

## SAR Compliance Test Report

|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                         |                                                                                                                                                         |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test report no.:                                 | FCC_RM-749_01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Date of report:         | 2011-04-07                                                                                                                                              |
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| Tested device:                                   | RM-749                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                         |                                                                                                                                                         |
| FCC ID:                                          | QFXRM-749                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | IC:                     | 661Z-RM749                                                                                                                                              |
| Supplement reports:                              | SAR_Photo_RM-749_02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                         |                                                                                                                                                         |
| Testing has been carried out in accordance with: | <b>47CFR §2.1093</b><br>Radiofrequency Radiation Exposure Evaluation: Portable Devices<br><b>FCC OET Bulletin 65 (Edition 97-01), Supplement C (Edition 01-01)</b><br>Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields<br><b>RSS-102</b><br>Evaluation Procedure for Mobile and Portable Radio Transmitters with Respect to Health Canada's Safety Code 6 for Exposure of Humans to Radio Frequency Fields<br><b>IEEE 1528 - 2003</b><br>IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Technique |                         |                                                                                                                                                         |
| Documentation:                                   | The documentation of the testing performed on the tested devices is archived for 15 years at TCC Nokia.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                         |                                                                                                                                                         |
| Test results:                                    | <b>The tested device complies with the requirements in respect of all parameters subject to the test.</b> The test results and statements relate only to the items tested. The test report shall not be reproduced except in full, without written approval of the laboratory.                                                                                                                                                                                                                                                                                                                                                                                                |                         |                                                                                                                                                         |

Date and signatures:

For the contents:

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## 1. SUMMARY OF SAR TEST REPORT

### 1.1 Test Details

|                                        |                                                           |
|----------------------------------------|-----------------------------------------------------------|
| Period of test                         | 2011-03-23 to 2011-04-06                                  |
| SN, HW and SW numbers of tested device | SN: 004402/13/500070/5, HW: 2000, SW: 021.005, DUT: 23747 |
| Batteries used in testing              | BL-5K, DUT: 23737, 23738, 23739, 24066, 24147             |
| Headsets used in testing               | WH-102, DUT: 23732                                        |
| Other accessories used in testing      | -                                                         |
| State of sample                        | Prototype unit                                            |
| Notes                                  | -                                                         |

### 1.2 Maximum Results

The maximum measured SAR values for Head configuration and Body Worn configuration are given in section 1.2.1 and 1.2.2 respectively. The device conforms to the requirements of the standard(s) when the maximum measured SAR value is less than or equal to the limit.

#### 1.2.1 Head Configuration

| Mode                             | Ch / f (MHz)  | Conducted power | Position     | Measured SAR value (1g avg) | Scaled* SAR value (1g avg) | SAR limit (1g avg) | Result        |
|----------------------------------|---------------|-----------------|--------------|-----------------------------|----------------------------|--------------------|---------------|
| 2-slot GPRS850                   | 251 / 848.8   | 29.5 dBm        | Right, Cheek | 0.556 W/kg                  | <b>0.62 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| WCDMA850                         | 4233 / 846.6  | 23.5 dBm        | Right, Cheek | 0.672 W/kg                  | <b>0.75 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| WCDMA1700/2100                   | 1412 / 1732.4 | 23.5 dBm        | Left, Cheek  | 1.02 W/kg                   | <b>1.14 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| 3-slot 8PSK EGPRS1900            | 512 / 1850.2  | 25.7 dBm        | Left, Cheek  | 0.680 W/kg                  | <b>0.76 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| WCDMA1900                        | 9400 / 1880.0 | 22.5 dBm        | Left, Cheek  | 0.806 W/kg                  | <b>0.90 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| WLAN2450                         | 7 / 2442.0    | 17.0 dBm        | Right, Cheek | 0.270 W/kg                  | <b>0.30 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| 2-slot GPRS850 + WLAN2450        | -             | -               | Right, Cheek | 0.608 W/kg                  | <b>0.68 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| WCDMA850 + WLAN2450              | -             | -               | Right, Cheek | 0.738 W/kg                  | <b>0.83 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| WCDMA1700/2100 + WLAN2450        | -             | -               | Left, Cheek  | 1.09 W/kg                   | <b>1.22 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| 3-slot 8PSK EGPRS1900 + WLAN2450 | -             | -               | Left, Cheek  | 0.720 W/kg                  | <b>0.81 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| WCDMA1900 + WLAN2450             | -             | -               | Right, Cheek | 0.806 W/kg                  | <b>0.90 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |

### 1.2.2 Body Worn Configuration

| Mode                            | Ch / f (MHz)  | Conducted power | Separation distance | Measured SAR value (1g avg) | Scaled* SAR value (1g avg) | SAR limit (1g avg) | Result        |
|---------------------------------|---------------|-----------------|---------------------|-----------------------------|----------------------------|--------------------|---------------|
| 2-slot GPRS850                  | 251 / 848.8   | 29.5 dBm        | 1.5 cm              | 0.578 W/kg                  | <b>0.65 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| WCDMA850                        | 4233 / 846.6  | 23.5 dBm        | 1.5 cm              | 0.636 W/kg                  | <b>0.71 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| WCDMA1700/2100                  | 1412 / 1732.4 | 23.5 dBm        | 1.5 cm              | 0.688 W/kg                  | <b>0.77 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| 3-slot 8PSK EGPRS1900           | 512 / 1850.2  | 25.7 dBm        | 1.5 cm              | 0.416 W/kg                  | <b>0.47 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| WCDMA1900                       | 9400 / 1880.0 | 22.5 dBm        | 1.5 cm              | 0.555 W/kg                  | <b>0.62 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| WLAN2450                        | 7 / 2442.0    | 17.0 dBm        | 1.5 cm              | 0.057 W/kg                  | <b>0.06 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| 2-slot GPRS850 + WLAN2450       | -             | -               | 1.5 cm              | 0.597 W/kg                  | <b>0.67 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| WCDMA850 + WLAN2450             | -             | -               | 1.5 cm              | 0.660 W/kg                  | <b>0.74 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| WCDMA1700/2100 + WLAN2450       | -             | -               | 1.5 cm              | 0.738 W/kg                  | <b>0.83 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| 3-slot 8PSK GPRS1900 + WLAN2450 | -             | -               | 1.5 cm              | 0.451 W/kg                  | <b>0.51 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |
| WCDMA1900 + WLAN2450            | -             | -               | 1.5 cm              | 0.590 W/kg                  | <b>0.66 W/kg</b>           | 1.6 W/kg           | <b>PASSED</b> |

\* SAR values are scaled up by 12% to cover measurement drift. As a consequence of this upwards correction of the SAR values, the contribution of measurement drift to the overall measurement uncertainty (Section 6) is reduced to zero.

### 1.2.3 Maximum Drift

| Maximum drift covered by 12% scaling up of the SAR values | Maximum drift during measurements |
|-----------------------------------------------------------|-----------------------------------|
| 0.5Db                                                     | 0.45 dB                           |

### 1.2.4 Measurement Uncertainty

|                                |         |
|--------------------------------|---------|
| Expanded Uncertainty (k=2) 95% | ± 25.8% |
|--------------------------------|---------|

## 2. DESCRIPTION OF THE DEVICE UNDER TEST

|                      |                                   |
|----------------------|-----------------------------------|
| Device category      | Portable                          |
| Exposure environment | General population / uncontrolled |

| Modes of Operation | Bands                                                 | Modulation Mode         | Duty Cycle | Transmitter Frequency Range (MHz)       |
|--------------------|-------------------------------------------------------|-------------------------|------------|-----------------------------------------|
| GSM                | 850<br>1900                                           | GMSK                    | 1/8        | 824 – 849<br>1850 – 1910                |
| GPRS               | 850<br>1900                                           | GMSK                    | 1/8 to 4/8 | 824 – 849<br>1850 – 1910                |
| EGPRS              | 850<br>1900                                           | GMSK / 8PSK             | 1/8 to 4/8 | 824 – 849<br>1850 – 1910                |
| WCDMA              | 850 (Band V)<br>1700/2100 (Band IV)<br>1900 (Band II) |                         | 1          | 826 – 847<br>1712 – 1753<br>1852 – 1908 |
| HSUPA              | 850 (Band V)<br>1700/2100 (Band IV)<br>1900 (Band II) |                         | 1          | 826 – 847<br>1712 – 1753<br>1852 – 1908 |
| BT                 | 2450                                                  | GFSK                    | 1          | 2402 – 2480                             |
| WLAN b-mode        | 2450                                                  | Up to<br>11Mbps QPSK    | 1          | 2412 – 2462                             |
| WLAN g-mode        | 2450                                                  | Up to<br>54Mbps 64QAM   | 1          | 2412 – 2462                             |
| WLAN n-mode 20MHz  | 2450                                                  | Up to<br>72.2Mbps 64QAM | 1          | 2412 – 2462                             |

Outside of USA and Canada, the transmitter of the device is capable of operating also in GSM/GPRS/EGPRS900, GSM/GPRS/EGPRS1800, WCDMA900 and WCDMA2100 bands which are not part of this filing.

This device has Voice-over-IP/Dual Transfer Mode capability for use at the ear. Therefore, SAR for multi slot GPRS mode was evaluated against the head profile of the phantom. Dual Transfer Mode is a feature that utilises the multi-slot GPRS capability in this device; it allows simultaneous transmission of voice and data during the same call, using the same transmitter and antenna.

This is a WCDMA HSUPA device, but SAR tests for HSUPA mode have not been performed as no HSUPA Sub-test mode has an average power > 0.25dB above the basic WCDMA 12.2kbps RMC mode. Appendix C of this report gives a summary of the measured WCDMA and HSUPA average powers; a detailed report of these WCDMA and HSUPA conducted power tests is submitted separately.

This is a BT Class 1 device; as its power tuning target is 10 dBm (10 mW), SAR testing was deemed unnecessary.

## 2.1 Description of the Antenna

The device has internal antennas for both cellular and WLAN use. The cellular antenna is located at the bottom underneath the back cover. The WLAN antenna is located at the top underneath the back cover.

---

### 3. TEST CONDITIONS

#### 3.1 Temperature and Humidity

|                           |             |
|---------------------------|-------------|
| Ambient temperature (°C): | 20.5 - 22.5 |
| Ambient humidity (RH %):  | 35 - 55     |

#### 3.2 Test Signal, Frequencies and Output Power

The device was put into operation by using a call tester except for testing WLAN2450 where control software was used. Communication between the device and the call tester was established by air link.

The device output power was set to maximum power level for all tests; a fully charged battery was used for every test sequence.

The transmission mode of the device in all WCDMA tests was configured to 12.2kbps RMC with all TPC bits set as “1”.

In all operating bands the measurements were performed on lowest, middle and highest channels.

The radiated output power of the device was measured by a separate test laboratory on the same unit(s) as used for SAR testing. The results are given in the EMC report supporting this application.

The transmission mode of the device in all WLAN b-mode tests was DSSS QPSK 11Mbps. This mode has the highest (or equal highest) time-averaged output power of all the WLAN b and g modulation modes in Nokia devices. In WLAN n-mode, BPSK 6.5Mbps with 20MHz bandwidth was used.

#### 3.3 Test Cases and Test Minimisation

The tested device examined in this report may not incorporate all of the features described in the text that follows, but its SAR evaluation will have been subjected to the same considerations and test logic described below.



Whilst it's possible to identify the maximum SAR test cases from inspection of the conducted power levels given in the Results tables (Section 7), different modes in the same band and multi-slot transmit GSM/GPRS modes can create some difficulties. Therefore the sequence of the SAR tests made in evaluating this device has used test logic that is based on measured SAR values. Comparison of measured SAR values in this way, can also allow some test minimization (i.e. test elimination) to be made.

For example, when SAR testing multi-slot GSM/GPRS/EGPRS modes, it is an inefficient use of test resources to fully SAR test every test configuration in each of the different modes as these modes have a fixed power relationship between them that is the same, irrespective of the test configuration. In the case of multi-slot GSM/GPRS modes, a single comparative SAR test - using the same test channel and test configuration - is made in each of the n-slot modes; the mode with the highest measured SAR value is then subjected to full SAR testing in all test configurations. These comparative SAR tests (same frequency, same test configuration) are regarded as extremely accurate as they are relative tests in which the tested device changes neither its frequency nor its position between tests. For different modes that operate in the same band and use the same antenna e.g. GSM/GPRS850 and WCDMA850, full SAR testing is carried out in the GSM/GPRS850 mode but WCDMA850 testing is limited to 3 channel testing in the maximum SAR test configuration for GSM/GPRS850.

Multi-slot SAR testing against the Head is always performed whenever such a device offers Push to Talk over cellular with the internal earpiece active, Dual Transfer Mode (i.e. the ability to transmit voice and data simultaneously using the same transmitter) or has WLAN (which enables a Voice over IP call to take place whilst the device can simultaneously transmit data on a cellular band). Whenever a device has an intended multi-slot use against the head, it is also Head SAR tested in EGPRS mode. It should be noted that EGPRS transmit modes can have either GMSK or 8PSK modulation but, when tested, only 8PSK EGPRS will appear explicitly in the results tables, as GMSK EGPRS mode has identical time-averaged power to the reported GPRS mode.

Devices that have flips or slides are fully SAR tested in all device configurations consistent with their intended usage. For example, flip phones that can receive a call in closed mode are SAR tested against the head in both open and closed configurations. Similarly, slide phones are fully SAR tested in all slide configurations in which calls are intended to be made or received.

In the results tables in Section 7, the maximum SAR value for the ‘basic’ tests (i.e. left cheek, left tilt, right cheek and right tilt in Head SAR testing; with and without headset with the back &/or display side facing the flat phantom in Body SAR testing) is bolded for each band. In some cases, after full testing of the basic SAR test configurations has been completed, additional checking SAR tests are made. These checking tests are always based on the bolded result from the ‘basic’ testing. When the SAR value of a checking test exceeds the maximum value from the basic tests, it is also bolded and used as the basis for any further checking tests that might be needed.

Checking tests are largely voluntary and can cover optional batteries, different camera slide positions, optional covers, etc. In the case of optional batteries, if the construction of the optional battery is significantly different to the battery used in the full testing e.g. if the outer can is floating electrically rather than grounded, then the maximum SAR test configuration in each band is tested with the optional battery in 3 channels. For camera slides, if the slide material is metal, then checking tests in 3 channels are again run for the maximum SAR test configuration in each band. For plastic camera slides, SAR checking is only carried out in the channel that provided the maximum SAR value for the original. Optional front and back covers are tested if their shape differs significantly from the original or if their metallic content varies by more than 15% from the original; in the former case, the testing depends on the extent of the physical differences, whereas in the latter case, 3 channel SAR testing is performed in every band in the max SAR test configuration.

## 4. DESCRIPTION OF THE TEST EQUIPMENT

### 4.1 Measurement System and Components

The measurements were performed using an automated near-field scanning system, DASY4, manufactured by Schmid & Partner Engineering AG (SPEAG) in Switzerland. The SAR extrapolation algorithm used in all measurements was the 'advanced extrapolation' algorithm.

The following table lists calibration dates of SPEAG components:

| Test Equipment                 | Serial Number | Calibration interval | Calibration expiry |
|--------------------------------|---------------|----------------------|--------------------|
| DAE4                           | 339           | 12 months            | 2012-02            |
| DAE4                           | 682           | 12 months            | 2011-07            |
| DAE4                           | 710           | 12 months            | 2011-09            |
| E-field Probe ES3DV3           | 3116          | 12 months            | 2012-02            |
| E-field Probe ES3DV3           | 3117          | 12 months            | 2011-07            |
| E-field Probe ES3DV3           | 3118          | 12 months            | 2011-09            |
| E-field Probe EX3DV4           | 3581          | 12 months            | 2011-07            |
| Dipole Validation Kit, D835V2  | 4d042         | 24 months            | 2012-07            |
| Dipole Validation Kit, D1800V2 | 2d075         | 24 months            | 2012-02            |
| Dipole Validation Kit, D1900V2 | 5d063         | 24 months            | 2012-02            |
| Dipole Validation Kit, D2450V2 | 750           | 24 months            | 2012-02            |
| DASY4 software                 | Version 4.7   | -                    | -                  |

Additional test equipment used in testing:

| Test Equipment          | Model     | Serial Number | Calibration interval | Calibration expiry |
|-------------------------|-----------|---------------|----------------------|--------------------|
| Signal Generator        | SME06     | 848650/011    | 36 months            | 2011-08            |
| Signal Generator        | SME06     | 829445/008    | 36 months            | 2012-02            |
| Signal Generator        | SMIQ03    | 826046/034    | 36 months            | 2011-08            |
| Amplifier               | ZHL-42W   | E012903       | -                    | -                  |
| Amplifier               | AR-5S1G4  | 306024        | -                    | -                  |
| Amplifier               | ZHL-4240W | E060204/1     | -                    | -                  |
| Power Meter             | NRP       | 100808        | 24 months            | 2012-04            |
| Power Meter             | NRP       | 101293        | 24 months            | 2011-08            |
| Power Sensor            | NRP-Z51   | 100410        | 24 months            | 2012-04            |
| Power Sensor            | NRP-Z51   | 100830        | 24 months            | 2011-08            |
| Call Tester             | CMU200    | 105900        | -                    | -                  |
| Call Tester             | CMU200    | 110735        | -                    | -                  |
| Call Tester             | CMU200    | 831593        | -                    | -                  |
| Vector Network Analyzer | AT8753ES  | MY40001091    | 12 months            | 2011-08            |
| Dielectric Probe Kit    | HP85070B  | US33020403    | -                    | -                  |

#### 4.1.1 Isotropic E-field Probe Type ES3DV3

|                      |                                                                                                                                                                                              |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Construction</b>  | Symmetrical design with triangular core<br>Interleaved sensors<br>Built-in shielding against static charges<br>PEEK enclosure material (resistant to organic solvents, e.g., butyl diglycol) |
| <b>Calibration</b>   | Calibration certificate in Appendix E                                                                                                                                                        |
| <b>Frequency</b>     | 10 MHz to 4 GHz (dosimetry); Linearity: $\pm 0.2$ dB (30 MHz to 4 GHz)                                                                                                                       |
| <b>Directivity</b>   | $\pm 0.2$ dB in HSL (rotation around probe axis)<br>$\pm 0.3$ dB in HSL (rotation normal to probe axis)                                                                                      |
| <b>Dynamic Range</b> | 5 $\mu$ W/g to > 100 mW/g; Linearity: $\pm 0.2$ dB                                                                                                                                           |
| <b>Dimensions</b>    | Overall length: 330 mm<br>Tip length: 20 mm<br>Body diameter: 12 mm<br>Tip diameter: 3.9 mm                                                                                                  |
| <b>Application</b>   | Distance from probe tip to dipole centers: 2.0 mm<br>General dosimetry up to 4 GHz<br>Compliance tests of mobile phones<br>Fast automatic scanning in arbitrary phantoms                     |

#### 4.1.2 Isotropic E-field Probe Type EX3DV4

|                      |                                                                                                                                                                          |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Construction</b>  | Symmetrical design with triangular core<br>Built-in shielding against static charges<br>PEEK enclosure material (resistant to organic solvents, e.g., DGBE)              |
| <b>Calibration</b>   | Calibration certificate in Appendix E                                                                                                                                    |
| <b>Frequency</b>     | 10 MHz to >6 GHz (dosimetry); Linearity: $\pm 0.2$ dB (30 MHz to 6 GHz)                                                                                                  |
| <b>Directivity</b>   | $\pm 0.3$ dB in HSL (rotation around probe axis)<br>$\pm 0.5$ dB in tissue material (rotation normal to probe axis)                                                      |
| <b>Dynamic Range</b> | 10 $\mu$ W/g to > 100 mW/g; Linearity: $\pm 0.2$ dB                                                                                                                      |
| <b>Dimensions</b>    | Overall length: 330 mm<br>Tip length: 10 mm<br>Body diameter: 12 mm<br>Tip diameter: 2.5 mm                                                                              |
| <b>Application</b>   | Distance from probe tip to dipole centers: 1.0 mm<br>General dosimetry up to 6 GHz<br>Compliance tests of mobile phones<br>Fast automatic scanning in arbitrary phantoms |

## 4.2 Phantoms

The phantom used for all tests i.e. for both system checks and device testing, was the twin-headed "SAM Phantom", manufactured by SPEAG. The phantom conforms to the requirements of IEEE 1528 - 2003.

System checking was performed using the flat section, whilst Head SAR tests used the left and right head profile sections. Body SAR testing also used the flat section between the head profiles.

The SPEAG device holder (see Section 5.1) was used to position the device in all tests whilst a tripod was used to position the validation dipoles against the flat section of phantom.

## 4.3 Tissue Simulants

Recommended values for the dielectric parameters of the tissue simulants are given in IEEE 1528 - 2003 and FCC Supplement C to OET Bulletin 65. All tests were carried out using simulants whose dielectric parameters were within  $\pm 5\%$  of the recommended values. All tests were carried out within 24 hours of measuring the dielectric parameters.

The depth of the tissue simulant was at least 15.0 cm measured from the ear reference point during system checking and device measurements.

#### 4.3.1 Tissue Simulant Recipes

The following recipe(s) were used for Head and Body tissue simulant(s):

##### 800MHz band

| Ingredient      | Head<br>(% by weight) | Body<br>(% by weight) |
|-----------------|-----------------------|-----------------------|
| Deionised Water | 39.74                 | 55.97                 |
| HEC             | 0.25                  | 1.21                  |
| Sugar           | 58.31                 | 41.76                 |
| Preservative    | 0.15                  | 0.27                  |
| Salt            | 1.55                  | 0.79                  |

##### 1800MHz band

| Ingredient      | Head<br>(% by weight) | Body<br>(% by weight) |
|-----------------|-----------------------|-----------------------|
| Deionised Water | 54.0                  | 70.20                 |
| Tween 20        | 45.6                  | 29.37                 |
| Salt            | 0.4                   | 0.43                  |

##### 1900MHz band

| Ingredient      | Head<br>(% by weight) | Body<br>(% by weight) |
|-----------------|-----------------------|-----------------------|
| Deionised Water | 54.50                 | 70.25                 |
| Tween 20        | 45.23                 | 29.41                 |
| Salt            | 0.27                  | 0.34                  |

##### 2450MHz band

| Ingredient      | Head<br>(% by weight) | Body<br>(% by weight) |
|-----------------|-----------------------|-----------------------|
| Deionised Water | 56.0                  | 70.20                 |
| Tween 20        | 44.0                  | 29.62                 |
| Salt            | -                     | 0.18                  |

#### 4.3.2 System Checking

The manufacturer calibrates the probes annually. Dielectric parameters of the tissue simulants were measured every day using the dielectric probe kit and the network analyser. A system check measurement was made following the determination of the dielectric parameters of the simulant, using the dipole validation kit. A power level of 250 mW was supplied to the dipole antenna, which was placed under the flat section of the twin SAM phantom. The system checking results (dielectric parameters and SAR values) are given in the table below.

##### System checking, head tissue simulant

| $f$ [MHz] | Description       | SAR [W/kg],<br>1g | Dielectric Parameters |                | Temp<br>[°C] |
|-----------|-------------------|-------------------|-----------------------|----------------|--------------|
|           |                   |                   | $\epsilon_r$          | $\sigma$ [S/m] |              |
| 835       | Reference result  | 2.38              | 42.1                  | 0.90           |              |
|           | $\pm 10\%$ window | 2.14 – 2.62       |                       |                |              |
|           | 2011-03-23        | 2.57              | 42.3                  | 0.91           | 22.0         |
|           | 2011-03-29        | 2.61              | 42.1                  | 0.91           | 21.3         |
|           | 2011-04-04        | 2.55              | 41.9                  | 0.91           | 22.0         |
| 1800      | Reference result  | 9.50              | 39.4                  | 1.37           |              |
|           | $\pm 10\%$ window | 8.55 – 10.45      |                       |                |              |
|           | 2011-03-24        | 9.64              | 38.5                  | 1.37           | 21.9         |
|           | 2011-03-30        | 9.84              | 39.2                  | 1.38           | 21.5         |
| 1900      | Reference result  | 9.98              | 39.2                  | 1.42           |              |
|           | $\pm 10\%$ window | 8.98 – 10.98      |                       |                |              |
|           | 2011-03-28        | 9.94              | 39.0                  | 1.46           | 21.2         |
|           | 2011-03-30        | 10.7              | 38.9                  | 1.47           | 21.5         |
|           | 2011-03-31        | 10.6              | 38.4                  | 1.46           | 21.5         |
|           | 2011-04-05        | 10.4              | 38.2                  | 1.45           | 21.3         |
| 2450      | Reference result  | 13.5              | 38.7                  | 1.77           |              |
|           | $\pm 10\%$ window | 12.1 – 14.9       |                       |                |              |
|           | 2011-03-31        | 13.3              | 40.6                  | 1.72           | 21.9         |

##### System checking, body tissue simulant

| $f$ [MHz] | Description       | SAR [W/kg],<br>1g | Dielectric Parameters |                | Temp<br>[°C] |
|-----------|-------------------|-------------------|-----------------------|----------------|--------------|
|           |                   |                   | $\epsilon_r$          | $\sigma$ [S/m] |              |
| 2450      | Reference result  | 12.9              | 51.8                  | 2.01           |              |
|           | $\pm 10\%$ window | 11.6 – 14.2       |                       |                |              |
|           | 2011-04-06        | 13.9              | 50.4                  | 2.04           | 21.5         |

Plots of the system checking scans are given in Appendix A.



#### 4.3.3 Tissue Simulants used in the Measurements

##### Head tissue simulant measurements

| f<br>[MHz] | Description       | Dielectric Parameters |                | Temp<br>[°C] |
|------------|-------------------|-----------------------|----------------|--------------|
|            |                   | $\epsilon_r$          | $\sigma$ [S/m] |              |
| 835        | Recommended value | 41.5                  | 0.90           |              |
|            | $\pm 5\%$ window  | 39.4 – 43.6           | 0.86 – 0.95    |              |
|            | 2011-03-23        | 42.3                  | 0.91           | 22.0         |
| 836        | Recommended value | 41.5                  | 0.90           |              |
|            | $\pm 5\%$ window  | 39.4 – 43.6           | 0.86 – 0.95    |              |
|            | 2011-03-23        | 42.3                  | 0.91           | 22.0         |
|            | 2011-04-04        | 41.9                  | 0.91           | 22.0         |
| 1732       | Recommended value | 40.1                  | 1.36           |              |
|            | $\pm 5\%$ window  | 38.1 – 42.1           | 1.29 – 1.43    |              |
|            | 2011-03-24        | 38.8                  | 1.31           | 21.8         |
| 1880       | Recommended value | 40.0                  | 1.40           |              |
|            | $\pm 5\%$ window  | 38.0 – 42.0           | 1.33 – 1.47    |              |
|            | 2011-03-28        | 39.1                  | 1.45           | 21.2         |
|            | 2011-03-31        | 38.5                  | 1.44           | 21.5         |
| 2442       | Recommended value | 39.2                  | 1.79           |              |
|            | $\pm 5\%$ window  | 37.3 – 41.2           | 1.70 – 1.88    |              |
|            | 2011-03-31        | 40.6                  | 1.71           | 21.9         |

**Body tissue simulant measurements**

| f<br>[MHz] | Description       | Dielectric Parameters |                | Temp<br>[°C] |
|------------|-------------------|-----------------------|----------------|--------------|
|            |                   | $\epsilon_r$          | $\sigma$ [S/m] |              |
| 835        | Recommended value | 55.2                  | 0.97           | 21.8         |
|            | $\pm 5\%$ window  | 52.4 – 58.0           | 0.92 – 1.02    |              |
|            | 2011-03-29        | 54.1                  | 0.97           |              |
| 836        | Recommended value | 55.2                  | 0.97           | 21.8         |
|            | $\pm 5\%$ window  | 52.4 – 58.0           | 0.92 – 1.02    |              |
|            | 2011-03-29        | 54.1                  | 0.97           |              |
| 1732       | Recommended value | 53.5                  | 1.48           | 21.3         |
|            | $\pm 5\%$ window  | 50.8 – 56.2           | 1.40 – 1.55    |              |
|            | 2011-03-30        | 52.5                  | 1.43           |              |
| 1880       | Recommended value | 53.3                  | 1.52           | 21.3         |
|            | $\pm 5\%$ window  | 50.6 – 56.0           | 1.44 – 1.60    |              |
|            | 2011-03-30        | 52.0                  | 1.58           |              |
|            | 2011-04-05        | 51.9                  | 1.57           |              |
| 2442       | Recommended value | 52.7                  | 1.94           | 21.5         |
|            | $\pm 5\%$ window  | 50.1 – 55.3           | 1.85 – 2.04    |              |
|            | 2011-04-06        | 50.4                  | 2.03           |              |

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## 5. DESCRIPTION OF THE TEST PROCEDURE

### 5.1 Device Holder

The device was placed in the device holder (illustrated below) that is supplied by SPEAG as an integral part of the Dasy system.



Device holder supplied by SPEAG

A Nokia designed spacer (illustrated below) was used to position the device within the SPEAG holder. The spacer positions the device so that the holder has minimal effect on the test results but still holds the device securely. The spacer was removed before the tests.



Nokia spacer

### 5.2 Test Positions

#### 5.2.1 Against Phantom Head

Measurements were made in “cheek” and “tilt” positions on both the left hand and right hand sides of the phantom.

The positions used in the measurements were according to IEEE 1528 - 2003 "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques".

### 5.2.2 Body Worn Configuration

The device was placed in the SPEAG holder using the Nokia spacer and placed below the flat section of the phantom. The distance between the device and the phantom was kept at the separation distance indicated in Section 1.2.2 using a separate flat spacer that was removed before the start of the measurements. The device was oriented with both sides facing the phantom to find the highest results.

Nokia body-worn accessories are commonly available for the separation distance used in this testing.

### 5.3 Scan Procedures

First, area scans were used for determination of the field distribution. Next, a zoom scan, a minimum of 5x5x7 points covering a volume of at least 30x30x30mm, was performed around the highest E-field value to determine the averaged SAR value. Drift was determined by measuring the same point at the start of the area scan and again at the end of the zoom scan.

### 5.4 SAR Averaging Methods

The maximum SAR value was averaged over a cube of tissue using interpolation and extrapolation.

The interpolation, extrapolation and maximum search routines within Dasy4 are all based on the modified Quadratic Shepard's method (Robert J. Renka, "Multivariate Interpolation Of Large Sets Of Scattered Data", University of North Texas ACM Transactions on Mathematical Software, vol. 14, no. 2, June 1988, pp. 139-148).

The interpolation scheme combines a least-square fitted function method with a weighted average method. A trivariate 3-D / bivariate 2-D quadratic function is computed for each measurement point and fitted to neighbouring points by a least-square method. For the zoom scan, inverse distance weighting is incorporated to fit distant points more accurately. The interpolating function is finally calculated as a weighted average of the quadratics.

In the zoom scan, the interpolation function is used to extrapolate the Peak SAR from the deepest measurement points to the inner surface of the phantom.

## 6. MEASUREMENT UNCERTAINTY

Table 6.1 – Measurement uncertainty evaluation

| Uncertainty Component                                                           | Section in IEEE 1528 | Tol. (%)  | Prob Dist | Div        | $C_i$             | $C_i \cdot U_i$ (%) | $\nu_i$  |
|---------------------------------------------------------------------------------|----------------------|-----------|-----------|------------|-------------------|---------------------|----------|
| <b>Measurement System</b>                                                       |                      |           |           |            |                   |                     |          |
| Probe Calibration                                                               | E2.1                 | $\pm 5.9$ | N         | 1          | 1                 | $\pm 5.9$           | $\infty$ |
| Axial Isotropy                                                                  | E2.2                 | $\pm 4.7$ | R         | $\sqrt{3}$ | $(1 - c_p)^{1/2}$ | $\pm 1.9$           | $\infty$ |
| Hemispherical Isotropy                                                          | E2.2                 | $\pm 9.6$ | R         | $\sqrt{3}$ | $(c_p)^{1/2}$     | $\pm 3.9$           | $\infty$ |
| Boundary Effect                                                                 | E2.3                 | $\pm 1.0$ | R         | $\sqrt{3}$ | 1                 | $\pm 0.6$           | $\infty$ |
| Linearity                                                                       | E2.4                 | $\pm 4.7$ | R         | $\sqrt{3}$ | 1                 | $\pm 2.7$           | $\infty$ |
| System Detection Limits                                                         | E2.5                 | $\pm 1.0$ | R         | $\sqrt{3}$ | 1                 | $\pm 0.6$           | $\infty$ |
| Readout Electronics                                                             | E2.6                 | $\pm 1.0$ | N         | 1          | 1                 | $\pm 1.0$           | $\infty$ |
| Response Time                                                                   | E2.7                 | $\pm 0.8$ | R         | $\sqrt{3}$ | 1                 | $\pm 0.5$           | $\infty$ |
| Integration Time                                                                | E2.8                 | $\pm 2.6$ | R         | $\sqrt{3}$ | 1                 | $\pm 1.5$           | $\infty$ |
| RF Ambient Conditions - Noise                                                   | E6.1                 | $\pm 3.0$ | R         | $\sqrt{3}$ | 1                 | $\pm 1.7$           | $\infty$ |
| RF Ambient Conditions - Reflections                                             | E6.1                 | $\pm 3.0$ | R         | $\sqrt{3}$ | 1                 | $\pm 1.7$           | $\infty$ |
| Probe Positioner Mechanical Tolerance                                           | E6.2                 | $\pm 0.4$ | R         | $\sqrt{3}$ | 1                 | $\pm 0.2$           | $\infty$ |
| Probe Positioning with respect to Phantom Shell                                 | E6.3                 | $\pm 2.9$ | R         | $\sqrt{3}$ | 1                 | $\pm 1.7$           | $\infty$ |
| Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation | E5                   | $\pm 3.9$ | R         | $\sqrt{3}$ | 1                 | $\pm 2.3$           | $\infty$ |
| <b>Test sample Related</b>                                                      |                      |           |           |            |                   |                     |          |
| Test Sample Positioning                                                         | E4.2                 | $\pm 6.0$ | N         | 1          | 1                 | $\pm 6.0$           | 11       |
| Device Holder Uncertainty                                                       | E4.1                 | $\pm 5.0$ | N         | 1          | 1                 | $\pm 5.0$           | 7        |
| Output Power Variation - SAR drift measurement                                  | 6.6.3                | $\pm 0.0$ | R         | $\sqrt{3}$ | 1                 | $\pm 0.0$           | $\infty$ |
| <b>Phantom and Tissue Parameters</b>                                            |                      |           |           |            |                   |                     |          |
| Phantom Uncertainty (shape and thickness tolerances)                            | E3.1                 | $\pm 4.0$ | R         | $\sqrt{3}$ | 1                 | $\pm 2.3$           | $\infty$ |
| Conductivity Target - tolerance                                                 | E3.2                 | $\pm 5.0$ | R         | $\sqrt{3}$ | 0.64              | $\pm 1.8$           | $\infty$ |
| Conductivity - measurement uncertainty                                          | E3.3                 | $\pm 5.5$ | N         | 1          | 0.64              | $\pm 3.5$           | 5        |
| Permittivity Target - tolerance                                                 | E3.2                 | $\pm 5.0$ | R         | $\sqrt{3}$ | 0.6               | $\pm 1.7$           | $\infty$ |
| Permittivity - measurement uncertainty                                          | E3.3                 | $\pm 2.9$ | N         | 1          | 0.6               | $\pm 1.7$           | 5        |
| <b>Combined Standard Uncertainty</b>                                            |                      |           | RSS       |            |                   | $\pm 12.9$          | 116      |
| <b>Coverage Factor for 95%</b>                                                  |                      |           | k=2       |            |                   |                     |          |
| <b>Expanded Uncertainty</b>                                                     |                      |           |           |            |                   | $\pm 25.8$          |          |

## 7. RESULTS

The measured Head SAR values for the test device are tabulated below:

**850MHz Head SAR results**

| Mode                     | Test configuration     |       | SAR, averaged over 1g (W/kg) |                     |                     |
|--------------------------|------------------------|-------|------------------------------|---------------------|---------------------|
|                          |                        |       | Ch 128<br>824.2 MHz          | Ch 190<br>836.6 MHz | Ch 251<br>848.8 MHz |
| <b>GSM</b>               | <b>Conducted Power</b> |       | -                            | 32.5 dBm            | -                   |
|                          | Left                   | Cheek | -                            | 0.380               | -                   |
|                          |                        | Tilt  | -                            | -                   | -                   |
|                          | Right                  | Cheek | -                            | -                   | -                   |
|                          |                        | Tilt  | -                            | -                   | -                   |
| <b>2-slot GPRS</b>       | <b>Conducted Power</b> |       | 29.5 dBm                     | 29.5 dBm            | 29.5 dBm            |
|                          | Left                   | Cheek | -                            | 0.386               | -                   |
|                          |                        | Tilt  | -                            | 0.289               | -                   |
|                          | Right                  | Cheek | 0.396                        | 0.465               | <b>0.556</b>        |
|                          |                        | Tilt  | -                            | 0.301               | -                   |
| <b>3-slot GPRS</b>       | <b>Conducted Power</b> |       | -                            | 27.7 dBm            | -                   |
|                          | Left                   | Cheek | -                            | 0.366               | -                   |
|                          |                        | Tilt  | -                            | -                   | -                   |
|                          | Right                  | Cheek | -                            | -                   | -                   |
|                          |                        | Tilt  | -                            | -                   | -                   |
| <b>4-slot GPRS</b>       | <b>Conducted Power</b> |       | -                            | 26.5 dBm            | -                   |
|                          | Left                   | Cheek | -                            | 0.368               | -                   |
|                          |                        | Tilt  | -                            | -                   | -                   |
|                          | Right                  | Cheek | -                            | -                   | -                   |
|                          |                        | Tilt  | -                            | -                   | -                   |
| <b>1-slot 8PSK EGPRS</b> | <b>Conducted Power</b> |       | -                            | 27.0 dBm            | -                   |
|                          | Left                   | Cheek | -                            | 0.126               | -                   |
|                          |                        | Tilt  | -                            | -                   | -                   |
|                          | Right                  | Cheek | -                            | -                   | -                   |
|                          |                        | Tilt  | -                            | -                   | -                   |

(850MHz Table continues)

(850MHz Table continues)

| Mode              | Test configuration |       | SAR, averaged over 1g (W/kg) |                      |                      |
|-------------------|--------------------|-------|------------------------------|----------------------|----------------------|
|                   |                    |       | Ch 128<br>824.2 MHz          | Ch 190<br>836.6 MHz  | Ch 251<br>848.8 MHz  |
| 2-slot 8PSK EGPRS | Conducted Power    |       | -                            | 27.0 dBm             | -                    |
|                   | Left               | Cheek | -                            | 0.310                | -                    |
|                   |                    | Tilt  | -                            | -                    | -                    |
|                   | Right              | Cheek | -                            | -                    | -                    |
|                   |                    | Tilt  | -                            | -                    | -                    |
| 3-slot 8PSK EGPRS | Conducted Power    |       | -                            | 27.0 dBm             | -                    |
|                   | Left               | Cheek | -                            | 0.337                | -                    |
|                   |                    | Tilt  | -                            | -                    | -                    |
|                   | Right              | Cheek | -                            | -                    | -                    |
|                   |                    | Tilt  | -                            | -                    | -                    |
| 4-slot 8PSK EGPRS | Conducted Power    |       | -                            | 27.0 dBm             | -                    |
|                   | Left               | Cheek | -                            | 0.372                | -                    |
|                   |                    | Tilt  | -                            | -                    | -                    |
|                   | Right              | Cheek | -                            | -                    | -                    |
|                   |                    | Tilt  | -                            | -                    | -                    |
| Mode              | Test configuration |       | Ch 4132<br>826.4 MHz         | Ch 4175<br>835.0 MHz | Ch 4233<br>846.6 MHz |
| WCDMA             | Conducted Power    |       | 23.5 dBm                     | 23.5 dBm             | 23.5 dBm             |
|                   | Left               | Cheek | -                            | 0.442                | -                    |
|                   |                    | Tilt  | -                            | 0.343                | -                    |
|                   | Right              | Cheek | 0.461                        | 0.558                | 0.672                |
|                   |                    | Tilt  | -                            | 0.398                | -                    |

## 1700/2100MHz Head SAR results

| Mode  | Test configuration |       | SAR, averaged over 1g (W/kg) |                       |                       |
|-------|--------------------|-------|------------------------------|-----------------------|-----------------------|
|       |                    |       | Ch 1312<br>1712.4 MHz        | Ch 1412<br>1732.4 MHz | Ch 1513<br>1752.6 MHz |
| WCDMA | Conducted Power    |       | 23.5 dBm                     | 23.5 dBm              | 23.5 dBm              |
|       | Left               | Cheek | 0.954                        | 1.02                  | 1.00                  |
|       |                    | Tilt  | -                            | 0.516                 | -                     |
|       | Right              | Cheek | 0.806                        | 0.909                 | 0.923                 |
|       |                    | Tilt  | -                            | 0.402                 | -                     |

### 1900MHz Head SAR results

| Mode                     | Test configuration     |       | SAR, averaged over 1g (W/kg) |                      |                      |
|--------------------------|------------------------|-------|------------------------------|----------------------|----------------------|
|                          |                        |       | Ch 512<br>1850.2 MHz         | Ch 661<br>1880.0 MHz | Ch 810<br>1909.8 MHz |
| <b>GSM</b>               | <b>Conducted Power</b> |       | -                            | <b>29.5 dBm</b>      | -                    |
|                          | Left                   | Cheek | -                            | 0.478                | -                    |
|                          |                        | Tilt  | -                            | -                    | -                    |
|                          | Right                  | Cheek | -                            | -                    | -                    |
|                          |                        | Tilt  | -                            | -                    | -                    |
| <b>2-slot GPRS</b>       | <b>Conducted Power</b> |       | -                            | <b>26.5 dBm</b>      | -                    |
|                          | Left                   | Cheek | -                            | 0.486                | -                    |
|                          |                        | Tilt  | -                            | -                    | -                    |
|                          | Right                  | Cheek | -                            | -                    | -                    |
|                          |                        | Tilt  | -                            | -                    | -                    |
| <b>3-slot GPRS</b>       | <b>Conducted Power</b> |       | -                            | <b>24.7 dBm</b>      | -                    |
|                          | Left                   | Cheek | -                            | 0.509                | -                    |
|                          |                        | Tilt  | -                            | -                    | -                    |
|                          | Right                  | Cheek | -                            | -                    | -                    |
|                          |                        | Tilt  | -                            | -                    | -                    |
| <b>4-slot GPRS</b>       | <b>Conducted Power</b> |       | -                            | <b>23.5 dBm</b>      | -                    |
|                          | Left                   | Cheek | -                            | 0.501                | -                    |
|                          |                        | Tilt  | -                            | -                    | -                    |
|                          | Right                  | Cheek | -                            | -                    | -                    |
|                          |                        | Tilt  | -                            | -                    | -                    |
| <b>1-slot 8PSK EGPRS</b> | <b>Conducted Power</b> |       | -                            | <b>26.0 dBm</b>      | -                    |
|                          | Left                   | Cheek | -                            | 0.216                | -                    |
|                          |                        | Tilt  | -                            | -                    | -                    |
|                          | Right                  | Cheek | -                            | -                    | -                    |
|                          |                        | Tilt  | -                            | -                    | -                    |

