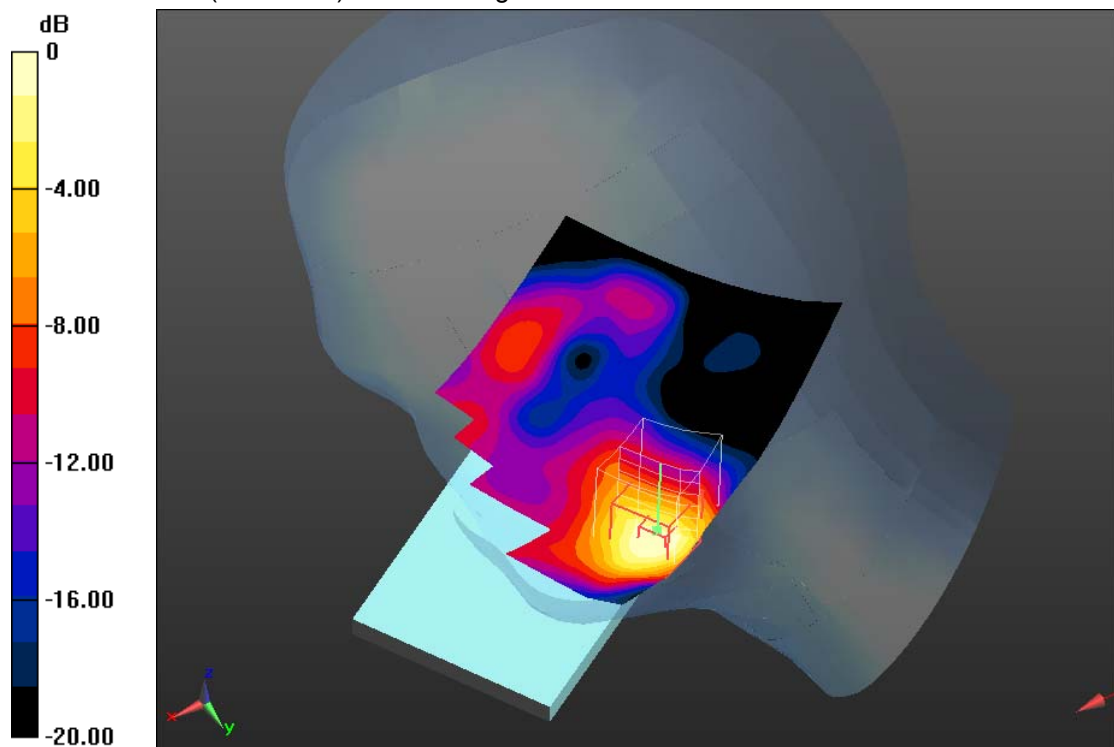
**GSM 1900 - Right-Hand-Side - HSL 1900/Touch Position - High DTM -****3TS/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 22.32 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 0.942 W/kg

**SAR(1 g) = 0.572 W/kg; SAR(10 g) = 0.315 W/kg**

Maximum value of SAR (measured) = 0.643 W/kg



0 dB = 0.643 W/kg = -1.92 dBW/kg

**Additional information:**

ambient temperature: 23.6°C; liquid temperature: 22.5°C

Date/Time: 11.06.2014 13:21:40

**FCC-body****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, GSM/GPRS 4TS (0); Communication System Band: GSM 1900; Frequency: 1909.8 MHz; Communication System PAR: 3.01 dB; PMF: 1.41416

Medium parameters used:  $f = 1910$  MHz;  $\sigma = 1.535$  S/m;  $\epsilon_r = 52.314$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.21, 4.21, 4.21); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**GSM 1900 - hotspot - MSL1900/Front Low 10mm/Area Scan (71x121x1):**Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.341 W/kg

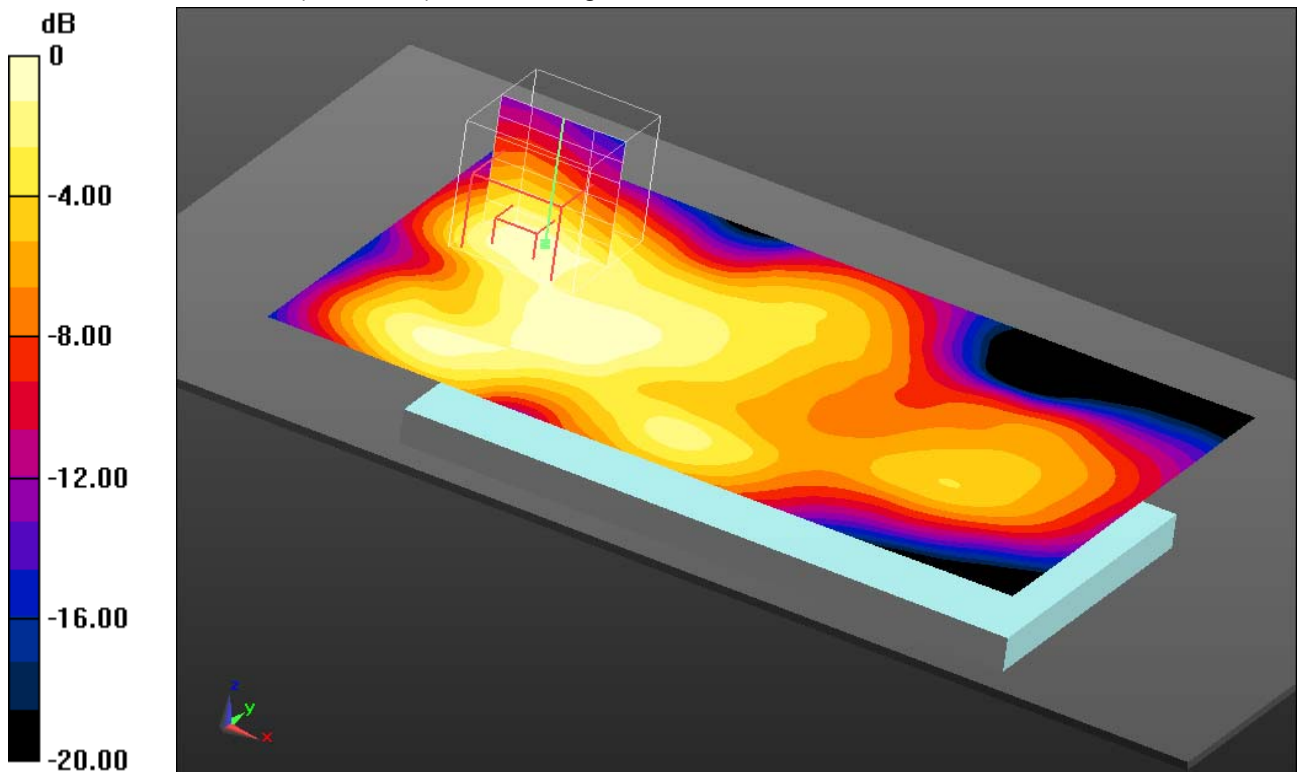
**GSM 1900 - hotspot - MSL1900/Front Low 10mm/Zoom Scan (5x5x7)/Cube****0:** Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 15.837 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.538 W/kg

**SAR(1 g) = 0.312 W/kg; SAR(10 g) = 0.172 W/kg**

Maximum value of SAR (measured) = 0.332 W/kg



0 dB = 0.332 W/kg = -4.79 dBW/kg

**Additional information:**

position or distance of DUT to SAM: 10mm

ambient temperature: 23.4°C; liquid temperature: 22.3°C

Date/Time: 11.06.2014 13:07:45

**FCC-body****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, GSM/GPRS 4TS (0); Communication System Band: GSM 1900; Frequency: 1909.8 MHz; Communication System PAR: 3.01 dB; PMF: 1.41416

Medium parameters used:  $f = 1910$  MHz;  $\sigma = 1.535$  S/m;  $\epsilon_r = 52.314$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.21, 4.21, 4.21); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**GSM 1900 - body worn - MSL1900/Front Low 15mm/Area Scan (71x121x1):**Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.252 W/kg

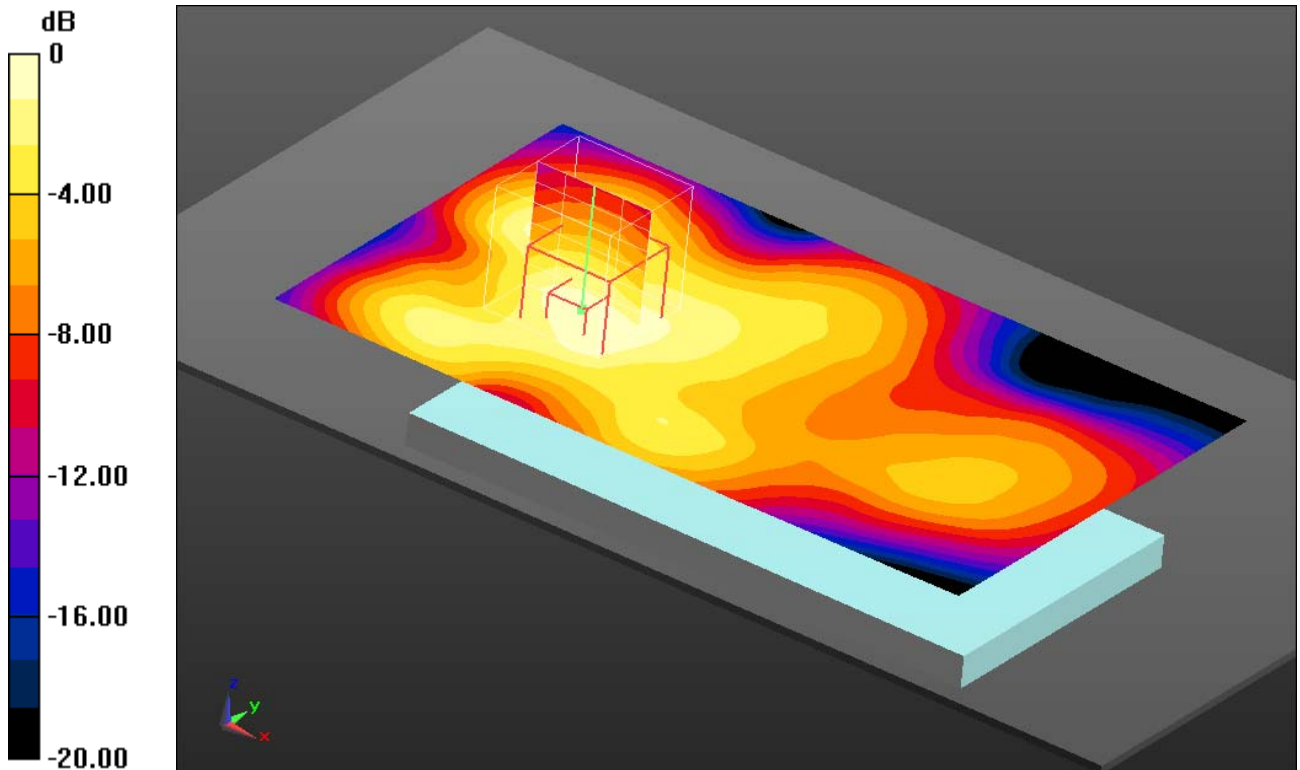
**GSM 1900 - body worn - MSL1900/Front Low 15mm/Zoom Scan (5x5x7)/Cube 0:**Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 13.435 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.345 W/kg

**SAR(1 g) = 0.243 W/kg; SAR(10 g) = 0.158 W/kg**

Maximum value of SAR (measured) = 0.255 W/kg



0 dB = 0.255 W/kg = -5.93 dBW/kg

**Additional information:**

position or distance of DUT to SAM: 15mm

ambient temperature: 23.4°C; liquid temperature: 22.3°C

**Annex B.3: UMTS FDD II**

Date/Time: 6/11/2014 2:53:07 PM

**IEEE1528-head****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, UMTS FDD (0); Communication System Band: UMTS FDD II; Frequency: 1907.6 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 1908$  MHz;  $\sigma = 1.405$  S/m;  $\epsilon_r = 39.859$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.75, 4.75, 4.75); Calibrated: 8/22/2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 5/14/2014
- Phantom: SAM front; Type: QD000P40CC; Serial: TP-1042
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7331)

**UMTS FDD II - Right-Hand-Side - HSL 1900/Touch Position - High/Area****Scan (71x121x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.878 W/kg

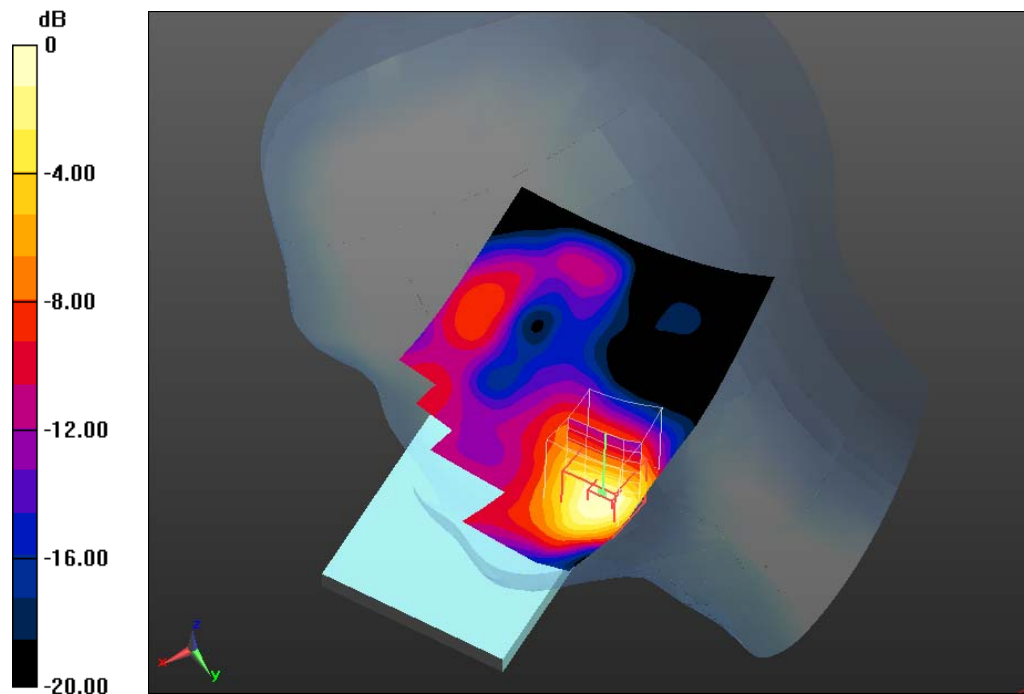
**UMTS FDD II - Right-Hand-Side - HSL 1900/Touch Position - High/Zoom****Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 24.91 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.19 W/kg

**SAR(1 g) = 0.718 W/kg; SAR(10 g) = 0.395 W/kg**

Maximum value of SAR (measured) = 0.807 W/kg



0 dB = 0.807 W/kg = -0.93 dBW/kg

**Additional information:**

ambient temperature: 23.6°C; liquid temperature: 22.5°C

Date/Time: 11.06.2014 12:21:48

**FCC-body****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, UMTS FDD (0); Communication System Band: UMTS FDD II; Frequency: 1852.4 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated):  $f = 1852.4$  MHz;  $\sigma = 1.479$  S/m;  $\epsilon_r = 52.52$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.21, 4.21, 4.21); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**UMTS FDD II - hotspot - MSL1900/Front Low 10mm/Area Scan (71x121x1):**Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.528 W/kg

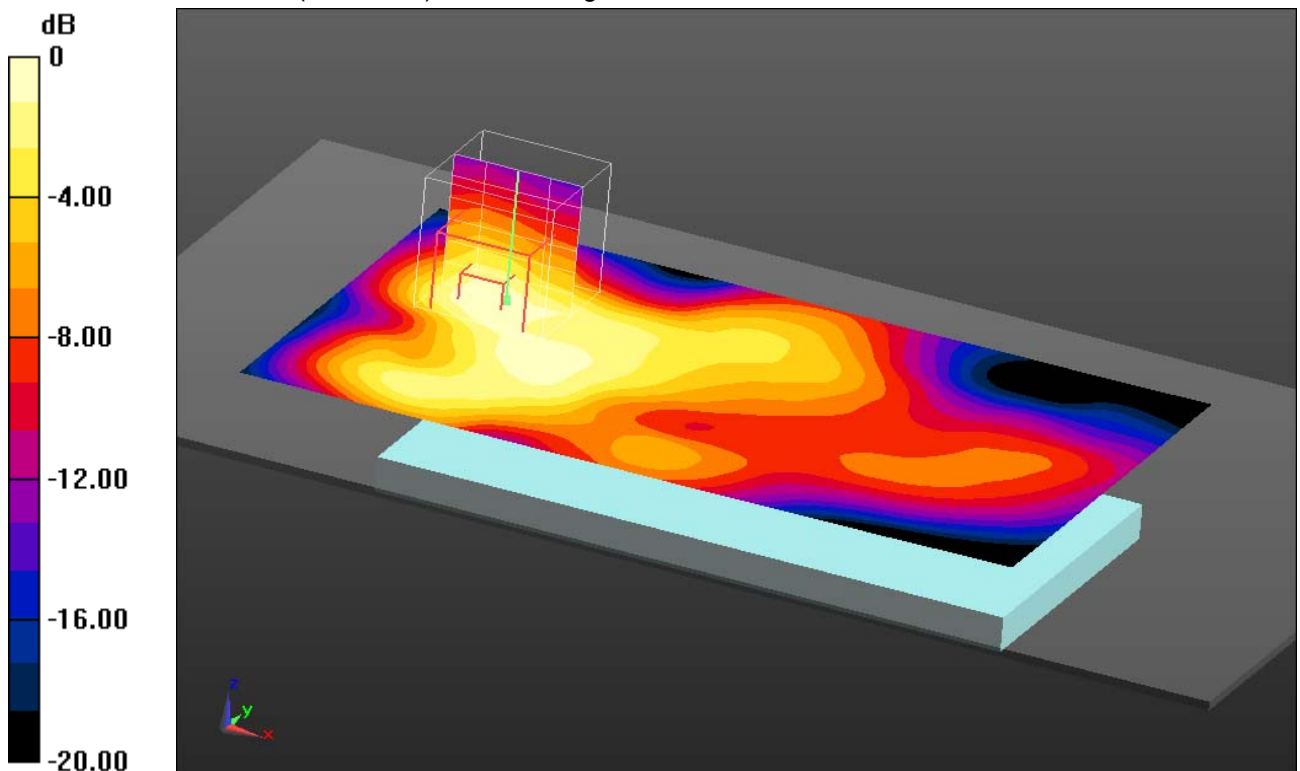
**UMTS FDD II - hotspot - MSL1900/Front Low 10mm/Zoom Scan****(5x5x7)/Cube 0:** Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 18.087 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.726 W/kg

**SAR(1 g) = 0.431 W/kg; SAR(10 g) = 0.244 W/kg**

Maximum value of SAR (measured) = 0.460 W/kg



0 dB = 0.460 W/kg = -3.37 dBW/kg

**Additional information:**

position or distance of DUT to SAM: 10mm

ambient temperature: 23.4°C; liquid temperature: 22.3°C

Date/Time: 11.06.2014 12:41:47

## FCC-body

**DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, UMTS FDD (0); Communication System Band: UMTS FDD II; Frequency: 1852.4 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated):  $f = 1852.4$  MHz;  $\sigma = 1.479$  S/m;  $\epsilon_r = 52.52$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.21, 4.21, 4.21); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

## UMTS FDD II - body worn - MSL1900/Front Low 15mm/Area Scan

**(71x121x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.269 W/kg

## UMTS FDD II - body worn - MSL1900/Front Low 15mm/Zoom Scan

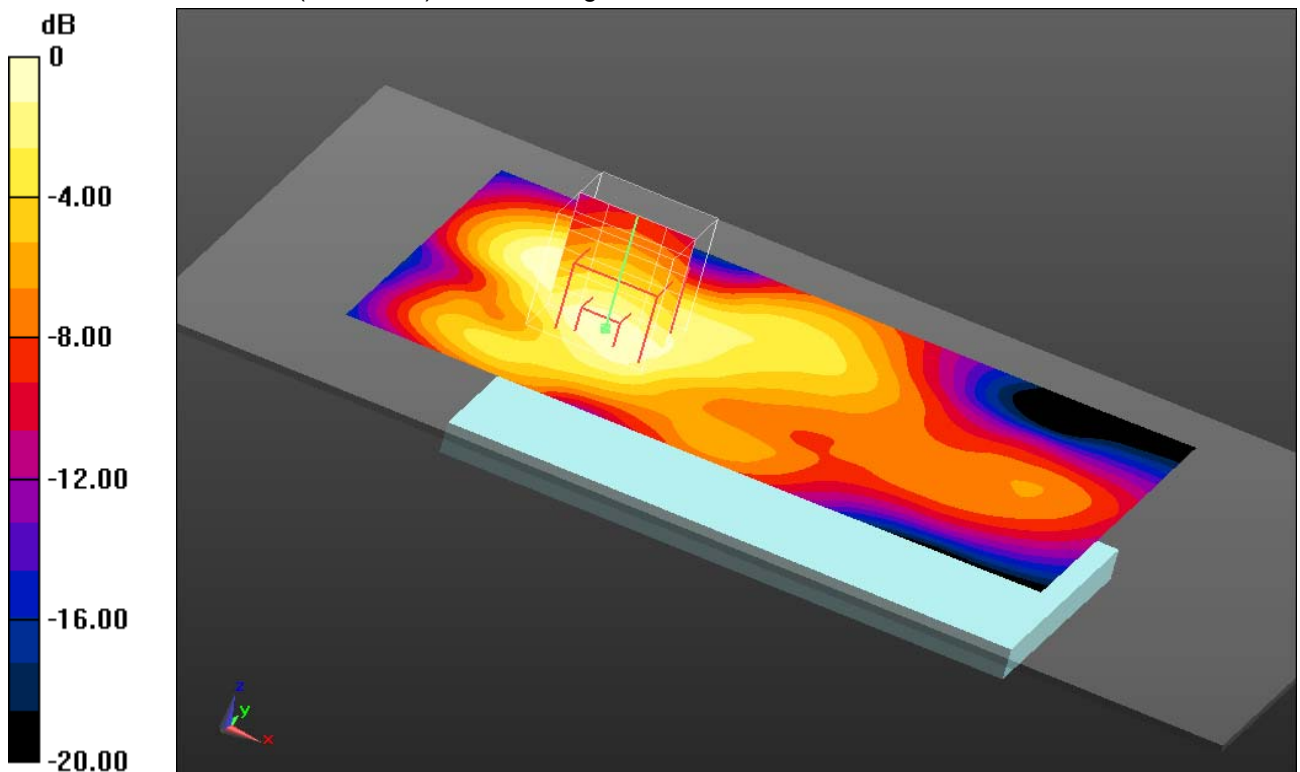
**(5x5x7)/Cube 0:** Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 14.179 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.353 W/kg

