TCC
Nokia

FINAS
Finnish Accreditation Service
T117 (EN ISO/IEC 17025)

# SAR Compliance Test Report

| | | | |
|---|---|---|---|
| **Test report no.:** | SD_SAR_0838_01 | **Date of report:** | 2008-09-17 |
| **Template version:** | 10 | **Number of pages:** | 72 |
| **Testing laboratory:** | TCC Nokia San Diego Laboratory<br>12278 Scripps Summit Drive<br>SAN DIEGO CA. 92131<br>USA<br>Tel. +1 858 831 5000<br>Fax. +1 858 831 6500 | **Client:** | Nokia Corporation<br>12278 Scripps Summit Drive<br>SAN DIEGO CA. 92131<br>USA<br>Tel. +1 858 831 5000<br>Fax. +1 858 831 6500 |
| **Responsible test engineer:** | Julian Kim | **Product contact person:** | Mary Washington |
| **Measurements made by:** | Julian Kim | | |
| **Tested device:** | RH-120 | | |
| **FCC ID:** | QMNRH-120 | **IC:** | 661X-RH120 |
| **Supplement reports:** | SD_SAR_0838_02 | | |

**Testing has been carried out in accordance with:**

**47CFR §2.1093**
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 1528 - 2003**
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 San Diego.

**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:

Digitally signed by Julian Kim
DN: CN = Julian Kim, C = US, O = Nokia, OU = CertT
Date: 2008.09.23 18:10:11 -07'00'

CONTENTS

# 1. SUMMARY OF SAR TEST REPORT

## 1.1 Test Details

| | |
|---|---|
| Period of test | 2008-09-04 to 2008-09-16 |
| SN, HW and SW numbers of tested device | SN: A0000001591F8F5, HW: 3000, SW: GB_1700T_GEN, DUT: 30557 |
| Batteries used in testing | BL-4C, DUT: 30558, 30559 |
| Headsets used in testing | HS-9, DUT: 30560 |
| 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 |
|---|---|---|---|---|---|---|---|
| CDMA800 | 777 / 848.31 | 24.17dBm | Left Cheek | 0.998W/kg | **1.12W/kg** | 1.6 W/kg | PASSED |
| CDMA1700/2100 | 450 / 1732.50 | 23.87dBm | Right Cheek | 1.34W/kg | **1.50W/kg** | 1.6 W/kg | PASSED |
| CDMA1900 | 600 / 1880.00 | 23.93dBm | Right Cheek | 1.30W/kg | **1.46W/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 |
|---|---|---|---|---|---|---|---|
| CDMA800 | 1013 / 824.70 | 24.06dBm | 2.2cm | 0.598W/kg | **0.67W/kg** | 1.6 W/kg | PASSED |
| CDMA1700/2100 | 875 / 1753.75 | 23.93dBm | 2.2cm | 0.296W/kg | **0.33W/kg** | 1.6 W/kg | PASSED |
| CDMA1900 | 25 / 1851.25 | 23.92dBm | 2.2cm | 0.309W/kg | **0.35W/kg** | 1.6 W/kg | PASSED |

*SAR values are scaled up by 12% to cover measurement drift.

### 1.2.3 Maximum Drift

| Maximum drift covered by 12% scaling up of the SAR values | Maximum drift during measurements |
|---|---|
| 0.5dB | 0.31dB |

### 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) |
|---|---|---|---|---|
| CDMA | 800<br>1700/2100<br>1900 | QPSK | 1 | 824 – 849<br>1710 - 1755<br>1850 – 1910 |
| BT | 2450 | GFSK | 1 | 2402 – 2480 |

This is a CDMA2000 1xRTT device.

### 2.1 Description of the Antenna

The device has an internal antenna.

## 3. TEST CONDITIONS

### 3.1 Temperature and Humidity

| | |
|---|---|
| Ambient temperature (°C): | 20.0 to 21.8 |
| Ambient humidity (RH %): | 40 to 49 |

## 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.

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

# 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 |
|---|---|---|---|
| DAE 4 | 860 | 12 months | 2009-06 |
| DAE 4 | 858 | 12 months | 2009-06 |
| E-field Probe ET3DV6 | 1792 | 12 months | 2009-04 |
| E-field Probe ET3DV6 | 1516 | 12 months | 2008-11 |
| Dipole Validation Kit, D835V2 | 486 | 24 months | 2008-11 |
| Dipole Validation Kit, D1800V2 | 2d063 | 24 months | 2008-09 |
| Dipole Validation Kit, D1800V2 | 2d064 | 24 months | 2009-08 |
| Dipole Validation Kit, D1900V2 | 509 | 24 months | 2010-06 |
| DASY Software | Version 4.7 | - | - |

Additional test equipment used in testing:

| Test Equipment | Model | Serial Number | Calibration interval | Calibration expiry |
|---|---|---|---|---|
| Signal Generator | HP E4432B | US 40053677 | 24 months | 2009-10 |
| Signal Generator | HP E4432B | US 40052231 | 24 months | 2010-06 |
| Amplifier | Milmega AS0822-8L | 1004832 | - | - |
| Amplifier | Milmega AS0822-20L | 1009777 | - | - |
| Power Meter | Agilent E4419B | GB39290694 | 12 months | 2008-11 |
| Power Meter | Agilent E4417A | GB41290918 | 12 months | 2009-01 |
| Power Sensor | Agilent E9301A | US39211902 | 12 months | 2009-07 |
| Power Sensor | Agilent E9327A | US40440896 | 12 months | 2009-04 |
| Call Tester | CMU200 | 8377271008 | - | - |
| Vector Network Analyzer | Agilent 8753ES | US39174327 | 12 months | 2009-05 |
| Dielectric Probe Kit | Agilent 85070D | US01440165 | - | - |

### 4.1.1 Isotropic E-field Probe Type ET3DV6

| | |
|---|---|
| **Construction** | Symmetrical design with triangular core<br>Built-in optical fiber for surface detection system<br>Built-in shielding against static charges<br>PEEK enclosure material (resistant to organic solvents, e.g., butyl diglycol) |
| **Calibration** | Calibration certificate in Appendix C |
| **Frequency** | 10 MHz to 3 GHz (dosimetry); Linearity: ± 0.2 dB (30 MHz to 3 GHz) |
| **Optical Surface Detection** | ± 0.2 mm repeatability in air and clear liquids over diffuse reflecting surfaces |
| **Directivity** | ± 0.2 dB in HSL (rotation around probe axis)<br>± 0.4 dB in HSL (rotation normal to probe axis) |
| **Dynamic Range** | 5 µW/g to > 100 mW/g; Linearity: ± 0.2 dB |
| **Dimensions** | Overall length: 330 mm<br>Tip length: 16 mm<br>Body diameter: 12 mm<br>Tip diameter: 6.8 mm<br>Distance from probe tip to dipole centers: 2.7 mm |
| **Application** | General dosimetry up to 3 GHz<br>Compliance tests of mobile phones<br>Fast automatic scanning in arbitrary phantoms |

## 4.2 Phantoms

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

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

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

## 4.3 Tissue Simulants

Recommended values for the dielectric parameters of the tissue simulants are given in IEEE 1528 - 2003 and FCC Supplement C to OET Bulletin 65. All tests were carried out using simulants whose dielectric parameters were within ± 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 ± 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 | 51.50 | 69.25 |
| Tween 20 | 47.35 | 30.00 |
| Salt | 1.15 | 0.75 |

**1800 - 1900MHz band**

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

### 4.3.2 System Checking

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

**System checking, head tissue simulant**

| *f* [MHz] | Description | SAR [W/kg], 1g | Dielectric Parameters | | Temp [°C] |
|---|---|---|---|---|---|
| | | | $\varepsilon_r$ | $\sigma$ [S/m] | |
| | Reference result | 2.29 | 42.3 | 0.90 | |
| | ± 10% window | 2.06 - 2.52 | | | |
| 835 | 2008-09-09 | 2.50 | 41.9 | 0.93 | 21.8 |
| | Reference result | 9.70 | 39.6 | 1.41 | |
| | ± 10% window | 8.73 - 10.67 | | | |
| 1800 | 2008-09-08 | 9.81 | 38.6 | 1.47 | 20.5 |
| | Reference result | 9.96 | 39.1 | 1.48 | |
| | ± 10% window | 8.96 - 10.96 | | | |
| 1900 | 2008-09-04 | 9.81 | 39.2 | 1.46 | 20.0 |
| | 2008-09-05 | 9.90 | 39.1 | 1.45 | 20.2 |

**System checking, body tissue simulant**

| *f* [MHz] | Description | SAR [W/kg], 1g | Dielectric Parameters | | Temp [°C] |
|---|---|---|---|---|---|
| | | | $\varepsilon_r$ | $\sigma$ [S/m] | |
| | Reference result | 2.47 | 53.7 | 0.99 | |
| | ± 10% window | 2.22 - 2.72 | | | |
| 835 | 2008-09-10 | 2.70 | 54.0 | 1.02 | 21.3 |
| | Reference result | 10.3 | 52.8 | 1.49 | |
| | ± 10% window | 9.3 - 11.3 | | | |
| 1800 | 2008-09-16 | 9.50 | 53.0 | 1.56 | 21.4 |
| | Reference result | 9.77 | 52.4 | 1.58 | |
| | ± 10% window | 8.79 - 10.75 | | | |
| 1900 | 2008-09-11 | 9.15 | 51.2 | 1.53 | 20.5 |

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

### 4.3.3 Tissue Simulants used in the Measurements

**Head tissue simulant measurements**

| f [MHz] | Description | Dielectric Parameters | | Temp [°C] |
|---|---|---|---|---|
| | | $\varepsilon_r$ | $\sigma$ [S/m] | |
| | Recommended value | 41.5 | 0.90 | |
| | ± 5% window | 39.4 - 43.6 | 0.86 - 0.95 | |
| 836 | 2008-09-09 | 41.9 | 0.93 | 21.8 |
| | Recommended value | 40.1 | 1.36 | |
| | ± 5% window | 38.1 - 42.1 | 1.29 - 1.43 | |
| 1732 | 2008-09-08 | 39.0 | 1.41 | 20.5 |
| | Recommended value | 40.0 | 1.40 | |
| | ± 5% window | 38.0 - 42.0 | 1.33 - 1.47 | |
| 1880 | 2008-09-04 | 39.3 | 1.44 | 20.0 |
| | 2008-09-05 | 39.2 | 1.43 | 20.2 |

**Body tissue simulant measurements**

| f [MHz] | Description | Dielectric Parameters | | Temp [°C] |
|---|---|---|---|---|
| | | $\varepsilon_r$ | $\sigma$ [S/m] | |
| | Recommended value | 55.2 | 0.97 | |
| | ± 5% window | 52.4 - 58.0 | 0.92 - 1.02 | |
| 836 | 2008-09-10 | 54.0 | 1.01 | 21.3 |
| | Recommended value | 53.5 | 1.48 | |
| | ± 5% window | 50.8 - 56.2 | 1.40 - 1.55 | |
| 1732 | 2008-09-16 | 53.3 | 1.49 | 21.4 |
| | Recommended value | 53.3 | 1.52 | |
| | ± 5% window | 50.6 - 56.0 | 1.44 - 1.60 | |
| 1880 | 2008-09-11 | 51.3 | 1.52 | 20.5 |

# 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 its antenna facing the phantom since this orientation gives higher 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

| Uncertainty Component | Section in IEEE 1528 | Tol. (%) | Prob Dist | Div | $c_i$ | $c_i . u_i$ (%) | $v_i$ |
|---|---|---|---|---|---|---|---|
| **Measurement System** | | | | | | | |
| Probe Calibration | E2.1 | ±5.9 | N | 1 | 1 | ±5.9 | ∞ |
| Axial Isotropy | E2.2 | ±4.7 | R | √3 | $(1-c_p)^{1/2}$ | ±1.9 | ∞ |
| 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 | ∞ |
| 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 measurement | 6.6.3 | ±0.0 | R | √3 | 1 | ±0.0 | ∞ |
| **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** | | | RSS | | | **±12.9** | 116 |
| **Coverage Factor for 95%** | | | **k=2** | | | | |
| **Expanded Uncertainty** | | | | | | **±25.8** | |

## 7. RESULTS

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

**800MHz Head SAR results**

| Test configuration | | SAR, averaged over 1g (W/kg) | | |
|---|---|---|---|---|
| | | Ch1013 824.70MHz | Ch384 836.52MHz | Ch777 848.31MHz |
| RC3 / SO55 | Power | 24.06dBm | 24.14dBm | 24.17dBm |
| Left | Cheek | 0.929 | 0.952 | **0.983** |
| | Tilt | - | 0.451 | - |
| Right | Cheek | 0.816 | 0.842 | 0.844 |
| | Tilt | - | 0.459 | - |
| Left Cheek, BT active | | - | - | **0.998** |

**1700/2100MHz Head SAR results**

| Test configuration | | SAR, averaged over 1g (W/kg) | | |
|---|---|---|---|---|
| | | Ch25 1711.25MHz | Ch450 1732.50MHz | Ch875 1753.75MHz |
| RC3 / SO55 | Power | 23.87dBm | 23.87dBm | 23.93dBm |
| Left | Cheek | 0.937 | 1.21 | 1.08 |
| | Tilt | - | 0.585 | - |
| Right | Cheek | 0.958 | **1.34** | 1.28 |
| | Tilt | - | 0.615 | - |
| Right Cheek, BT active | | - | 1.21 | - |

**1900MHz Head SAR results**

| Test configuration | | SAR, averaged over 1g (W/kg) | | |
|---|---|---|---|---|
| | | Ch25 1851.25MHz | Ch600 1880.00MHz | Ch1175 1908.75MHz |
| RC3 / SO55 | Power | 23.92dBm | 23.93dBm | 23.97dBm |
| Left | Cheek | 1.24 | 1.20 | 1.17 |
| | Tilt | - | 0.606 | - |
| Right | Cheek | 1.11 | **1.30** | 1.23 |
| | Tilt | - | 0.696 | - |
| Right Cheek, BT active | | - | 1.26 | - |

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

**800MHz Body SAR results**

| Test configuration | SAR, averaged over 1g (W/kg) | | |
|---|---|---|---|
| | Ch1013 824.70MHz | Ch384 836.52MHz | Ch777 848.31MHz |
| RC3 / SO55 Power | 24.06dBm | 24.14dBm | 24.17dBm |
| Without headset | **0.598** | 0.460 | 0.472 |
| Headset HS-9 | 0.444 | 0.366 | 0.400 |
| Without headset, BT active | 0.591 | - | - |

**1700/2100MHz body SAR results**

| Test configuration | SAR, averaged over 1g (W/kg) | | |
|---|---|---|---|
| | Ch25 1711.25MHz | Ch450 1732.50MHz | Ch875 1753.75MHz |
| RC3 / SO55 Power | 23.87dBm | 23.87dBm | 23.93dBm |
| Without headset | 0.205 | 0.292 | **0.296** |
| Headset HS-9 | 0.180 | 0.270 | 0.260 |
| Without headset, BT active | - | - | 0.291 |

**1900 body SAR results**

| Test configuration | SAR, averaged over 1g (W/kg) | | |
|---|---|---|---|
| | Ch25 1851.25MHz | Ch600 1880.00MHz | Ch1175 1908.75MHz |
| RC3 / SO55 Power | 23.92dBm | 23.93dBm | 23.97dBm |
| Without headset | **0.300** | 0.264 | 0.203 |
| Headset HS-9 | 0.272 | 0.236 | 0.187 |
| Without headset, BT active | **0.309** | - | - |

Plots of the Measurement scans are given in Appendix B.