(1900MHz Table continues)



(1900MHz Table continues)

| Mode                     | Test configuration     |       | SAR, averaged over 1g (W/kg) |                       |                       |
|--------------------------|------------------------|-------|------------------------------|-----------------------|-----------------------|
|                          |                        |       | Ch 512<br>1850.2 MHz         | Ch 661<br>1880.0 MHz  | Ch 810<br>1909.8 MHz  |
| <b>2-slot 8PSK EGPRS</b> | <b>Conducted Power</b> |       | -                            | <b>26.0 dBm</b>       | -                     |
|                          | Left                   | Cheek | -                            | 0.398                 | -                     |
|                          |                        | Tilt  | -                            | -                     | -                     |
|                          | Right                  | Cheek | -                            | -                     | -                     |
|                          |                        | Tilt  | -                            | -                     | -                     |
| <b>3-slot 8PSK EGPRS</b> | <b>Conducted Power</b> |       | <b>25.7 dBm</b>              | <b>25.7 dBm</b>       | <b>25.7 dBm</b>       |
|                          | Left                   | Cheek | <b>0.680</b>                 | 0.597                 | 0.517                 |
|                          |                        | Tilt  | -                            | 0.322                 | -                     |
|                          | Right                  | Cheek | -                            | 0.488                 | -                     |
|                          |                        | Tilt  | -                            | 0.238                 | -                     |
| <b>4-slot 8PSK EGPRS</b> | <b>Conducted Power</b> |       | -                            | <b>24.5 dBm</b>       | -                     |
|                          | Left                   | Cheek | -                            | 0.487                 | -                     |
|                          |                        | Tilt  | -                            | -                     | -                     |
|                          | Right                  | Cheek | -                            | -                     | -                     |
|                          |                        | Tilt  | -                            | -                     | -                     |
| Mode                     | Test configuration     |       | Ch 9262<br>1852.4 MHz        | Ch 9400<br>1880.0 MHz | Ch 9538<br>1907.6 MHz |
| <b>WCDMA</b>             | <b>Conducted Power</b> |       | <b>22.5 dBm</b>              | <b>22.5 dBm</b>       | <b>22.5 dBm</b>       |
|                          | Left                   | Cheek | 0.749                        | <b>0.806</b>          | 0.699                 |
|                          |                        | Tilt  | -                            | 0.438                 | -                     |
|                          | Right                  | Cheek | -                            | 0.780                 | -                     |
|                          |                        | Tilt  | -                            | 0.381                 | -                     |

### 2450MHz Head SAR results

| Mode               | Test configuration     |       | SAR, averaged over 1g (W/kg) |                    |                     |
|--------------------|------------------------|-------|------------------------------|--------------------|---------------------|
|                    |                        |       | Ch 1<br>2412.0 MHz           | Ch 7<br>2442.0 MHz | Ch 11<br>2462.0 MHz |
| <b>WLAN b-mode</b> | <b>Conducted Power</b> |       | <b>14.5 dBm</b>              | <b>17.0 dBm</b>    | <b>14.5 dBm</b>     |
|                    | Left                   | Cheek | -                            | 0.226              | -                   |
|                    |                        | Tilt  | -                            | 0.203              | -                   |
|                    | Right                  | Cheek | 0.111                        | <b>0.270</b>       | 0.119               |
|                    |                        | Tilt  | -                            | 0.249              | -                   |
| <b>WLAN n-mode</b> | <b>Conducted Power</b> |       | <b>13.5 dBm</b>              | <b>16.0 dBm</b>    | <b>13.5 dBm</b>     |
|                    | Left                   | Cheek | -                            | -                  | -                   |
|                    |                        | Tilt  | -                            | -                  | -                   |
|                    | Right                  | Cheek | 0.086                        | 0.168              | 0.093               |
|                    |                        | Tilt  | -                            | -                  | -                   |

The measured Body SAR values for the test device are tabulated below:

**850MHz Body SAR results**

| Mode        | Device orientation     | Test configuration | SAR, averaged over 1g (W/kg) |                      |                      |
|-------------|------------------------|--------------------|------------------------------|----------------------|----------------------|
|             |                        |                    | Ch 128<br>824.2 MHz          | Ch 190<br>836.6 MHz  | Ch 251<br>848.8 MHz  |
| 2-slot GPRS |                        | Conducted Power    | 29.5 dBm                     | 29.5 dBm             | 29.5 dBm             |
|             | Display facing phantom | Without headset    | -                            | 0.496                | -                    |
|             |                        | Headset WH-102     | -                            | 0.387                | -                    |
|             | Back facing phantom    | Without headset    | 0.510                        | 0.548                | <b>0.578</b>         |
|             |                        | Headset WH-102     | -                            | 0.396                | -                    |
| Mode        | Device orientation     | Test configuration | Ch 4132<br>826.4 MHz         | Ch 4175<br>835.0 MHz | Ch 4233<br>846.6 MHz |
| WCDMA       |                        | Conducted Power    | 23.5 dBm                     | 23.5 dBm             | 23.5 dBm             |
|             | Display facing phantom | Without headset    | -                            | 0.549                | -                    |
|             |                        | Headset WH-102     | -                            | 0.435                | -                    |
|             | Back facing phantom    | Without headset    | 0.588                        | 0.625                | <b>0.636</b>         |
|             |                        | Headset WH-102     | -                            | 0.488                | -                    |

**1700/2100MHz Body SAR results**

| Mode  | Device orientation     | Test configuration | SAR, averaged over 1g (W/kg) |                       |                       |
|-------|------------------------|--------------------|------------------------------|-----------------------|-----------------------|
|       |                        |                    | Ch 1312<br>1712.4 MHz        | Ch 1412<br>1732.4 MHz | Ch 1513<br>1752.6 MHz |
| WCDMA |                        | Conducted Power    | 23.5 dBm                     | 23.5 dBm              | 23.5 dBm              |
|       | Display facing phantom | Without headset    | 0.571                        | 0.688                 | 0.593                 |
|       |                        | Headset WH-102     | -                            | 0.660                 | -                     |
|       | Back facing phantom    | Without headset    | -                            | 0.665                 | -                     |
|       |                        | Headset WH-102     | -                            | 0.570                 | -                     |

### 1900MHz Body SAR results

| Mode              | Device orientation     | Test configuration | SAR, averaged over 1g (W/kg) |                       |                       |
|-------------------|------------------------|--------------------|------------------------------|-----------------------|-----------------------|
|                   |                        |                    | Ch 512<br>1850.2 MHz         | Ch 661<br>1880.0 MHz  | Ch 810<br>1909.8 MHz  |
| 3-slot 8PSK EGPRS |                        | Conducted Power    | 25.7 dBm                     | 25.7 dBm              | 25.7 dBm              |
|                   | Display facing phantom | Without headset    | 0.416                        | 0.393                 | 0.358                 |
|                   |                        | Headset WH-102     | -                            | 0.352                 | -                     |
|                   | Back facing phantom    | Without headset    | -                            | 0.362                 | -                     |
|                   |                        | Headset WH-102     | -                            | 0.302                 | -                     |
| Mode              | Device orientation     | Test configuration | SAR, averaged over 1g (W/kg) |                       |                       |
|                   |                        |                    | Ch 9262<br>1852.4 MHz        | Ch 9400<br>1880.0 MHz | Ch 9538<br>1907.6 MHz |
| WCDMA             |                        | Conducted Power    | 22.5 dBm                     | 22.5 dBm              | 22.5 dBm              |
|                   | Display facing phantom | Without headset    | 0.544                        | 0.555                 | 0.522                 |
|                   |                        | Headset WH-102     | -                            | 0.483                 | -                     |
|                   | Back facing phantom    | Without headset    | -                            | 0.482                 | -                     |
|                   |                        | Headset WH-102     | -                            | 0.454                 | -                     |

### 2450MHz Body SAR results

| Mode        | Device orientation     | Test configuration | SAR, averaged over 1g (W/kg) |                    |                     |
|-------------|------------------------|--------------------|------------------------------|--------------------|---------------------|
|             |                        |                    | Ch 1<br>2412.0 MHz           | Ch 7<br>2442.0 MHz | Ch 11<br>2462.0 MHz |
| WLAN b-mode |                        | Conducted Power    | 14.5 dBm                     | 17.0 dBm           | 14.5 dBm            |
|             | Display facing phantom | Without headset    | -                            | 0.051              | -                   |
|             |                        | Headset WH-102     | -                            | 0.037              | -                   |
|             | Back facing Phantom    | Without headset    | -                            | 0.050              | -                   |
|             |                        | Headset WH-102     | 0.018                        | 0.057              | 0.030               |
| WLAN n-mode |                        | Conducted Power    | 13.5 dBm                     | 16.0 dBm           | 13.5 dBm            |
|             | Display facing phantom | Without headset    | -                            | -                  | -                   |
|             |                        | Headset WH-102     | -                            | -                  | -                   |
|             | Back facing phantom    | Without headset    | -                            | -                  | -                   |
|             |                        | Headset WH-102     | 0.013                        | 0.038              | 0.024               |

**Simultaneous transmissions: Combined SAR results – Individual band Max results**

| Test configuration                                 | Max. 1g SAR results |                   |              |                    |                          |               |
|----------------------------------------------------|---------------------|-------------------|--------------|--------------------|--------------------------|---------------|
|                                                    | WLAN                | 2-slot<br>GPRS850 | WCDMA<br>850 | WCDMA<br>1700/2100 | 3-slot 8PSK<br>EGPRS1900 | WCDMA<br>1900 |
| Head: Left, Cheek                                  | 0.226               | 0.386             | 0.442        | 1.02               | 0.680                    | 0.806         |
| Head: Left, Tilt                                   | 0.203               | 0.289             | 0.343        | 0.516              | 0.322                    | 0.438         |
| Head: Right, Cheek                                 | 0.270               | 0.556             | 0.672        | 0.923              | 0.488                    | 0.780         |
| Head: Right, Tilt                                  | 0.249               | 0.301             | 0.398        | 0.402              | 0.238                    | 0.381         |
| Body:<br>Display Facing Phantom<br>Without Headset | 0.051               | 0.496             | 0.549        | 0.688              | 0.416                    | 0.555         |
| Body:<br>Display Facing Phantom<br>Headset WH-102  | 0.037               | 0.387             | 0.435        | 0.660              | 0.352                    | 0.483         |
| Body:<br>Back Facing Phantom<br>Without Headset    | 0.050               | 0.578             | 0.636        | 0.665              | 0.362                    | 0.482         |
| Body:<br>Back Facing Phantom<br>Headset WH-102     | 0.057               | 0.396             | 0.488        | 0.570              | 0.302                    | 0.454         |

**Simultaneous transmissions: Combined SAR results – Max + Max combined results**

| Test configuration                                 | Combined 1g SAR values      |                     |                              |                                    |                      |
|----------------------------------------------------|-----------------------------|---------------------|------------------------------|------------------------------------|----------------------|
|                                                    | 2-slot<br>GPRS850 +<br>WLAN | WCDMA<br>850 + WLAN | WCDMA<br>1700/2100 +<br>WLAN | 3-slot 8PSK<br>EGPRS1900 +<br>WLAN | WCDMA<br>1900 + WLAN |
| Head: Left, Cheek                                  | 0.612                       | 0.668               | <b>1.246</b>                 | <b>0.906</b>                       | 1.030                |
| Head: Left, Tilt                                   | 0.492                       | 0.546               | 0.719                        | 0.525                              | 0.641                |
| Head: Right, Cheek                                 | <b>0.826</b>                | <b>0.942</b>        | 1.193                        | 0.758                              | <b>1.050</b>         |
| Head: Right, Tilt                                  | 0.550                       | 0.647               | 0.651                        | 0.487                              | 0.630                |
| Body:<br>Display Facing Phantom<br>Without Headset | 0.547                       | 0.600               | <b>0.739</b>                 | <b>0.467</b>                       | <b>0.606</b>         |
| Body:<br>Display Facing Phantom<br>Headset WH-102  | 0.424                       | 0.472               | 0.697                        | 0.389                              | 0.520                |
| Body:<br>Back Facing Phantom<br>Without Headset    | <b>0.628</b>                | <b>0.686</b>        | 0.715                        | 0.412                              | 0.532                |
| Body:<br>Back Facing Phantom<br>Headset WH-102     | 0.453                       | 0.545               | 0.627                        | 0.359                              | 0.511                |

The following table gives a more accurate assessment of the SAR values for simultaneous transmission. These values have been calculated using the SPEAG Combined Multiband algorithm, which is based on area scans. It a) converts the 2D area scans into 3D volume scans by assuming frequency-dependent decay characteristics for the E-field, b) sums the SAR values for WLAN2450 and the cellular bands point-by-point and c) calculates the combined average SAR values.

**Simultaneous transmissions: Combined SAR results –  
SPEAG Combined Multiband algorithm results**

| Test configuration                                 | Combined 1g SAR values      |                     |                              |                                    |                      |
|----------------------------------------------------|-----------------------------|---------------------|------------------------------|------------------------------------|----------------------|
|                                                    | 2-slot<br>GPRS850 +<br>WLAN | WCDMA<br>850 + WLAN | WCDMA<br>1700/2100 +<br>WLAN | 3-slot 8PSK<br>EGPRS1900 +<br>WLAN | WCDMA<br>1900 + WLAN |
| Head: Left, Cheek                                  | -                           | -                   | <b>1.09</b>                  | <b>0.720</b>                       | -                    |
| Head: Left, Tilt                                   | -                           | -                   | -                            | -                                  | -                    |
| Head: Right, Cheek                                 | <b>0.608</b>                | <b>0.738</b>        | -                            | -                                  | <b>0.805</b>         |
| Head: Right, Tilt                                  | -                           | -                   | -                            | -                                  | -                    |
| Body:<br>Display Facing Phantom<br>Without Headset | -                           | -                   | <b>0.738</b>                 | <b>0.451</b>                       | <b>0.590</b>         |
| Body:<br>Display Facing Phantom<br>Headset WH-701  | -                           | -                   | -                            | -                                  | -                    |
| Body:<br>Back Facing Phantom<br>Without Headset    | <b>0.597</b>                | <b>0.660</b>        | -                            | -                                  | -                    |
| Body:<br>Back Facing Phantom<br>Headset WH-701     | -                           | -                   | -                            | -                                  | -                    |

Some of the Combined SAR values in the above table are less than the maximum SAR values for the contributing cellular band. This is due to a) minimal overlap of the SAR distributions of the cellular band with WLAN2450 and b) uncertainties associated with the different methods of calculation. In these cases, the maximum SAR values given for the combined Modes in the Summary table in Section 1.2 are those for the individual cellular band.

Note: Simultaneous Transmission Procedures as described in KDB648474 are not required for this product. The Combined SAR data given in the tables above has been voluntarily calculated.

Plots of the Measurement scans are given in Appendix B.



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## APPENDIX A: SYSTEM CHECKING SCANS

See the following pages

Date/Time: 2011-03-23 17:24:09

Test Laboratory: TCC Nokia  
Type: D835V2; Serial: 4d042

**Communication System: CW835**

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.912$  mho/m;  $\epsilon_r = 42.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.69, 5.69, 5.69); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**d=15mm, Pin=250mW/Area Scan (61x121x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 2.79 mW/g

**d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.8 V/m

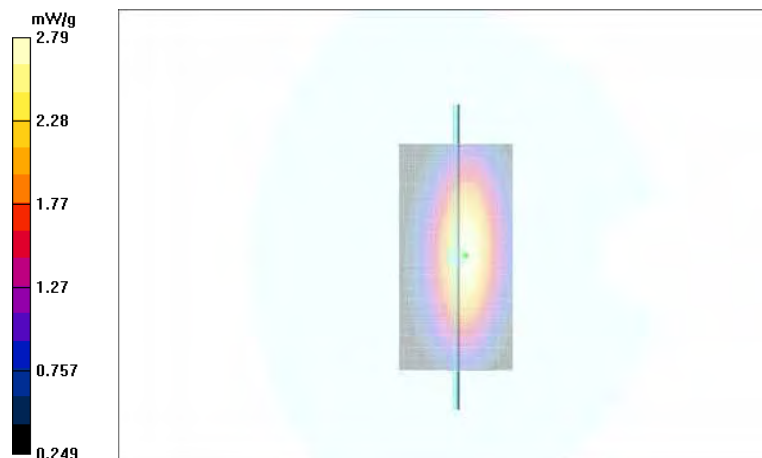
Peak SAR (extrapolated) = 3.89 W/kg

**SAR(1 g) = 2.57 mW/g**

**SAR(10 g) = 1.68 mW/g**

**Power Drift = -0.174 dB**

Maximum value of SAR (measured) = 2.79 mW/g



Date/Time: 2011-03-29 10:04:27

Test Laboratory: TCC Nokia  
Type: D835V2; Serial: 4d042

**Communication System: CW835**

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 21.3 C

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.914$  mho/m;  $\epsilon_r = 42.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.44, 8.44, 8.44); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**d=15mm, Pin=250mW/Area Scan (61x121x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 2.82 mW/g

**d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.0 V/m

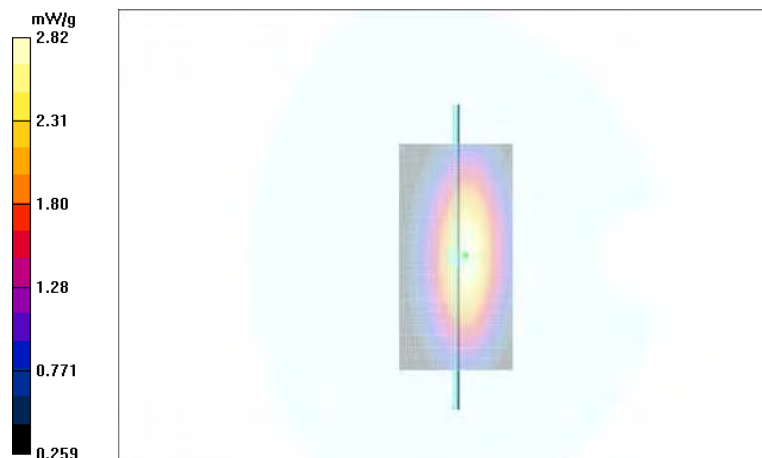
Peak SAR (extrapolated) = 3.96 W/kg

**SAR(1 g) = 2.61 mW/g**

**SAR(10 g) = 1.7 mW/g**

**Power Drift = -0.068 dB**

Maximum value of SAR (measured) = 2.82 mW/g



Date/Time: 2011-04-04 16:16:31

Test Laboratory: TCC Nokia  
Type: **D835V2; Serial: 4d042**

**Communication System: CW835**

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.911$  mho/m;  $\epsilon_r = 41.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**d=15mm, Pin=250mW/Area Scan (61x121x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 2.74 mW/g

**d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 55.2 V/m

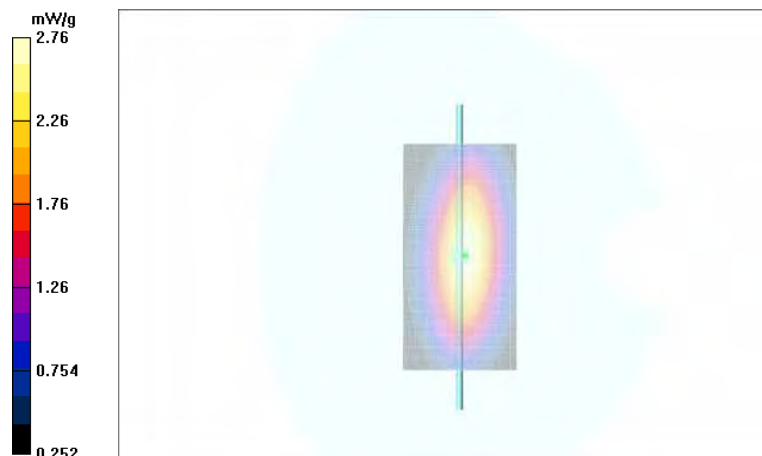
Peak SAR (extrapolated) = 3.85 W/kg

**SAR(1 g) = 2.55 mW/g**

**SAR(10 g) = 1.66 mW/g**

**Power Drift = -0.067 dB**

Maximum value of SAR (measured) = 2.76 mW/g



Date/Time: 2011-03-24 17:41:24

Test Laboratory: TCC Nokia  
Type: D1800V2; Serial: 2d075

**Communication System: CW1800**

Frequency: 1800 MHz; Duty Cycle: 1:1

Medium: Head 1800; Medium Notes: Medium Temperature: 21.9 C

Medium parameters used:  $f = 1800$  MHz;  $\sigma = 1.37$  mho/m;  $\epsilon_r = 38.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.42, 7.42, 7.42); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn339; Calibrated: 2011-02-18
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**d=10mm, Pin=250mW/Area Scan (71x71x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 10.9 mW/g

**d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 60.7 V/m

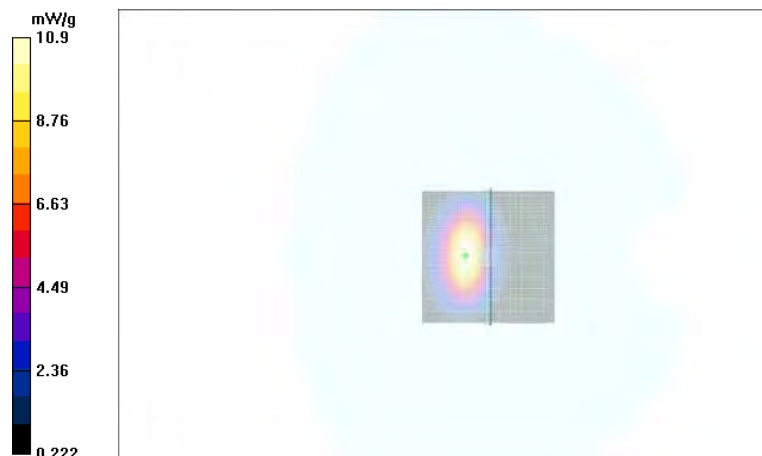
Peak SAR (extrapolated) = 18.1 W/kg

**SAR(1 g) = 9.64 mW/g**

**SAR(10 g) = 5.03 mW/g**

**Power Drift = -0.032 dB**

Maximum value of SAR (measured) = 10.9 mW/g



Date/Time: 2011-03-30 09:52:36

Test Laboratory: TCC Nokia  
Type: D1800V2; Serial: 2d075

**Communication System: CW1800**

Frequency: 1800 MHz; Duty Cycle: 1:1

Medium: Head 1800; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 1800$  MHz;  $\sigma = 1.38$  mho/m;  $\epsilon_r = 39.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.42, 7.42, 7.42); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**d=10mm, Pin=250mW/Area Scan (71x71x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 11.2 mW/g

**d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 84.5 V/m

Peak SAR (extrapolated) = 18.4 W/kg

**SAR(1 g) = 9.84 mW/g**

**SAR(10 g) = 5.14 mW/g**

**Power Drift = -0.032 dB**

Maximum value of SAR (measured) = 11.1 mW/g



Date/Time: 2011-03-28 11:24:51

Test Laboratory: TCC Nokia  
Type: D1900V2; Serial: 5d063

**Communication System: CW1900**

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.46$  mho/m;  $\epsilon_r = 39$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.08, 7.08, 7.08); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**d=10mm, Pin=250mW/Area Scan (71x71x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 11.3 mW/g

**d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 53.8 V/m

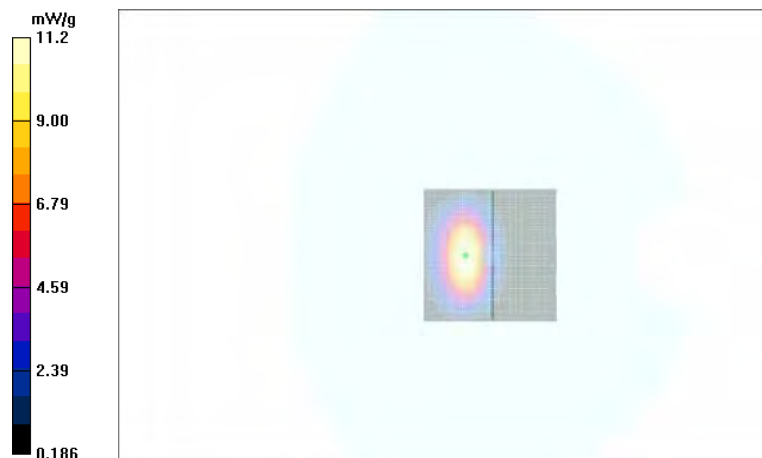
Peak SAR (extrapolated) = 19.1 W/kg

**SAR(1 g) = 9.94 mW/g**

**SAR(10 g) = 5.09 mW/g**

**Power Drift = -0.088 dB**

Maximum value of SAR (measured) = 11.2 mW/g



Date/Time: 2011-03-30 17:41:51

Test Laboratory: TCC Nokia  
Type: D1900V2; Serial: 5d063

**Communication System: CW1900**

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.47$  mho/m;  $\epsilon_r = 38.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.08, 7.08, 7.08); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**d=10mm, Pin=250mW/Area Scan (71x71x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 12.1 mW/g

**d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 84.5 V/m

Peak SAR (extrapolated) = 20.5 W/kg

**SAR(1 g) = 10.7 mW/g**

**SAR(10 g) = 5.47 mW/g**

**Power Drift = -0.068 dB**

Maximum value of SAR (measured) = 12.1 mW/g





Date/Time: 2011-03-31 18:55:21

Test Laboratory: TCC Nokia  
Type: D1900V2; Serial: 5d063

**Communication System: CW1900**

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.46$  mho/m;  $\epsilon_r = 38.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.08, 5.08, 5.08); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**d=10mm, Pin=250mW/Area Scan (71x71x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 12.0 mW/g

**d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 85.7 V/m

Peak SAR (extrapolated) = 19.9 W/kg

**SAR(1 g) = 10.6 mW/g**

**SAR(10 g) = 5.42 mW/g**

**Power Drift = 0.053 dB**

Maximum value of SAR (measured) = 11.9 mW/g



Date/Time: 2011-04-05 16:34:56

Test Laboratory: TCC Nokia  
Type: D1900V2; Serial: 5d063

**Communication System: CW1900**

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: 21.3 C

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 38.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.76, 4.76, 4.76); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**d=10mm, Pin=250mW/Area Scan (71x71x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 11.9 mW/g

**d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 88.0 V/m

Peak SAR (extrapolated) = 19.6 W/kg

**SAR(1 g) = 10.4 mW/g**

**SAR(10 g) = 5.36 mW/g**

**Power Drift = -0.078 dB**

Maximum value of SAR (measured) = 11.8 mW/g



Date/Time: 2011-03-31 12:19:37

Test Laboratory: TCC Nokia

Type: D2450V2; Serial: 750

**Communication System: CW2450**

Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: 21.9 C

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.72$  mho/m;  $\epsilon_r = 40.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.51, 6.51, 6.51); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

**d=10mm, Pin=250mW/Area Scan (71x71x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 15.2 mW/g

**d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 92.0 V/m

Peak SAR (extrapolated) = 28.5 W/kg

**SAR(1 g) = 13.3 mW/g**

**SAR(10 g) = 6.08 mW/g**

**Power Drift = 0.009 dB**

Maximum value of SAR (measured) = 15.1 mW/g



Date/Time: 2011-04-06 11:13:27

Test Laboratory: TCC Nokia

Type: D2450V2; Serial: 750

**Communication System: CW2450**

Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 2.04$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.81, 6.81, 6.81); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

**d=10mm, Pin=250mW/Area Scan (71x71x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 16.8 mW/g

**d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 71.8 V/m

Peak SAR (extrapolated) = 28.3 W/kg

**SAR(1 g) = 13.9 mW/g**

**SAR(10 g) = 6.44 mW/g**

**Power Drift = 0.175 dB**

Maximum value of SAR (measured) = 16.0 mW/g



SAR Report

FCC\_RM-749\_01

Applicant: Nokia Corporation

Type: RM-749

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## APPENDIX B: MEASUREMENT SCANS

See the following pages

Date/Time: 2011-03-23 18:19:35

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: GSM850**

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: Head 850; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.915$  mho/m;  $\epsilon_r = 42.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.69, 5.69, 5.69); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.407 mW/g

**Cheek - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.11 V/m

Peak SAR (extrapolated) = 0.478 W/kg

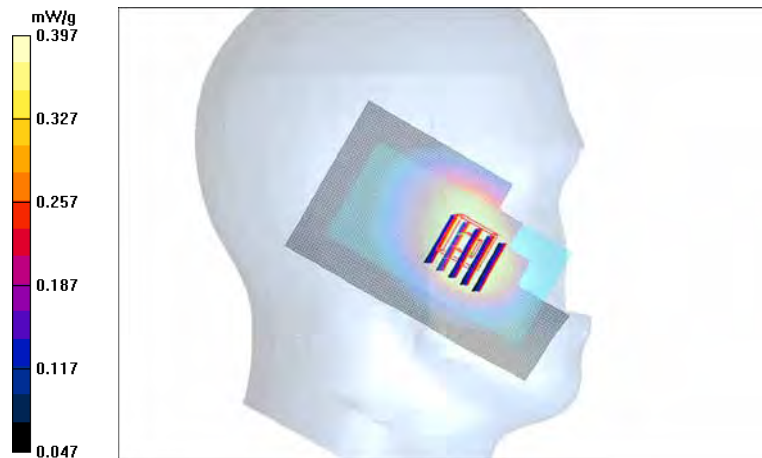
**SAR(1 g) = 0.380 mW/g**

**SAR(10 g) = 0.286 mW/g**

**Power Drift = -0.287 dB**

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.397 mW/g



Date/Time: 2011-03-23 18:37:59

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 2-slot GPRS850**

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Head 850; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.915$  mho/m;  $\epsilon_r = 42.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.69, 5.69, 5.69); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.390 mW/g

**Cheek - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.86 V/m

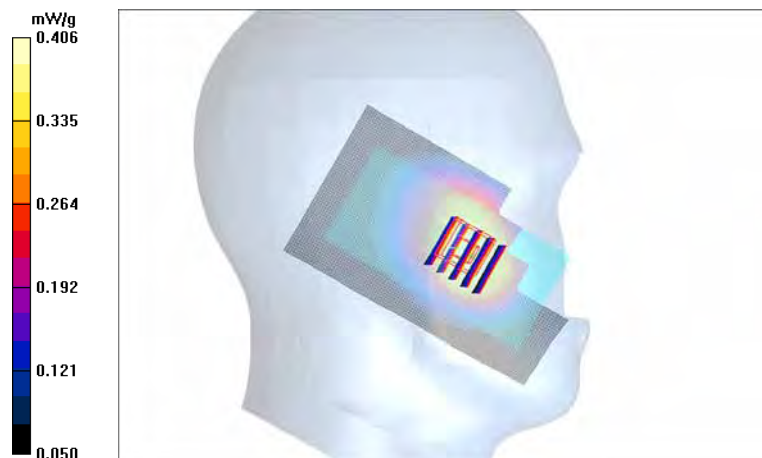
Peak SAR (extrapolated) = 0.484 W/kg

**SAR(1 g) = 0.386 mW/g**

**SAR(10 g) = 0.291 mW/g**

**Power Drift = 0.045 dB**

Maximum value of SAR (measured) = 0.406 mW/g



Date/Time: 2011-03-23 19:35:27

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 2-slot GPRS850**

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Head 850; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.915$  mho/m;  $\epsilon_r = 42.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

**DASY4 Configuration:**

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.69, 5.69, 5.69); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.300 mW/g

**Tilt - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 12.6 V/m

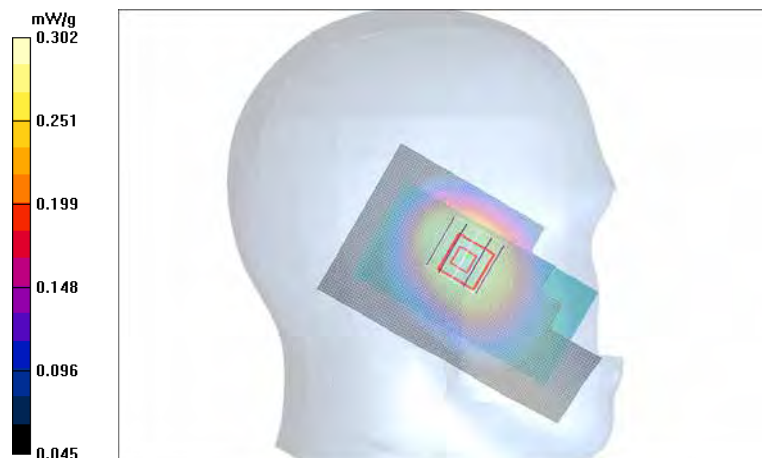
Peak SAR (extrapolated) = 0.357 W/kg

**SAR(1 g) = 0.289 mW/g**

**SAR(10 g) = 0.221 mW/g**

**Power Drift = 0.121 dB**

Maximum value of SAR (measured) = 0.302 mW/g





Date/Time: 2011-03-23 20:40:39

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 2-slot GPRS850**

Frequency: 848.8 MHz; Duty Cycle: 1:4.2

Medium: Head 850; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used:  $f = 849$  MHz;  $\sigma = 0.928$  mho/m;  $\epsilon_r = 42.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.69, 5.69, 5.69); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.596 mW/g

**Cheek - High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.83 V/m

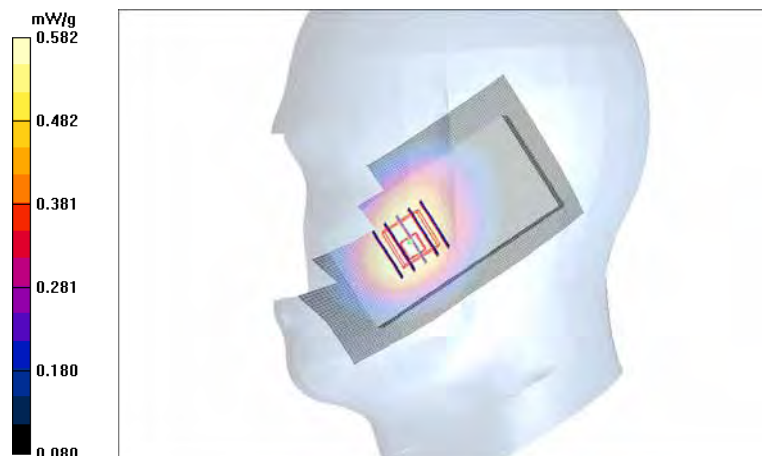
Peak SAR (extrapolated) = 0.720 W/kg

**SAR(1 g) = 0.556 mW/g**

**SAR(10 g) = 0.418 mW/g**

**Power Drift = 0.003 dB**

Maximum value of SAR (measured) = 0.582 mW/g



Date/Time: 2011-03-23 21:41:08

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 2-slot GPRS850**

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Head 850; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.915$  mho/m;  $\epsilon_r = 42.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

**DASY4 Configuration:**

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.69, 5.69, 5.69); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.313 mW/g

**Tilt - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.6 V/m

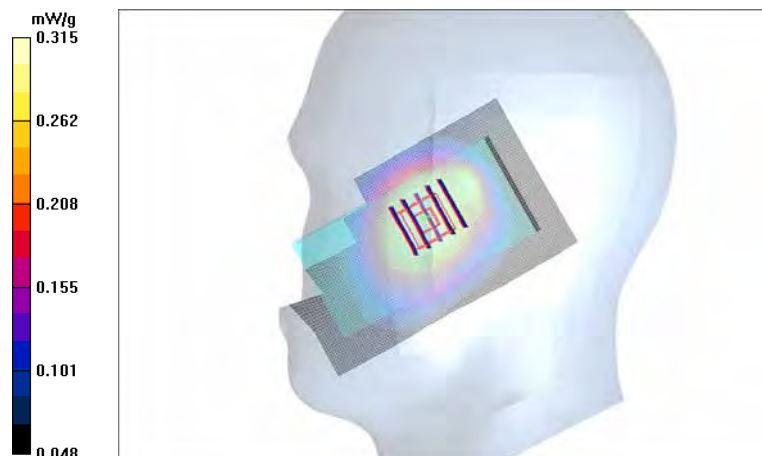
Peak SAR (extrapolated) = 0.379 W/kg

**SAR(1 g) = 0.301 mW/g**

**SAR(10 g) = 0.229 mW/g**

**Power Drift = 0.037 dB**

Maximum value of SAR (measured) = 0.315 mW/g



Date/Time: 2011-03-23 18:51:08

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 3-slot GPRS850**

Frequency: 836.6 MHz; Duty Cycle: 1:2.8

Medium: Head 850; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.915$  mho/m;  $\epsilon_r = 42.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.69, 5.69, 5.69); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.384 mW/g

**Cheek - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.80 V/m

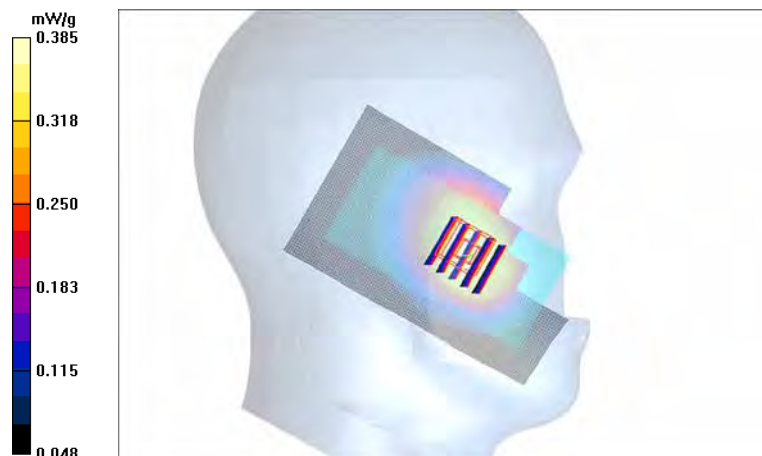
Peak SAR (extrapolated) = 0.465 W/kg

**SAR(1 g) = 0.366 mW/g**

**SAR(10 g) = 0.277 mW/g**

**Power Drift = 0.144 dB**

Maximum value of SAR (measured) = 0.385 mW/g



Date/Time: 2011-03-23 19:03:35

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 4-slot GPRS850**

Frequency: 836.6 MHz; Duty Cycle: 1:2.08

Medium: Head 850; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.915$  mho/m;  $\epsilon_r = 42.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.69, 5.69, 5.69); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.388 mW/g

**Cheek - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.82 V/m

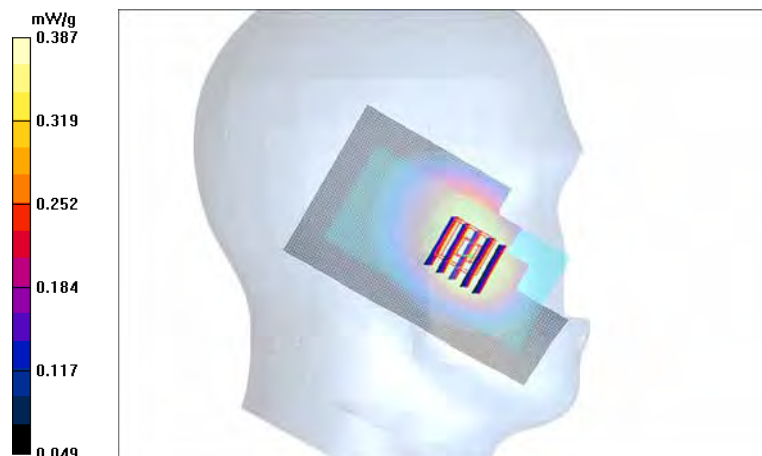
Peak SAR (extrapolated) = 0.462 W/kg

**SAR(1 g) = 0.368 mW/g**

**SAR(10 g) = 0.279 mW/g**

**Power Drift = 0.010 dB**

Maximum value of SAR (measured) = 0.387 mW/g



Date/Time: 2011-04-04 16:55:47

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 1-slot 8PSK EGPRS850**

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: Head 850; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.913$  mho/m;  $\epsilon_r = 41.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.277 mW/g

**Cheek - Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.77 V/m

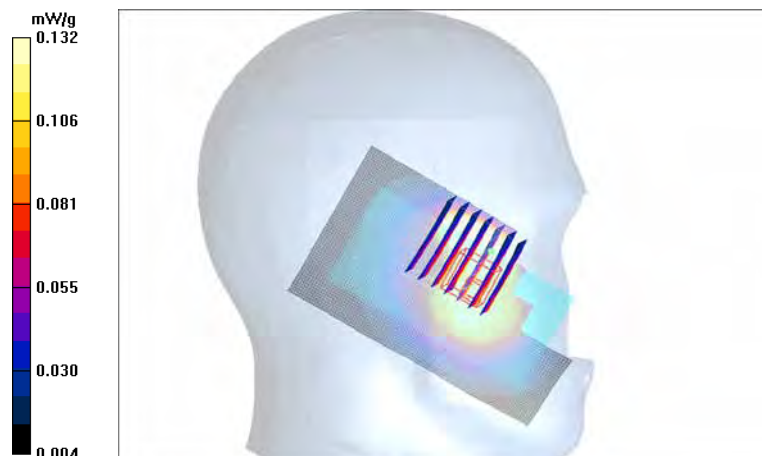
Peak SAR (extrapolated) = 0.249 W/kg

**SAR(1 g) = 0.126 mW/g**

**SAR(10 g) = 0.090 mW/g**

**Power Drift = 0.095 dB**

Maximum value of SAR (measured) = 0.132 mW/g



Date/Time: 2011-04-04 17:38:16

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 2-slot 8PSK EGPRS850**

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Head 850; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.913$  mho/m;  $\epsilon_r = 41.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.285 mW/g

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

Reference Value = 6.31 V/m

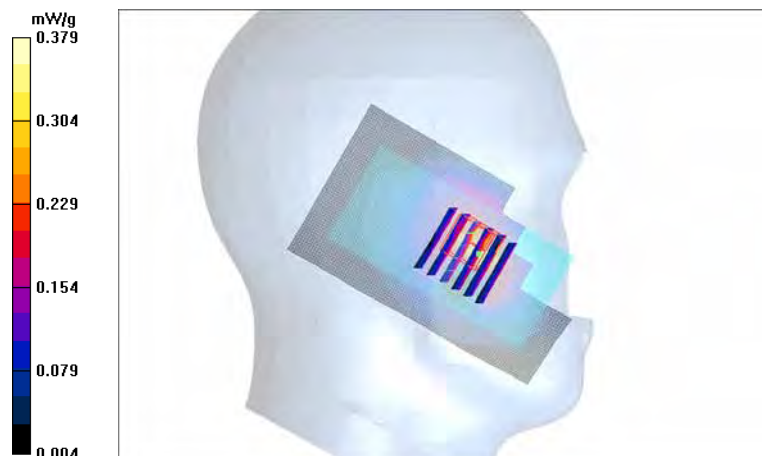
Peak SAR (extrapolated) = 0.397 W/kg

**SAR(1 g) = 0.310 mW/g**

**SAR(10 g) = 0.194 mW/g**

**Power Drift = -0.180 dB**

Maximum value of SAR (measured) = 0.379 mW/g



Date/Time: 2011-04-04 17:57:52

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 3-slot 8PSK EGPRS850**

Frequency: 836.6 MHz; Duty Cycle: 1:2.8

Medium: Head 850; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.913$  mho/m;  $\epsilon_r = 41.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.333 mW/g