**SAR(1 g) = 0.247 W/kg; SAR(10 g) = 0.162 W/kg**

Maximum value of SAR (measured) = 0.262 W/kg



0 dB = 0.262 W/kg = -5.82 dBW/kg

### Additional information:

position or distance of DUT to SAM: 15mm

ambient temperature: 23.4°C; liquid temperature: 22.3°C

## Annex B.4: UMTS FDD IV

Date/Time: 11.06.2014 20:07:19

### IEEE1528-head

**DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, UMTS FDD (0); Communication System Band: UMTS FDD IV; Frequency: 1712.4 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated):  $f = 1712.4$  MHz;  $\sigma = 1.323$  S/m;  $\epsilon_r = 40.624$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.93, 4.93, 4.93); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: SAM front; Type: QD000P40CC; Serial: TP-1042
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

### UMTS FDD IV - Left-Hand-Side HSL 1750/Touch Position - Mid/Area Scan

**(71x121x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.629 W/kg

### UMTS FDD IV - Left-Hand-Side HSL 1750/Touch Position - Mid/Zoom Scan

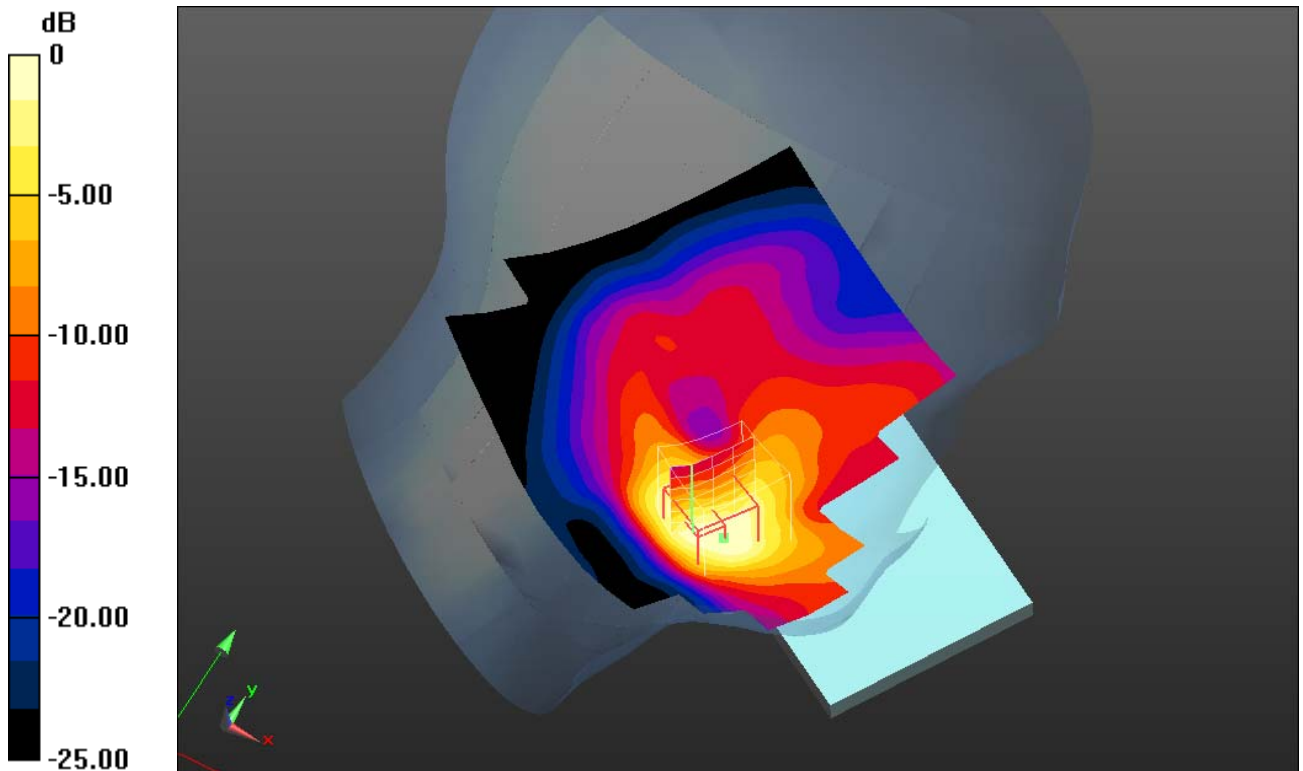
**(6x6x7)/Cube 0:** Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 21.247 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 1.27 W/kg

**SAR(1 g) = 0.636 W/kg; SAR(10 g) = 0.332 W/kg**

Maximum value of SAR (measured) = 0.756 W/kg



0 dB = 0.756 W/kg = -1.21 dBW/kg

#### Additional information:

ambient temperature: 23.3°C; liquid temperature: 22.5°C

Date/Time: 11.06.2014 15:41:47

## FCC-body

**DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, UMTS FDD (0); Communication System Band: UMTS FDD IV; Frequency: 1732.4 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated):  $f = 1732.4$  MHz;  $\sigma = 1.495$  S/m;  $\epsilon_r = 52.427$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.41, 4.41, 4.41); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

## UMTS IV - hotspot - MSL1750/Left Middle 10mm/Area Scan (71x121x1):

Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.188 W/kg

## UMTS IV - hotspot - MSL1750/Left Middle 10mm/Zoom Scan (5x5x7)/Cube

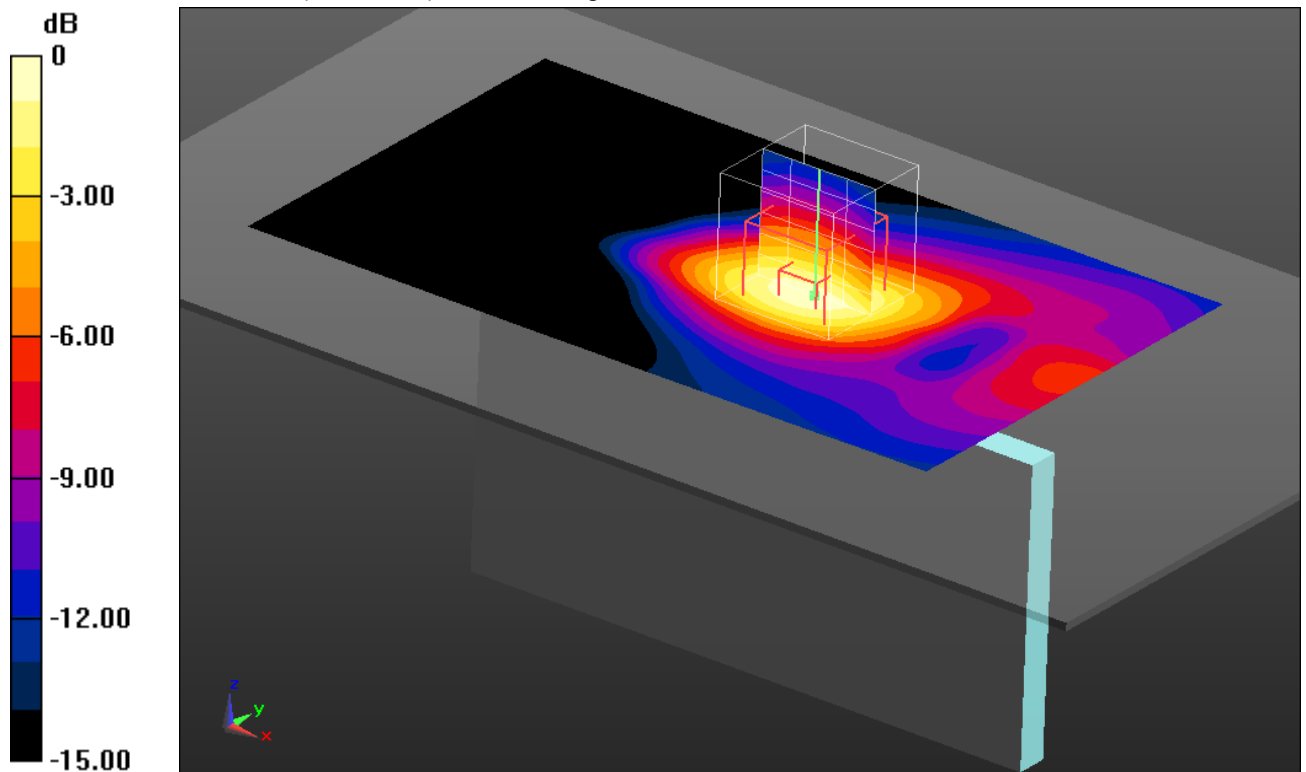
**0:** Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 10.788 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.270 W/kg

**SAR(1 g) = 0.175 W/kg; SAR(10 g) = 0.101 W/kg**

Maximum value of SAR (measured) = 0.198 W/kg



0 dB = 0.198 W/kg = -7.03 dBW/kg

### Additional information:

position or distance of DUT to SAM: 10mm

ambient temperature: 23.7°C; liquid temperature: 22.4°C

Date/Time: 11.06.2014 15:25:48

## FCC-body

**DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, UMTS FDD (0); Communication System Band: UMTS FDD IV; Frequency: 1732.4 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated):  $f = 1732.4$  MHz;  $\sigma = 1.495$  S/m;  $\epsilon_r = 52.427$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.41, 4.41, 4.41); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

## UMTS IV - body worn - MSL1750/Rear Middle 15mm/Area Scan (71x121x1):

Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.198 W/kg

## UMTS IV - body worn - MSL1750/Rear Middle 15mm/Zoom Scan

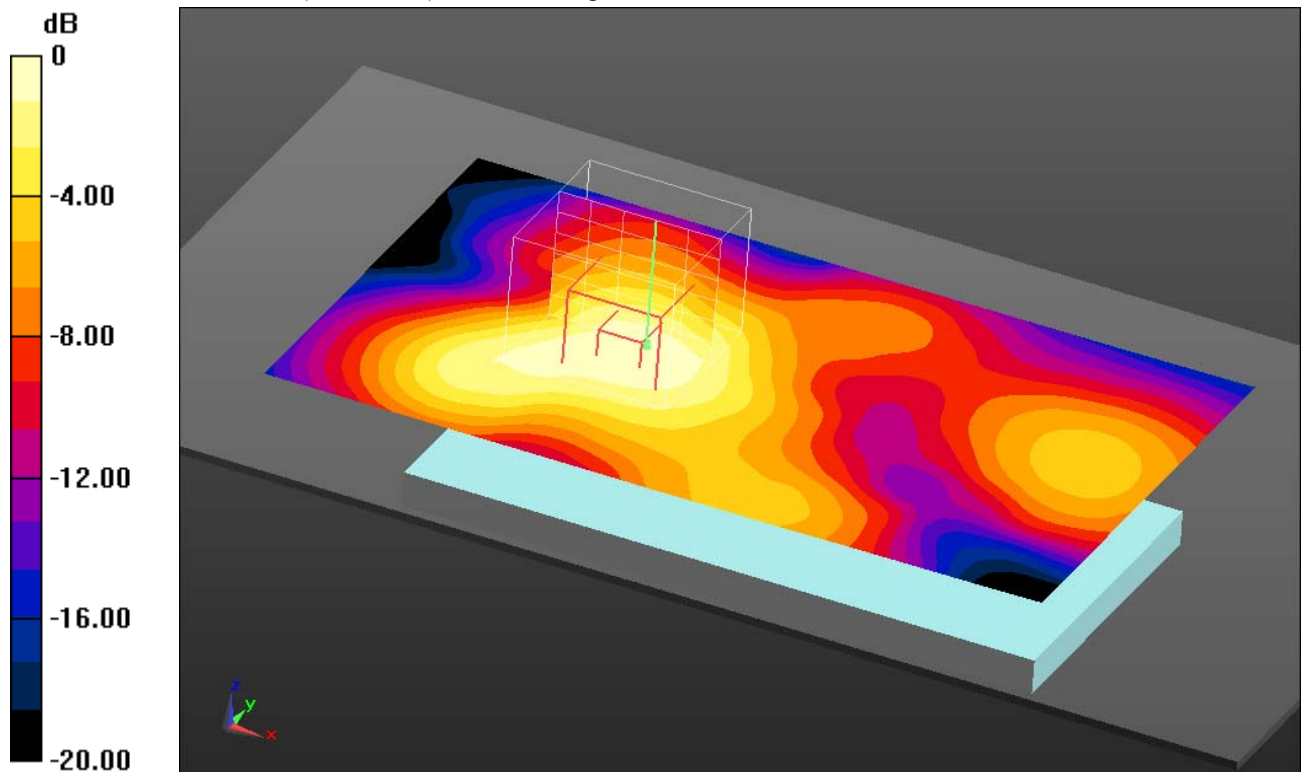
**(6x6x7)/Cube 0:** Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 12.286 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.242 W/kg

**SAR(1 g) = 0.182 W/kg; SAR(10 g) = 0.121 W/kg**

Maximum value of SAR (measured) = 0.192 W/kg



0 dB = 0.192 W/kg = -7.17 dBW/kg

### Additional information:

position or distance of DUT to SAM: 15mm

ambient temperature: 23.7°C; liquid temperature: 22.4°C

## Annex B.5: UMTS FDD V

Date/Time: 6/11/2014 5:38:53 PM

### IEEE1528-head

**DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, UMTS FDD (0); Communication System Band: UMTS FDD V; Frequency: 846.6 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 847$  MHz;  $\sigma = 0.949$  S/m;  $\epsilon_r = 41.663$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.89, 5.89, 5.89); Calibrated: 8/22/2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 5/14/2014
- Phantom: SAM front; Type: QD000P40CC; Serial: TP-1042
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7331)

### UMTS FDD V - Right-Hand-Side - HSL 835/Touch Position - High/Area Scan (71x121x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.463 W/kg

### UMTS FDD V - Right-Hand-Side - HSL 835/Touch Position - High/Zoom

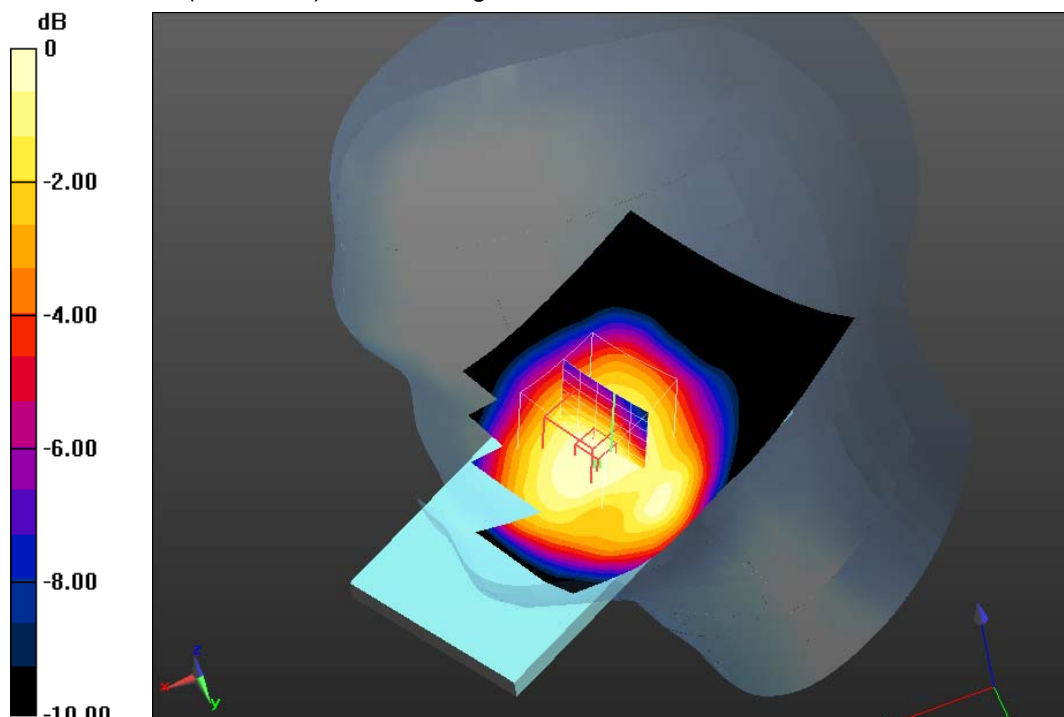
**Scan (6x6x7)/Cube 0:** Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 22.80 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.553 W/kg

**SAR(1 g) = 0.420 W/kg; SAR(10 g) = 0.306 W/kg**

Maximum value of SAR (measured) = 0.445 W/kg



0 dB = 0.445 W/kg = -3.52 dBW/kg

#### Additional information:

ambient temperature: 23.8°C; liquid temperature: 22.5°C

Date/Time: 10.06.2014 17:03:22

**FCC-body****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, UMTS FDD (0); Communication System Band: UMTS FDD V; Frequency: 826.4 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated):  $f = 826.4$  MHz;  $\sigma = 1.008$  S/m;  $\epsilon_r = 54.076$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.64, 5.64, 5.64); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**UMTS FDD V - hotspot - MSL835/Rear Low 10mm/Area Scan (71x121x1):**Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.260 W/kg

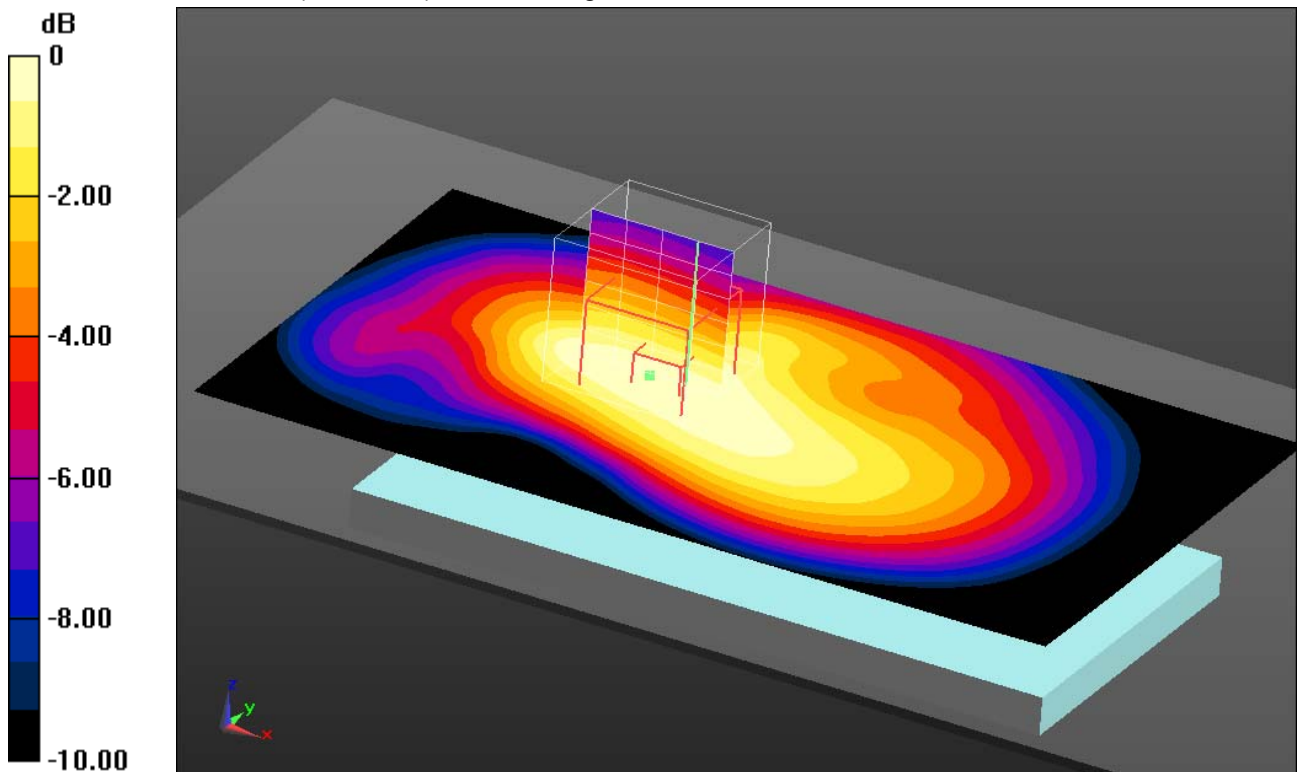
**UMTS FDD V - hotspot - MSL835/Rear Low 10mm/Zoom Scan (5x5x7)/Cube****0:** Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 16.628 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.297 W/kg

