

SAR Compliance Test Report

Test report no.:	FCC_RM-803_01	Date of report:	2011-09-19
Template version:	18.0	Number of pages:	87
Testing laboratory:	TCC Nokia Beijing Laboratory Beijing Economic and Technological Development Area No.5 Donghuan Zhonglu Beijing PRC China 100176 Tel. +86 10 8711 8888 Fax. +86 10 8711 4550	Client:	Nokia Corporation 12278 Scripps Summit Drive SAN DIEGO CA. 92131 USA Tel. +1 858 831 5000 Fax. +1 858 831 6500
Responsible test engineer:	Liang Dong	Product contact person:	Abadilla Victoria
Measurements made by:	Liang Dong; Zhang Luwen		
Tested device:	RM-803		
FCC ID:	QMNRM-803	IC:	661X-RM803
Supplement reports:	SAR_Photo_RM-803_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 Nokia.		
Test results:	The tested device complies with the requirements in respect of all parameters subject to the test. The test results and statements relate only to the items tested. The test report shall not be reproduced except in full, without written approval of the laboratory.		
Date and signatures:			
For the contents:			

CONTENTS

1. SUMMARY OF SAR TEST REPORT.....	3
1.1 TEST DETAILS.....	3
1.2 MAXIMUM RESULTS.....	3
1.2.1 Head Configuration.....	3
1.2.2 Body Worn Configuration.....	4
1.2.3 Maximum Drift.....	4
1.2.4 Measurement Uncertainty.....	4
2. DESCRIPTION OF THE DEVICE UNDER TEST.....	5
2.1 DESCRIPTION OF THE ANTENNA.....	6
3. TEST CONDITIONS.....	6
3.1 TEMPERATURE AND HUMIDITY.....	6
3.2 TEST SIGNAL, FREQUENCIES AND OUTPUT POWER.....	6
3.3 TEST CASES AND TEST MINIMISATION.....	6
4. DESCRIPTION OF THE TEST EQUIPMENT.....	8
4.1 MEASUREMENT SYSTEM AND COMPONENTS.....	8
4.1.1 Isotropic E-field Probe Type ET3DV6.....	9
4.1.2 Isotropic E-field Probe Type EX3DV4.....	10
4.2 PHANTOMS.....	10
4.3 TISSUE SIMULANTS.....	10
4.3.1 Tissue Simulant Recipes.....	11
4.3.2 System Checking.....	11
4.3.3 Tissue Simulants used in the Measurements.....	13
5. DESCRIPTION OF THE TEST PROCEDURE.....	14
5.1 DEVICE HOLDER.....	14
5.2 TEST POSITIONS.....	14
5.2.1 Against Phantom Head.....	14
5.2.2 Body Worn Configuration.....	14
5.3 SCAN PROCEDURES.....	15
5.4 SAR AVERAGING METHODS.....	15
6. MEASUREMENT UNCERTAINTY.....	16
7. RESULTS.....	17
APPENDIX A: SYSTEM CHECKING SCANS.....	23
APPENDIX B: MEASUREMENT SCANS.....	30
APPENDIX C: CONDUCTED AVERAGE POWER MEASUREMENTS FOR WCDMA AND HSUPA.....	85
APPENDIX D: RELEVANT PAGES FROM PROBE CALIBRATION REPORT(S).....	86
APPENDIX E: RELEVANT PAGES FROM DIPOLE VALIDATION KIT REPORT(S).....	87

1. SUMMARY OF SAR TEST REPORT

1.1 Test Details

Period of test	2011-09-09 to 2011-09-16
SN, HW and SW numbers of tested device	SN: 004402/13/635631/2, HW: 0110, SW: 1600.2201.7720.11350, DUT: 52286 SN: 004402/13/635625/4, HW: 0110, SW: 1600.2201.7720.11350, DUT: 52278
Batteries used in testing	BP-3L Sony, DUT: 52281, 52282, 52283 BP-3L LG, DUT: 52284
Headsets used in testing	WH-208, DUT: 52285
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
4-slot GPRS850	190 / 836.6	28.0 dBm	Right, Cheek	0.947 W/kg	1.06 W/kg	1.6 W/kg	PASSED
2-slot GPRS1900	810 / 1909.8	29.0 dBm	Right, Cheek	0.432 W/kg	0.48 W/kg	1.6 W/kg	PASSED
WCDMA 1900	9538 / 1907.6	24.0 dBm	Left, Cheek	0.790 W/kg	0.88 W/kg	1.6 W/kg	PASSED
WLAN 2450	11 / 2462.0	18.0 dBm	Left, Cheek	0.301 W/kg	0.34 W/kg	1.6 W/kg	PASSED
4-slot GPRS850 + WLAN2450	-	-	Right, Cheek	0.947 W/kg	1.06 W/kg	1.6 W/kg	PASSED
2-slot GPRS1900 + WLAN2450	-	-	Right, Cheek	0.432 W/kg	0.48 W/kg	1.6 W/kg	PASSED
WCDMA 1900 + WLAN2450	-	-	Left, Cheek	0.820 W/kg	0.92 W/kg	1.6 W/kg	PASSED

1.2.2 Body Worn Configuration

Mode	Ch / f (MHz)	Conducted power	Separation distance	Measured SAR value (1g avg)	Scaled* SAR value (1g avg)	SAR limit (1g avg)	Result
4-slot GPRS850	190 / 836.6	28.0 dBm	2.2 cm	0.841 W/kg	0.94 W/kg	1.6 W/kg	PASSED
2-slot GPRS1900	810 / 1909.8	29.0 dBm	2.2 cm	0.383 W/kg	0.43 W/kg	1.6 W/kg	PASSED
WCDMA 1900	9538 / 1907.6	24.0 dBm	2.2 cm	0.826 W/kg	0.93 W/kg	1.6 W/kg	PASSED
WLAN 2450	1 / 2412.0	18.0 dBm	2.2 cm	0.063 W/kg	0.07 W/kg	1.6 W/kg	PASSED
4-slot GPRS850 + WLAN2450	-	-	2.2 cm	0.841 W/kg	0.94 W/kg	1.6 W/kg	PASSED
2-slot GPRS1900 + WLAN2450	-	-	2.2 cm	0.396 W/kg	0.44 W/kg	1.6 W/kg	PASSED
WCDMA 1900 + WLAN2450	-	-	2.2 cm	0.828 W/kg	0.93 W/kg	1.6 W/kg	PASSED

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

1.2.3 Maximum Drift

Maximum drift covered by 12% scaling up of the SAR values	Maximum drift during measurements
0.5dB	0.50dB

1.2.4 Measurement Uncertainty

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

2. DESCRIPTION OF THE DEVICE UNDER TEST

Device category	Portable
Exposure environment	General population / uncontrolled

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

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

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

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

This is a BT Class 1 device; as its power tuning target is 6.1dBm (4.07mW), SAR testing was deemed unnecessary.