## APPENDIX A: SYSTEM CHECKING SCANS

Date/Time: 2008-09-09 11:57:21

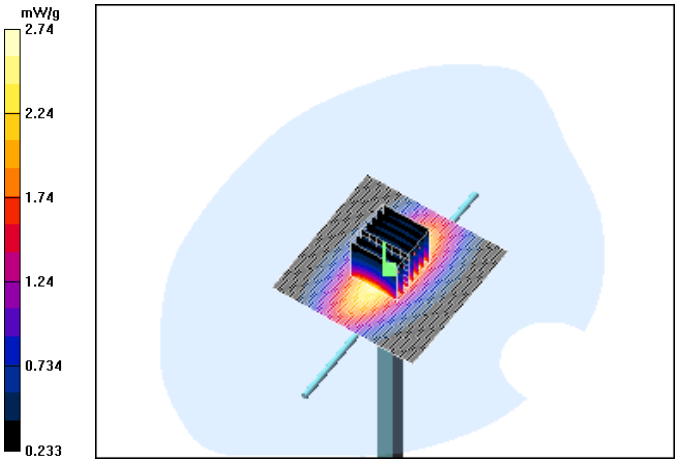
Test Laboratory: TCC Nokia
**Type: D835V2; Serial: 486**

**Communication System: CW835**
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: HSL850; Medium Notes: Temperature= 21.8 C
Medium parameters used: f = 835 MHz; $\sigma$ = 0.934 mho/m; $\varepsilon_r$ = 41.9; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1792; Probe Notes:
- ConvF(6.55, 6.55, 6.55); Calibrated: 2008-04-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2008-06-12
- Phantom: SAM1; Type: SAM; Serial: TP-1035
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 172

**System Check/Area Scan (61x61x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.73 mW/g

**System Check/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.0 V/m
Peak SAR (extrapolated) = 3.71 W/kg
**SAR(1 g) = 2.5 mW/g**
**SAR(10 g) = 1.63 mW/g**
**Power Drift = -0.003 dB**
Maximum value of SAR (measured) = 2.74 mW/g



Date/Time: 2008-09-08 11:26:39

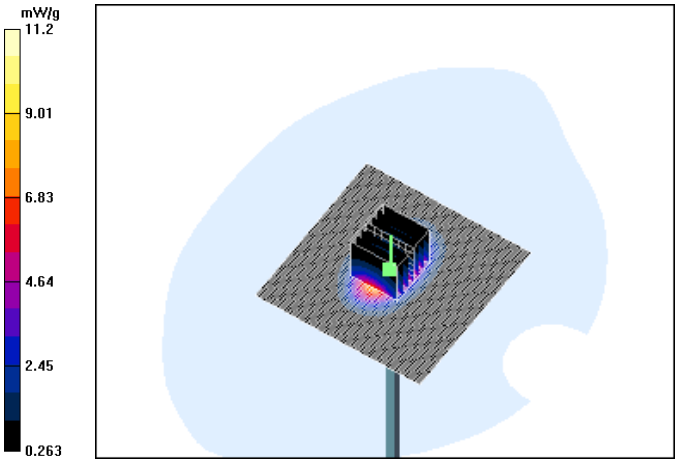
Test Laboratory: TCC Nokia
**Type: D1800V2; Serial: 2d064**

**Communication System: CW1800**
Frequency: 1800 MHz; Duty Cycle: 1:1
Medium: HLS1800; Medium Notes: Temperature= 20.5 C
Medium parameters used: f = 1800 MHz; $\sigma$ = 1.47 mho/m; $\varepsilon_r$ = 38.6; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(5.24, 5.24, 5.24); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2008-06-12
- Phantom: SAM 2 ; Type: Twin Phantom; Serial: NMP03309
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 172

**System Check/Area Scan (71x71x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.7 mW/g

**System Check/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 89.7 V/m
Peak SAR (extrapolated) = 16.1 W/kg
**SAR(1 g) = 9.81 mW/g**
**SAR(10 g) = 5.35 mW/g**
**Power Drift = -0.127 dB**
Maximum value of SAR (measured) = 11.2 mW/g



Date/Time: 2008-09-04 15:18:49

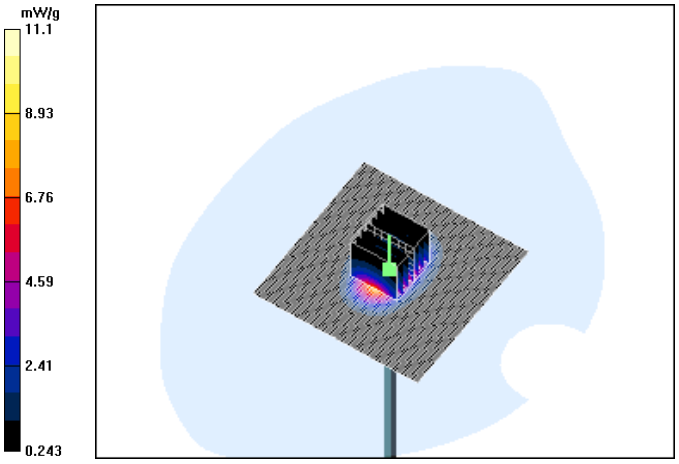
Test Laboratory: TCC Nokia
**Type: D1900V2; Serial: 509**

**Communication System: CW1900**
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HLS1900; Medium Notes: Temperature= 20.0 C
Medium parameters used: f = 1900 MHz; $\sigma$ = 1.46 mho/m; $\varepsilon_r$ = 39.2; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(5.24, 5.24, 5.24); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2008-06-12
- Phantom: SAM 1; Type: Twin Phantom; Serial: NMP3310
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 172

**System Check/Area Scan (71x71x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 12.0 mW/g

**System Check/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 92.5 V/m
Peak SAR (extrapolated) = 16.1 W/kg
**SAR(1 g) = 9.81 mW/g**
**SAR(10 g) = 5.29 mW/g**
**Power Drift = -0.162 dB**
Maximum value of SAR (measured) = 11.1 mW/g



Date/Time: 2008-09-05 10:48:06

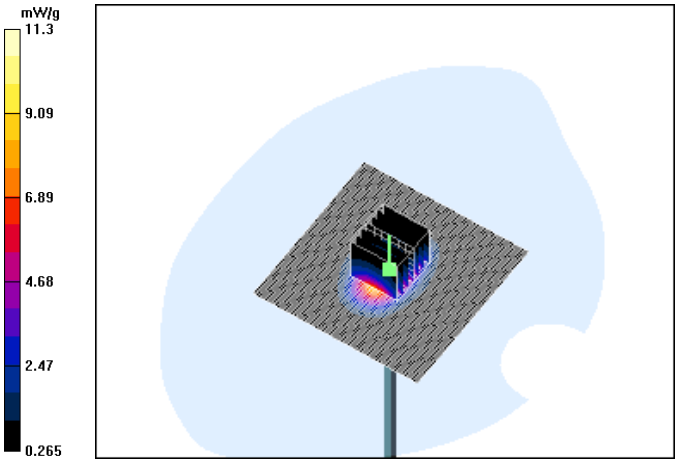
Test Laboratory: TCC Nokia
**Type: D1900V2; Serial: 509**

**Communication System: CW1900**
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HLS1900; Medium Notes: Temperature= 20.2 C
Medium parameters used: f = 1900 MHz; $\sigma$ = 1.45 mho/m; $\varepsilon_r$ = 39.1; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(5.24, 5.24, 5.24); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2008-06-12
- Phantom: SAM 1; Type: Twin Phantom; Serial: NMP3310
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 172

**System Check/Area Scan (71x71x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 12.1 mW/g

**System Check/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 93.0 V/m
Peak SAR (extrapolated) = 16.4 W/kg
**SAR(1 g) = 9.9 mW/g**
**SAR(10 g) = 5.35 mW/g**
**Power Drift = -0.089 dB**
Maximum value of SAR (measured) = 11.3 mW/g



Date/Time: 2008-09-10 11:44:20

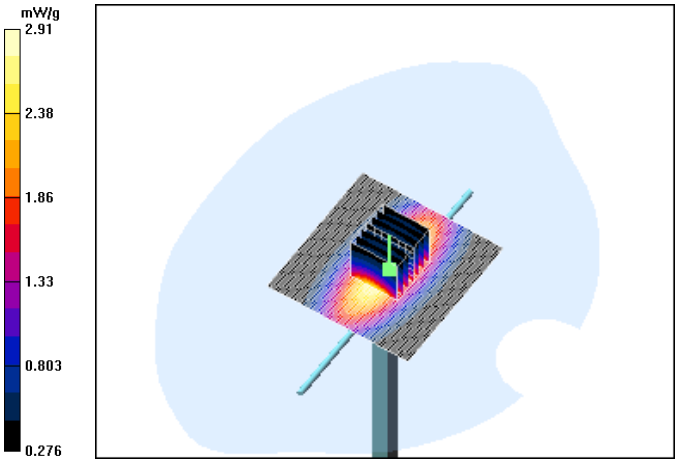
Test Laboratory: TCC Nokia
**Type: D835V2; Serial: 486**

**Communication System: CW835**
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: MSL850; Medium Notes: Temperature= 21.3 C
Medium parameters used: f = 835 MHz; $\sigma$ = 1.02 mho/m; $\varepsilon_r$ = 54; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1792; Probe Notes:
- ConvF(5.99, 5.99, 5.99); Calibrated: 2008-04-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2008-06-12
- Phantom: SAM2; Type: Twin Phantom; Serial: TP-1279
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 172

**System Check/Area Scan (61x61x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.93 mW/g

**System Check/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.9 V/m
Peak SAR (extrapolated) = 3.82 W/kg
**SAR(1 g) = 2.7 mW/g**
**SAR(10 g) = 1.78 mW/g**
**Power Drift = -0.007 dB**
Maximum value of SAR (measured) = 2.91 mW/g



Date/Time: 2008-09-16 10:36:43

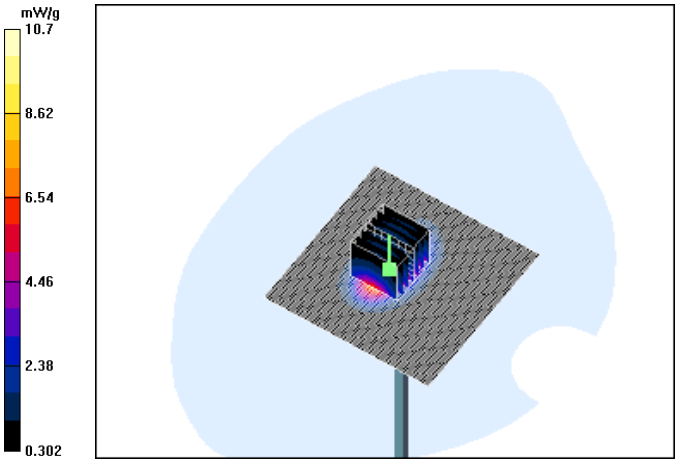
Test Laboratory: TCC Nokia
**Type: D1800V2; Serial: 2d063**

**Communication System: CW1800**
Frequency: 1800 MHz; Duty Cycle: 1:1
Medium: MSL1800; Medium Notes: Temperature= 21.4 C
Medium parameters used: f = 1800 MHz; $\sigma$ = 1.56 mho/m; $\varepsilon_r$ = 53; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(4.87, 4.87, 4.87); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2008-06-12
- Phantom: SAM 3; Type: Twin Phantom; Serial: NMP03311
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 172

**System Check/Area Scan (71x71x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.5 mW/g

**System Check/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 76.9 V/m
Peak SAR (extrapolated) = 14.2 W/kg
**SAR(1 g) = 9.5 mW/g**
**SAR(10 g) = 5.36 mW/g**
**Power Drift = -0.148 dB**
Maximum value of SAR (measured) = 10.7 mW/g



Date/Time: 2008-09-11 8:50:14

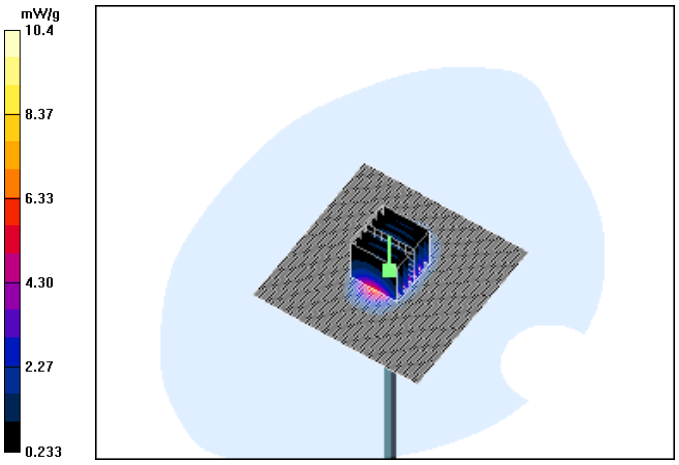
Test Laboratory: TCC Nokia
**Type: D1900V2; Serial: 509**

**Communication System: CW1900**
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: MSL1900; Medium Notes: Temperature= 20.5 C
Medium parameters used: f = 1900 MHz; $\sigma$ = 1.53 mho/m; $\varepsilon_r$ = 51.2; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(4.87, 4.87, 4.87); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2008-06-12
- Phantom: SAM 2 ; Type: Twin Phantom; Serial: NMP03309
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 172

**System Check/Area Scan (71x71x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.4 mW/g

**System Check/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 88.6 V/m
Peak SAR (extrapolated) = 14.2 W/kg
**SAR(1 g) = 9.15 mW/g**
**SAR(10 g) = 5.03 mW/g**
**Power Drift = 0.039 dB**
Maximum value of SAR (measured) = 10.4 mW/g



## APPENDIX B: MEASUREMENT SCANS

Date/Time: 2008-09-09 17:14:06

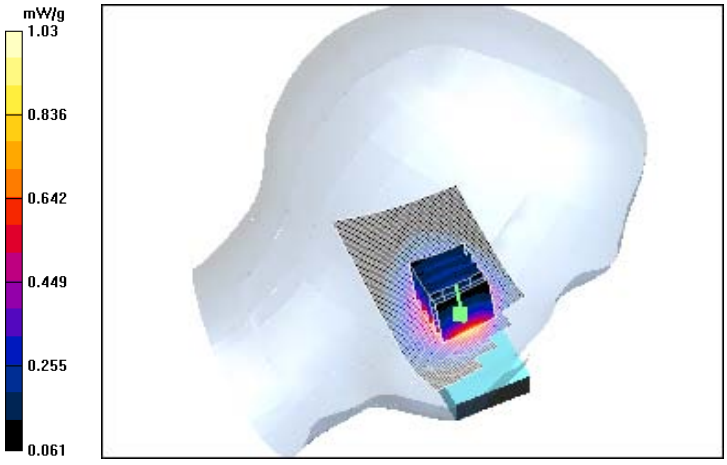
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

**Communication System: CDMA800**
Frequency: 848.31 MHz; Duty Cycle: 1:1
Medium: HSL850; Medium Notes: Temperature= 21.8 C
Medium parameters used (interpolated): f = 848.31 MHz; $\sigma$ = 0.941 mho/m; $\varepsilon_r$ = 41.7; $\rho$ = 1000 kg/m$^3$
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1792; Probe Notes:
- ConvF(6.55, 6.55, 6.55); Calibrated: 2008-04-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2008-06-12
- Phantom: SAM1; Type: SAM; Serial: TP-1035
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

**Cheek, High/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.07 mW/g

**Cheek, High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.5 V/m
Peak SAR (extrapolated) = 1.38 W/kg
**SAR(1 g) = 0.983 mW/g**
**SAR(10 g) = 0.653 mW/g**
**Power Drift = 0.027 dB**
Maximum value of SAR (measured) = 1.03 mW/g



Date/Time: 2008-09-09 18:09:48

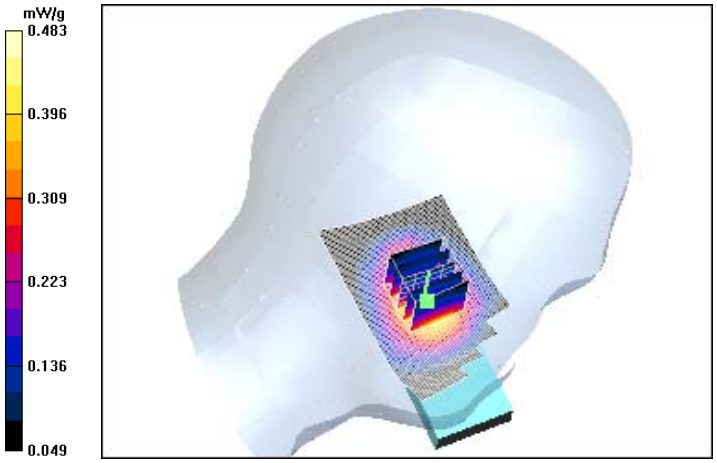
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

**Communication System: CDMA800**
Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium: HSL850; Medium Notes: Temperature= 21.8 C
Medium parameters used: f = 837 MHz; $\sigma$ = 0.934 mho/m; $\varepsilon_r$ = 41.9; $\rho$ = 1000 kg/m$^3$
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1792; Probe Notes:
- ConvF(6.55, 6.55, 6.55); Calibrated: 2008-04-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2008-06-12
- Phantom: SAM1; Type: SAM; Serial: TP-1035
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