**SAR(1 g) = 0.242 W/kg; SAR(10 g) = 0.182 W/kg**

Maximum value of SAR (measured) = 0.255 W/kg



0 dB = 0.255 W/kg = -5.93 dBW/kg

**Additional information:**

position or distance of DUT to SAM: 10mm

ambient temperature: 23.0°C; liquid temperature: 22.4°C

Date/Time: 10.06.2014 17:18:09

**FCC-body****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, UMTS FDD (0); Communication System Band: UMTS FDD V; Frequency: 826.4 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated):  $f = 826.4$  MHz;  $\sigma = 1.008$  S/m;  $\epsilon_r = 54.076$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.64, 5.64, 5.64); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**UMTS FDD V - body worn - MSL835/Rear Low 15mm/Area Scan (71x121x1):**Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.227 W/kg

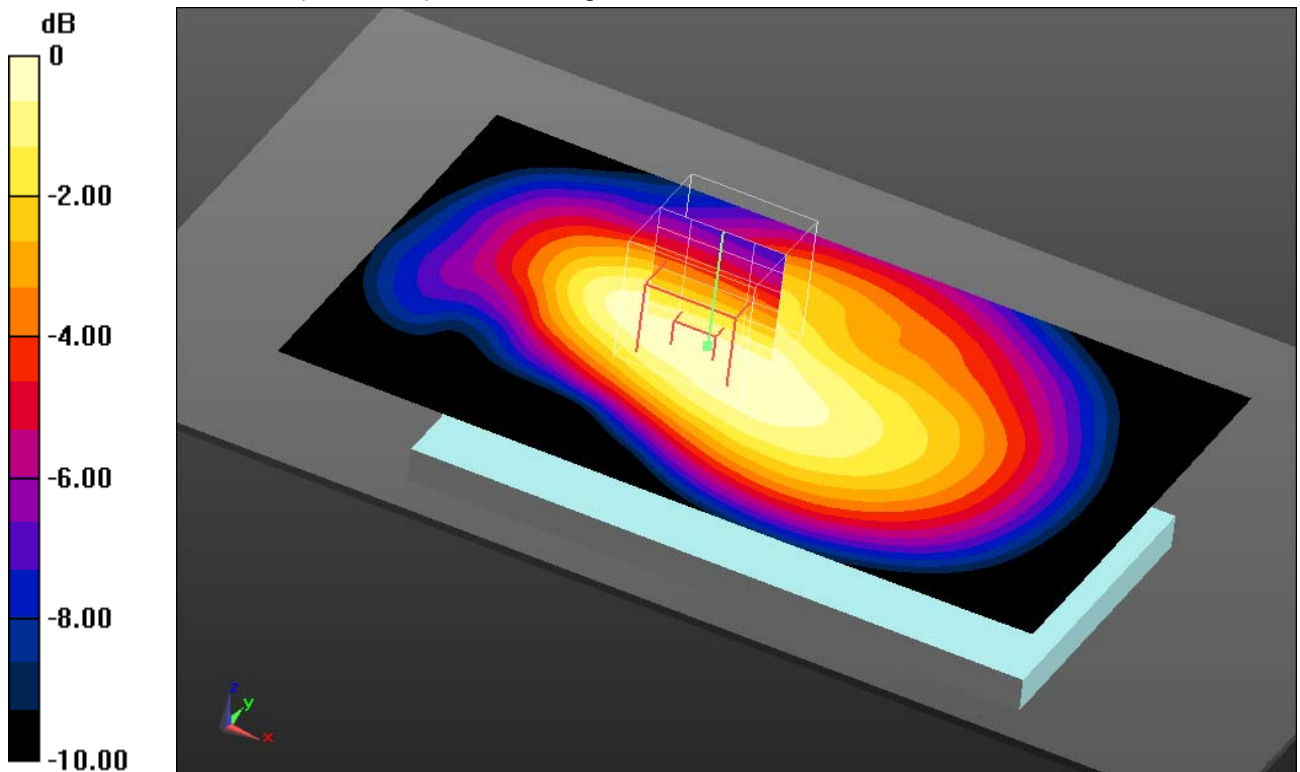
**UMTS FDD V - body worn - MSL835/Rear Low 15mm/Zoom Scan (5x5x7)/Cube 0:**Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 15.564 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.257 W/kg

**SAR(1 g) = 0.213 W/kg; SAR(10 g) = 0.159 W/kg**

Maximum value of SAR (measured) = 0.225 W/kg



0 dB = 0.225 W/kg = -6.48 dBW/kg

**Additional information:**

position or distance of DUT to SAM: 15mm

ambient temperature: 23.0°C; liquid temperature: 22.4°C

## Annex B.6: LTE FDD 2

Date/Time: 11.06.2014 19:11:59

### IEEE1528-head

**DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, LTE FDD (0); Communication System Band: LTE 2 (1900MHz); Frequency: 1880 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.373 \text{ S/m}$ ;  $\epsilon_r = 39.932$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.75, 4.75, 4.75); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: SAM front; Type: QD000P40CC; Serial: TP-1042
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**LTE FDD 2 - Left-Hand-Side HSL1900/Touch Position - 20MHz BW - 1RB - 0RB offset -Low/Area Scan (91x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$   
Maximum value of SAR (interpolated) =  $0.411 \text{ W/kg}$

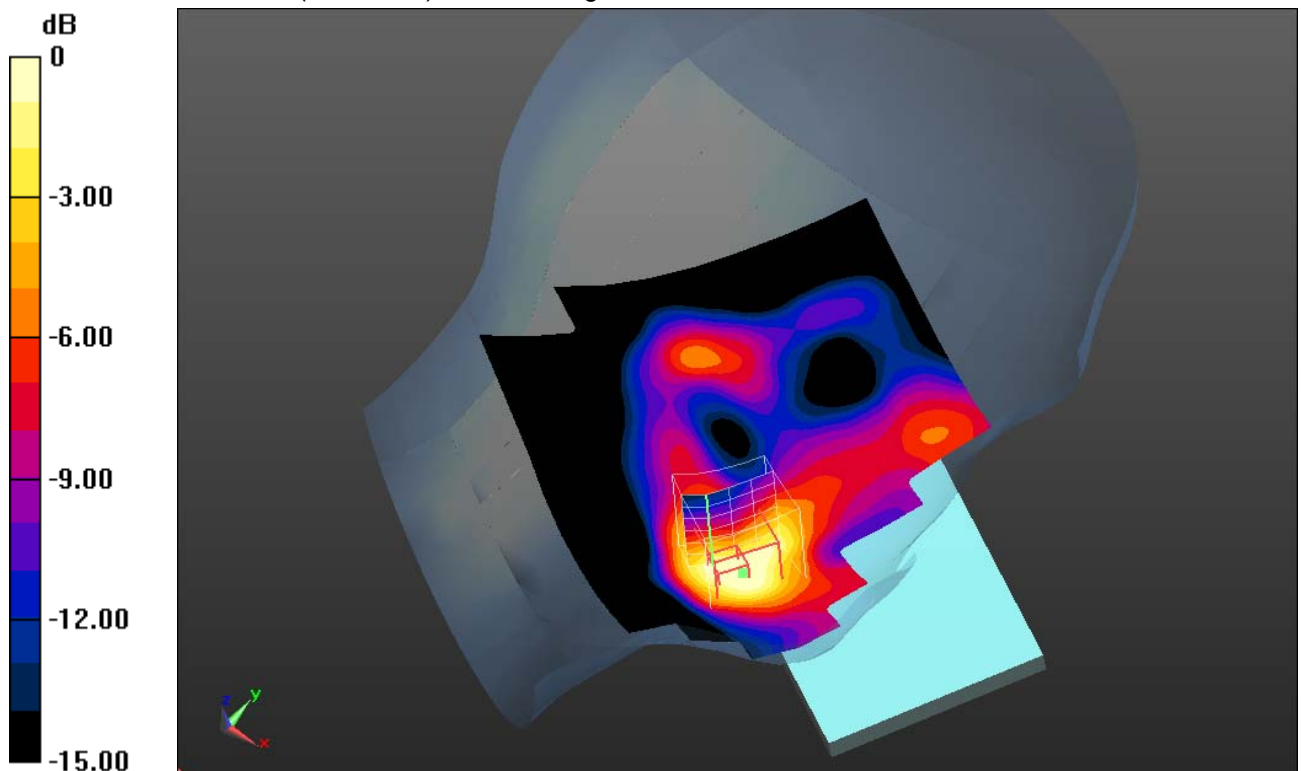
**LTE FDD 2 - Left-Hand-Side HSL1900/Touch Position - 20MHz BW - 1RB - 0RB offset -Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $15.915 \text{ V/m}$ ; Power Drift =  $0.05 \text{ dB}$

Peak SAR (extrapolated) =  $0.671 \text{ W/kg}$

**SAR(1 g) =  $0.367 \text{ W/kg}$ ; SAR(10 g) =  $0.200 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.390 \text{ W/kg}$



0 dB =  $0.390 \text{ W/kg}$  =  $-4.09 \text{ dBW/kg}$

#### Additional information:

ambient temperature:  $23.6^\circ\text{C}$ ; liquid temperature:  $22.5^\circ\text{C}$

Date/Time: 11.06.2014 17:37:15

## FCC-body

**DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, LTE FDD (0); Communication System Band: LTE 2 (1900MHz); Frequency: 1860 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 1860$  MHz;  $\sigma = 1.476$  S/m;  $\epsilon_r = 52.597$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.21, 4.21, 4.21); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**LTE FDD 2 - hotspot - MSL1900/Rear - Low - 10mm - 20MHz BW - 1RB - 0RB offset/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.322 W/kg

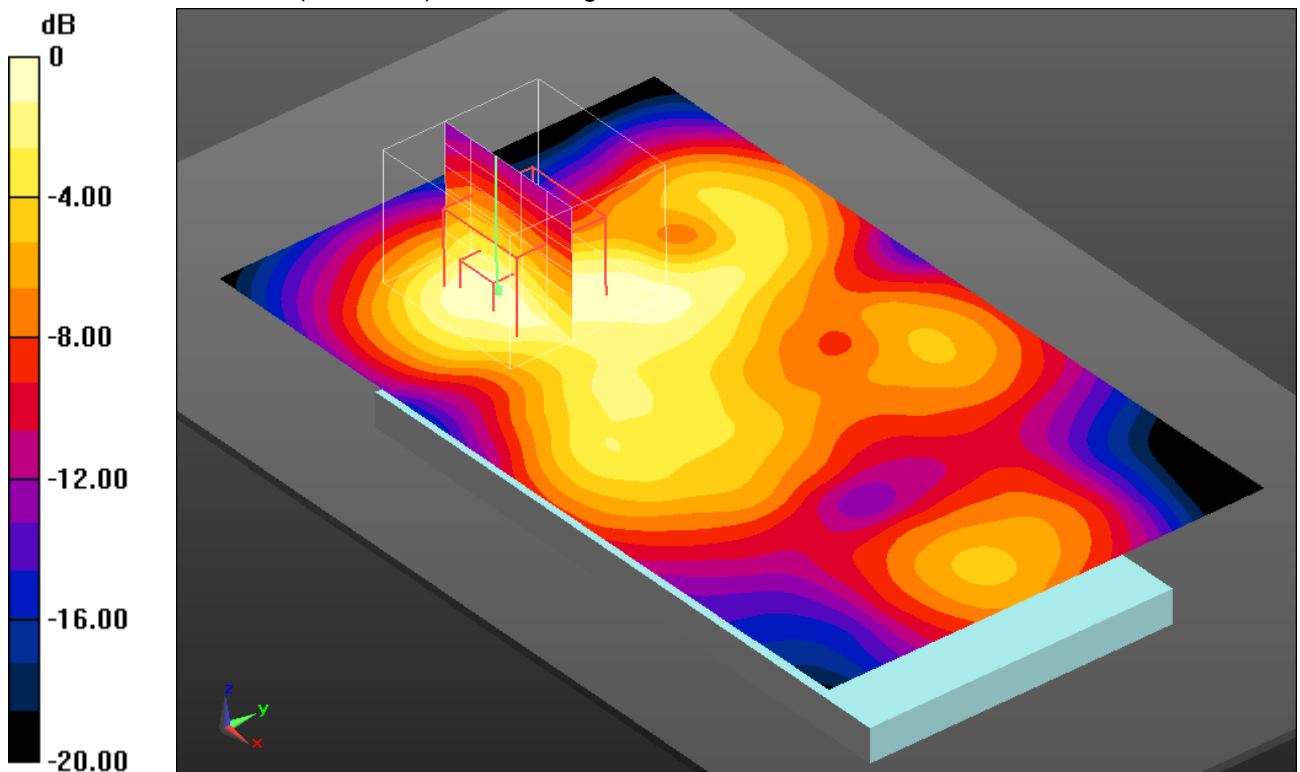
**LTE FDD 2 - hotspot - MSL1900/Rear - Low - 10mm - 20MHz BW - 1RB - 0RB offset/Zoom Scan (6x6x7)/Cube 0:** Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 14.080 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.411 W/kg

**SAR(1 g) = 0.266 W/kg; SAR(10 g) = 0.161 W/kg**

Maximum value of SAR (measured) = 0.296 W/kg



0 dB = 0.296 W/kg = -5.29 dBW/kg

### Additional information:

position or distance of DUT to SAM: 10mm

ambient temperature: 23.4°C; liquid temperature: 22.3°C

Date/Time: 11.06.2014 16:56:44

**FCC-body****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, LTE FDD (0); Communication System Band: LTE 2 (1900MHz); Frequency: 1880 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.499 \text{ S/m}$ ;  $\epsilon_r = 52.759$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.21, 4.21, 4.21); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**LTE FDD 2 - body worn - MSL1900/Front - Middle - 15mm - 20MHz BW - 1RB - 0RB offset/Area Scan (71x121x1):**Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$ 

Maximum value of SAR (interpolated) = 0.193 W/kg

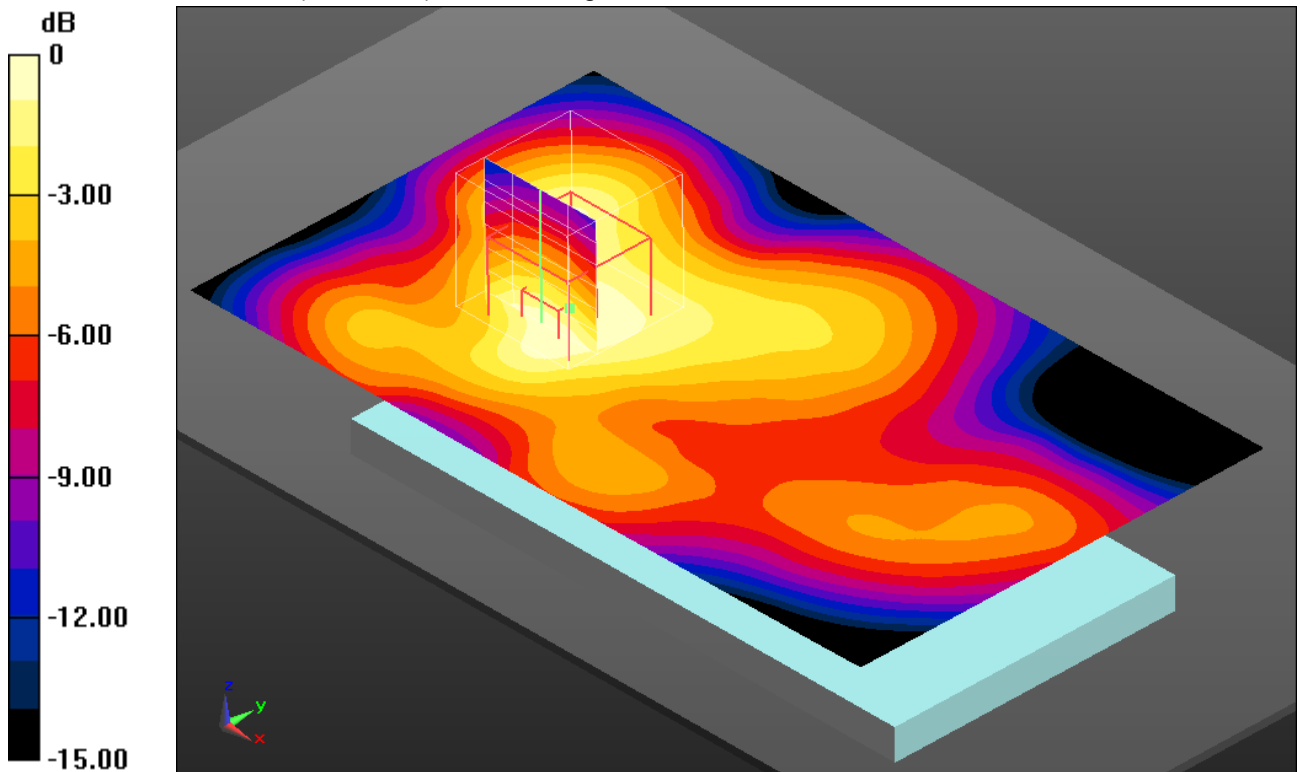
**LTE FDD 2 - body worn - MSL1900/Front - Middle - 15mm - 20MHz BW - 1RB - 0RB offset/Zoom Scan (5x5x7)/Cube 0:**Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$ 

Reference Value = 12.205 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.265 W/kg

**SAR(1 g) = 0.185 W/kg; SAR(10 g) = 0.122 W/kg**

Maximum value of SAR (measured) = 0.195 W/kg



0 dB = 0.195 W/kg = -7.10 dBW/kg

**Additional information:**

position or distance of DUT to SAM: 15mm

ambient temperature: 23.4°C; liquid temperature: 22.3°C

## Annex B.7: LTE FDD 4

Date/Time: 11.06.2014 23:13:26

### IEEE1528-head

**DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, LTE FDD (0); Communication System Band: LTE 4 (1700MHz); Frequency: 1720 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 1720$  MHz;  $\sigma = 1.321$  S/m;  $\epsilon_r = 40.542$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.93, 4.93, 4.93); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: SAM front; Type: QD000P40CC; Serial: TP-1042
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**LTE FDD 4 - Left-Hand-Side HSL1750/Touch Position - 20MHz BW - 1RB - 0RB offset -Low/Area Scan (91x121x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm  
Maximum value of SAR (interpolated) = 0.591 W/kg

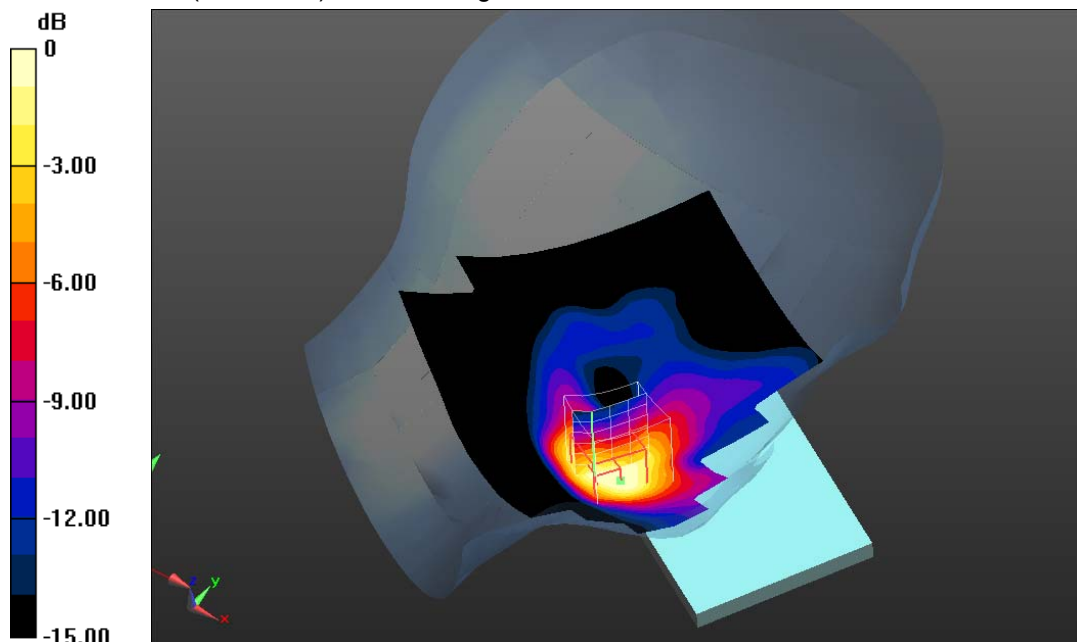
**LTE FDD 4 - Left-Hand-Side HSL1750/Touch Position - 20MHz BW - 1RB - 0RB offset -Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 19.872 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.985 W/kg

**SAR(1 g) = 0.524 W/kg; SAR(10 g) = 0.274 W/kg**

Maximum value of SAR (measured) = 0.579 W/kg



0 dB = 0.579 W/kg = -2.37 dBW/kg

#### Additional information:

ambient temperature: 23.3°C; liquid temperature: 22.5°C

Date/Time: 11.06.2014 23:33:44

**FCC-body****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, LTE FDD (0); Communication System Band: LTE 4 (1700MHz); Frequency: 1720 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 1720$  MHz;  $\sigma = 1.481$  S/m;  $\epsilon_r = 52.339$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.41, 4.41, 4.41); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**LTE FDD 4 - hotspot - MSL1750/Left Edge - Low - 10mm - 20MHz BW - 1RB - 0RB offset/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.261 W/kg