2.1 Description of the Antenna

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

3. TEST CONDITIONS

3.1 Temperature and Humidity

Ambient temperature (°C):	20.5 - 22.5
Ambient humidity (RH %):	35 - 62

3.2 Test Signal, Frequencies and Output Power

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

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

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

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

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

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

3.3 Test Cases and Test Minimisation

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

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

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

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

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

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

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

4. DESCRIPTION OF THE TEST EQUIPMENT

4.1 Measurement System and Components

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

The following table lists calibration dates of SPEAG components:

Test Equipment	Serial Number	Calibration interval	Calibration expiry
DAE 4	480	12 months	2011-10
DAE 4	860	12 months	2011-10
DAE 4	858	12 months	2012-03
E-field Probe ET3DV6	1652	12 months	2011-10
E-field Probe ET3DV6	1650	12 months	2012-03
E-field Probe EX3DV4	3574	12 months	2011-10
Dipole Validation Kit, D835V2	4d005	24 months	2012-03
Dipole Validation Kit, D1900V2	509	24 months	2012-10
Dipole Validation Kit, D2450V2	760	24 months	2013-03
DASY4 software	Version 4.7	-	-

Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration interval	Calibration expiry
Signal Generator	E4432B	US40052231	12 months	2012-05
Call Tester	CMU200	835352/008	-	-
Amplifier	AR 5SIG4M3	302339	12 months	2012-05
RF Network Analyzer	8753ES	My40002096	12 months	2012-05
Dielectric Probe Kit	85070C	01033717	-	-
Power Meter	Agilent E4419B	My41291520	12 months	2012-05
Power Sensor	Agilent 8482A	US37295411	12 months	2012-05

4.1.1 Isotropic E-field Probe Type ET3DV6

Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection system Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., butyl diglycol)
Calibration	Calibration certificate in Appendix D
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) ± 0.4 dB in HSL (rotation normal to probe axis)
Dynamic Range	5 μ W/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 330 mm Tip length: 16 mm Body diameter: 12 mm Tip diameter: 6.8 mm Distance from probe tip to dipole centers: 2.7 mm
Application	General dosimetry up to 3 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms

4.1.2 Isotropic E-field Probe Type EX3DV4

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

4.2 Phantoms

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

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

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

4.3 Tissue Simulants

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

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

4.3.1 Tissue Simulant Recipes

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

800MHz band

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

1900MHz band

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

2450MHz band

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

4.3.2 System Checking

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

System checking, head tissue simulant

<i>f</i> [MHz]	Description	SAR [W/kg], 1g	Dielectric Parameters		Temp [°C]
			ϵ_r	σ [S/m]	
835	Reference result	2.41	42.9	0.91	
	± 10% window	2.17 – 2.65			
	2011-09-09	2.31	40.9	0.88	21.9
1900	Reference result	10.0	38.9	1.39	
	± 10% window	9.00 – 11.0			
	2011-09-13	9.53	38.1	1.44	22.1
	2011-09-14	9.57	38.1	1.46	22.1
2450	Reference result	13.3	38.7	1.72	
	± 10% window	12.0 – 14.6			
	2011-09-14	14.3	39.5	1.81	21.9

System checking, body tissue simulant

<i>f</i> [MHz]	Description	SAR [W/kg], 1g	Dielectric Parameters		Temp [°C]
			ϵ_r	σ [S/m]	
835	Reference result	2.56	55.3	1.01	
	± 10% window	2.30 – 2.82			
	2011-09-16	2.50	54.0	0.98	22.0
2450	Reference result	13.3	51.7	1.93	
	± 10% window	11.9– 14.6			
	2011-09-15	12.2	52.7	1.91	21.9

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]
		ϵ_r	σ [S/m]	
836	Recommended value	41.5	0.90	
	$\pm 5\%$ window	39.4 – 43.6	0.86 – 0.95	
	2011-09-09	40.8	0.88	21.9
1880	Recommended value	40.0	1.40	
	$\pm 5\%$ window	38.0 – 42.0	1.33 – 1.47	
	2011-09-13	38.2	1.42	22.1
	2011-09-14	38.2	1.44	22.1
2442	Recommended value	39.2	1.79	
	$\pm 5\%$ window	37.3 – 41.2	1.70 – 1.88	
	2011-09-14	39.5	1.79	21.9

Body tissue simulant measurements

f [MHz]	Description	Dielectric Parameters		Temp [°C]
		ϵ_r	σ [S/m]	
836	Recommended value	55.2	0.97	
	$\pm 5\%$ window	52.4 – 58.0	0.92 – 1.02	
	2011-09-16	54.0	0.98	22.0
1880	Recommended value	53.3	1.52	
	$\pm 5\%$ window	50.6 – 56.0	1.44 – 1.60	
	2011-09-13	51.8	1.55	22.0
	2011-09-14	51.9	1.57	22.0
2442	Recommended value	52.7	1.94	
	$\pm 5\%$ window	50.1 – 55.3	1.85 – 2.04	
	2011-09-15	52.7	1.89	21.9

5. DESCRIPTION OF THE TEST PROCEDURE

5.1 Device Holder

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



Device holder supplied by SPEAG

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



Nokia spacer

5.2 Test Positions

5.2.1 Against Phantom Head

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

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

5.2.2 Body Worn Configuration

The device was placed in the SPEAG holder using the Nokia spacer and placed below the flat section of the phantom. The distance between the device and the phantom was kept at the separation distance indicated in Section 1.2.2 using a separate flat spacer that was removed

before the start of the measurements. The device was oriented with both sides facing the phantom to find the highest results.

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

5.3 Scan Procedures

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

5.4 SAR Averaging Methods

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

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

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

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

6. MEASUREMENT UNCERTAINTY

Table 6.1 – Measurement uncertainty evaluation

Uncertainty Component	Section in IEEE 1528	Tol. (%)	Prob Dist	Div	C_i	$C_i \cdot U_i$ (%)	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:

850MHz Head SAR results

Mode	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 128 824.2 MHz	Ch 190 836.6 MHz	Ch 251 848.8 MHz
GSM	Conducted Power		-	32.5 dBm	-
BP-3L Sony	Left	Cheek	-	0.484	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
2-slot GPRS	Conducted Power		-	31.0 dBm	-
BP-3L Sony	Left	Cheek	-	0.671	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
3-slot GPRS	Conducted Power		-	29.0 dBm	-
BP-3L Sony	Left	Cheek	-	0.729	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
4-slot GPRS	Conducted Power		28.0 dBm	28.0 dBm	28.0 dBm
BP-3L Sony	Left	Cheek	0.757	0.850	0.827
		Tilt	-	0.610	-
	Right	Cheek	0.812	0.947	0.816
		Tilt	-	0.699	-
4-slot 8PSK EGPRS	Conducted Power		-	24.0 dBm	-
BP-3L Sony	Left	Cheek	-	-	-
		Tilt	-	-	-
	Right	Cheek	-	0.343	-
		Tilt	-	-	-
4-slot GPRS BP-3L LG	Right Cheek		0.828	0.922	0.818

1900MHz Head SAR results

Mode	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz
GSM	Conducted Power		-	30.0 dBm	-
BP-3L Sony	Left	Cheek	-	0.220	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
2-slot GPRS	Conducted Power		29.0 dBm	29.0 dBm	29.0 dBm
BP-3L Sony	Left	Cheek	-	0.302	-
		Tilt	-	0.093	-
	Right	Cheek	0.357	0.400	0.432
		Tilt	-	0.131	-
3-slot GPRS	Conducted Power		-	27.0 dBm	-
BP-3L Sony	Left	Cheek	-	0.267	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
4-slot GPRS	Conducted Power		-	26.0 dBm	-
BP-3L Sony	Left	Cheek	-	0.289	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
2-slot 8PSK EGPRS	Conducted Power		-	26.0 dBm	-
BP-3L Sony	Left	Cheek	-	-	-
		Tilt	-	-	-
	Right	Cheek	-	0.172	-
		Tilt	-	-	-
Mode	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 9262 1852.4 MHz	Ch 9400 1880.0 MHz	Ch 9538 1907.6 MHz
WCDMA	Conducted Power		24.0 dBm	24.0 dBm	24.0 dBm
BP-3L Sony	Left	Cheek	0.645	0.622	0.788
		Tilt	-	0.203	-
	Right	Cheek	-	0.567	-
		Tilt	-	0.259	-
WCDMA BP-3L LG	Left Cheek		0.555	0.627	0.790

2450MHz Head SAR results

Mode	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 1 2412.0 MHz	Ch 7 2442.0 MHz	Ch 11 2462.0 MHz
WLAN b-mode	Conducted Power		18.0 dBm	18.0 dBm	18.0 dBm
BP-3L Sony	Left	Cheek	0.282	0.120	0.301
		Tilt	-	0.092	-
	Right	Cheek	-	0.104	-
		Tilt	-	0.099	-
WLAN n-mode 20MHz	Conducted Power		13.0 dBm	15.0 dBm	13.0 dBm
BP-3L Sony	Left	Cheek	0.083	0.083	0.086
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
WLAN b-mode BP-3L LG	Left Cheek		0.255	0.132	0.268

