



SAR Compliance Test Report

Test report no.: Cph_SAR_0923_02 Date of report: 2009-06-03

Template version: Number of pages: 12.0 69

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Tested device: RM-570 FCC ID: IC: -QTKRM-570

Supplement reports: Cph_SAR_0923_03

Testing has been carried 47CFR §2.1093 out in accordance with:

Radiofrequency Radiation Exposure Evaluation: Portable Devices FCC OET Bulletin 65 (Edition 97-01), Supplement C (Edition 01-01)

Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency

Electromagnetic Fields

RSS-102

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

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: The tested device complies with the requirements in respect of all parameters subject to the

test. 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 | 2009-05-18 to 2009-06-03 |
|--|--|
| SN, HW and SW numbers of tested device | SN: 004401/10/698367/5, HW: 9000a, SW: Vp ir6.14.1, DUT: 25124 |
| Batteries used in testing | BL-4U, DUT: 25118, 25519, 25120 |
| Headsets used in testing | WH-203, DUT: 25117 |
| 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 GPRS 850 | 251 / 848.8 | 29.5 dBm | Right, Cheek | 0.368 W/kg | 0.41 W/kg | 1.6 W/kg | PASSED |
| WCDMA 850 | 4233 / 846.6 | 21.0 dBm | Right, Cheek | 0.257 W/kg | 0.29 W/kg | 1.6 W/kg | PASSED |
| GSM 1900 | 661 / 1880.0 | 29.5 dBm | Left, Cheek | 0.305 W/kg | 0.34 W/kg | 1.6 W/kg | PASSED |





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 GPRS 850 | 251 / 848.8 | 29.5 dBm | 1.5 cm | 0.257 W/kg | 0.29 W/kg | 1.6 W/kg | PASSED |
| WCDMA 850 | 4233 / 846.6 | 21.0 dBm | 1.5 cm | 0.189 W/kg | 0.21 W/kg | 1.6 W/kg | PASSED |
| GSM 1900 | 810 / 1909.8 | 29.5 dBm | 1.5 cm | 0.150 W/kg | 0.17 W/kg | 1.6 W/kg | PASSED |

^{*} 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 | 0.39 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 1900 | GMSK | 1/8 | 824 - 849 1850 - 1910 |
| GPRS | 850 1900 | GMSK | 1/8 to 3/8 | 824 - 849 1850 - 1910 |
| EGPRS | 850 1900 | GMSK / 8PSK | 1/8 to 3/8 | 824 - 849 1850 - 1910 |
| WCDMA | 850 (Band V) | | 1 | 826 – 847 |
| BT | 2450 | GFSK | 1 | 2402 – 2480 |

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

This device has 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.

2.1 Description of the Antenna

The device has an internal antenna for cellular use. The cellular antenna is located at the bottom in the back section of the keypad slide.





3. TEST CONDITIONS

3.1 Temperature and Humidity

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

3.2 Test Signal, Frequencies and Output Power

The device was put into operation by using a call tester. 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.

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 |
|--------------------------------|---------------|-------------------------|--------------------|
| DAE3 | 501 | 12 months | 2010-03 |
| E-field Probe ES3DV3 | 3116 | 12 months | 2010-03 |
| Dipole Validation Kit, D835V2 | 4d042 | 24 months | 2010-09 |
| Dipole Validation Kit, D1900V2 | 5d026 | 24 months | 2010-03 |
| DASY4 software | Version 4.7 | - | - |

Additional test equipment used in testing:

| Test Equipment | Model | Serial Number | Calibration interval | Calibration expiry |
|-------------------------|----------------|---------------|-------------------------|-----------------------|
| Signal Generator | SME06 | 829445/008 | 36 months | 2012-02 |
| Amplifier | 2100-BBS3Q8CCJ | 1003 | - | - |
| Power Meter | NRP | 100293 | 24 months | 2009-07 |
| Power Sensor | NRP-Z51 | 100830 | 24 months | 2009-07 |
| Call Tester | CMU200 | 105900 | - | - |
| Call Tester | CMU200 | 110735 | - | - |
| Vector Network Analyzer | AT8753ES | MY40001091 | 12 months | 2009-08 |
| Dielectric Probe Kit | HP85070B | US33020403 | - | - |





4.1.1 Isotropic E-field Probe Type ES3DV3

Construction Symmetrical design with triangular core

Interleaved sensors

Built-in shielding against static charges

PEEK enclosure material (resistant to organic solvents, e.g., butyl

diglycol)

Calibration Calibration certificate in Appendix C

Frequency 10 MHz to 4 GHz (dosimetry); Linearity: ± 0.2 dB (30 MHz to 4 GHz)

Directivity ± 0.2 dB in HSL (rotation around probe axis)

± 0.3 dB in HSL (rotation normal to probe axis)

Dynamic Range 5 μ W/g to > 100 mW/g; Linearity: \pm 0.2 dB

Dimensions Overall length: 330 mm

Tip length: 20 mm Body diameter: 12 mm Tip diameter: 3.9 mm

Distance from probe tip to dipole centers: 2.0 mm

Application General dosimetry up to 4 GHz

Compliance tests of mobile phones

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 twinheaded "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 0ET 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 15.0 \pm 0.5 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 (% by weight) | Body (% 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 |

1900MHz band

| 190011112 Dulla | | | | | | | |
|-----------------|-----------------------|-----------------------|--|--|--|--|--|
| Ingredient | Head (% by weight) | Body (% by weight) | | | | | |
| Deionised Water | 54.88 | 69.02 | | | | | |
| Butyl Diglycol | 44.91 | 30.76 | | | | | |
| Salt | 0.21 | 0.22 | | | | | |





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

| | | SAR [W/kg], | Dielectric F | arameters | Temp |
|---------|------------------|-------------|--------------|-----------|------|
| f [MHz] | Description | 1 g | εr | σ [S/m] | [°C] |
| | Reference result | 2.38 | 41.4 | 0.90 | |
| | $\pm10\%$ window | 2.14 - 2.62 | | | |
| 835 | 2009-05-18 | 2.52 | 39.9 | 0.90 | 21.2 |
| | 2009-05-29 | 2.51 | 41.1 | 0.91 | 22.1 |
| | Reference result | 10.3 | 40.2 | 1.47 | |
| | $\pm10\%$ window | 9.3 – 11.3 | | | |
| 1900 | 2009-06-03 | 11.1 | 39.7 | 1.48 | 21.7 |

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 | | Dielectric F | Temp | |
|-------|-------------------|--------------|-------------|------|
| [MHz] | Description | Er | σ [S/m] | [°C] |
| | Recommended value | 41.5 | 0.90 | |
| | ± 5% window | 39.4 – 43.6 | 0.86 - 0.95 | |
| 835 | 2009-05-18 | 39.4 - 43.0 | 0.00 - 0.93 | 21.2 |
| 033 | | | | 21,2 |
| | Recommended value | 41.5 | 0.90 | |
| | | | | |
| | \pm 5% window | 39.4 - 43.6 | 0.86 - 0.95 | |
| 836 | 2009-05-18 | 39.9 | 0.90 | 21.2 |
| | Recommended value | 40.0 | 1.40 | |
| | | | | |
| | \pm 5% window | 38.0 – 42.0 | 1.33 - 1.47 | |
| 1880 | 2009-06-03 | 39.8 | 1.46 | 21.7 |

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Body tissue simulant measurements

| f | | Dielectric F | arameters | Temp |
|-------|-------------------|------------------------|-------------|------|
| [MHz] | Description | ε _r σ [S/m] | | [°C] |
| | Recommended value | 55.2 | 0.97 | |
| | | | | |
| | \pm 5% window | 52.4 – 58.0 | 0.92 – 1.02 | |
| 835 | 2009-05-29 | 53.3 | 0.98 | 22.0 |
| | Recommended value | 55.2 | 0.97 | |
| | | | | |
| | \pm 5% window | 52.4 - 58.0 | 0.92 - 1.02 | |
| 836 | 2009-05-29 | 53.3 | 0.98 | 22.0 |
| | Recommended value | 53.3 | 1.52 | |
| | | | | |
| | \pm 5% window | 50.6 - 56.0 | 1.44 - 1.60 | |
| 1880 | 2009-06-03 | 53.0 | 1.48 | 21.8 |





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.