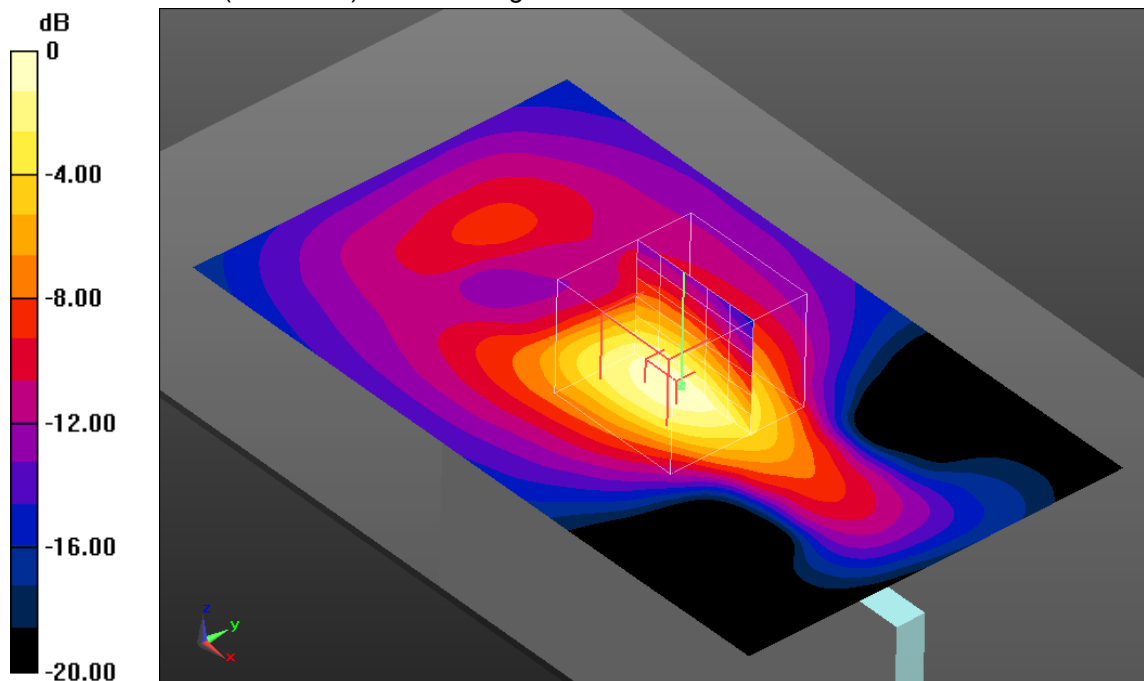
**LTE FDD 4 - hotspot - MSL1750/Left Edge - Low - 10mm - 20MHz BW - 1RB - 0RB offset/Zoom Scan (6x6x7)/Cube 0:** Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 12.650 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.385 W/kg

**SAR(1 g) = 0.243 W/kg; SAR(10 g) = 0.136 W/kg**

Maximum value of SAR (measured) = 0.277 W/kg



0 dB = 0.277 W/kg = -5.58 dBW/kg

**Additional information:**

position or distance of DUT to SAM: 10mm

ambient temperature: 23.7°C; liquid temperature: 22.4°C

Date/Time: 11.06.2014 23:54:02

## FCC-body

**DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, LTE FDD (0); Communication System Band: LTE 4 (1700MHz); Frequency: 1732.5 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated):  $f = 1732.5$  MHz;  $\sigma = 1.495$  S/m;  $\epsilon_r = 52.429$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.41, 4.41, 4.41); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**LTE FDD 4 - body worn - MSL1750/Rear - Middle - 15mm - 20MHz BW - 1RB - 99RB offset/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.199 W/kg

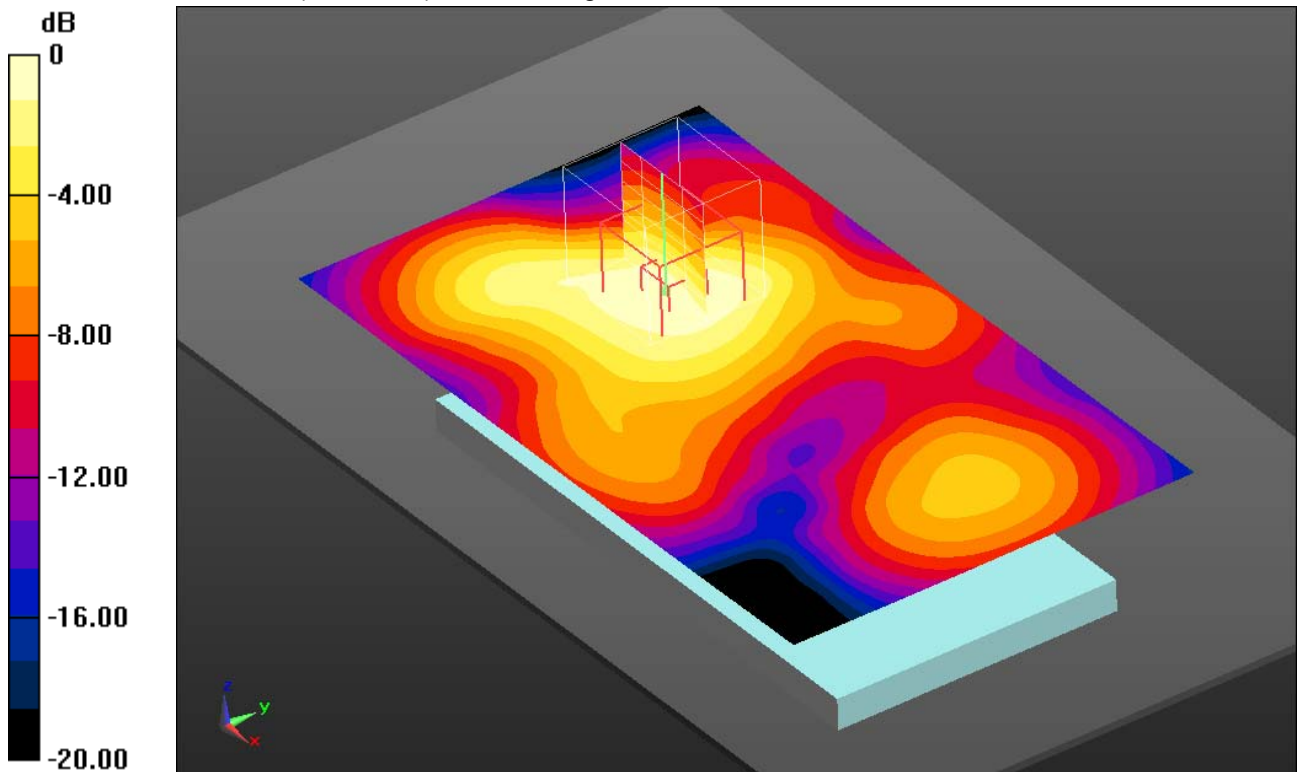
**LTE FDD 4 - body worn - MSL1750/Rear - Middle - 15mm - 20MHz BW - 1RB - 99RB offset/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 12.077 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 0.235 W/kg

**SAR(1 g) = 0.179 W/kg; SAR(10 g) = 0.118 W/kg**

Maximum value of SAR (measured) = 0.193 W/kg



0 dB = 0.193 W/kg = -7.14 dBW/kg

### Additional information:

position or distance of DUT to SAM: 15mm

ambient temperature: 23.7°C; liquid temperature: 22.4°C

## Annex B.8: LTE FDD 5

Date/Time: 6/13/2014 8:29:54 AM

### IEEE1528-head

**DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, LTE FDD (0); Communication System Band: LTE 5 (850MHz); Frequency: 844 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 844$  MHz;  $\sigma = 0.946$  S/m;  $\epsilon_r = 41.715$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ES3DV3 - SN3326; ConvF(6.25, 6.25, 6.25); Calibrated: 9/2/2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.0, 32.0$
- Electronics: DAE4 Sn1387; Calibrated: 8/28/2013
- Phantom: SAM front; Type: QD000P40CC; Serial: TP:1041
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

### LTE FDD 5 - Right-Hand-Side - HSL835/Touch Position - Middle - 10MHz

**BW - 1RB - 0RB offset/Area Scan (81x121x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.356 W/kg

### LTE FDD 5 - Right-Hand-Side - HSL835/Touch Position - Middle - 10MHz

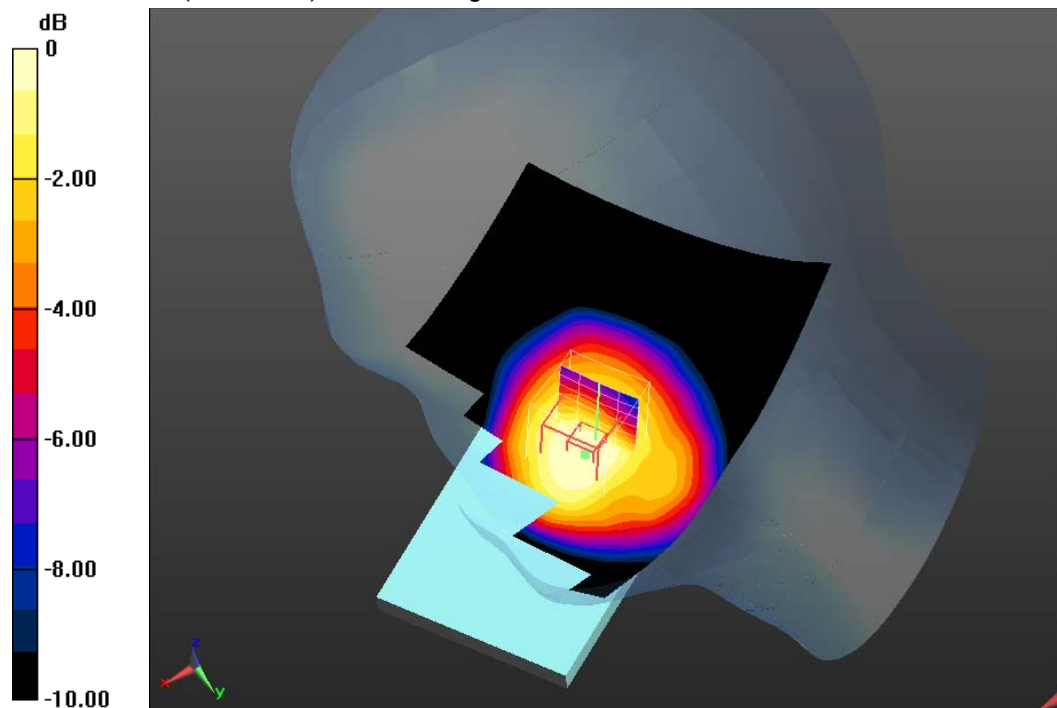
**BW - 1RB - 0RB offset/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 19.37 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.418 W/kg

**SAR(1 g) = 0.321 W/kg; SAR(10 g) = 0.236 W/kg**

Maximum value of SAR (measured) = 0.339 W/kg



0 dB = 0.339 W/kg = -4.70 dBW/kg

#### Additional information:

ambient temperature: 23.4°C; liquid temperature: 22.6°C

Date/Time: 11.06.2014 09:27:49

**FCC-body****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, LTE FDD (0); Communication System Band: LTE 5 (850MHz); Frequency: 844 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 844 \text{ MHz}$ ;  $\sigma = 1.022 \text{ S/m}$ ;  $\epsilon_r = 53.858$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.64, 5.64, 5.64); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**LTE FDD 5 - hotspot - MSL835/Rear High 10mm - 10MHz BW - 1RB - 0RB  
offset/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$ 

Maximum value of SAR (interpolated) = 0.232 W/kg

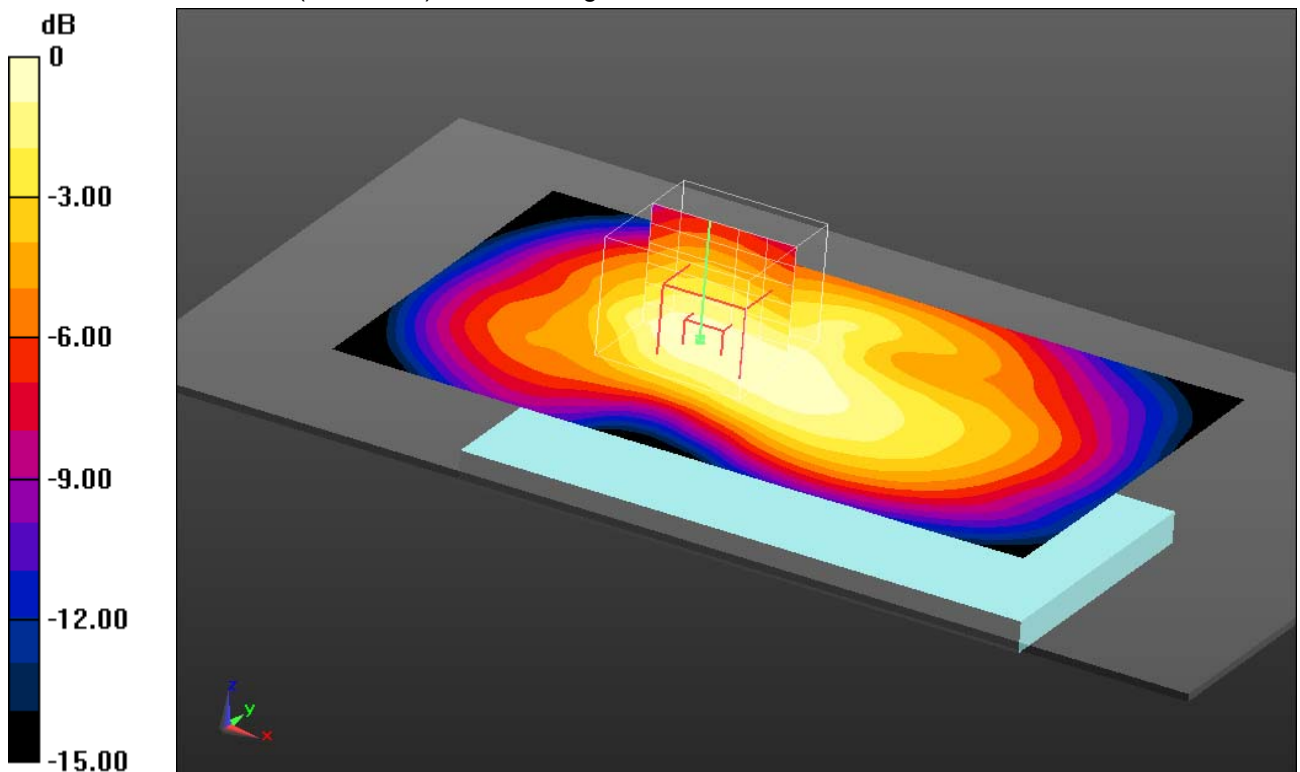
**LTE FDD 5 - hotspot - MSL835/Rear High 10mm - 10MHz BW - 1RB - 0RB  
offset/Zoom Scan (6x6x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$ 

Reference Value = 15.465 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.263 W/kg

**SAR(1 g) = 0.215 W/kg; SAR(10 g) = 0.160 W/kg**

Maximum value of SAR (measured) = 0.226 W/kg



0 dB = 0.226 W/kg = -6.46 dBW/kg

**Additional information:**

position or distance of DUT to SAM: 10mm

ambient temperature: 23.6°C; liquid temperature: 22.4°C

Date/Time: 11.06.2014 09:46:11

**FCC-body****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, LTE FDD (0); Communication System Band: LTE 5 (850MHz); Frequency: 844 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 844 \text{ MHz}$ ;  $\sigma = 1.022 \text{ S/m}$ ;  $\epsilon_r = 53.858$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.64, 5.64, 5.64); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**LTE FDD 5 - body worn - MSL835/Rear High 15mm - 10MHz BW - 1RB - 0RB  
offset/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$ 

Maximum value of SAR (interpolated) = 0.185 W/kg

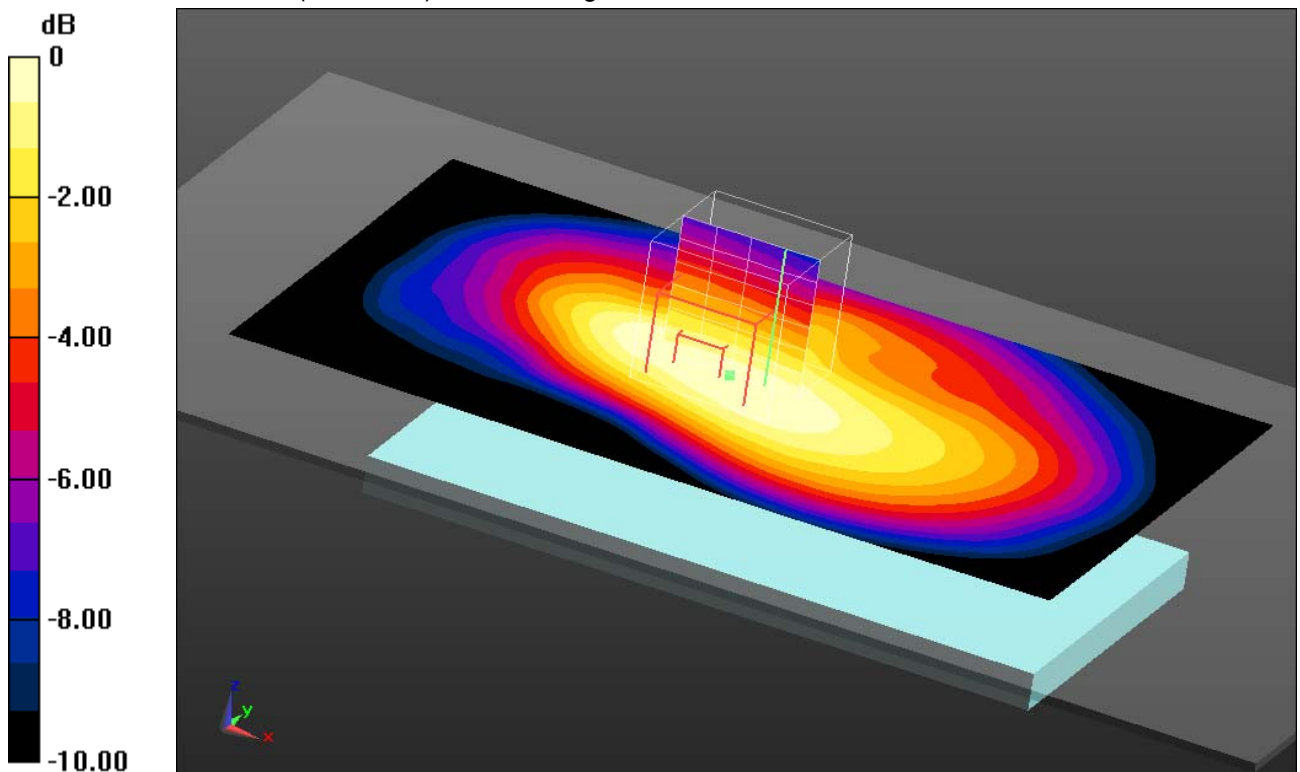
**LTE FDD 5 - body worn - MSL835/Rear High 15mm - 10MHz BW - 1RB - 0RB  
offset/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$ 

Reference Value = 13.813 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.212 W/kg

**SAR(1 g) = 0.173 W/kg; SAR(10 g) = 0.129 W/kg**

Maximum value of SAR (measured) = 0.182 W/kg



0 dB = 0.182 W/kg = -7.40 dBW/kg

**Additional information:**

position or distance of DUT to SAM: 15mm

ambient temperature: 23.6°C; liquid temperature: 22.4°C

## Annex B.9: LTE FDD 7

Date/Time: 12.06.2014 12:20:42

### IEEE1528-head

**DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, LTE FDD (0); Communication System Band: LTE 7 (2600MHz); Frequency: 2510 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 2510 \text{ MHz}$ ;  $\sigma = 1.876 \text{ S/m}$ ;  $\epsilon_r = 38.806$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.43, 7.43, 7.43); Calibrated: 02.08.2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE3 Sn413; Calibrated: 22.05.2014
- Phantom: SAM; Type: QD000P40C; Serial: TP1150
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

### Right-Hand-Side HSL2600/Touch Position - Low 1RB/Offset 99 QPSK BW 20MHz/Area Scan (111x171x1): Interpolated grid: $dx=1.000 \text{ mm}$ , $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) = 1.30 W/kg