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

Reference Value = 7.23 V/m

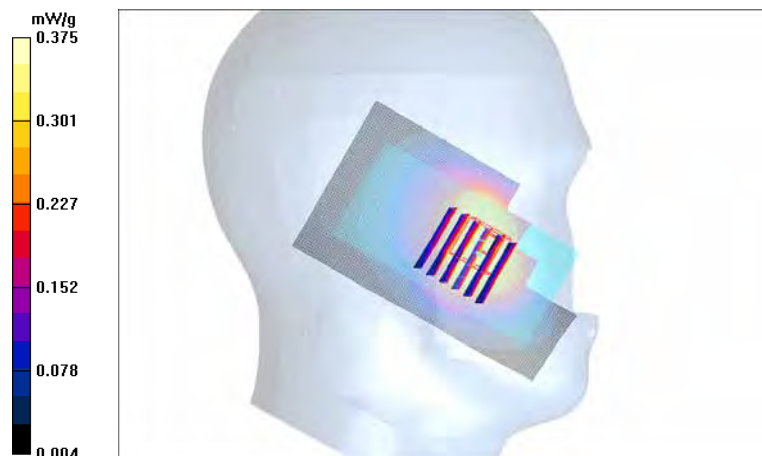
Peak SAR (extrapolated) = 0.433 W/kg

**SAR(1 g) = 0.337 mW/g**

**SAR(10 g) = 0.240 mW/g**

**Power Drift = -0.043 dB**

Maximum value of SAR (measured) = 0.375 mW/g





Date/Time: 2011-04-04 18:27:16

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 4-slot 8PSK EGPRS850**

Frequency: 836.6 MHz; Duty Cycle: 1:2.08

Medium: Head 850; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.913$  mho/m;  $\epsilon_r = 41.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.423 mW/g

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

Reference Value = 8.17 V/m

Peak SAR (extrapolated) = 0.494 W/kg

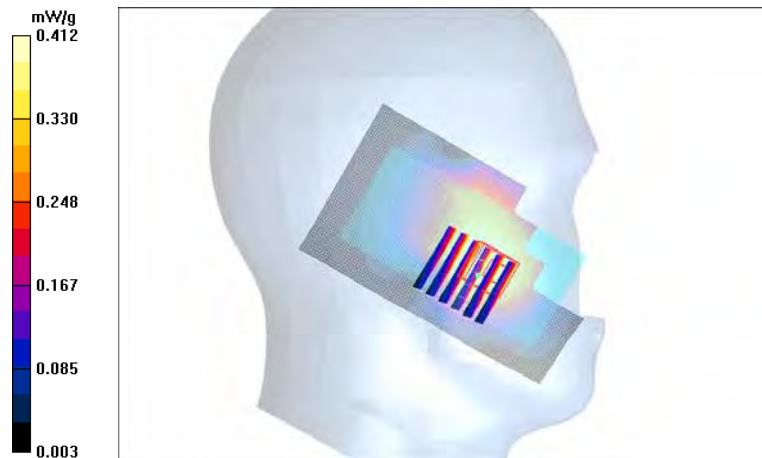
**SAR(1 g) = 0.372 mW/g**

**SAR(10 g) = 0.247 mW/g**

**Power Drift = -0.263 dB**

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.412 mW/g





Date/Time: 2011-03-23 22:15:55

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA850**

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.912$  mho/m;  $\epsilon_r = 42.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.69, 5.69, 5.69); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.466 mW/g

**Cheek - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.25 V/m

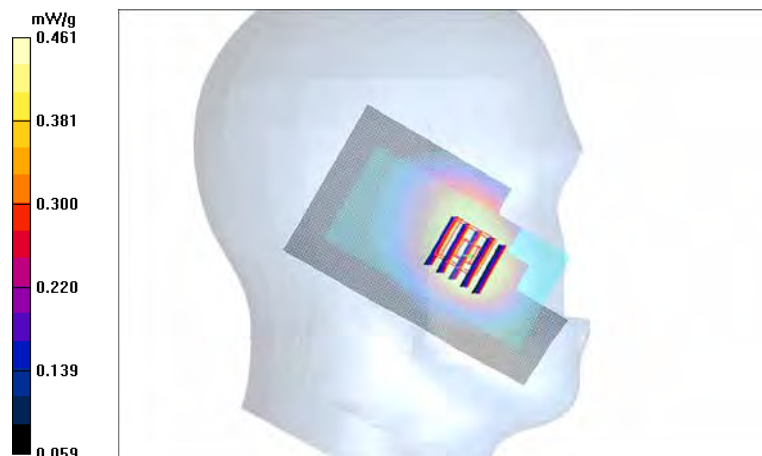
Peak SAR (extrapolated) = 0.558 W/kg

**SAR(1 g) = 0.442 mW/g**

**SAR(10 g) = 0.335 mW/g**

**Power Drift = 0.183 dB**

Maximum value of SAR (measured) = 0.461 mW/g



Date/Time: 2011-03-23 22:27:40

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA850**

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.912$  mho/m;  $\epsilon_r = 42.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

**DASY4 Configuration:**

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.69, 5.69, 5.69); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.367 mW/g

**Tilt - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 13.1 V/m

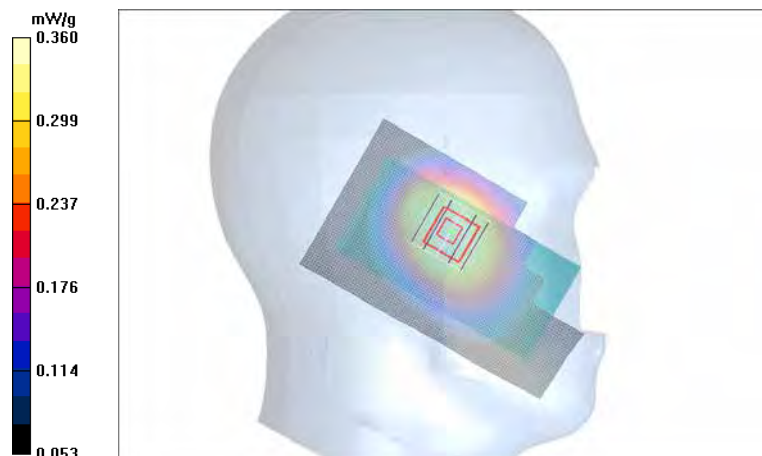
Peak SAR (extrapolated) = 0.422 W/kg

**SAR(1 g) = 0.343 mW/g**

**SAR(10 g) = 0.263 mW/g**

**Power Drift = -0.004 dB**

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



Date/Time: 2011-03-23 23:22:43

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA850**

Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used:  $f = 847$  MHz;  $\sigma = 0.924$  mho/m;  $\epsilon_r = 42.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.69, 5.69, 5.69); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.735 mW/g

**Cheek - High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.62 V/m

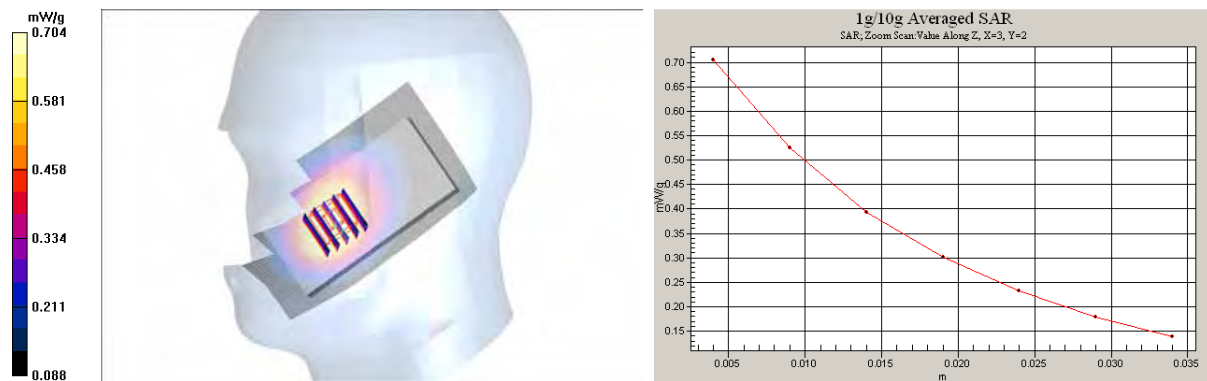
Peak SAR (extrapolated) = 0.903 W/kg

**SAR(1 g) = 0.672 mW/g**

**SAR(10 g) = 0.509 mW/g**

**Power Drift = 0.272 dB**

Maximum value of SAR (measured) = 0.704 mW/g



Date/Time: 2011-03-23 23:34:08

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA850**

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.912$  mho/m;  $\epsilon_r = 42.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

**DASY4 Configuration:**

- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(5.69, 5.69, 5.69); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.423 mW/g

**Tilt - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 13.7 V/m

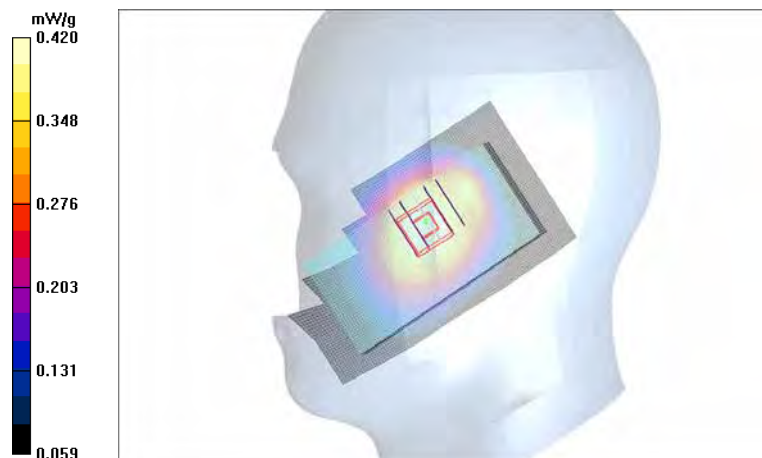
Peak SAR (extrapolated) = 0.499 W/kg

**SAR(1 g) = 0.398 mW/g**

**SAR(10 g) = 0.302 mW/g**

**Power Drift = -0.245 dB**

Maximum value of SAR (measured) = 0.420 mW/g



Date/Time: 2011-03-24 18:43:29

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1700/2100**

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Head 1800; Medium Notes: Medium Temperature: 21.9 C

Medium parameters used (interpolated):  $f = 1732.4$  MHz;  $\sigma = 1.31$  mho/m;  $\epsilon_r = 38.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.42, 7.42, 7.42); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn339; Calibrated: 2011-02-18
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

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

**Cheek - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 12.3 V/m

Peak SAR (extrapolated) = 1.58 W/kg

**SAR(1 g) = 1.02 mW/g**

**SAR(10 g) = 0.659 mW/g**

**Power Drift = 0.015 dB**

Maximum value of SAR (measured) = 1.09 mW/g

**Cheek - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 12.3 V/m

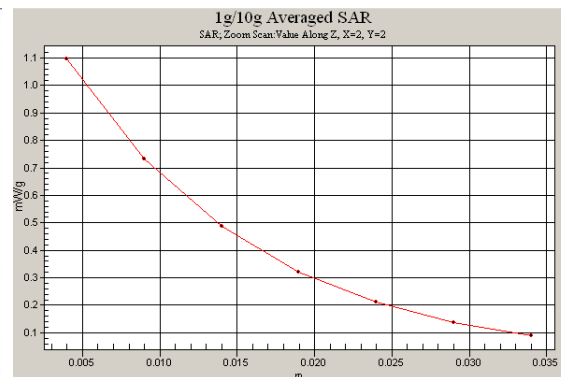
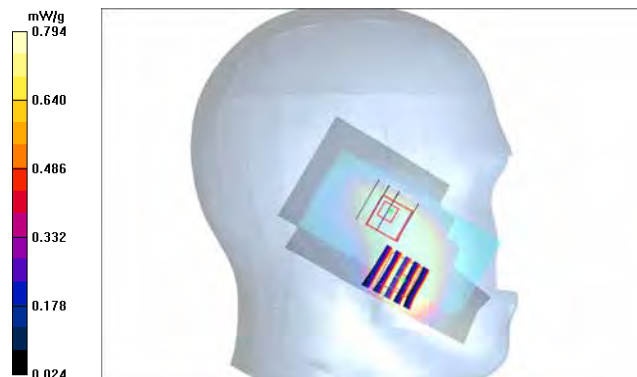
Peak SAR (extrapolated) = 1.13 W/kg

**SAR(1 g) = 0.743 mW/g**

**SAR(10 g) = 0.509 mW/g**

**Power Drift = 0.015 dB**

Maximum value of SAR (measured) = 0.794 mW/g



SAR Report

FCC\_RM-749\_01

Applicant: Nokia Corporation

Type: RM-749

Copyright © 2011 TCC Nokia

Date/Time: 2011-03-24 19:38:08

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1700/2100**

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Head 1800; Medium Notes: Medium Temperature: 21.9 C

Medium parameters used (interpolated):  $f = 1732.4$  MHz;  $\sigma = 1.31$  mho/m;  $\epsilon_r = 38.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.42, 7.42, 7.42); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn339; Calibrated: 2011-02-18
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.597 mW/g

**Tilt - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 18.6 V/m

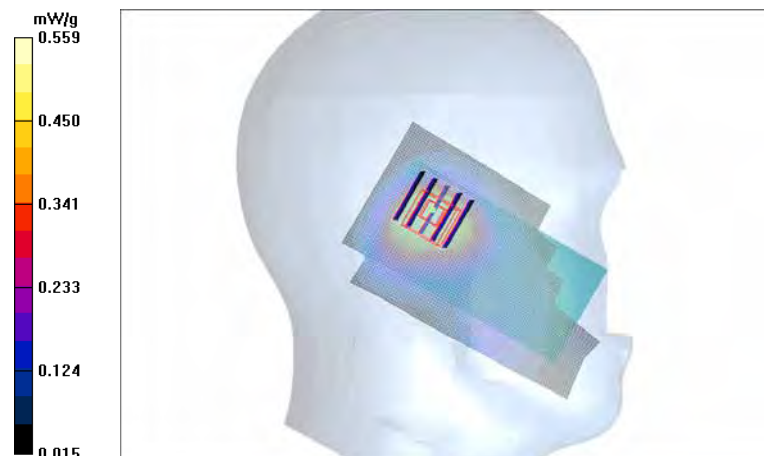
Peak SAR (extrapolated) = 0.751 W/kg

**SAR(1 g) = 0.516 mW/g**

**SAR(10 g) = 0.335 mW/g**

**Power Drift = 0.065 dB**

Maximum value of SAR (measured) = 0.559 mW/g



Date/Time: 2011-03-24 20:23:33

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1700/2100**

Frequency: 1752.6 MHz; Duty Cycle: 1:1

Medium: Head 1800; Medium Notes: Medium Temperature: 21.9 C

Medium parameters used:  $f = 1753$  MHz;  $\sigma = 1.33$  mho/m;  $\epsilon_r = 38.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.42, 7.42, 7.42); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn339; Calibrated: 2011-02-18
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

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

**Cheek - High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 13.2 V/m

Peak SAR (extrapolated) = 1.38 W/kg

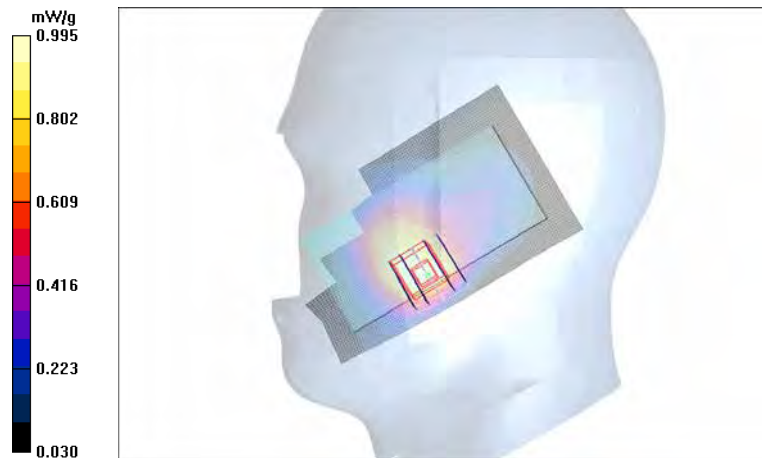
**SAR(1 g) = 0.923 mW/g**

**SAR(10 g) = 0.603 mW/g**

**Power Drift = 0.012 dB**

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.995 mW/g





Date/Time: 2011-03-24 20:35:01

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1700/2100**

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Head 1800; Medium Notes: Medium Temperature: 21.9 C

Medium parameters used (interpolated):  $f = 1732.4$  MHz;  $\sigma = 1.31$  mho/m;  $\epsilon_r = 38.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.42, 7.42, 7.42); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn339; Calibrated: 2011-02-18
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.468 mW/g

**Tilt - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 18.2 V/m

Peak SAR (extrapolated) = 0.588 W/kg

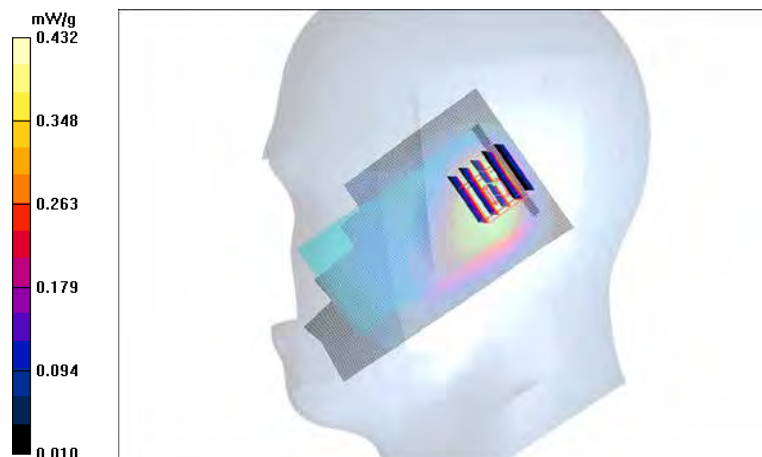
**SAR(1 g) = 0.402 mW/g**

**SAR(10 g) = 0.264 mW/g**

**Power Drift = -0.065 dB**

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.432 mW/g





Date/Time: 2011-03-28 12:34:39

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: GSM 1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 39.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.08, 7.08, 7.08); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.548 mW/g

**Cheek - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.83 V/m

Peak SAR (extrapolated) = 0.754 W/kg

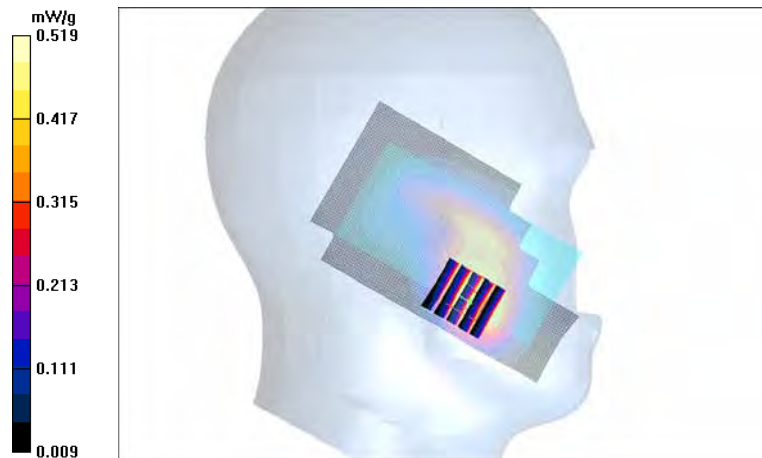
**SAR(1 g) = 0.478 mW/g**

**SAR(10 g) = 0.295 mW/g**

**Power Drift = 0.108 dB**

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.519 mW/g



Date/Time: 2011-03-28 12:47:11

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 2-slot GPRS1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:4.2

Medium: Head 1900; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 39.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.08, 7.08, 7.08); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.557 mW/g

**Cheek - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.96 V/m

Peak SAR (extrapolated) = 0.769 W/kg

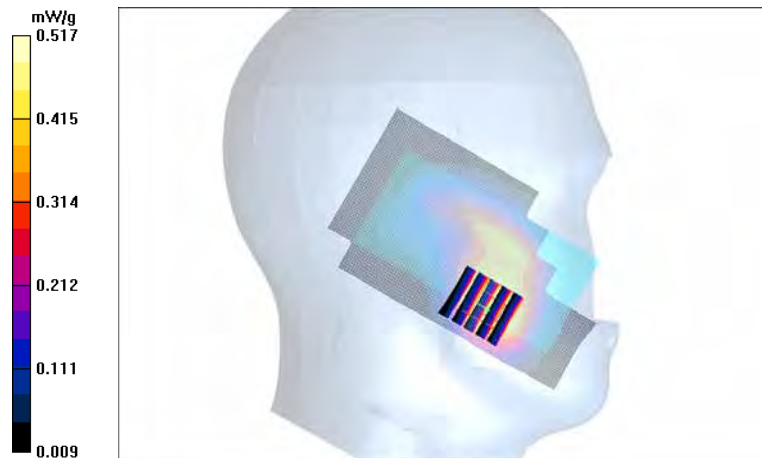
**SAR(1 g) = 0.486 mW/g**

**SAR(10 g) = 0.301 mW/g**

**Power Drift = -0.136 dB**

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.517 mW/g



Date/Time: 2011-03-28 13:37:16

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 3-slot GPRS1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:2.8

Medium: Head 1900; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 39.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.08, 7.08, 7.08); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.589 mW/g

**Cheek - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.15 V/m

Peak SAR (extrapolated) = 0.798 W/kg

**SAR(1 g) = 0.508 mW/g**

**SAR(10 g) = 0.312 mW/g**

**Power Drift = 0.227 dB**

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.543 mW/g

**Cheek - Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.15 V/m

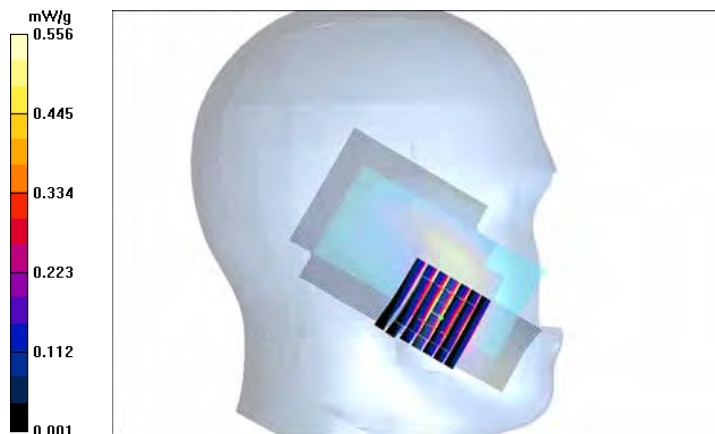
Peak SAR (extrapolated) = 0.803 W/kg

**SAR(1 g) = 0.509 mW/g**

**SAR(10 g) = 0.311 mW/g**

**Power Drift = 0.227 dB**

Maximum value of SAR (measured) = 0.556 mW/g



Date/Time: 2011-03-28 14:24:13

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 4-slot GPRS1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:2.08

Medium: Head 1900; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 39.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.08, 7.08, 7.08); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.581 mW/g

**Cheek - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.93 V/m

Peak SAR (extrapolated) = 0.795 W/kg

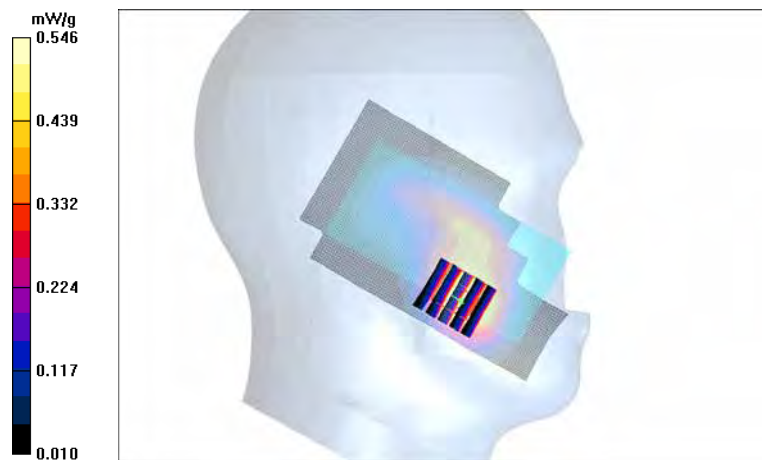
**SAR(1 g) = 0.501 mW/g**

**SAR(10 g) = 0.307 mW/g**

**Power Drift = 0.199 dB**

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.546 mW/g



Date/Time: 2011-03-31 19:38:18

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 1-slot 8PSK EGPRS 1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 38.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.08, 5.08, 5.08); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.234 mW/g

**Cheek - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.74 V/m

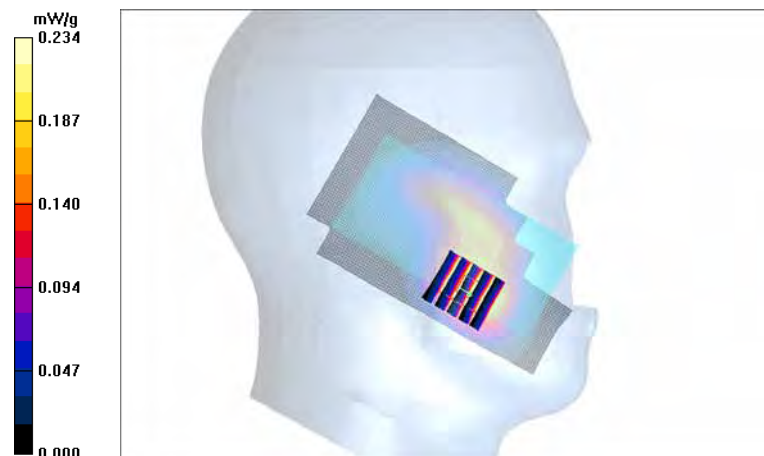
Peak SAR (extrapolated) = 0.338 W/kg

**SAR(1 g) = 0.216 mW/g**

**SAR(10 g) = 0.130 mW/g**

**Power Drift = -0.200 dB**

Maximum value of SAR (measured) = 0.234 mW/g



Date/Time: 2011-03-31 19:54:49

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 2-slot 8PSK EGPRS1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:4.2

Medium: Head 1900; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 38.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.08, 5.08, 5.08); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.586 mW/g

**Cheek - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.54 V/m

Peak SAR (extrapolated) = 0.625 W/kg

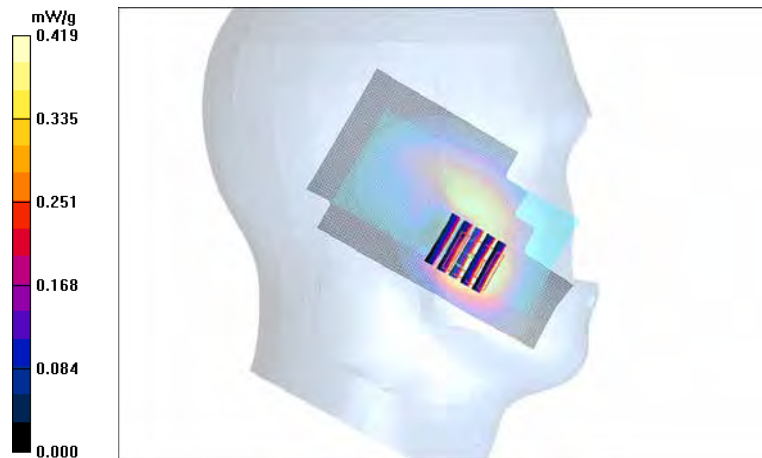
**SAR(1 g) = 0.398 mW/g**

**SAR(10 g) = 0.242 mW/g**

**Power Drift = -0.167 dB**

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.419 mW/g



Date/Time: 2011-03-31 21:55:11

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 3-slot 8PSK EGPRS1900**

Frequency: 1850.2 MHz; Duty Cycle: 1:2.8

Medium: Head 1900; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used (interpolated):  $f = 1850.2$  MHz;  $\sigma = 1.41$  mho/m;  $\epsilon_r = 38.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

**DASY4 Configuration:**

- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.08, 5.08, 5.08); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.778 mW/g

**Cheek - Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.00 V/m

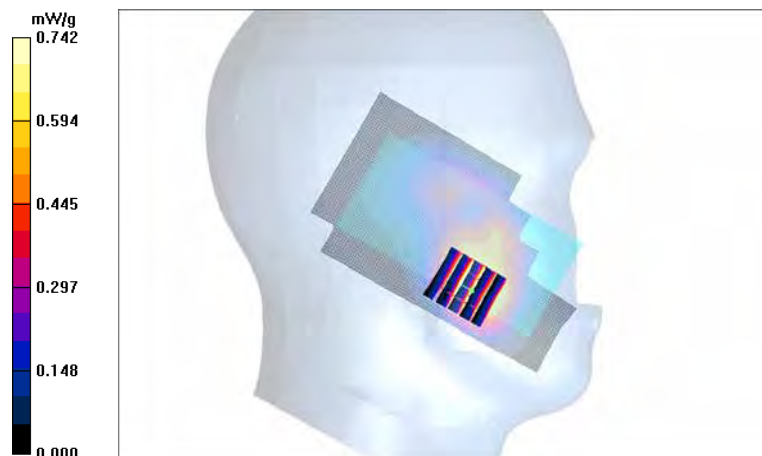
Peak SAR (extrapolated) = 1.05 W/kg

**SAR(1 g) = 0.680 mW/g**

**SAR(10 g) = 0.414 mW/g**

**Power Drift = 0.023 dB**

Maximum value of SAR (measured) = 0.742 mW/g





Date/Time: 2011-03-31 20:48:37

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 3-slot 8PSK EGPRS1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:2.8

Medium: Head 1900; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 38.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.08, 5.08, 5.08); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.382 mW/g

**Tilt - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 15.2 V/m

Peak SAR (extrapolated) = 0.461 W/kg

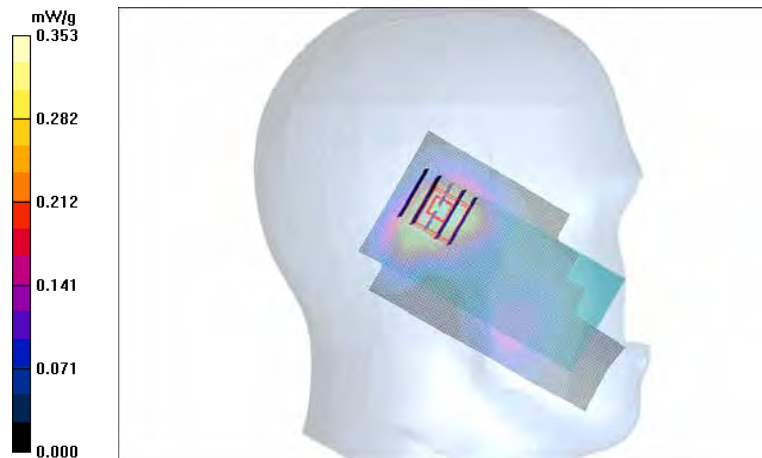
**SAR(1 g) = 0.322 mW/g**

**SAR(10 g) = 0.198 mW/g**

**Power Drift = -0.313 dB**

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.353 mW/g





Date/Time: 2011-03-31 21:23:38

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 3-slot 8PSK EGPRS1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:2.8

Medium: Head 1900; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 38.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.08, 5.08, 5.08); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.530 mW/g

**Cheek - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.74 V/m

Peak SAR (extrapolated) = 0.758 W/kg

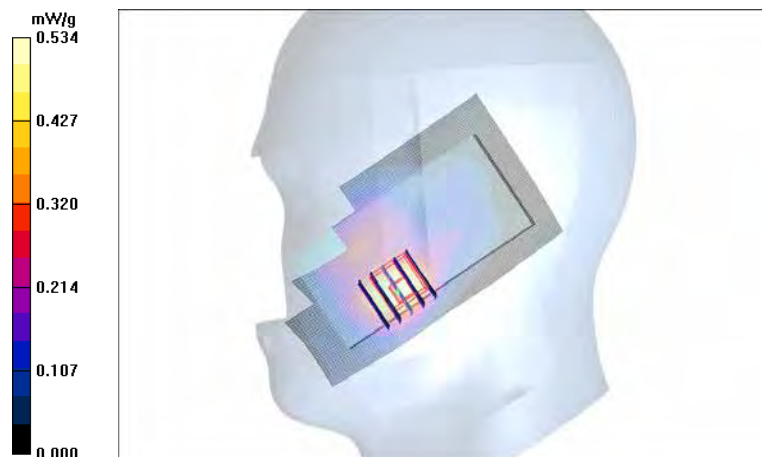
**SAR(1 g) = 0.488 mW/g**

**SAR(10 g) = 0.285 mW/g**

**Power Drift = -0.056 dB**

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.534 mW/g



Date/Time: 2011-03-31 21:39:14

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 3-slot 8PSK EGPRS1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:2.8

Medium: Head 1900; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 38.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.08, 5.08, 5.08); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.317 mW/g

**Tilt - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.1 V/m

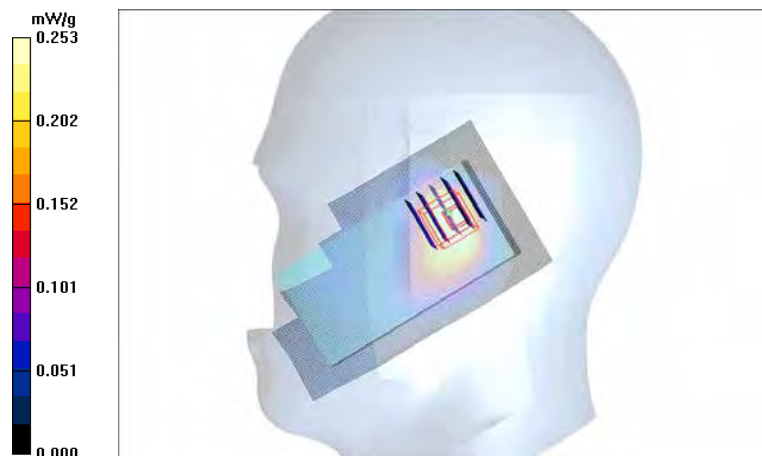
Peak SAR (extrapolated) = 0.376 W/kg

**SAR(1 g) = 0.238 mW/g**

**SAR(10 g) = 0.144 mW/g**

**Power Drift = -0.148 dB**

Maximum value of SAR (measured) = 0.253 mW/g



Date/Time: 2011-03-31 20:08:15

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 4-slot 8PSK EGPRS1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:2.08

Medium: Head 1900; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.44$  mho/m;  $\epsilon_r = 38.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(5.08, 5.08, 5.08); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.608 mW/g

**Cheek - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.73 V/m

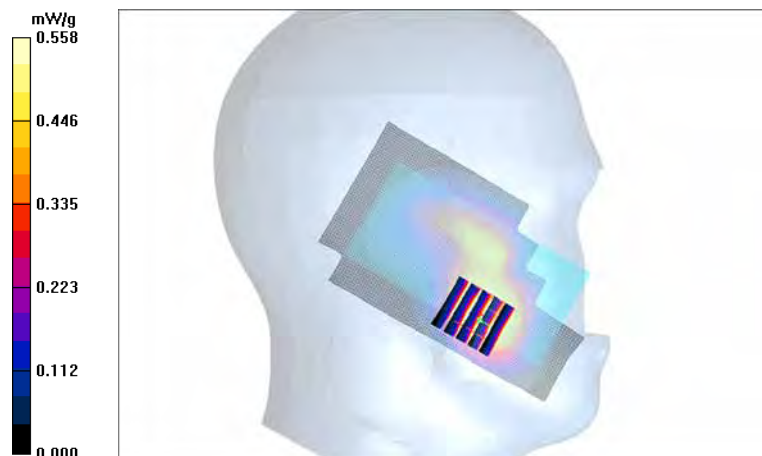
Peak SAR (extrapolated) = 0.786 W/kg

**SAR(1 g) = 0.487 mW/g**

**SAR(10 g) = 0.310 mW/g**

**Power Drift = -0.106 dB**

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



Date/Time: 2011-03-28 21:16:12

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 39.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.08, 7.08, 7.08); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

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

**Cheek - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.70 V/m

Peak SAR (extrapolated) = 1.29 W/kg

**SAR(1 g) = 0.806 mW/g**

**SAR(10 g) = 0.493 mW/g**

**Power Drift = -0.137 dB**

Maximum value of SAR (measured) = 0.878 mW/g

**Cheek - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.70 V/m

Peak SAR (extrapolated) = 0.915 W/kg

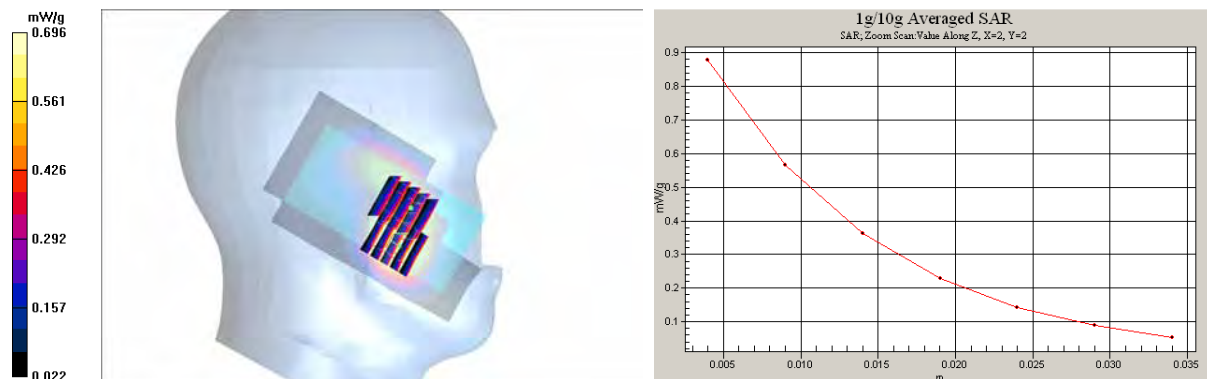
**SAR(1 g) = 0.582 mW/g**

**SAR(10 g) = 0.378 mW/g**

**Power Drift = -0.137 dB**

**Warning:** Maximum averaged SAR over 1 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.696 mW/g



Date/Time: 2011-03-28 22:04:13

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 39.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.08, 7.08, 7.08); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.529 mW/g

**Tilt - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 15.5 V/m

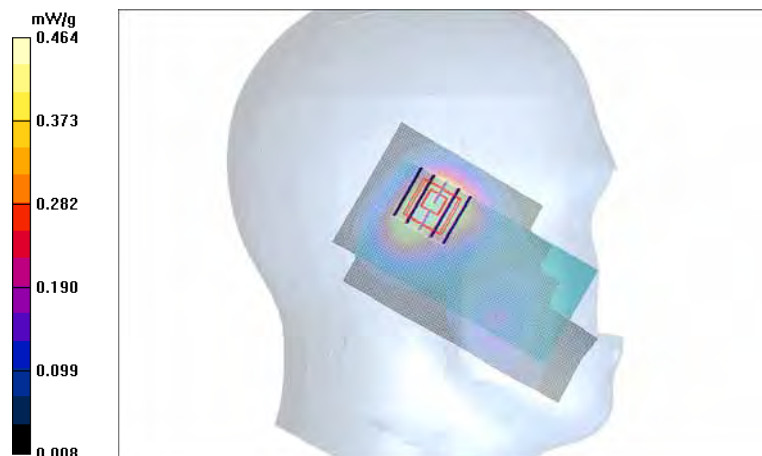
Peak SAR (extrapolated) = 0.658 W/kg

**SAR(1 g) = 0.438 mW/g**

**SAR(10 g) = 0.275 mW/g**

**Power Drift = 0.049 dB**

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



Date/Time: 2011-03-28 22:41:54

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 39.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.08, 7.08, 7.08); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.862 mW/g

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

Reference Value = 9.76 V/m

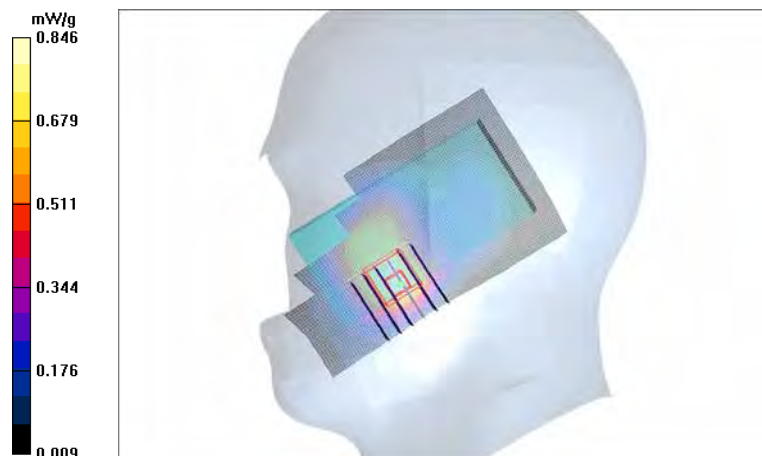
Peak SAR (extrapolated) = 1.22 W/kg

**SAR(1 g) = 0.780 mW/g**

**SAR(10 g) = 0.488 mW/g**

**Power Drift = 0.195 dB**

Maximum value of SAR (measured) = 0.846 mW/g



Date/Time: 2011-03-28 22:57:06

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 39.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.08, 7.08, 7.08); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.453 mW/g