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

| Table 0.1 Tleasur | Section Table 0.1 - Measurement uncertainty evaluation | | | | | | | | |
|---|--|-------------|--------------|-----|-----------------|---------------|----------|--|--|
| Uncertainty Component | in IEEE 1528 | Tol. (%) | Prob Dist | Div | Ci | Ci .Ui (%) | Vi | | |
| Measurement System | | | | | | | | | |
| Probe Calibration | E2.1 | ±5.9 | N | 1 | 1 | ±5.9 | 8 | | |
| Axial Isotropy | E2.2 | ±4.7 | R | √3 | $(1-c_p)^{1/2}$ | ±1.9 | 8 | | |
| Hemispherical Isotropy | E2.2 | ±9.6 | R | √3 | $(c_p)^{1/2}$ | ±3.9 | ∞ | | |
| Boundary Effect | E2.3 | ±1.0 | R | √3 | 1 | ±0.6 | ∞ | | |
| Linearity | E2.4 | ±4.7 | R | √3 | 1 | ±2.7 | ∞ | | |
| System Detection Limits | E2.5 | ±1.0 | R | √3 | 1 | ±0.6 | ∞ | | |
| Readout Electronics | E2.6 | ±1.0 | N | 1 | 1 | ±1.0 | ∞ | | |
| Response Time | E2.7 | ±0.8 | R | √3 | 1 | ±0.5 | ∞ | | |
| Integration Time | E2.8 | ±2.6 | R | √3 | 1 | ±1.5 | ∞ | | |
| RF Ambient Conditions - Noise | E6.1 | ±3.0 | R | √3 | 1 | ±1.7 | ∞ | | |
| RF Ambient Conditions - Reflections | E6.1 | ±3.0 | R | √3 | 1 | ±1.7 | ∞ | | |
| Probe Positioner Mechanical Tolerance | E6.2 | ±0.4 | R | √3 | 1 | ±0.2 | ∞ | | |
| Probe Positioning with respect to Phantom Shell | E6.3 | ±2.9 | R | √3 | 1 | ±1.7 | 8 | | |
| Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation | E5 | ±3.9 | R | √3 | 1 | ±2.3 | ∞ | | |
| Test sample Related | | | | | | | | | |
| Test Sample Positioning | E4.2 | ±6.0 | N | 1 | 1 | ±6.0 | 11 | | |
| Device Holder Uncertainty | E4.1 | ±5.0 | N | 1 | 1 | ±5.0 | 7 | | |
| Output Power Variation - SAR drift | 6.6.3 | ± 0.0 | R | √3 | 1 | ±0.0 | ∞ | | |
| measurement | | | | | | | | | |
| Phantom and Tissue Parameters | | | | | | | | | |
| Phantom Uncertainty (shape and thickness tolerances) | E3.1 | ±4.0 | R | √3 | 1 | ±2.3 | ∞ | | |
| Conductivity Target - tolerance | E3.2 | ±5.0 | R | √3 | 0.64 | ±1.8 | ∞ | | |
| Conductivity - measurement uncertainty | E3.3 | ±5.5 | N | 1 | 0.64 | ±3.5 | 5 | | |
| Permittivity Target - tolerance | E3.2 | ±5.0 | R | √3 | 0.6 | ±1.7 | ∞ | | |
| Permittivity - measurement uncertainty | E3.3 | ±2.9 | N | 1 | 0.6 | ±1.7 | 5 | | |
| Combined Standard Uncertainty | | | | | | ±12.9 | 116 | | |
| Coverage Factor for 95% | | | RSS k=2 | | | | | | |
| Expanded Uncertainty | | | - | | | ±25.8 | | | |
| | | | | | | | | | |





7. RESULTS

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

850 MHz Head SAR results

| | SAR, averaged over 1g (W/kg) | | | | | | |
|----------------------|------------------------------|-----------|---------------------|---------------------|---------------------|--|--|
| Option used | Test conf | iguration | Ch 128 824.2 MHz | Ch 190 836.6 MHz | Ch 251 848.8 MHz | | |
| GSM | Conducte | ed Power | 32.5 dBm | 32.5 dBm | 32.5 dBm | | |
| | Left | Cheek | - | 0.281 | - | | |
| Slide closed | | Tilt | - | - | - | | |
| | Right | Cheek | - | - | - | | |
| | | Tilt | - | - | - | | |
| 2-Slot GPRS | Conducte | ed Power | 29.5 dBm | 29.5 dBm | 29.5 dBm | | |
| | Left | Cheek | - | 0.326 | - | | |
| Slide closed | | Tilt | - | 0.173 | - | | |
| | Right | Cheek | 0.311 | 0.362 | 0.368 | | |
| | | Tilt | - | 0.171 | - | | |
| 2-Slot GPRS | Conducte | ed Power | 29.5 dBm | 29.5 dBm | 29.5 dBm | | |
| | Left | Cheek | - | 0.266 | - | | |
| Slide open | | Tilt | - | 0.197 | - | | |
| | Right | Cheek | - | 0.311 | - | | |
| | | Tilt | - | 0.195 | - | | |
| 3-Slot GPRS | Conducte | ed Power | 27.7 dBm | 27.7 dBm | 27.7 dBm | | |
| | Left | Cheek | - | 0.320 | - | | |
| Slide closed | | Tilt | - | 1 | - | | |
| | Right | Cheek | - | - | - | | |
| | | Tilt | - | - | - | | |
| 2-Slot 8PSK EGPRS | Conducte | ed Power | 23.5 dBm | 23.5 dBm | 23.5 dBm | | |
| | Left | Cheek | - | - | - | | |
| Slide closed | | Tilt | - | - | - | | |
| | Right | Cheek | - | ı | 0.086 | | |
| | | Tilt | - | - | - | | |

Table continues





850 MHz Head SAR results - continued

| | | | SAR, averaged over 1g (W/kg) | | | |
|--------------|--------------------|----------|------------------------------|-----------|-----------|--|
| Option used | Test configuration | | Ch 4132 | Ch 4175 | Ch 4233 | |
| | | | 826.4 MHz | 835.0 MHz | 846.6 MHz | |
| WCDMA | Conducte | ed Power | 21.0 dBm | 21.0 dBm | 21.0 dBm | |
| | Left | Cheek | 1 | 0.230 | - | |
| Slide closed | | Tilt | 1 | 0.127 | | |
| | Right | Cheek | 0.225 | 0.254 | 0.257 | |
| | | Tilt | - | 0.121 | - | |
| WCDMA | Conducte | ed Power | 21.0 dBm | 21.0 dBm | 21.0 dBm | |
| | Left | Cheek | - | 0.181 | - | |
| Slide open | | Tilt | - | 0.110 | - | |
| | Right | Cheek | - | 0.182 | - | |
| | | Tilt | - | 0.136 | - | |





1900 MHz Head SAR results

| | | | SAR, av | eraged over 1g | (W/kg) |
|----------------------|-----------|-----------|------------|----------------|------------|
| Option used | Test conf | iguration | Ch 512 | Ch 661 | Ch 810 |
| | | | 1850.2 MHz | 1880.0 MHz | 1909.8 MHz |
| GSM | Conducte | ed Power | 29.5 dBm | 29.5 dBm | 29.5 dBm |
| | Left | Cheek | - | 0.294 | - |
| Slide closed | | Tilt | - | 0.128 | - |
| | Right | Cheek | - | 0.261 | - |
| | | Tilt | - | 0.126 | - |
| GSM | Conducte | ed Power | 29.5 dBm | 29.5 dBm | 29.5 dBm |
| | Left | Cheek | 0.304 | 0.305 | 0.286 |
| Slide open | | Tilt | - | 0.206 | - |
| | Right | Cheek | - | 0.252 | - |
| | | Tilt | - | 0.206 | - |
| 2-Slot GPRS | Conducte | ed Power | 26.5 dBm | 26.5 dBm | 26.5 dBm |
| | Left | Cheek | - | 0.277 | - |
| Slide closed | | Tilt | - | 1 | - |
| | Right | Cheek | - | - | - |
| | | Tilt | - | - | - |
| 3-Slot GPRS | Conducte | ed Power | 24.7 dBm | 24.7 dBm | 24.7 dBm |
| | Left | Cheek | - | 0.258 | - |
| Slide closed | | Tilt | - | 1 | - |
| | Right | Cheek | - | - | - |
| | | Tilt | - | - | - |
| 1-Slot 8PSK EGPRS | Conducte | ed Power | 25.5 dBm | 25.5 dBm | 25.5 dBm |
| | Left | Cheek | - | 0.110 | - |
| Slide open | | Tilt | - | - | - |
| | Right | Cheek | - | - | - |
| | | Tilt | - | - | - |





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

850 MHz Body SAR results

| | | | SAR, ave | eraged over 1g | (W/kg) |
|--------------|------------------------------------|--------------------|----------------------|----------------------|----------------------|
| Option used | Device orientation | | | Ch 190 836.6 MHz | Ch 251 848.8 MHz |
| 2-Slot GPRS | | Conducted Power | 29.5 dBm | 29.5 dBm | 29.5 dBm |
| | Display facing | Without headset | - | 0.161 | - |
| Slide closed | losed phantom Back facing phantom | Headset WH-203 | - | 0.131 | - |
| | | Without headset | 0.202 | 0.246 | 0.257 |
| | | Headset WH-203 | - | 0.196 | - |
| Option used | Device orientation | Test configuration | Ch 4132 826.4 MHz | Ch 4175 835.0 MHz | Ch 4233 846.6 MHz |
| WCDMA | | Conducted Power | 21.0 dBm | 21.0 dBm | 21.0 dBm |
| | Display facing | Without headset | - | 0.117 | - |
| Slide closed | phantom | Headset WH-203 | - | 0.098 | - |
| | Back facing | Without headset | 0.154 | 0.183 | 0.189 |
| | phantom | Headset WH-203 | - | 0.146 | - |

1900 MHz Body SAR results

| | SAR, averaged o | | | eraged over 1g | er 1g (W/kg) | | |
|--------------|-----------------------|--------------------|----------------------|----------------------|----------------------|--|--|
| Option used | Device orientation | Test configuration | Ch 512 1850.2 MHz | Ch 661 1880.0 MHz | Ch 810 1909.8 MHz | | |
| GSM | | Conducted Power | 29.5 dBm | 29.5 dBm | 29.5 dBm | | |
| | Display facing | Without headset | - | 0.067 | - | | |
| Slide closed | phantom | Headset WH-203 | - | 0.055 | - | | |
| | Back facing | Without headset | 0.139 | 0.140 | 0.150 | | |
| | phantom | Headset WH-203 | - | 0.132 | - | | |

Plots of the Measurement scans are given in Appendix B.