**Tilt, Middle/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.482 mW/g

**Tilt, Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.5 V/m
Peak SAR (extrapolated) = 0.589 W/kg
**SAR(1 g) = 0.451 mW/g**
**SAR(10 g) = 0.323 mW/g**
**Power Drift = -0.033 dB**
Maximum value of SAR (measured) = 0.483 mW/g



Date/Time: 2008-09-09 16:10:25

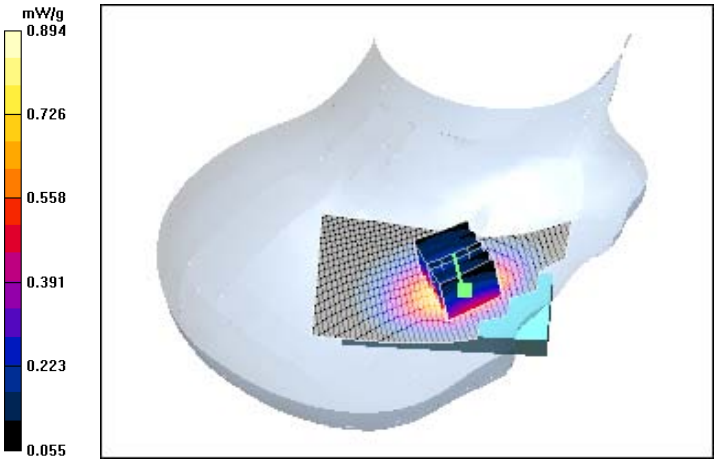
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

**Communication System: CDMA800**
Frequency: 848.31 MHz; Duty Cycle: 1:1
Medium: HSL 850; Medium Notes: Liquid temperature= 21.8 C
Medium parameters used (interpolated): f = 848.31 MHz; $\sigma$ = 0.941 mho/m; $\varepsilon_r$ = 41.7; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1792; Probe Notes:
- ConvF(6.55, 6.55, 6.55); Calibrated: 2008-04-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2008-06-12
- Phantom: SAM1; Type: SAM; Serial: TP-1035
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

**Cheek, High/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.940 mW/g

**Cheek, High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.8 V/m
Peak SAR (extrapolated) = 1.20 W/kg
**SAR(1 g) = 0.844 mW/g**
**SAR(10 g) = 0.563 mW/g**
**Power Drift = 0.056 dB**
Maximum value of SAR (measured) = 0.894 mW/g



Date/Time: 2008-09-09 18:29:38

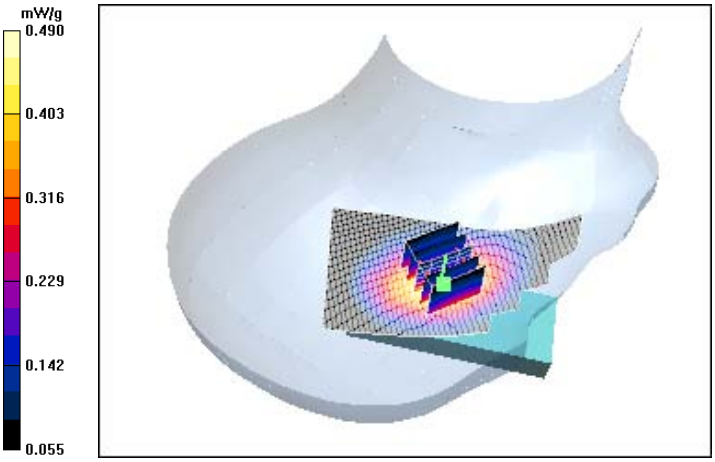
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

**Communication System: CDMA800**
Frequency: 836.52 MHz; Duty Cycle: 1:1
Medium: HSL 850; Medium Notes: Liquid temperature= 21.8 C
Medium parameters used: f = 837 MHz; $\sigma$ = 0.934 mho/m; $\varepsilon_r$ = 41.9; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1792; Probe Notes:
- ConvF(6.55, 6.55, 6.55); Calibrated: 2008-04-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2008-06-12
- Phantom: SAM1; Type: SAM; Serial: TP-1035
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

**Tilt, Middle/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.491 mW/g

**Tilt, Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.7 V/m
Peak SAR (extrapolated) = 0.595 W/kg
**SAR(1 g) = 0.459 mW/g**
**SAR(10 g) = 0.326 mW/g**
**Power Drift = 0.049 dB**
Maximum value of SAR (measured) = 0.490 mW/g



Date/Time: 2008-09-09 17:54:17

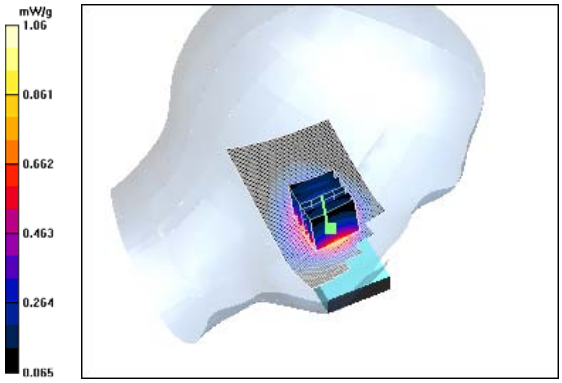
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

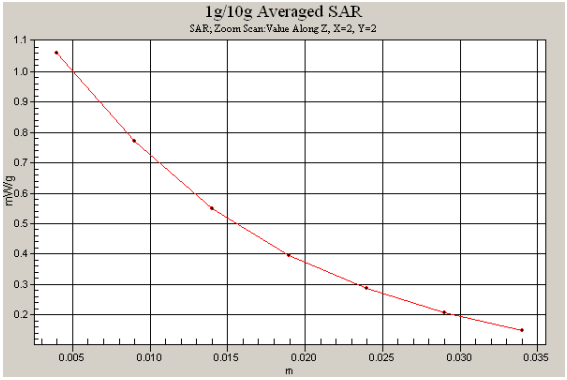
**Communication System: CDMA800**
Frequency: 848.31 MHz; Duty Cycle: 1:1
Medium: HSL850; Medium Notes: Temperature= 21.8 C
Medium parameters used (interpolated): f = 848.31 MHz; $\sigma$ = 0.941 mho/m; $\varepsilon_r$ = 41.7; $\rho$ = 1000 kg/m$^3$
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1792; Probe Notes:
- ConvF(6.55, 6.55, 6.55); Calibrated: 2008-04-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2008-06-12
- Phantom: SAM1; Type: SAM; Serial: TP-1035
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 172

**Cheek, Low, BT active/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.07 mW/g

**Cheek, Low, BT active/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.7 V/m
Peak SAR (extrapolated) = 1.41 W/kg
**SAR(1 g) = 0.998 mW/g**
**SAR(10 g) = 0.660 mW/g**
**Power Drift = -0.048 dB**
Maximum value of SAR (measured) = 1.06 mW/g



Date/Time: 2008-09-08 16:28:07

Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

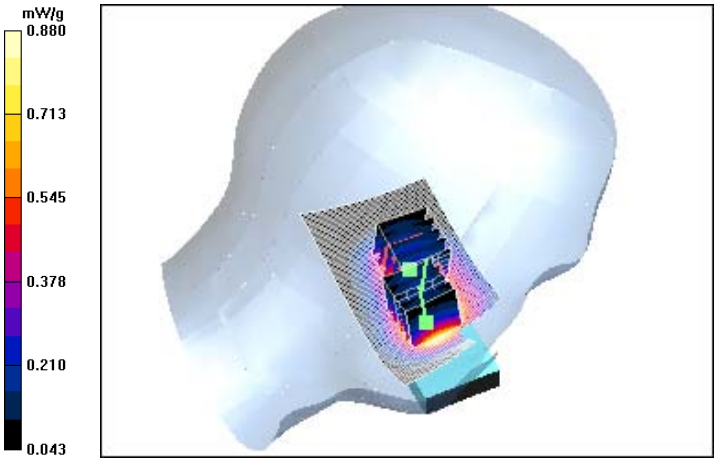
**Communication System: CDMA1700**
Frequency: 1732.5 MHz; Duty Cycle: 1:1
Medium: HLS1800; Medium Notes: Temperature= 20.5 C
Medium parameters used (interpolated): f = 1732.5 MHz; $\sigma$ = 1.41 mho/m; $\varepsilon_r$ = 39; $\rho$ = 1000 kg/m$^3$
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(5.24, 5.24, 5.24); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2008-06-12
- Phantom: SAM 2 ; Type: Twin Phantom; Serial: NMP03309
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

**Cheek, Middle/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.40 mW/g

**Cheek, Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 13.2 V/m
Peak SAR (extrapolated) = 1.63 W/kg
**SAR(1 g) = 1.21 mW/g**
**SAR(10 g) = 0.751 mW/g**
**Power Drift = -0.147 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) = 1.32 mW/g

**Cheek, Middle/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 13.2 V/m
Peak SAR (extrapolated) = 1.02 W/kg
**SAR(1 g) = 0.789 mW/g**
**SAR(10 g) = 0.538 mW/g**
**Power Drift = -0.147 dB**
Warning: Maximum averaged SAR over 1 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.
Maximum value of SAR (measured) = 0.880 mW/g



Date/Time: 2008-09-08 17:31:45

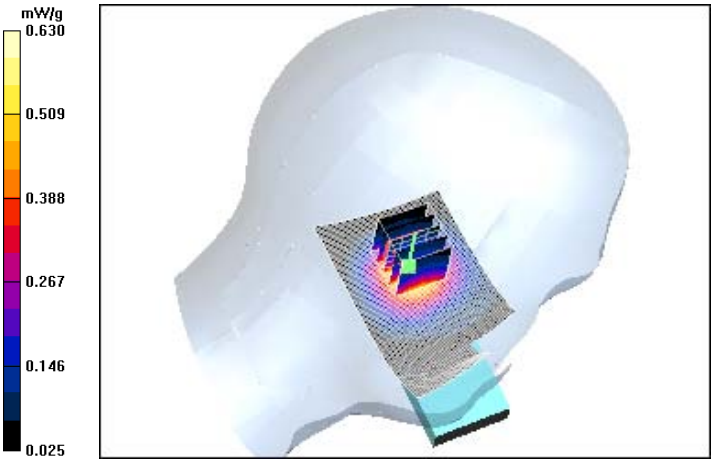
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

**Communication System: CDMA1700**
Frequency: 1732.5 MHz; Duty Cycle: 1:1
Medium: HLS1800; Medium Notes: Temperature= 20.5 C
Medium parameters used (interpolated): f = 1732.5 MHz; $\sigma$ = 1.41 mho/m; $\varepsilon_r$ = 39; $\rho$ = 1000 kg/m$^3$
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(5.24, 5.24, 5.24); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 6/12/2008-06-12
- Phantom: SAM 2 ; Type: Twin Phantom; Serial: NMP03309
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

**Tilt, Middle/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.701 mW/g

**Tilt, Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 17.4 V/m
Peak SAR (extrapolated) = 0.761 W/kg
**SAR(1 g) = 0.585 mW/g**
**SAR(10 g) = 0.381 mW/g**
**Power Drift = -0.137 dB**
Maximum value of SAR (measured) = 0.630 mW/g



Date/Time: 2008-09-08 13:01:29

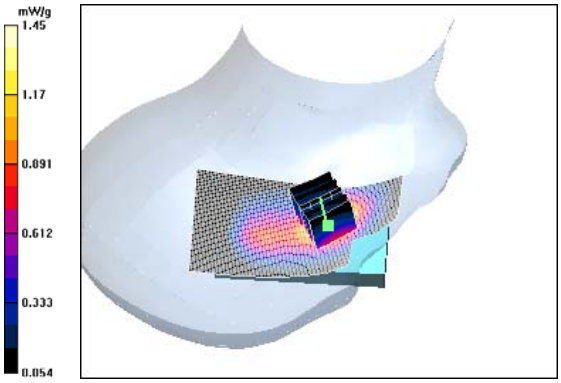
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

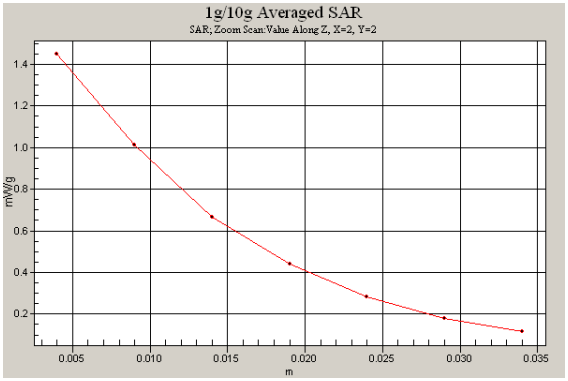
**Communication System: CDMA1700**
Frequency: 1732.5 MHz; Duty Cycle: 1:1
Medium: HLS1800; Medium Notes: Temperature= 20.5 C
Medium parameters used (interpolated): f = 1732.5 MHz; $\sigma$ = 1.41 mho/m; $\varepsilon_r$ = 39; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(5.24, 5.24, 5.24); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2008-06-12
- Phantom: SAM 2 ; Type: Twin Phantom; Serial: NMP03309
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 172

**Cheek, Middle/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.48 mW/g

**Cheek, Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 12.6 V/m
Peak SAR (extrapolated) = 1.86 W/kg
**SAR(1 g) = 1.34 mW/g**
**SAR(10 g) = 0.840 mW/g**
**Power Drift = -0.046 dB**
Maximum value of SAR (measured) = 1.45 mW/g



Date/Time: 2008-09-08 16:04:44

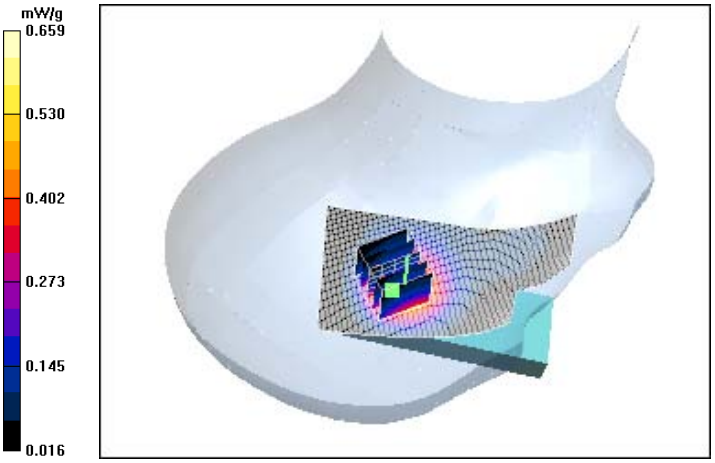
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

**Communication System: CDMA1700**
Frequency: 1732.5 MHz; Duty Cycle: 1:1
Medium: HLS1800; Medium Notes: Temperature= 20.5 C
Medium parameters used (interpolated): f = 1732.5 MHz; $\sigma$ = 1.41 mho/m; $\varepsilon_r$ = 39; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(5.24, 5.24, 5.24); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2008-06-12
- Phantom: SAM 2 ; Type: Twin Phantom; Serial: NMP03309
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

**Tilt, Middle/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.735 mW/g

**Tilt, Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 15.9 V/m
Peak SAR (extrapolated) = 0.814 W/kg
**SAR(1 g) = 0.615 mW/g**
**SAR(10 g) = 0.397 mW/g**
**Power Drift = -0.109 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) = 0.659 mW/g



Date/Time: 2008-09-08 17:58:57

Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

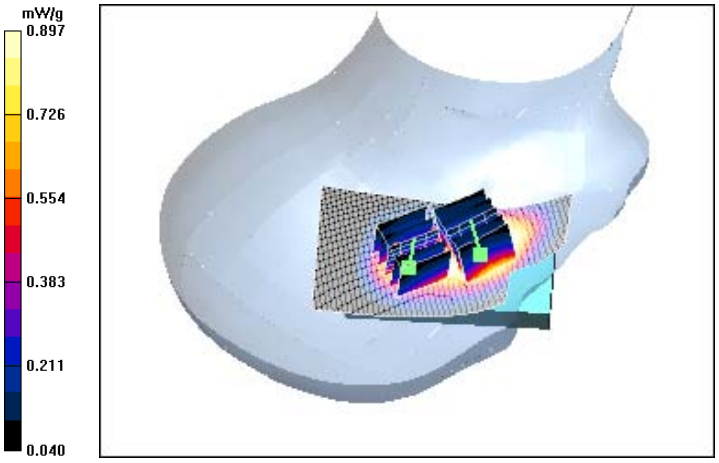
**Communication System: CDMA1700**
Frequency: 1732.5 MHz; Duty Cycle: 1:1
Medium: HLS1800; Medium Notes: Temperature= 20.5 C
Medium parameters used (interpolated): f = 1732.5 MHz; $\sigma$ = 1.41 mho/m; $\varepsilon_r$ = 39; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(5.24, 5.24, 5.24); Calibrated: 11/12/2007
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 6/12/2008
- Phantom: SAM 2 ; Type: Twin Phantom; Serial: NMP03309
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