**Tilt - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 16.4 V/m

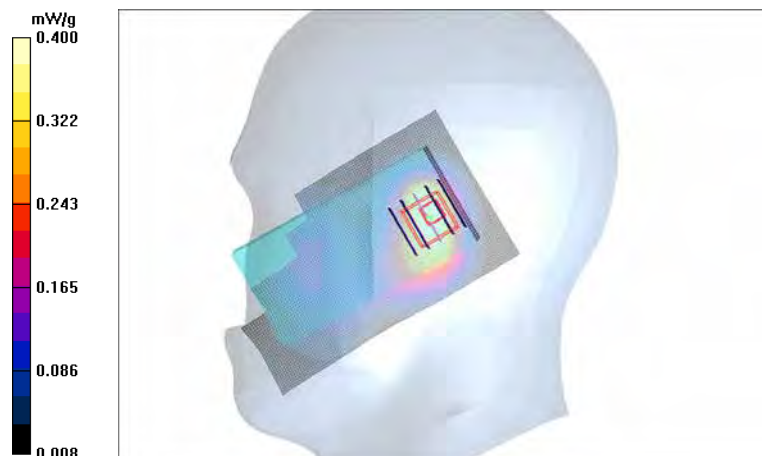
Peak SAR (extrapolated) = 0.595 W/kg

**SAR(1 g) = 0.381 mW/g**

**SAR(10 g) = 0.232 mW/g**

**Power Drift = -0.095 dB**

Maximum value of SAR (measured) = 0.400 mW/g





Date/Time: 2011-03-31 13:03:47

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 b-mode**

Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: 21.9 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 1.71$  mho/m;  $\epsilon_r = 40.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.51, 6.51, 6.51); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.262 mW/g

**Cheek - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 10.6 V/m

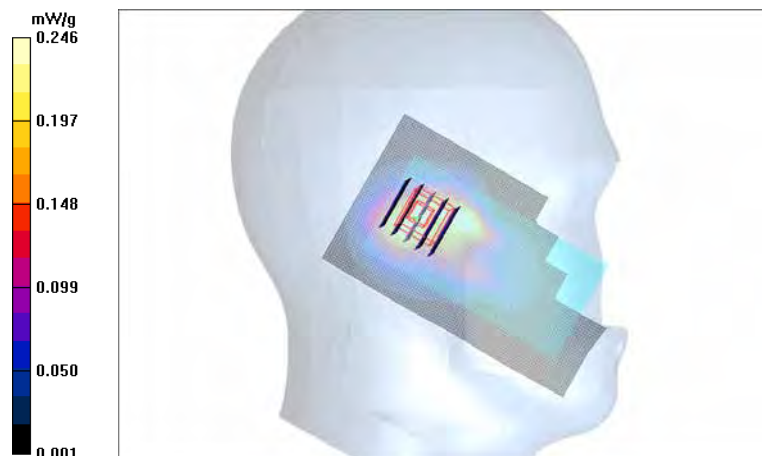
Peak SAR (extrapolated) = 0.392 W/kg

**SAR(1 g) = 0.226 mW/g**

**SAR(10 g) = 0.124 mW/g**

**Power Drift = -0.015 dB**

Maximum value of SAR (measured) = 0.246 mW/g





Date/Time: 2011-03-31 13:15:39

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 b-mode**

Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: 21.9 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 1.71$  mho/m;  $\epsilon_r = 40.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.51, 6.51, 6.51); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.228 mW/g

**Tilt - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.1 V/m

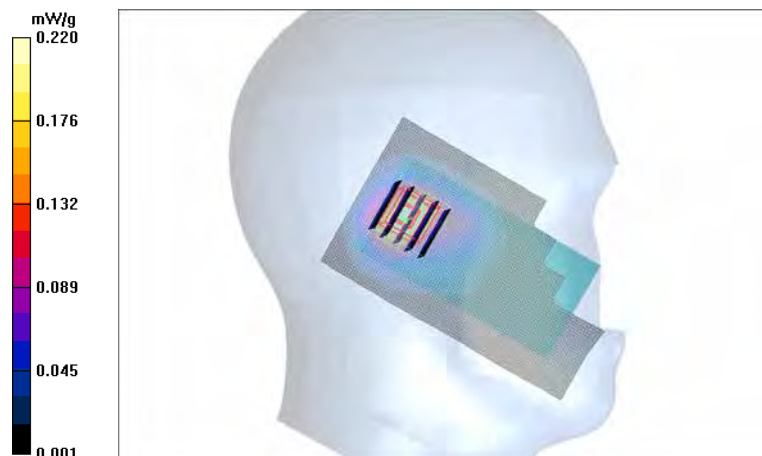
Peak SAR (extrapolated) = 0.386 W/kg

**SAR(1 g) = 0.203 mW/g**

**SAR(10 g) = 0.105 mW/g**

**Power Drift = 0.023 dB**

Maximum value of SAR (measured) = 0.220 mW/g



Date/Time: 2011-03-31 13:29:39

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 b-mode**

Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: 21.9 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 1.71$  mho/m;  $\epsilon_r = 40.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.51, 6.51, 6.51); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.298 mW/g

**Cheek - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.00 V/m

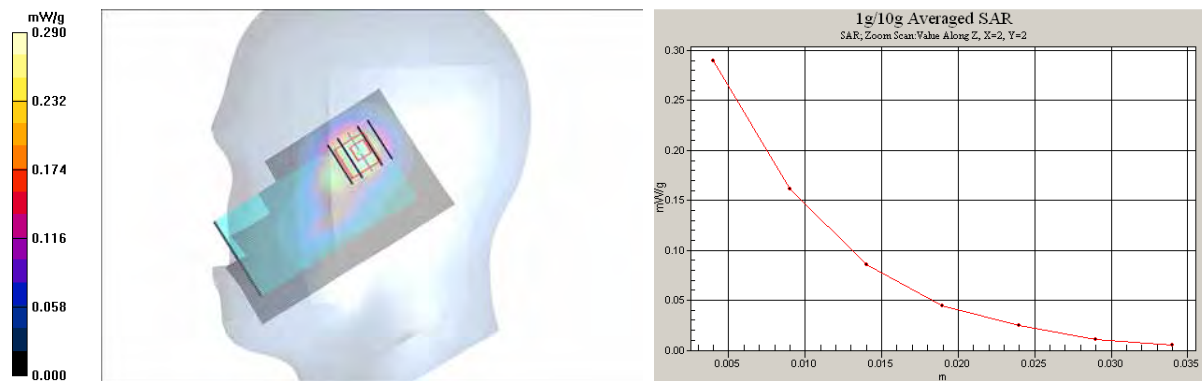
Peak SAR (extrapolated) = 0.536 W/kg

**SAR(1 g) = 0.270 mW/g**

**SAR(10 g) = 0.140 mW/g**

**Power Drift = 0.204 dB**

Maximum value of SAR (measured) = 0.290 mW/g



Date/Time: 2011-03-31 13:44:31

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 b-mode**

Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: 21.9 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 1.71$  mho/m;  $\epsilon_r = 40.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.51, 6.51, 6.51); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

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

Maximum value of SAR (interpolated) = 0.282 mW/g

**Tilt - Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.57 V/m

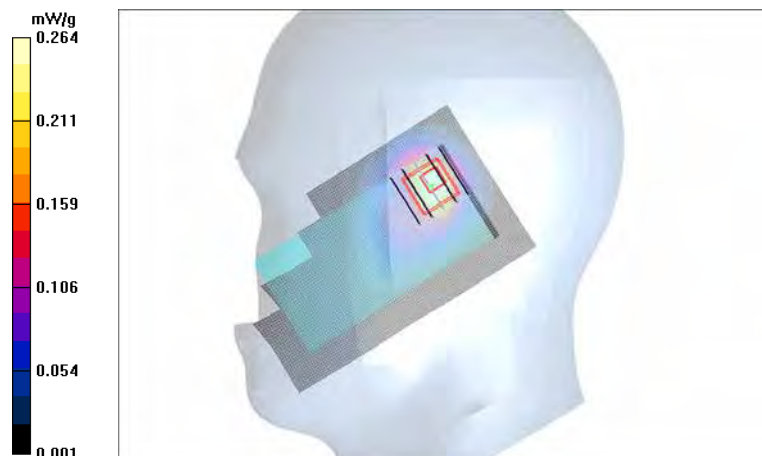
Peak SAR (extrapolated) = 0.530 W/kg

**SAR(1 g) = 0.249 mW/g**

**SAR(10 g) = 0.122 mW/g**

**Power Drift = -0.046 dB**

Maximum value of SAR (measured) = 0.264 mW/g



Date/Time: 2011-03-31 14:51:22

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 n-mode**

Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: 21.9 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 1.71$  mho/m;  $\epsilon_r = 40.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.51, 6.51, 6.51); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

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

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

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

Reference Value = 7.40 V/m

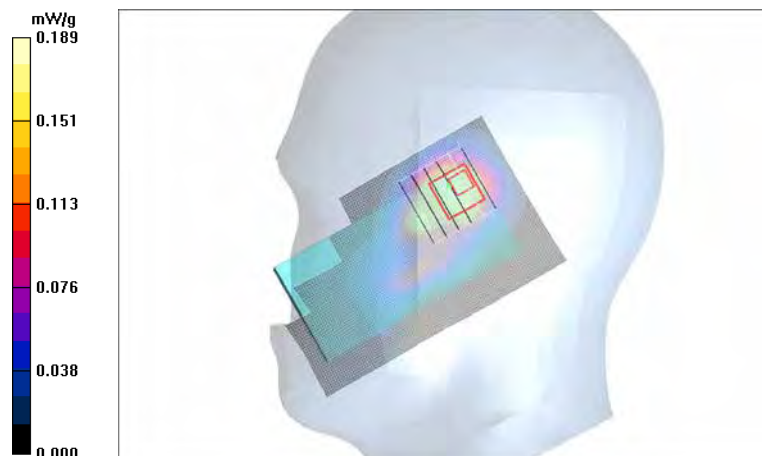
Peak SAR (extrapolated) = 0.342 W/kg

**SAR(1 g) = 0.168 mW/g**

**SAR(10 g) = 0.089 mW/g**

**Power Drift = 0.239 dB**

Maximum value of SAR (measured) = 0.189 mW/g



Date/Time: 2011-03-29 11:32:39

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 2-slot GPRS850**

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.973$  mho/m;  $\epsilon_r = 54$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Display Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

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

**Body - Middle - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.87 V/m

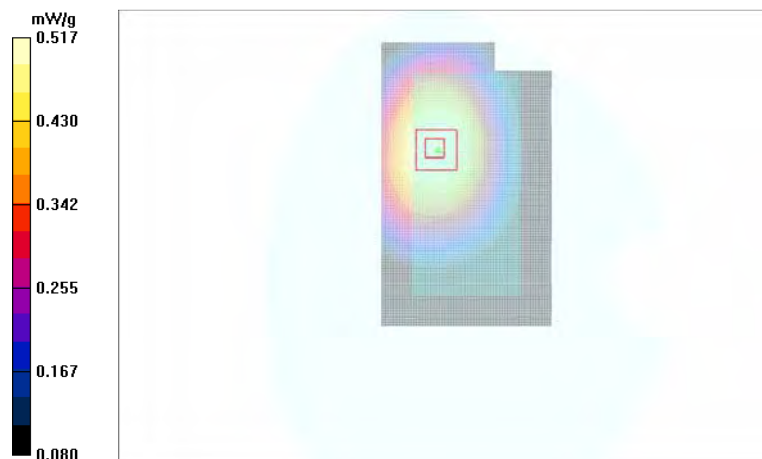
Peak SAR (extrapolated) = 0.625 W/kg

**SAR(1 g) = 0.496 mW/g**

**SAR(10 g) = 0.378 mW/g**

**Power Drift = -0.409 dB**

Maximum value of SAR (measured) = 0.517 mW/g



SAR Report

FCC\_RM-749\_01

Applicant: Nokia Corporation

Type: RM-749

Copyright © 2011 TCC Nokia

Date/Time: 2011-03-29 11:47:23

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 2-slot GPRS850**

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.973$  mho/m;  $\epsilon_r = 54$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - WH-102 - Display Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.403 mW/g

**Body - Middle - WH-102 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 5.07 V/m

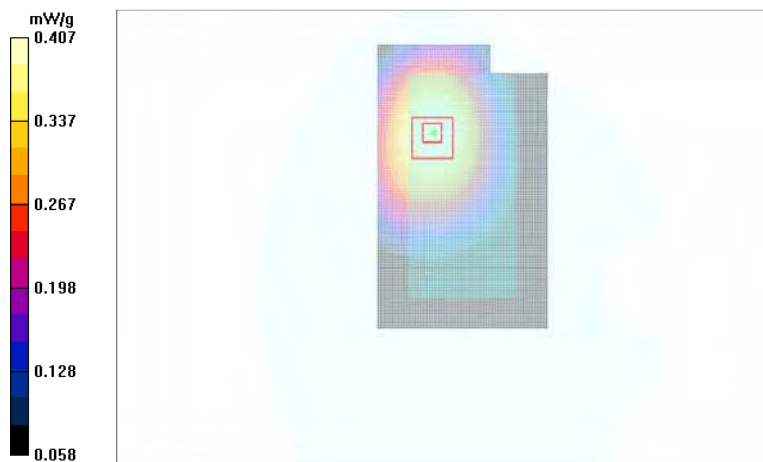
Peak SAR (extrapolated) = 0.499 W/kg

**SAR(1 g) = 0.387 mW/g**

**SAR(10 g) = 0.291 mW/g**

**Power Drift = 0.034 dB**

Maximum value of SAR (measured) = 0.407 mW/g



Date/Time: 2011-03-29 12:45:48

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 2-slot GPRS850**

Frequency: 848.8 MHz; Duty Cycle: 1:4.2

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 849$  MHz;  $\sigma = 0.986$  mho/m;  $\epsilon_r = 54$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - High - No Accessory - Back Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.611 mW/g

**Body - High - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.65 V/m

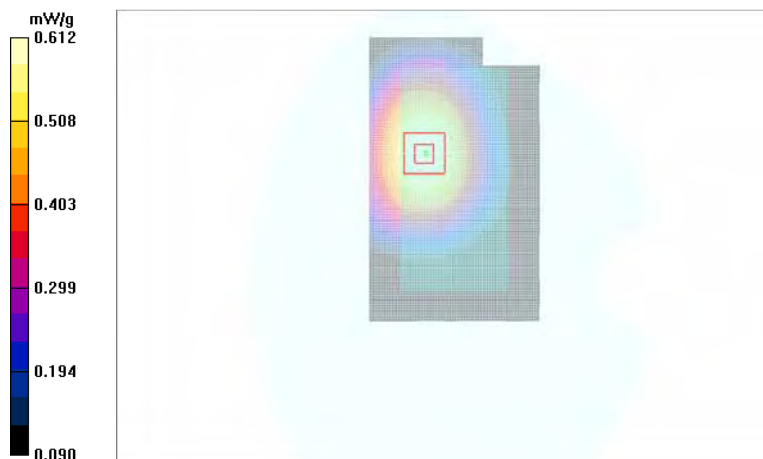
Peak SAR (extrapolated) = 0.752 W/kg

**SAR(1 g) = 0.578 mW/g**

**SAR(10 g) = 0.430 mW/g**

**Power Drift = 0.024 dB**

Maximum value of SAR (measured) = 0.612 mW/g



Date/Time: 2011-03-29 12:11:12

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 2-slot GPRS850**

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.973$  mho/m;  $\epsilon_r = 54$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - WH-102 - Back Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.416 mW/g

**Body - Middle - WH-102 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 5.04 V/m

Peak SAR (extrapolated) = 0.509 W/kg

**SAR(1 g) = 0.396 mW/g**

**SAR(10 g) = 0.295 mW/g**

**Power Drift = 0.147 dB**

Maximum value of SAR (measured) = 0.415 mW/g





Date/Time: 2011-03-29 13:05:39

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA850**

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.971$  mho/m;  $\epsilon_r = 54.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Display Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.578 mW/g

**Body - Middle - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.00 V/m

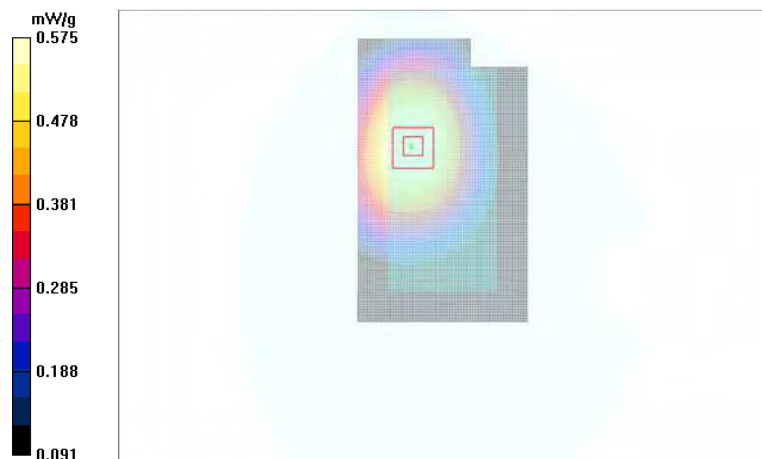
Peak SAR (extrapolated) = 0.691 W/kg

**SAR(1 g) = 0.549 mW/g**

**SAR(10 g) = 0.418 mW/g**

**Power Drift = 0.019 dB**

Maximum value of SAR (measured) = 0.575 mW/g



Date/Time: 2011-03-29 13:26:00

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA850**

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.971$  mho/m;  $\epsilon_r = 54.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - WH-102 - Display Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.459 mW/g

**Body - Middle - WH-102 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.16 V/m

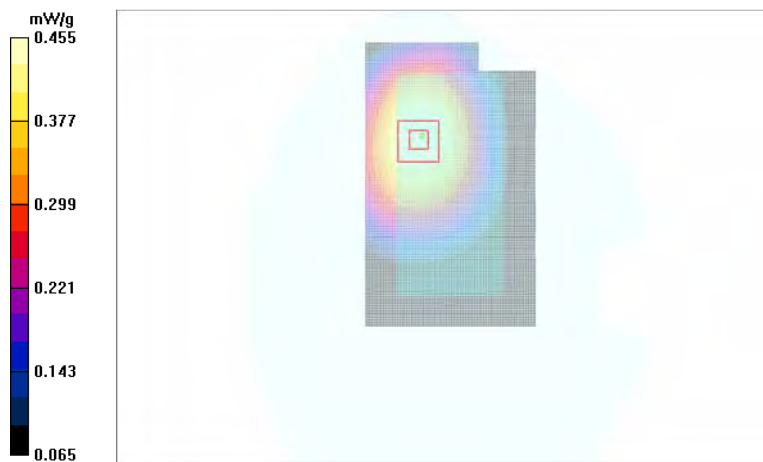
Peak SAR (extrapolated) = 0.552 W/kg

**SAR(1 g) = 0.435 mW/g**

**SAR(10 g) = 0.329 mW/g**

**Power Drift = 0.126 dB**

Maximum value of SAR (measured) = 0.455 mW/g



Date/Time: 2011-03-29 14:12:52

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA850**

Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 847$  MHz;  $\sigma = 0.985$  mho/m;  $\epsilon_r = 54$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - High - No Accessory - Back Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.675 mW/g

**Body - High - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.09 V/m

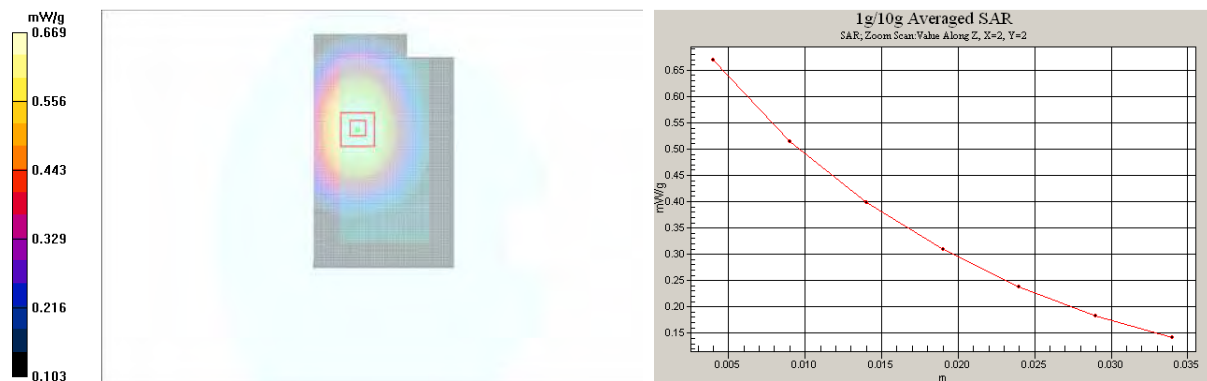
Peak SAR (extrapolated) = 0.820 W/kg

**SAR(1 g) = 0.636 mW/g**

**SAR(10 g) = 0.475 mW/g**

**Power Drift = -0.004 dB**

Maximum value of SAR (measured) = 0.669 mW/g



SAR Report

FCC\_RM-749\_01

Applicant: Nokia Corporation

Type: RM-749

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Date/Time: 2011-03-29 13:49:57

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA850**

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.971$  mho/m;  $\epsilon_r = 54.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - WH-102 - Back Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.506 mW/g

**Body - Middle - WH-102 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.20 V/m

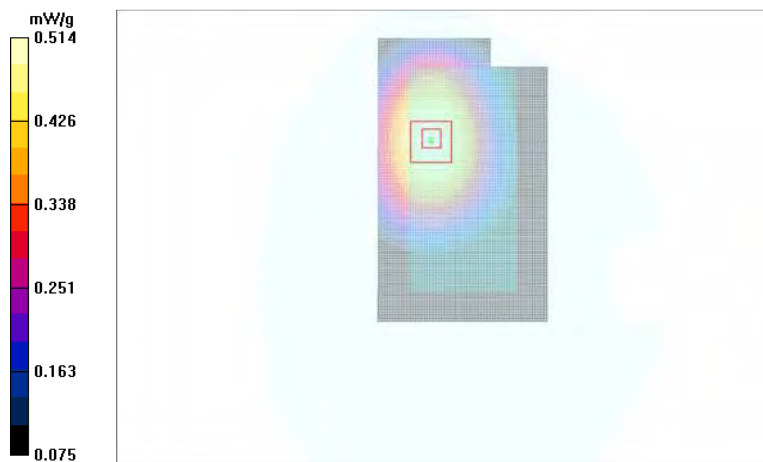
Peak SAR (extrapolated) = 0.630 W/kg

**SAR(1 g) = 0.488 mW/g**

**SAR(10 g) = 0.364 mW/g**

**Power Drift = 0.129 dB**

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



Date/Time: 2011-03-30 13:13:31

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1700/2100**

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Body 1800; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used (interpolated): f = 1732.4 MHz;  $\sigma = 1.43$  mho/m;  $\epsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.12, 7.12, 7.12); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Display Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.780 mW/g

**Body - Middle - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 10.7 V/m

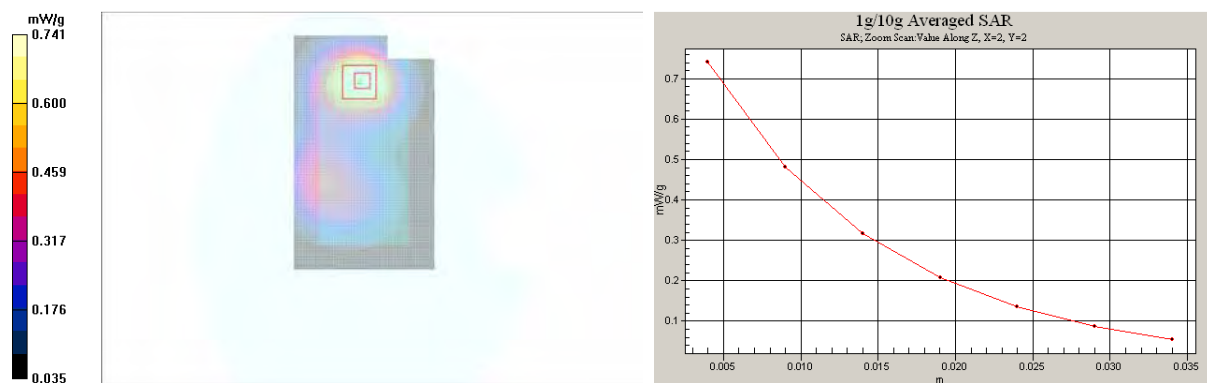
Peak SAR (extrapolated) = 1.07 W/kg

**SAR(1 g) = 0.688 mW/g**

**SAR(10 g) = 0.429 mW/g**

**Power Drift = -0.319 dB**

Maximum value of SAR (measured) = 0.741 mW/g



SAR Report

FCC\_RM-749\_01

Applicant: Nokia Corporation

Type: RM-749

Copyright © 2011 TCC Nokia

Date/Time: 2011-03-30 13:28:01

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1700/2100**

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Body 1800; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used (interpolated): f = 1732.4 MHz;  $\sigma = 1.43$  mho/m;  $\epsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.12, 7.12, 7.12); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - WH-102 - Display Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.719 mW/g

**Body - Middle - WH-102 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.97 V/m

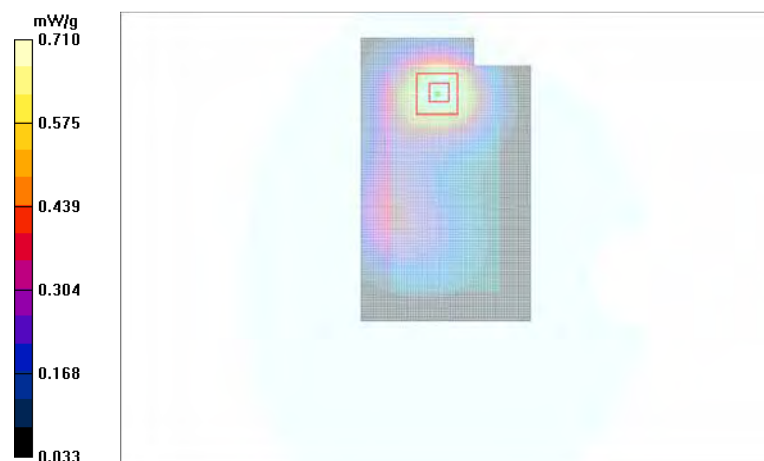
Peak SAR (extrapolated) = 1.02 W/kg

**SAR(1 g) = 0.660 mW/g**

**SAR(10 g) = 0.413 mW/g**

**Power Drift = -0.189 dB**

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



Date/Time: 2011-03-30 13:40:25

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1700/2100**

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Body 1800; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used (interpolated): f = 1732.4 MHz;  $\sigma$  = 1.43 mho/m;  $\epsilon_r$  = 52.5;  $\rho$  = 1000 kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.12, 7.12, 7.12); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Back Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.719 mW/g

**Body - Middle - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 10.9 V/m

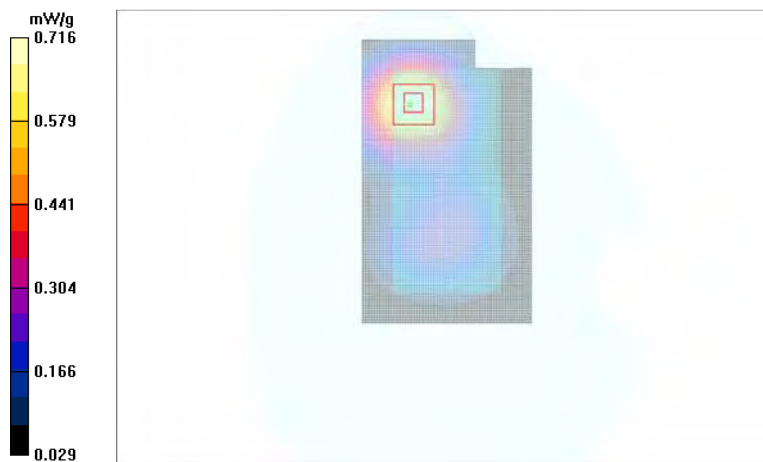
Peak SAR (extrapolated) = 1.02 W/kg

**SAR(1 g) = 0.665 mW/g**

**SAR(10 g) = 0.418 mW/g**

**Power Drift = -0.116 dB**

Maximum value of SAR (measured) = 0.716 mW/g



Date/Time: 2011-03-30 13:54:10

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1700/2100**

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Body 1800; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used (interpolated): f = 1732.4 MHz;  $\sigma$  = 1.43 mho/m;  $\epsilon_r$  = 52.5;  $\rho$  = 1000 kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.12, 7.12, 7.12); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - WH-102 - Back Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.629 mW/g

**Body - Middle - WH-102 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.88 V/m

Peak SAR (extrapolated) = 0.880 W/kg

**SAR(1 g) = 0.570 mW/g**

**SAR(10 g) = 0.360 mW/g**

**Power Drift = -0.070 dB**

Maximum value of SAR (measured) = 0.616 mW/g





Date/Time: 2011-04-05 18:29:31

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 3-slot EGPRS1900**

Frequency: 1850.2 MHz; Duty Cycle: 1:2.8

Medium: Body 1900; Medium Notes: Medium Temperature: 21.3 C

Medium parameters used (interpolated):  $f = 1850.2$  MHz;  $\sigma = 1.54$  mho/m;  $\epsilon_r = 52$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Low - No Accessory - Display Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

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

**Body - Low - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.79 V/m

Peak SAR (extrapolated) = 0.876 W/kg

**SAR(1 g) = 0.416 mW/g**

**SAR(10 g) = 0.250 mW/g**

**Power Drift = -0.136 dB**

Maximum value of SAR (measured) = 0.455 mW/g



Date/Time: 2011-04-05 18:14:35

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 3-slot EGPRS1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:2.8

Medium: Body 1900; Medium Notes: Medium Temperature: 21.3 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 51.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - WH-102 - Display Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.392 mW/g

**Body - Middle - WH-102 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.14 V/m

Peak SAR (extrapolated) = 0.785 W/kg

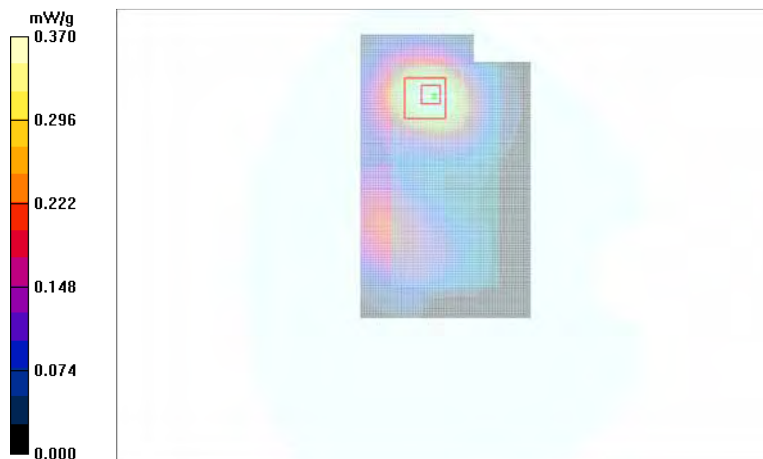
**SAR(1 g) = 0.352 mW/g**

**SAR(10 g) = 0.192 mW/g**

**Power Drift = -0.061 dB**

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.370 mW/g



Date/Time: 2011-04-05 19:17:38

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 3-slot EGPRS1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:2.8

Medium: Body 1900; Medium Notes: Medium Temperature: 21.3 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 51.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Back Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.414 mW/g

**Body - Middle - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.37 V/m

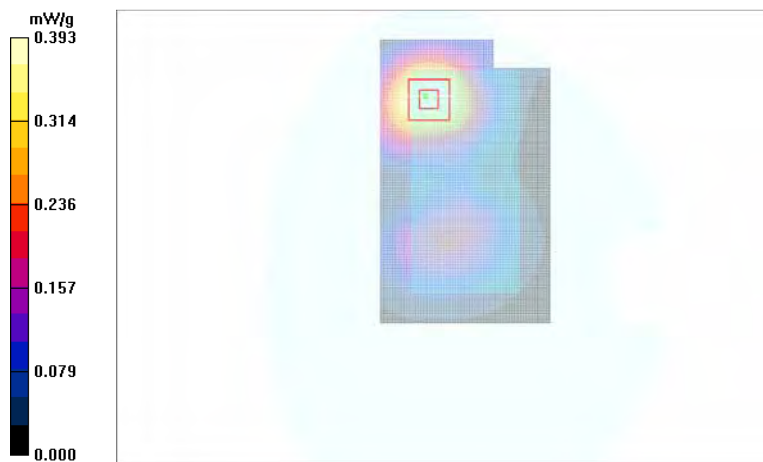
Peak SAR (extrapolated) = 0.674 W/kg

**SAR(1 g) = 0.362 mW/g**

**SAR(10 g) = 0.230 mW/g**

**Power Drift = -0.231 dB**

Maximum value of SAR (measured) = 0.393 mW/g



Date/Time: 2011-04-05 19:29:25

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 3-slot EGPRS1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:2.8

Medium: Body 1900; Medium Notes: Medium Temperature: 21.3 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 51.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - WH-102 - Back Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.366 mW/g

**Body - Middle - WH-102 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.49 V/m

Peak SAR (extrapolated) = 0.436 W/kg

**SAR(1 g) = 0.302 mW/g**

**SAR(10 g) = 0.164 mW/g**

**Power Drift = -0.200 dB**

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

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



SAR Report

FCC\_RM-749\_01

Applicant: Nokia Corporation

Type: RM-749

Copyright © 2011 TCC Nokia

Date/Time: 2011-03-30 18:36:58

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used: f = 1880 MHz;  $\sigma$  = 1.58 mho/m;  $\epsilon_r$  = 52;  $\rho$  = 1000 kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.86, 6.86, 6.86); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Display Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.622 mW/g

**Body - Middle - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.3 V/m

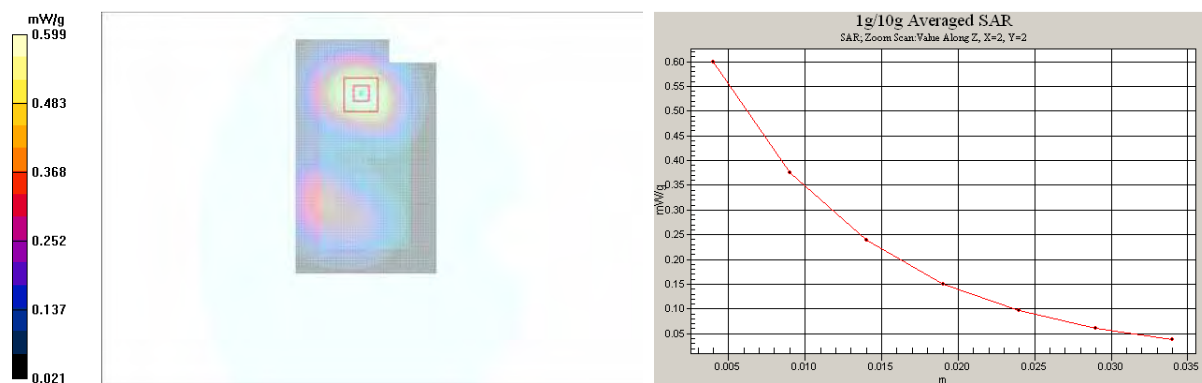
Peak SAR (extrapolated) = 0.883 W/kg

**SAR(1 g) = 0.555 mW/g**

**SAR(10 g) = 0.341 mW/g**

**Power Drift = 0.145 dB**

Maximum value of SAR (measured) = 0.599 mW/g



SAR Report

FCC\_RM-749\_01

Applicant: Nokia Corporation

Type: RM-749

Copyright © 2011 TCC Nokia

Date/Time: 2011-03-30 18:50:51

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used: f = 1880 MHz;  $\sigma$  = 1.58 mho/m;  $\epsilon_r$  = 52;  $\rho$  = 1000 kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.86, 6.86, 6.86); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - WH-102 - Display Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.537 mW/g

**Body - Middle - WH-102 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.85 V/m

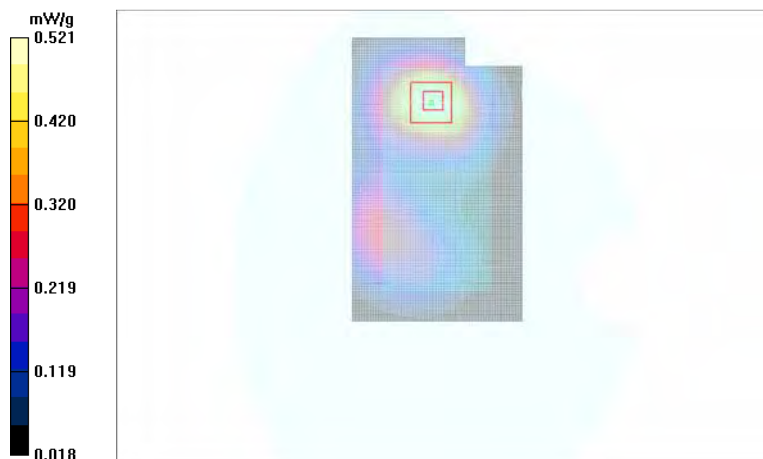
Peak SAR (extrapolated) = 0.777 W/kg

**SAR(1 g) = 0.483 mW/g**

**SAR(10 g) = 0.295 mW/g**

**Power Drift = 0.089 dB**

Maximum value of SAR (measured) = 0.521 mW/g



Date/Time: 2011-03-30 19:05:55

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used: f = 1880 MHz;  $\sigma$  = 1.58 mho/m;  $\epsilon_r$  = 52;  $\rho$  = 1000 kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.86, 6.86, 6.86); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Back Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.546 mW/g

**Body - Middle - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 10.9 V/m

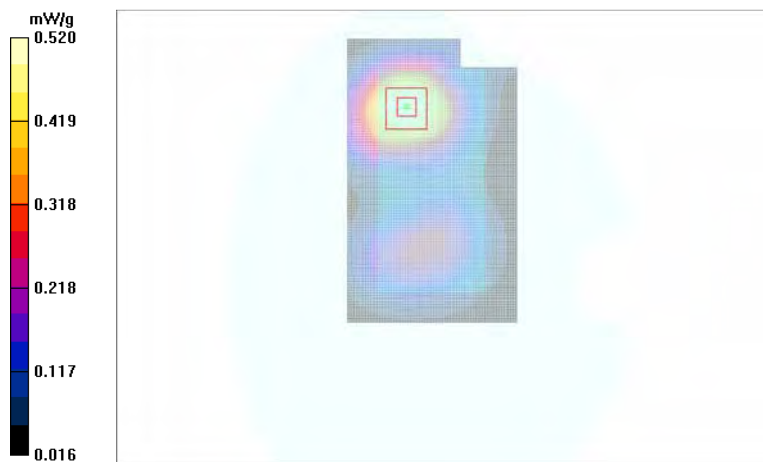
Peak SAR (extrapolated) = 0.769 W/kg

**SAR(1 g) = 0.482 mW/g**

**SAR(10 g) = 0.298 mW/g**

**Power Drift = -0.140 dB**

Maximum value of SAR (measured) = 0.520 mW/g



Date/Time: 2011-03-30 19:16:23

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used: f = 1880 MHz;  $\sigma = 1.58$  mho/m;  $\epsilon_r = 52$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.86, 6.86, 6.86); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - WH-102 - Back Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.508 mW/g

**Body - Middle - WH-102 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.54 V/m

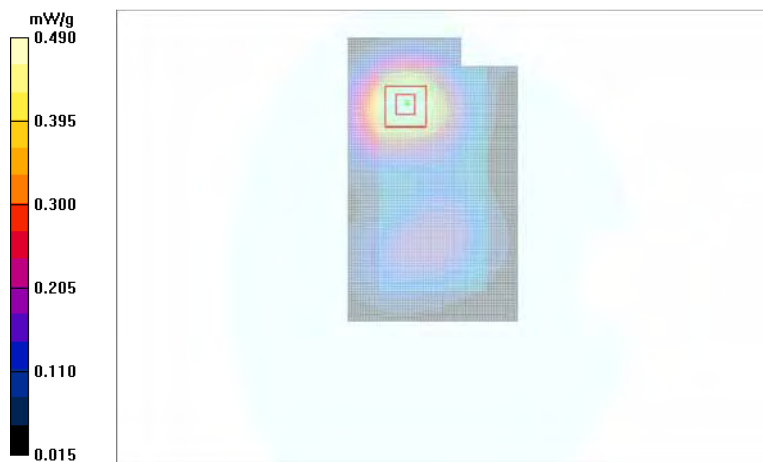
Peak SAR (extrapolated) = 0.728 W/kg

**SAR(1 g) = 0.454 mW/g**

**SAR(10 g) = 0.279 mW/g**

**Power Drift = -0.042 dB**

Maximum value of SAR (measured) = 0.490 mW/g





Date/Time: 2011-04-06 12:45:10

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 b-mode**

Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.81, 6.81, 6.81); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Display Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.058 mW/g

**Body - Middle - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.19 V/m

Peak SAR (extrapolated) = 0.085 W/kg

**SAR(1 g) = 0.051 mW/g**

**SAR(10 g) = 0.027 mW/g**

**Power Drift = -0.141 dB**

Maximum value of SAR (measured) = 0.056 mW/g



Date/Time: 2011-04-06 13:00:45

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 b-mode**

Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.81, 6.81, 6.81); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - WH-102 - Display Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.042 mW/g

**Body - Middle - WH-102 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 3.36 V/m

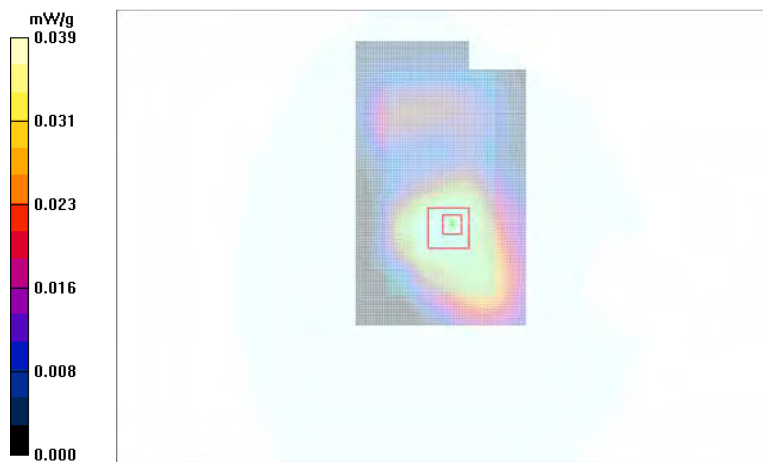
Peak SAR (extrapolated) = 0.065 W/kg

**SAR(1 g) = 0.037 mW/g**

**SAR(10 g) = 0.022 mW/g**

**Power Drift = 0.226 dB**

Maximum value of SAR (measured) = 0.039 mW/g



Date/Time: 2011-04-06 13:12:36

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 b-mode**

Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.81, 6.81, 6.81); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Back Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.056 mW/g