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

850MHz Body SAR results

Mode	Device orientation	Test configuration	SAR, averaged over 1g (W/kg)		
			Ch 128 824.2 MHz	Ch 190 836.6 MHz	Ch 251 848.8 MHz
4-slot GPRS		Conducted Power	28.0 dBm	28.0 dBm	28.0 dBm
BP-3L Sony	Display facing phantom	Without headset	-	0.636	-
		Headset WH-208	-	0.414	-
	Back facing phantom	Without headset	0.779	0.831	0.636
		Headset WH-208	-	0.560	-
4-slot GPRS BP-3L LG	Back facing phantom	Without headset	0.837	0.841	0.670

1900MHz Body SAR results

Mode	Device orientation	Test configuration	SAR, averaged over 1g (W/kg)		
			Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz
2-slot GPRS		Conducted Power	29.0 dBm	29.0 dBm	29.0 dBm
BP-3L Sony	Display facing phantom	Without headset	-	0.179	-
		Headset WH-208	-	0.183	-
	Back facing phantom	Without headset	-	0.379	-
		Headset WH-208	0.361	0.380	0.383
Mode	Device orientation	Test configuration	SAR, averaged over 1g (W/kg)		
			Ch 9262 1852.4 MHz	Ch 9400 1880.0 MHz	Ch 9538 1907.6 MHz
WCDMA		Conducted Power	24.0 dBm	24.0 dBm	24.0 dBm
BP-3L Sony	Display facing phantom	Without headset	-	0.341	-
		Headset WH-208	-	0.341	-
	Back facing phantom	Without headset	-	0.706	-
		Headset WH-208	0.731	0.708	0.804
WCDMA BP-3L LG	Back facing phantom	Headset WH-208	0.767	0.754	0.826

2450MHz Body SAR results

Mode	Device orientation	Test configuration	SAR, averaged over 1g (W/kg)		
			Ch 1 2412.0 MHz	Ch 7 2442.0 MHz	Ch 11 2462.0 MHz
WLAN b-mode		Conducted Power	18.0 dBm	18.0 dBm	18.0 dBm
BP-3L Sony	Display facing phantom	Without headset	-	0.023	-
		Headset WH-208	-	0.026	-
	Back facing Phantom	Without headset	-	0.056	-
		Headset WH-208	0.063	0.063	0.053
WLAN n-mode 20MHz		Conducted Power	13.0 dBm	15.0 dBm	13.0 dBm
BP-3L Sony	Display facing phantom	Without headset	-	-	-
		Headset WH-208	-	-	-
	Back facing phantom	Without headset	-	-	-
		Headset WH-208	0.030	0.031	0.030
WLAN b-mode BP-3L LG	Back facing phantom	Headset WH-208	0.036	0.037	0.037

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

Test configuration	Max. 1g SAR results			
	WLAN	4-slot GPRS850	2-slot GPRS1900	WCDMA1900
Head: Left, Cheek	0.301	0.850	0.302	0.790
Head: Left, Tilt	0.092	0.610	0.093	0.203
Head: Right, Cheek	0.104	0.947	0.432	0.567
Head: Right, Tilt	0.099	0.699	0.131	0.259
Body: Display facing phantom, Without Headset	0.023	0.636	0.179	0.341
Body: Display facing phantom, Headset WH-208	0.026	0.414	0.183	0.341
Body: Back facing phantom, Without Headset	0.056	0.841	0.379	0.706
Body: Back facing phantom, Headset WH-208	0.063	0.560	0.383	0.826

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

Test configuration	Max. 1g SAR results		
	4-slot GPRS850 + WLAN	2-slot GPRS1900 + WLAN	WCDMA1900 + WLAN
Head: Left, Cheek	1.151	0.603	1.091
Head: Left, Tilt	0.702	0.185	0.295
Head: Right, Cheek	1.051	0.536	0.671
Head: Right, Tilt	0.798	0.230	0.358
Body: Display facing phantom, Without Headset	0.659	0.202	0.364
Body: Display facing phantom, Headset WH-208	0.440	0.209	0.367
Body: Back facing phantom, Without Headset	0.897	0.435	0.762
Body: Back facing phantom, Headset WH-208	0.623	0.446	0.889

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

for WLAN2450 and the cellular bands point-by-point and c) calculates the combined average SAR values.

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

Test configuration	Max. 1g SAR results		
	4-slot GPRS850 + WLAN	2-slot GPRS1900 + WLAN	WCDMA1900 + WLAN
Head: Left, Cheek	0.856	0.329	0.820
Head: Left, Tilt	-	-	-
Head: Right, Cheek	-	-	-
Head: Right, Tilt	-	-	-
Body: Display facing phantom, Without Headset	-	-	-
Body: Display facing phantom, Headset WH-208	-	-	-
Body: Back facing phantom, Without Headset	0.818	-	-
Body: Back facing phantom, Headset WH-208	-	0.396	0.828

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

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

Plots of the Measurement scans are given in Appendix B.

APPENDIX A: SYSTEM CHECKING SCANS

Date/Time: 2011-09-09 10:40:58 AM

Test Laboratory: TCC Nokia
Type: D835V2; Serial: 4d005

Communication System: CW835

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Head 835; Medium Notes: Medium Temperature: $t = 21.9\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 835\text{ MHz}$; $\sigma = 0.877\text{ mho/m}$; $\epsilon_r = 40.9$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(6.53, 6.53, 6.53); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM1; Type: SAM; Serial: TP - 01097
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, Pin=250mW/Area Scan (61x121x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 2.47 mW/g

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

Reference Value = 55.3 V/m

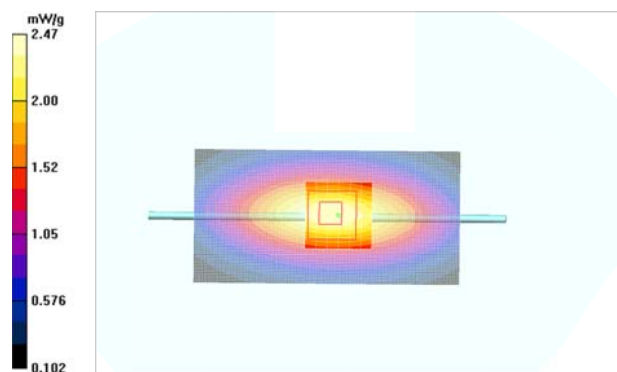
Peak SAR (extrapolated) = 3.31 W/kg

SAR(1 g) = 2.31 mW/g

SAR(10 g) = 1.52 mW/g

Power Drift = 0.013 dB

Maximum value of SAR (measured) = 2.50 mW/g



Date/Time: 2011-09-13 10:11:57 AM

Test Laboratory: TCC Nokia

Type: D1900V2; Serial: 509

Communication System: CW1900

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: $t=22.1^{\circ}\text{C}$

Medium parameters used: $f = 1900\text{ MHz}$; $\sigma = 1.44\text{ mho/m}$; $\epsilon_r = 38.1$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(5.33, 5.33, 5.33); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM4; Type: SAM; Serial: TP - 1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

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

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

Reference Value = 90.5 V/m

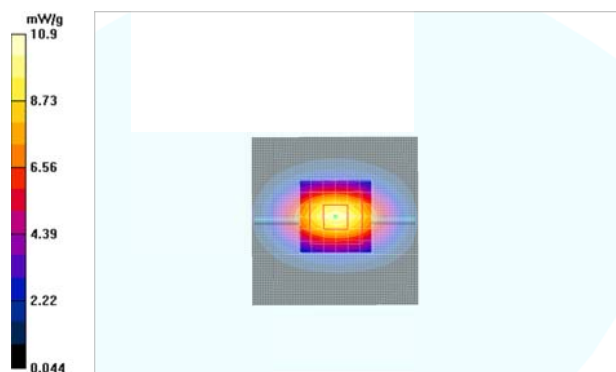
Peak SAR (extrapolated) = 16.8 W/kg

SAR(1 g) = 9.53 mW/g

SAR(10 g) = 4.96 mW/g

Power Drift = -0.044 dB

Maximum value of SAR (measured) = 10.8 mW/g



Date/Time: 2011-09-14 9:47:30 AM

Test Laboratory: TCC Nokia

Type: D1900V2; Serial: 509

Communication System: CW1900

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: $t=22.1^{\circ}\text{C}$

Medium parameters used: $f = 1900\text{ MHz}$; $\sigma = 1.46\text{ mho/m}$; $\epsilon_r = 38.1$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(5.33, 5.33, 5.33); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM4; Type: SAM; Serial: TP - 1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 11.0 mW/g