APPENDIX A: SYSTEM CHECKING SCANS

See the following pages





Date/Time: 2009-05-18 10:25:27

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: 21.2 C

Medium parameters used: f = 835 MHz; $\sigma = 0.899$ mho/m; $\varepsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- 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

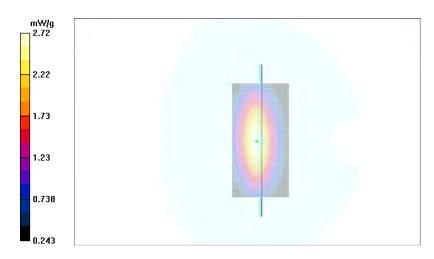
Maximum value of SAR (interpolated) = 2.70 mW/g

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

Reference Value = 54.2 V/m Peak SAR (extrapolated) = 3.80 W/kg

SAR(1 g) = 2.52 mW/g SAR(10 g) = 1.63 mW/g Power Drift = 0.017 dB

Maximum value of SAR (measured) = 2.72 mW/g







Date/Time: 2009-05-29 19:07:45

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: 22.1 C

Medium parameters used: f = 835 MHz; σ = 0.906 mho/m; ε_r = 41.1; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- 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

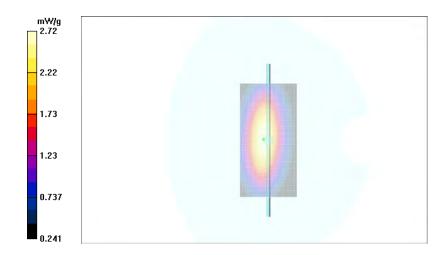
Maximum value of SAR (interpolated) = 2.70 mW/g

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

Reference Value = 54.1 V/m Peak SAR (extrapolated) = 3.79 W/kg

SAR(1 g) = 2.51 mW/g SAR(10 g) = 1.63 mW/g Power Drift = -0.030 dB

Maximum value of SAR (measured) = 2.72 mW/g







Date/Time: 2009-06-03 17:30:23

Test Laboratory: TCC Nokia

Type: D1900V2; Serial: 5d026

Communication System: CW1900 Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: 21.7 C

Medium parameters used: f = 1900 MHz; $\sigma = 1.48 \text{ mho/m}$; $\epsilon_r = 39.7$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(4.88, 4.88, 4.88); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- 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) = 12.6 mW/g

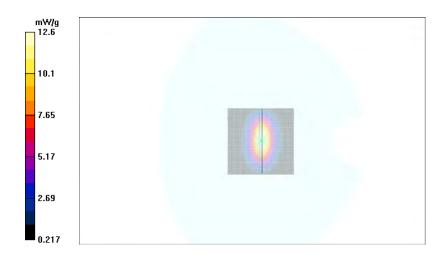
d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 93.3 V/m Peak SAR (extrapolated) = 21.2 W/kg

Peak SAR (extrapolated) = 21.2 W SAR(1 g) = 11.1 mW/g

SAR(10 g) = 5.65 mW/g Power Drift = -0.058 dB

Maximum value of SAR (measured) = 12.6 mW/g







APPENDIX B: MEASUREMENT SCANS

See the following pages





Date/Time: 2009-05-18 11:16:47

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: Head 850; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used: f = 837 MHz; $\sigma = 0.899$ mho/m; $\varepsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

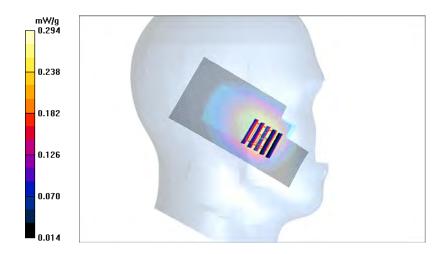
Cheek position – Middle – Slide closed/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.299 mW/g

Cheek position – Middle – Slide closed/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.03 V/m Peak SAR (extrapolated) = 0.458 W/kg

SAR(1 g) = 0.281 mW/g SAR(10 g) = 0.180 mW/g Power Drift = -0.158 dB

Maximum value of SAR (measured) = 0.294 mW/g







Date/Time: 2009-05-18 11:32:31

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: 2-slot GPRS850 Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Head 850; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used: f = 837 MHz; $\sigma = 0.899$ mho/m; $\varepsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

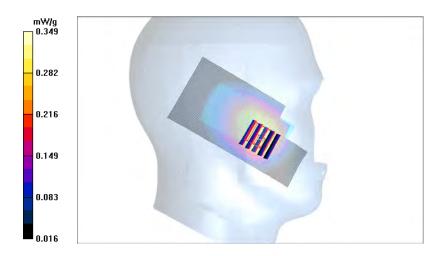
Cheek position - Middle - Slide closed/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.345 mW/g

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

Reference Value = 9.62 V/m Peak SAR (extrapolated) = 0.535 W/kg

SAR(1 g) = 0.326 mW/g SAR(10 g) = 0.209 mW/g Power Drift = -0.016 dB

Maximum value of SAR (measured) = 0.349 mW/g







Date/Time: 2009-05-18 12:02:23

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: 2-slot GPRS850 Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Head 850; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used: f = 837 MHz; $\sigma = 0.899$ mho/m; $\varepsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

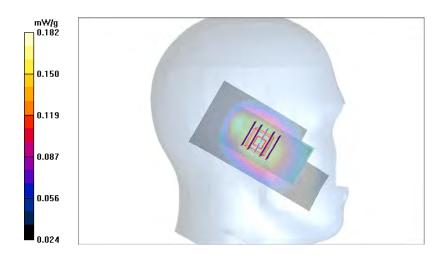
Tilt position - Middle - Slide closed/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.181 mW/g

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

Reference Value = 12.3 V/m Peak SAR (extrapolated) = 0.222 W/kg

SAR(1 g) = 0.173 mW/g SAR(10 g) = 0.128 mW/g Power Drift = 0.021 dB

Maximum value of SAR (measured) = 0.182 mW/g







Date/Time: 2009-05-18 13:57:49

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: 2-slot GPRS850 Frequency: 848.8 MHz; Duty Cycle: 1:4.2

Medium: Head 850; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used: f = 849 MHz; σ = 0.91 mho/m; ε_r = 39.7; ρ = 1000 kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek position - High - Slide closed/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.383 mW/g

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

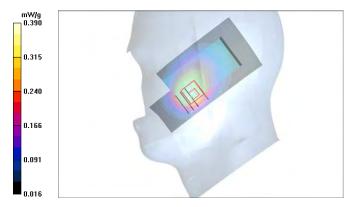
Reference Value = 8.78 V/m Peak SAR (extrapolated) = 0.560 W/kg

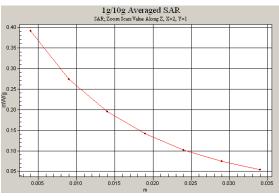
SAR(1 g) = 0.368 mW/gSAR(10 g) = 0.240 mW/g

Power Drift = 0.088 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) = 0.390 mW/g









Date/Time: 2009-05-18 13:06:13

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: 2-slot GPRS850 Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Head 850; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used: f = 837 MHz; $\sigma = 0.899$ mho/m; $\varepsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

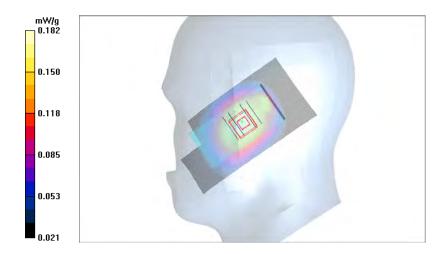
Tilt position - Middle - Slide closed/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.180 mW/g

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

Reference Value = 12.1 V/m Peak SAR (extrapolated) = 0.220 W/kg

SAR(1 g) = 0.171 mW/g SAR(10 g) = 0.127 mW/g Power Drift = 0.012 dB

Maximum value of SAR (measured) = 0.182 mW/g







Date/Time: 2009-05-18 12:14:50

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: 2-slot GPRS850 Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Head 850; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used: f = 837 MHz; $\sigma = 0.899$ mho/m; $\varepsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

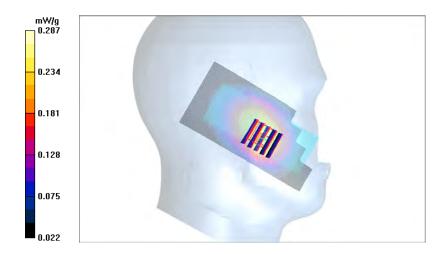
Cheek position - Middle - Slide open/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.282 mW/g

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

Reference Value = 9.03 V/m Peak SAR (extrapolated) = 0.393 W/kg

SAR(1 g) = 0.266 mW/g SAR(10 g) = 0.185 mW/g Power Drift = 0.011 dB

Maximum value of SAR (measured) = 0.287 mW/g







Date/Time: 2009-05-18 12:29:44

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: 2-slot GPRS850 Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Head 850; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used: f = 837 MHz; $\sigma = 0.899$ mho/m; $\varepsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

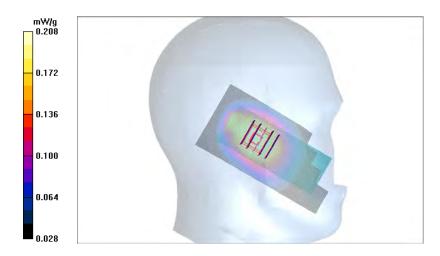
Tilt position - Middle - Slide open/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.203 mW/g

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

Reference Value = 13.4 V/m Peak SAR (extrapolated) = 0.255 W/kg

SAR(1 g) = 0.197 mW/g SAR(10 g) = 0.145 mW/g Power Drift = 0.033 dB

Maximum value of SAR (measured) = 0.208 mW/g







Date/Time: 2009-05-18 13:18:23

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: 2-slot GPRS850 Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Head 850; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used: f = 837 MHz; $\sigma = 0.899$ mho/m; $\varepsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek position - Middle - Slide open/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.331 mW/g

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

Reference Value = 8.63 V/m Peak SAR (extrapolated) = 0.448 W/kg

SAR(1 g) = 0.311 mW/g SAR(10 g) = 0.210 mW/g Power Drift = 0.065 dB

Maximum value of SAR (measured) = 0.336 mW/g







Date/Time: 2009-05-18 13:33:17

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: 2-slot GPRS850 Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Head 850; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used: f = 837 MHz; $\sigma = 0.899$ mho/m; $\varepsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

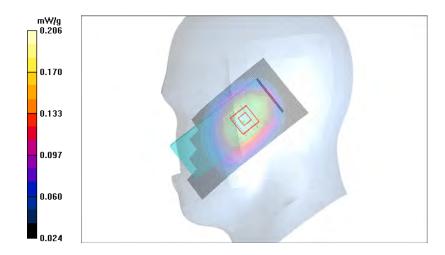
Tilt position - Middle - Slide open/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.204 mW/g