**Body - Middle - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:

dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.53 V/m

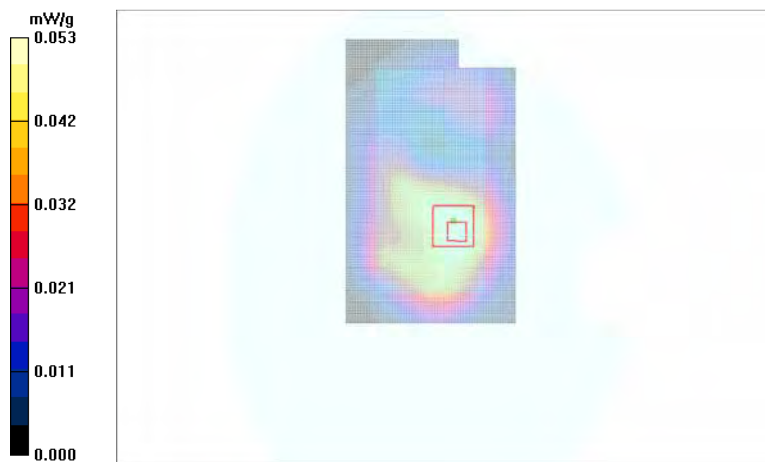
Peak SAR (extrapolated) = 0.084 W/kg

**SAR(1 g) = 0.050 mW/g**

**SAR(10 g) = 0.030 mW/g**

**Power Drift = 0.080 dB**

Maximum value of SAR (measured) = 0.053 mW/g



Date/Time: 2011-04-06 13:23:45

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 b-mode**

Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.81, 6.81, 6.81); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - WH-102 - Back Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

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

**Body - Middle - WH-102 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 3.87 V/m

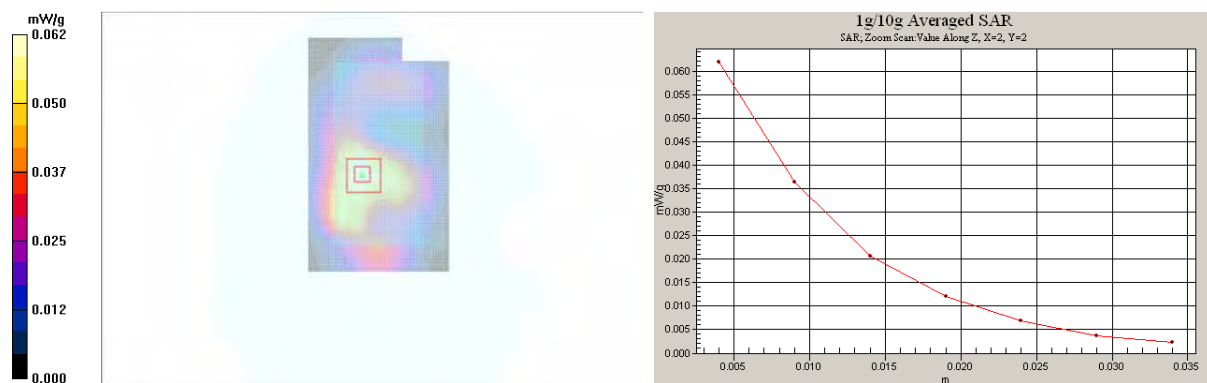
Peak SAR (extrapolated) = 0.095 W/kg

**SAR(1 g) = 0.057 mW/g**

**SAR(10 g) = 0.033 mW/g**

**Power Drift = 0.096 dB**

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



Date/Time: 2011-04-06 19:20:13

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 n-mode**

Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.81, 6.81, 6.81); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - WH-102 - Back Facing Phantom/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.042 mW/g

**Body - Middle - WH-102 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 3.59 V/m

Peak SAR (extrapolated) = 0.063 W/kg

**SAR(1 g) = 0.038 mW/g**

**SAR(10 g) = 0.022 mW/g**

**Power Drift = -0.123 dB**

Maximum value of SAR (measured) = 0.041 mW/g



Date/Time: 2011-03-23 20:40:39, Date/Time: 2011-03-31 13:29:39

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 2-slot GPRS850, Communication System: WLAN2450 b-mode**

Frequency: 848.8 MHz, Frequency: 2442.0 MHz; Duty Cycle: 1:4.2, Duty Cycle: 1:1

Medium: Head 850, Medium: Head 2450; Medium Notes: Medium Temperature: 22.0 C, Medium Notes: Medium Temperature: 21.9 C

Medium parameters used:  $f = 849$  MHz;  $\sigma = 0.928$  mho/m;  $\epsilon_r = 42.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>, Medium parameters used:  $f = 2442$  MHz;  $\sigma = 1.71$  mho/m;  $\epsilon_r = 40.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117, Probe: EX3DV4 - SN3581; Probe Notes:

- ConvF(5.69, 5.69, 5.69), ConvF(6.51, 6.51, 6.51); Calibrated: 2010-07-19

- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn682; Calibrated: 2010-07-16

- Phantom: SAM 3, Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1302, Serial: TP-1408

-; SEMCAD X Version 14.0 Build 61

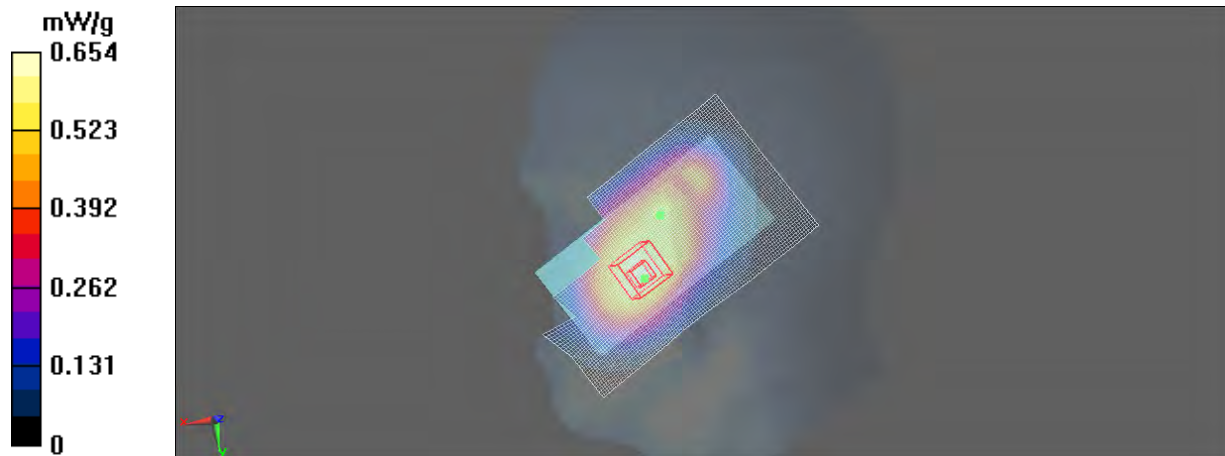
**Configuration/Cheek - High/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Configuration/Cheek - Middle/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.608 mW/g**

**SAR(10 g) = 0.420 mW/g**

Maximum value of SAR (measured) = 0.654 mW/g



Date/Time: 2011-03-23 23:22:43, Date/Time: 2011-03-31 13:29:39

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA850, Communication System: WLAN2450 b-mode**

Frequency: 846.6 MHz, Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Head 850, Medium: Head 2450; Medium Notes: Medium Temperature: 22.0 C, Medium Notes: Medium Temperature: 21.9 C

Medium parameters used:  $f = 847$  MHz;  $\sigma = 0.924$  mho/m;  $\epsilon_r = 42.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>, Medium parameters used:  $f = 2442$  MHz;  $\sigma = 1.71$  mho/m;  $\epsilon_r = 40.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3117, Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(5.69, 5.69, 5.69), ConvF(6.51, 6.51, 6.51); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 3, Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1302, Serial: TP-1408
- ; SEMCAD X Version 14.0 Build 61

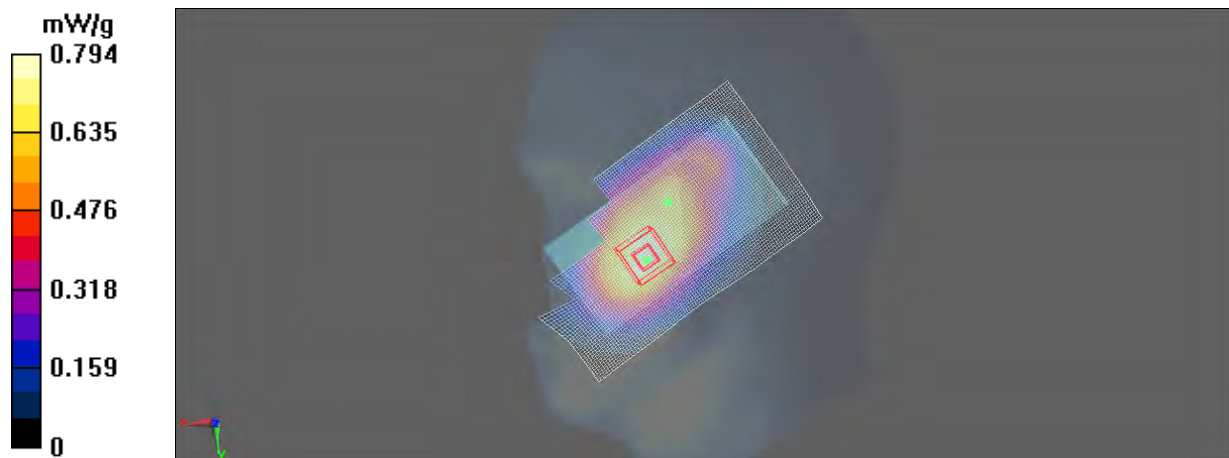
**Configuration/Cheek - High/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Configuration/Cheek - Middle/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.738 mW/g**

**SAR(10 g) = 0.508 mW/g**

Maximum value of SAR (measured) = 0.794 mW/g





Date/Time: 2011-03-24 18:43:29, Date/Time: 2011-03-31 13:03:47

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1700/2100, Communication System: WLAN2450 b-mode**

Frequency: 1732.4 MHz, Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Head 1800, Medium: Head 2450; Medium Notes: Medium Temperature: 21.9 C

Medium parameters used (interpolated):  $f = 1732.4$  MHz;  $\sigma = 1.31$  mho/m;  $\epsilon_r = 38.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>, Medium parameters used:  $f = 2442$  MHz;  $\sigma = 1.71$  mho/m;  $\epsilon_r = 40.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.42, 7.42, 7.42), ConvF(6.51, 6.51, 6.51); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn339, Electronics: DAE4 Sn682; Calibrated: 2011-02-18, Calibrated: 2010-07-16
- Phantom: SAM 4.5, Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1215, Serial: TP-1408
- ; SEMCAD X Version 14.0 Build 61

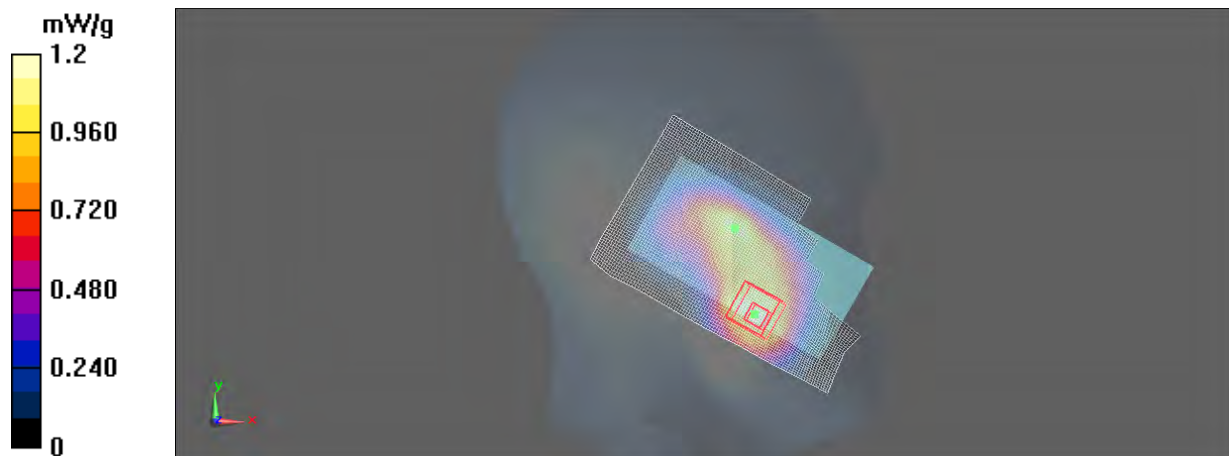
**Configuration/Cheek - Middle/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Configuration/Cheek - Middle/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Motorola Fast SAR of Combined Scans: SAR(1 g) = 1.09 mW/g**

**SAR(10 g) = 0.663 mW/g**

Maximum value of SAR (measured) = 1.2 mW/g





Date/Time: 2011-03-31 21:55:11, Date/Time: 2011-03-31 13:03:47

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 3-slot 8PSK EGPRS1900, Communication System: WLAN2450 b-mode**

Frequency: 1850.2 MHz, Frequency: 2442.0 MHz; Duty Cycle: 1:2.8, Duty Cycle: 1:1

Medium: Head 1900, Medium: Head 2450; Medium Notes: Medium Temperature: 21.5 C, Medium Notes:

Medium Temperature: 21.9 C

Medium parameters used (interpolated):  $f = 1850.2$  MHz;  $\sigma = 1.41$  mho/m;  $\epsilon_r = 38.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>, Medium parameters used:  $f = 2442$  MHz;  $\sigma = 1.71$  mho/m;  $\epsilon_r = 40.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3116, Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(5.08, 5.08, 5.08), ConvF(6.51, 6.51, 6.51); Calibrated: 2011-02-17, Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn710, Electronics: DAE4 Sn682; Calibrated: 2010-09-17, Calibrated: 2010-07-16
- Phantom: SAM 4.5, Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1215, Serial: TP-1408
- ; SEMCAD X Version 14.0 Build 61

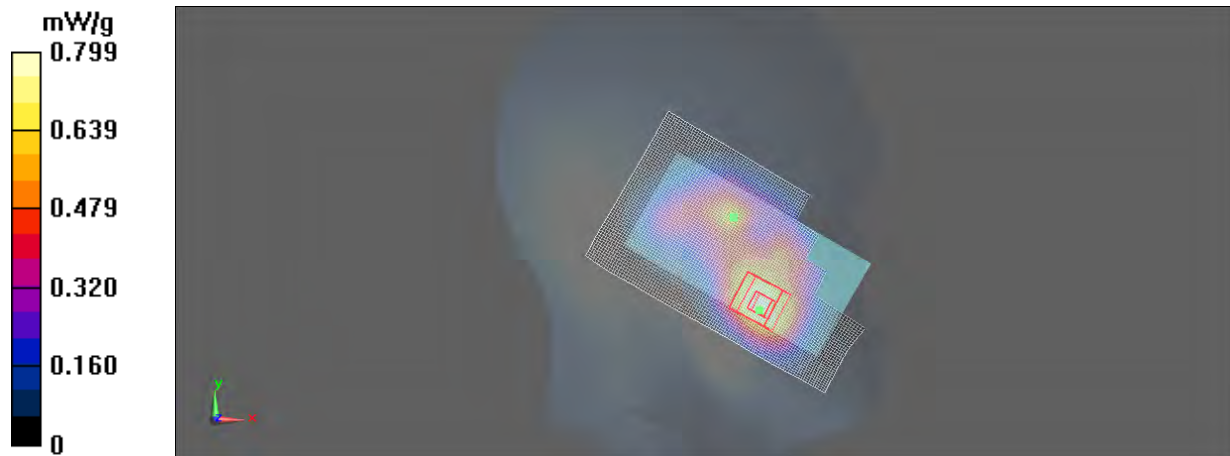
**Configuration/Cheek - Low/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Configuration/Cheek - Middle/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.720 mW/g**

**SAR(10 g) = 0.431 mW/g**

Maximum value of SAR (measured) = 0.799 mW/g



Date/Time: 2011-03-28 22:41:54, Date/Time: 2011-03-31 13:29:39

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1900, Communication System: WLAN2450 b-mode**

Frequency: 1880.0 MHz, Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Head 1900, Medium: Head 2450; Medium Notes: Medium Temperature: 21.2 C, Medium Notes:

Medium Temperature: 21.9 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.45$  mho/m;  $\epsilon_r = 39.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>, Medium parameters used:

$f = 2442$  MHz;  $\sigma = 1.71$  mho/m;  $\epsilon_r = 40.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:

- ConvF(7.08, 7.08, 7.08), ConvF(6.51, 6.51, 6.51); Calibrated: 2010-07-19

- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn682; Calibrated: 2010-07-16

- Phantom: SAM 4.5, Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1215, Serial: TP-1408

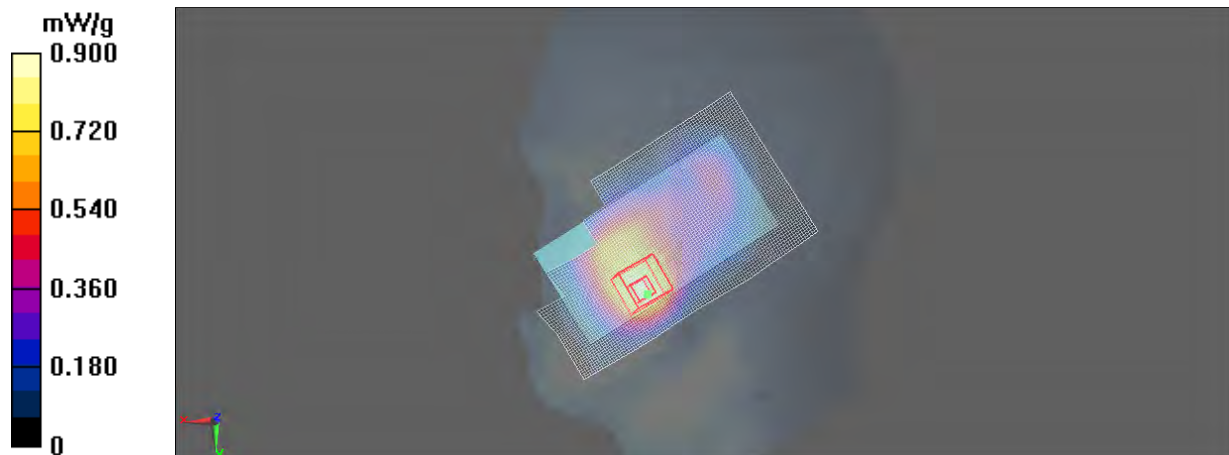
-; SEMCAD X Version 14.0 Build 61

**Configuration/Cheek - Middle/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.805 mW/g**

**SAR(10 g) = 0.486 mW/g**

Maximum value of SAR (measured) = 0.900 mW/g



Date/Time: 2011-03-29 12:45:48, Date/Time: 2011-04-06 13:12:36

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 2-slot GPRS850, Communication System: WLAN2450 b-mode**

Frequency: 848.8 MHz, Frequency: 2442.0 MHz; Duty Cycle: 1:4.2, Duty Cycle: 1:1

Medium: Body 850, Medium: Body 2450; Medium Notes: Medium Temperature: 21.8 C, Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 849 \text{ MHz}$ ;  $\sigma = 0.986 \text{ mho/m}$ ;  $\epsilon_r = 54$ ;  $\rho = 1000 \text{ kg/m}^3$ , Medium parameters used:  $f = 2442 \text{ MHz}$ ;  $\sigma = 2.03 \text{ mho/m}$ ;  $\epsilon_r = 50.4$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

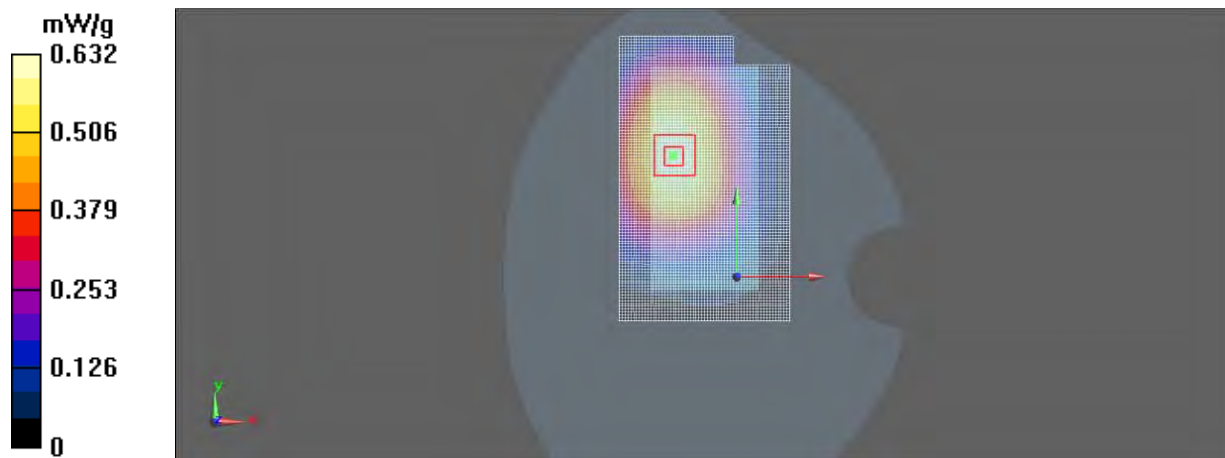
- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61), ConvF(6.81, 6.81, 6.81); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2, Phantom: SAM 8; Type: Twin Phantom, Type: SAM Twin Phantom; Serial: TP-1037, Serial: TP-1328
- ; SEMCAD X Version 14.0 Build 61

**Configuration/Body - High - No Accessory - Back Facing Phantom/Area Scan (7x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Configuration/Body - Middle - No Accessory - Back Facing Phantom/Area Scan (7x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.597 mW/g**  
**SAR(10 g) = 0.421 mW/g**

Maximum value of SAR (measured) = 0.632 mW/g



Date/Time: 2011-03-29 14:12:52, Date/Time: 2011-04-06 13:12:36

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA850, Communication System: WLAN2450 b-mode**

Frequency: 846.6 MHz, Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Body 850, Medium: Body 2450; Medium Notes: Medium Temperature: 21.8 C, Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 847$  MHz;  $\sigma = 0.985$  mho/m;  $\epsilon_r = 54$ ;  $\rho = 1000$  kg/m<sup>3</sup>, Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

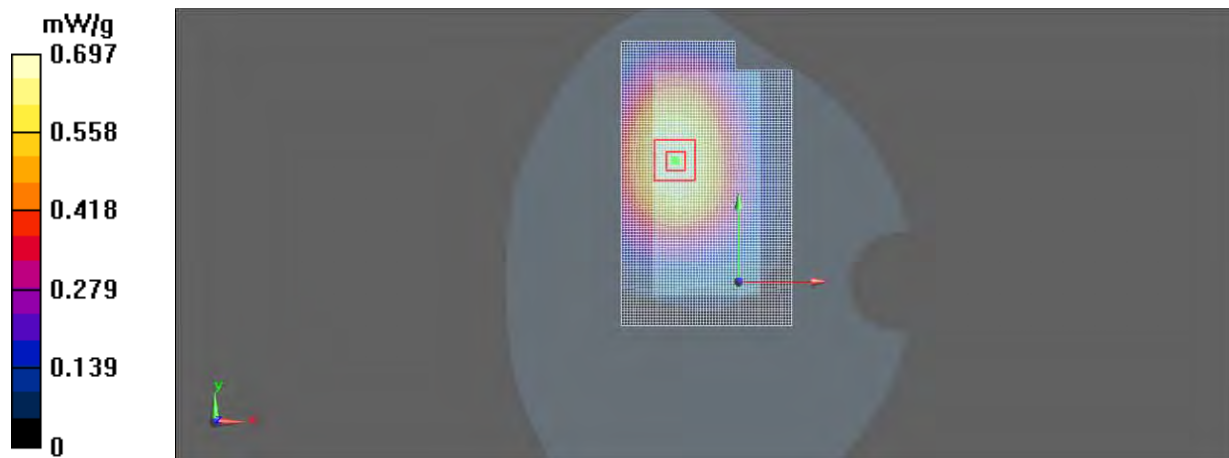
- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61), ConvF(6.81, 6.81, 6.81); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2, Phantom: SAM 8; Type: Twin Phantom, Type: SAM Twin Phantom; Serial: TP-1037, Serial: TP-1328
- ; SEMCAD X Version 14.0 Build 61

**Configuration/Body - High - No Accessory - Back Facing Phantom/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Configuration/Body - Middle - No Accessory - Back Facing Phantom/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.660 mW/g**  
**SAR(10 g) = 0.466 mW/g**

Maximum value of SAR (measured) = 0.697 mW/g



Date/Time: 2011-03-30 13:13:31, Date/Time: 2011-04-06 12:45:10

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1700/2100, Communication System: WLAN2450 b-mode**

Frequency: 1732.4 MHz, Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Body 1800, Medium: Body 2450; Medium Notes: Medium Temperature: t=21.3 C, Medium Notes: Medium Temperature: 21.5 C

Medium parameters used (interpolated):  $f = 1732.4$  MHz;  $\sigma = 1.43$  mho/m;  $\epsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>, Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.12, 7.12, 7.12), ConvF(6.81, 6.81, 6.81); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5, Phantom: SAM 8; Type: Twin Phantom, Type: SAM Twin Phantom; Serial: TP-1302, Serial: TP-1328
- ; SEMCAD X Version 14.0 Build 61

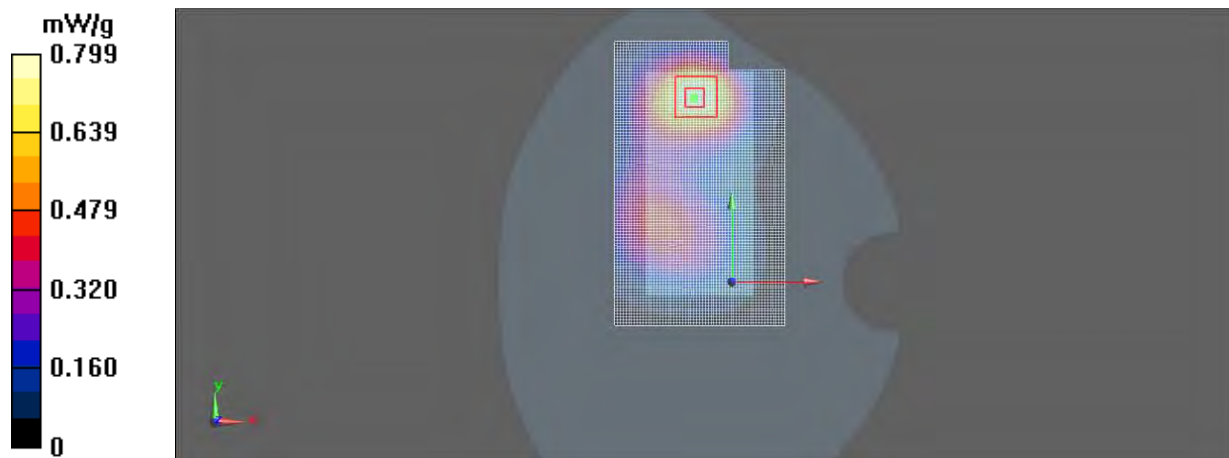
**Configuration/Body - Middle - No Accessory - Display Facing Phantom/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Configuration/Body - Middle - No Accessory - Display Facing Phantom/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.738 mW/g**

**SAR(10 g) = 0.449 mW/g**

Maximum value of SAR (measured) = 0.799 mW/g



Date/Time: 2011-04-05 18:29:31, Date/Time: 2011-04-06 12:45:10

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 3-slot 8PSK EGPRS1900, Communication System: WLAN2450 b-mode**

Frequency: 1850.2 MHz, Frequency: 2442.0 MHz; Duty Cycle: 1:2.8, Duty Cycle: 1:1

Medium: Body 1900, Medium: Body 2450; Medium Notes: Medium Temperature: 21.3 C, Medium Notes:

Medium Temperature: 21.5 C

Medium parameters used (interpolated):  $f = 1850.2$  MHz;  $\sigma = 1.54$  mho/m;  $\epsilon_r = 52$ ;  $\rho = 1000$  kg/m<sup>3</sup>, Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118, Probe: EX3DV4 - SN3581; Probe Notes:

- ConvF(4.36, 4.36, 4.36), ConvF(6.81, 6.81, 6.81); Calibrated: 2010-09-09, Calibrated: 2010-07-19

- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn682; Calibrated: 2010-07-16

- Phantom: SAM 5, Phantom: SAM 8; Type: Twin Phantom, Type: SAM Twin Phantom; Serial: TP-1302, Serial: TP-1328

-; SEMCAD X Version 14.0 Build 61

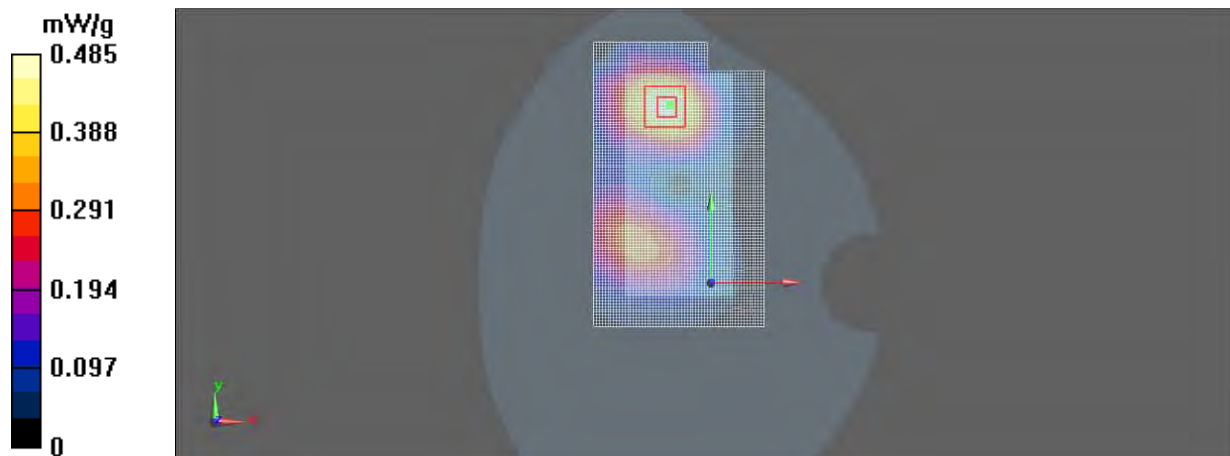
**Configuration/Body - Low - No Accessory - Display Facing Phantom/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Configuration/Body - Middle - No Accessory - Display Facing Phantom/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.451 mW/g**

**SAR(10 g) = 0.267 mW/g**

Maximum value of SAR (measured) = 0.485 mW/g





Date/Time: 2011-03-30 18:36:58, Date/Time: 2011-04-06 12:45:10

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1900, Communication System: WLAN2450 b-mode**

Frequency: 1880.0 MHz, Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Body 1900, Medium: Body 2450; Medium Notes: Medium Temperature: t=21.3 C, Medium Notes:

Medium Temperature: 21.5 C

Medium parameters used: f = 1880 MHz;  $\sigma = 1.58$  mho/m;  $\epsilon_r = 52$ ;  $\rho = 1000$  kg/m<sup>3</sup>, Medium parameters used: f = 2442 MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

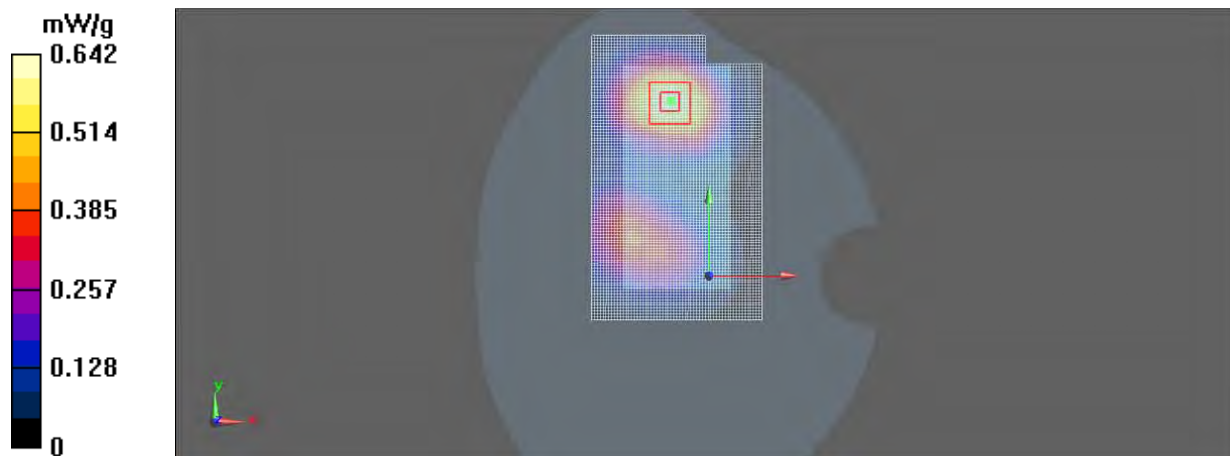
- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.86, 6.86, 6.86), ConvF(6.81, 6.81, 6.81); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5, Phantom: SAM 8; Type: Twin Phantom, Type: SAM Twin Phantom; Serial: TP-1302, Serial: TP-1328
- ; SEMCAD X Version 14.0 Build 61

**Configuration/Body - Middle - No Accessory - Display Facing Phantom/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Configuration/Body - Middle - No Accessory - Display Facing Phantom/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.590 mW/g**  
**SAR(10 g) = 0.348 mW/g**

Maximum value of SAR (measured) = 0.642 mW/g



## APPENDIX C: CONDUCTED AVERAGE POWER MEASUREMENTS FOR WCDMA AND HSUPA

Test Laboratory: TCC Nokia

Type:RM-749; Serial: 004402/13/143555/1, HW: 2000, SW: 021.005

### C.1. WCDMA850 Test results

#### Average power

| Ch / f (MHz) | P [dBm] |
|--------------|---------|
| 4133         | 22.74   |
| 4175         | 22.62   |
| 4232         | 22.75   |

### C.2. HSUPA850 Test results

#### Average power

| Ch / f (MHz) | P [dBm]        |                |                |                |                |
|--------------|----------------|----------------|----------------|----------------|----------------|
|              | Subtest mode 1 | Subtest mode 2 | Subtest mode 3 | Subtest mode 4 | Subtest mode 5 |
| 4133         | 19.43          | 19.39          | 20.45          | 19.67          | 21.24          |
| 4175         | 19.60          | 19.29          | 20.37          | 19.60          | 21.22          |
| 4232         | 19.57          | 19.55          | 20.35          | 19.58          | 21.28          |

Note: In HSUPA operation, the output power is reduced relative to the tuning target power for WCDMA. This device runs two separate HSUPA power control routines: MPR and E-TFC MPR. In each Subtest mode, the routine with the higher power reduction dominates. In addition, to ensure linearity of the PA output, a further 2dB power reduction is implemented in Subtest modes 1 to 4 and a further 1dB power reduction is implemented in Subtest mode 5. As a result, the overall MPR for each of the Subtest modes is as follows:

| Maximum Power Reduction (MPR) |                |                |                |                |
|-------------------------------|----------------|----------------|----------------|----------------|
| Subtest mode 1                | Subtest mode 2 | Subtest mode 3 | Subtest mode 4 | Subtest mode 5 |
| 3.5dB                         | 4.0dB          | 3.0dB          | 4.0dB          | 1.0dB          |



Test Laboratory: TCC Nokia  
Type:RM-749; Serial: 004402/13/143555/1, HW: 2000, SW: 021.005

### C.3. WCDMA1700/2100 Test results

#### Average power

| Ch / f (MHz) | P [dBm] |
|--------------|---------|
| 1313         | 22.64   |
| 1450         | 22.55   |
| 1512         | 22.30   |

### C.4. HSUPA1700/2100 Test results

#### Average power

| Ch / f (MHz) | P [dBm]        |                |                |                |                |
|--------------|----------------|----------------|----------------|----------------|----------------|
|              | Subtest mode 1 | Subtest mode 2 | Subtest mode 3 | Subtest mode 4 | Subtest mode 5 |
| 1313         | 18.24          | 18.42          | 19.48          | 18.28          | 20.48          |
| 1450         | 18.61          | 18.73          | 19.27          | 18.77          | 20.70          |
| 1512         | 18.25          | 18.19          | 19.25          | 18.48          | 20.24          |

Note: In HSUPA operation, the output power is reduced relative to the tuning target power for WCDMA. This device runs two separate HSUPA power control routines: MPR and E-TFC MPR. In each Subtest mode, the routine with the higher power reduction dominates. In addition, to ensure linearity of the PA output, a further 2dB power reduction is implemented in Subtest modes 1 to 4 and a further 1dB power reduction is implemented in Subtest mode 5. As a result, the overall MPR for each of the Subtest modes is as follows:

| Maximum Power Reduction (MPR) |                |                |                |                |
|-------------------------------|----------------|----------------|----------------|----------------|
| Subtest mode 1                | Subtest mode 2 | Subtest mode 3 | Subtest mode 4 | Subtest mode 5 |
| 3.5dB                         | 4.0dB          | 3.0dB          | 4.0dB          | 1.0dB          |

Test Laboratory: TCC Nokia  
Type:RM-749; Serial: 004402/13/143555/1, HW: 2000, SW: 021.005

### C.5. WCDMA1900 Test results

#### Average power

| Ch / f (MHz) | P [dBm] |
|--------------|---------|
| 9263         | 21.51   |
| 9400         | 21.53   |
| 9537         | 21.51   |

### C.6. HSUPA1900 Test results

#### Average power

| Ch / f (MHz) | P [dBm]        |                |                |                |                |
|--------------|----------------|----------------|----------------|----------------|----------------|
|              | Subtest mode 1 | Subtest mode 2 | Subtest mode 3 | Subtest mode 4 | Subtest mode 5 |
| 9263         | 18.40          | 18.14          | 19.92          | 18.91          | 20.84          |
| 9400         | 17.94          | 18.67          | 19.74          | 18.98          | 20.68          |
| 9537         | 18.22          | 18.93          | 19.99          | 18.98          | 20.80          |

Note: In HSUPA operation, the output power is reduced relative to the tuning target power for WCDMA. This device runs two separate HSUPA power control routines: MPR and E-TFC MPR. In each Subtest mode, the routine with the higher power reduction dominates. In addition, to ensure linearity of the PA output, a further 1dB power reduction is implemented in Subtest modes 1 to 4 but no further power reduction is implemented in Subtest mode 5. As a result, the overall MPR for each of the Subtest modes is as follows:

| Maximum Power Reduction (MPR) |                |                |                |                |
|-------------------------------|----------------|----------------|----------------|----------------|
| Subtest mode 1                | Subtest mode 2 | Subtest mode 3 | Subtest mode 4 | Subtest mode 5 |
| 2.5dB                         | 3.0dB          | 2.0dB          | 3.0dB          | 0.0dB          |

## APPENDIX D: WIRELESS ROUTER MODE EVALUATION

### D.1 Body SAR assessment of Wireless Router mode at 10.0mm separation distance

#### 850MHz Body SAR results

| Mode               | Device orientation         | SAR, averaged over 1g (W/kg) |                      |                      |
|--------------------|----------------------------|------------------------------|----------------------|----------------------|
|                    |                            | Ch 128<br>824.2 MHz          | Ch 190<br>836.6 MHz  | Ch 251<br>848.8 MHz  |
| <b>2-slot GPRS</b> | <b>Conducted Power</b>     | <b>32.5 dBm</b>              | <b>32.5 dBm</b>      | <b>32.5 dBm</b>      |
|                    | Display facing phantom     | -                            | 0.600                | -                    |
|                    | Back facing phantom        | -                            | 0.734                | -                    |
|                    | Top edge facing phantom    | -                            | 0.028                | -                    |
|                    | Bottom edge facing phantom | -                            | 0.136                | -                    |
|                    | Left edge facing phantom   | -                            | 0.617                | -                    |
|                    | Right edge facing phantom  | 0.799                        | 0.850                | <b>0.855</b>         |
| Mode               | Device orientation         | SAR, averaged over 1g (W/kg) |                      |                      |
|                    |                            | Ch 4132<br>826.4 MHz         | Ch 4175<br>835.0 MHz | Ch 4233<br>846.6 MHz |
| <b>WCDMA</b>       | <b>Conducted Power</b>     | <b>23.5 dBm</b>              | <b>23.5 dBm</b>      | <b>23.5 dBm</b>      |
|                    | Display facing phantom     | -                            | 0.663                | -                    |
|                    | Back facing phantom        | 0.760                        | 0.818                | 0.829                |
|                    | Top edge facing phantom    | -                            | 0.031                | -                    |
|                    | Bottom edge facing phantom | -                            | 0.183                | -                    |
|                    | Left edge facing phantom   | -                            | 0.626                | -                    |
|                    | Right edge facing phantom  | 0.824                        | <b>0.870</b>         | 0.861                |

**1700/2100MHz Body SAR results**

| Mode         | Device orientation         | SAR, averaged over 1g (W/kg) |                       |                       |
|--------------|----------------------------|------------------------------|-----------------------|-----------------------|
|              |                            | Ch 1312<br>1712.4 MHz        | Ch 1412<br>1732.4 MHz | Ch 1513<br>1752.6 MHz |
| <b>WCDMA</b> | <b>Conducted Power</b>     | <b>23.5 dBm</b>              | <b>23.5 dBm</b>       | <b>23.5 dBm</b>       |
|              | Display facing phantom     | 1.15                         | 1.14                  | 1.12                  |
|              | Back facing phantom        | 1.12                         | 1.10                  | 1.09                  |
|              | Top edge facing phantom    | -                            | 0.095                 | -                     |
|              | Bottom edge facing phantom | -                            | 0.592                 | -                     |
|              | Left edge facing phantom   | -                            | 0.559                 | -                     |
|              | Right edge facing phantom  | -                            | 0.358                 | -                     |

### 1900MHz Body SAR results

| Mode                 | Device orientation         | SAR, averaged over 1g (W/kg) |                       |                       |
|----------------------|----------------------------|------------------------------|-----------------------|-----------------------|
|                      |                            | Ch 512<br>1850.2 MHz         | Ch 661<br>1880.0 MHz  | Ch 810<br>1909.8 MHz  |
| 3-slot 8PSK<br>EGPRS | Conducted Power            | 25.7 dBm                     | 25.7 dBm              | 25.7 dBm              |
|                      | Display facing phantom     | 0.698                        | 0.643                 | 0.563                 |
|                      | Back facing phantom        | -                            | 0.586                 | -                     |
|                      | Top edge facing phantom    | -                            | 0.085                 | -                     |
|                      | Bottom edge facing phantom | -                            | 0.321                 | -                     |
|                      | Left edge facing phantom   | -                            | 0.305                 | -                     |
|                      | Right edge facing phantom  | -                            | 0.229                 | -                     |
| Mode                 | Device orientation         | SAR, averaged over 1g (W/kg) |                       |                       |
|                      |                            | Ch 9262<br>1852.4 MHz        | Ch 9400<br>1880.0 MHz | Ch 9538<br>1907.6 MHz |
| WCDMA                | Conducted Power            | 22.5 dBm                     | 22.5 dBm              | 22.5 dBm              |
|                      | Display facing phantom     | 0.899                        | 0.898                 | 0.829                 |
|                      | Back facing phantom        | -                            | 0.765                 | -                     |
|                      | Top edge facing phantom    | -                            | 0.125                 | -                     |
|                      | Bottom edge facing phantom | -                            | 0.444                 | -                     |
|                      | Left edge facing phantom   | -                            | 0.496                 | -                     |
|                      | Right edge facing phantom  | -                            | 0.297                 | -                     |

### 2450MHz Body SAR results

| Mode                             | Device orientation         | SAR, averaged over 1g (W/kg) |                    |                     |
|----------------------------------|----------------------------|------------------------------|--------------------|---------------------|
|                                  |                            | Ch 1<br>2412.0 MHz           | Ch 7<br>2442.0 MHz | Ch 11<br>2462.0 MHz |
| <b>WLAN<br/>b-mode</b>           | <b>Conducted Power</b>     | <b>14.5 dBm</b>              | <b>17.0 dBm</b>    | <b>14.5 dBm</b>     |
|                                  | Display facing phantom     | -                            | 0.087              | -                   |
|                                  | Back facing phantom        | -                            | 0.078              | -                   |
|                                  | Top edge facing phantom    | 0.050                        | <b>0.128</b>       | 0.063               |
|                                  | Bottom edge facing phantom | -                            | 0.013              | -                   |
|                                  | Left edge facing phantom   | -                            | 0.105              | -                   |
|                                  | Right edge facing phantom  | -                            | 0.024              | -                   |
| <b>WLAN<br/>n-mode<br/>20MHz</b> | <b>Conducted Power</b>     | <b>13.5 dBm</b>              | <b>16.0 dBm</b>    | <b>13.5 dBm</b>     |
|                                  | Display facing phantom     | -                            | -                  | -                   |
|                                  | Back facing phantom        | -                            | -                  | -                   |
|                                  | Top edge facing phantom    | 0.042                        | 0.092              | 0.047               |
|                                  | Bottom edge facing phantom | -                            | -                  | -                   |
|                                  | Left edge facing phantom   | -                            | -                  | -                   |
|                                  | Right edge facing phantom  | -                            | -                  | -                   |

### Simultaneous transmissions: Combined SAR results – Individual band Max results

| Test configuration         | Max. 1g SAR results |                |           |                 |                       |            |
|----------------------------|---------------------|----------------|-----------|-----------------|-----------------------|------------|
|                            | WLAN                | 2-slot GPRS850 | WCDMA 850 | WCDMA 1700/2100 | 3-slot 8PSK EGPRS1900 | WCDMA 1900 |
| Display facing phantom     | 0.087               | 0.600          | 0.663     | 1.15            | 0.698                 | 0.899      |
| Back facing phantom        | 0.078               | 0.734          | 0.829     | 1.12            | 0.586                 | 0.765      |
| Top edge facing phantom    | 0.128               | 0.028          | 0.031     | 0.095           | 0.085                 | 0.125      |
| Bottom edge facing phantom | 0.013               | 0.136          | 0.183     | 0.592           | 0.321                 | 0.444      |
| Left edge facing phantom   | 0.105               | 0.617          | 0.626     | 0.559           | 0.305                 | 0.496      |
| Right edge facing phantom  | 0.024               | 0.855          | 0.870     | 0.358           | 0.229                 | 0.297      |

### Simultaneous transmissions: Combined SAR results – Max + Max combined results

| Test configuration         | Max. 1g SAR results   |                  |                        |                              |                   |
|----------------------------|-----------------------|------------------|------------------------|------------------------------|-------------------|
|                            | 2-slot GPRS850 + WLAN | WCDMA 850 + WLAN | WCDMA 1700/2100 + WLAN | 3-slot 8PSK EGPRS1900 + WLAN | WCDMA 1900 + WLAN |
| Display facing phantom     | 0.687                 | 0.750            | <b>1.237</b>           | <b>0.785</b>                 | <b>0.986</b>      |
| Back facing phantom        | 0.812                 | <b>0.907</b>     | 1.198                  | 0.664                        | 0.843             |
| Top edge facing phantom    | 0.156                 | 0.159            | 0.223                  | 0.213                        | 0.253             |
| Bottom edge facing phantom | 0.149                 | 0.196            | 0.605                  | 0.334                        | 0.457             |
| Left edge facing phantom   | 0.722                 | 0.731            | 0.664                  | 0.410                        | 0.601             |
| Right edge facing phantom  | <b>0.879</b>          | 0.894            | 0.382                  | 0.253                        | 0.321             |

The following table gives a more accurate assessment of the SAR values for simultaneous transmission. These values have been calculated using the SPEAG Combined Multiband algorithm, which is based on area scans. It a) converts the 2D area scans into 3D volume scans by assuming frequency-dependent decay characteristics for the E-field, b) sums the SAR values for WLAN2450 and the cellular bands point-by-point and c) calculates the combined average SAR values.