**Cheek, Middle, BT active/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.30 mW/g

**Cheek, Middle, BT active/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 12.1 V/m
Peak SAR (extrapolated) = 1.71 W/kg
**SAR(1 g) = 1.21 mW/g**
**SAR(10 g) = 0.756 mW/g**
**Power Drift = -0.221 dB**
Maximum value of SAR (measured) = 1.32 mW/g

**Cheek, Middle, BT active/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 12.1 V/m
Peak SAR (extrapolated) = 1.03 W/kg
**SAR(1 g) = 0.841 mW/g**
**SAR(10 g) = 0.566 mW/g**
**Power Drift = -0.221 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) = 0.897 mW/g



Date/Time: 2008-09-05 16:26:19

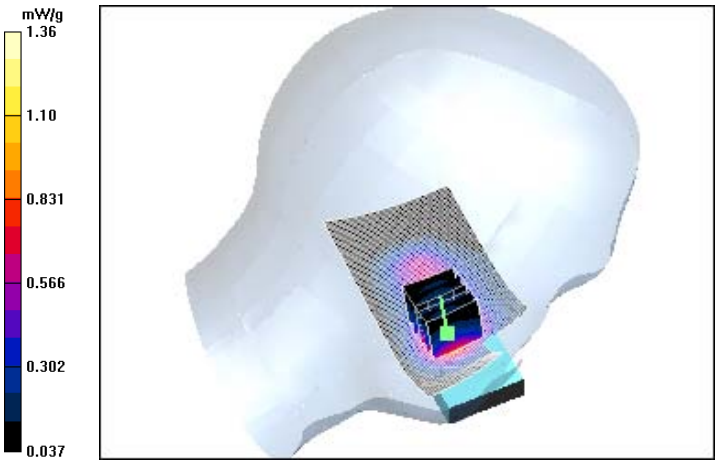
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

**Communication System: CDMA1900**
Frequency: 1851.25 MHz; Duty Cycle: 1:1
Medium: HSL1900; Medium Notes: Temperature= 20.2 C
Medium parameters used (interpolated): f = 1851.25 MHz; $\sigma$ = 1.4 mho/m; $\varepsilon_r$ = 39.4; $\rho$ = 1000 kg/m$^3$
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(5.24, 5.24, 5.24); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2008-06-12
- Phantom: SAM 1; Type: Twin Phantom; Serial: NMP3310
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

**Cheek, Low/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.37 mW/g

**Cheek, Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 12.1 V/m
Peak SAR (extrapolated) = 1.69 W/kg
**SAR(1 g) = 1.24 mW/g**
**SAR(10 g) = 0.739 mW/g**
**Power Drift = 0.101 dB**
Maximum value of SAR (measured) = 1.36 mW/g



Date/Time: 2008-09-05 15:51:51

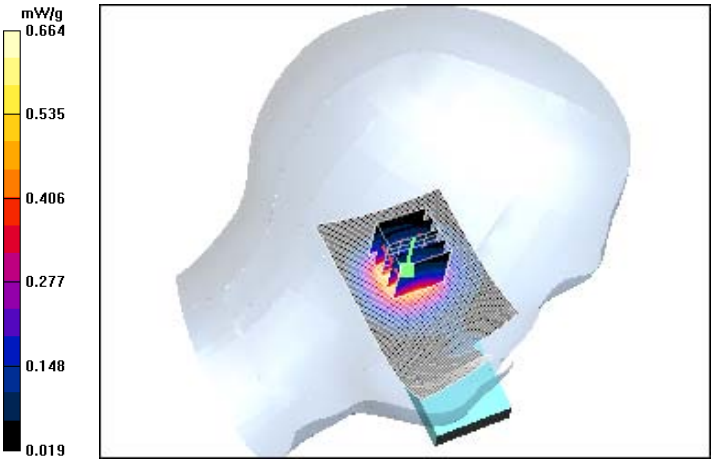
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

**Communication System: CDMA1900**
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: HSL1900; Medium Notes: Temperature= 20.2 C
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.43 mho/m; $\varepsilon_r$ = 39.2; $\rho$ = 1000 kg/m$^3$
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(5.24, 5.24, 5.24); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2008-06-12
- Phantom: SAM 1; Type: Twin Phantom; Serial: NMP3310
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

**Tilt, Middle/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.739 mW/g

**Tilt, Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 15.2 V/m
Peak SAR (extrapolated) = 0.816 W/kg
**SAR(1 g) = 0.606 mW/g**
**SAR(10 g) = 0.381 mW/g**
**Power Drift = -0.066 dB**
Maximum value of SAR (measured) = 0.664 mW/g



Date/Time: 2008-09-04 16:43:08

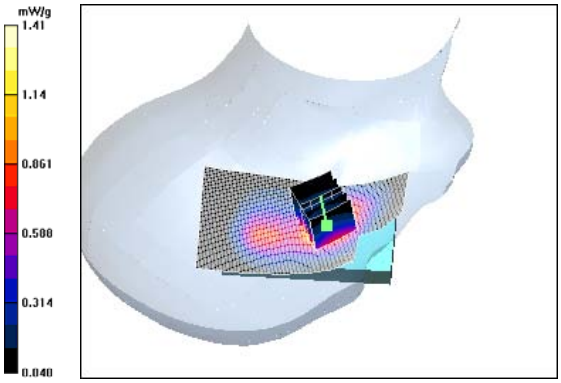
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

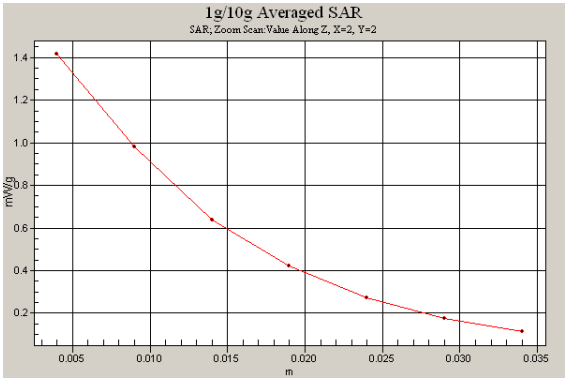
**Communication System: CDMA1900**
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: HLS 1900; Medium Notes: Temperature= 20.0 C
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.44 mho/m; $\varepsilon_r$ = 39.3; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(5.24, 5.24, 5.24); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2008-06-12
- Phantom: SAM 1; Type: Twin Phantom; Serial: NMP3310
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 172

**Cheek, Middle/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.49 mW/g

**Cheek, Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 14.8 V/m
Peak SAR (extrapolated) = 1.81 W/kg
**SAR(1 g) = 1.3 mW/g**
**SAR(10 g) = 0.793 mW/g**
**Power Drift = 0.129 dB**
Maximum value of SAR (measured) = 1.41 mW/g



Date/Time: 2008-09-05 14:18:15

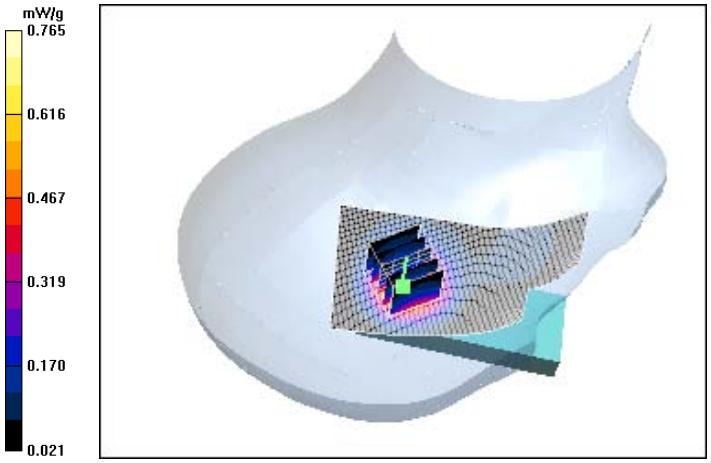
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

**Communication System: CDMA1900**
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: HLS1900; Medium Notes: Temperature= 20.2 C
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.43 mho/m; $\varepsilon_r$ = 39.2; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(5.24, 5.24, 5.24); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2008-06-12
- Phantom: SAM 1; Type: Twin Phantom; Serial: NMP3310
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

**Tilt, Middle/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.859 mW/g

**Tilt, Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 19.5 V/m
Peak SAR (extrapolated) = 0.960 W/kg
**SAR(1 g) = 0.696 mW/g**
**SAR(10 g) = 0.432 mW/g**
**Power Drift = -0.114 dB**
Maximum value of SAR (measured) = 0.765 mW/g



Date/Time: 2008-09-05 17:36:30

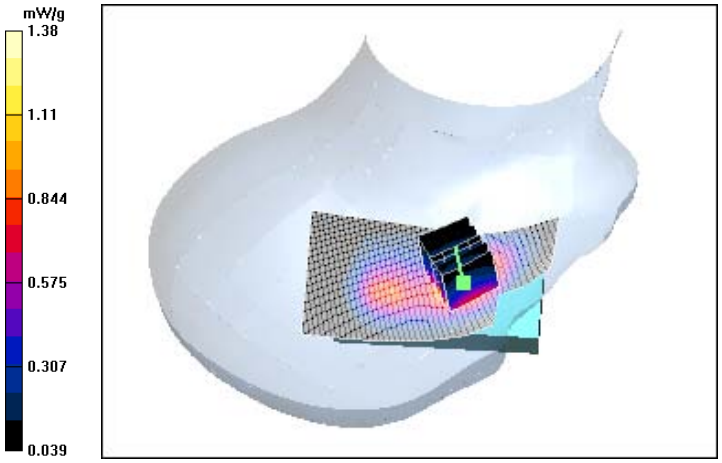
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

**Communication System: CDMA1900**
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: HLS1900; Medium Notes: Temperature= 20.2 C
Medium parameters used: f = 1880 MHz; $\sigma$ = 1.43 mho/m; $\varepsilon_r$ = 39.2; $\rho$ = 1000 kg/m$^3$
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(5.24, 5.24, 5.24); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2008-06-12
- Phantom: SAM 1; Type: Twin Phantom; Serial: NMP3310
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

**Cheek, Middle, BT active/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.36 mW/g

**Cheek, Middle, BT active/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 14.6 V/m
Peak SAR (extrapolated) = 1.79 W/kg
**SAR(1 g) = 1.26 mW/g**
**SAR(10 g) = 0.776 mW/g**
**Power Drift = -0.041 dB**
Maximum value of SAR (measured) = 1.38 mW/g



Date/Time: 2008-09-10 15:52:17

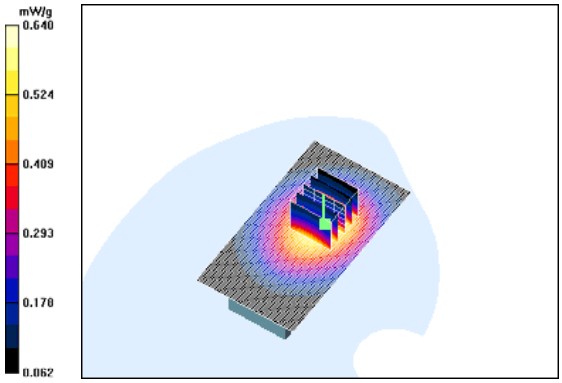
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

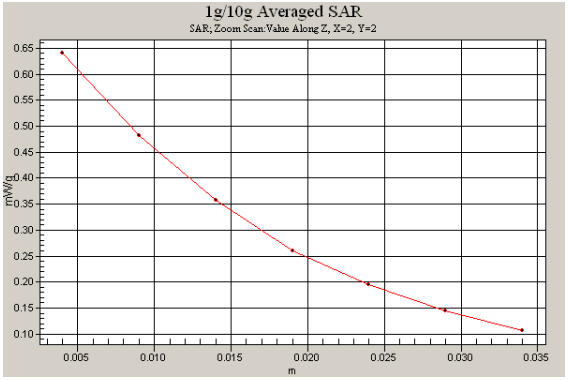
**Communication System: CDMA800**
Frequency: 824.7 MHz; Duty Cycle: 1:1
Medium: MSL850; Medium Notes: Temperature= 21.3 C
Medium parameters used: f = 825 MHz; $\sigma$ = 1.01 mho/m; $\varepsilon_r$ = 54.1; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1792; Probe Notes:
- ConvF(5.99, 5.99, 5.99); Calibrated: 2008-04-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2008-06-12
- Phantom: SAM2; Type: Twin Phantom; Serial: TP-1279
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 172

**Body position, Low, No accessory/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.632 mW/g

**Body position, Low, No accessory/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.7 V/m
Peak SAR (extrapolated) = 0.761 W/kg
**SAR(1 g) = 0.598 mW/g**
**SAR(10 g) = 0.431 mW/g**
**Power Drift = 0.017 dB**
Maximum value of SAR (measured) = 0.640 mW/g



Date/Time: 2008-09-10 16:37:10

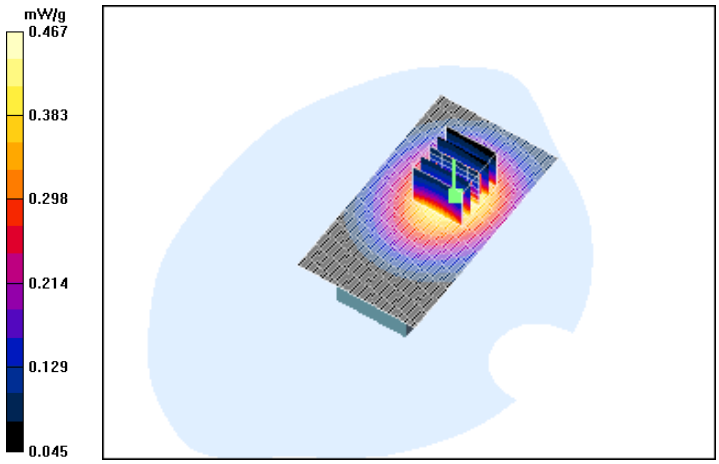
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

**Communication System: CDMA800**
Frequency: 824.7 MHz; Duty Cycle: 1:1
Medium: MSL850; Medium Notes: Temperature= 21.3 C
Medium parameters used: f = 825 MHz; $\sigma$ = 1.01 mho/m; $\varepsilon_r$ = 54.1; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1792; Probe Notes:
- ConvF(5.99, 5.99, 5.99); Calibrated: 2008-04-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2008-06-12
- Phantom: SAM2; Type: Twin Phantom; Serial: TP-1279
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

**Body position, Low, HS-9/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.470 mW/g

**Body position, Low, HS-9/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.26 V/m
Peak SAR (extrapolated) = 0.567 W/kg
**SAR(1 g) = 0.444 mW/g**
**SAR(10 g) = 0.320 mW/g**
**Power Drift = 0.041 dB**
Maximum value of SAR (measured) = 0.467 mW/g



Date/Time: 2008-09-10 16:54:51

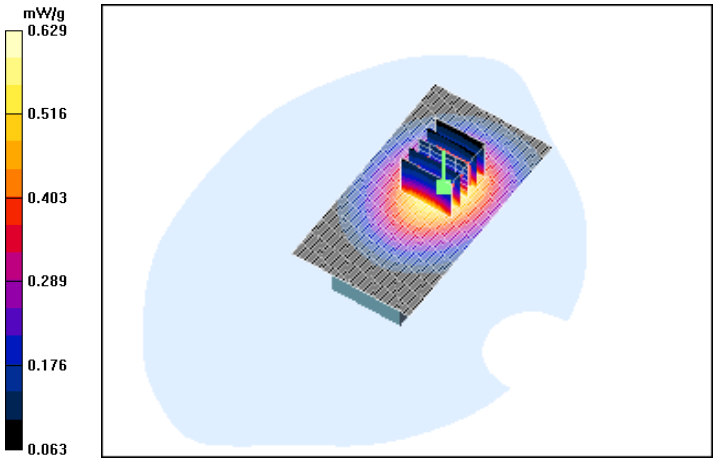
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