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

Reference Value = 13.4 V/m Peak SAR (extrapolated) = 0.249 W/kg

SAR(1 g) = 0.195 mW/g SAR(10 g) = 0.144 mW/g Power Drift = -0.069 dB

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







Date/Time: 2009-05-18 11:46:09

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: 3-slot GPRS850 Frequency: 836.6 MHz; Duty Cycle: 1:2.8

Medium: Head 850; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used: f = 837 MHz; $\sigma = 0.899$ mho/m; $\varepsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

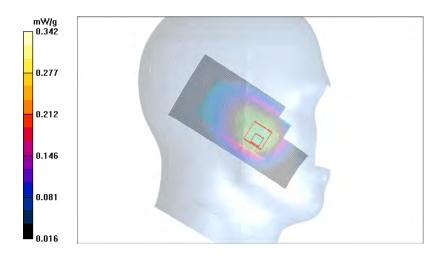
Cheek position – Middle – Slide closed/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.336 mW/g

Cheek position – Middle – Slide closed/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.52 V/m Peak SAR (extrapolated) = 0.519 W/kg

SAR(1 g) = 0.320 mW/g SAR(10 g) = 0.205 mW/g Power Drift = -0.017 dB

Maximum value of SAR (measured) = 0.342 mW/g







Date/Time: 2009-05-18 16:55:32

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: 2-slot 8PSK EGPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:4.2

Medium: Head 850; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used: f = 849 MHz; $\sigma = 0.91$ mho/m; $\varepsilon_r = 39.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek position - High - Slide closed/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.082 mW/g

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

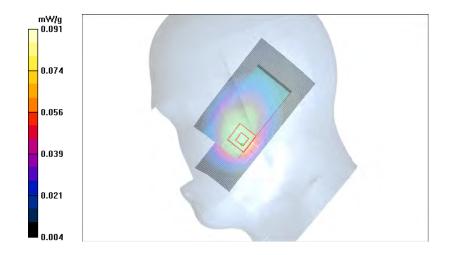
Reference Value = 4.30 V/m Peak SAR (extrapolated) = 0.145 W/kg

SAR(1 g) = 0.086 mW/gSAR(10 g) = 0.057 mW/g

Power Drift = 0.063 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) = 0.091 mW/g







Date/Time: 2009-05-18 17:20:38

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: WCDMA850 Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used: f = 835 MHz; $\sigma = 0.899$ mho/m; $\varepsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

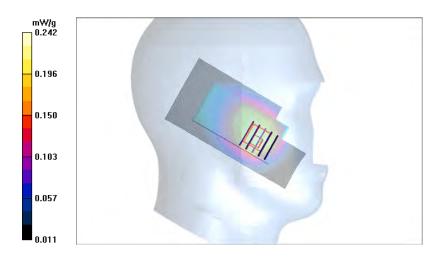
Cheek position - Middle - Slide closed/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.248 mW/g

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

Reference Value = 7.55 V/m Peak SAR (extrapolated) = 0.372 W/kg

SAR(1 g) = 0.230 mW/g SAR(10 g) = 0.148 mW/g Power Drift = -0.062 dB

Maximum value of SAR (measured) = 0.242 mW/g







Date/Time: 2009-05-18 17:36:10

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: WCDMA850 Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used: f = 835 MHz; $\sigma = 0.899$ mho/m; $\varepsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

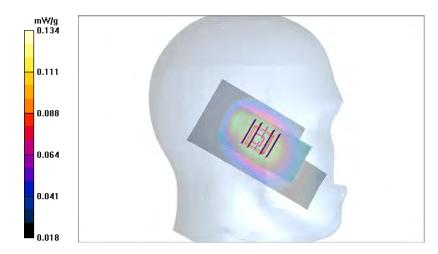
Tilt position - Middle - Slide closed/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.132 mW/g

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

Reference Value = 10.2 V/m Peak SAR (extrapolated) = 0.163 W/kg

SAR(1 g) = 0.127 mW/g SAR(10 g) = 0.094 mW/g Power Drift = 0.037 dB

Maximum value of SAR (measured) = 0.134 mW/g







Date/Time: 2009-05-18 20:03:57

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: WCDMA850 Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used: f = 847 MHz; $\sigma = 0.906$ mho/m; $\varepsilon_r = 39.8$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek position - High - Slide closed/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.273 mW/g

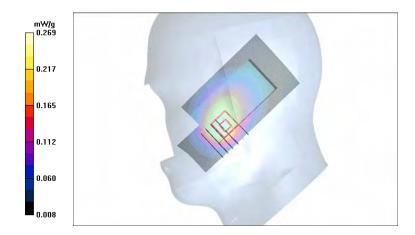
Cheek position - High - Slide closed/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.21 V/m Peak SAR (extrapolated) = 0.380 W/kg

SAR(1 g) = 0.257 mW/g SAR(10 g) = 0.171 mW/g Power Drift = 0.132 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) = 0.269 mW/g







Date/Time: 2009-05-18 20:36:26

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: WCDMA850 Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used: f = 835 MHz; $\sigma = 0.899$ mho/m; $\varepsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

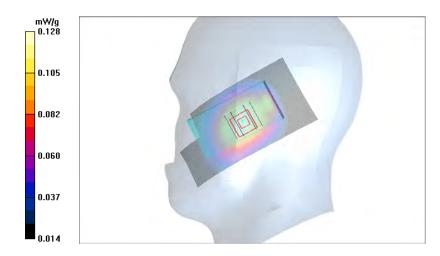
Tilt position - Middle - Slide closed/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.127 mW/g

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

Reference Value = 9.83 V/m Peak SAR (extrapolated) = 0.156 W/kg

SAR(1 g) = 0.121 mW/g SAR(10 g) = 0.090 mW/g Power Drift = 0.226 dB

Maximum value of SAR (measured) = 0.128 mW/g







Date/Time: 2009-05-18 17:48:38

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: WCDMA850 Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used: f = 835 MHz; $\sigma = 0.899$ mho/m; $\varepsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

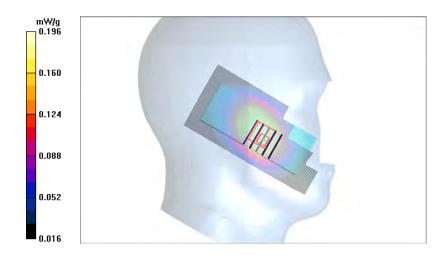
Cheek position - Middle - Slide open/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.182 mW/g

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

Reference Value = 7.15 V/m Peak SAR (extrapolated) = 0.256 W/kg

SAR(1 g) = 0.181 mW/g SAR(10 g) = 0.131 mW/g Power Drift = 0.169 dB

Maximum value of SAR (measured) = 0.196 mW/g







Date/Time: 2009-05-18 18:16:35

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: WCDMA850 Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used: f = 835 MHz; $\sigma = 0.899$ mho/m; $\varepsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilt position - Middle - Slide open/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.156 mW/g

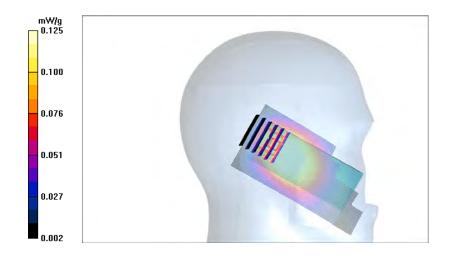
Tilt position - Middle - Slide open/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.0 V/m Peak SAR (extrapolated) = 0.203 W/kg

SAR(1 g) = 0.110 mW/g SAR(10 g) = 0.077 mW/g Power Drift = 0.113 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) = 0.125 mW/g







Date/Time: 2009-05-18 20:50:57

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: WCDMA850 Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used: f = 835 MHz; $\sigma = 0.899$ mho/m; $\varepsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek position - Middle - Slide open/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.197 mW/g

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

Reference Value = 6.60 V/m Peak SAR (extrapolated) = 0.242 W/kg

SAR(1 g) = 0.182 mW/g SAR(10 g) = 0.134 mW/g Power Drift = 0.154 dB

Maximum value of SAR (measured) = 0.193 mW/g







Date/Time: 2009-05-18 21:08:33

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: WCDMA850 Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 21.2 C

Medium parameters used: f = 835 MHz; $\sigma = 0.899$ mho/m; $\varepsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

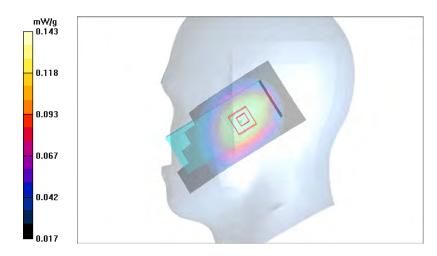
Tilt position - Middle - Slide open/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.143 mW/g

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

Reference Value = 11.4 V/m Peak SAR (extrapolated) = 0.175 W/kg

SAR(1 g) = 0.136 mW/g SAR(10 g) = 0.101 mW/g Power Drift = 0.016 dB

Maximum value of SAR (measured) = 0.143 mW/g







Date/Time: 2009-06-03 18:24:39

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: GSM 1900 Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: 21.7 C

Medium parameters used: f = 1880 MHz; $\sigma = 1.46 \text{ mho/m}$; $\varepsilon_r = 39.8$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(4.88, 4.88, 4.88); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

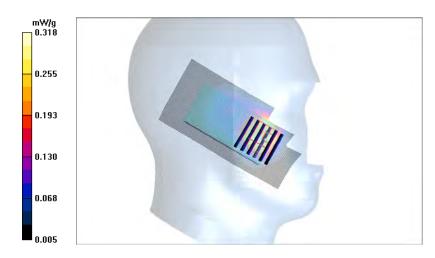
Cheek position - Middle - Slide closed/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.396 mW/g