**Simultaneous transmissions: Combined SAR results –  
SPEAG Combined Multiband algorithm results**

| Test configuration         | Max. 1g SAR results         |                     |                              |                                    |                      |
|----------------------------|-----------------------------|---------------------|------------------------------|------------------------------------|----------------------|
|                            | 2-slot<br>GPRS850 +<br>WLAN | WCDMA<br>850 + WLAN | WCDMA<br>1700/2100 +<br>WLAN | 3-slot 8PSK<br>EGPRS1900 +<br>WLAN | WCDMA<br>1900 + WLAN |
| Display facing phantom     | -                           | -                   | <b>1.18</b>                  | <b>0.677</b>                       | <b>0.967</b>         |
| Back facing phantom        | -                           | <b>0.868</b>        | -                            | -                                  | -                    |
| Top edge facing phantom    | -                           | -                   | -                            | -                                  | -                    |
| Bottom edge facing phantom | -                           | -                   | -                            | -                                  | -                    |
| Left edge facing phantom   | -                           | -                   | -                            | -                                  | -                    |
| Right edge facing phantom  | <b>1.03</b>                 | -                   | -                            | -                                  | -                    |

Note: Simultaneous Transmission Procedures as described in KDB648474 are not required for this product. The Combined SAR data given in the tables above has been voluntarily calculated.



## D.2 Summary of Maximum Results for Wireless Router mode at 10.0mm

| Mode                                   | Ch / f (MHz)  | Conducted power | Separation distance | Measured SAR value (1g avg) | SAR limit (1g avg) | Result        |
|----------------------------------------|---------------|-----------------|---------------------|-----------------------------|--------------------|---------------|
| 2-slot GPRS850                         | 251 / 848.8   | 32.5 dBm        | 1.0 cm              | 0.855 W/kg                  | 1.6 W/kg           | <b>PASSED</b> |
| WCDMA850                               | 4175 / 835.0  | 23.5 dBm        | 1.0 cm              | 0.870 W/kg                  | 1.6 W/kg           | <b>PASSED</b> |
| WCDMA1700/2100                         | 1312 / 1712.4 | 23.5 dBm        | 1.0 cm              | 1.15 W/kg                   | 1.6 W/kg           | <b>PASSED</b> |
| 3-slot 8PSK<br>EGPRS1900               | 512 / 1850.2  | 25.7 dBm        | 1.0 cm              | 0.698 W/kg                  | 1.6 W/kg           | <b>PASSED</b> |
| WCDMA1900                              | 9262 / 1852.4 | 22.5 dBm        | 1.0 cm              | 0.899 W/kg                  | 1.6 W/kg           | <b>PASSED</b> |
| WLAN2450                               | 7 / 2442.0    | 17.0 dBm        | 1.0 cm              | 0.128 W/kg                  | 1.6 W/kg           | <b>PASSED</b> |
| 2-slot GPRS850<br>+ WLAN2450           | -             | -               | 1.0 cm              | 1.03 W/kg                   | 1.6 W/kg           | <b>PASSED</b> |
| WCDMA850<br>+ WLAN2450                 | -             | -               | 1.0 cm              | 0.870 W/kg                  | 1.6 W/kg           | <b>PASSED</b> |
| WCDMA1700/2100<br>+ WLAN2450           | -             | -               | 1.0 cm              | 1.18 W/kg                   | 1.6 W/kg           | <b>PASSED</b> |
| 3-slot 8PSK<br>EGPRS1900<br>+ WLAN2450 | -             | -               | 1.0 cm              | 0.698 W/kg                  | 1.6 W/kg           | <b>PASSED</b> |
| WCDMA1900<br>+ WLAN2450                | -             | -               | 1.0 cm              | 0.967 W/kg                  | 1.6 W/kg           | <b>PASSED</b> |

Some of the Combined SAR values in the above table are less than the maximum SAR values for the contributing cellular band. This is due to a) minimal overlap of the SAR distributions of the cellular band with WLAN2450 and b) uncertainties associated with the different methods of calculation. In these cases, the maximum SAR values given for the combined Modes are those for the individual cellular band.

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**D.3 SAR plots corresponding to the Wireless Router mode results given above**

See the following pages

Date/Time: 2011-03-29 19:29:36

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 2-slot GPRS850**

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.973$  mho/m;  $\epsilon_r = 54$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Display Facing Phantom - 10 mm Distance/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.633 mW/g

**Body - Middle - No Accessory - Display Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.96 V/m

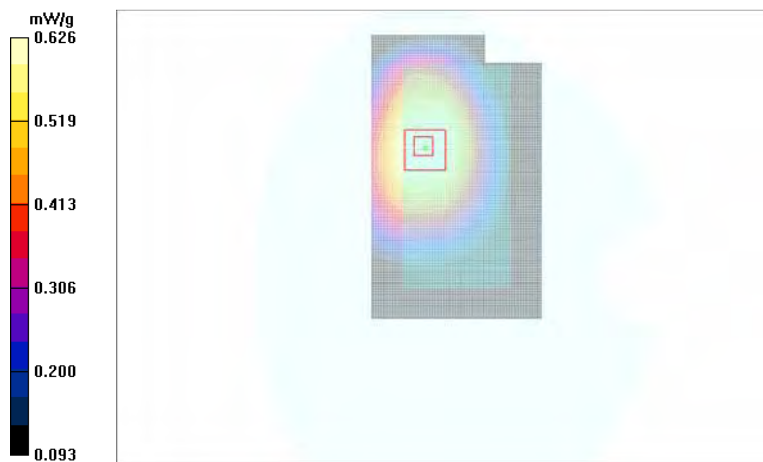
Peak SAR (extrapolated) = 0.752 W/kg

**SAR(1 g) = 0.600 mW/g**

**SAR(10 g) = 0.460 mW/g**

**Power Drift = -0.003 dB**

Maximum value of SAR (measured) = 0.626 mW/g



Date/Time: 2011-03-29 19:46:41

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 2-slot GPRS850**

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.973$  mho/m;  $\epsilon_r = 54$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Back Facing Phantom - 10 mm Distance/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.775 mW/g

**Body - Middle - No Accessory - Back Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.38 V/m

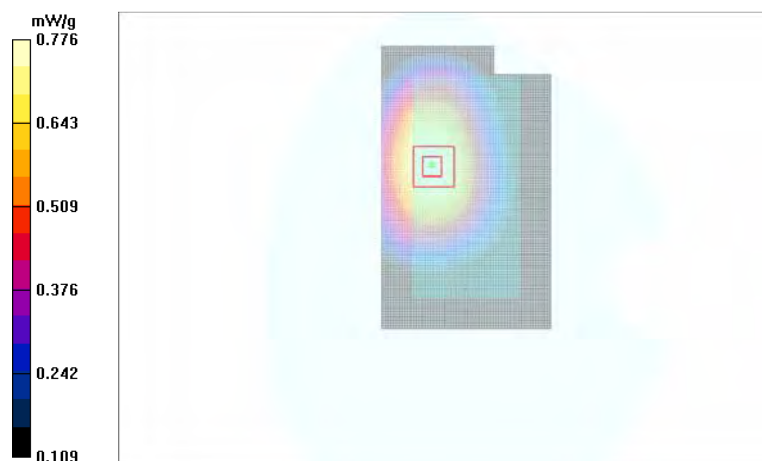
Peak SAR (extrapolated) = 0.939 W/kg

**SAR(1 g) = 0.734 mW/g**

**SAR(10 g) = 0.545 mW/g**

**Power Drift = -0.139 dB**

Maximum value of SAR (measured) = 0.776 mW/g



Date/Time: 2011-03-29 20:13:24

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 2-slot GPRS850**

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.973$  mho/m;  $\epsilon_r = 54$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Top Edge Facing Phantom - 10 mm Distance/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.030 mW/g

**Body - Middle - No Accessory - Top Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 3.59 V/m

Peak SAR (extrapolated) = 0.036 W/kg

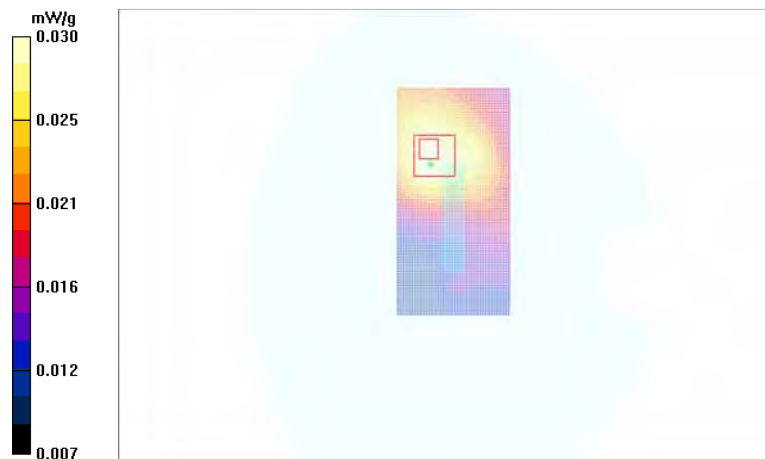
**SAR(1 g) = 0.028 mW/g**

**SAR(10 g) = 0.022 mW/g**

**Power Drift = -0.128 dB**

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.030 mW/g



Date/Time: 2011-03-29 20:25:55

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 2-slot GPRS850**

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.973$  mho/m;  $\epsilon_r = 54$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Bottom Edge Facing Phantom - 10 mm Distance/Area Scan (41x81x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.147 mW/g

**Body - Middle - No Accessory - Bottom Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 5.92 V/m

Peak SAR (extrapolated) = 0.243 W/kg

**SAR(1 g) = 0.136 mW/g**

**SAR(10 g) = 0.081 mW/g**

**Power Drift = 0.021 dB**

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



Date/Time: 2011-03-29 20:41:13

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 2-slot GPRS850**

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.973$  mho/m;  $\epsilon_r = 54$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Left Edge Facing Phantom - 10 mm Distance/Area Scan (41x111x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.665 mW/g

**Body - Middle - No Accessory - Left Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.7 V/m

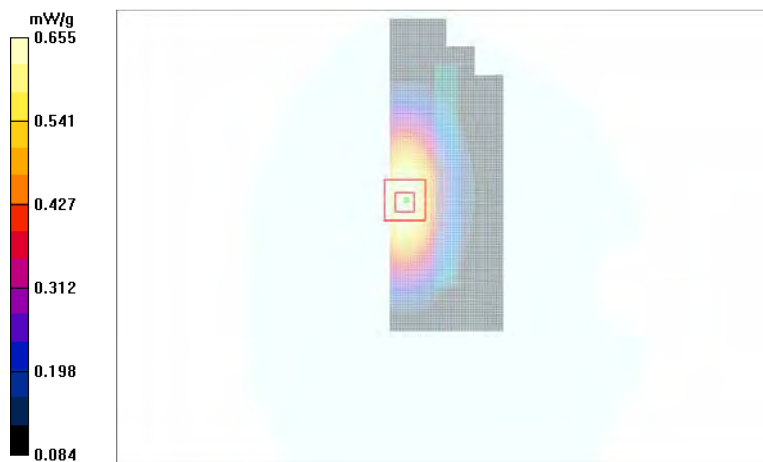
Peak SAR (extrapolated) = 0.865 W/kg

**SAR(1 g) = 0.617 mW/g**

**SAR(10 g) = 0.427 mW/g**

**Power Drift = -0.065 dB**

Maximum value of SAR (measured) = 0.655 mW/g



Date/Time: 2011-03-29 21:27:03

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 2-slot GPRS850**

Frequency: 848.8 MHz; Duty Cycle: 1:4.2

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 849$  MHz;  $\sigma = 0.986$  mho/m;  $\epsilon_r = 54$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - High - No Accessory - Right Edge Facing Phantom - 10 mm Distance/Area Scan (41x111x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.915 mW/g

**Body - High - No Accessory - Right Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 12.2 V/m

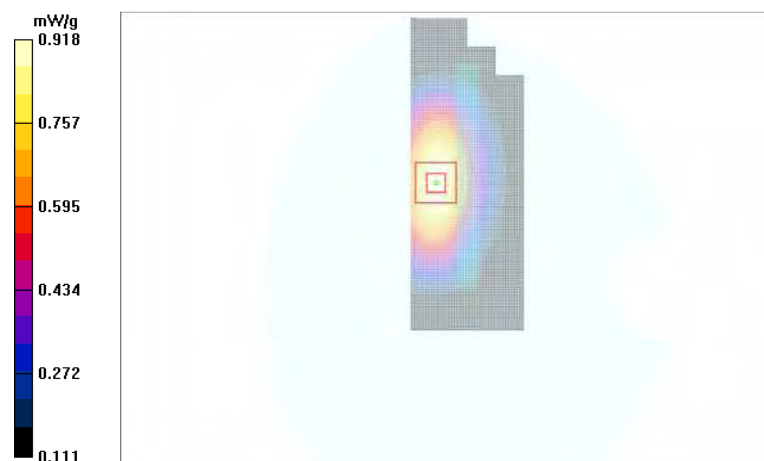
Peak SAR (extrapolated) = 1.22 W/kg

**SAR(1 g) = 0.855 mW/g**

**SAR(10 g) = 0.591 mW/g**

**Power Drift = 0.037 dB**

Maximum value of SAR (measured) = 0.918 mW/g





Date/Time: 2011-03-29 14:30:35

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA850**

Frequency: 835.0 MHz; Duty Cycle: 1:1

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.971$  mho/m;  $\epsilon_r = 54.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Display Facing Phantom - 10 mm Distance/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.703 mW/g

**Body - Middle - No Accessory - Display Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.52 V/m

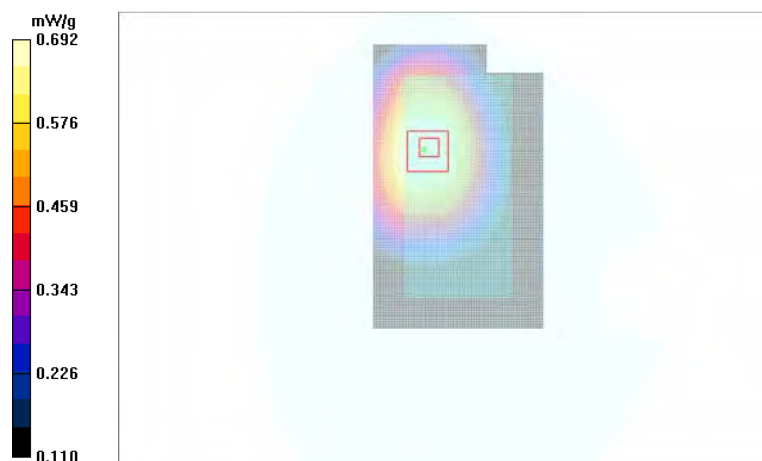
Peak SAR (extrapolated) = 0.820 W/kg

**SAR(1 g) = 0.663 mW/g**

**SAR(10 g) = 0.509 mW/g**

**Power Drift = 0.103 dB**

Maximum value of SAR (measured) = 0.692 mW/g



Date/Time: 2011-03-29 22:25:31

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA850**

Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 847$  MHz;  $\sigma = 0.985$  mho/m;  $\epsilon_r = 54$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - High - No Accessory - Back Facing Phantom - 10 mm Distance/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.881 mW/g

**Body - High - No Accessory - Back Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.51 V/m

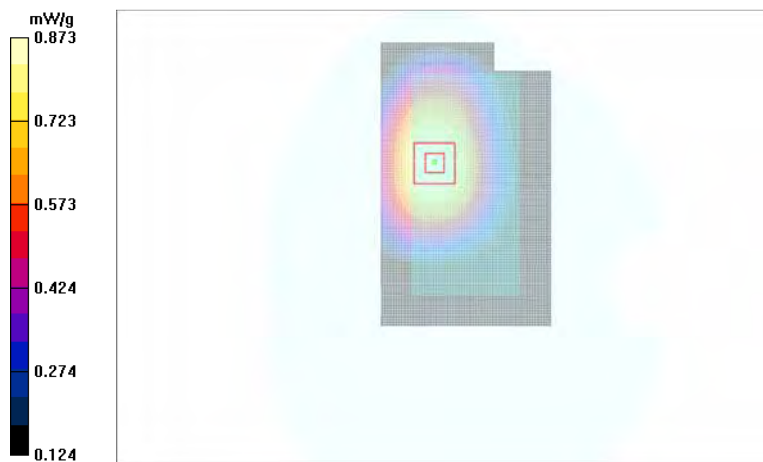
Peak SAR (extrapolated) = 1.06 W/kg

**SAR(1 g) = 0.829 mW/g**

**SAR(10 g) = 0.616 mW/g**

**Power Drift = -0.110 dB**

Maximum value of SAR (measured) = 0.873 mW/g



Date/Time: 2011-03-29 15:15:03

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA850**

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.971$  mho/m;  $\epsilon_r = 54.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Top Edge Facing Phantom - 10 mm Distance/Area Scan (61x101x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.033 mW/g

**Body - Middle - No Accessory - Top Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.02 V/m

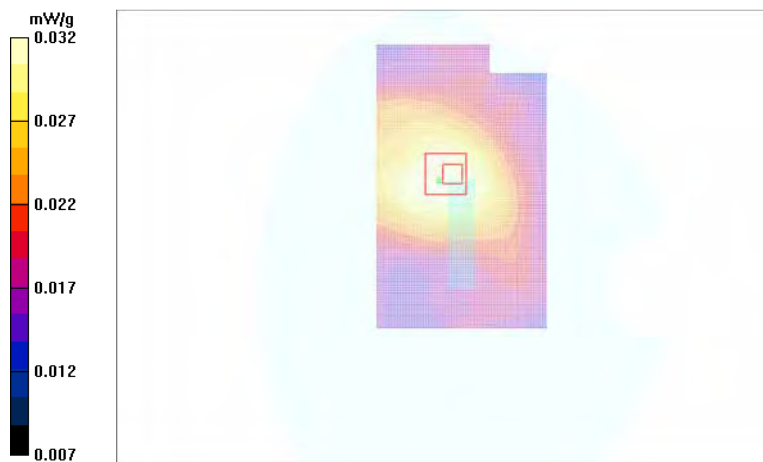
Peak SAR (extrapolated) = 0.042 W/kg

**SAR(1 g) = 0.031 mW/g**

**SAR(10 g) = 0.024 mW/g**

**Power Drift = -0.167 dB**

Maximum value of SAR (measured) = 0.032 mW/g



Date/Time: 2011-03-29 15:28:24

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA850**

Frequency: 835.0 MHz; Duty Cycle: 1:1

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.971$  mho/m;  $\epsilon_r = 54.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Bottom Edge Facing Phantom - 10 mm Distance/Area Scan (61x101x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.208 mW/g

**Body - Middle - No Accessory - Bottom Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.69 V/m

Peak SAR (extrapolated) = 0.341 W/kg

**SAR(1 g) = 0.183 mW/g**

**SAR(10 g) = 0.107 mW/g**

**Power Drift = 0.092 dB**

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



Date/Time: 2011-03-29 15:43:03

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA850**

Frequency: 835.0 MHz; Duty Cycle: 1:1

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.971$  mho/m;  $\epsilon_r = 54.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Left Edge Facing Phantom - 10 mm Distance/Area Scan (61x101x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.658 mW/g

**Body - Middle - No Accessory - Left Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 10.6 V/m

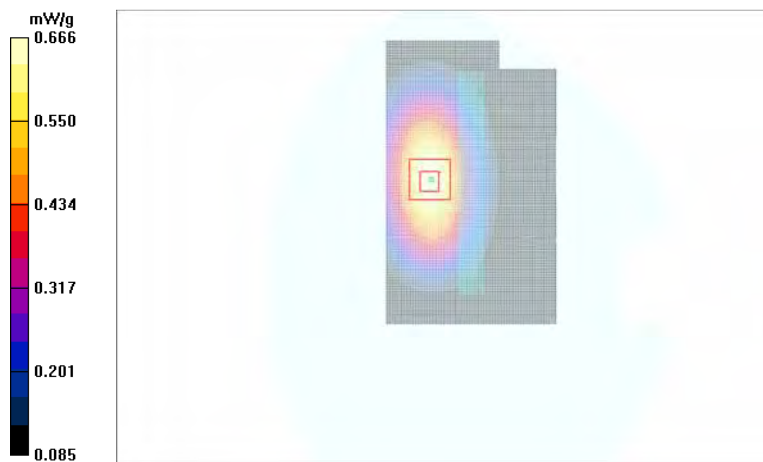
Peak SAR (extrapolated) = 0.883 W/kg

**SAR(1 g) = 0.626 mW/g**

**SAR(10 g) = 0.433 mW/g**

**Power Drift = 0.051 dB**

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



Date/Time: 2011-03-29 15:54:53

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA850**

Frequency: 835.0 MHz; Duty Cycle: 1:1

Medium: Body 850; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.971$  mho/m;  $\epsilon_r = 54.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Right Edge Facing Phantom - 10 mm Distance/Area Scan (61x101x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.929 mW/g

**Body - Middle - No Accessory - Right Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 15.1 V/m

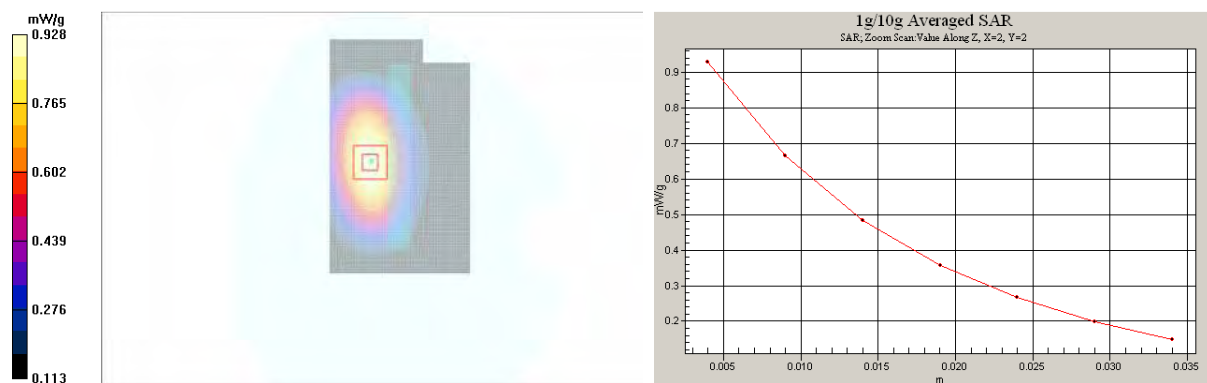
Peak SAR (extrapolated) = 1.22 W/kg

**SAR(1 g) = 0.870 mW/g**

**SAR(10 g) = 0.603 mW/g**

**Power Drift = -0.023 dB**

Maximum value of SAR (measured) = 0.928 mW/g



SAR Report

FCC\_RM-749\_01

Applicant: Nokia Corporation

Type: RM-749

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Date/Time: 2011-03-30 15:54:54

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1700/2100**

Frequency: 1712.4 MHz; Duty Cycle: 1:1

Medium: Body 1800; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used (interpolated): f = 1712.4 MHz;  $\sigma = 1.41$  mho/m;  $\epsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.12, 7.12, 7.12); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Low - No Accessory - Display Facing Phantom - 10 mm Distance/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.23 mW/g

**Body - Low - No Accessory - Display Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 10.7 V/m

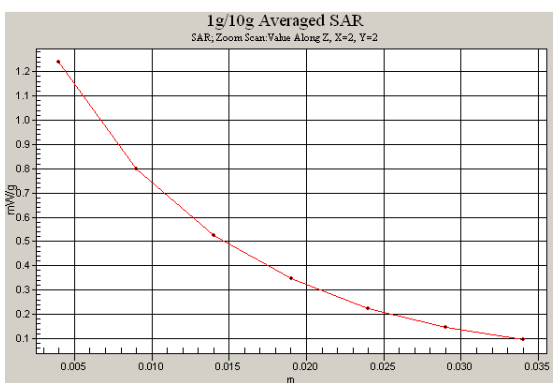
Peak SAR (extrapolated) = 1.83 W/kg

**SAR(1 g) = 1.15 mW/g**

**SAR(10 g) = 0.701 mW/g**

**Power Drift = -0.074 dB**

Maximum value of SAR (measured) = 1.23 mW/g



SAR Report

FCC\_RM-749\_01

Applicant: Nokia Corporation

Type: RM-749

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Date/Time: 2011-03-30 16:26:52

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1700/2100**

Frequency: 1712.4 MHz; Duty Cycle: 1:1

Medium: Body 1800; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used (interpolated): f = 1712.4 MHz;  $\sigma$  = 1.41 mho/m;  $\epsilon_r$  = 52.5;  $\rho$  = 1000 kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.12, 7.12, 7.12); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Low - No Accessory - Back Facing Phantom - 10 mm Distance/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.32 mW/g

**Body - Low - No Accessory - Back Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 12.3 V/m

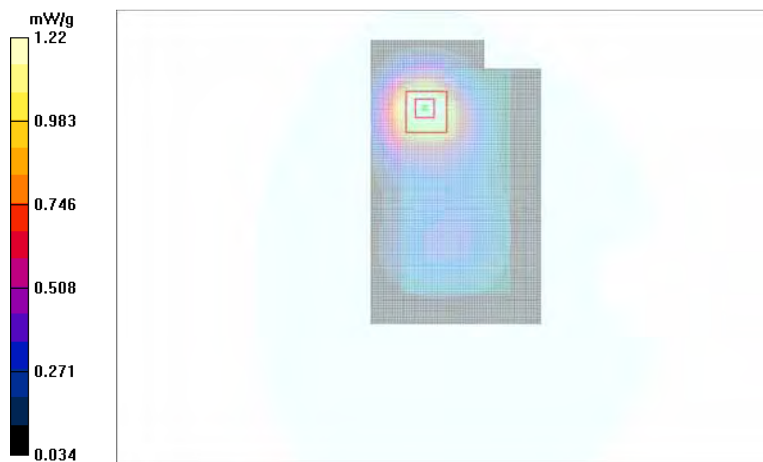
Peak SAR (extrapolated) = 1.78 W/kg

**SAR(1 g) = 1.12 mW/g**

**SAR(10 g) = 0.682 mW/g**

**Power Drift = 0.120 dB**

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





Date/Time: 2011-03-30 15:09:36

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1700/2100**

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Body 1800; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used (interpolated): f = 1732.4 MHz;  $\sigma$  = 1.43 mho/m;  $\epsilon_r$  = 52.5;  $\rho$  = 1000 kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.12, 7.12, 7.12); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Top Edge Facing Phantom - 10 mm Distance/Area Scan (61x101x1):**

Measurement grid: dx=15mm, dy=15mm

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

**Body - Middle - No Accessory - Top Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.63 V/m

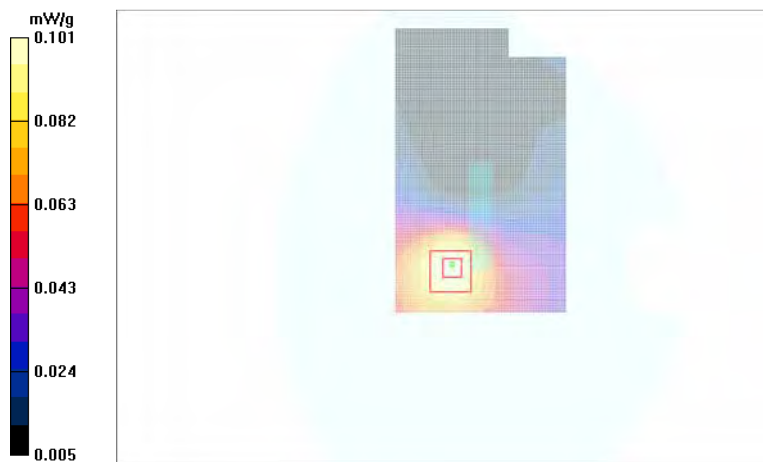
Peak SAR (extrapolated) = 0.144 W/kg

**SAR(1 g) = 0.095 mW/g**

**SAR(10 g) = 0.061 mW/g**

**Power Drift = -0.254 dB**

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



Date/Time: 2011-03-30 15:20:36

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1700/2100**

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Body 1800; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used (interpolated): f = 1732.4 MHz;  $\sigma$  = 1.43 mho/m;  $\epsilon_r$  = 52.5;  $\rho$  = 1000 kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.12, 7.12, 7.12); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Bottom Edge Facing Phantom - 10 mm Distance/Area Scan (61x101x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.669 mW/g

**Body - Middle - No Accessory - Bottom Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 14.5 V/m

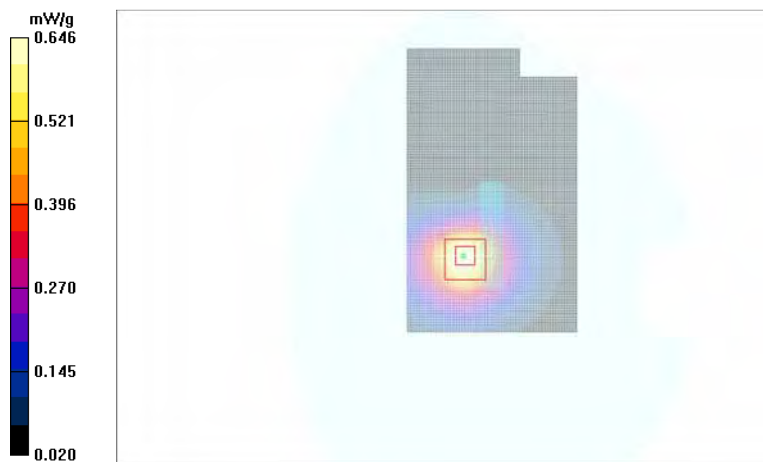
Peak SAR (extrapolated) = 0.914 W/kg

**SAR(1 g) = 0.592 mW/g**

**SAR(10 g) = 0.363 mW/g**

**Power Drift = -0.174 dB**

Maximum value of SAR (measured) = 0.646 mW/g



Date/Time: 2011-03-30 15:31:47

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1700/2100**

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Body 1800; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used (interpolated): f = 1732.4 MHz;  $\sigma$  = 1.43 mho/m;  $\epsilon_r$  = 52.5;  $\rho$  = 1000 kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.12, 7.12, 7.12); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Left Edge Facing Phantom - 10 mm Distance/Area Scan (61x101x1):**

Measurement grid: dx=15mm, dy=15mm

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

**Body - Middle - No Accessory - Left Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.4 V/m

Peak SAR (extrapolated) = 0.914 W/kg

**SAR(1 g) = 0.559 mW/g**

**SAR(10 g) = 0.323 mW/g**

**Power Drift = -0.143 dB**

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

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



SAR Report

FCC\_RM-749\_01

Applicant: Nokia Corporation

Type: RM-749

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Date/Time: 2011-03-30 15:42:55

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1700/2100**

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Body 1800; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used (interpolated): f = 1732.4 MHz;  $\sigma$  = 1.43 mho/m;  $\epsilon_r$  = 52.5;  $\rho$  = 1000 kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(7.12, 7.12, 7.12); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Right Edge Facing Phantom - 10 mm Distance/Area Scan (61x101x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.385 mW/g

**Body - Middle - No Accessory - Right Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.39 V/m

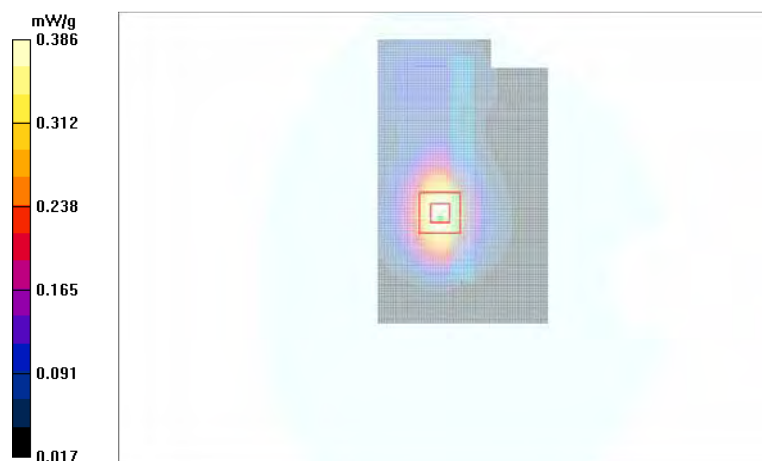
Peak SAR (extrapolated) = 0.563 W/kg

**SAR(1 g) = 0.358 mW/g**

**SAR(10 g) = 0.218 mW/g**

**Power Drift = -0.061 dB**

Maximum value of SAR (measured) = 0.386 mW/g



Date/Time: 2011-04-05 21:31:21

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 3-slot 8PSK EGPRS1900**

Frequency: 1850.2 MHz; Duty Cycle: 1:2.8

Medium: Body 1900; Medium Notes: Medium Temperature: 21.3 C

Medium parameters used (interpolated):  $f = 1850.2$  MHz;  $\sigma = 1.54$  mho/m;  $\epsilon_r = 52$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Low - No Accessory - Display Facing Phantom - 10 mm Distance/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.667 mW/g

**Body - Low - No Accessory - Display Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.8 V/m

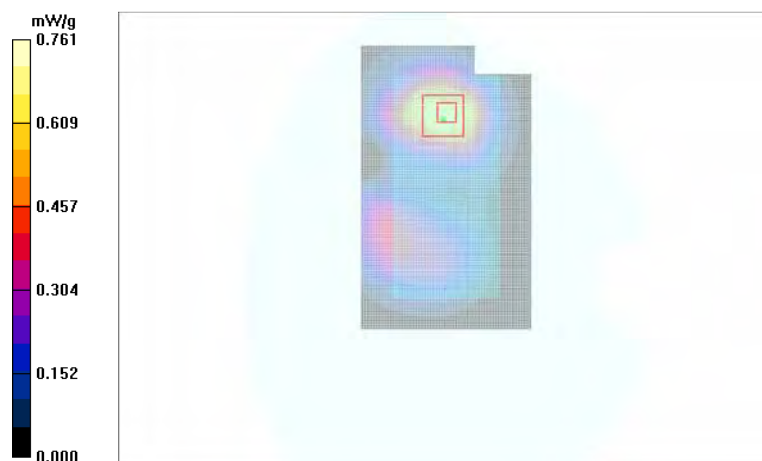
Peak SAR (extrapolated) = 1.28 W/kg

**SAR(1 g) = 0.698 mW/g**

**SAR(10 g) = 0.410 mW/g**

**Power Drift = -0.305 dB**

Maximum value of SAR (measured) = 0.761 mW/g



Date/Time: 2011-04-05 20:09:35

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 3-slot 8PSK EGPRS1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:2.8

Medium: Body 1900; Medium Notes: Medium Temperature: 21.3 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 51.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Back Facing Phantom - 10 mm Distance/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.900 mW/g

**Body - Middle - No Accessory - Back Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.35 V/m

Peak SAR (extrapolated) = 0.876 W/kg

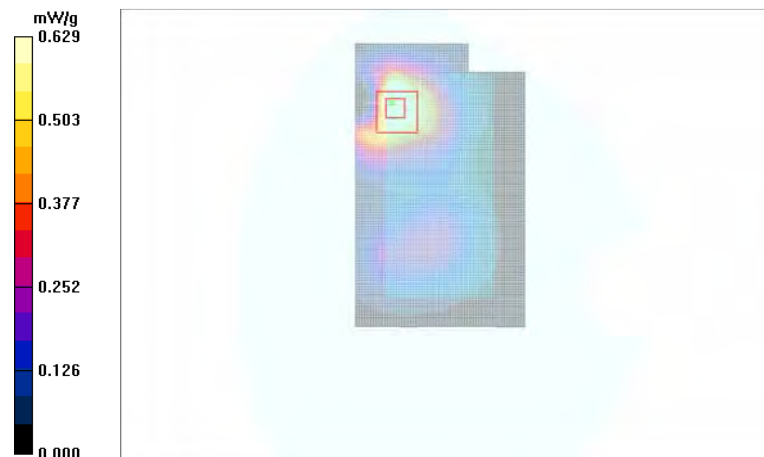
**SAR(1 g) = 0.586 mW/g**

**SAR(10 g) = 0.353 mW/g**

**Power Drift = -0.258 dB**

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.629 mW/g



Date/Time: 2011-04-05 20:28:04

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 3-slot 8PSK EGPRS1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:2.8

Medium: Body 1900; Medium Notes: Medium Temperature: 21.3 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 51.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Top Edge Facing Phantom - 10 mm Distance/Area Scan (41x81x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.110 mW/g

**Body - Middle - No Accessory - Top Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.35 V/m

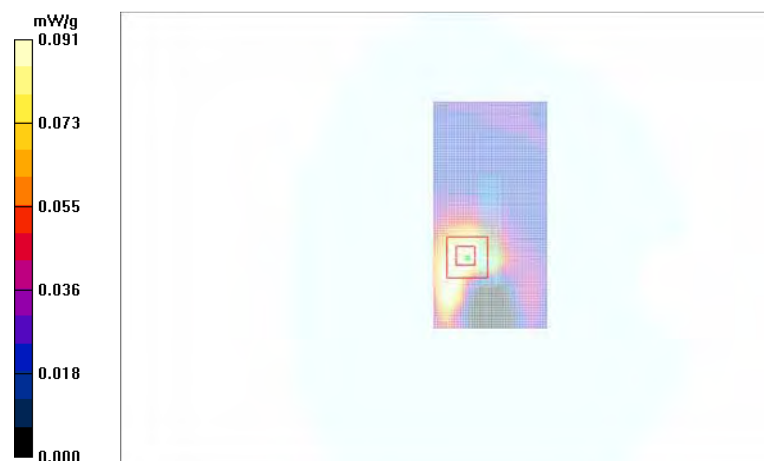
Peak SAR (extrapolated) = 0.223 W/kg

**SAR(1 g) = 0.085 mW/g**

**SAR(10 g) = 0.051 mW/g**

**Power Drift = -0.279 dB**

Maximum value of SAR (measured) = 0.091 mW/g



Date/Time: 2011-04-05 20:44:30

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 3-slot 8PSK EGPRS1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:2.8

Medium: Body 1900; Medium Notes: Medium Temperature: 21.3 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 51.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Bottom Edge Facing Phantom - 10 mm Distance/Area Scan (41x81x1):**