**Communication System: CDMA800**
Frequency: 824.7 MHz; Duty Cycle: 1:1
Medium: MSL850; Medium Notes: Temperature= 21.3 C
Medium parameters used: f = 825 MHz; $\sigma$ = 1.01 mho/m; $\varepsilon_r$ = 54.1; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1792; Probe Notes:
- ConvF(5.99, 5.99, 5.99); Calibrated: 2008-04-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2008-06-12
- Phantom: SAM2; Type: Twin Phantom; Serial: TP-1279
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

**Body position, Low, No accessory, BT active/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.620 mW/g

**Body position, Low, No accessory, BT active/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.0 V/m
Peak SAR (extrapolated) = 0.740 W/kg
**SAR(1 g) = 0.591 mW/g**
**SAR(10 g) = 0.428 mW/g**
**Power Drift = -0.037 dB**
Maximum value of SAR (measured) = 0.629 mW/g



Date/Time: 2008-09-16 12:17:41

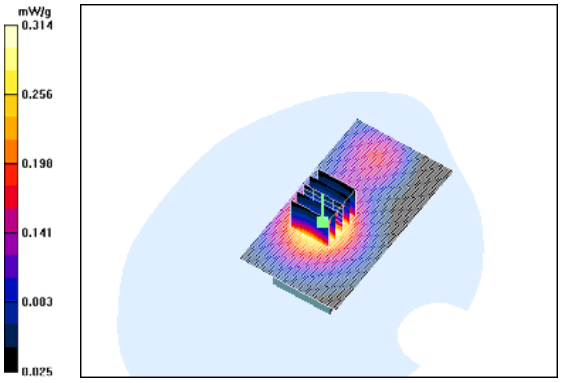
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

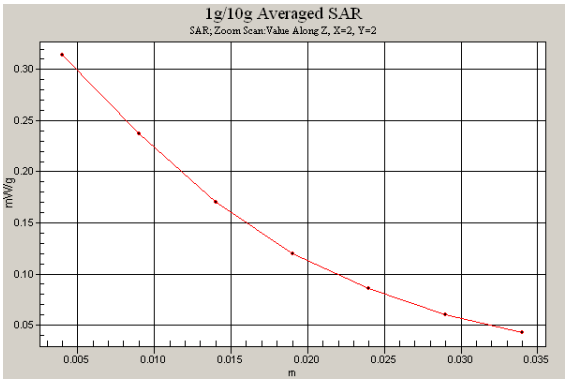
**Communication System: CDMA1700**
Frequency: 1753.75 MHz; Duty Cycle: 1:1
Medium: MSL1800; Medium Notes: Temperature= 21.4 C
Medium parameters used: f = 1754 MHz; $\sigma$ = 1.51 mho/m; $\varepsilon_r$ = 53.2; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(4.87, 4.87, 4.87); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2008-06-12
- Phantom: SAM 3; Type: Twin Phantom; Serial: NMP03311
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 172

**Body position, High, No accessory/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.319 mW/g

**Body position, High, No accessory/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.7 V/m
Peak SAR (extrapolated) = 0.377 W/kg
**SAR(1 g) = 0.296 mW/g**
**SAR(10 g) = 0.206 mW/g**
**Power Drift = -0.108 dB**
Maximum value of SAR (measured) = 0.314 mW/g



Date/Time: 2008-09-16 12:52:17

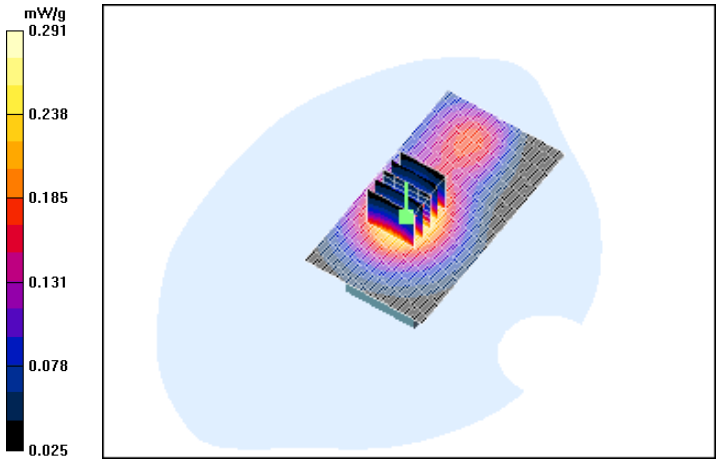
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

**Communication System: CDMA1700**
Frequency: 1732.5 MHz; Duty Cycle: 1:1
Medium: MSL1800; Medium Notes: Temperature= 21.4 C
Medium parameters used (interpolated): f = 1732.5 MHz; $\sigma$ = 1.49 mho/m; $\varepsilon_r$ = 53.3; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(4.87, 4.87, 4.87); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2008-06-12
- Phantom: SAM 3; Type: Twin Phantom; Serial: NMP03311
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

**Body position, Middle, HS-9/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.294 mW/g

**Body position, Middle, HS-9/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.96 V/m
Peak SAR (extrapolated) = 0.341 W/kg
**SAR(1 g) = 0.270 mW/g**
**SAR(10 g) = 0.188 mW/g**
**Power Drift = -0.175 dB**
Maximum value of SAR (measured) = 0.291 mW/g



Date/Time: 2008-09-16 13:47:08

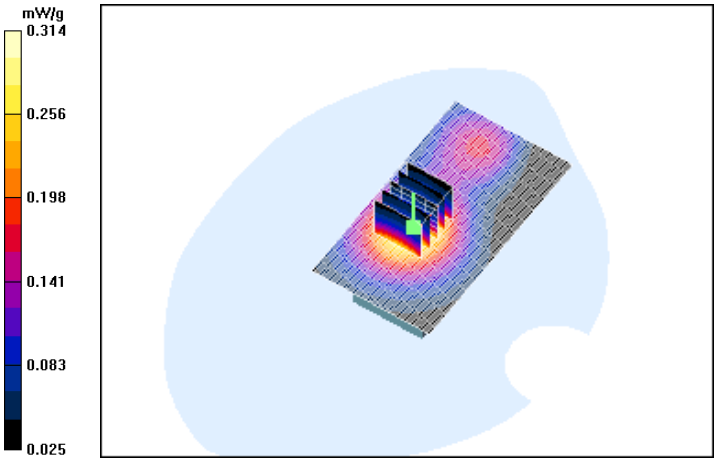
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

**Communication System: CDMA1700**
Frequency: 1753.75 MHz; Duty Cycle: 1:1
Medium: MSL1800; Medium Notes: Temperature= 21.4 C
Medium parameters used: f = 1754 MHz; $\sigma$ = 1.51 mho/m; $\varepsilon_r$ = 53.2; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(4.87, 4.87, 4.87); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2008-06-12
- Phantom: SAM 3; Type: Twin Phantom; Serial: NMP03311
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

**Body position, High, No accessory, BT active/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.319 mW/g

**Body position, High, No accessory, BT active/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.6 V/m
Peak SAR (extrapolated) = 0.370 W/kg
**SAR(1 g) = 0.291 mW/g**
**SAR(10 g) = 0.201 mW/g**
**Power Drift = -0.102 dB**
Maximum value of SAR (measured) = 0.314 mW/g



Date/Time: 2008-09-11 15:18:11

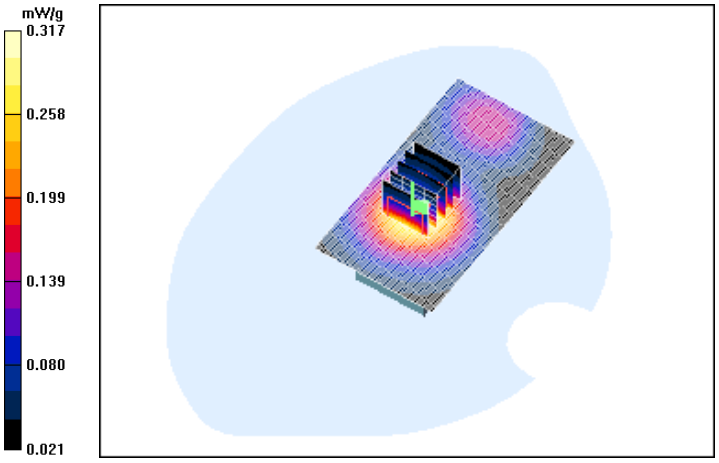
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

**Communication System: CDMA1900**
Frequency: 1851.25 MHz; Duty Cycle: 1:1
Medium: MSL1900; Medium Notes: Temperature= 20.5 C
Medium parameters used: f = 1852 MHz; $\sigma$ = 1.49 mho/m; $\varepsilon_r$ = 51.4; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(4.87, 4.87, 4.87); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2008-06-12
- Phantom: SAM 2 ; Type: Twin Phantom; Serial: NMP03309
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

**Body position, Low, No accessory/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.326 mW/g

**Body position, Low, No accessory/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.9 V/m
Peak SAR (extrapolated) = 0.387 W/kg
**SAR(1 g) = 0.300 mW/g**
**SAR(10 g) = 0.206 mW/g**
**Power Drift = -0.076 dB**
Maximum value of SAR (measured) = 0.317 mW/g



Date/Time: 2008-09-11 15:52:39

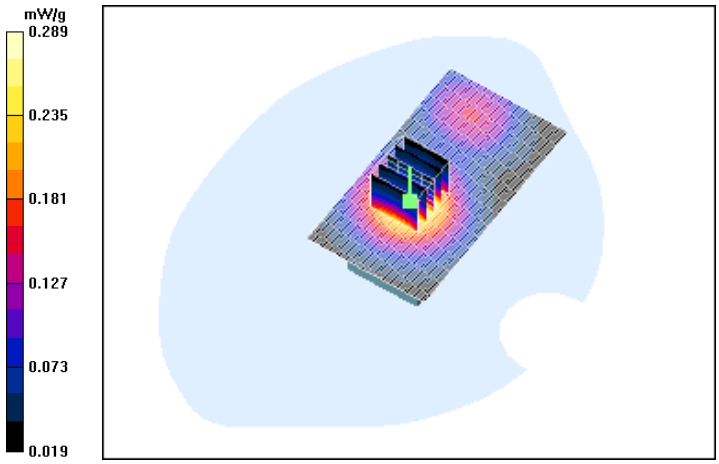
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

**Communication System: CDMA1900**
Frequency: 1851.25 MHz; Duty Cycle: 1:1
Medium: MSL1900; Medium Notes: Temperature= 20.5 C
Medium parameters used: f = 1852 MHz; $\sigma$ = 1.49 mho/m; $\varepsilon_r$ = 51.4; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(4.87, 4.87, 4.87); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2008-06-12
- Phantom: SAM 2 ; Type: Twin Phantom; Serial: NMP03309
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 176

**Body position, Low, HS-9/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.292 mW/g

**Body position, Low, HS-9/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.2 V/m
Peak SAR (extrapolated) = 0.358 W/kg
**SAR(1 g) = 0.272 mW/g**
**SAR(10 g) = 0.186 mW/g**
**Power Drift = 0.102 dB**
Maximum value of SAR (measured) = 0.289 mW/g



Date/Time: 2008-09-11 16:36:21

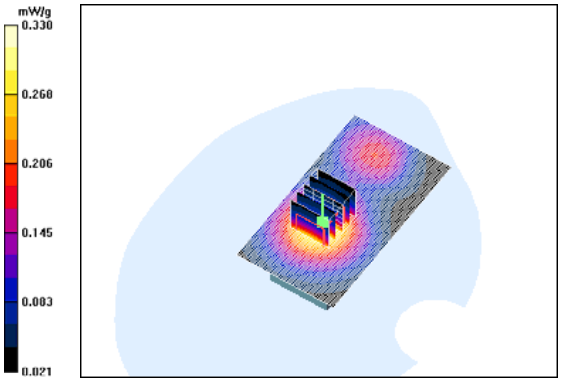
Test Laboratory: TCC Nokia
**Type: RH-120; Serial: A0000001591F8F5**

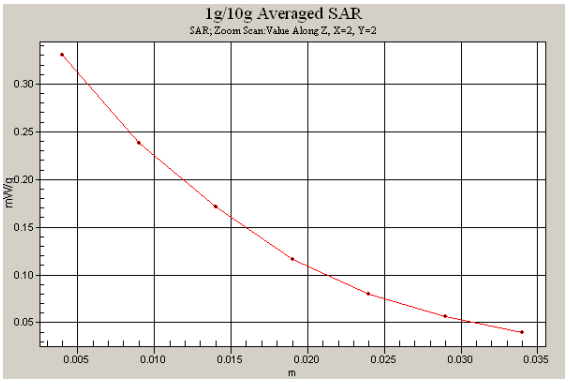
**Communication System: CDMA1900**
Frequency: 1851.25 MHz; Duty Cycle: 1:1
Medium: MSL1900; Medium Notes: Temperature= 20.5 C
Medium parameters used: f = 1852 MHz; $\sigma$ = 1.49 mho/m; $\varepsilon_r$ = 51.4; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1516; Probe Notes:
- ConvF(4.87, 4.87, 4.87); Calibrated: 2007-11-12
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2008-06-12
- Phantom: SAM 2 ; Type: Twin Phantom; Serial: NMP03309
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 172

**Body position, Low, No accessory, BT active/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.330 mW/g

**Body position, Low, No accessory, BT active/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.4 V/m
Peak SAR (extrapolated) = 0.407 W/kg
**SAR(1 g) = 0.309 mW/g**
**SAR(10 g) = 0.211 mW/g**
**Power Drift = -0.047 dB**
Maximum value of SAR (measured) = 0.330 mW/g



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

FINAS
Finnish Accreditation Service
T117 (EN ISO/IEC 17025)

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

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**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 SD**

Certificate No: **ET3-1516_Nov07**

# CALIBRATION CERTIFICATE

Object: ET3DV6 - SN:1516

Calibration procedure(s): QA CAL-01.v6
Calibration procedure for dosimetric E-field probes

Calibration date: November 12, 2007

Condition of the calibrated item: In Tolerance

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

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

Calibration Equipment used (M&TE critical for calibration)

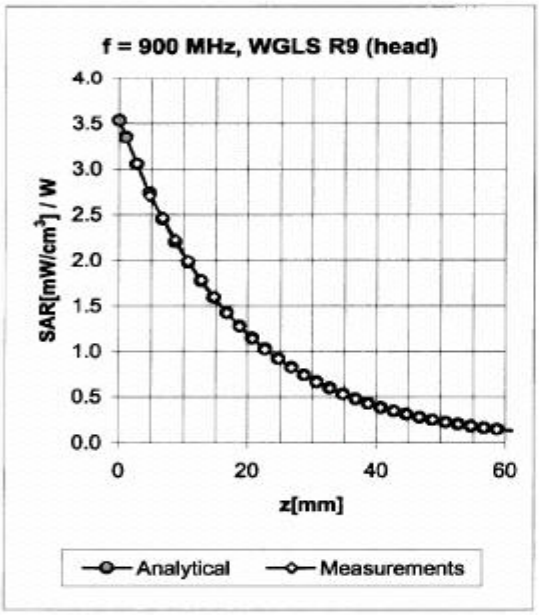
| Primary Standards | ID # | Cal Date (Calibrated by, Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power meter E4419B | GB41293874 | 29-Mar-07 (METAS, No. 217-00670) | Mar-08 |
| Power sensor E4412A | MY41495277 | 29-Mar-07 (METAS, No. 217-00670) | Mar-08 |
| Power sensor E4412A | MY41498087 | 29-Mar-07 (METAS, No. 217-00670) | Mar-08 |
| Reference 3 dB Attenuator | SN: S5054 (3c) | 8-Aug-07 (METAS, No. 217-00719) | Aug-08 |
| Reference 20 dB Attenuator | SN: S5086 (20b) | 29-Mar-07 (METAS, No. 217-00671) | Mar-08 |
| Reference 30 dB Attenuator | SN: S5129 (30b) | 8-Aug-07 (METAS, No. 217-00720) | Aug-08 |
| Reference Probe ES3DV2 | SN: 3013 | 4-Jan-07 (SPEAG, No. ES3-3013_Jan07) | Jan-08 |
| DAE4 | SN: 654 | 20-Apr-07 (SPEAG, No. DAE4-654_Apr07) | Apr-08 |