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

Reference Value = 91.6 V/m

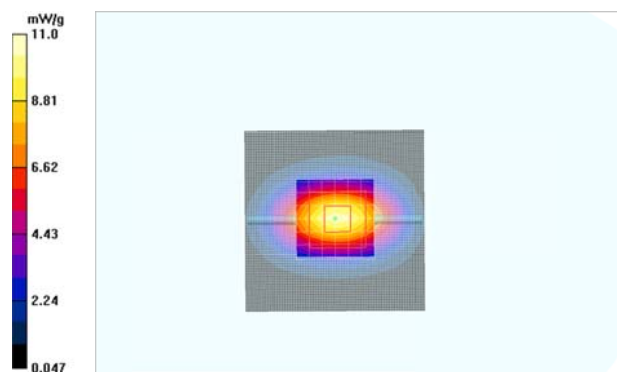
Peak SAR (extrapolated) = 17.0 W/kg

SAR(1 g) = 9.57 mW/g

SAR(10 g) = 4.98 mW/g

Power Drift = -0.135 dB

Maximum value of SAR (measured) = 10.8 mW/g



Date/Time: 2011-09-14 10:56:41 AM

Test Laboratory: TCC Nokia

Type: D2450V2; Serial: D2450V2 - SN:760

Communication System: CW2450

Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: $t=21.9\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 2450\text{ MHz}$; $\sigma = 1.81\text{ mho/m}$; $\epsilon_r = 39.5$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3574; Probe Notes:
- ConvF(6.37, 6.37, 6.37); Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2010-10-25
- Phantom: SAM5; Type: SAM; Serial: TP - 1178
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 16.4 mW/g

d=10mm, Pin=250mW/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 93.9 V/m

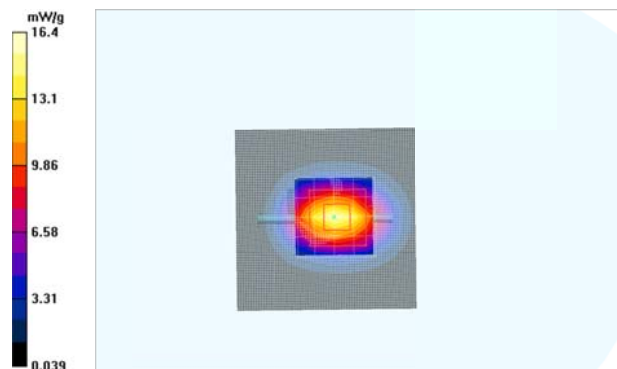
Peak SAR (extrapolated) = 30.9 W/kg

SAR(1 g) = 14.3 mW/g

SAR(10 g) = 6.47 mW/g

Power Drift = -0.045 dB

Maximum value of SAR (measured) = 16.2 mW/g



Date/Time: 2011-09-16 10:34:22 AM

Test Laboratory: TCC Nokia
Type: D835V2; Serial: 4d005

Communication System: CW835

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Body 835; Medium Notes: Medium Temperature: $t = 22.0\text{ C}$

Medium parameters used: $f = 835\text{ MHz}$; $\sigma = 0.98\text{ mho/m}$; $\epsilon_r = 54$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1652; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2010-10-21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2011-03-08
- Phantom: SAM2; Type: SAM; Serial: TP - 1508
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, Pin=250mW/Area Scan (61x121x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

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

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

Reference Value = 54.8 V/m

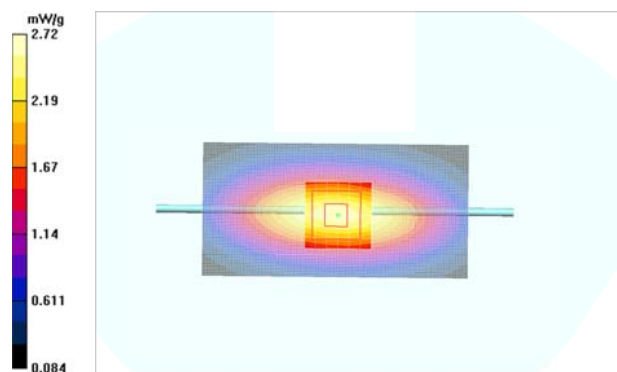
Peak SAR (extrapolated) = 3.60 W/kg

SAR(1 g) = 2.5 mW/g

SAR(10 g) = 1.65 mW/g

Power Drift = -0.031 dB

Maximum value of SAR (measured) = 2.71 mW/g



Date/Time: 2011-09-15 10:27:38 AM

Test Laboratory: TCC Nokia

Type: D2450V2; Serial: D2450V2 - SN:760

Communication System: CW2450

Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: $t=21.9\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 2450\text{ MHz}$; $\sigma = 1.91\text{ mho/m}$; $\epsilon_r = 52.7$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3574; Probe Notes:
- ConvF(6.45, 6.45, 6.45); Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2010-10-25
- Phantom: SAM6; Type: SAM; Serial: TP - 1426
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 14.5 mW/g

d=10mm, Pin=250mW/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 83.4 V/m

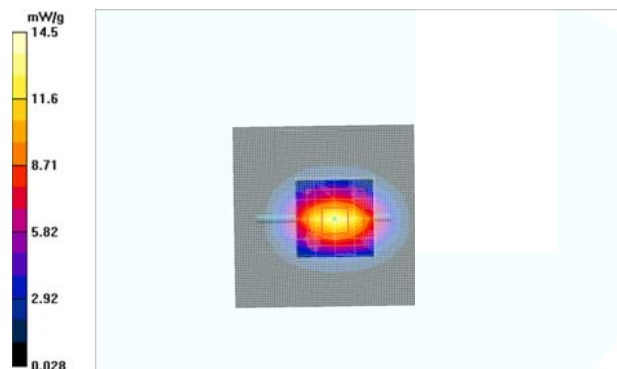
Peak SAR (extrapolated) = 24.4 W/kg

SAR(1 g) = 12.2 mW/g

SAR(10 g) = 5.67 mW/g

Power Drift = 0.065 dB

Maximum value of SAR (measured) = 14.1 mW/g



APPENDIX B: MEASUREMENT SCANS

Date/Time: 2011-09-09 11:05:43 AM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: Head 835; Medium Notes: Medium Temperature: $t = 21.9\text{ C}$

Medium parameters used: $f = 837\text{ MHz}$; $\sigma = 0.88\text{ mho/m}$; $\epsilon_r = 40.8$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(6.53, 6.53, 6.53); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM1; Type: SAM; Serial: TP - 01097
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Cheek position - Middle - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 11.0 V/m

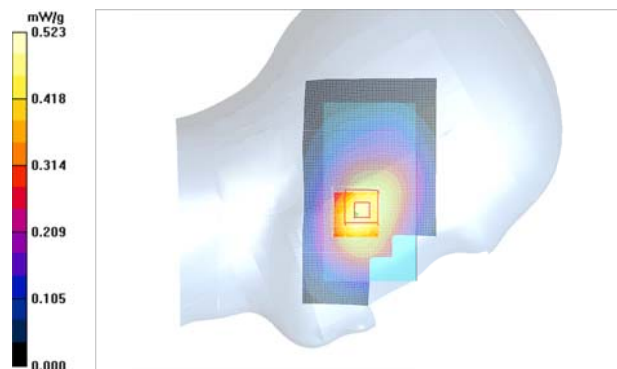
Peak SAR (extrapolated) = 0.601 W/kg

SAR(1 g) = 0.484 mW/g

SAR(10 g) = 0.358 mW/g

Power Drift = -0.215 dB

Maximum value of SAR (measured) = 0.510 mW/g



Date/Time: 2011-09-09 11:28:11 AM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: 2-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: Head 835; Medium Notes: Medium Temperature: $t = 21.9\text{ C}$