Measurement grid: dx=15mm, dy=15mm

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

**Body - Middle - No Accessory - Bottom Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.91 V/m

Peak SAR (extrapolated) = 0.521 W/kg

**SAR(1 g) = 0.321 mW/g**

**SAR(10 g) = 0.188 mW/g**

**Power Drift = -0.226 dB**

Maximum value of SAR (measured) = 0.340 mW/g





Date/Time: 2011-04-05 20:59:56

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 3-slot 8PSK EGPRS1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:2.8

Medium: Body 1900; Medium Notes: Medium Temperature: 21.3 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 51.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Left Edge Facing Phantom - 10 mm Distance/Area Scan (41x111x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.359 mW/g

**Body - Middle - No Accessory - Left Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.61 V/m

Peak SAR (extrapolated) = 0.446 W/kg

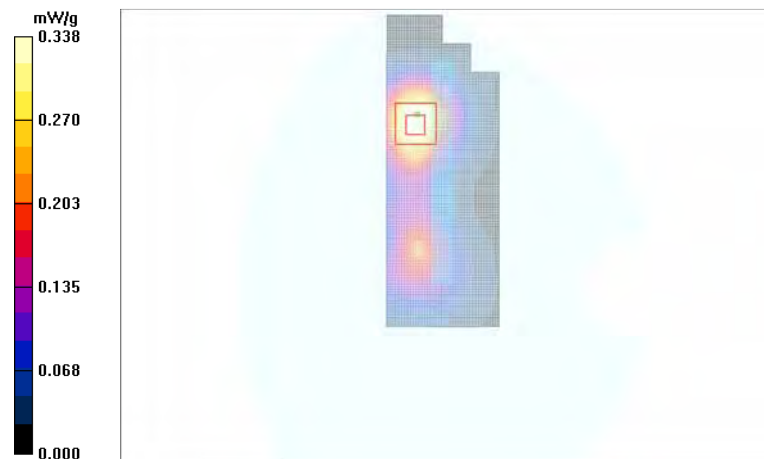
**SAR(1 g) = 0.305 mW/g**

**SAR(10 g) = 0.177 mW/g**

**Power Drift = -0.256 dB**

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.338 mW/g



Date/Time: 2011-04-05 21:15:07

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: 3-slot 8PSK EGPRS1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:2.8

Medium: Body 1900; Medium Notes: Medium Temperature: 21.3 C

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.57$  mho/m;  $\epsilon_r = 51.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Right Edge Facing Phantom - 10 mm Distance/Area Scan (41x111x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.212 mW/g

**Body - Middle - No Accessory - Right Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.16 V/m

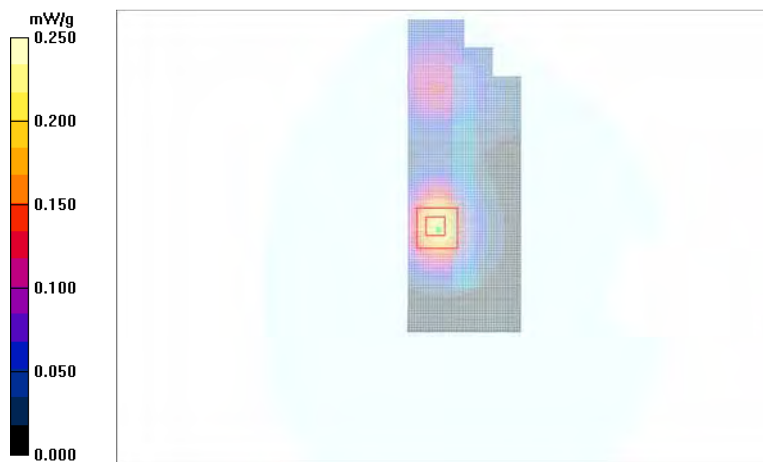
Peak SAR (extrapolated) = 0.368 W/kg

**SAR(1 g) = 0.229 mW/g**

**SAR(10 g) = 0.133 mW/g**

**Power Drift = -0.197 dB**

Maximum value of SAR (measured) = 0.250 mW/g



Date/Time: 2011-03-30 20:03:24

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1900**

Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used (interpolated):  $f = 1852.4$  MHz;  $\sigma = 1.55$  mho/m;  $\epsilon_r = 52.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.86, 6.86, 6.86); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Low - No Accessory - Display Facing Phantom - 10 mm Distance/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

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

**Body - Low - No Accessory - Display Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.8 V/m

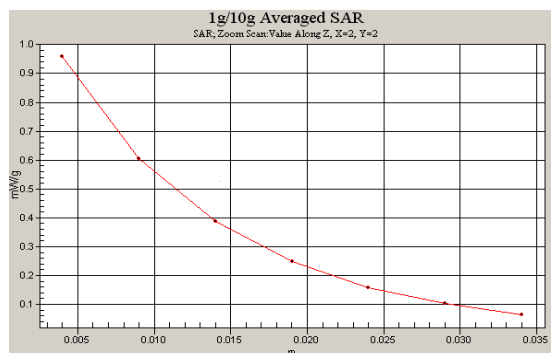
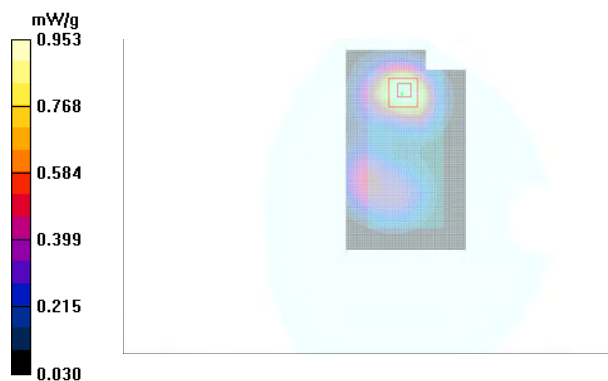
Peak SAR (extrapolated) = 1.46 W/kg

**SAR(1 g) = 0.899 mW/g**

**SAR(10 g) = 0.537 mW/g**

**Power Drift = 0.007 dB**

Maximum value of SAR (measured) = 0.953 mW/g



SAR Report

FCC\_RM-749\_01

Applicant: Nokia Corporation

Type: RM-749

Copyright © 2011 TCC Nokia

Date/Time: 2011-03-30 20:29:00

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used: f = 1880 MHz;  $\sigma$  = 1.58 mho/m;  $\epsilon_r$  = 52;  $\rho$  = 1000 kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.86, 6.86, 6.86); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Back Facing Phantom - 10 mm Distance/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

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

**Body - Middle - No Accessory - Back Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.8 V/m

Peak SAR (extrapolated) = 1.25 W/kg

**SAR(1 g) = 0.765 mW/g**

**SAR(10 g) = 0.462 mW/g**

**Power Drift = -0.066 dB**

Maximum value of SAR (measured) = 0.825 mW/g



Date/Time: 2011-03-30 20:41:59

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used: f = 1880 MHz;  $\sigma$  = 1.58 mho/m;  $\epsilon_r$  = 52;  $\rho$  = 1000 kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.86, 6.86, 6.86); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Top Edge Facing Phantom - 10 mm Distance/Area Scan (41x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.140 mW/g

**Body - Middle - No Accessory - Top Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.27 V/m

Peak SAR (extrapolated) = 0.198 W/kg

**SAR(1 g) = 0.125 mW/g**

**SAR(10 g) = 0.076 mW/g**

**Power Drift = 0.108 dB**

Maximum value of SAR (measured) = 0.136 mW/g



Date/Time: 2011-03-30 20:54:08

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used: f = 1880 MHz;  $\sigma$  = 1.58 mho/m;  $\epsilon_r$  = 52;  $\rho$  = 1000 kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.86, 6.86, 6.86); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Bottom Edge Facing Phantom - 10 mm Distance/Area Scan (41x91x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.502 mW/g

**Body - Middle - No Accessory - Bottom Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.91 V/m

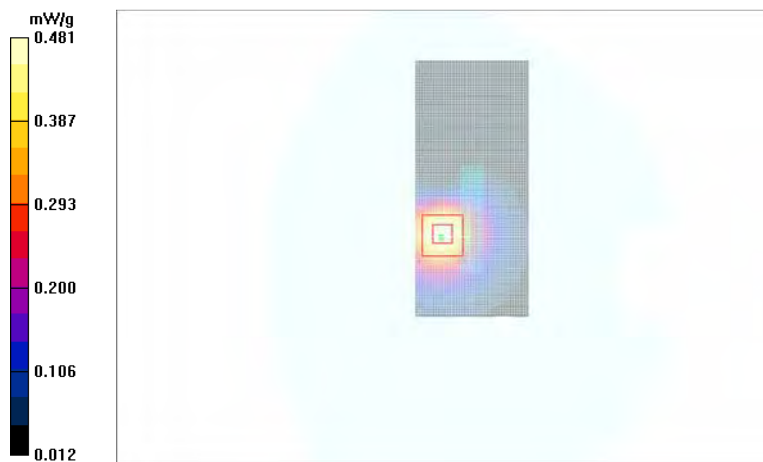
Peak SAR (extrapolated) = 0.724 W/kg

**SAR(1 g) = 0.444 mW/g**

**SAR(10 g) = 0.258 mW/g**

**Power Drift = 0.047 dB**

Maximum value of SAR (measured) = 0.481 mW/g



Date/Time: 2011-03-30 21:16:11

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used: f = 1880 MHz;  $\sigma$  = 1.58 mho/m;  $\epsilon_r$  = 52;  $\rho$  = 1000 kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.86, 6.86, 6.86); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Left Edge Facing Phantom - 10 mm Distance/Area Scan (41x111x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.594 mW/g

**Body - Middle - No Accessory - Left Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.48 V/m

Peak SAR (extrapolated) = 0.832 W/kg

**SAR(1 g) = 0.496 mW/g**

**SAR(10 g) = 0.285 mW/g**

**Power Drift = -0.179 dB**

Maximum value of SAR (measured) = 0.543 mW/g



Date/Time: 2011-03-30 21:28:56

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WCDMA1900**

Frequency: 1880.0 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: t=21.3 C

Medium parameters used: f = 1880 MHz;  $\sigma$  = 1.58 mho/m;  $\epsilon_r$  = 52;  $\rho$  = 1000 kg/m<sup>3</sup>

Phantom section: Flat Section

**DASY4 Configuration:**

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.86, 6.86, 6.86); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Right Edge Facing Phantom - 10 mm Distance/Area Scan (41x111x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.327 mW/g

**Body - Middle - No Accessory - Right Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.27 V/m

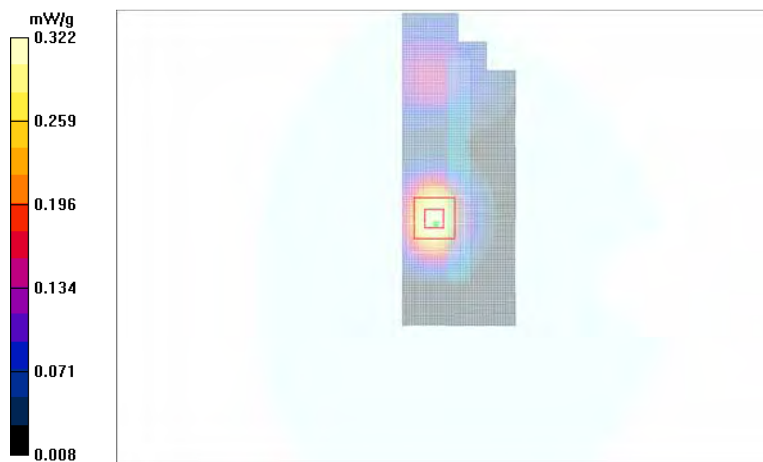
Peak SAR (extrapolated) = 0.489 W/kg

**SAR(1 g) = 0.297 mW/g**

**SAR(10 g) = 0.172 mW/g**

**Power Drift = -0.062 dB**

Maximum value of SAR (measured) = 0.322 mW/g





Date/Time: 2011-04-06 15:29:06

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 b-mode**

Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.81, 6.81, 6.81); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Display Facing Phantom - 10 mm Distance/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.100 mW/g

**Body - Middle - No Accessory - Display Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 5.69 V/m

Peak SAR (extrapolated) = 0.140 W/kg

**SAR(1 g) = 0.087 mW/g**

**SAR(10 g) = 0.052 mW/g**

**Power Drift = -0.229 dB**

Maximum value of SAR (measured) = 0.094 mW/g



Date/Time: 2011-04-06 15:41:41

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 b-mode**

Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.81, 6.81, 6.81); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Back Facing Phantom - 10 mm Distance/Area Scan (61x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.094 mW/g

**Body - Middle - No Accessory - Back Facing Phantom - 10 mm Distance/Zoom Scan 3 (6x6x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.21 V/m

Peak SAR (extrapolated) = 0.162 W/kg

**SAR(1 g) = 0.078 mW/g**

**SAR(10 g) = 0.041 mW/g**

**Power Drift = -0.118 dB**

Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.087 mW/g



Date/Time: 2011-04-06 16:03:54

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 b-mode**

Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.81, 6.81, 6.81); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Top Edge Facing Phantom - 10 mm Distance/Area Scan (61x101x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.142 mW/g

**Body - Middle - No Accessory - Top Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.55 V/m

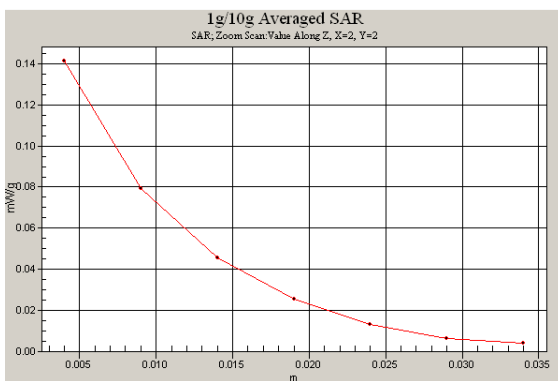
Peak SAR (extrapolated) = 0.230 W/kg

**SAR(1 g) = 0.128 mW/g**

**SAR(10 g) = 0.069 mW/g**

**Power Drift = 0.020 dB**

Maximum value of SAR (measured) = 0.142 mW/g



Date/Time: 2011-04-06 16:52:01

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 b-mode**

Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.81, 6.81, 6.81); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Bottom Edge Facing Phantom - 10 mm Distance/Area Scan (61x101x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.018 mW/g

**Body - Middle - No Accessory - Bottom Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 1.22 V/m

Peak SAR (extrapolated) = 0.022 W/kg

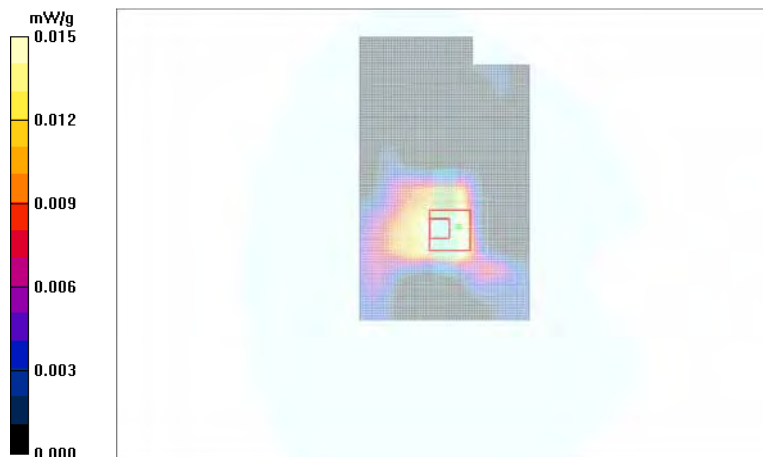
**SAR(1 g) = 0.013 mW/g**

**SAR(10 g) = 0.00609 mW/g**

**Power Drift = 0.447 dB**

Warning: Maximum averaged SAR over 1 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement. Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.

Maximum value of SAR (measured) = 0.015 mW/g



Date/Time: 2011-04-06 17:07:14

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 b-mode**

Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.81, 6.81, 6.81); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Left Edge Facing Phantom - 10 mm Distance/Area Scan (61x101x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.131 mW/g

**Body - Middle - No Accessory - Left Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 5.96 V/m

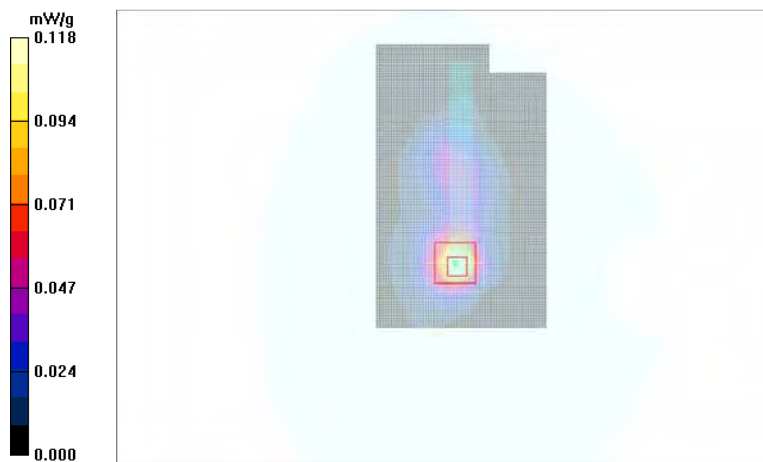
Peak SAR (extrapolated) = 0.214 W/kg

**SAR(1 g) = 0.105 mW/g**

**SAR(10 g) = 0.050 mW/g**

**Power Drift = 0.351 dB**

Maximum value of SAR (measured) = 0.118 mW/g



Date/Time: 2011-04-06 17:23:29

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 b-mode**

Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.81, 6.81, 6.81); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Right Edge Facing Phantom - 10 mm Distance/Area Scan (61x101x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.028 mW/g

**Body - Middle - No Accessory - Right Edge Facing Phantom - 10 mm Distance/Zoom Scan (5x5x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 3.25 V/m

Peak SAR (extrapolated) = 0.041 W/kg

**SAR(1 g) = 0.024 mW/g**

**SAR(10 g) = 0.013 mW/g**

**Power Drift = -0.051 dB**

Maximum value of SAR (measured) = 0.026 mW/g



Date/Time: 2011-04-06 21:14:01

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 n-mode**

Frequency: 2442.0 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 21.5 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.81, 6.81, 6.81); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

**Body - Middle - No Accessory - Top Edge Facing Phantom - 10 mm Distance/Area Scan (61x101x1):**

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.116 mW/g

**Body - Middle - No Accessory - Top Edge Facing Phantom - 10 mm Distance/Zoom Scan (6x6x7)/Cube 0:**

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.46 V/m

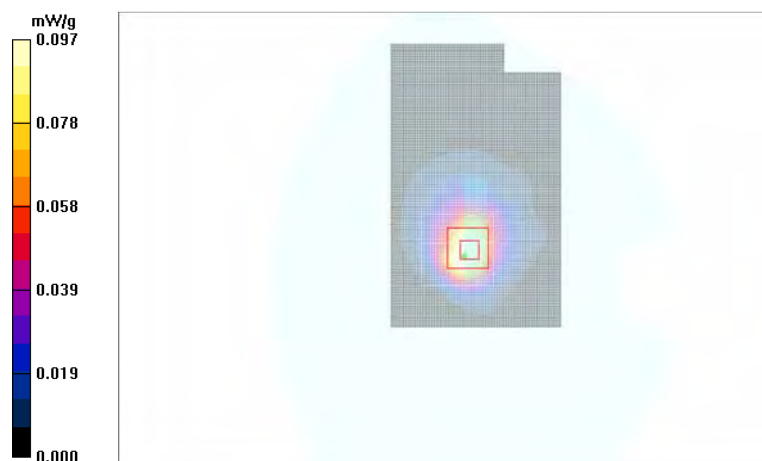
Peak SAR (extrapolated) = 0.166 W/kg

**SAR(1 g) = 0.092 mW/g**

**SAR(10 g) = 0.048 mW/g**

**Power Drift = 0.143 dB**

Maximum value of SAR (measured) = 0.097 mW/g



Date/Time: 2011-04-06 17:23:29, Date/Time: 2011-03-29 21:27:03

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 b-mode, Communication System: 2-slot GPRS850**

Frequency: 2442.0 MHz, Frequency: 848.8 MHz; Duty Cycle: 1:1, Duty Cycle: 1:4.2

Medium: Body 2450, Medium: Body 850; Medium Notes: Medium Temperature: 21.5 C, Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>, Medium parameters used:  $f = 849$  MHz;  $\sigma = 0.986$  mho/m;  $\epsilon_r = 54$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

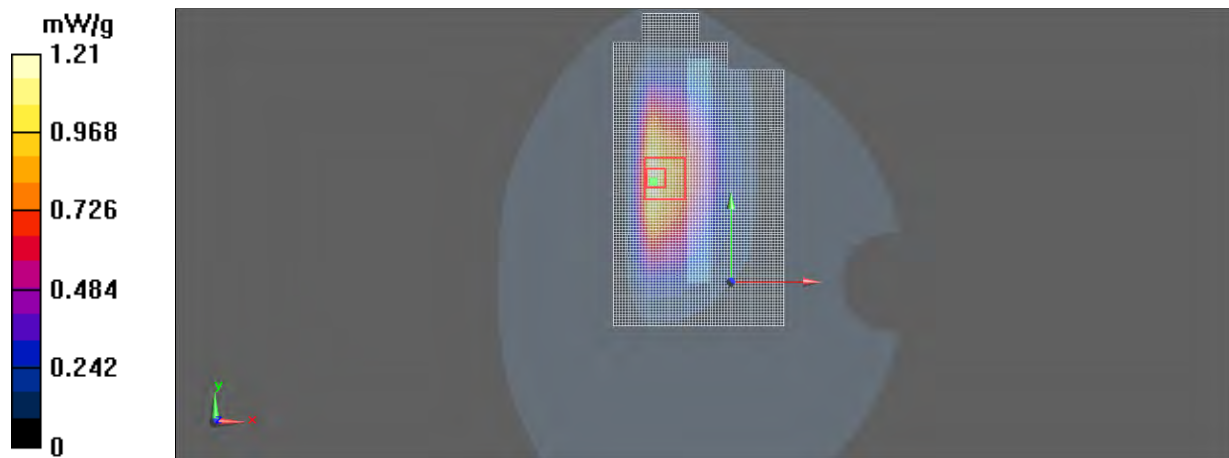
- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.81, 6.81, 6.81), ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 8, Phantom: SAM 2; Type: SAM Twin Phantom, Type: Twin Phantom; Serial: TP-1328, Serial: TP-1037
- ; SEMCAD X Version 14.0 Build 61

**Configuration/Body - Middle - No Accessory - Right Edge Facing Phantom – 10 mm Distance/Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Configuration/Body - High - No Accessory - Right Edge Facing Phantom - 10 mm Distance/Area Scan (5x12x1):** Measurement grid: dx=15mm, dy=15mm

**Motorola Fast SAR of Combined Scans: SAR(1 g) = 1.03 mW/g**  
**SAR(10 g) = 0.681 mW/g**

Maximum value of SAR (measured) = 1.21 mW/g





Date/Time: 2011-04-06 15:41:41, Date/Time: 2011-03-29 22:25:31

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 b-mode, Communication System: WCDMA850**

Frequency: 2442.0 MHz, Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: Body 2450, Medium: Body 850; Medium Notes: Medium Temperature: 21.5 C, Medium Notes: Medium Temperature: 21.8 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>, Medium parameters used:  $f = 847$  MHz;  $\sigma = 0.985$  mho/m;  $\epsilon_r = 54$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.81, 6.81, 6.81), ConvF(8.61, 8.61, 8.61); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 8, Phantom: SAM 2; Type: SAM Twin Phantom, Type: Twin Phantom; Serial: TP-1328, Serial: TP-1037
- ; SEMCAD X Version 14.0 Build 61

**Configuration/Body - Middle - No Accessory - Back Facing Phantom - 10 mm Distance/Area Scan (7x11x1):**

Measurement grid: dx=15mm, dy=15mm

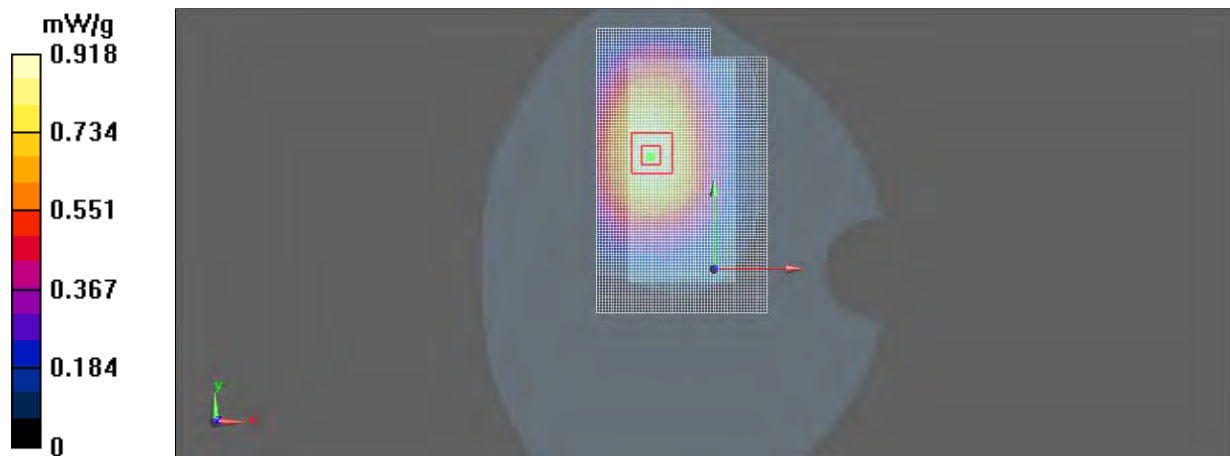
**Configuration/Body - High - No Accessory - Back Facing Phantom - 10mm Distance/Area Scan (7x11x1):**

Measurement grid: dx=15mm, dy=15mm

**Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.868 mW/g**

**SAR(10 g) = 0.610 mW/g**

Maximum value of SAR (measured) = 0.918 mW/g



Date/Time: 2011-04-06 15:29:06, Date/Time: 2011-03-30 15:54:54

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 b-mode, Communication System: WCDMA1700/2100**

Frequency: 2442.0 MHz, Frequency: 1712.4 MHz; Duty Cycle: 1:1

Medium: Body 2450, Medium: Body 1800; Medium Notes: Medium Temperature: 21.5 C, Medium Notes:

Medium Temperature: t=21.3 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>, Medium parameters used (interpolated):  $f = 1712.4$  MHz;  $\sigma = 1.41$  mho/m;  $\epsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.81, 6.81, 6.81), ConvF(7.12, 7.12, 7.12); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 8, Phantom: SAM 5; Type: SAM Twin Phantom, Type: Twin Phantom; Serial: TP-1328, Serial: TP-1302
- ; SEMCAD X Version 14.0 Build 61

**Configuration/Body - Middle - No Accessory - Display Facing Phantom – 10 mm Distance/Area Scan (7x11x1):**

Measurement grid: dx=15mm, dy=15mm

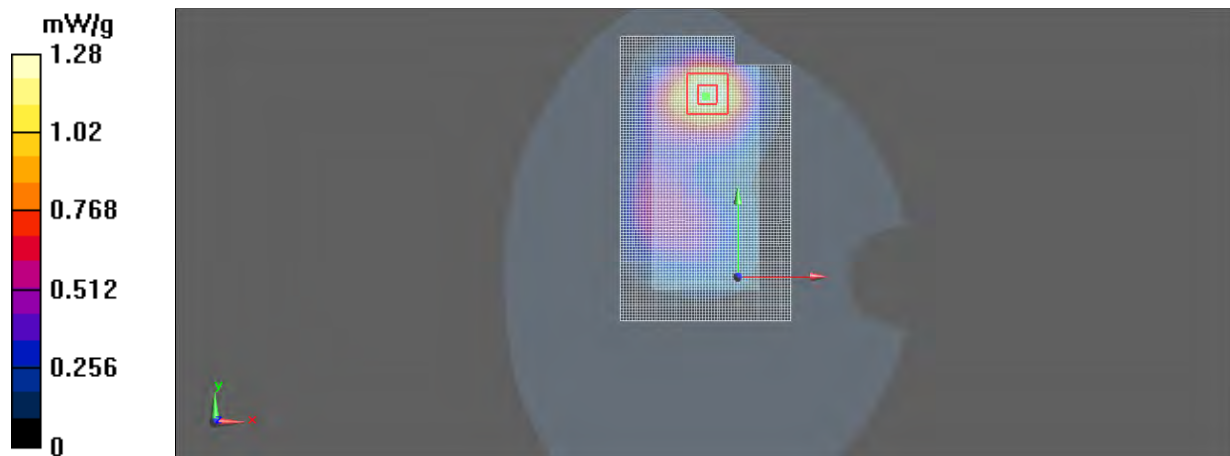
**Configuration/Body - Low - No Accessory - Display Facing Phantom - 10mm Distance/Area Scan (7x11x1):**

Measurement grid: dx=15mm, dy=15mm

**Motorola Fast SAR of Combined Scans: SAR(1 g) = 1.18 mW/g**

**SAR(10 g) = 0.713 mW/g**

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



Date/Time: 2011-04-06 15:29:06, Date/Time: 2011-04-05 21:31:21

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 b-mode, Communication System: 3-slot 8PSK EGPRS1900**

Frequency: 2442.0 MHz, Frequency: 1850.2 MHz; Duty Cycle: 1:1, Duty Cycle: 1:2.8

Medium: Body 2450, Medium: Body 1900; Medium Notes: Medium Temperature: 21.5 C, Medium Notes:

Medium Temperature: 21.3 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>, Medium parameters used (interpolated):  $f = 1850.2$  MHz;  $\sigma = 1.54$  mho/m;  $\epsilon_r = 52$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581, Probe: ES3DV3 - SN3118; Probe Notes:

- ConvF(6.81, 6.81, 6.81), ConvF(4.36, 4.36, 4.36); Calibrated: 2010-07-19, Calibrated: 2010-09-09

- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn682; Calibrated: 2010-07-16

- Phantom: SAM 8, Phantom: SAM 5; Type: SAM Twin Phantom, Type: Twin Phantom; Serial: TP-1328, Serial: TP-1302

-; SEMCAD X Version 14.0 Build 61

**Configuration/Body - Middle - No Accessory - Display Facing Phantom – 10 mm Distance/Area Scan (7x11x1):**

Measurement grid: dx=15mm, dy=15mm

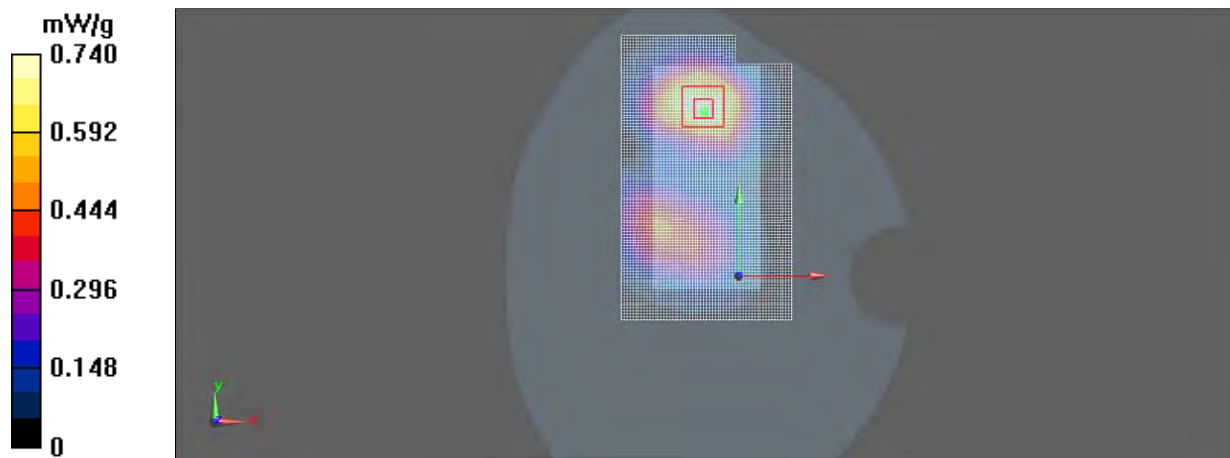
**Configuration/Body - Low - No Accessory - Display Facing Phantom - 10 mm Distance/Area Scan (7x11x1):**

Measurement grid: dx=15mm, dy=15mm

**Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.677 mW/g**

**SAR(10 g) = 0.403 mW/g**

Maximum value of SAR (measured) = 0.740 mW/g



Date/Time: 2011-04-06 15:29:06, Date/Time: 2011-03-30 20:03:24

Test Laboratory: TCC Nokia

Type: RM-749; Serial: 004402/13/500070/5

**Communication System: WLAN2450 b-mode, Communication System: WCDMA1900**

Frequency: 2442.0 MHz, Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: Body 2450, Medium: Body 1900; Medium Notes: Medium Temperature: 21.5 C, Medium Notes:

Medium Temperature: t=21.3 C

Medium parameters used:  $f = 2442$  MHz;  $\sigma = 2.03$  mho/m;  $\epsilon_r = 50.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>, Medium parameters used (interpolated):  $f = 1852.4$  MHz;  $\sigma = 1.55$  mho/m;  $\epsilon_r = 52.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3581; Probe Notes:
- ConvF(6.81, 6.81, 6.81), ConvF(6.86, 6.86, 6.86); Calibrated: 2010-07-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn682; Calibrated: 2010-07-16
- Phantom: SAM 8, Phantom: SAM 5; Type: SAM Twin Phantom, Type: Twin Phantom; Serial: TP-1328, Serial: TP-1302
- ; SEMCAD X Version 14.0 Build 61

**Configuration/Body - Middle - No Accessory - Display Facing Phantom – 10 mm Distance/Area Scan (7x11x1):**

Measurement grid: dx=15mm, dy=15mm

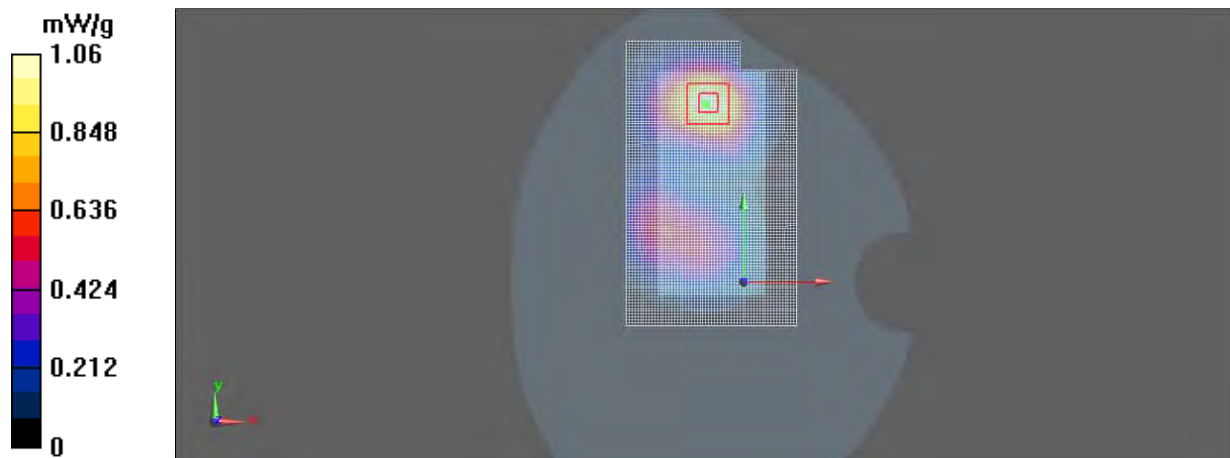
**Configuration/Body - Low - No Accessory - Display Facing Phantom - 10 mm Distance/Area Scan (7x11x1):**

Measurement grid: dx=15mm, dy=15mm

**Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.967 mW/g**

**SAR(10 g) = 0.560 mW/g**

Maximum value of SAR (measured) = 1.06 mW/g



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**APPENDIX E: RELEVANT PAGES FROM PROBE CALIBRATION REPORT(S)**

See the following pages



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

The Swiss Accreditation Service is one of the signatories to the EA  
 Multilateral Agreement for the recognition of calibration certificates

Client **Nokia Denmark A/S**

Certificate No: **ES3-3116\_Feb10**

## CALIBRATION CERTIFICATE

Object **ES3DV3 - SN:3116**

Calibration procedure(s) **QA CAL-01.v6, QA CAL-23.v3 and QA CAL-25.v2  
 Calibration procedure for dosimetric E-field probes**

Calibration date: **February 24, 2010**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature ( $22 \pm 3$ )°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards          | ID #            | Cal Date (Certificate No.)        | Scheduled Calibration  |
|----------------------------|-----------------|-----------------------------------|------------------------|
| Power meter E4419B         | GB41293874      | 1-Apr-09 (No. 217-01030)          | Apr-10                 |
| Power sensor E4412A        | MY41495277      | 1-Apr-09 (No. 217-01030)          | Apr-10                 |
| Power sensor E4412A        | MY41498087      | 1-Apr-09 (No. 217-01030)          | Apr-10                 |
| Reference 3 dB Attenuator  | SN: S5054 (3c)  | 31-Mar-09 (No. 217-01026)         | Mar-10                 |
| Reference 20 dB Attenuator | SN: S5086 (20b) | 31-Mar-09 (No. 217-01028)         | Mar-10                 |
| Reference 30 dB Attenuator | SN: S5129 (30b) | 31-Mar-09 (No. 217-01027)         | Mar-10                 |
| Reference Probe ES3DV2     | SN: 3013        | 30-Dec-09 (No. ES3-3013_Dec09)    | Dec-10                 |
| DAE4                       | SN: 660         | 29-Sep-09 (No. DAE4-660_Sep09)    | Sep-10                 |
| Secondary Standards        | ID #            | Check Date (in house)             | Scheduled Check        |
| RF generator HP 8648C      | US3642U01700    | 4-Aug-99 (in house check Oct-09)  | In house check: Oct-11 |
| Network Analyzer HP 8753E  | US37390585      | 18-Oct-01 (in house check Oct-09) | In house check: Oct10  |

|                |                       |                              |           |
|----------------|-----------------------|------------------------------|-----------|
|                | Name                  | Function                     | Signature |
| Calibrated by: | <b>Jeton Kastrati</b> | <b>Laboratory Technician</b> |           |
| Approved by:   | <b>Katja Pokovic</b>  | <b>Technical Manager</b>     |           |

Issued: February 24, 2010

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

## DASY - Parameters of Probe: ES3DV3 SN:3116

### Calibration Parameter Determined in Head Tissue Simulating Media

| f [MHz] | Validity [MHz] <sup>c</sup> | Permittivity | Conductivity | ConvF X | ConvF Y | ConvF Z | Alpha | Depth Unc (k=2) |
|---------|-----------------------------|--------------|--------------|---------|---------|---------|-------|-----------------|
| 835     | ± 50 / ± 100                | 41.5 ± 5%    | 0.90 ± 5%    | 5.94    | 5.94    | 5.94    | 0.83  | 1.07 ± 11.0%    |
| 1750    | ± 50 / ± 100                | 40.1 ± 5%    | 1.37 ± 5%    | 5.05    | 5.05    | 5.05    | 0.45  | 1.55 ± 11.0%    |
| 1900    | ± 50 / ± 100                | 40.0 ± 5%    | 1.40 ± 5%    | 4.90    | 4.90    | 4.90    | 0.33  | 1.91 ± 11.0%    |
| 2450    | ± 50 / ± 100                | 39.2 ± 5%    | 1.80 ± 5%    | 4.36    | 4.36    | 4.36    | 0.41  | 1.86 ± 11.0%    |

<sup>c</sup> The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

## DASY - Parameters of Probe: ES3DV3 SN:3116

### Calibration Parameter Determined in Body Tissue Simulating Media

| f [MHz] | Validity [MHz] <sup>C</sup> | Permittivity | Conductivity | ConvF X | ConvF Y | ConvF Z | Alpha | Depth Unc (k=2) |
|---------|-----------------------------|--------------|--------------|---------|---------|---------|-------|-----------------|
| 835     | ± 50 / ± 100                | 55.2 ± 5%    | 0.97 ± 5%    | 5.84    | 5.84    | 5.84    | 0.72  | 1.23 ± 11.0%    |
| 1750    | ± 50 / ± 100                | 53.4 ± 5%    | 1.49 ± 5%    | 4.82    | 4.82    | 4.82    | 0.45  | 1.75 ± 11.0%    |
| 1900    | ± 50 / ± 100                | 53.3 ± 5%    | 1.52 ± 5%    | 4.58    | 4.58    | 4.58    | 0.33  | 2.40 ± 11.0%    |
| 2450    | ± 50 / ± 100                | 52.7 ± 5%    | 1.95 ± 5%    | 4.12    | 4.12    | 4.12    | 0.82  | 1.17 ± 11.0%    |

<sup>C</sup> The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.