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

Reference Value = 4.21 V/m Peak SAR (extrapolated) = 0.628 W/kg

SAR(1 g) = 0.294 mW/g SAR(10 g) = 0.161 mW/g Power Drift = -0.158 dB

Maximum value of SAR (measured) = 0.318 mW/g







Date/Time: 2009-06-03 19:24:53

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: GSM 1900 Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: 21.7 C

Medium parameters used: f = 1880 MHz; $\sigma = 1.46 \text{ mho/m}$; $\epsilon_r = 39.8$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(4.88, 4.88, 4.88); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

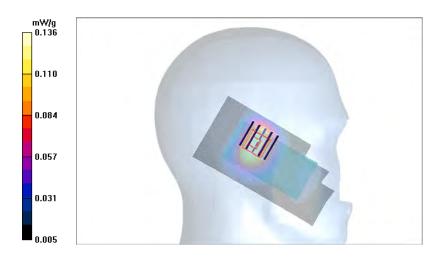
Tilt position - Middle - Slide closed/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.157 mW/g

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

Reference Value = 7.24 V/m Peak SAR (extrapolated) = 0.184 W/kg

SAR(1 g) = 0.128 mW/g SAR(10 g) = 0.081 mW/g Power Drift = 0.053 dB

Maximum value of SAR (measured) = 0.136 mW/g







Date/Time: 2009-06-03 20:35:49

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: GSM 1900 Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: 21.7 C

Medium parameters used: f = 1880 MHz; $\sigma = 1.46 \text{ mho/m}$; $\varepsilon_r = 39.8$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(4.88, 4.88, 4.88); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek position - Middle - Slide closed/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.296 mW/g

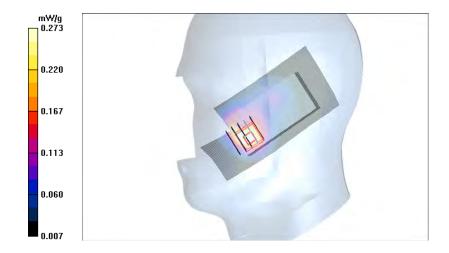
Cheek position - Middle - Slide closed/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.32 V/m Peak SAR (extrapolated) = 0.445 W/kg

SAR(1 g) = 0.261 mW/g SAR(10 g) = 0.142 mW/g Power Drift = -0.370 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) = 0.273 mW/g







Date/Time: 2009-06-03 20:50:28

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: GSM 1900 Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: 21.7 C

Medium parameters used: f = 1880 MHz; $\sigma = 1.46 \text{ mho/m}$; $\varepsilon_r = 39.8$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(4.88, 4.88, 4.88); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilt position - Middle - Slide closed/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.148 mW/g

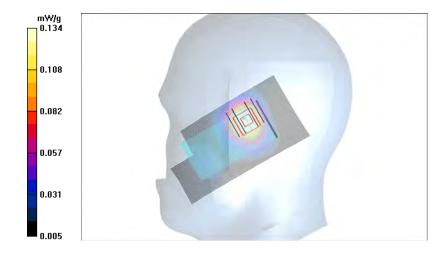
Tilt position - Middle - Slide closed/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.49 V/m Peak SAR (extrapolated) = 0.187 W/kg

SAR(1 g) = 0.126 mW/g SAR(10 g) = 0.078 mW/g Power Drift = 0.130 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) = 0.134 mW/g







Date/Time: 2009-06-03 19:54:03

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: GSM 1900 Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: 21.7 C

Medium parameters used: f = 1880 MHz; $\sigma = 1.46 \text{ mho/m}$; $\varepsilon_r = 39.8$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(4.88, 4.88, 4.88); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

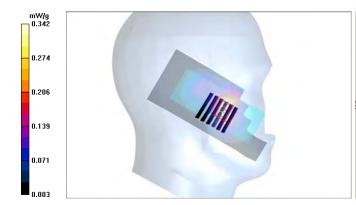
Cheek position - Middle - Slide open/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.339 mW/g

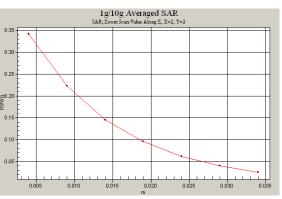
Cheek position - Middle - Slide open/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.73 V/m Peak SAR (extrapolated) = 0.496 W/kg

SAR(1 g) = 0.305 mW/g SAR(10 g) = 0.179 mW/g Power Drift = -0.184 dB

Maximum value of SAR (measured) = 0.342 mW/g









Date/Time: 2009-06-03 20:12:25

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: GSM 1900 Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: 21.7 C

Medium parameters used: f = 1880 MHz; $\sigma = 1.46 \text{ mho/m}$; $\varepsilon_r = 39.8$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(4.88, 4.88, 4.88); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilt position - Middle - Slide open/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.255 mW/g

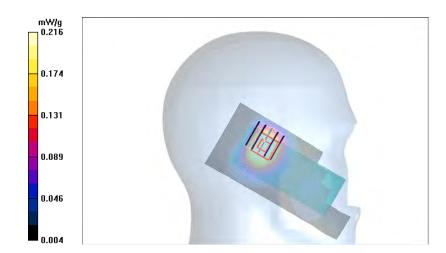
Tilt position - Middle - Slide open/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.26 V/m Peak SAR (extrapolated) = 0.298 W/kg

SAR(1 g) = 0.206 mW/g SAR(10 g) = 0.130 mW/g Power Drift = 0.001 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) = 0.216 mW/g







Date/Time: 2009-06-03 21:04:44

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: GSM 1900 Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: 21.7 C

Medium parameters used: f = 1880 MHz; $\sigma = 1.46 \text{ mho/m}$; $\epsilon_r = 39.8$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(4.88, 4.88, 4.88); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek position - Middle - Slide open/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.287 mW/g

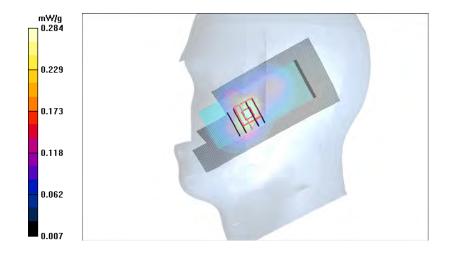
Cheek position - Middle - Slide open/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.48 V/m Peak SAR (extrapolated) = 0.403 W/kg

SAR(1 g) = 0.252 mW/g SAR(10 g) = 0.151 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) = 0.284 mW/g







Date/Time: 2009-06-03 21:21:19

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: GSM 1900 Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: 21.7 C

Medium parameters used: f = 1880 MHz; $\sigma = 1.46 \text{ mho/m}$; $\epsilon_r = 39.8$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(4.88, 4.88, 4.88); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilt position - Middle - Slide open/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.242 mW/g

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

Reference Value = 8.37 V/m Peak SAR (extrapolated) = 0.304 W/kg

SAR(1 g) = 0.206 mW/g SAR(10 g) = 0.126 mW/g Power Drift = 0.282 dB

Maximum value of SAR (measured) = 0.224 mW/g







Date/Time: 2009-06-03 18:51:18

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: 2-slot GPRS1900 Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: Head 1900; Medium Notes: Medium Temperature: 21.7 C

Medium parameters used: f = 1880 MHz; $\sigma = 1.46 \text{ mho/m}$; $\epsilon_r = 39.8$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(4.88, 4.88, 4.88); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek position - Middle - Slide closed/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.368 mW/g

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

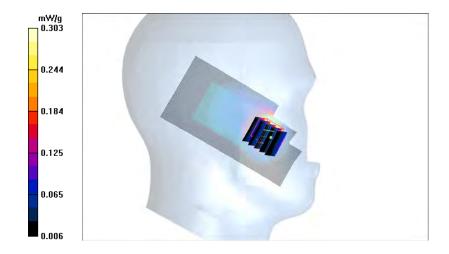
Reference Value = 4.03 V/m Peak SAR (extrapolated) = 0.586 W/kg

SAR(1 g) = 0.277 mW/gSAR(10 g) = 0.154 mW/g

Power Drift = 0.028 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) = 0.303 mW/g







Date/Time: 2009-06-03 19:05:34

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: 3-slot GPRS1900 Frequency: 1880 MHz; Duty Cycle: 1:2.8

Medium: Head 1900; Medium Notes: Medium Temperature: 21.7 C

Medium parameters used: f = 1880 MHz; $\sigma = 1.46 \text{ mho/m}$; $\varepsilon_r = 39.8$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(4.88, 4.88, 4.88); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek position - Middle - Slide closed/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.346 mW/g

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

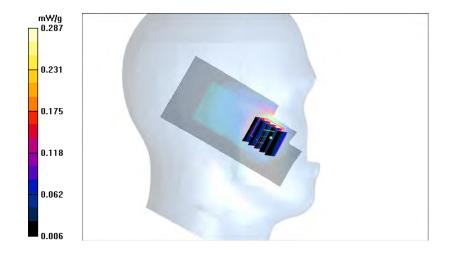
Reference Value = 3.99 V/m Peak SAR (extrapolated) = 0.540 W/kg

SAR(1 g) = 0.258 mW/gSAR(10 g) = 0.143 mW/g

Power Drift = -0.255 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) = 0.287 mW/g







Date/Time: 2009-06-03 22:13:58

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: 1-slot 8PSK EGPRS 1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: 21.7 C

Medium parameters used: f = 1880 MHz; $\sigma = 1.46 \text{ mho/m}$; $\varepsilon_r = 39.8$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(4.88, 4.88, 4.88); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

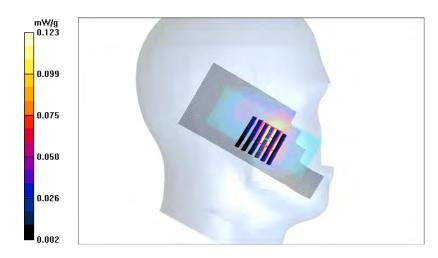
Cheek position - Middle - Slide open/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (interpolated) = 0.125 mW/g