Medium parameters used: $f = 837\text{ MHz}$; $\sigma = 0.88\text{ mho/m}$; $\epsilon_r = 40.8$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(6.53, 6.53, 6.53); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM1; Type: SAM; Serial: TP - 01097
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.732 mW/g

Cheek position - Middle - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.4 V/m

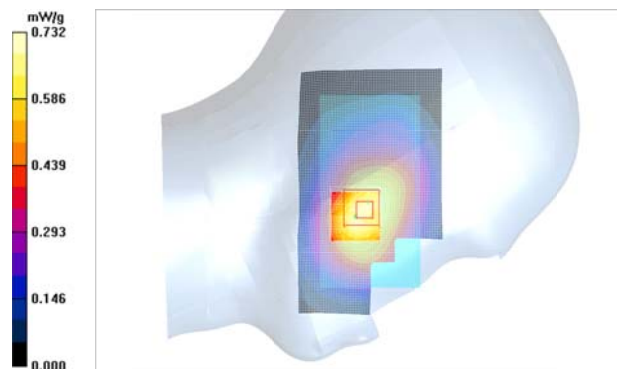
Peak SAR (extrapolated) = 0.823 W/kg

SAR(1 g) = 0.671 mW/g

SAR(10 g) = 0.497 mW/g

Power Drift = -0.320 dB

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



Date/Time: 2011-09-09 1:47:47 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.8

Medium: Head 835; Medium Notes: Medium Temperature: $t = 21.9\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 837\text{ MHz}$; $\sigma = 0.88\text{ mho/m}$; $\epsilon_r = 40.8$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(6.53, 6.53, 6.53); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM1; Type: SAM; Serial: TP - 01097
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{ mm}$, $dy=15\text{ mm}$

Maximum value of SAR (interpolated) = 0.793 mW/g

Cheek position - Middle - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{ mm}$, $dy=7.5\text{ mm}$, $dz=5\text{ mm}$

Reference Value = 13.8 V/m

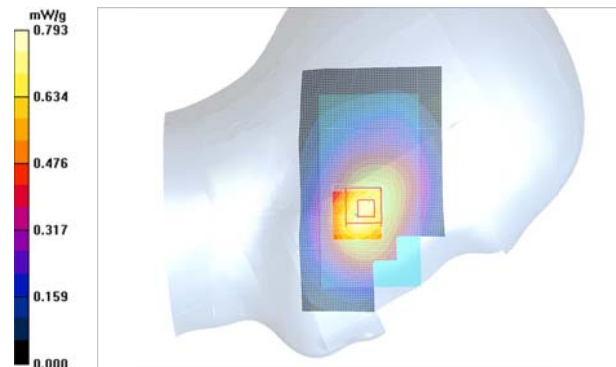
Peak SAR (extrapolated) = 0.894 W/kg

SAR(1 g) = 0.729 mW/g

SAR(10 g) = 0.543 mW/g

Power Drift = -0.016 dB

Maximum value of SAR (measured) = 0.770 mW/g



Date/Time: 2011-09-09 12:49:11 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: 4-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.08

Medium: Head 835; Medium Notes: Medium Temperature: $t = 21.9\text{ C}$

Medium parameters used: $f = 837\text{ MHz}$; $\sigma = 0.88\text{ mho/m}$; $\epsilon_r = 40.8$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(6.53, 6.53, 6.53); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM1; Type: SAM; Serial: TP - 01097
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.919 mW/g

Cheek position - Middle - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.1 V/m

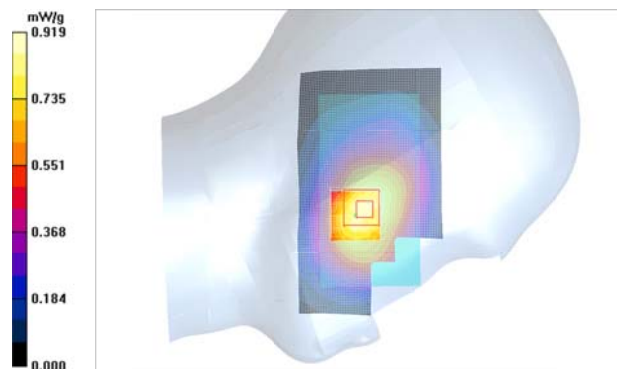
Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.850 mW/g

SAR(10 g) = 0.634 mW/g

Power Drift = -0.273 dB

Maximum value of SAR (measured) = 0.895 mW/g



Date/Time: 2011-09-09 2:00:47 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: 4-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.08

Medium: Head 835; Medium Notes: Medium Temperature: $t = 21.9\text{ C}$

Medium parameters used: $f = 837\text{ MHz}$; $\sigma = 0.88\text{ mho/m}$; $\epsilon_r = 40.8$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(6.53, 6.53, 6.53); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM1; Type: SAM; Serial: TP - 01097
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.618 mW/g

Tilt position - Middle - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 22.4 V/m

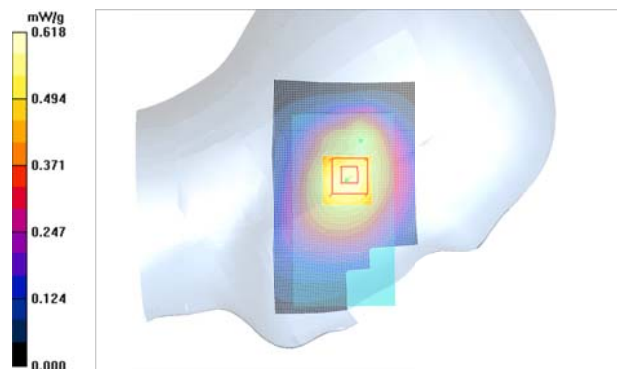
Peak SAR (extrapolated) = 0.722 W/kg

SAR(1 g) = 0.610 mW/g

SAR(10 g) = 0.464 mW/g

Power Drift = 0.169 dB

Maximum value of SAR (measured) = 0.644 mW/g



Date/Time: 2011-09-09 2:23:45 PM

Test Laboratory: TCC Nokia
Type: RM-803; Serial: 004402/13/635625/4

Communication System: 4-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.08

Medium: Head 835; Medium Notes: Medium Temperature: $t = 21.9\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 837\text{ MHz}$; $\sigma = 0.88\text{ mho/m}$; $\epsilon_r = 40.8$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(6.53, 6.53, 6.53); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM1; Type: SAM; Serial: TP - 01097
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{ mm}$, $dy=15\text{ mm}$

Maximum value of SAR (interpolated) = 0.970 mW/g

Cheek position - Middle - BP-3L Sony/Zoom Scan 2 (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{ mm}$, $dy=7.5\text{ mm}$, $dz=5\text{ mm}$

Reference Value = 15.3 V/m

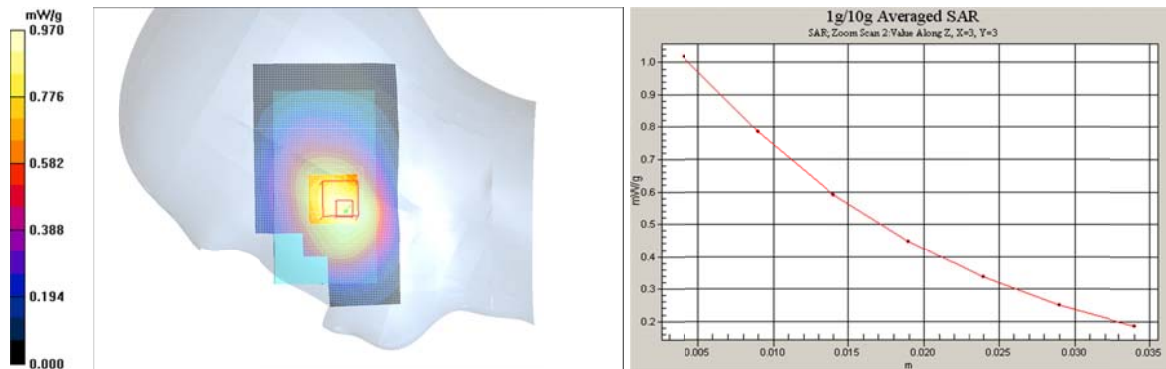
Peak SAR (extrapolated) = 1.19 W/kg

SAR(1 g) = 0.947 mW/g

SAR(10 g) = 0.706 mW/g

Power Drift = 0.069 dB

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



Date/Time: 2011-09-09 3:26:29 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: 4-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.08