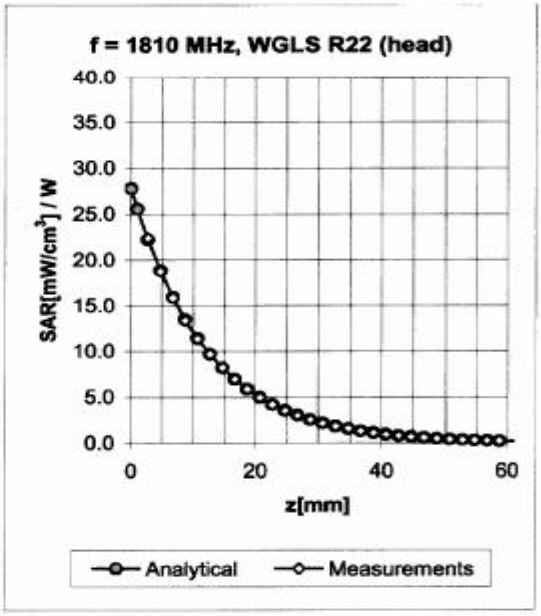
| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
|---|---|---|---|
| RF generator HP 8648C | US3642U01700 | 4-Aug-99 (SPEAG, in house check Oct-07) | In house check: Oct-09 |
| Network Analyzer HP 8753E | US37390585 | 18-Oct-01 (SPEAG, in house check Oct-07) | In house check: Oct-08 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Katja Pokovic | Technical Manager | |
| Approved by: | Niels Kuster | Quality Manager | |

Issued: November 12, 2007

# Conversion Factor Assessment




| f [MHz] | Validity [MHz][C] | TSL | Permittivity | Conductivity | Alpha | Depth | ConvF Uncertainty |
|---|---|---|---|---|---|---|---|
| 900 | ± 50 / ± 100 | Head | 41.5 ± 5% | 0.97 ± 5% | 0.72 | 2.07 | 6.45 ± 11.0% (k=2) |
| 1810 | ± 50 / ± 100 | Head | 40.0 ± 5% | 1.40 ± 5% | 0.63 | 2.19 | 5.24 ± 11.0% (k=2) |
| 1950 | ± 50 / ± 100 | Head | 40.0 ± 5% | 1.40 ± 5% | 0.96 | 1.75 | 4.96 ± 11.0% (k=2) |
| 2450 | ± 50 / ± 100 | Head | 39.2 ± 5% | 1.80 ± 5% | 0.92 | 1.71 | 4.47 ± 11.8% (k=2) |
| 900 | ± 50 / ± 100 | Body | 55.0 ± 5% | 1.05 ± 5% | 0.79 | 1.94 | 6.01 ± 11.0% (k=2) |
| 1810 | ± 50 / ± 100 | Body | 53.3 ± 5% | 1.52 ± 5% | 0.73 | 2.35 | 4.87 ± 11.0% (k=2) |
| 1950 | ± 50 / ± 100 | Body | 53.3 ± 5% | 1.52 ± 5% | 0.64 | 2.49 | 4.56 ± 11.0% (k=2) |
| 2450 | ± 50 / ± 100 | Body | 52.7 ± 5% | 1.95 ± 5% | 0.63 | 2.50 | 4.21 ± 11.8% (k=2) |

[C] The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

FINAS
Finnish Accreditation Service
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**Calibration Laboratory of**
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C Service suisse d'étalonnage
S 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 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Client: Nokia SD TCC

Certificate No: ET3-1792_Apr08

# CALIBRATION CERTIFICATE

Object: ET3DV6 - SN:1792

Calibration procedure(s): QA CAL-01.v6 and QA CAL-23.v3
Calibration procedure for dosimetric E-field probes

Calibration date: April 14, 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)

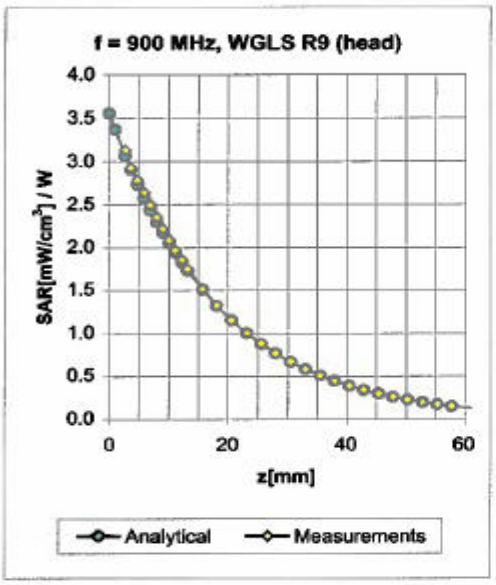
| Primary Standards | ID # | Cal Date (Certificate No.) | Scheduled Calibration |
|---|---|---|---|
| Power meter E4419B | GB41293874 | 1-Apr-08 (No. 217-00788) | Apr-09 |
| Power sensor E4412A | MY41495277 | 1-Apr-08 (No. 217-00788) | Apr-09 |
| Power sensor E4412A | MY41496087 | 1-Apr-08 (No. 217-00788) | Apr-09 |
| Reference 3 dB Attenuator | SN: S5054 (3c) | 8-Aug-07 (No. 217-00719) | Aug-08 |
| Reference 20 dB Attenuator | SN: S5086 (20b) | 31-Mar-08 (No. 217-00787) | Apr-09 |
| Reference 30 dB Attenuator | SN: S5129 (30b) | 8-Aug-07 (No. 217-00720) | Aug-08 |
| Reference Probe ES3DV2 | SN: 3013 | 2-Jan-08 (No. ES3-3013_Jan08) | Jan-09 |
| DAE4 | SN: 654 | 20-Apr-07 (No. DAE4-654_Apr07) | Apr-08 |

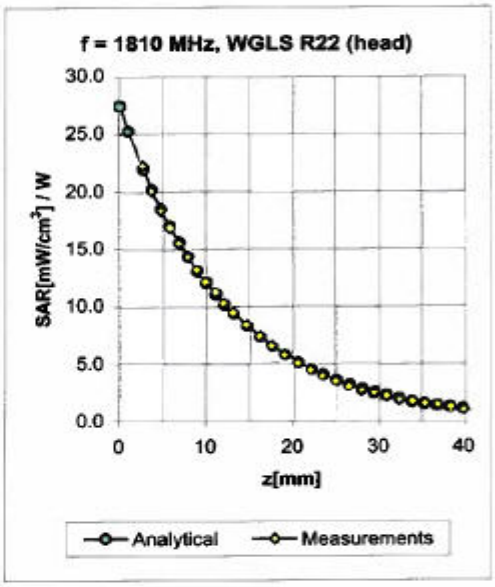
| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
|---|---|---|---|
| RF generator HP 8648C | US3642U01700 | 4-Aug-99 (in house check Oct-07) | In house check: Oct-09 |
| Network Analyzer HP 8753E | US37390585 | 18-Oct-01 (in house check Oct-07) | In house check: Oct-08 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Katja Pokovic | Technical Manager | |
| Approved by: | Niels Kuster | Quality Manager | |

Issued: April 16, 2008

# Conversion Factor Assessment




| f [MHz] | Validity [MHz][c] | TSL | Permittivity | Conductivity | Alpha | Depth | ConvF Uncertainty |
|---|---|---|---|---|---|---|---|
| 900 | ± 50 / ± 100 | Head | 41.5 ± 5% | 0.97 ± 5% | 0.87 | 1.61 | 6.55 ± 11.0% (k=2) |
| 1810 | ± 50 / ± 100 | Head | 40.0 ± 5% | 1.40 ± 5% | 0.51 | 2.45 | 5.12 ± 11.0% (k=2) |
| 1950 | ± 50 / ± 100 | Head | 40.0 ± 5% | 1.40 ± 5% | 0.51 | 2.30 | 4.75 ± 11.0% (k=2) |
| 2450 | ± 50 / ± 100 | Head | 39.2 ± 5% | 1.80 ± 5% | 0.72 | 1.84 | 4.24 ± 11.0% (k=2) |
| 900 | ± 50 / ± 100 | Body | 55.0 ± 5% | 1.05 ± 5% | 0.76 | 1.81 | 5.99 ± 11.0% (k=2) |
| 1810 | ± 50 / ± 100 | Body | 53.3 ± 5% | 1.52 ± 5% | 0.51 | 2.45 | 5.16 ± 11.0% (k=2) |
| 1950 | ± 50 / ± 100 | Body | 53.3 ± 5% | 1.52 ± 5% | 0.55 | 2.17 | 4.90 ± 11.0% (k=2) |
| 2450 | ± 50 / ± 100 | Body | 52.7 ± 5% | 1.95 ± 5% | 0.70 | 1.88 | 4.11 ± 11.0% (k=2) |

[c] The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

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

FINAS
Finnish Accreditation Service
T117 (EN ISO/IEC 17025)

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

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C Service suisse d'étalonnage
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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 SD TCC

**Certificate No: D835V2-486_Nov06**

# CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | D835V2 - SN: 486 |
| Calibration procedure(s) | QA CAL-05.v6<br>Calibration procedure for dipole validation kits |
| Calibration date: | November 21, 2006 |
| 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 | 03-Oct-06 (METAS, No. 217-00608) | Oct-07 |
| Power sensor HP 8481A | US37292783 | 03-Oct-06 (METAS, No. 217-00608) | Oct-07 |
| Reference 20 dB Attenuator | SN: 5086 (20g) | 10-Aug-06 (METAS, No 217-00591) | Aug-07 |
| Reference 10 dB Attenuator | SN: 5047.2 (10r) | 10-Aug-06 (METAS, No 217-00591) | Aug-07 |
| Reference Probe ET3DV6 (HF) | SN 1507 | 19-Oct-06 (SPEAG, No. ET3-1507_Oct06) | Oct-07 |
| DAE4 | SN 601 | 15-Dec-05 (SPEAG, No. DAE4-601_Dec05) | Dec-06 |

| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
|---|---|---|---|
| Power sensor HP 8481A | MY41092317 | 18-Oct-02 (SPEAG, in house check Oct-05) | In house check: Oct-07 |
| RF generator Agilent E4421B | MY41000675 | 11-May-05 (SPEAG, in house check Nov-05) | In house check: Nov-07 |
| Network Analyzer HP 8753E | US37390585 S4206 | 18-Oct-01 (SPEAG, in house check Oct-06) | In house check: Oct-07 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Mike Meili | Laboratory Technician | |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: November 23, 2006

## DASY4 Validation Report for Head TSL

Date/Time: 21.11.2006 12:40:21

Test Laboratory: SPEAG, Zurich, Switzerland

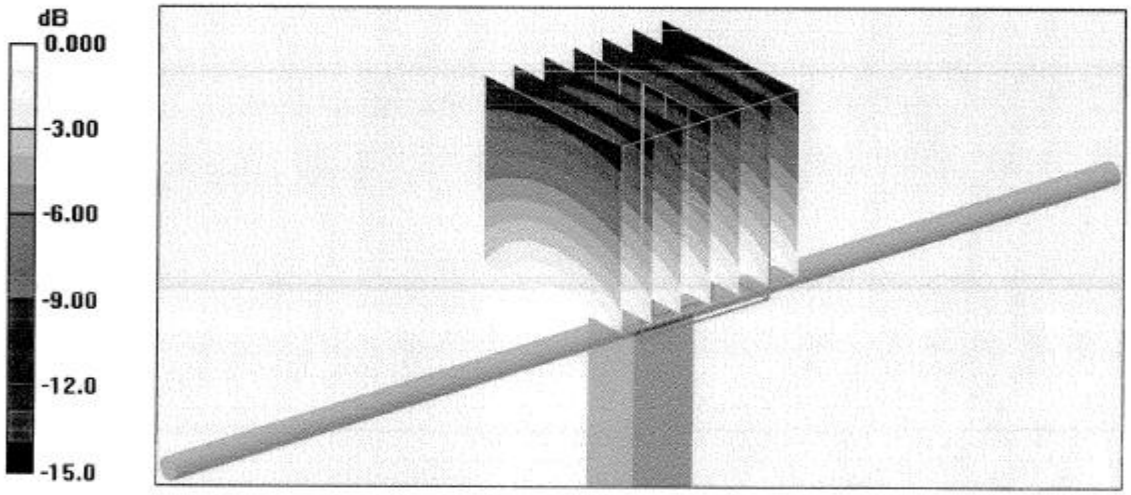
**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 486**

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: HSL 900 MHz;
Medium parameters used: f = 835 MHz; $\sigma$ = 0.901 mho/m; $\varepsilon_r$ = 42.3; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(6.09, 6.09, 6.09); Calibrated: 19.10.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 15.12.2005
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

**Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0:**
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.8 V/m; Power Drift = 0.000 dB
Peak SAR (extrapolated) = 3.30 W/kg
**SAR(1 g) = 2.29 mW/g; SAR(10 g) = 1.5 mW/g**
Maximum value of SAR (measured) = 2.46 mW/g




0 dB = 2.46mW/g

**DASY4 Validation Report for Body TSL**

Date/Time: 14.11.2006 12:43:30

Test Laboratory: SPEAG, Zurich, Switzerland

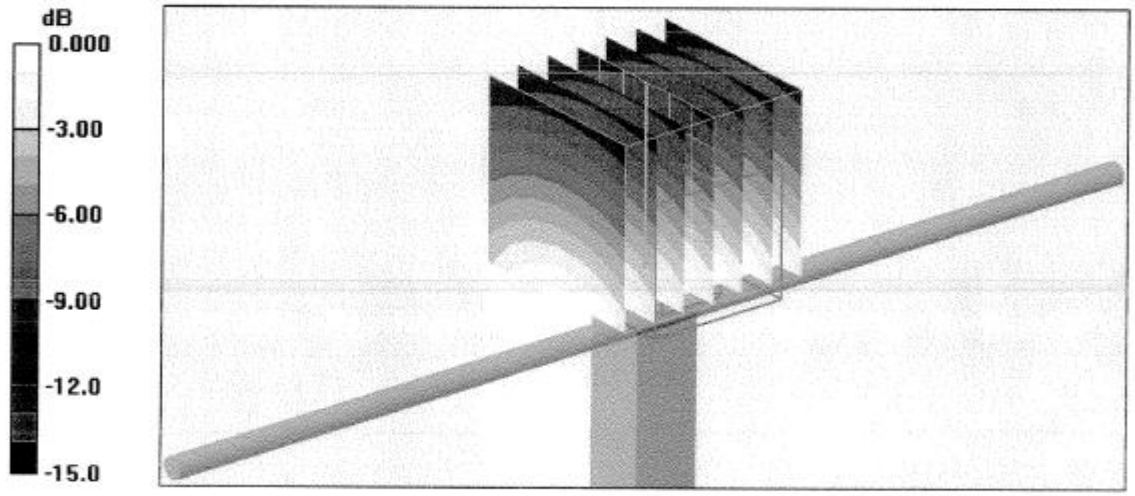
**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:486**

Communication System: CW-835; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: MSL900;
Medium parameters used: f = 835 MHz; $\sigma$ = 0.99 mho/m; $\varepsilon_r$ = 53.7; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(5.75, 5.75, 5.75); Calibrated: 19.10.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 15.12.2005
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

**Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0:**
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.6 V/m; Power Drift = -0.023 dB
Peak SAR (extrapolated) = 3.46 W/kg
**SAR(1 g) = 2.47 mW/g; SAR(10 g) = 1.63 mW/g**
Maximum value of SAR (measured) = 2.67 mW/g




0 dB = 2.67mW/g

FINAS
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T117 (EN ISO/IEC 17025)

**Calibration Laboratory of**
Schmid & Partner
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Zeughausstrasse 43, 8004 Zurich, Switzerland

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Accreditation No.: SCS 108

Client: Nokia SD TCC

Certificate No: D1800V2-2d064_Aug07

# CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | D1800V2 - SN: 2d064 |
| Calibration procedure(s) | QA CAL-05.v7<br>Calibration procedure for dipole validation kits |
| Calibration date: | August 28, 2007 |
| 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 | 03-Oct-06 (METAS, No. 217-00608) | Oct-07 |
| Power sensor HP 8481A | US37292783 | 03-Oct-06 (METAS, No. 217-00608) | Oct-07 |
| 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 ET3DV6 | SN: 1507 | 19-Oct-06 (SPEAG, No. ET3-1507_Oct06) | Oct-07 |
| DAE4 | SN 601 | 30-Jan-07 (SPEAG, No. DAE4-601_Jan07) | Jan-08 |

| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
|---|---|---|---|
| Power sensor HP 8481A | MY41092317 | 18-Oct-02 (SPEAG, in house check Oct-05) | In house check: Oct-07 |
| RF generator Agilent E4421B | MY41000675 | 11-May-05 (SPEAG, in house check Nov-05) | In house check: Nov-07 |
| Network Analyzer HP 8753E | US37390585 S4206 | 18-Oct-01 (SPEAG, in house check Oct-06) | In house check: Oct-07 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Marcel Fehr | Laboratory Technician | |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: August 28, 2007