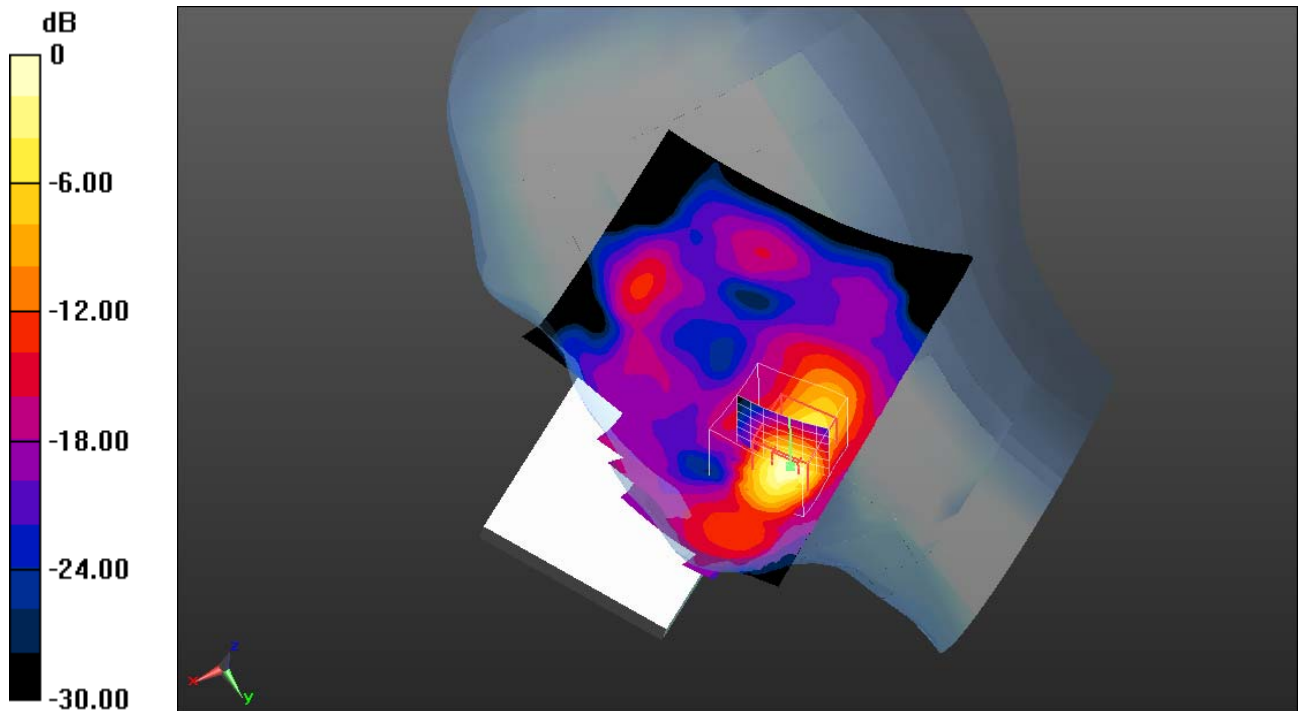
### Right-Hand-Side HSL2600/Touch Position - Low 1RB/Offset 99 QPSK BW 20MHz/Zoom Scan (8x8x7)/Cube 0: Measurement grid: $dx=5\text{mm}$ , $dy=5\text{mm}$ , $dz=5\text{mm}$

Reference Value = 27.109 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 2.34 W/kg

**SAR(1 g) = 0.854 W/kg; SAR(10 g) = 0.302 W/kg**

Maximum value of SAR (measured) = 1.34 W/kg



0 dB = 1.34 W/kg = 1.27 dBW/kg

#### Additional information:

ambient temperature: 22.9°C; liquid temperature: 22.1°C

Date/Time: 6/11/2014 8:14:06 AM

**FCC-body****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, LTE FDD (0); Communication System Band: LTE 7 (2600MHz); Frequency: 2510 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 2510$  MHz;  $\sigma = 2.085$  S/m;  $\epsilon_r = 50.436$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.27, 7.27, 7.27); Calibrated: 8/2/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1387; Calibrated: 8/28/2013
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

**LTE FDD 7 - hotspot - MSL2450-2600/Right edge Low 10mm - 20MHz BW - 1RB - 99RB offset/Area Scan (111x181x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm  
Maximum value of SAR (interpolated) = 0.487 W/kg

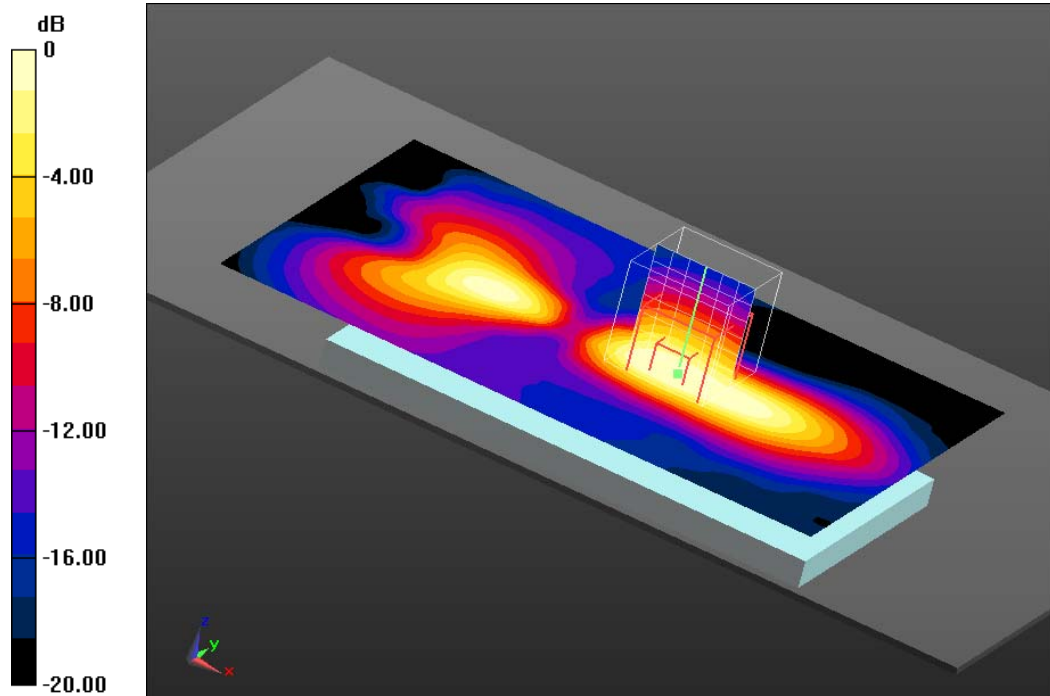
**LTE FDD 7 - hotspot - MSL2450-2600/Right edge Low 10mm - 20MHz BW - 1RB - 99RB offset/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 14.44 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.634 W/kg

**SAR(1 g) = 0.320 W/kg; SAR(10 g) = 0.150 W/kg**

Maximum value of SAR (measured) = 0.367 W/kg



0 dB = 0.367 W/kg = -4.35 dBW/kg

**Additional information:**

position or distance of DUT to SAM: 10mm

ambient temperature: 23.8°C; liquid temperature: 22.5°C

Date/Time: 6/11/2014 7:19:31 AM

## FCC-body

**DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, LTE FDD (0); Communication System Band: LTE 7 (2600MHz); Frequency: 2560 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 2560$  MHz;  $\sigma = 2.142$  S/m;  $\epsilon_r = 50.194$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: EX3DV4 - SN3944; ConvF(7.27, 7.27, 7.27); Calibrated: 8/2/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 1.0, 31.0$
- Electronics: DAE4 Sn1387; Calibrated: 8/28/2013
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

## LTE FDD 7 - body worn - MSL2450-2600/Rear High 15mm - 20MHz BW -

**1RB - 0RB offset/Area Scan (111x181x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 0.190 W/kg

## LTE FDD 7 - body worn - MSL2450-2600/Rear High 15mm - 20MHz BW -

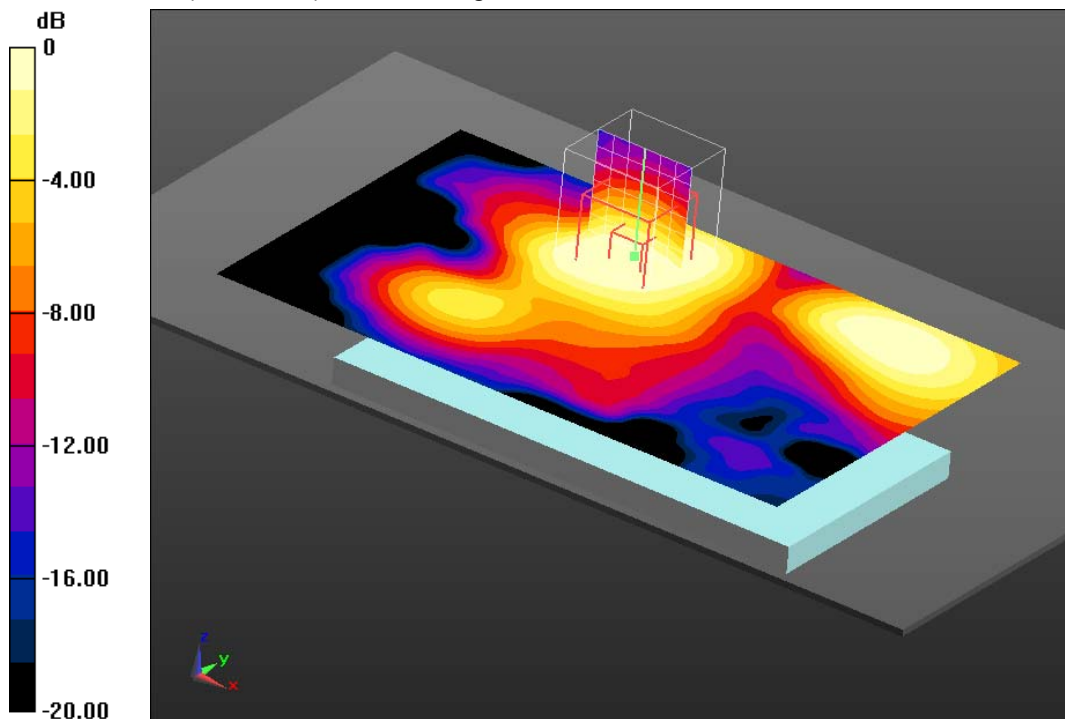
**1RB - 0RB offset/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 9.140 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.223 W/kg

**SAR(1 g) = 0.133 W/kg; SAR(10 g) = 0.077 W/kg**

Maximum value of SAR (measured) = 0.145 W/kg



0 dB = 0.145 W/kg = -8.39 dBW/kg

### Additional information:

position or distance of DUT to SAM: 15mm

ambient temperature: 23.8°C; liquid temperature: 22.5°C

## Annex B.10: LTE FDD 13

Date/Time: 12.06.2014 16:06:24

### IEEE1528-head

**DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, LTE FDD (0); Communication System Band: LTE 13 (700MHz); Frequency: 782 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 782 \text{ MHz}$ ;  $\sigma = 0.926 \text{ S/m}$ ;  $\epsilon_r = 41.096$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(6.15, 6.15, 6.15); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: SAM front; Type: QD000P40CC; Serial: TP-1042
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

### LTE FDD 13 - Right-Hand-Side - HSL750/Touch Position - Middle - 10MHz

**BW - 1RB - 0RB offset/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.366 \text{ W/kg}$

### LTE FDD 13 - Right-Hand-Side - HSL750/Touch Position - Middle - 10MHz

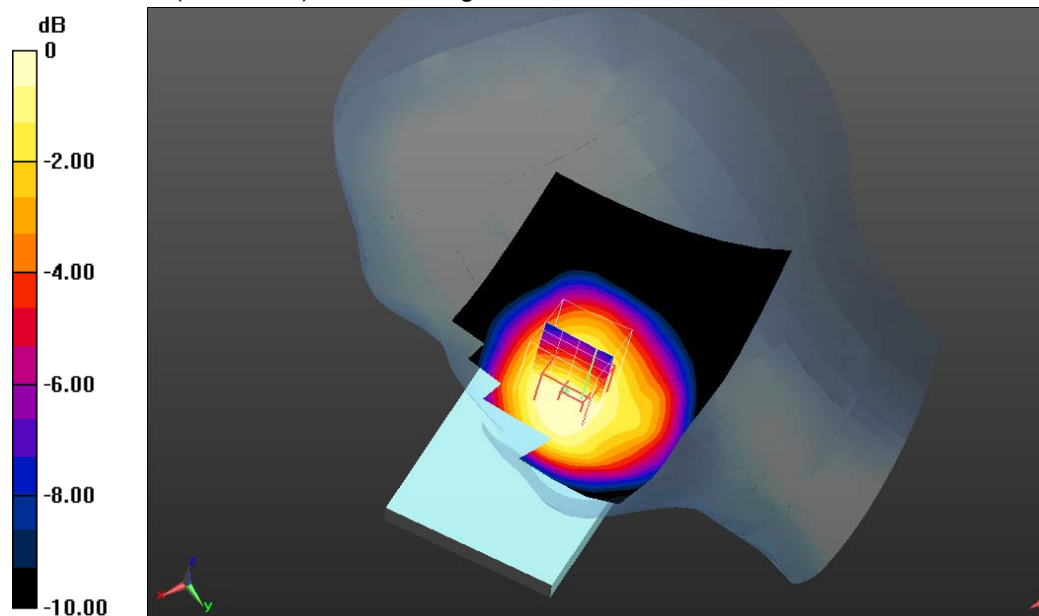
**BW - 1RB - 0RB offset/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $19.423 \text{ V/m}$ ; Power Drift =  $-0.10 \text{ dB}$

Peak SAR (extrapolated) =  $0.444 \text{ W/kg}$

**SAR(1 g) =  $0.320 \text{ W/kg}$ ; SAR(10 g) =  $0.234 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.340 \text{ W/kg}$



0 dB =  $0.340 \text{ W/kg}$  =  $-4.69 \text{ dBW/kg}$

#### Additional information:

ambient temperature:  $23.0^\circ\text{C}$ ; liquid temperature:  $22.1^\circ\text{C}$

Date/Time: 12.06.2014 17:32:31

**FCC-hotspot****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, LTE FDD (0); Communication System Band: LTE 13 (700MHz); Frequency: 782 MHz; Communication System PAR: 0 dB; PMF: 1

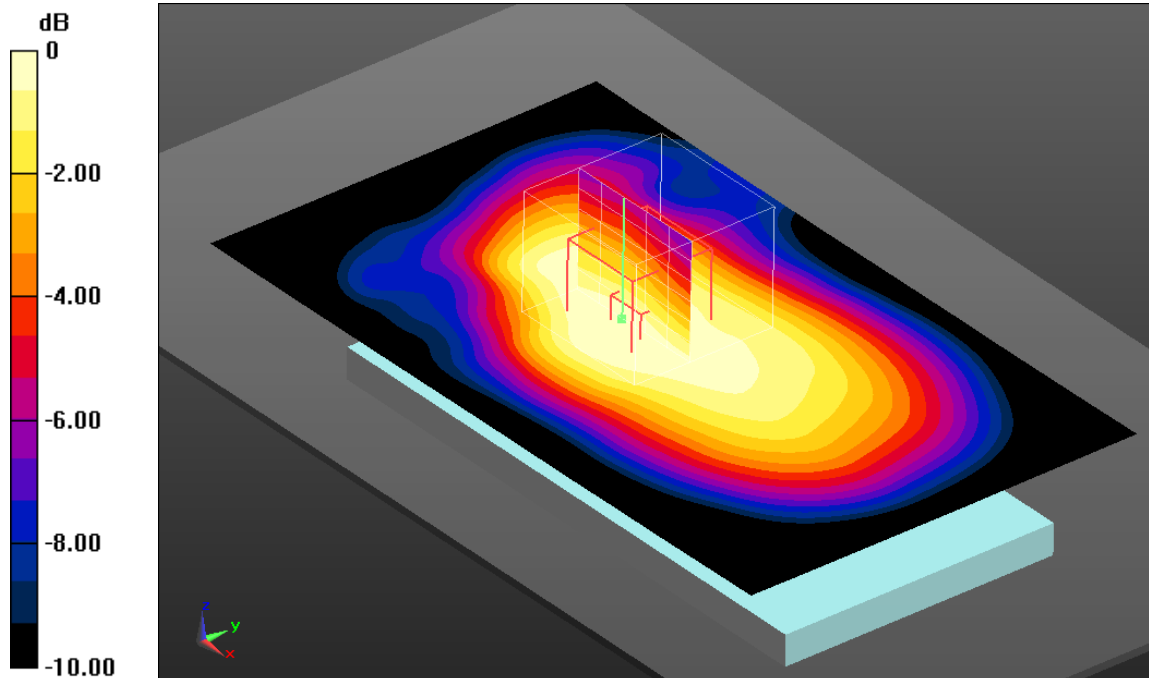
Medium parameters used:  $f = 782 \text{ MHz}$ ;  $\sigma = 0.997 \text{ S/m}$ ;  $\epsilon_r = 55.312$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.73, 5.73, 5.73); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**LTE FDD 13 - hotspot - MSL750/Front - Middle - 10mm - 10MHz BW - 1RB - 0RB offset/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$ Maximum value of SAR (interpolated) =  $0.328 \text{ W/kg}$ **LTE FDD 13 - hotspot - MSL750/Front - Middle - 10mm - 10MHz BW - 1RB - 0RB offset/Zoom Scan (6x6x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$ Reference Value =  $17.435 \text{ V/m}$ ; Power Drift =  $0.10 \text{ dB}$ Peak SAR (extrapolated) =  $0.371 \text{ W/kg}$ **SAR(1 g) =  $0.300 \text{ W/kg}$ ; SAR(10 g) =  $0.233 \text{ W/kg}$** Maximum value of SAR (measured) =  $0.312 \text{ W/kg}$ 0 dB =  $0.312 \text{ W/kg}$  =  $-5.06 \text{ dBW/kg}$ **Additional information:**

position or distance of DUT to SAM: 10mm

ambient temperature:  $22.9^\circ\text{C}$ ; liquid temperature:  $22.0^\circ\text{C}$

Date/Time: 12.06.2014 17:18:06

## FCC-body

**DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, LTE FDD (0); Communication System Band: LTE 13 (700MHz); Frequency: 784.5 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used (interpolated):  $f = 784.5$  MHz;  $\sigma = 1$  S/m;  $\epsilon_r = 55.301$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.73, 5.73, 5.73); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**LTE FDD 13 - body worn - MSL750/Front - High - 15mm - 5MHz BW - 1RB - 24RB offset/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.258 W/kg

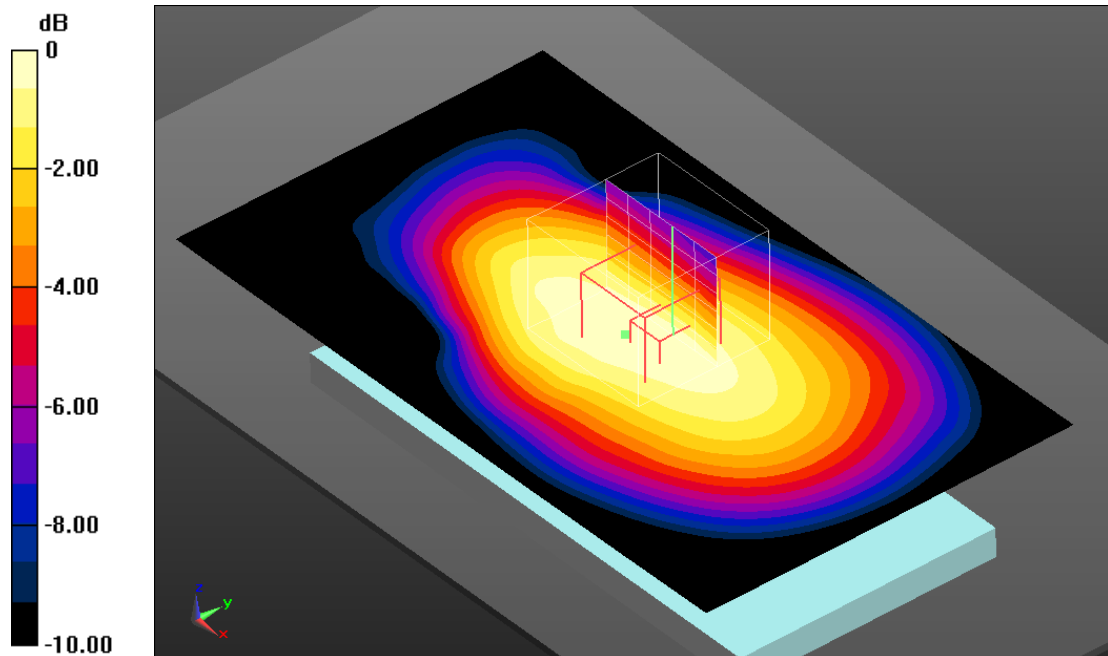
**LTE FDD 13 - body worn - MSL750/Front - High - 15mm - 5MHz BW - 1RB - 24RB offset/Zoom Scan (6x6x7)/Cube 0:** Measurement grid:  $dx=7.5$ mm,  $dy=7.5$ mm,  $dz=5$ mm

Reference Value = 16.591 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.318 W/kg

**SAR(1 g) = 0.252 W/kg; SAR(10 g) = 0.188 W/kg**

Maximum value of SAR (measured) = 0.264 W/kg



0 dB = 0.264 W/kg = -5.78 dBW/kg

### Additional information:

position or distance of DUT to SAM: 15mm

ambient temperature: 22.9°C; liquid temperature: 22.0°C

## Annex B.11: LTE FDD 17

Date/Time: 12.06.2014 16:21:43

### IEEE1528-head

**DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, LTE FDD (0); Communication System Band: LTE 17 (700MHz); Frequency: 709 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 709 \text{ MHz}$ ;  $\sigma = 0.856 \text{ S/m}$ ;  $\epsilon_r = 42.192$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(6.15, 6.15, 6.15); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: SAM front; Type: QD000P40CC; Serial: TP-1042
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**LTE FDD 17 - Right-Hand-Side - HSL750/Touch Position - Low - 10MHz BW - 1RB - 25RB offset/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$   
Maximum value of SAR (interpolated) =  $0.0794 \text{ W/kg}$