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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client: **Nokia Denmark A/S**

Certificate No: **ES3-3117\_Jul10**

## CALIBRATION CERTIFICATE

Object: **ES3DV3 - SN:3117**

Calibration procedure(s): **QA CAL-01.v6, QA CAL-23.v3 and QA CAL-25.v2  
Calibration procedure for dosimetric E-field probes**

Calibration date: **July 19, 2010**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature  $(22 \pm 3)^{\circ}\text{C}$  and humidity  $< 70\%$

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards          | ID #            | Cal Date (Certificate No.)     | Scheduled Calibration |
|----------------------------|-----------------|--------------------------------|-----------------------|
| Power meter E4419B         | GB41293874      | 1-Apr-10 (No. 217-01136)       | Apr-11                |
| Power sensor E4412A        | MY41495277      | 1-Apr-10 (No. 217-01136)       | Apr-11                |
| Power sensor E4412A        | MY41498087      | 1-Apr-10 (No. 217-01136)       | Apr-11                |
| Reference 3 dB Attenuator  | SN: S5054 (3c)  | 30-Mar-10 (No. 217-01159)      | Mar-11                |
| Reference 20 dB Attenuator | SN: S5086 (20b) | 30-Mar-10 (No. 217-01161)      | Mar-11                |
| Reference 30 dB Attenuator | SN: S5129 (30b) | 30-Mar-10 (No. 217-01160)      | Mar-11                |
| Reference Probe ES3DV2     | SN: 3013        | 30-Dec-09 (No. ES3-3013_Dec09) | Dec-10                |
| DAE4                       | SN: 660         | 20-Apr-10 (No. DAE4-660_Apr10) | Apr-11                |

| Secondary Standards       | ID #         | Check Date (in house)             | Scheduled Check        |
|---------------------------|--------------|-----------------------------------|------------------------|
| RF generator HP 8648C     | US3642U01700 | 4-Aug-99 (in house check Oct-09)  | In house check: Oct-11 |
| Network Analyzer HP 8753E | US37390585   | 18-Oct-01 (in house check Oct-09) | In house check: Oct10  |

Calibrated by: **Jeton Kastrati** Laboratory Technician

Approved by: **Kalja Pokovic** Technical Manager

Issued: July 19, 2010

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

## DASY/EASY - Parameters of Probe: ES3DV3 SN:3117

### Calibration Parameter Determined in Head Tissue Simulating Media

| f [MHz] | Validity [MHz] <sup>c</sup> | Permittivity | Conductivity | ConvF X | ConvF Y | ConvF Z | Alpha | Depth Unc (k=2) |
|---------|-----------------------------|--------------|--------------|---------|---------|---------|-------|-----------------|
| 835     | ± 50 / ± 100                | 41.5 ± 5%    | 0.90 ± 5%    | 5.69    | 5.69    | 5.69    | 0.77  | 1.13 ± 11.0%    |
| 1750    | ± 50 / ± 100                | 40.1 ± 5%    | 1.37 ± 5%    | 4.94    | 4.94    | 4.94    | 0.45  | 1.56 ± 11.0%    |
| 1900    | ± 50 / ± 100                | 40.0 ± 5%    | 1.40 ± 5%    | 4.71    | 4.71    | 4.71    | 0.42  | 1.65 ± 11.0%    |
| 2450    | ± 50 / ± 100                | 39.2 ± 5%    | 1.80 ± 5%    | 4.22    | 4.22    | 4.22    | 0.46  | 1.64 ± 11.0%    |

<sup>c</sup> The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band

## DASY/EASY - Parameters of Probe: ES3DV3 SN:3117

### Calibration Parameter Determined in Body Tissue Simulating Media

| f [MHz] | Validity [MHz] <sup>c</sup> | Permittivity | Conductivity | ConvF X | ConvF Y | ConvF Z | Alpha | Depth Unc (k=2) |
|---------|-----------------------------|--------------|--------------|---------|---------|---------|-------|-----------------|
| 835     | ± 50 / ± 100                | 55.2 ± 5%    | 0.97 ± 5%    | 5.70    | 5.70    | 5.70    | 0.91  | 1.12 ± 11.0%    |
| 1750    | ± 50 / ± 100                | 53.4 ± 5%    | 1.49 ± 5%    | 4.68    | 4.68    | 4.68    | 0.42  | 1.74 ± 11.0%    |
| 1900    | ± 50 / ± 100                | 53.3 ± 5%    | 1.52 ± 5%    | 4.46    | 4.46    | 4.46    | 0.35  | 2.10 ± 11.0%    |
| 2450    | ± 50 / ± 100                | 52.7 ± 5%    | 1.95 ± 5%    | 4.12    | 4.12    | 4.12    | 0.70  | 1.31 ± 11.0%    |

<sup>c</sup> The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.





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Accreditation No.: **SCS 108**

Client **Nokia Denmark A/S**

Certificate No: **ES3-3118\_Sep10**

## CALIBRATION CERTIFICATE

Object **ES3DV3 - SN:3118**

Calibration procedure(s) **QA CAL-01.v6, QA CAL-23.v3 and QA CAL-25.v2  
 Calibration procedure for dosimetric E-field probes**

Calibration date: **September 9, 2010**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature  $(22 \pm 3)^{\circ}\text{C}$  and humidity  $< 70\%$ .

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards:         | ID #            | Cal Date (Certificate No.)        | Scheduled Calibration  |
|----------------------------|-----------------|-----------------------------------|------------------------|
| Power meter E4419B         | GB41293874      | 1-Apr-10 (No. 217-01136)          | Apr-11                 |
| Power sensor E4412A        | MY41495277      | 1-Apr-10 (No. 217-01136)          | Apr-11                 |
| Power sensor E4412A        | MY41498087      | 1-Apr-10 (No. 217-01136)          | Apr-11                 |
| Reference 3 dB Attenuator  | SN: S5054 (3c)  | 30-Mar-10 (No. 217-01159)         | Mar-11                 |
| Reference 20 dB Attenuator | SN: S5086 (20b) | 30-Mar-10 (No. 217-01161)         | Mar-11                 |
| Reference 30 dB Attenuator | SN: S5129 (30b) | 30-Mar-10 (No. 217-01160)         | Mar-11                 |
| Reference Probe ES3DV2     | SN: 3013        | 30-Dec-09 (No. ES3-3013_Dec09)    | Dec-10                 |
| DAE4                       | SN: 660         | 20-Apr-10 (No. DAE4-660_Apr10)    | Apr-11                 |
| Secondary Standards        | ID #            | Check Date (in house)             | Scheduled Check        |
| RF generator HP 8648C      | US3642U01700    | 4-Aug-99 (in house check Oct-09)  | In house check: Oct-11 |
| Network Analyzer HP 8753E  | US37390585      | 18-Oct-01 (in house check Oct-09) | In house check: Oct10  |

|                | Name           | Function              | Signature |
|----------------|----------------|-----------------------|-----------|
| Calibrated by: | Jeton Kastrati | Laboratory Technician |           |
| Approved by:   | Katja Pokovic  | Technical Manager     |           |

Issued: September 9, 2010

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## DASY/EASY - Parameters of Probe: ES3DV3 SN:3118

### Calibration Parameter Determined in Head Tissue Simulating Media

| f [MHz] | Validity [MHz] <sup>c</sup> | Permittivity | Conductivity | ConvF X | ConvF Y | ConvF Z | Alpha | Depth Unc (k=2) |
|---------|-----------------------------|--------------|--------------|---------|---------|---------|-------|-----------------|
| 835     | ± 50 / ± 100                | 41.5 ± 5%    | 0.90 ± 5%    | 5.79    | 5.79    | 5.79    | 0.99  | 1.05 ± 11.0%    |
| 1750    | ± 50 / ± 100                | 40.1 ± 5%    | 1.37 ± 5%    | 4.93    | 4.93    | 4.93    | 0.59  | 1.35 ± 11.0%    |
| 1900    | ± 50 / ± 100                | 40.0 ± 5%    | 1.40 ± 5%    | 4.76    | 4.76    | 4.76    | 0.55  | 1.41 ± 11.0%    |
| 2450    | ± 50 / ± 100                | 39.2 ± 5%    | 1.80 ± 5%    | 4.19    | 4.19    | 4.19    | 0.52  | 1.58 ± 11.0%    |

<sup>c</sup> The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

## DASY/EASY - Parameters of Probe: ES3DV3 SN:3118

### Calibration Parameter Determined in Body Tissue Simulating Media

| f [MHz] | Validity [MHz] <sup>c</sup> | Permittivity | Conductivity | ConvF X | ConvF Y | ConvF Z | Alpha | Depth Unc (k=2) |
|---------|-----------------------------|--------------|--------------|---------|---------|---------|-------|-----------------|
| 835     | ± 50 / ± 100                | 55.2 ± 5%    | 0.97 ± 5%    | 5.67    | 5.67    | 5.67    | 0.99  | 1.08 ± 11.0%    |
| 1750    | ± 50 / ± 100                | 53.4 ± 5%    | 1.49 ± 5%    | 4.57    | 4.57    | 4.57    | 0.38  | 1.89 ± 11.0%    |
| 1900    | ± 50 / ± 100                | 53.3 ± 5%    | 1.52 ± 5%    | 4.36    | 4.36    | 4.36    | 0.34  | 2.27 ± 11.0%    |
| 2450    | ± 50 / ± 100                | 52.7 ± 5%    | 1.95 ± 5%    | 4.05    | 4.05    | 4.05    | 0.85  | 1.17 ± 11.0%    |

<sup>c</sup> The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.





Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

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Multilateral Agreement for the recognition of calibration certificates

Client **Nokia Denmark A/S**

Certificate No: **EX3-3581\_Jul10**

## CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3581**

Calibration procedure(s) **QA CAL-01.v6, QA CAL-14.v3, QA CAL-23.v3 and QA CAL-25.v2  
Calibration procedure for dosimetric E-field probes**

Calibration date: **July 19, 2010**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature  $(22 \pm 3)^{\circ}\text{C}$  and humidity  $< 70\%$

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards          | ID #            | Cal Date (Certificate No.)        | Scheduled Calibration  |
|----------------------------|-----------------|-----------------------------------|------------------------|
| Power meter E4419B         | GB41293874      | 1-Apr-10 (No. 217-01136)          | Apr-11                 |
| Power sensor E4412A        | MY41495277      | 1-Apr-10 (No. 217-01136)          | Apr-11                 |
| Power sensor E4412A        | MY41498087      | 1-Apr-10 (No. 217-01136)          | Apr-11                 |
| Reference 3 dB Attenuator  | SN: S5054 (3c)  | 30-Mar-10 (No. 217-01159)         | Mar-11                 |
| Reference 20 dB Attenuator | SN: S5086 (20b) | 30-Mar-10 (No. 217-01161)         | Mar-11                 |
| Reference 30 dB Attenuator | SN: S5129 (30b) | 30-Mar-10 (No. 217-01160)         | Mar-11                 |
| Reference Probe ES3DV2     | SN: 3013        | 30-Dec-09 (No. ES3-3013_Dec09)    | Dec-10                 |
| DAE4                       | SN: 660         | 20-Apr-10 (No. DAE4-660_Apr10)    | Apr-11                 |
| Secondary Standards        | ID #            | Check Date (in house)             | Scheduled Check        |
| RF generator HP 8648C      | US3642U01700    | 4-Aug-99 (in house check Oct-09)  | In house check: Oct-11 |
| Network Analyzer HP 8753E  | US37390585      | 18-Oct-01 (in house check Oct-09) | In house check: Oct-10 |

|                |               |                   |           |
|----------------|---------------|-------------------|-----------|
|                | Name          | Function          | Signature |
| Calibrated by: | Katja Pokovic | Technical Manager |           |
| Approved by:   | Niels Kuster  | Quality Manager   |           |

Issued: July 20, 2010

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## DASY/EASY - Parameters of Probe: EX3DV4 SN:3581

### Calibration Parameter Determined in Head Tissue Simulating Media

| f [MHz] | Validity [MHz] <sup>c</sup> | Permittivity | Conductivity | ConvF X | ConvF Y | ConvF Z | Alpha | Depth Unc (k=2) |
|---------|-----------------------------|--------------|--------------|---------|---------|---------|-------|-----------------|
| 835     | ± 50 / ± 100                | 41.5 ± 5%    | 0.90 ± 5%    | 8.44    | 8.44    | 8.44    | 0.72  | 0.65 ± 11.0%    |
| 1750    | ± 50 / ± 100                | 40.1 ± 5%    | 1.37 ± 5%    | 7.42    | 7.42    | 7.42    | 0.96  | 0.54 ± 11.0%    |
| 1900    | ± 50 / ± 100                | 40.0 ± 5%    | 1.40 ± 5%    | 7.08    | 7.08    | 7.08    | 0.99  | 0.52 ± 11.0%    |
| 2450    | ± 50 / ± 100                | 39.2 ± 5%    | 1.80 ± 5%    | 6.51    | 6.51    | 6.51    | 0.69  | 0.62 ± 11.0%    |
| 2600    | ± 50 / ± 100                | 39.0 ± 5%    | 1.96 ± 5%    | 6.48    | 6.48    | 6.48    | 0.48  | 0.73 ± 11.0%    |
| 5200    | ± 50 / ± 100                | 36.0 ± 5%    | 4.66 ± 5%    | 4.54    | 4.54    | 4.54    | 0.32  | 1.80 ± 13.1%    |
| 5500    | ± 50 / ± 100                | 35.6 ± 5%    | 4.96 ± 5%    | 3.90    | 3.90    | 3.90    | 0.45  | 1.80 ± 13.1%    |
| 5800    | ± 50 / ± 100                | 35.3 ± 5%    | 5.27 ± 5%    | 3.75    | 3.75    | 3.75    | 0.50  | 1.80 ± 13.1%    |

<sup>c</sup> The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.



## DASY/EASY - Parameters of Probe: EX3DV4 SN:3581

### Calibration Parameter Determined in Body Tissue Simulating Media

| f [MHz] | Validity [MHz] <sup>c</sup> | Permittivity | Conductivity | ConvF X | ConvF Y | ConvF Z | Alpha | Depth Unc (k=2) |
|---------|-----------------------------|--------------|--------------|---------|---------|---------|-------|-----------------|
| 835     | ± 50 / ± 100                | 55.2 ± 5%    | 0.97 ± 5%    | 8.61    | 8.61    | 8.61    | 0.67  | 0.68 ± 11.0%    |
| 1750    | ± 50 / ± 100                | 53.4 ± 5%    | 1.49 ± 5%    | 7.12    | 7.12    | 7.12    | 0.96  | 0.56 ± 11.0%    |
| 1900    | ± 50 / ± 100                | 53.3 ± 5%    | 1.52 ± 5%    | 6.86    | 6.86    | 6.86    | 0.89  | 0.57 ± 11.0%    |
| 2450    | ± 50 / ± 100                | 52.7 ± 5%    | 1.95 ± 5%    | 6.81    | 6.81    | 6.81    | 0.45  | 0.75 ± 11.0%    |
| 2600    | ± 50 / ± 100                | 52.5 ± 5%    | 2.16 ± 5%    | 6.76    | 6.76    | 6.76    | 0.36  | 0.85 ± 11.0%    |
| 5200    | ± 50 / ± 100                | 49.0 ± 5%    | 5.30 ± 5%    | 3.84    | 3.84    | 3.84    | 0.50  | 1.90 ± 13.1%    |
| 5500    | ± 50 / ± 100                | 48.6 ± 5%    | 5.65 ± 5%    | 3.40    | 3.40    | 3.40    | 0.60  | 1.90 ± 13.1%    |
| 5800    | ± 50 / ± 100                | 48.2 ± 5%    | 6.00 ± 5%    | 3.45    | 3.45    | 3.45    | 0.60  | 1.90 ± 13.1%    |

<sup>c</sup> The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

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**APPENDIX F: RELEVANT PAGES FROM DIPOLE VALIDATION KIT REPORT(S)**

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See the following pages



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 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Nokia Denmark A/S**

Certificate No: **D835V2-4d042\_Jul10**

## CALIBRATION CERTIFICATE

Object **D835V2 - SN: 4d042**

Calibration procedure(s) **QA CAL-05.v7**  
**Calibration procedure for dipole validation kits**

Calibration date: **July 20, 2010**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature  $(22 \pm 3)^{\circ}\text{C}$  and humidity  $< 70\%$ .

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards           | ID #               | Cal Date (Certificate No.)     | Scheduled Calibration |
|-----------------------------|--------------------|--------------------------------|-----------------------|
| Power meter EPM-442A        | GB37480704         | 06-Oct-09 (No. 217-01086)      | Oct-10                |
| Power sensor HP 8481A       | US37292783         | 06-Oct-09 (No. 217-01086)      | Oct-10                |
| Reference 20 dB Attenuator  | SN: 5086 (20g)     | 30-Mar-10 (No. 217-01158)      | Mar-11                |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 30-Mar-10 (No. 217-01162)      | Mar-11                |
| Reference Probe ES3DV3      | SN: 3205           | 30-Apr-10 (No. ES3-3205_Apr10) | Apr-11                |
| DAE4                        | SN: 601            | 10-Jun-10 (No. DAE4-601_Jun10) | Jun-11                |

| Secondary Standards       | ID #             | Check Date (in house)             | Scheduled Check        |
|---------------------------|------------------|-----------------------------------|------------------------|
| Power sensor HP 8481A     | MY41092317       | 18-Oct-02 (in house check Oct-09) | In house check: Oct-11 |
| RF generator R&S SMT-06   | 100005           | 4-Aug-99 (in house check Oct-09)  | In house check: Oct-11 |
| Network Analyzer HP 8753E | US37390585 S4206 | 18-Oct-01 (in house check Oct-09) | In house check: Oct-10 |

|                |             |                       |           |
|----------------|-------------|-----------------------|-----------|
|                | Name        | Function              | Signature |
| Calibrated by: | Dimce Iliev | Laboratory Technician |           |

|              |               |                   |
|--------------|---------------|-------------------|
| Approved by: | Katja Pokovic | Technical Manager |
|--------------|---------------|-------------------|

Issued: July 20, 2010

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## DASY5 Validation Report for Head TSL

Date/Time: 12.07.2010 10:35:49

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d042**

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL900

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.9 \text{ mho/m}$ ;  $\epsilon_r = 42.1$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

### DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.03, 6.03, 6.03); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY52, V52.2 Build 0, Version 52.2.0 (163)
- Postprocessing SW: SEMCAD X, V14.2 Build 2, Version 14.2.2 (1685)

**Pin=250 mW /d=15mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement**  
grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 57 V/m; Power Drift = 0.025 dB

Peak SAR (extrapolated) = 3.56 W/kg

**SAR(1 g) = 2.38 mW/g; SAR(10 g) = 1.55 mW/g**

Maximum value of SAR (measured) = 2.76 mW/g



## DASY5 Validation Report for Body

Date/Time: 20.07.2010 11:38:55

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d042**

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: MSL900

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 1.01 \text{ mho/m}$ ;  $\epsilon_r = 55$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.86, 5.86, 5.86); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY52, V52.2 Build 0, Version 52.2.0 (163)
- Postprocessing SW: SEMCAD X, V14.2 Build 2, Version 14.2.2 (1685)

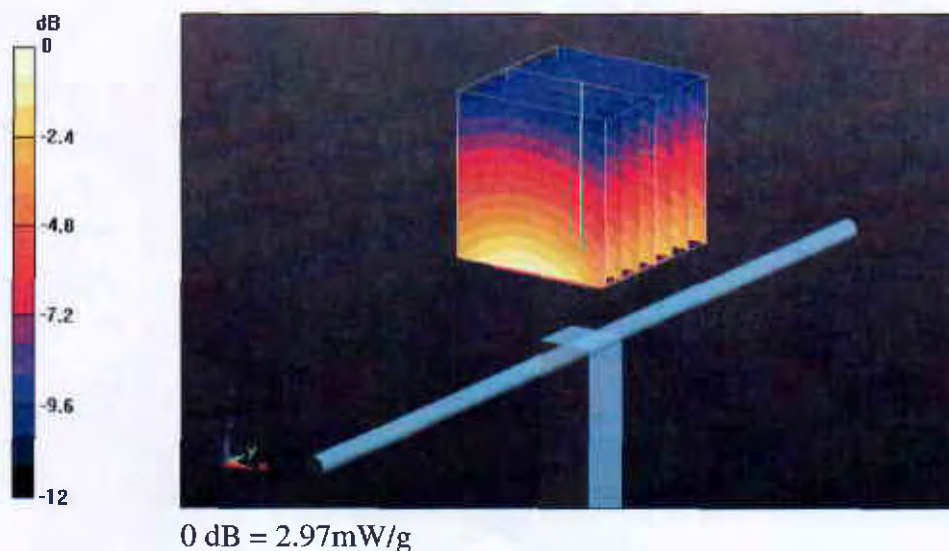
**Pin=250 mW /d=15mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 56.1 V/m; Power Drift = 0.014 dB

Peak SAR (extrapolated) = 3.78 W/kg

**SAR(1 g) = 2.56 mW/g; SAR(10 g) = 1.68 mW/g**

Maximum value of SAR (measured) = 2.97 mW/g





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Accreditation No.: **SCS 108**

Client **Nokia Denmark A/S**

Certificate No: **D1800V2\_2d075\_Feb10**

## CALIBRATION CERTIFICATE

Object **D1800V2 - SN: 2d075**

Calibration procedure(s) **QA CAL-05.v7**  
**Calibration procedure for dipole validation kits**

Calibration date: **February 23, 2010**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature ( $22 \pm 3$ )°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards           | ID #               | Cal Date (Certificate No.)        | Scheduled Calibration  |
|-----------------------------|--------------------|-----------------------------------|------------------------|
| Power meter EPM-442A        | GB37480704         | 06-Oct-09 (No. 217-01086)         | Oct-10                 |
| Power sensor HP 8481A       | US37292783         | 06-Oct-09 (No. 217-01086)         | Oct-10                 |
| Reference 20 dB Attenuator  | SN: 5086 (20g)     | 31-Mar-09 (No. 217-01025)         | Mar-10                 |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 31-Mar-09 (No. 217-01029)         | Mar-10                 |
| Reference Probe ES3DV3      | SN: 3205           | 26-Jun-09 (No. ES3-3205_Jun09)    | Jun-10                 |
| DAE4                        | SN: 601            | 07-Mar-09 (No. DAE4-601_Mar09)    | Mar-10                 |
| Secondary Standards         | ID #               | Check Date (in house)             | Scheduled Check        |
| Power sensor HP 8481A       | MY41092317         | 18-Oct-02 (in house check Oct-09) | In house check: Oct-11 |
| RF generator R&S SMT-06     | 100005             | 4-Aug-99 (in house check Oct-09)  | In house check: Oct-11 |
| Network Analyzer HP 8753E   | US37390585 S4206   | 18-Oct-01 (in house check Oct-09) | In house check: Oct-10 |

Calibrated by: **Jeton Kastrati** **Laboratory Technician**

Approved by: **Katja Pokovic** **Technical Manager**

Signature

Issued: February 23, 2010

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## DASY5 Validation Report for Head TSL

Date/Time: 23.02.2010 11:16:34

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:2d075**

Communication System: CW; Frequency: 1800 MHz; Duty Cycle: 1:1

Medium: HSL U11 BB

Medium parameters used:  $f = 1800$  MHz;  $\sigma = 1.37$  mho/m;  $\epsilon_r = 39.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.25, 5.25, 5.25); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

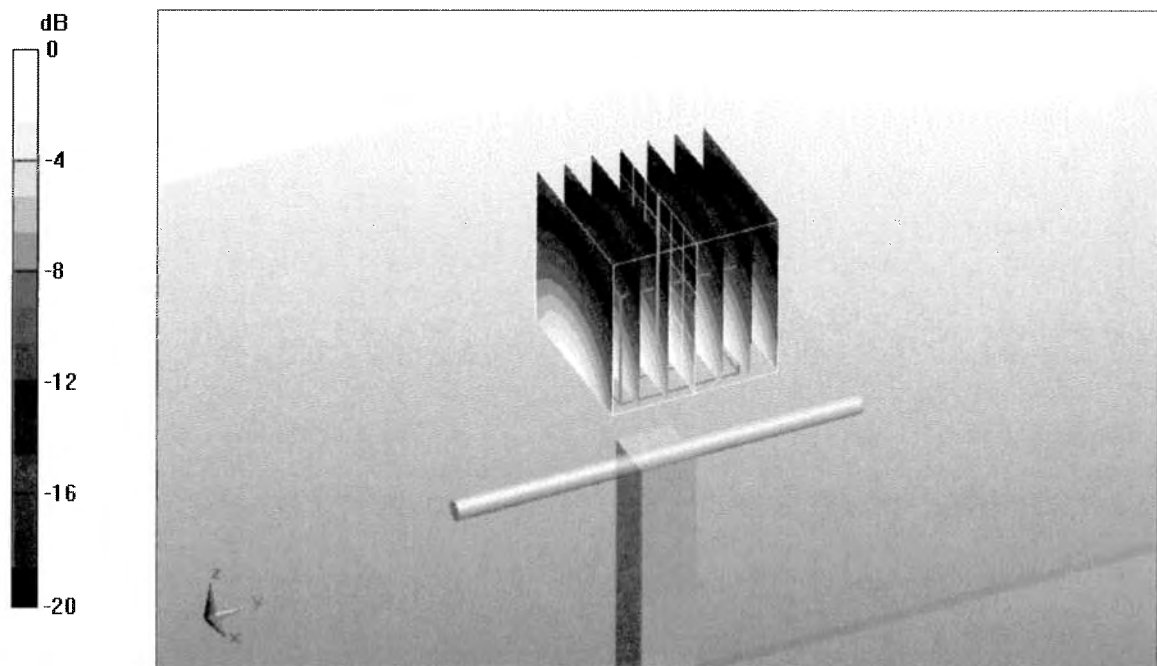
**Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 96.3 V/m; Power Drift = 0.050 dB

Peak SAR (extrapolated) = 17.2 W/kg

**SAR(1 g) = 9.5 mW/g; SAR(10 g) = 5.01 mW/g**

Maximum value of SAR (measured) = 11.9 mW/g



0 dB = 11.9mW/g

## DASY5 Validation Report for Body

Date/Time: 16.02.2010 10:42:30

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:2d075**

Communication System: CW; Frequency: 1800 MHz; Duty Cycle: 1:1

Medium: MSL U10 BB

Medium parameters used:  $f = 1800 \text{ MHz}$ ;  $\sigma = 1.49 \text{ mho/m}$ ;  $\epsilon_r = 52.7$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

### DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.8, 4.8, 4.8); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

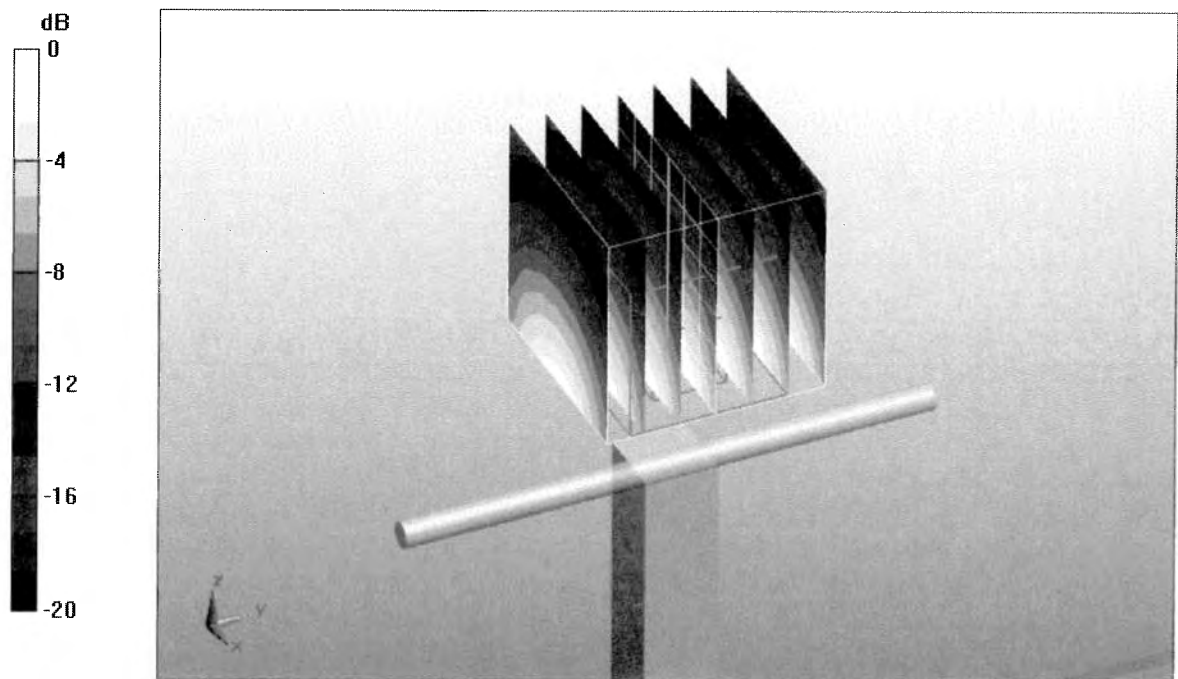
**Pin250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement**  
grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 94.5 V/m; Power Drift = -0.015 dB

Peak SAR (extrapolated) = 16.7 W/kg

**SAR(1 g) = 9.55 mW/g; SAR(10 g) = 5.07 mW/g**

Maximum value of SAR (measured) = 12.1 mW/g



0 dB = 12.1mW/g





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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Nokia Denmark A/S**

Certificate No: **D1900V2-5d063\_Feb10**

## CALIBRATION CERTIFICATE

Object **D1900V2 - SN: 5d063**

Calibration procedure(s) **QA CAL-05.v7**  
**Calibration procedure for dipole validation kits**

Calibration date: **February 23, 2010**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature  $(22 \pm 3)^{\circ}\text{C}$  and humidity  $< 70\%$ .

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards           | ID #               | Cal Date (Certificate No.)        | Scheduled Calibration  |
|-----------------------------|--------------------|-----------------------------------|------------------------|
| Power meter EPM-442A        | GB37480704         | 06-Oct-09 (No. 217-01086)         | Oct-10                 |
| Power sensor HP 8481A       | US37292783         | 06-Oct-09 (No. 217-01086)         | Oct-10                 |
| Reference 20 dB Attenuator  | SN: 5086 (20g)     | 31-Mar-09 (No. 217-01025)         | Mar-10                 |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 31-Mar-09 (No. 217-01029)         | Mar-10                 |
| Reference Probe ES3DV3      | SN: 3205           | 26-Jun-09 (No. ES3-3205_Jun09)    | Jun-10                 |
| DAE4                        | SN: 601            | 07-Mar-09 (No. DAE4-601_Mar09)    | Mar-10                 |
| Secondary Standards         | ID #               | Check Date (in house)             | Scheduled Check        |
| Power sensor HP 8481A       | MY41092317         | 18-Oct-02 (in house check Oct-09) | In house check: Oct-11 |
| RF generator R&S SMT-06     | 100005             | 4-Aug-99 (in house check Oct-09)  | In house check: Oct-11 |
| Network Analyzer HP 8753E   | US37390585 S4206   | 18-Oct-01 (in house check Oct-09) | In house check: Oct-10 |

|                |                |                       |                                                                                       |
|----------------|----------------|-----------------------|---------------------------------------------------------------------------------------|
|                | Name           | Function              | Signature                                                                             |
| Calibrated by: | Jeton Kastrati | Laboratory Technician |  |
| Approved by:   | Katja Pokovic  | Technical Manager     |  |

Issued: February 25, 2010

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## DASY5 Validation Report for Head TSL

Date/Time: 23.02.2010 13:21:31

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d063**

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

Medium: HSL U11 BB

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.42$  mho/m;  $\epsilon_r = 39.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.09, 5.09, 5.09); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

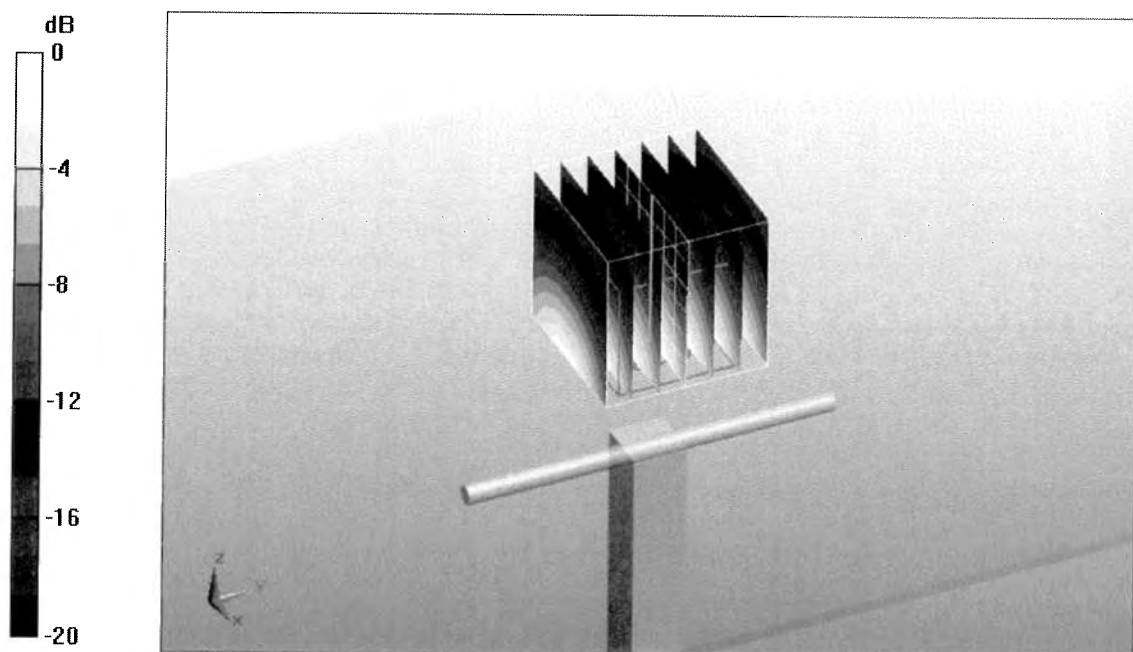
**Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 97.1 V/m; Power Drift = 0.041 dB

Peak SAR (extrapolated) = 18.3 W/kg

**SAR(1 g) = 9.98 mW/g; SAR(10 g) = 5.2 mW/g**

Maximum value of SAR (measured) = 12.4 mW/g



0 dB = 12.4mW/g

## DASY5 Validation Report for Body

Date/Time: 16.02.2010 13:00:42

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d063**

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

Medium: MSL U10 BB

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.56$  mho/m;  $\epsilon_r = 52.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.59, 4.59, 4.59); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

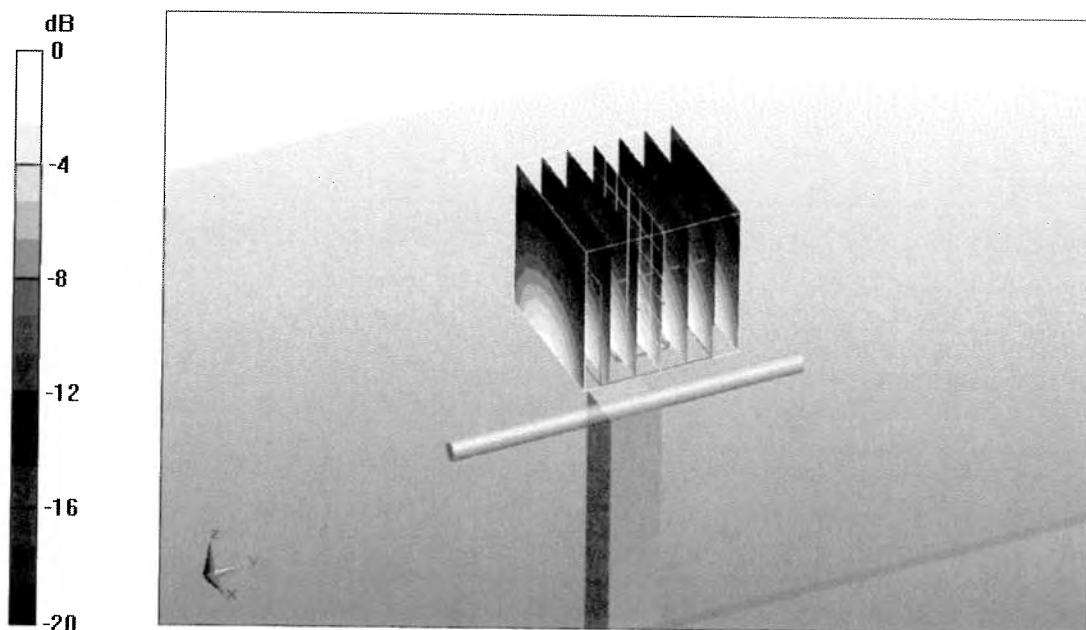
**Pin250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement**  
grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 96.1 V/m; Power Drift = 0.078 dB

Peak SAR (extrapolated) = 16.7 W/kg

**SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.31 mW/g**

Maximum value of SAR (measured) = 12.8 mW/g



0 dB = 12.8mW/g



Accredited by the Swiss Accreditation Service (SAS)  
The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Nokia Denmark A/S**

Certificate No: **D2450V2-750\_Feb10**

## CALIBRATION CERTIFICATE

Object **D2450V2 - SN: 750**

Calibration procedure(s) **QA CAL-05.v7**  
**Calibration procedure for dipole validation kits**

Calibration date: **February 19, 2010**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature ( $22 \pm 3$ )°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards           | ID #               | Cal Date (Certificate No.)        | Scheduled Calibration  |
|-----------------------------|--------------------|-----------------------------------|------------------------|
| Power meter EPM-442A        | GB37480704         | 06-Oct-09 (No. 217-01086)         | Oct-10                 |
| Power sensor HP 8481A       | US37292783         | 06-Oct-09 (No. 217-01086)         | Oct-10                 |
| Reference 20 dB Attenuator  | SN: 5086 (20g)     | 31-Mar-09 (No. 217-01025)         | Mar-10                 |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 31-Mar-09 (No. 217-01029)         | Mar-10                 |
| Reference Probe ES3DV3      | SN: 3205           | 26-Jun-09 (No. ES3-3205_Jun09)    | Jun-10                 |
| DAE4                        | SN: 601            | 07-Mar-09 (No. DAE4-601_Mar09)    | Mar-10                 |
| Secondary Standards         | ID #               | Check Date (in house)             | Scheduled Check        |
| Power sensor HP 8481A       | MY41092317         | 18-Oct-02 (in house check Oct-09) | In house check: Oct-11 |
| RF generator R&S SMT-06     | 100005             | 4-Aug-99 (in house check Oct-09)  | In house check: Oct-11 |
| Network Analyzer HP 8753E   | US37390585 S4206   | 18-Oct-01 (in house check Oct-09) | In house check: Oct-10 |

Calibrated by: **Jeton Kastrati**      Name: **Jeton Kastrati**      Function: **Laboratory Technician**

Approved by: **Katja Pokovic**      Name: **Katja Pokovic**      Function: **Technical Manager**

Signature

Issued: February 22, 2010

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

## DASY5 Validation Report for Head TSL

Date/Time: 17.02.2010 14:26:37

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:750**

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: HSL U11 BB

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.77$  mho/m;  $\epsilon_r = 38.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

### DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.53, 4.53, 4.53); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

**Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement**

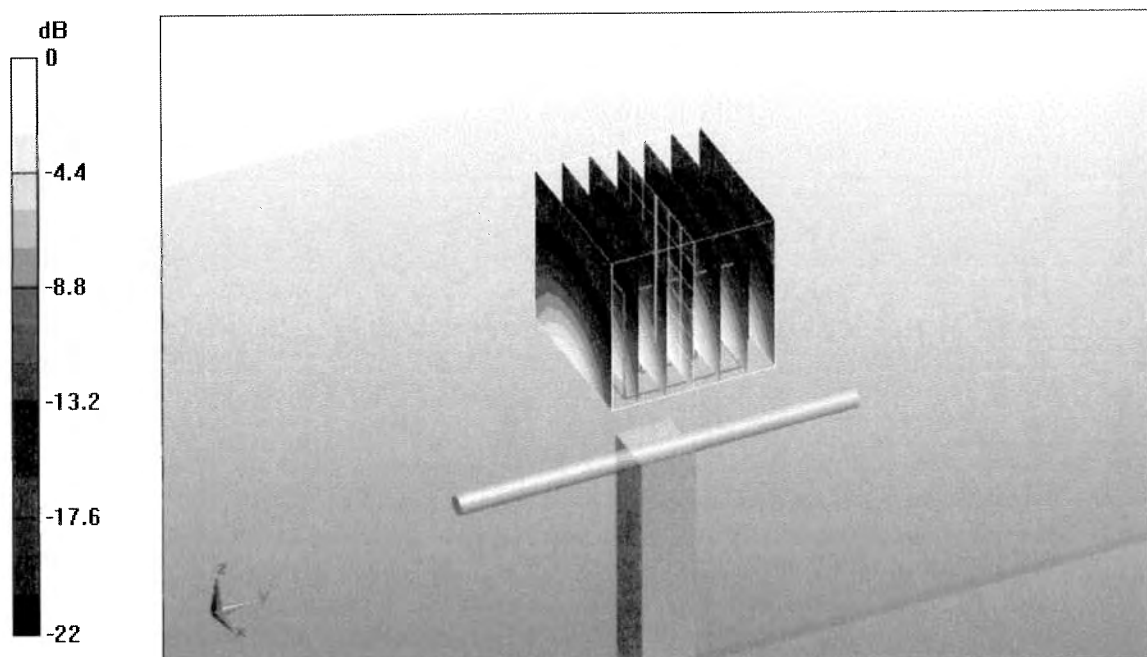
grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 103.2 V/m; Power Drift = 0.00838 dB

Peak SAR (extrapolated) = 27.5 W/kg

**SAR(1 g) = 13.5 mW/g; SAR(10 g) = 6.3 mW/g**

Maximum value of SAR (measured) = 17.4 mW/g



0 dB = 17.4mW/g

## DASY5 Validation Report for Body

Date/Time: 19.02.2010 14:00:59

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:750**

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: MSL U10 BB

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 2.01$  mho/m;  $\epsilon_r = 51.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

### DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.31, 4.31, 4.31); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

**Body/d=10mm, Pin250 mW, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0:**

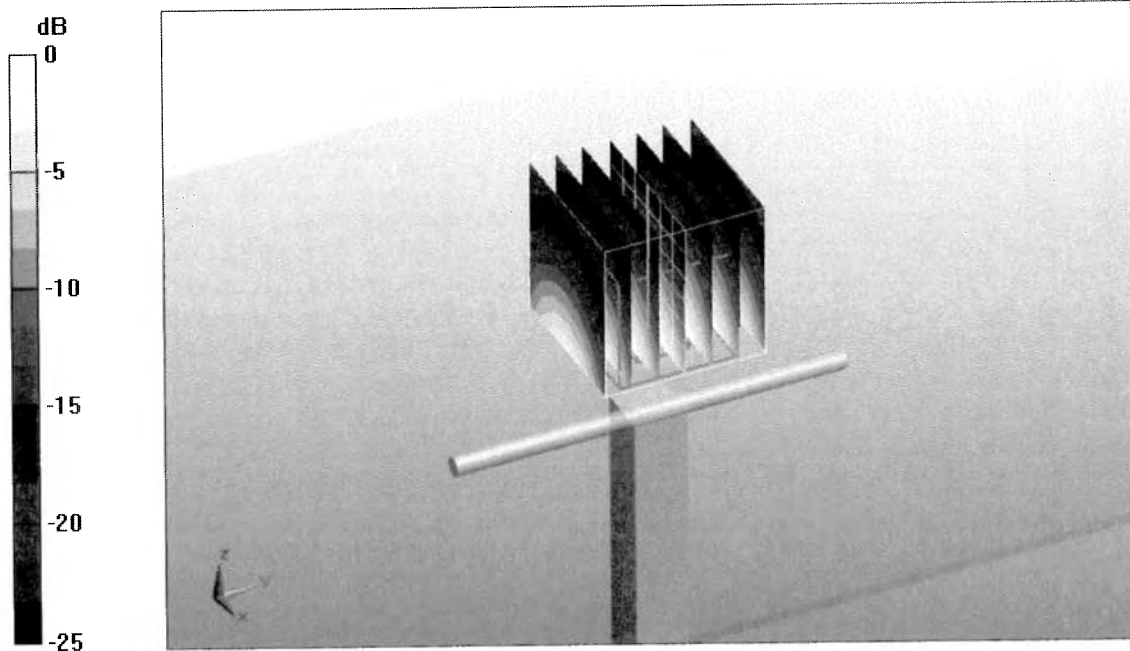
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 94.7 V/m; Power Drift = 0.082 dB

Peak SAR (extrapolated) = 26.9 W/kg

**SAR(1 g) = 12.9 mW/g; SAR(10 g) = 5.9 mW/g**

Maximum value of SAR (measured) = 17.1 mW/g



0 dB = 17.1mW/g