**DASY4 Validation Report for Head TSL**

Date/Time: 28.08.2007 12:05:10

Test Laboratory: SPEAG, Zurich, Switzerland

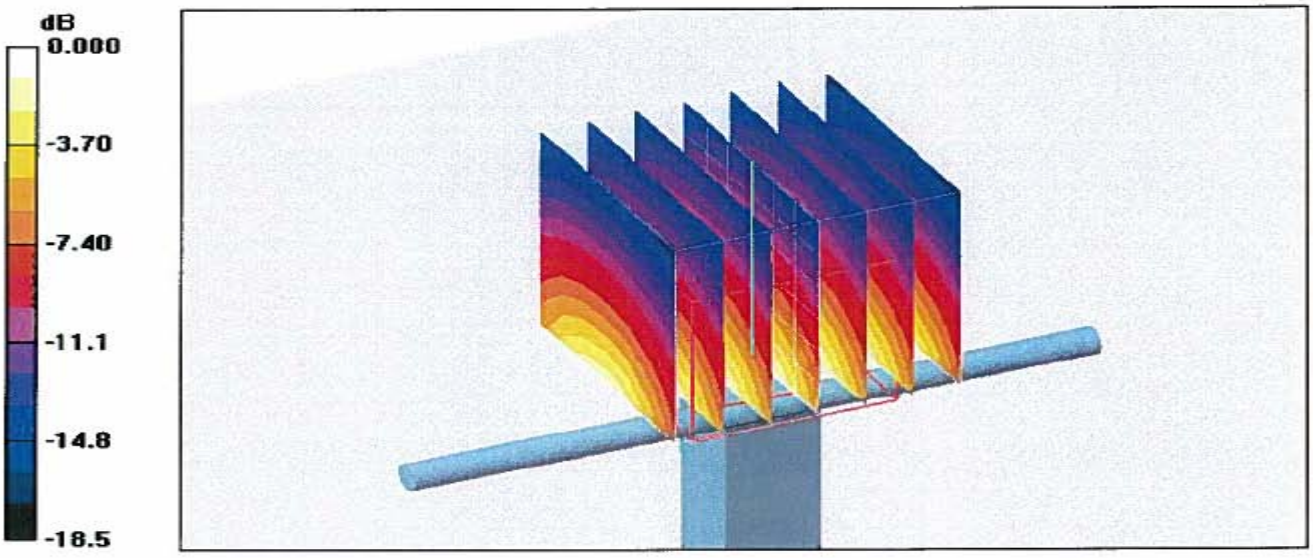
**DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:2d064**

Communication System: CW; Frequency: 1800 MHz;Duty Cycle: 1:1
Medium: HSL U10 BB;
Medium parameters used: f = 1800 MHz; $\sigma$ = 1.41 mho/m; $\varepsilon_r$ = 39.6; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(5.03, 5.03, 5.03); Calibrated: 19.10.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.01.2007
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; ;
- Measurement SW: DASY4, V4.7 Build 53; 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 = 94.1 V/m; Power Drift = 0.002 dB
Peak SAR (extrapolated) = 16.5 W/kg
**SAR(1 g) = 9.7 mW/g; SAR(10 g) = 5.14 mW/g**
Maximum value of SAR (measured) = 11.0 mW/g




0 dB = 11.0mW/g

**DASY4 Validation Report for Body TSL**

Date/Time: 28.08.2007 15:38:17

Test Laboratory: SPEAG, Zurich, Switzerland

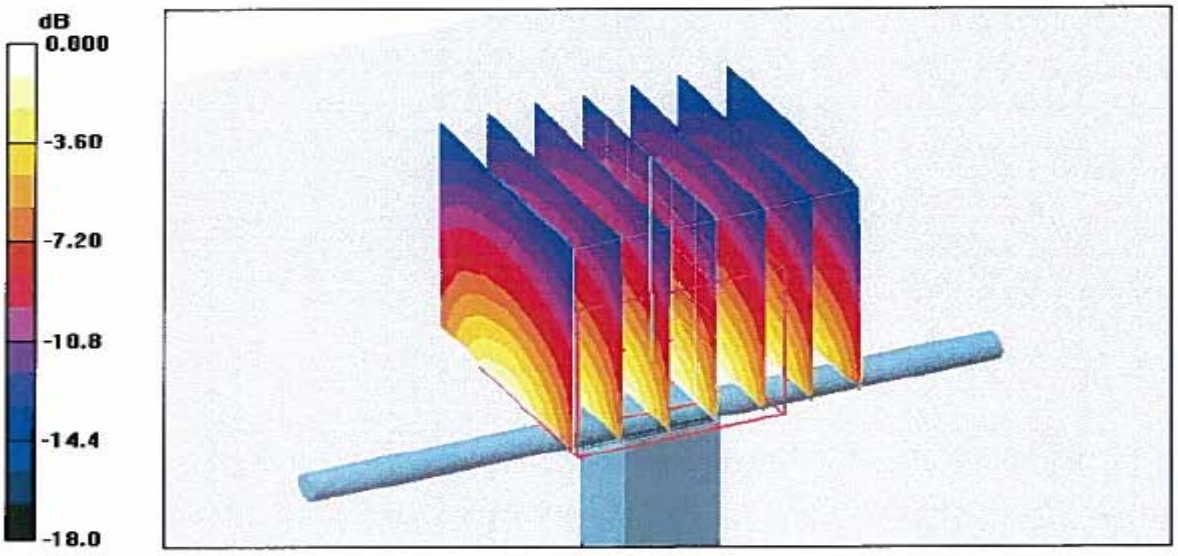
**DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:2d064**

Communication System: CW; Frequency: 1800 MHz;Duty Cycle: 1:1
Medium: MSL U10 BB;
Medium parameters used: f = 1800 MHz; $\sigma$ = 1.48 mho/m; $\varepsilon_r$ = 54.8; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(4.47, 4.47, 4.47); Calibrated: 19.10.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.01.2007
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; ;
- Measurement SW: DASY4, V4.7 Build 53; 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 = 91.7 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 15.2 W/kg
**SAR(1 g) = 9.39 mW/g; SAR(10 g) = 5.14 mW/g**
Maximum value of SAR (measured) = 10.6 mW/g




0 dB = 10.6mW/g

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**Accreditation No.: SCS 108**

**Client** Nokia SD TCC

**Certificate No: D1800V2-2d063_Sep06**

# CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | D1800V2 - SN: 2d063 |
| Calibration procedure(s) | QA CAL-05.v6<br>Calibration procedure for dipole validation kits |
| Calibration date: | September 20, 2006 |
| 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-05 (METAS, No. 251-00516) | Oct-06 |
| Power sensor HP 8481A | US37292783 | 04-Oct-05 (METAS, No. 251-00516) | Oct-06 |
| Reference 20 dB Attenuator | SN: 5086 (20g) | 10-Aug-06 (METAS, No 217-00591) | Aug-07 |
| Reference 10 dB Attenuator | SN: 5047.2 (10r) | 10-Aug-06 (METAS, No 217-00591) | Aug-07 |
| Reference Probe ET3DV6 | SN: 1507 | 28-Oct-05 (SPEAG, No. ET3-1507_Oct05) | Oct-06 |
| Reference Probe ES3DV3 | SN: 3025 | 28-Oct-05 (SPEAG, No. ES3-3025_Oct05) | Oct-06 |
| DAE4 | SN: 601 | 15-Dec-05 (SPEAG, No. DAE4-601_Dec05) | Dec-06 |

| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
|---|---|---|---|
| Power sensor HP 8481A | MY41092317 | 18-Oct-02 (SPEAG, in house check Oct-05) | In house check: Oct-07 |
| RF generator Agilent E4421B | MY41000675 | 11-May-05 (SPEAG, in house check Nov-05) | In house check: Nov-07 |
| Network Analyzer HP 8753E | US37390585 S4206 | 18-Oct-01 (SPEAG, in house check Nov-05) | In house check: Nov-06 |

| | Name | Function | Signature |
|---|---|---|---|
| Calibrated by: | Marcel Fehr | Laboratory Technician | |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: September 20, 2006

**DASY4 Validation Report for Head TSL**

Date/Time: 13.09.2006 12:17:34

Test Laboratory: SPEAG, Zurich, Switzerland

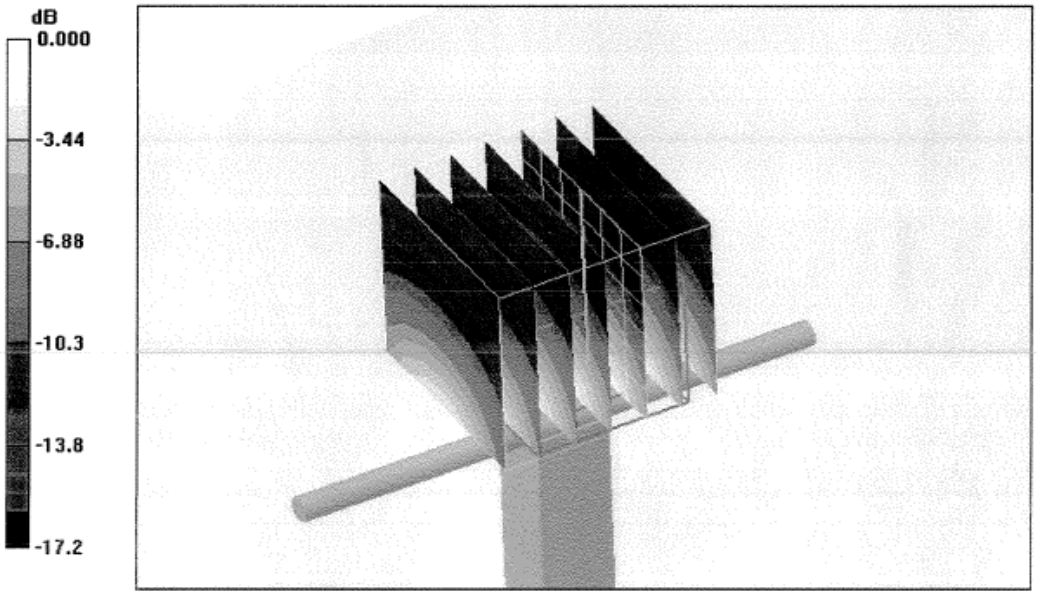
**DUT: Dipole 1800 MHz; Type: D1800V2; Serial: SN:2d063**

Communication System: CW; Frequency: 1800 MHz;Duty Cycle: 1:1
Medium: HSL U10 BB;
Medium parameters used: f = 1800 MHz; $\sigma$ = 1.35 mho/m; $\varepsilon_r$ = 38.7; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(4.85, 4.85, 4.85); Calibrated: 28.10.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 15.12.2005
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; ;
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

**Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:**
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.5 V/m; Power Drift = -0.083 dB
Peak SAR (extrapolated) = 16.3 W/kg
**SAR(1 g) = 9.57 mW/g; SAR(10 g) = 5.12 mW/g**
Maximum value of SAR (measured) = 10.6 mW/g




0 dB = 10.6mW/g

**DASY4 Validation Report for Body TSL**

Date/Time: 20.09.2006 15:39:4

Test Laboratory: SPEAG, Zurich, Switzerland

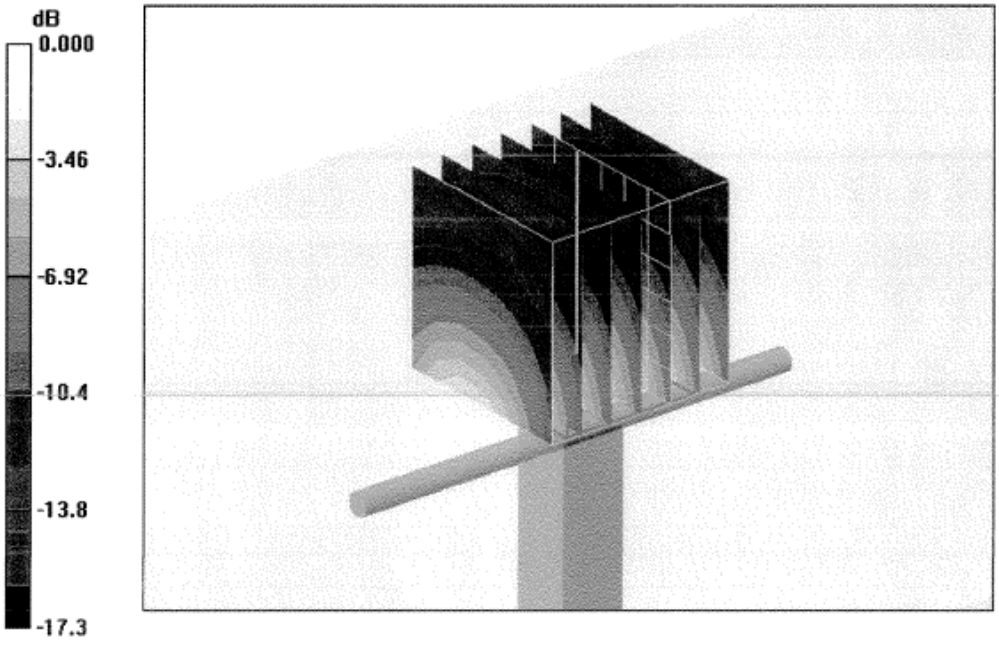
**DUT: Dipole 1800 MHz; Type: D1800V2; Serial: SN: 2d063**

Communication System: CW; Frequency: 1800 MHz;Duty Cycle: 1:1
Medium: MSL U10;
Medium parameters used: f = 1800 MHz; $\sigma$ = 1.49 mho/m; $\varepsilon_r$ = 52.8; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 - SN3025 (HF); ConvF(4.45, 4.45, 4.45); Calibrated: 28.10.2005
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 15.12.2005
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; ;
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

**Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:**
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 87.8 V/m; Power Drift = 0.005 dB
Peak SAR (extrapolated) = 17.7 W/kg
**SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.47 mW/g**
Maximum value of SAR (measured) = 11.2 mW/g




0 dB = 11.2mW/g

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Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Client: Nokia SD TCC

Certificate No: D1900V2-509_Jun08

# CALIBRATION CERTIFICATE

| | |
|---|---|
| Object | D1900V2 - SN: 509 |
| Calibration procedure(s) | QA CAL-05.v7<br>Calibration procedure for dipole validation kits |
| Calibration date: | June 19, 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 (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) | 07-Aug-07 (No. 217-00718) | Aug-08 |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 08-Aug-07 (No. 217-00721) | Aug-08 |
| 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-08 |
| 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: | Claudio Leubler | Laboratory Technician | |
| Approved by: | Katja Pokovic | Technical Manager | |

Issued: June 23, 2008

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

**DASY4 Validation Report for Head TSL**

Date/Time: 18.06.2008 14:57:06

Test Laboratory: SPEAG, Zurich, Switzerland

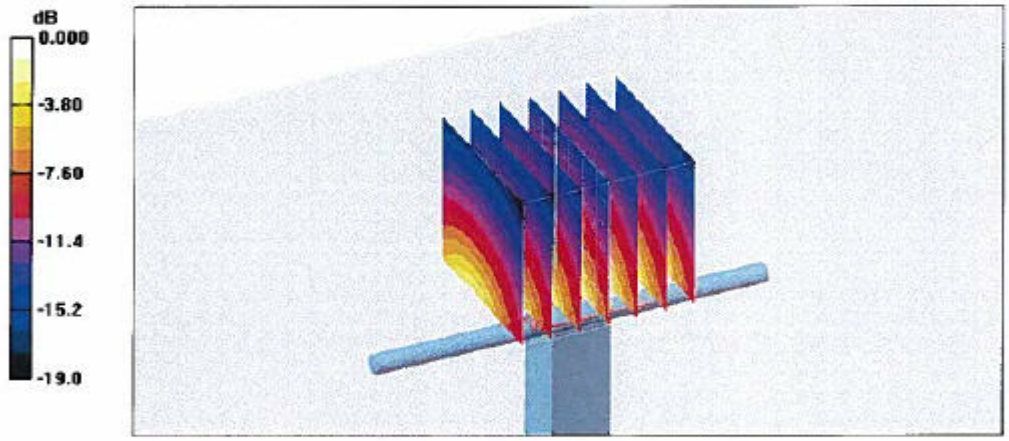
**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:509**