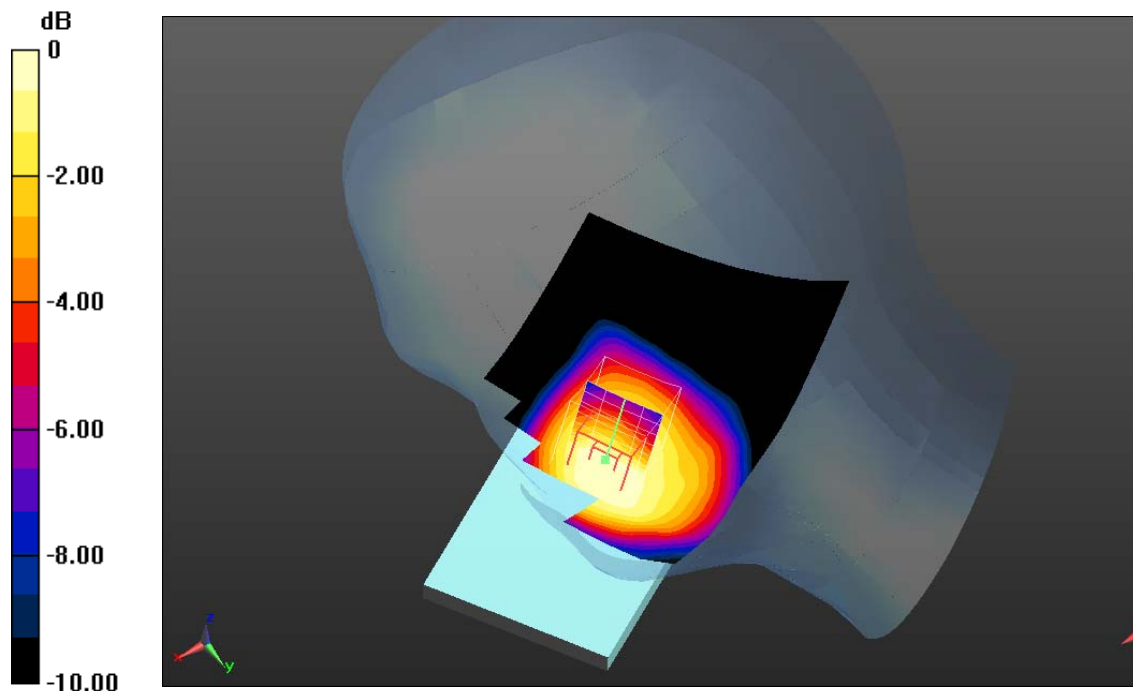
**LTE FDD 17 - Right-Hand-Side - HSL750/Touch Position - Low - 10MHz BW - 1RB - 25RB offset/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $9.812 \text{ V/m}$ ; Power Drift =  $-0.05 \text{ dB}$

Peak SAR (extrapolated) =  $0.101 \text{ W/kg}$

**SAR(1 g) =  $0.074 \text{ W/kg}$ ; SAR(10 g) =  $0.056 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.0780 \text{ W/kg}$



0 dB =  $0.0780 \text{ W/kg}$  =  $-11.08 \text{ dBW/kg}$

#### Additional information:

ambient temperature:  $23.0^\circ\text{C}$ ; liquid temperature:  $22.1^\circ\text{C}$

Date/Time: 12.06.2014 16:43:25

**FCC-hotspot****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, LTE FDD (0); Communication System Band: LTE 17 (700MHz); Frequency: 711 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 711 \text{ MHz}$ ;  $\sigma = 0.928 \text{ S/m}$ ;  $\epsilon_r = 56.148$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.73, 5.73, 5.73); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**LTE FDD 17 - hotspot - MSL750/Rear - High - 10mm - 10MHz BW - 1RB - 0RB offset/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$ 

Maximum value of SAR (interpolated) = 0.0776 W/kg

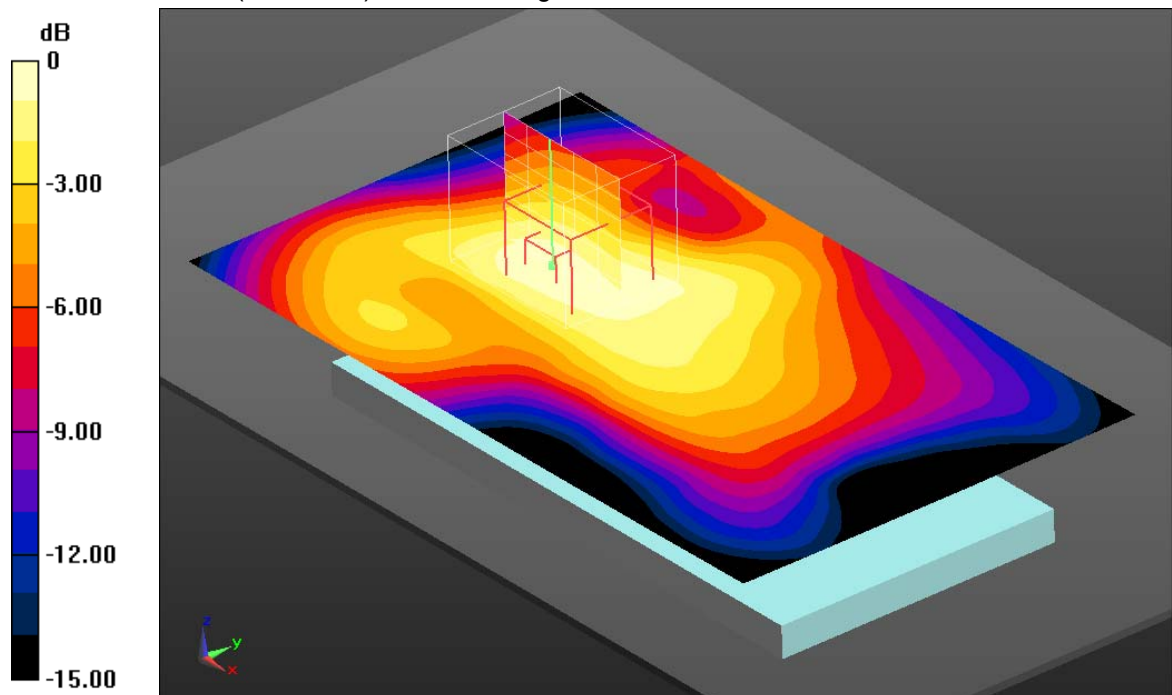
**LTE FDD 17 - hotspot - MSL750/Rear - High - 10mm - 10MHz BW - 1RB - 0RB offset/Zoom Scan (6x5x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$ 

Reference Value = 9.274 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.0890 W/kg

**SAR(1 g) = 0.073 W/kg; SAR(10 g) = 0.056 W/kg**

Maximum value of SAR (measured) = 0.0779 W/kg



0 dB = 0.0779 W/kg = -11.08 dBW/kg

**Additional information:**

position or distance of DUT to SAM: 10mm

ambient temperature: 22.9°C; liquid temperature: 22.0°C

Date/Time: 12.06.2014 17:02:55

## FCC-body

**DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HSZ**

Communication System: UID 0, LTE FDD (0); Communication System Band: LTE 17 (700MHz); Frequency: 709 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 709 \text{ MHz}$ ;  $\sigma = 0.926 \text{ S/m}$ ;  $\epsilon_r = 56.133$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.73, 5.73, 5.73); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**LTE FDD 17 - body worn - MSL750/Front - Low - 15mm - 10MHz BW - 1RB - 25RB offset/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.0632 \text{ W/kg}$

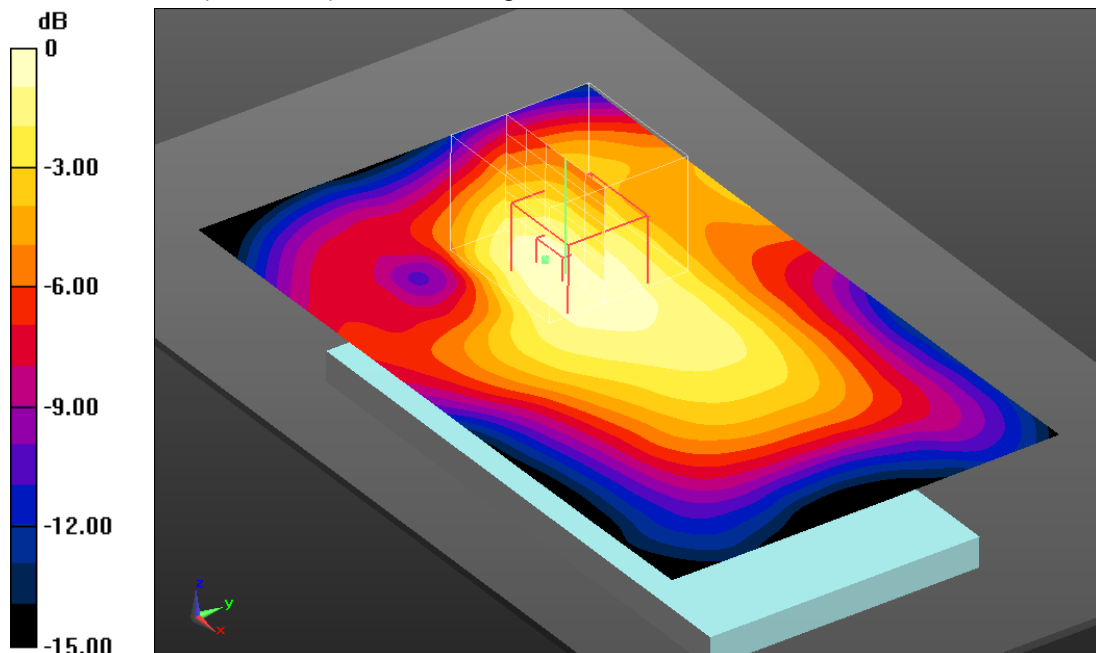
**LTE FDD 17 - body worn - MSL750/Front - Low - 15mm - 10MHz BW - 1RB - 25RB offset/Zoom Scan (6x6x7)/Cube 0:** Measurement grid:  $dx=7.5\text{mm}$ ,  $dy=7.5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $8.505 \text{ V/m}$ ; Power Drift =  $0.03 \text{ dB}$

Peak SAR (extrapolated) =  $0.0760 \text{ W/kg}$

**SAR(1 g) =  $0.062 \text{ W/kg}$ ; SAR(10 g) =  $0.048 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.0641 \text{ W/kg}$



0 dB =  $0.0641 \text{ W/kg}$  =  $-11.93 \text{ dBW/kg}$

### Additional information:

position or distance of DUT to SAM: 15mm

ambient temperature:  $22.9^\circ\text{C}$ ; liquid temperature:  $22.0^\circ\text{C}$

**Annex B.12: WLAN 2450MHz**

Date/Time: 13.06.2014 09:17:11

**IEEE1528-head**
**DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HRP**

Communication System: UID 0, WLAN 2450 (0); Communication System Band: 2.4 GHz; Frequency: 2437 MHz; Communication System PAR: 0 dB; PMF: 1

 Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.794$  S/m;  $\epsilon_r = 39.043$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ES3DV3 - SN3320; ConvF(4.4, 4.4, 4.4); Calibrated: 09.05.2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.0, 32.0$
- Electronics: DAE3 Sn413; Calibrated: 22.05.2014
- Phantom: SAM; Type: QD000P40C; Serial: TP1150
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**Left-Hand-Side HSL2450/Touch Position - Ch 6/Area Scan (111x171x1):**
Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 0.205 W/kg

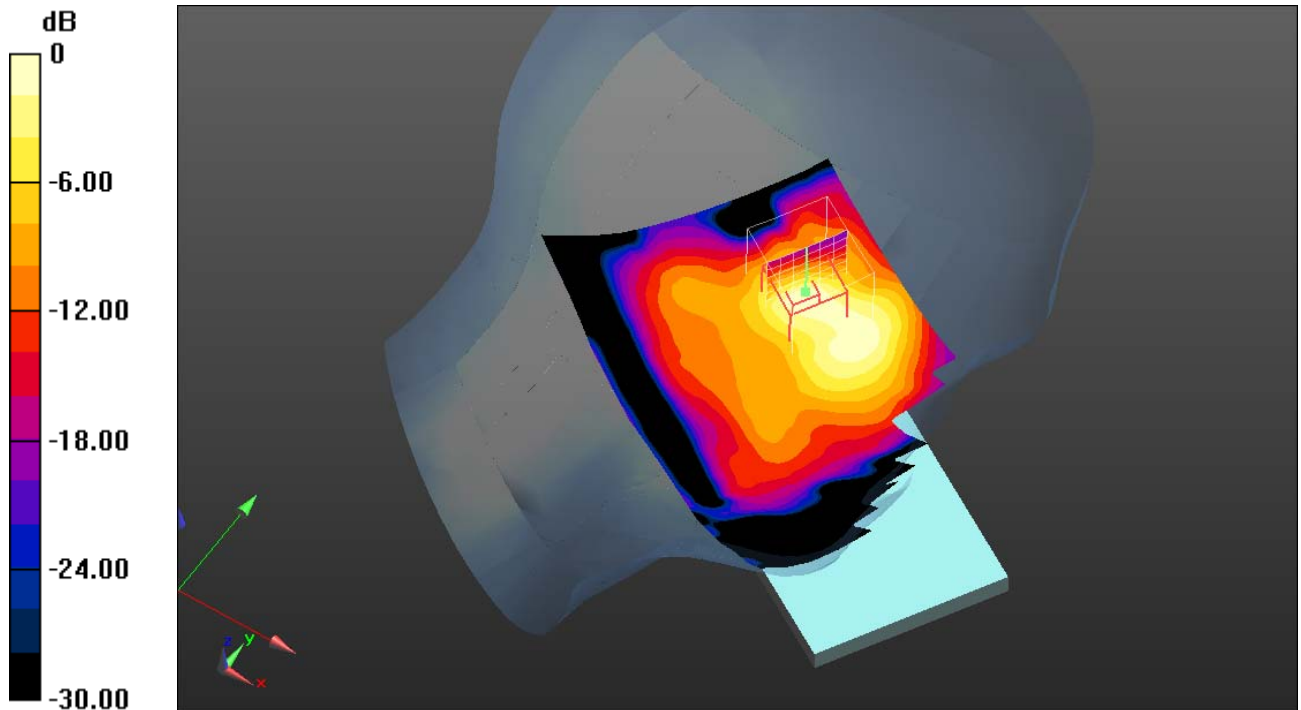
**Left-Hand-Side HSL2450/Touch Position - Ch 6/Zoom Scan (7x8x7)/Cube 0:**
Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 9.239 V/m; Power Drift = 0.24 dB

Peak SAR (extrapolated) = 0.355 W/kg

**SAR(1 g) = 0.170 W/kg; SAR(10 g) = 0.074 W/kg**

Maximum value of SAR (measured) = 0.197 W/kg



0 dB = 0.197 W/kg = -7.06 dBW/kg

**Additional information:**

ambient temperature: 23.3°C; liquid temperature: 22.3°C

Date/Time: 13.06.2014 12:10:52

**FCC-body****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HRP**

Communication System: UID 0, WLAN 2450 (0); Communication System Band: 2.4 GHz; Frequency: 2437 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 2$  S/m;  $\epsilon_r = 50.434$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(3.81, 3.81, 3.81); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**WLAN2450 - hotspot - MSL2450/Rear High 10mm/Area Scan (111x181x1):**Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 0.164 W/kg

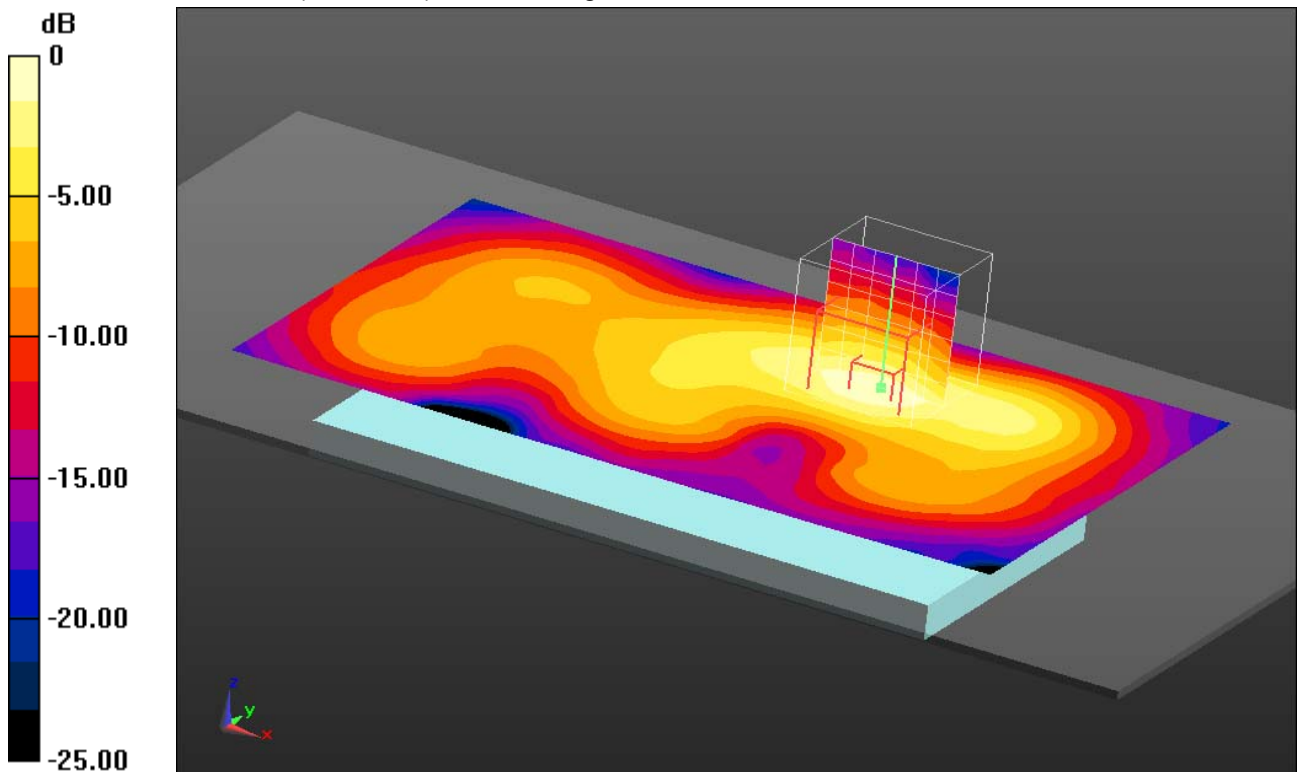
**WLAN2450 - hotspot - MSL2450/Rear High 10mm/Zoom Scan (7x7x7)/Cube****0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 9.047 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.357 W/kg

**SAR(1 g) = 0.159 W/kg; SAR(10 g) = 0.081 W/kg**

Maximum value of SAR (measured) = 0.172 W/kg



0 dB = 0.172 W/kg = -7.64 dBW/kg

**Additional information:**

position or distance of DUT to SAM: 10mm

ambient temperature: 23.4°C; liquid temperature: 22.4°C

Date/Time: 13.06.2014 11:37:45

**FCC-body****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HRP**

Communication System: UID 0, WLAN 2450 (0); Communication System Band: 2.4 GHz; Frequency: 2462 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 2462$  MHz;  $\sigma = 2.043$  S/m;  $\epsilon_r = 50.568$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(3.81, 3.81, 3.81); Calibrated: 22.08.2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.7, 32.7$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**WLAN2450 - body worn - MSL2450/Rear High 15mm/Area Scan****(111x181x1):** Interpolated grid:  $dx=1.000$  mm,  $dy=1.000$  mm

Maximum value of SAR (interpolated) = 0.0403 W/kg

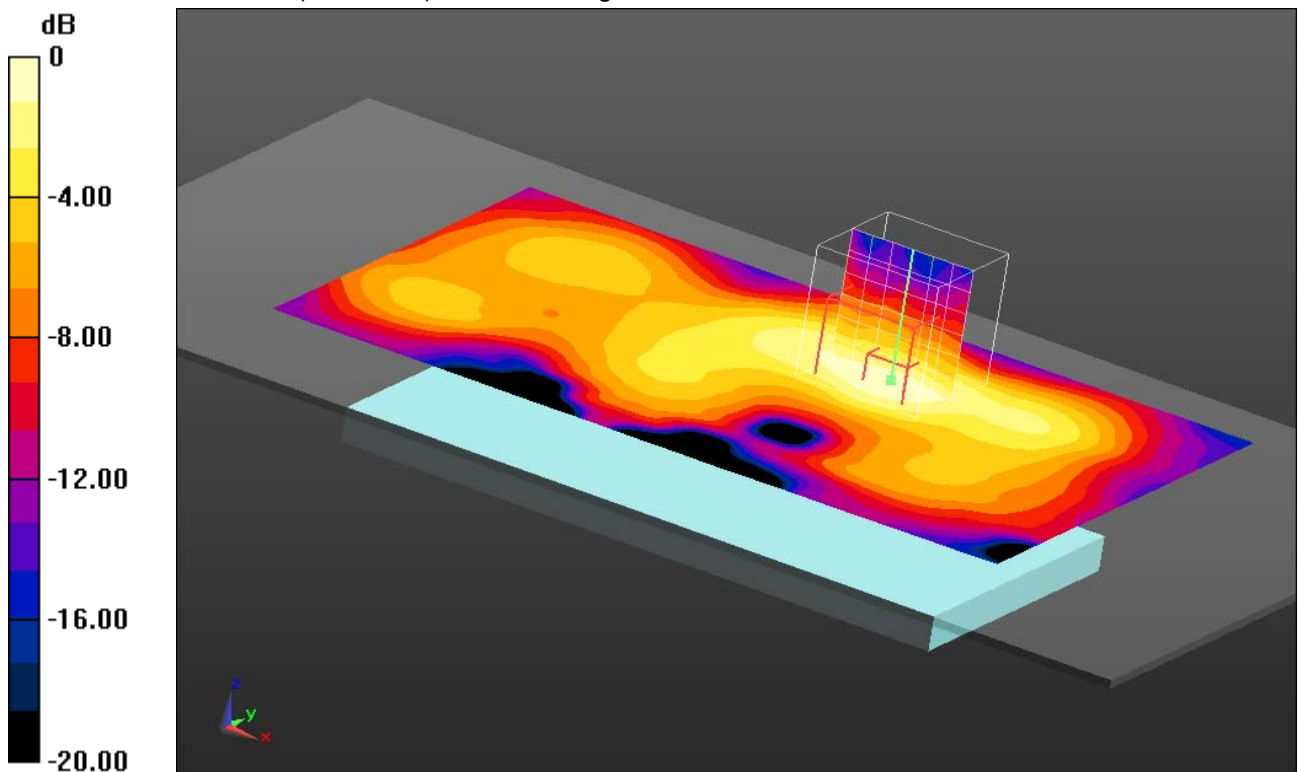
**WLAN2450 - body worn - MSL2450/Rear High 15mm/Zoom Scan****(7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 4.586 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.0840 W/kg