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

Reference Value = 3.18 V/m Peak SAR (extrapolated) = 0.185 W/kg

SAR(1 g) = 0.110 mW/g SAR(10 g) = 0.065 mW/g Power Drift = 0.003 dB

Maximum value of SAR (measured) = 0.123 mW/g







Date/Time: 2009-05-29 22:11:46

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: 2-slot GPRS850 Frequency: 836.6 MHz; Duty Cycle: 1:4.2

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

Medium parameters used: f = 837 MHz; σ = 0.98 mho/m; ε_r = 53.3; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - No Accessory - Slide closed - Display facing phantom/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

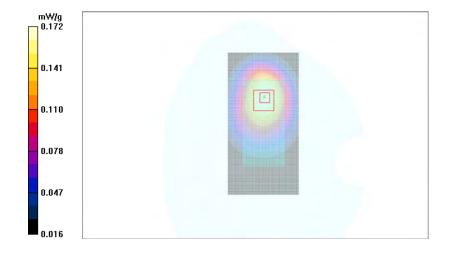
Maximum value of SAR (interpolated) = 0.173 mW/g

Body - Middle - No Accessory - Slide closed - Display facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.57 V/m
Peak SAR (extrapolated) = 0.220 W/kg
SAR(1 a) = 0.161 mW/a

SAR(1 g) = 0.161 mW/g SAR(10 g) = 0.114 mW/g Power Drift = 0.027 dB

Maximum value of SAR (measured) = 0.172 mW/g







Date/Time: 2009-05-29 23:01:35

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: 2-slot GPRS850 Frequency: 836.6 MHz; Duty Cycle: 1:4.2

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

Medium parameters used: f = 837 MHz; σ = 0.98 mho/m; ε_r = 53.3; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - WH-203 - Slide closed - Display facing phantom/Area Scan (51x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.141 mW/g

Body - Middle - WH-203 - Slide closed - Display facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

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

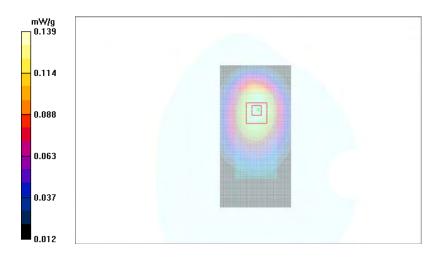
Reference Value = 4.90 V/m

Peak SAR (extrapolated) = 0.183 W/kg SAR(1 g) = 0.131 mW/g

SAR(10 g) = 0.093 mW/g

Power Drift = 0.035 dB

Maximum value of SAR (measured) = 0.139 mW/g







Date/Time: 2009-05-29 23:45:03

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: 2-slot GPRS850 Frequency: 848.8 MHz; Duty Cycle: 1:4.2

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

Medium parameters used: f = 849 MHz; $\sigma = 0.993$ mho/m; $\varepsilon_r = 53.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - High - No Accessory - Slide closed - Back facing phantom/Area Scan (51x101x1): Measurement grid:

dx=15mm, dy=15mm

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

Body - High - No Accessory - Slide closed - Back facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

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

Reference Value = 5.81 V/m

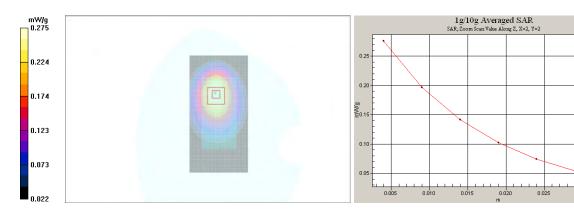
Peak SAR (extrapolated) = 0.356 W/kg

SAR(1 g) = 0.257 mW/g

SAR(10 g) = 0.178 mW/g

Power Drift = 0.066 dB

Maximum value of SAR (measured) = 0.275 mW/g







Date/Time: 2009-05-29 23:25:07

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: 2-slot GPRS850 Frequency: 836.6 MHz; Duty Cycle: 1:4.2

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

Medium parameters used: f = 837 MHz; σ = 0.98 mho/m; ε_r = 53.3; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - WH-203 - Slide closed - Back facing phantom/Area Scan (51x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.214 mW/g

Body - Middle - WH-203 - Slide closed - Back facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

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

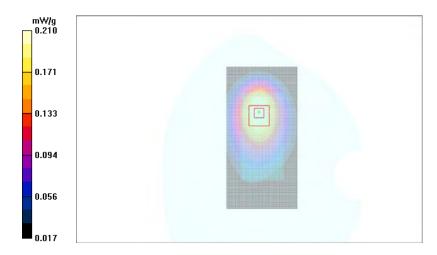
Reference Value = 6.22 V/m

Peak SAR (extrapolated) = 0.270 W/kg SAR(1 g) = 0.196 mW/g

SAR(10 g) = 0.136 mW/g

Power Drift = 0.030 dB

Maximum value of SAR (measured) = 0.210 mW/g







Date/Time: 2009-05-30 00:01:40

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: WCDMA850 Frequency: 835 MHz; Duty Cycle: 1:1

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

Medium parameters used: f = 835 MHz; $\sigma = 0.978$ mho/m; $\varepsilon_r = 53.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - No Accessory - Slide closed - Display facing phantom/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

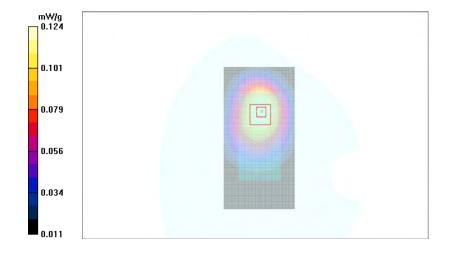
Maximum value of SAR (interpolated) = 0.126 mW/g

Body - Middle - No Accessory - Slide closed - Display facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 3.84 V/m
Peak SAR (extrapolated) = 0.160 W/kg
SAR(1 g) = 0.117 mW/g

SAR(10 g) = 0.083 mW/g Power Drift = 0.246 dB

Maximum value of SAR (measured) = 0.124 mW/g







Date/Time: 2009-05-30 00:14:55

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: WCDMA850 Frequency: 835 MHz; Duty Cycle: 1:1

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

Medium parameters used: f = 835 MHz; $\sigma = 0.978$ mho/m; $\varepsilon_r = 53.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - WH-203 - Slide closed - Display facing phantom/Area Scan (51x101x1): Measurement grid:

dx=15mm, dy=15mm

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

Body - Middle - WH-203 - Slide closed - Display facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

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

Reference Value = 4.52 V/m

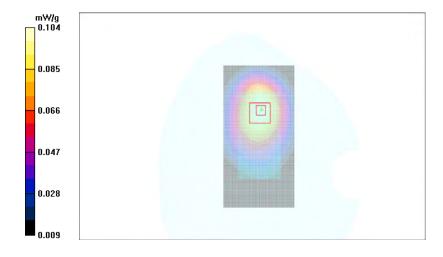
Peak SAR (extrapolated) = 0.135 W/kg

SAR(1 g) = 0.098 mW/g

SAR(10 g) = 0.069 mW/g

Power Drift = 0.179 dB

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







Date/Time: 2009-05-30 00:48:38

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: WCDMA850 Frequency: 846.6 MHz; Duty Cycle: 1:1

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

Medium parameters used: f = 847 MHz; σ = 0.99 mho/m; ε_r = 53.2; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - High - No Accessory - Slide closed - Back facing phantom/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.203 mW/g

Body - High - No Accessory - Slide closed - Back facing phantom/Zoom Scan 2 (6x6x7)/Cube 0: Measurement

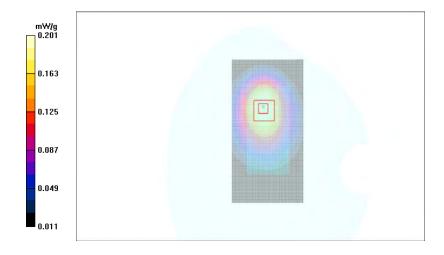
grid: dx=7.5mm, dy=7.5mm, dz=5mm Reference Value = 5.17 V/m

Peak SAR (extrapolated) = 0.262 W/kg

SAR(1 g) = 0.189 mW/gSAR(10 g) = 0.131 mW/g

Power Drift = 0.141 dB

Maximum value of SAR (measured) = 0.201 mW/g







Date/Time: 2009-05-30 01:09:37

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: WCDMA850 Frequency: 835 MHz; Duty Cycle: 1:1

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

Medium parameters used: f = 835 MHz; $\sigma = 0.978$ mho/m; $\varepsilon_r = 53.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1412
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - WH-203 - Slide closed - Back facing phantom/Area Scan (51x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.159 mW/g

Body - Middle - WH-203 - Slide closed - Back facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

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

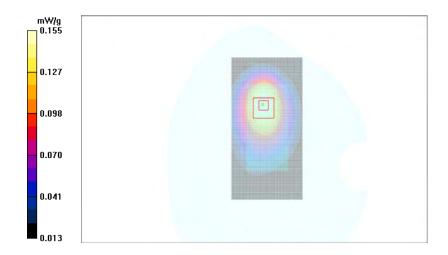
Reference Value = 5.64 V/m

Peak SAR (extrapolated) = 0.203 W/kg

SAR(1 g) = 0.146 mW/g

SAR(10 g) = 0.101 mW/g Power Drift = 0.308 dB

Maximum value of SAR (measured) = 0.155 mW/g







Date/Time: 2009-06-03 22:40:31

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: GSM 1900 Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Body 1900; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used: f = 1880 MHz; $\sigma = 1.48 \text{ mho/m}$; $\varepsilon_r = 53$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(4.55, 4.55, 4.55); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501; Calibrated: 2009-03-12
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - No Accessory - Slide closed - Display facing phantom/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