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HSL U10 BB;
Medium parameters used: f = 1900 MHz; $\sigma$ = 1.48 mho/m; $\varepsilon_r$ = 39.1; $\rho$ = 1000 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: 28.04.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; ;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:**
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 87.2 V/m; Power Drift = 0.060 dB
Peak SAR (extrapolated) = 18.5 W/kg
**SAR(1 g) = 9.96 mW/g; SAR(10 g) = 5.12 mW/g**
Maximum value of SAR (measured) = 12.0 mW/g




0 dB = 12.0mW/g

**DASY4 Validation Report for Body TSL**

Date/Time: 19.06.2008 15:04:52

Test Laboratory: SPEAG, Zurich, Switzerland

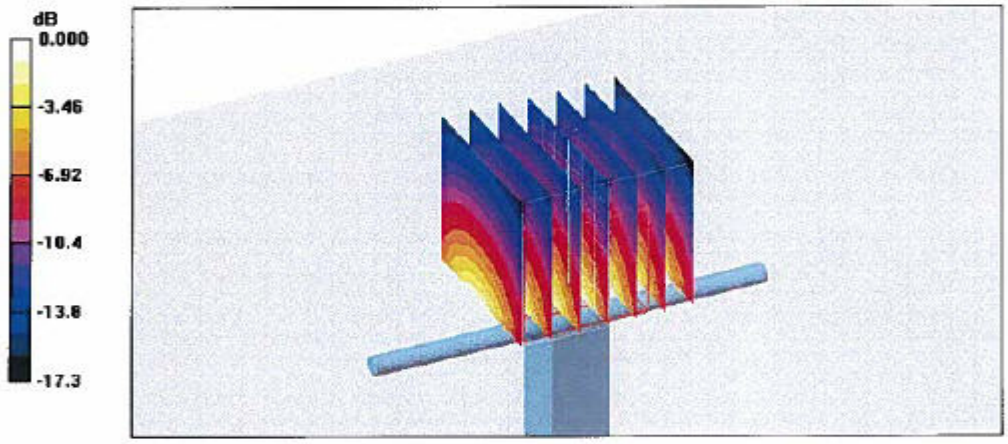
**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:509**

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: MSL U10 BB;
Medium parameters used: f = 1900 MHz; $\sigma$ = 1.58 mho/m; $\varepsilon_r$ = 52.4; $\rho$ = 1000 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: 28.04.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; ;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

**Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:**
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 88.6 V/m; Power Drift = 0.001 dB
Peak SAR (extrapolated) = 17.3 W/kg
**SAR(1 g) = 9.77 mW/g; SAR(10 g) = 5.11 mW/g**
Maximum value of SAR (measured) = 11.6 mW/g




0 dB = 11.6mW/g

## APPENDIX E: CONDUCTED POWER MEASUREMENTS FOR SUPPORTED TRANSMISSION MODES

**Type: RH-120; Serial: A0000001591F8F5**

**CDMA800**

| Radio Configurations | Service Options and Channel Configurations | Supported | CH 1013 Pavg (dBm) | CH 384 Pavg (dBm) | CH 777 Pavg (dBm) |
|---|---|---|---|---|---|
| RC1 | SO1 | N | - | - | - |
| RC1 | SO2 | Y | 24.05 | 24.13 | 14.14 |
| RC1 | SO3 | Y | 24.15 | 24.16 | 24.23 |
| RC1 | SO6 | N | - | - | - |
| RC1 | SO55 | Y | 24.05 | 24.10 | 24.17 |
| RC2 | SO9 | Y | 24.03 | 24.11 | 24.10 |
| RC2 | SO14 | N | - | - | - |
| RC2 | SO17 | Y | 24.06 | 24.10 | 24.16 |
| RC2 | SO55 | Y | 24.06 | 24.07 | 24.14 |
| RC3 | SO1 | N | - | - | - |
| RC3 | SO2 | Y | 24.02 | 24.13 | 24.17 |
| RC3 | SO3 | Y | 24.10 | 24.12 | 24.05 |
| RC3 | SO6 | N | - | - | - |
| RC3 | SO32 (no SCH1) | Y | 24.14 | 24.15 | 24.18 |
| RC3 | SO32 (SCH1 9.6 kpbs) | Y | 24.13 | 24.13 | 24.19 |
| RC3 | SO32 (SCH1 19.2 kpbs) | Y | 24.14 | 24.15 | 24.19 |
| RC3 | SO32 (SCH1 38.4 kpbs) | Y | 24.13 | 24.12 | 24.18 |
| RC3 | SO32 (SCH1 76.8 kpbs) | Y | 24.12 | 24.15 | 24.19 |
| RC3 | SO32 (SCH1 153.6 kpbs) | Y | 24.14 | 24.13 | 24.18 |
| RC3 | SO33 (SCH1 9.6 kpbs) | N | - | - | - |
| RC3 | SO33 (SCH1 19.2 kpbs) | N | - | - | - |
| RC3 | SO33 (SCH1 38.4 kpbs) | N | - | - | - |
| RC3 | SO33 (SCH1 76.8 kpbs) | N | - | - | - |
| RC3 | SO33 (SCH1 153.6 kpbs) | N | - | - | - |
| **RC3** | **SO55** | **Y** | **24.06** | **24.14** | **24.17** |
| RC4 | SO1 | N | - | - | - |
| RC4 | SO2 | Y | 24.04 | 24.13 | 24.17 |
| RC4 | SO3 | Y | 24.11 | 24.16 | 24.14 |
| RC4 | SO6 | N | - | - | - |
| RC4 | SO32 (no SCH1) | Y | 24.14 | 24.14 | 24.20 |
| RC4 | SO32 (SCH1 9.6 kpbs) | Y | 24.15 | 24.14 | 24.20 |
| RC4 | SO32 (SCH1 19.2 kpbs) | Y | 24.16 | 24.15 | 24.20 |
| RC4 | SO32 (SCH1 38.4 kpbs) | Y | 24.14 | 24.15 | 24.19 |
| RC4 | SO32 (SCH1 76.8 kpbs) | Y | 24.13 | 24.14 | 24.21 |
| RC4 | SO32 (SCH1 153.6 kpbs) | Y | 24.14 | 24.15 | 24.20 |
| RC4 | SO33 (SCH1 9.6 kpbs) | N | - | - | - |
| RC4 | SO33 (SCH1 19.2 kpbs) | N | - | - | - |

| | | | | | |
|---|---|---|---|---|---|
| RC4 | SO33 (SCH1 38.4 kpbs) | N | - | - | - |
| RC4 | SO33 (SCH1 76.8 kpbs) | N | - | - | - |
| RC4 | SO33 (SCH1 153.6 kpbs) | N | - | - | - |
| RC4 | SO55 | Y | 24.07 | 24.14 | 24.18 |
| RC5 | SO9 | Y | 24.05 | 24.11 | 24.18 |
| RC5 | SO14 | N | - | - | - |
| RC5 | SO17 | Y | 24.15 | 24.12 | 24.05 |
| RC5 | SO33 (SCH1 9.6 kpbs) | N | - | - | - |
| RC5 | SO33 (SCH1 19.2 kpbs) | N | - | - | - |
| RC5 | SO33 (SCH1 38.4 kpbs) | N | - | - | - |
| RC5 | SO33 (SCH1 76.8 kpbs) | N | - | - | - |
| RC5 | SO33 (SCH1 153.6 kpbs) | N | - | - | - |
| RC5 | SO55 | Y | 24.09 | 24.14 | 24.16 |

CDMA1700/2100

| Radio Configurations | Service Options and Channel Configurations | Supported | CH 25 Pavg (dBm) | CH 450 Pavg (dBm) | CH 875 Pavg (dBm) |
|---|---|---|---|---|---|
| RC1 | SO1 | N | - | - | - |
| RC1 | SO2 | Y | 23.87 | 23.84 | 23.91 |
| RC1 | SO3 | Y | 23.89 | 23.91 | 23.98 |
| RC1 | SO6 | N | - | - | - |
| RC1 | SO55 | Y | 23.88 | 23.91 | 23.88 |
| RC2 | SO9 | Y | 23.81 | 23.83 | 23.95 |
| RC2 | SO14 | N | - | - | - |
| RC2 | SO17 | Y | 23.83 | 23.90 | 23.96 |
| RC2 | SO55 | Y | 23.79 | 23.91 | 23.87 |
| RC3 | SO1 | N | - | - | - |
| RC3 | SO2 | Y | 23.86 | 23.88 | 23.86 |
| RC3 | SO3 | Y | 23.82 | 23.77 | 23.79 |
| RC3 | SO6 | N | - | - | - |
| RC3 | SO32 (no SCH1) | Y | 23.87 | 23.92 | 23.95 |
| RC3 | SO32 (SCH1 9.6 kpbs) | Y | 23.89 | 23.92 | 23.95 |
| RC3 | SO32 (SCH1 19.2 kpbs) | Y | 23.90 | 23.91 | 23.95 |
| RC3 | SO32 (SCH1 38.4 kpbs) | Y | 23.87 | 23.92 | 23.96 |
| RC3 | SO32 (SCH1 76.8 kpbs) | Y | 23.88 | 23.92 | 23.95 |
| RC3 | SO32 (SCH1 153.6 kpbs) | Y | 23.87 | 23.92 | 23.96 |
| RC3 | SO33 (SCH1 9.6 kpbs) | N | - | - | - |
| RC3 | SO33 (SCH1 19.2 kpbs) | N | - | - | - |
| RC3 | SO33 (SCH1 38.4 kpbs) | N | - | - | - |
| RC3 | SO33 (SCH1 76.8 kpbs) | N | - | - | - |
| RC3 | SO33 (SCH1 153.6 kpbs) | N | - | - | - |
| **RC3** | **SO55** | **Y** | **23.87** | **23.87** | **23.93** |
| RC4 | SO1 | N | - | - | - |
| RC4 | SO2 | Y | 23.84 | 23.86 | 23.84 |
| RC4 | SO3 | Y | 23.89 | 23.80 | 23.82 |
| RC4 | SO6 | N | - | - | - |
| RC4 | SO32 (no SCH1) | Y | 23.86 | 23.93 | 23.96 |
| RC4 | SO32 (SCH1 9.6 kpbs) | Y | 23.88 | 23.92 | 23.96 |
| RC4 | SO32 (SCH1 19.2 kpbs) | Y | 23.87 | 23.93 | 23.96 |
| RC4 | SO32 (SCH1 38.4 kpbs) | Y | 23.88 | 23.91 | 23.96 |
| RC4 | SO32 (SCH1 76.8 kpbs) | Y | 23.88 | 23.94 | 23.98 |
| RC4 | SO32 (SCH1 153.6 kpbs) | Y | 23.88 | 23.92 | 23.97 |
| RC4 | SO33 (SCH1 9.6 kpbs) | N | - | - | - |
| RC4 | SO33 (SCH1 19.2 kpbs) | N | - | - | - |
| RC4 | SO33 (SCH1 38.4 kpbs) | N | - | - | - |
| RC4 | SO33 (SCH1 76.8 kpbs) | N | - | - | - |
| RC4 | SO33 (SCH1 153.6 kpbs) | N | - | - | - |

| | | | | | |
|---|---|---|---|---|---|
| RC4 | SO55 | Y | 23.82 | 23.89 | 23.88 |
| RC5 | SO9 | Y | 23.78 | 23.87 | 23.87 |
| RC5 | SO14 | N | - | - | - |
| RC5 | SO17 | Y | 23.86 | 23.75 | 23.74 |
| RC5 | SO33 (SCH1 9.6 kpbs) | N | - | - | - |
| RC5 | SO33 (SCH1 19.2 kpbs) | N | - | - | - |
| RC5 | SO33 (SCH1 38.4 kpbs) | N | - | - | - |
| RC5 | SO33 (SCH1 76.8 kpbs) | N | - | - | - |
| RC5 | SO33 (SCH1 153.6 kpbs) | N | - | - | - |
| RC5 | SO55 | Y | 23.80 | 23.90 | 23.85 |

CDMA1900

| Radio Configurations | Service Options and Channel Configurations | Supported | CH 25 | CH 600 | CH 1175 |
|---|---|---|---|---|---|
| | | | Pavg (dBm) | Pavg (dBm) | Pavg (dBm) |
| RC1 | SO1 | N | - | - | - |
| RC1 | SO2 | Y | 23.91 | 23.89 | 23.95 |
| RC1 | SO3 | Y | 23.93 | 23.88 | 23.97 |
| RC1 | SO6 | N | - | - | - |
| RC1 | SO55 | Y | 23.86 | 23.90 | 23.98 |
| RC2 | SO9 | Y | 23.84 | 23.87 | 23.94 |
| RC2 | SO14 | N | - | - | - |
| RC2 | SO17 | Y | 23.93 | 23.91 | 23.99 |
| RC2 | SO55 | Y | 23.87 | 23.90 | 23.95 |
| RC3 | SO1 | N | - | - | - |
| RC3 | SO2 | Y | 23.92 | 23.93 | 23.91 |
| RC3 | SO3 | Y | 23.85 | 23.90 | 23.90 |
| RC3 | SO6 | N | - | - | - |
| RC3 | SO32 (no SCH1) | Y | 23.95 | 23.95 | 24.00 |
| RC3 | SO32 (SCH1 9.6 kpbs) | Y | 23.94 | 23.95 | 23.99 |
| RC3 | SO32 (SCH1 19.2 kpbs) | Y | 23.93 | 23.94 | 23.98 |
| RC3 | SO32 (SCH1 38.4 kpbs) | Y | 23.94 | 23.93 | 23.99 |
| RC3 | SO32 (SCH1 76.8 kpbs) | Y | 23.97 | 23.91 | 24.00 |
| RC3 | SO32 (SCH1 153.6 kpbs) | Y | 23.95 | 23.95 | 24.00 |
| RC3 | SO33 (SCH1 9.6 kpbs) | N | - | - | - |
| RC3 | SO33 (SCH1 19.2 kpbs) | N | - | - | - |
| RC3 | SO33 (SCH1 38.4 kpbs) | N | - | - | - |
| RC3 | SO33 (SCH1 76.8 kpbs) | N | - | - | - |
| RC3 | SO33 (SCH1 153.6 kpbs) | N | - | - | - |
| **RC3** | **SO55** | **Y** | **23.92** | **23.93** | **23.97** |
| RC4 | SO1 | N | - | - | - |
| RC4 | SO2 | Y | 23.93 | 23.96 | 23.90 |
| RC4 | SO3 | Y | 23.84 | 23.90 | 23.87 |
| RC4 | SO6 | N | - | - | - |
| RC4 | SO32 (no SCH1) | Y | 23.95 | 23.95 | 24.00 |
| RC4 | SO32 (SCH1 9.6 kpbs) | Y | 23.94 | 23.94 | 24.00 |
| RC4 | SO32 (SCH1 19.2 kpbs) | Y | 23.95 | 23.93 | 23.99 |
| RC4 | SO32 (SCH1 38.4 kpbs) | Y | 23.94 | 23.93 | 23.99 |
| RC4 | SO32 (SCH1 76.8 kpbs) | Y | 23.95 | 23.94 | 23.99 |
| RC4 | SO32 (SCH1 153.6 kpbs) | Y | 23.95 | 23.92 | 24.01 |
| RC4 | SO33 (SCH1 9.6 kpbs) | N | - | - | - |
| RC4 | SO33 (SCH1 19.2 kpbs) | N | - | - | - |
| RC4 | SO33 (SCH1 38.4 kpbs) | N | - | - | - |
| RC4 | SO33 (SCH1 76.8 kpbs) | N | - | - | - |
| RC4 | SO33 (SCH1 153.6 kpbs) | N | - | - | - |

| | | | | | |
|---|---|---|---|---|---|
| RC4 | SO55 | Y | 23.93 | 23.94 | 23.98 |
| RC5 | SO9 | Y | 23.90 | 23.85 | 23.90 |
| RC5 | SO14 | N | | | |
| RC5 | SO17 | Y | 23.89 | 23.95 | 23.88 |
| RC5 | SO33 (SCH1 9.6 kpbs) | N | - | - | - |
| RC5 | SO33 (SCH1 19.2 kpbs) | N | - | - | - |
| RC5 | SO33 (SCH1 38.4 kpbs) | N | - | - | - |
| RC5 | SO33 (SCH1 76.8 kpbs) | N | - | - | - |
| RC5 | SO33 (SCH1 153.6 kpbs) | N | - | - | - |
| RC5 | SO55 | Y | 23.94 | 23.92 | 24.00 |