**SAR(1 g) = 0.039 W/kg; SAR(10 g) = 0.021 W/kg**

Maximum value of SAR (measured) = 0.0410 W/kg



0 dB = 0.0410 W/kg = -13.87 dBW/kg

**Additional information:**

position or distance of DUT to SAM: 15mm

ambient temperature: 23.4°C; liquid temperature: 22.4°C

**Annex B.13: WLAN 5GHz**

Date/Time: 13.06.2014 15:02:06

**IEEE1528-head WLAN 5GHz****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HRP**

Communication System: UID 0, WLAN 5GHz (0); Communication System Band: 5 GHz Band; Frequency: 5825 MHz; Communication System PAR: 0 dB; PMF: 1

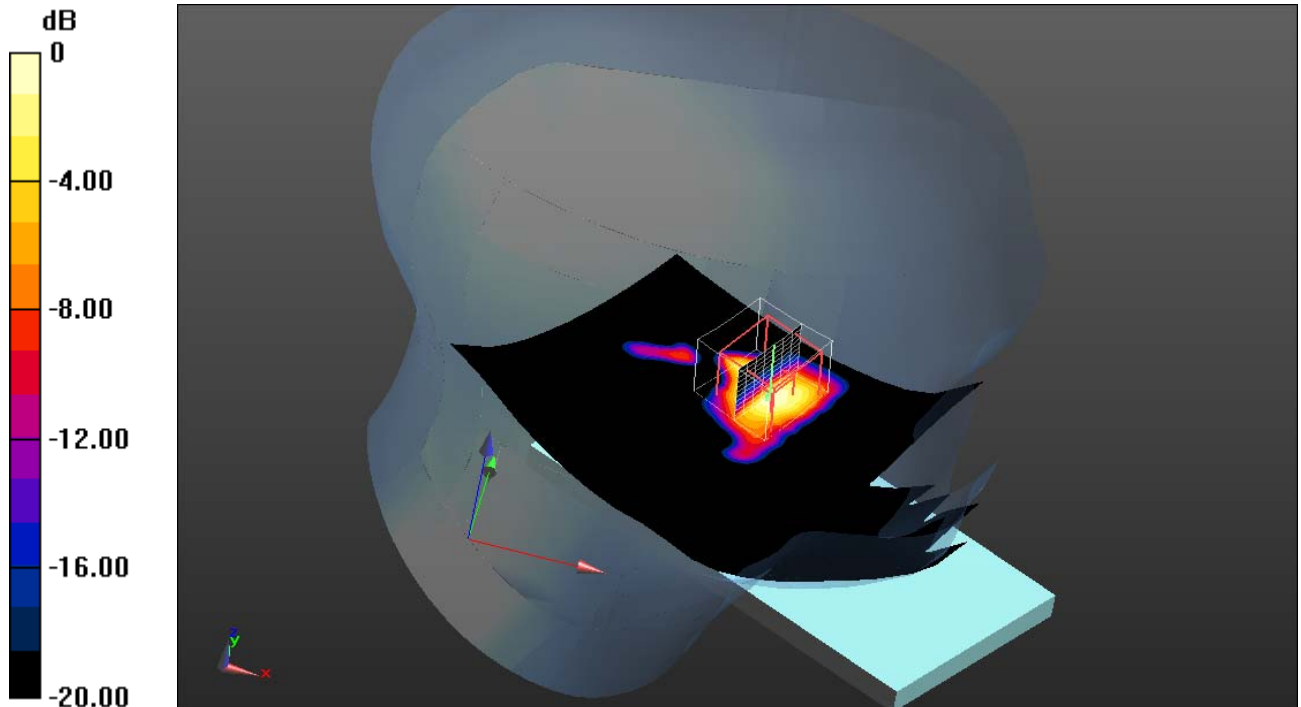
Medium parameters used:  $f = 5825 \text{ MHz}$ ;  $\sigma = 5.068 \text{ S/m}$ ;  $\epsilon_r = 35.444$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Left Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: EX3DV4 - SN3944; ConvF(4.75, 4.75, 4.75); Calibrated: 02.08.2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 23.0$
- Electronics: DAE3 Sn413; Calibrated: 22.05.2014
- Phantom: SAM; Type: QD000P40C; Serial: TP1150
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**Left-Hand-Side HSL5000/Touch Position - High/Area Scan (111x171x1):**Interpolated grid:  $dx=1.000 \text{ mm}$ ,  $dy=1.000 \text{ mm}$ Maximum value of SAR (interpolated) =  $0.518 \text{ W/kg}$ **Left-Hand-Side HSL5000/Touch Position - High/Zoom Scan (8x8x12)/Cube****0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$ Reference Value =  $8.990 \text{ V/m}$ ; Power Drift =  $0.05 \text{ dB}$ Peak SAR (extrapolated) =  $1.21 \text{ W/kg}$ **SAR(1 g) =  $0.246 \text{ W/kg}$ ; SAR(10 g) =  $0.071 \text{ W/kg}$** Maximum value of SAR (measured) =  $0.522 \text{ W/kg}$  $0 \text{ dB} = 0.522 \text{ W/kg} = -2.82 \text{ dBW/kg}$ **Additional information:**ambient temperature:  $22.2^\circ\text{C}$ ; liquid temperature:  $22.1^\circ\text{C}$

Date/Time: 13.06.2014 12:52:02

**FCC-body****DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HRP**

Communication System: UID 0, WLAN 5GHz (0); Communication System Band: 5 GHz Band; Frequency: 5300 MHz; Communication System PAR: 0 dB; PMF: 1

Medium parameters used:  $f = 5300 \text{ MHz}$ ;  $\sigma = 5.375 \text{ S/m}$ ;  $\epsilon_r = 48.046$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Phantom section: Center Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: EX3DV4 - SN3944; ConvF(4.3, 4.3, 4.3); Calibrated: 02.08.2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection),  $z = 1.0, 23.0$
- Electronics: DAE3 Sn477; Calibrated: 14.05.2014
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1154
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

**WLAN 5GHz - body worn - MSL5000 - 15mm/Rear Middle/Area Scan****(121x191x1):** Interpolated grid:  $dx=1.000 \text{ mm}$ ,  $dy=1.000 \text{ mm}$ 

Maximum value of SAR (interpolated) = 1.03 W/kg

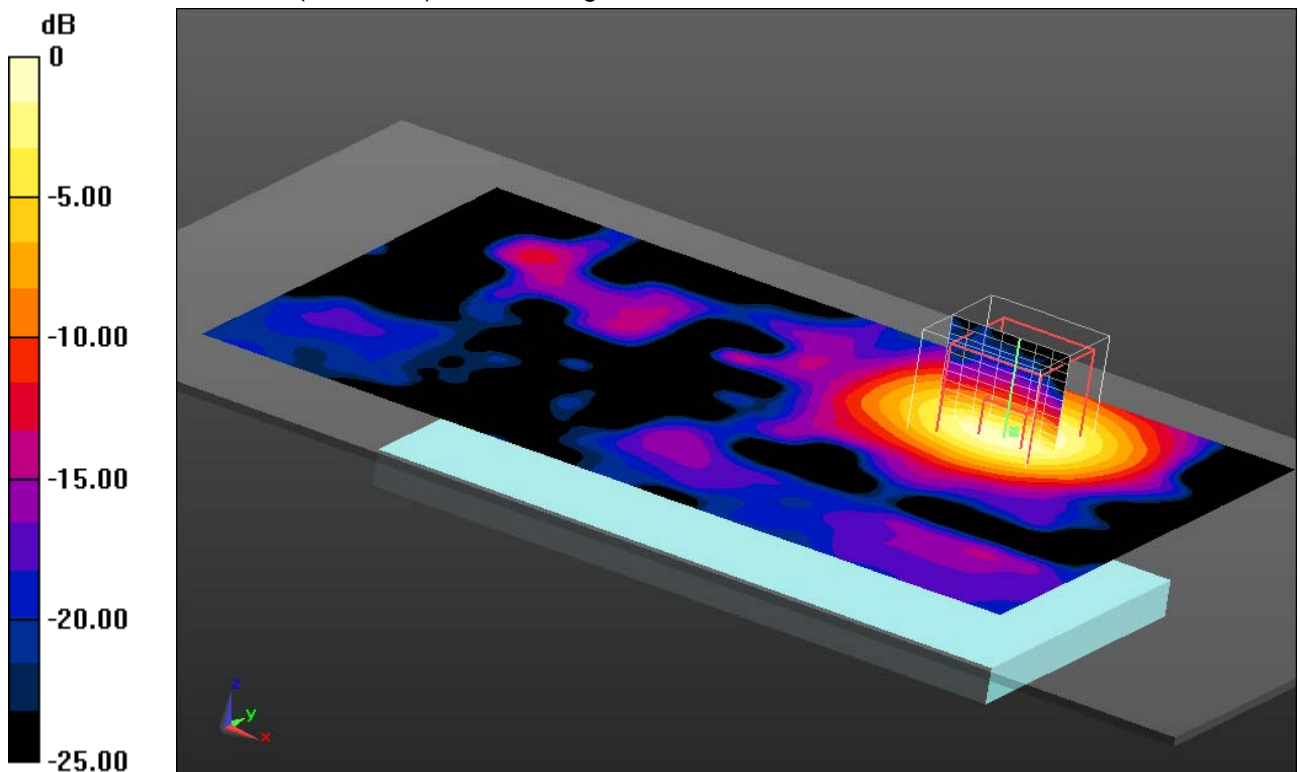
**WLAN 5GHz - body worn - MSL5000 - 15mm/Rear Middle/Zoom Scan****(8x8x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$ 

Reference Value = 14.639 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 1.78 W/kg

**SAR(1 g) = 0.541 W/kg; SAR(10 g) = 0.217 W/kg**

Maximum value of SAR (measured) = 0.954 W/kg



0 dB = 0.954 W/kg = -0.20 dBW/kg

**Additional information:**

position or distance of DUT to SAM: 15mm

ambient temperature: 23.7°C; liquid temperature: 22.4°C

## Annex B.14: Bluetooth 2.4GHz

Date/Time: 13.06.2014 10:28:42

### IEEE1528-head-BT

**DUT: Sony; Type: PM-0740-BV; Serial: CB5A1W1HRP**

Communication System: UID 0, Bluetooth (0); Communication System Band: BT; Frequency: 2441 MHz;  
Communication System PAR: 1.16 dB; PMF: 1.14288

Medium parameters used:  $f = 2441 \text{ MHz}$ ;  $\sigma = 1.798 \text{ S/m}$ ;  $\epsilon_r = 39.001$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Measurement Standard: DASY5

DASY5 Configuration:

- Probe: ES3DV3 - SN3320; ConvF(4.4, 4.4, 4.4); Calibrated: 09.05.2014;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection),  $z = 2.0, 32.0$
- Electronics: DAE3 Sn413; Calibrated: 22.05.2014
- Phantom: SAM; Type: QD000P40C; Serial: TP1150
- DASY52 52.8.7(1137); SEMCAD X 14.6.10(7164)

### Left-Hand-Side HSL2450 - BT/Touch Position - Ch 39 - BT/Area Scan

**(111x171x1):** Interpolated grid:  $dx=1.000 \text{ mm}$ ,  $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.0385 \text{ W/kg}$

### Left-Hand-Side HSL2450 - BT/Touch Position - Ch 39 - BT/Zoom Scan

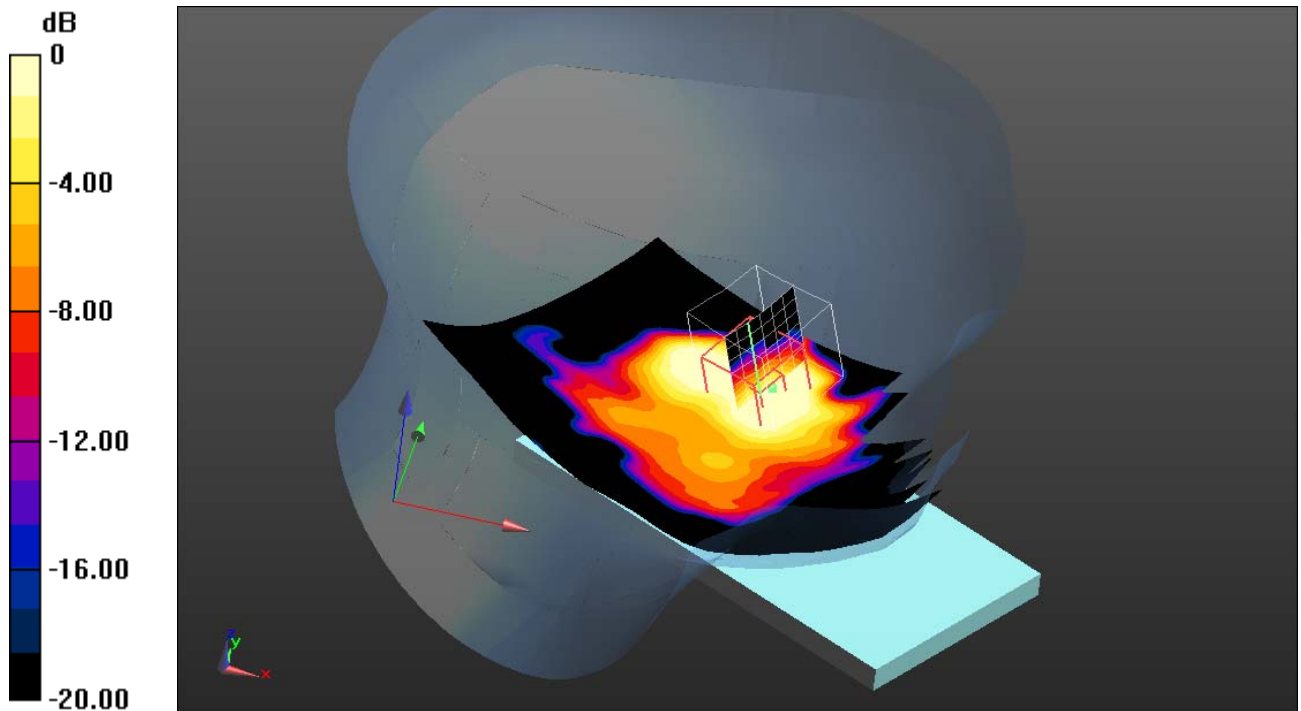
**(7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $2.934 \text{ V/m}$ ; Power Drift =  $0.06 \text{ dB}$

Peak SAR (extrapolated) =  $0.0380 \text{ W/kg}$

**SAR(1 g) =  $0.018 \text{ W/kg}$ ; SAR(10 g) =  $0.00734 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.0214 \text{ W/kg}$



0 dB =  $0.0214 \text{ W/kg}$  =  $-16.70 \text{ dBW/kg}$

#### Additional information:

ambient temperature:  $23.3^\circ\text{C}$ ; liquid temperature:  $22.3^\circ\text{C}$