Medium: Head 835; Medium Notes: Medium Temperature: $t = 21.9\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 837\text{ MHz}$; $\sigma = 0.88\text{ mho/m}$; $\epsilon_r = 40.8$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(6.53, 6.53, 6.53); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM1; Type: SAM; Serial: TP - 01097
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{ mm}$, $dy=15\text{ mm}$

Maximum value of SAR (interpolated) = 0.745 mW/g

Tilt position - Middle - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{ mm}$, $dy=7.5\text{ mm}$, $dz=5\text{ mm}$

Reference Value = 25.1 V/m

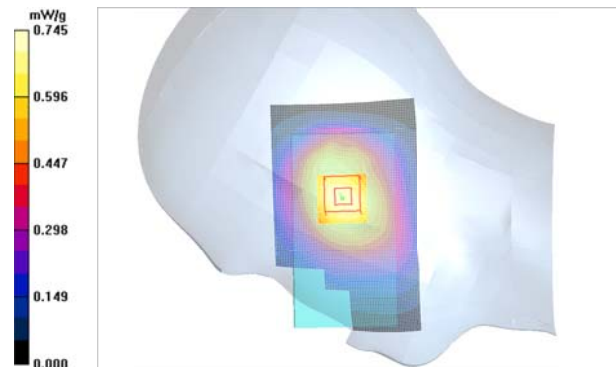
Peak SAR (extrapolated) = 0.841 W/kg

SAR(1 g) = 0.699 mW/g

SAR(10 g) = 0.532 mW/g

Power Drift = -0.117 dB

Maximum value of SAR (measured) = 0.739 mW/g



Date/Time: 2011-09-09 4:56:26 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: 4-slot 8PSK EGPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.08

Medium: Head 835; Medium Notes: Medium Temperature: $t = 21.9\text{ C}$

Medium parameters used: $f = 837\text{ MHz}$; $\sigma = 0.88\text{ mho/m}$; $\epsilon_r = 40.8$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(6.53, 6.53, 6.53); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM1; Type: SAM; Serial: TP - 01097
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - Middle - BP -3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.370 mW/g

Cheek position - Middle - BP-3L Sony/Zoom Scan 2 (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 8.60 V/m

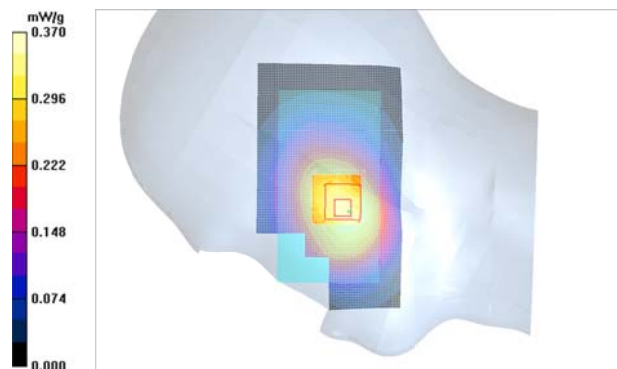
Peak SAR (extrapolated) = 0.412 W/kg

SAR(1 g) = 0.343 mW/g

SAR(10 g) = 0.258 mW/g

Power Drift = -0.019 dB

Maximum value of SAR (measured) = 0.362 mW/g



Date/Time: 2011-09-09 3:43:07 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: 4-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.08

Medium: Head 835; Medium Notes: Medium Temperature: $t = 21.9\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 837\text{ MHz}$; $\sigma = 0.88\text{ mho/m}$; $\epsilon_r = 40.8$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(6.53, 6.53, 6.53); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM1; Type: SAM; Serial: TP - 01097
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - Middle - BP-3L LG/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.966 mW/g

Cheek position - Middle - BP-3L LG/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.7 V/m

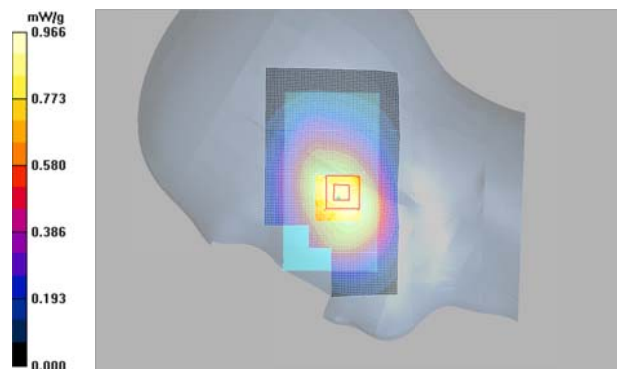
Peak SAR (extrapolated) = 1.15 W/kg

SAR(1 g) = 0.922 mW/g

SAR(10 g) = 0.704 mW/g

Power Drift = -0.067 dB

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



Date/Time: 2011-09-13 10:46:46 AM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: GSM1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: $t=22.1^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.42\text{ mho/m}$; $\epsilon_r = 38.2$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(5.33, 5.33, 5.33); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM4; Type: SAM; Serial: TP - 1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.251 mW/g

Cheek position - Middle - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.66 V/m

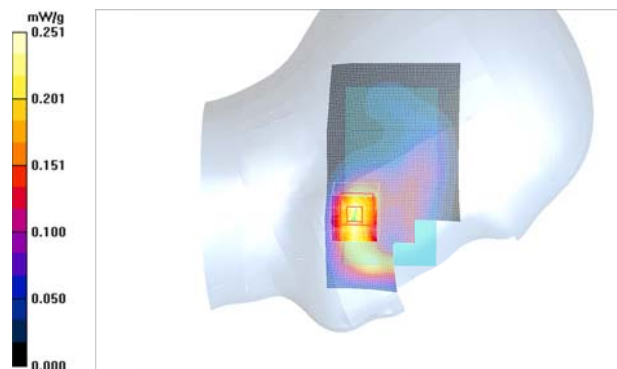
Peak SAR (extrapolated) = 0.342 W/kg

SAR(1 g) = 0.220 mW/g

SAR(10 g) = 0.132 mW/g

Power Drift = 0.113 dB

Maximum value of SAR (measured) = 0.243 mW/g



Date/Time: 2011-09-13 11:32:03 AM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: Head 1900; Medium Notes: Medium Temperature: $t=22.1^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.42\text{ mho/m}$; $\epsilon_r = 38.2$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(5.33, 5.33, 5.33); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM4; Type: SAM; Serial: TP - 1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Cheek position - Middle - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.33 V/m

Peak SAR (extrapolated) = 0.480 W/kg

SAR(1 g) = 0.302 mW/g

SAR(10 g) = 0.179 mW/g

Power Drift = 0.182 dB

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



Date/Time: 2011-09-13 1:01:48 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: Head 1900; Medium Notes: Medium Temperature: t=22.1C

Medium parameters used: f = 1880 MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 38.2$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(5.33, 5.33, 5.33); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM4; Type: SAM; Serial: TP - 1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

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

Tilt position - Middle - BP-3L Sony/Zoom Scan 2 (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.99 V/m