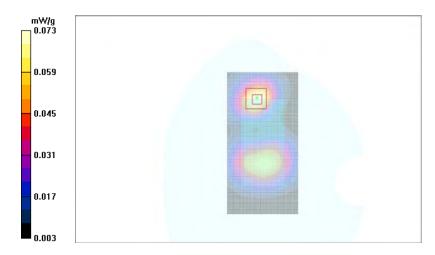
Maximum value of SAR (interpolated) = 0.073 mW/g

Body - Middle - No Accessory - Slide closed - Display facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.92 V/m
Peak SAR (extrapolated) = 0.113 W/kg
SAR(1 a) = 0.067 mW/a

SAR(1 g) = 0.067 mW/g SAR(10 g) = 0.038 mW/g Power Drift = 0.008 dB

Maximum value of SAR (measured) = 0.073 mW/g







Date/Time: 2009-06-03 22:54:51

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: GSM 1900 Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Body 1900; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used: f = 1880 MHz; $\sigma = 1.48 \text{ mho/m}$; $\varepsilon_r = 53$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(4.55, 4.55, 4.55); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - WH-203 - Slide closed - Display facing phantom/Area Scan (51x101x1): Measurement grid:

dx=15mm, dy=15mm

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

Body - Middle - WH-203 - Slide closed - Display facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

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

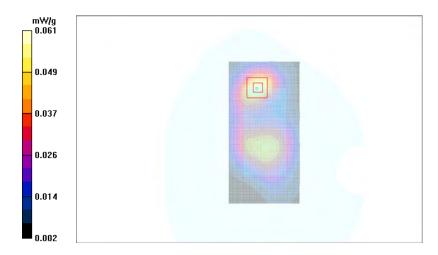
Reference Value = 4.20 V/m

Peak SAR (extrapolated) = 0.095 W/kg

SAR(1 g) = 0.055 mW/gSAR(10 g) = 0.032 mW/g

Power Drift = 0.091 dB

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







Date/Time: 2009-06-03 23:31:02

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: GSM 1900 Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: Body 1900; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used: f = 1910 MHz; $\sigma = 1.52 \text{ mho/m}$; $\varepsilon_r = 52.8$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(4.55, 4.55, 4.55); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - High - No Accessory - Slide closed - Back facing phantom/Area Scan (51x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.184 mW/g

Body - High - No Accessory - Slide closed - Back facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

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

Reference Value = 7.53 V/m

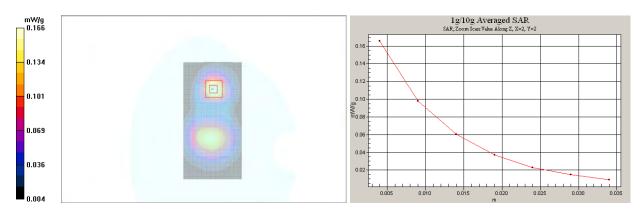
Peak SAR (extrapolated) = 0.266 W/kg

SAR(1 g) = 0.150 mW/g

SAR(10 g) = 0.083 mW/g

Power Drift = 0.052 dB

Maximum value of SAR (measured) = 0.166 mW/g







Date/Time: 2009-06-03 23:42:46

Test Laboratory: TCC Nokia

Type: RM-570; Serial: 004401/10/698367/5

Communication System: GSM 1900 Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Body 1900; Medium Notes: Medium Temperature: 21.8 C

Medium parameters used: f = 1880 MHz; $\sigma = 1.48 \text{ mho/m}$; $\varepsilon_r = 53$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 SN3116; Probe Notes:
- ConvF(4.55, 4.55, 4.55); Calibrated: 2009-03-16
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn501: Calibrated: 2009-03-12
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - WH-203 - Slide closed - Back facing phantom/Area Scan (51x101x1): Measurement grid:

dx=15mm, dy=15mm

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

Body - Middle - WH-203 - Slide closed - Back facing phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

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

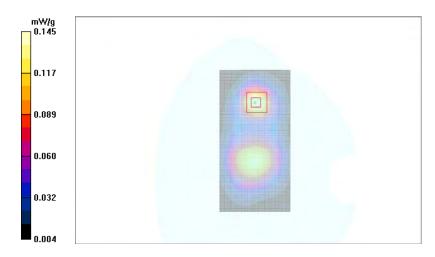
Reference Value = 7.39 V/m

Peak SAR (extrapolated) = 0.232 W/kg

SAR(1 g) = 0.132 mW/gSAR(10 g) = 0.073 mW/g

Power Drift = 0.015 dB

Maximum value of SAR (measured) = 0.145 mW/g







APPENDIX C: RELEVANT PAGES FROM PROBE CALIBRATION REPORT(S)

See the following pages

Calibration Laboratory of Schmid & Partner Engineering AG Zeughausstresse 43, 8004 Zurich, Switzerland





S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
Servizio svizzero di taratura
S Swiss Calibration Service

Issued: March 16, 2009

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

Client

Nokia Denmark A/S

Certificate No: ESS-3116 Mar09

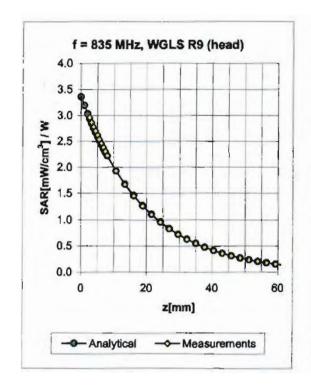
Accreditation No.: SCS 108

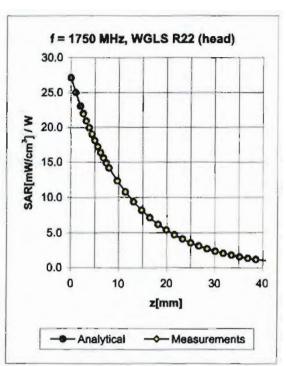
BRATION CERTIFICATE ES3DV3 - SN:3116 Object QA CAL-01.v6 and QA CAL-23.v3 Calibration procedure(s) Calibration procedure for dosimetric E-field probes March 16, 2009 Calibration date: In Tolerance Condition of the calibrated item. This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate. All calibrations have been conducted in the closed laboratory facility; environment temperature (22 ± 3)°C and humidity < 70%. Calibration Equipment used (M&TE critical for calibration) ID# **Primary Standards** Cal Date (Certificate No.) Scheduled Calibration Power meter E4419B GB41293874 1-Apr-08 (No. 217-00788) Apr-09 MY41495277 1-Apr-08 (No. 217-00788) Apr-09 Power sensor E4412A MY41498087 Power sensor E4412A Арг-09 1-Apr-08 (No. 217-00788) Jul-09 Reference 3 dB Attenuator SN: S5054 (3c) 1-Jul-08 (No. 217-00865) Apr-09 Reference 20 dB Attenuator SN: S5086 (20b) 31-Mar-08 (No. 217-00787) Reference 30 dB Attenuator SN: S5129 (30b) 1-Jul-08 (No. 217-00866) Jul-09 SN: 3013 Reference Probe ES3DV2 2-Jan-09 (No. ES3-3013_Jan09) Jan-10 DAE4 SN: 660 9-Sep-08 (No. DAE4-660_Sep08) Sep-09 Secondary Standards ID# Check Date (in house) Scheduled Check RF generator HP 8648C US3642U01700 4-Aug-99 (in house check Oct-07) In house check: Oct-09 Network Analyzer HP 8753E US37390585 18-Oct-01 (in house check Oct-08) In house check: Oct-09 Name **Function** Calibrated by: Katja Pokovic **Technical Manager** Approved by: Fin Bomholt **R&D Director**

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

ES3DV3 SN:3116 March 16, 2009

Conversion Factor Assessment





| f [MHz] | Validity [MHz] ^c | TSL | Permittivity | Conductivity | Alpha | Depth | ConvF Uncertainty |
|---------|-----------------------------|------|--------------|----------------|-------|-------|-----------------------------|
| 835 | ± 50 / ± 100 | Head | 41.5 ± 5% | 0.90 ± 5% | 0.80 | 1.11 | 5.90 ± 11.0% (k=2) |
| 1750 | ± 50 / ± 100 | Head | 40.1 ± 5% | $1.37 \pm 5\%$ | 0.47 | 1.50 | 5.06 ± 11.0% (k=2) |
| 1900 | ± 50 / ± 100 | Head | 40.0 ± 5% | 1.40 ± 5% | 0.43 | 1.58 | 4.88 ± 11.0% (k=2) |
| 2450 | ± 50 / ± 100 | Head | 39.2 ± 5% | $1.80 \pm 5\%$ | 0.48 | 1.56 | 4.43 ± 11.0% (k=2) |
| | | | | | | | |
| | | | | | | | |
| 835 | ± 50 / ± 100 | Body | 55.2 ± 5% | $0.97 \pm 5\%$ | 0.63 | 1.29 | 5.79 ± 11.0% (k=2) |
| 1750 | ± 50 / ± 100 | Body | 53.4 ± 5% | 1.49 ± 5% | 0.59 | 1.29 | 4.78 ± 11.0% (k=2) |
| 1900 | ± 50 / ± 100 | Body | 53.3 ± 5% | 1.52 ± 5% | 0.83 | 1,11 | 4.55 ± 11.0% (k=2) |
| 2450 | ± 50 / ± 100 | Body | 52.7 ± 5% | 1.95 ± 5% | 0.99 | 0.91 | 4.04 ± 11.0% (k=2) |
| | | | | | | | |

 $^{^{\}rm C}$ The validity of \pm 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.