## Annex B.15: Liquid depth

Photo 1: Liquid depth 750 MHz head simulating liquid

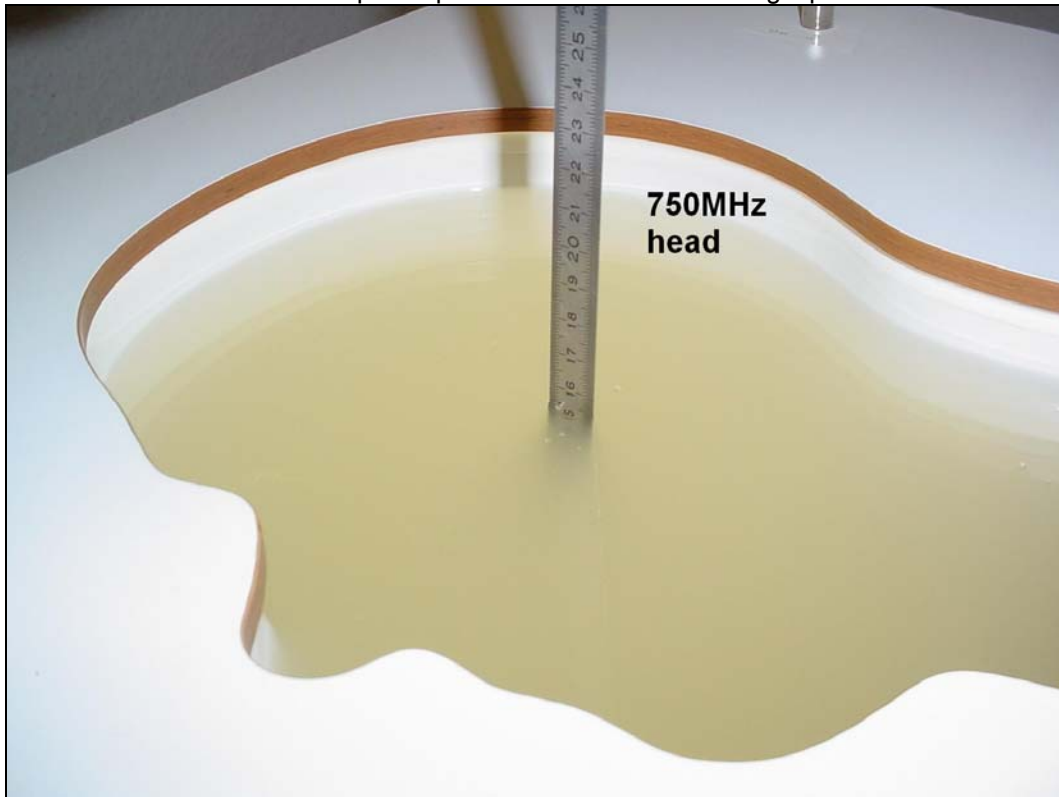


Photo 2: Liquid depth 750 MHz body simulating liquid



Photo 3: Liquid depth 850 MHz head simulating liquid

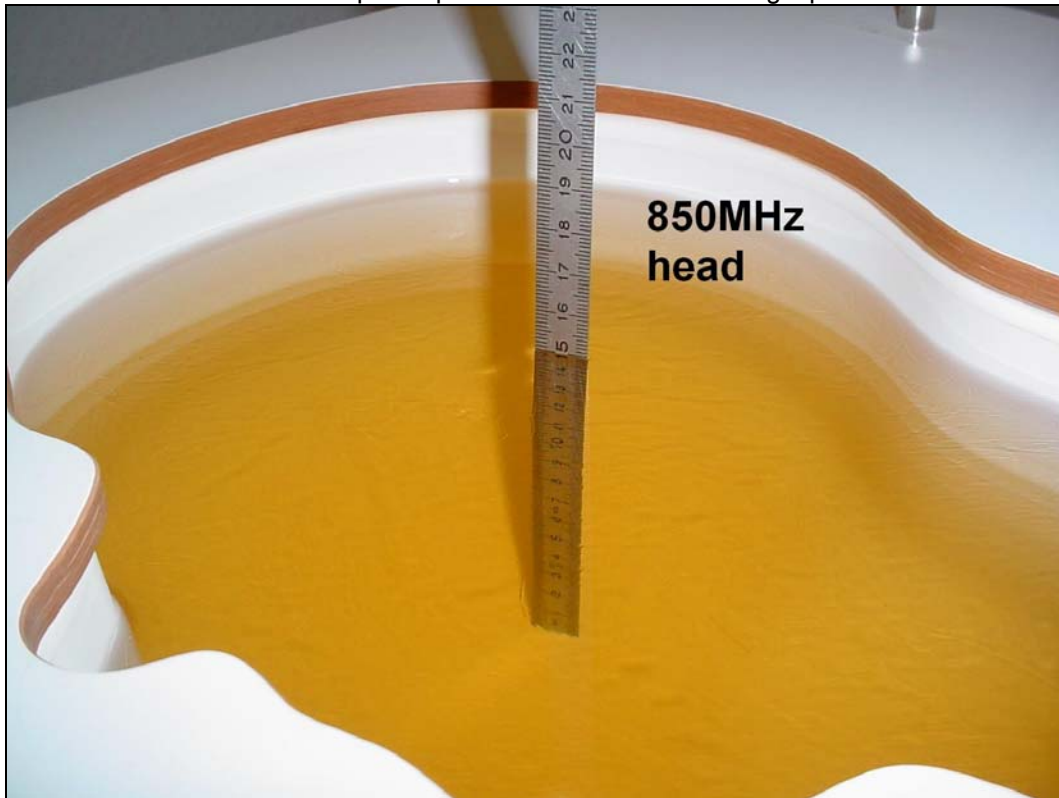


Photo 4: Liquid depth 850 MHz body simulating liquid

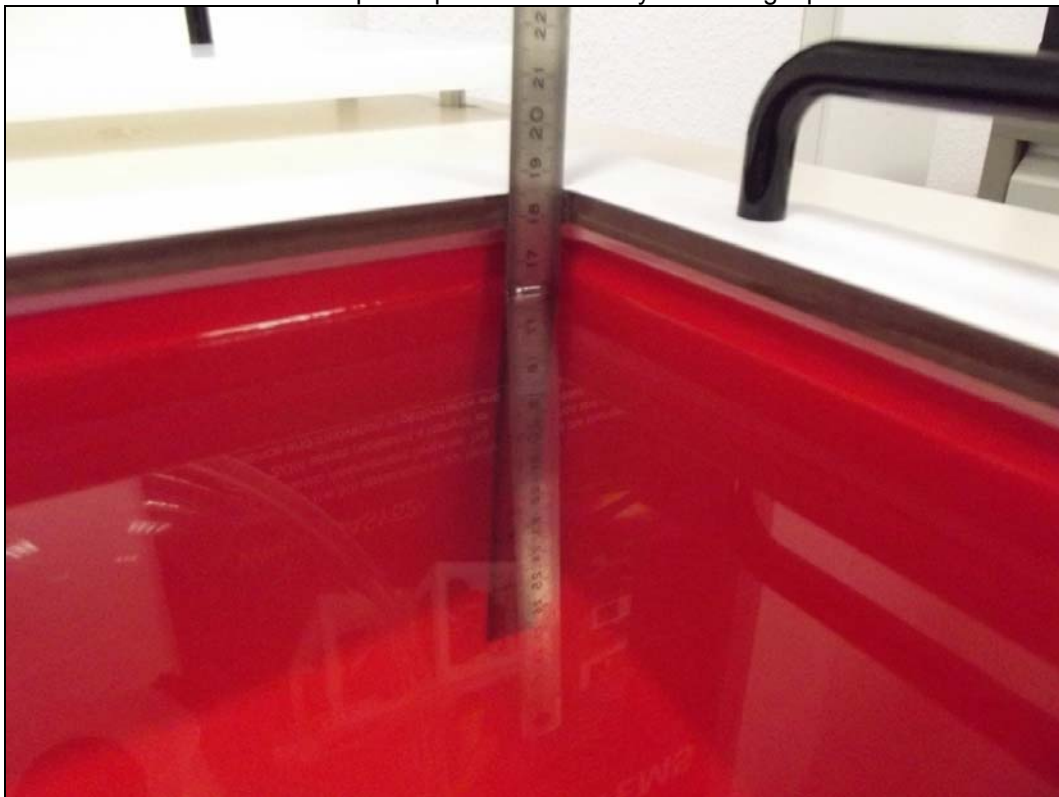


Photo 5: Liquid depth 1750MHz head simulating liquid



Photo 6: Liquid depth 1750 MHz body simulating liquid

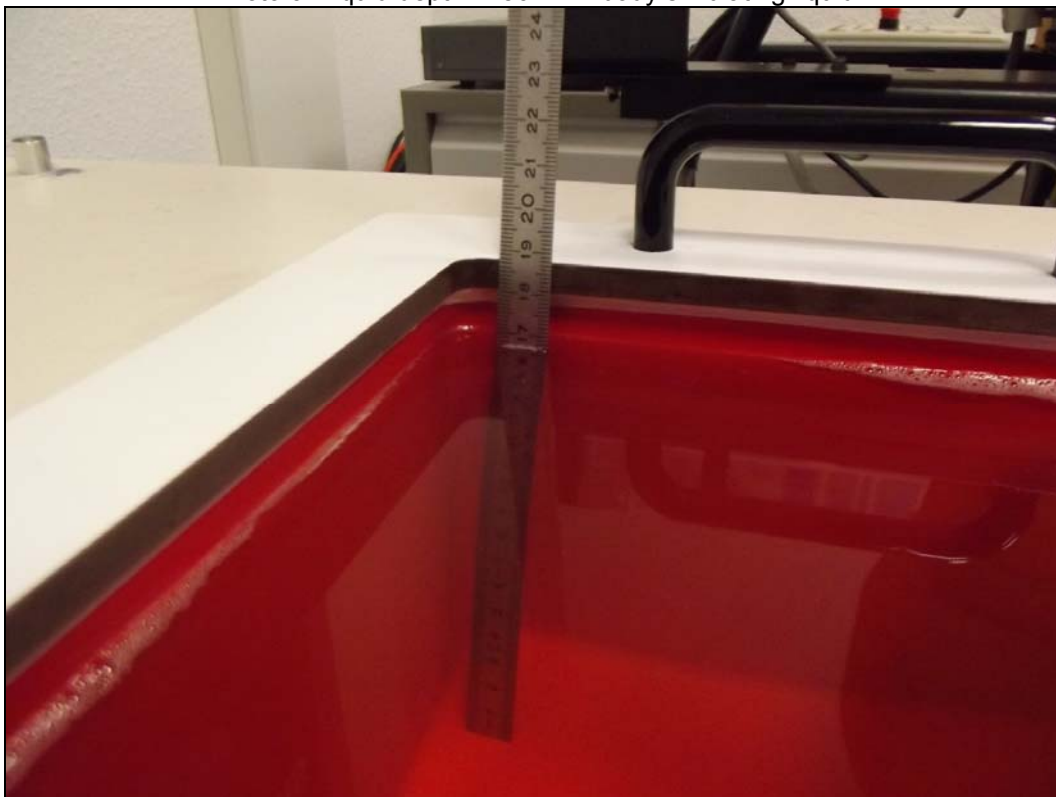


Photo 7: Liquid depth 1900MHz head simulating liquid

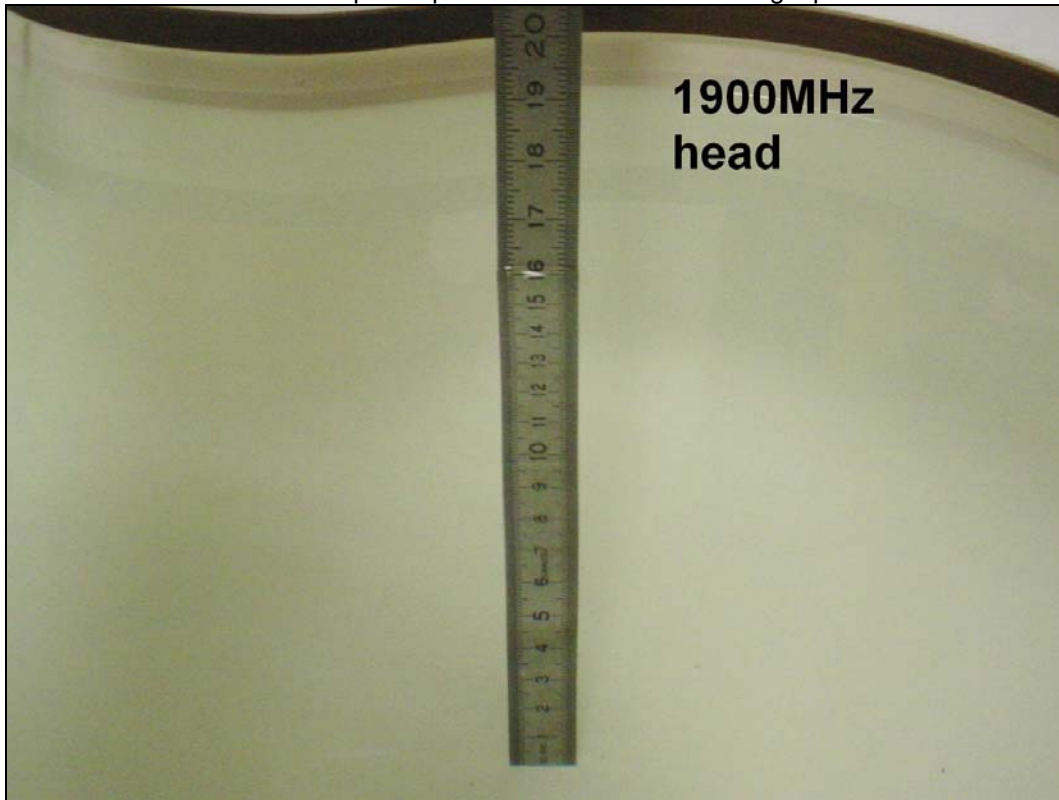


Photo 8: Liquid depth 1900 MHz body simulating liquid

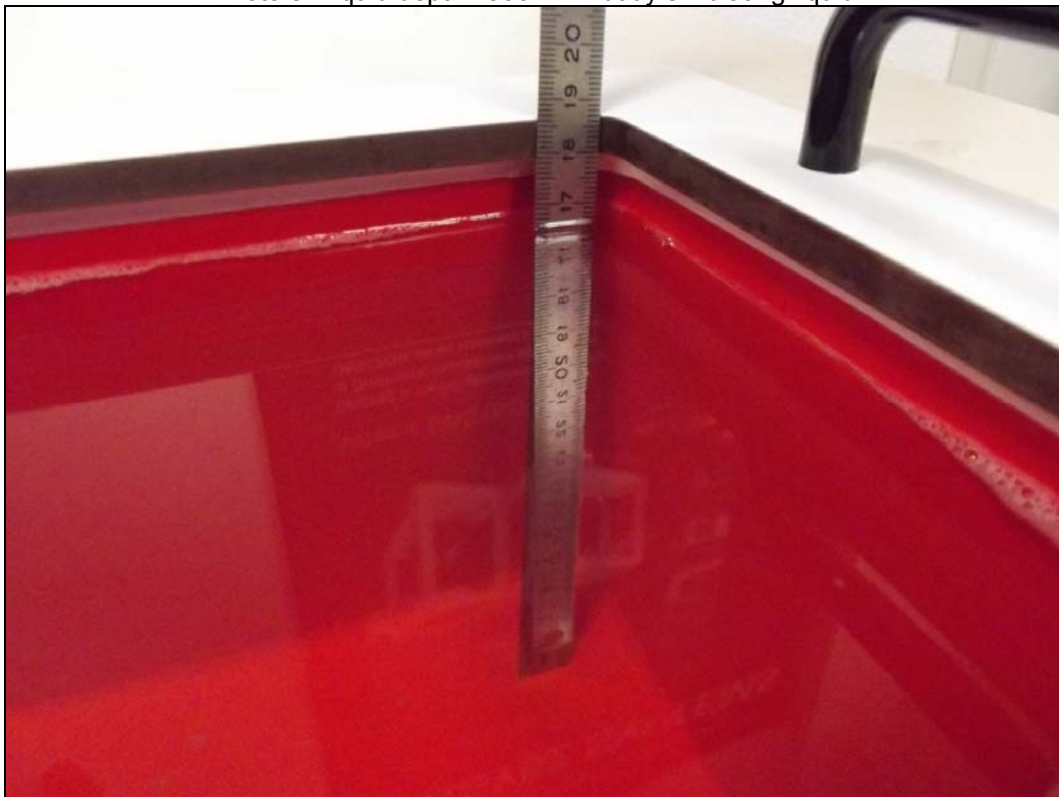


Photo 9: Liquid depth 2450MHz head simulating liquid

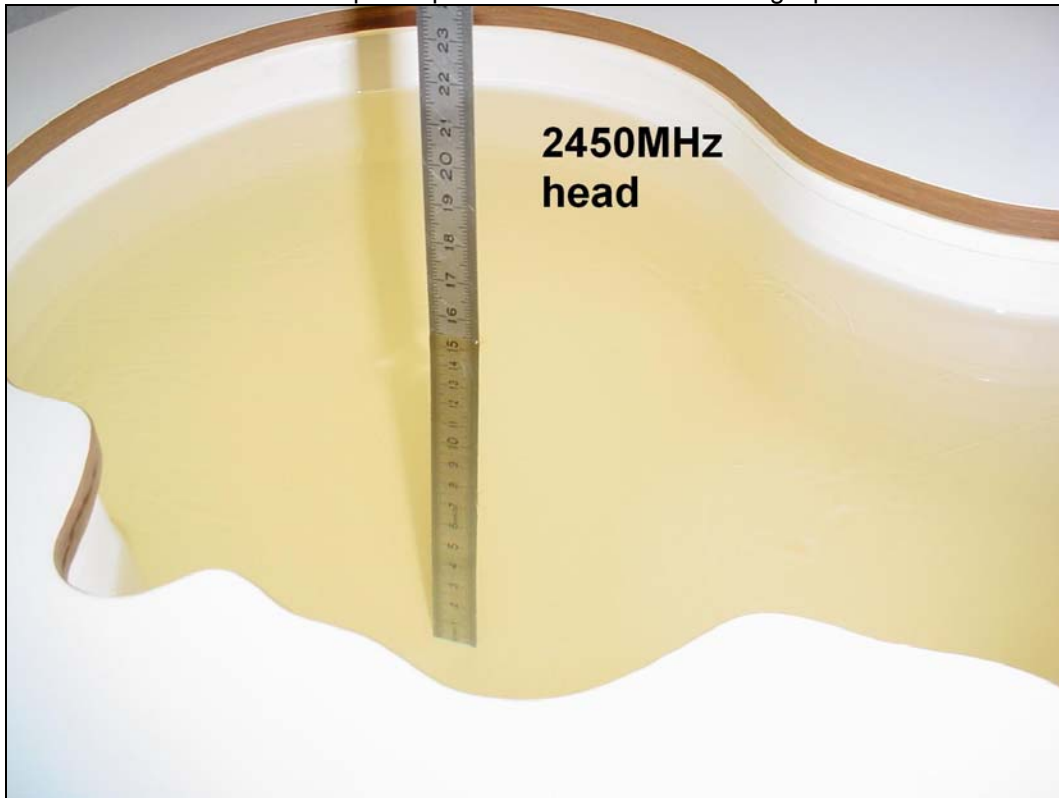


Photo 10: Liquid depth 2450 MHz body simulating liquid

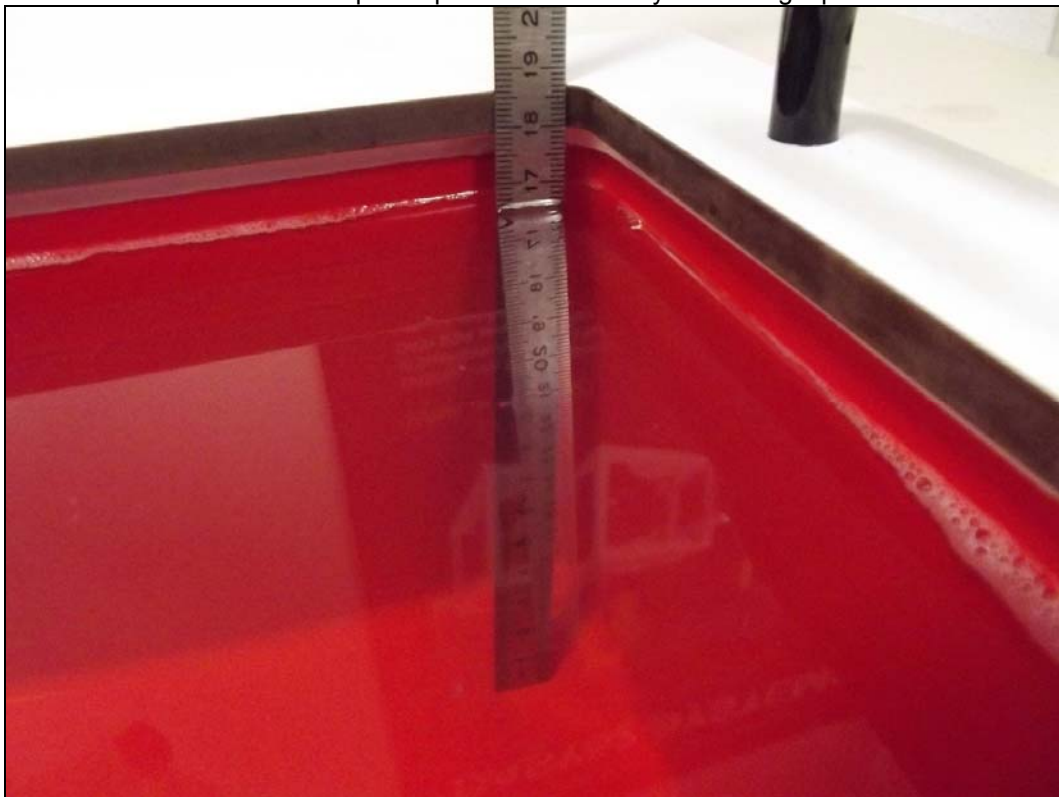
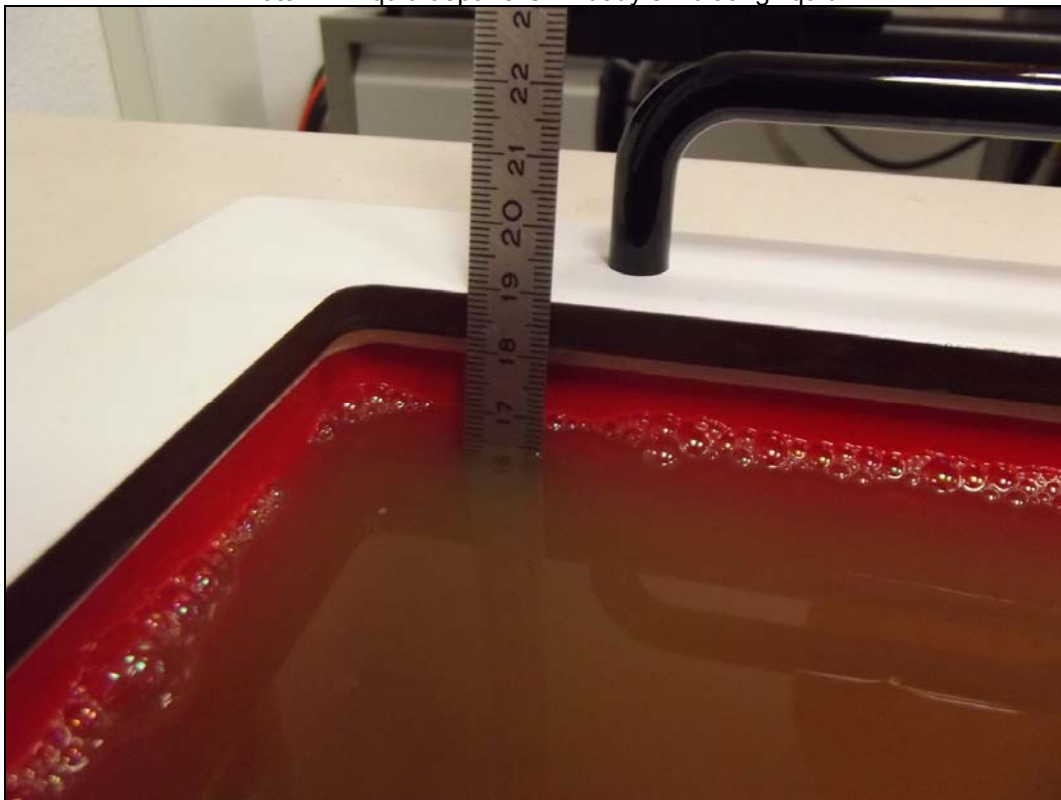


Photo 11: Liquid depth 5 GHz head simulating liquid



Photo 12: Liquid depth 5 GHz body simulating liquid



## **Annex C: Photo documentation**

Photo documentation is described in the additional document:

### **Appendix to test report no. 1-6965/13-21-02-A Photo documentation**

## **Annex D: Calibration parameters**

Calibration parameters are described in the additional document:

### **Appendix to test report no. 1-6965/13-21-02-A Calibration data, Phantom certificate and detail information of the DASY5 System**

## Annex E: Document History

| Version | Applied Changes               | Date of Release |
|---------|-------------------------------|-----------------|
|         | Initial Release               | 2014-06-17      |
| -A      | Corrected Note on the page 10 | 2014-06-20      |

## Annex F: Further Information

### Glossary

|                    |   |                                                |
|--------------------|---|------------------------------------------------|
| BW                 | - | Bandwidth                                      |
| DTS                | - | Distributed Transmission System                |
| DUT                | - | Device under Test                              |
| EUT                | - | Equipment under Test                           |
| FCC                | - | Federal Communication Commission               |
| FCC ID             | - | Company Identifier at FCC                      |
| HW                 | - | Hardware                                       |
| IC                 | - | Industry Canada                                |
| Inv. No.           | - | Inventory number                               |
| LTE                | - | Long Term Evolution                            |
| N/A                | - | not applicable                                 |
| PCE                | - | Personal Consumption Expenditure               |
| OET                | - | Office of Engineering and Technology           |
| RB                 | - | resource block(s)                              |
| SAR                | - | Specific Absorption Rate                       |
| S/N                | - | Serial Number                                  |
| SPLSR <sub>i</sub> | - | SAR-to-(peak-locations spacing) ratio          |
| SW                 | - | Software                                       |
| UNII               | - | Unlicensed National Information Infrastructure |
| WPC                | - | Wireless Passive Charger                       |