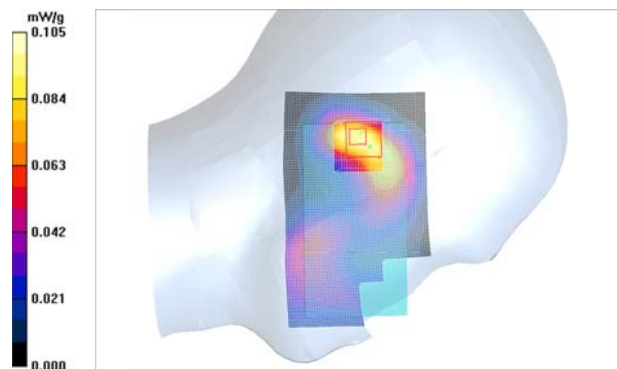
Peak SAR (extrapolated) = 0.147 W/kg

SAR(1 g) = 0.093 mW/g

SAR(10 g) = 0.054 mW/g

Power Drift = 0.046 dB

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



Date/Time: 2011-09-13 1:57:22 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: 2-slot GPRS1900

Frequency: 1909.8 MHz; Duty Cycle: 1:4.2

Medium: Head 1900; Medium Notes: Medium Temperature: t=22.1C

Medium parameters used: f = 1910 MHz; σ = 1.45 mho/m; ϵ_r = 38; ρ = 1000 kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(5.33, 5.33, 5.33); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM4; Type: SAM; Serial: TP - 1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - High - BP-3L Sony/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

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

Cheek position - High - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.13 V/m

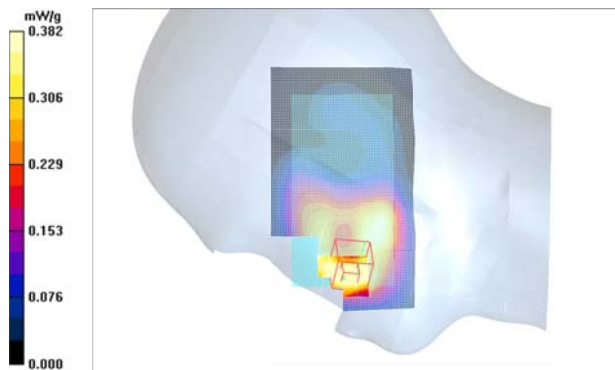
Peak SAR (extrapolated) = 0.736 W/kg

SAR(1 g) = 0.432 mW/g

SAR(10 g) = 0.239 mW/g

Power Drift = 0.017 dB

Maximum value of SAR (measured) = 0.485 mW/g



Date/Time: 2011-09-13 2:09:26 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: Head 1900; Medium Notes: Medium Temperature: $t=22.1^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.42\text{ mho/m}$; $\epsilon_r = 38.2$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(5.33, 5.33, 5.33); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM4; Type: SAM; Serial: TP - 1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.142 mW/g

Tilt position - Middle - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.9 V/m

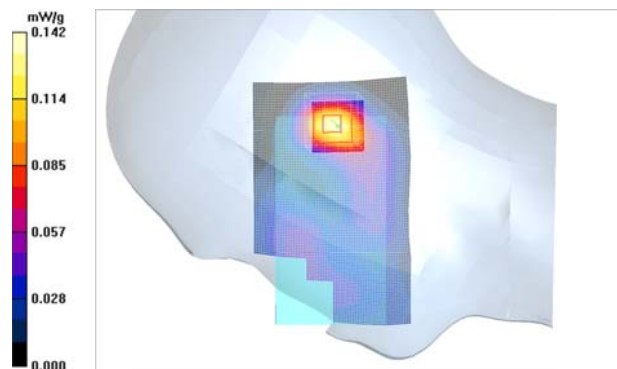
Peak SAR (extrapolated) = 0.200 W/kg

SAR(1 g) = 0.131 mW/g

SAR(10 g) = 0.073 mW/g

Power Drift = -0.160 dB

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



Date/Time: 2011-09-13 11:47:05 AM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: 3-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:2.8

Medium: Head 1900; Medium Notes: Medium Temperature: $t=22.1^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.42\text{ mho/m}$; $\epsilon_r = 38.2$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(5.33, 5.33, 5.33); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM4; Type: SAM; Serial: TP - 1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.305 mW/g

Cheek position - Middle - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.16 V/m

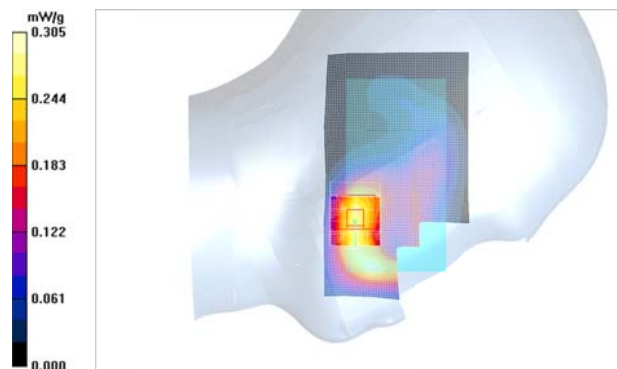
Peak SAR (extrapolated) = 0.420 W/kg

SAR(1 g) = 0.267 mW/g

SAR(10 g) = 0.159 mW/g

Power Drift = -0.022 dB

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



Date/Time: 2011-09-13 12:01:53 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: 4-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:2.08

Medium: Head 1900; Medium Notes: Medium Temperature: t=22.1C

Medium parameters used: f = 1880 MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 38.2$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(5.33, 5.33, 5.33); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM4; Type: SAM; Serial: TP - 1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.329 mW/g

Cheek position - Middle - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.40 V/m

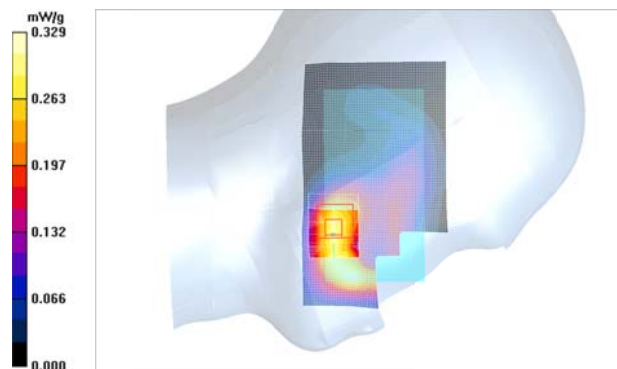
Peak SAR (extrapolated) = 0.454 W/kg

SAR(1 g) = 0.289 mW/g

SAR(10 g) = 0.172 mW/g

Power Drift = -0.077 dB

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



Date/Time: 2011-09-13 3:03:52 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: 2-slot 8PSK EGPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: Head 1900; Medium Notes: Medium Temperature: $t=22.1^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.42\text{ mho/m}$; $\epsilon_r = 38.2$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(5.33, 5.33, 5.33); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM4; Type: SAM; Serial: TP - 1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.191 mW/g

Cheek position - Middle - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.44 V/m

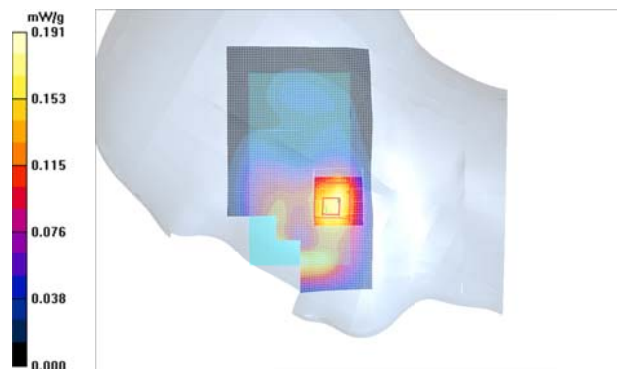
Peak SAR (extrapolated) = 0.243 W/kg

SAR(1 g) = 0.172 mW/g

SAR(10 g) = 0.105 mW/g

Power Drift = 0.228 dB

Maximum value of SAR (measured) = 0.178 mW/g



Date/Time: 2011-09-14 11:57:38 AM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: WCDMA1900

Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: $t=22.1^{\circ}\text{C}$

Medium parameters used: $f = 1908\text{ MHz}$; $\sigma = 1.46\text{ mho/m}$; $\epsilon_r = 38.1$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(5.33, 5.33, 5.33); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM4; Type: SAM; Serial: TP - 1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - High - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.943 mW/g