APPENDIX D: RELEVANT PAGES FROM DIPOLE VALIDATION KIT REPORT(S)

See the following pages

Calibration Laboratory of

Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland





S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)

The Swiss Accreditation Service is one of the signatories to the EA

Multifateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Client

Nokia Denmark A/S

Certificate No: D835V2-4d042 Sep08

| CALIBRATION | CERTIFICATE |
|----------------------------------|---|
| Object | D835V2 - SN: 4d042 |
| Calibration procedure(s) | QA CAL-05.v7 Calibration procedure for dipole validation kits |
| Calibration date: | September 22, 2008 |
| Condition of the calibrated item | In Tolerance |

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | 1D # | Cal Date (Certificate No.) | Scheduled Calibration |
|-----------------------------|--------------------|-----------------------------------|------------------------|
| Power meter EPM-442A | GB37480704 | 04-Oct-07 (No. 217-00736) | Oct-08 |
| Power sensor HP 8481A | US37292783 | 04-Oct-07 (No. 217-00736) | Oct-08 |
| Reference 20 dB Attenuator | SN: 5086 (20g) | 01-Jul-08 (No. 217-00864) | Jul-0 9 |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 01-Jul-08 (No. 217-00867) | Jul-0 9 |
| Reference Probe ES3DV2 | SN: 3025 | 28-Apr-08 (No. ES3-3025_Apr08) | Apr-09 |
| DAE4 | SN: 601 | 14-Mar-08 (No. DAE4-601_Mar08) | Mar-09 |
| Secondary Standards | ID# | Check Date (in house) | Scheduled Check |
| Power sensor HP 8481A | MY41092317 | 18-Oct-02 (in house check Oct-07) | In house check: Oct-09 |
| RF generator R&S SMT-06 | 100005 | 4-Aug-99 (in house check Oct-07) | In house check: Oct-09 |
| Network Analyzer HP 8753E | US37390585 S4206 | 18-Oct-01 (in house check Oct-07) | In house check: Oct-08 |
| | Name | Function | Signature |
| Calibrated by: | Jeton Kastrati | Laboratory Technician | Je U |
| Approved by: | Katja Pokovic | Technical Manager | 100-18 |

Issued: September 22, 2008

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

DASY5 Validation Report for Head TSL

Date/Time: 22.09.2008 10:40:16

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d042

Communication System: CW-835; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL 900 MHz

Medium parameters used: f = 835 MHz; $\sigma = 0.901$ mho/m; $\varepsilon_r = 41.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

Probe: ES3DV2 - SN3025; ConvF(5.97, 5.97, 5.97); Calibrated: 28.04.2008

Sensor-Surface: 3.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn601; Calibrated: 14.03.2008

Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001

Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

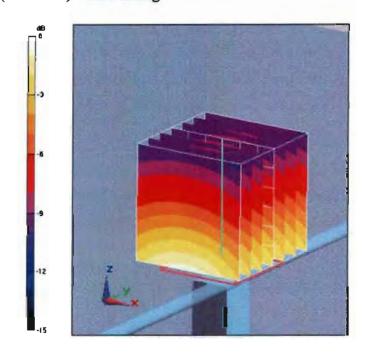
Pin=250mW; dip=15mm; dist=3.4mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 55.9 V/m; Power Drift = 0.013 dB

Peak SAR (extrapolated) = 3.48 W/kg

SAR(1 g) = 2.38 mW/g; SAR(10 g) = 1.57 mW/g

Maximum value of SAR (measured) = 2.69 mW/g



0 dB = 2.69 mW/g

DASY5 Validation Report for Body TSL

Date/Time: 16.09.2008 10:46:36

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 MHz; $\sigma = 1.01$ mho/m; $\epsilon_c = 53.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

Probe: ES3DV2 - SN3025; ConvF(5.9, 5.9, 5.9); Calibrated: 28.04.2008

Sensor-Surface: 3.4mm (Mechanical Surface Detection)

Electronics; DAE4 Sn601; Calibrated: 14,03.2008

• Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001

Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

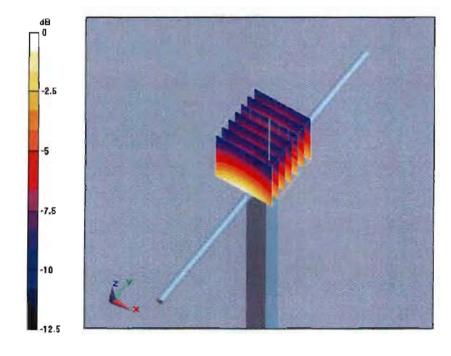
Pin = 250mW, d = 15mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54 V/m; Power Drift = 0.024 dB

Peak SAR (extrapolated) = 3.63 W/kg

SAR(1 g) = 2.51 mW/g; SAR(10 g) = 1.65 mW/g

Maximum value of SAR (measured) = 2.81 mW/g



 $0 dB \approx 2.81 \text{mW/g}$



Calibration Laboratory of Schmid & Partner Engineering AG Zeughausstrasse 43, 8004 Zurlch, Switzerland





S Schweizerischer Kalibrierdienst
Service suisse d'étalonnage
Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Federal Office of Metrology and Accreditation The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates Accreditation No.: SCS 108

Client

Nokia Denmark A/S

Certificate No: D1900V2-5d026_Mar08

CALIBRATION CERTIFICATE

Object

D1900V2 - SN: 5d026

Calibration procedure(s)

QA CAL-05.v7

Calibration procedure for dipole validation kits

Calibration date:

March 18, 2008

Condition of the calibrated item

In Tolerance

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID# | Cal Date (Calibrated by, Certificate No.) | Scheduled Calibration |
|----------------------------|------------------|---|------------------------|
| Power meter EPM-442A | GB37480704 | 04-Oct-07 (METAS, No. 217-00736) | Oct-08 |
| Power sensor HP 8481A | US37292783 | 04-Oct-07 (METAS, No. 217-00736) | Oct-08 |
| Reference 20 dB Attenuator | SN: 5086 (20g) | 07-Aug-07 (METAS, No 217-00718) | Aug-08 |
| Reference 10 dB Attenuator | SN: 5047.2 (10r) | 07-Aug-07 (METAS, No 217-00718) | Aug-08 |
| Reference Probe ES3DV2 | SN: 3025 | 01-Mar-08 (SPEAG, No. ES3-3025_Mar08) | Mar-09 |
| DAE4 | SN 909 | 3-Sep-08 (SPEAG, No. DAE4-909_Sep07) | Sep-07 |
| Secondary Standards | ID# | Check Date (in house) | Scheduled Check |
| Power sensor HP 8481A | MY41092317 | 18-Oct-02 (SPEAG, in house check Oct-07) | In house check: Oct-08 |
| RF generator R&S SMT-06 | 100005 | 4-Aug-99 (SPEAG, in house check Oct-07) | In house check: Oct-09 |
| Network Analyzer HP 8753E | US37390585 S4206 | 18-Oct-01 (SPEAG, in house check Oct-07) | In house check: Oct-08 |
| Power meter EPM-442A | GB37480704 | 04-Oct-07 (METAS, No. 217-00736) | Oct-08 |
| | Name | Function | Signature |
| Calibrated by: | Marcel Fehr | Laboratory Technician | Mille |
| Approved by: | Katia Pokovic | Technical Manager | 22 111 |

Issued: March 18, 2008

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: D1900V2-5d026 Mar08

DASY4 Validation Report for Head TSL

Date/Time: 18.03.2008 11:48:54

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d026

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

Medium: HSL U10 BB;

Medium parameters used: f = 1900 MHz; $\sigma = 1.47 \text{ mho/m}$; $\epsilon_r = 40.2$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

Probe: ES3DV2 - SN3025; ConvF(4.9, 4.9, 4.9); Calibrated: 01.03.2008

Sensor-Surface: 3.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn909; Calibrated: 03.09.2007

Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; ;

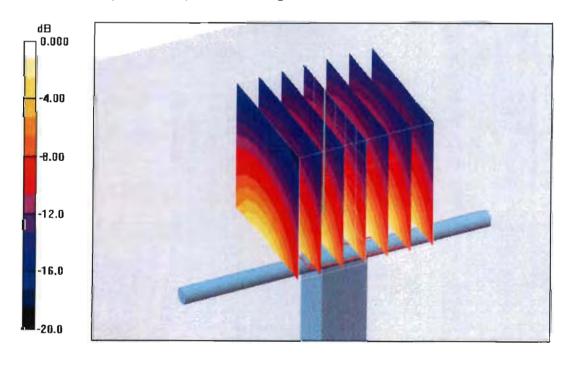
Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 172

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 90.7 V/m; Power Drift = 0.071 dB

Peak SAR (extrapolated) = 19.3 W/kg

SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.27 mW/gMaximum value of SAR (measured) = 12.0 mW/g



0 dB = 12.0 mW/g

DASY4 Validation Report for Body TSL

Date/Time: 14.03.2008 12:53:13

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d026

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

Medium: MSL U10 BB;

Medium parameters used: f = 1900 MHz; $\sigma = 1.57 \text{ mho/m}$; $\epsilon_r = 51.7$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

Probe: ES3DV2 - SN3025; ConvF(4.5, 4.5, 4.5); Calibrated: 01.03.2008

• Sensor-Surface: 3.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn909; Calibrated: 03.09.2007

Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; ;

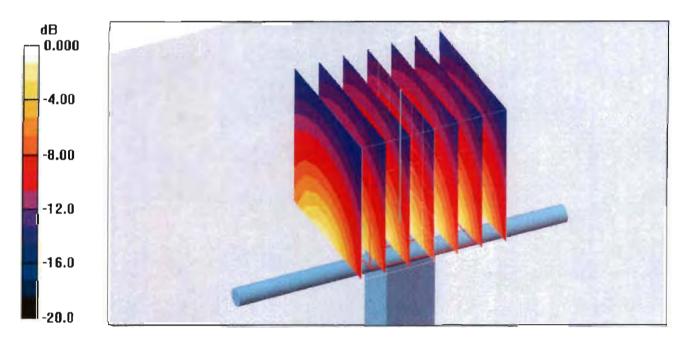
Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 172

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm Reference Value = 89.8 V/m; Power Drift = 0.050 dB

Peak SAR (extrapolated) = 18.7 W/kg

SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.5 mW/gMaximum value of SAR (measured) = 12.1 mW/g



0 dB = 12.1 mW/g