Cheek position - High - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.9 V/m

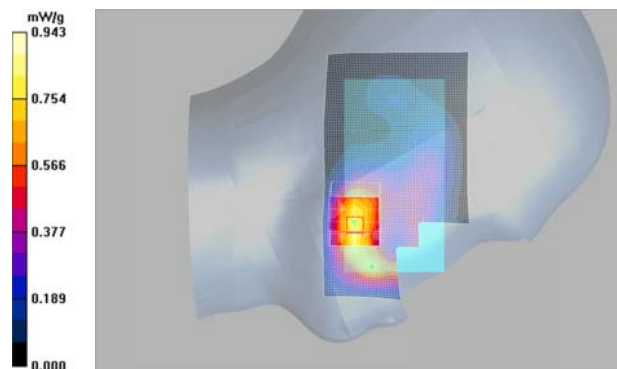
Peak SAR (extrapolated) = 1.26 W/kg

SAR(1 g) = 0.788 mW/g

SAR(10 g) = 0.463 mW/g

Power Drift = -0.175 dB

Maximum value of SAR (measured) = 0.875 mW/g



Date/Time: 2011-09-14 10:34:56 AM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: $t=22.1^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.44\text{ mho/m}$; $\epsilon_r = 38.2$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(5.33, 5.33, 5.33); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM4; Type: SAM; Serial: TP - 1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.235 mW/g

Tilt position - Middle - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.2 V/m

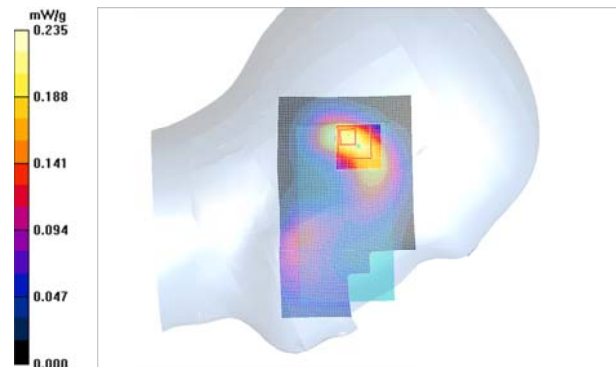
Peak SAR (extrapolated) = 0.319 W/kg

SAR(1 g) = 0.203 mW/g

SAR(10 g) = 0.120 mW/g

Power Drift = 0.032 dB

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



Date/Time: 2011-09-14 10:48:45 AM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: $t=22.1^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.44\text{ mho/m}$; $\epsilon_r = 38.2$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(5.33, 5.33, 5.33); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM4; Type: SAM; Serial: TP - 1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.605 mW/g

Cheek position - Middle - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.1 V/m

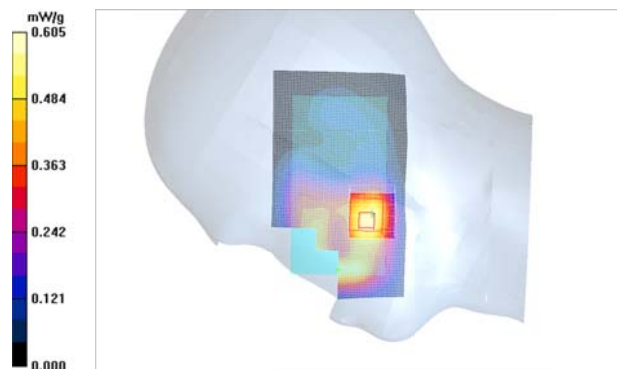
Peak SAR (extrapolated) = 0.806 W/kg

SAR(1 g) = 0.567 mW/g

SAR(10 g) = 0.346 mW/g

Power Drift = 0.047 dB

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



Date/Time: 2011-09-14 11:09:44 AM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: $t=22.1^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.44\text{ mho/m}$; $\epsilon_r = 38.2$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(5.33, 5.33, 5.33); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM4; Type: SAM; Serial: TP - 1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Tilt position - Middle - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.0 V/m

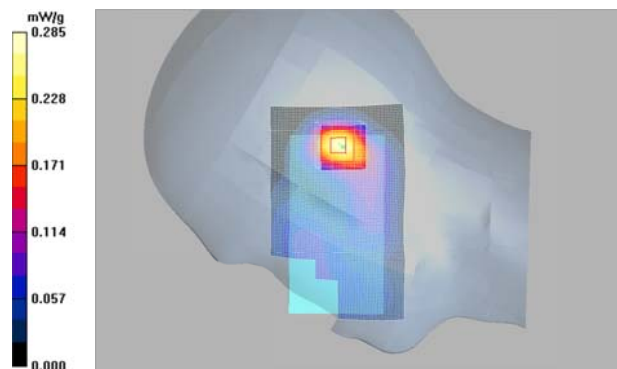
Peak SAR (extrapolated) = 0.397 W/kg

SAR(1 g) = 0.259 mW/g

SAR(10 g) = 0.146 mW/g

Power Drift = 0.016 dB

Maximum value of SAR (measured) = 0.286 mW/g



Date/Time: 2011-09-14 1:10:42 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: WCDMA1900

Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: $t=22.1^{\circ}\text{C}$

Medium parameters used: $f = 1908\text{ MHz}$; $\sigma = 1.46\text{ mho/m}$; $\epsilon_r = 38.1$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(5.33, 5.33, 5.33); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM4; Type: SAM; Serial: TP - 1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - High - BP-3L LG/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.959 mW/g

Cheek position - High - BP-3L LG/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.8 V/m

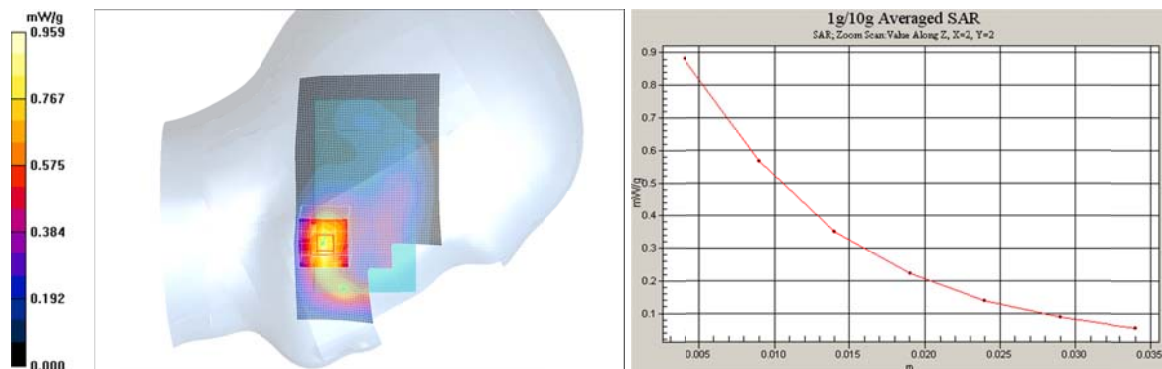
Peak SAR (extrapolated) = 1.24 W/kg

SAR(1 g) = 0.790 mW/g

SAR(10 g) = 0.465 mW/g

Power Drift = 0.083 dB

Maximum value of SAR (measured) = 0.881 mW/g



Date/Time: 2011-09-14 2:45:30 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635631/2

Communication System: WLAN2450 b-mode

Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: $t=21.9\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 2462\text{ MHz}$; $\sigma = 1.82\text{ mho/m}$; $\epsilon_r = 39.5$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3574; Probe Notes:
- ConvF(6.37, 6.37, 6.37); Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2010-10-25
- Phantom: SAM5; Type: SAM; Serial: TP - 1178
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - High - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{ mm}$, $dy=15\text{ mm}$

Maximum value of SAR (interpolated) = 0.363 mW/g

Cheek position - High - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{ mm}$, $dy=7.5\text{ mm}$, $dz=5\text{ mm}$

Reference Value = 9.04 V/m

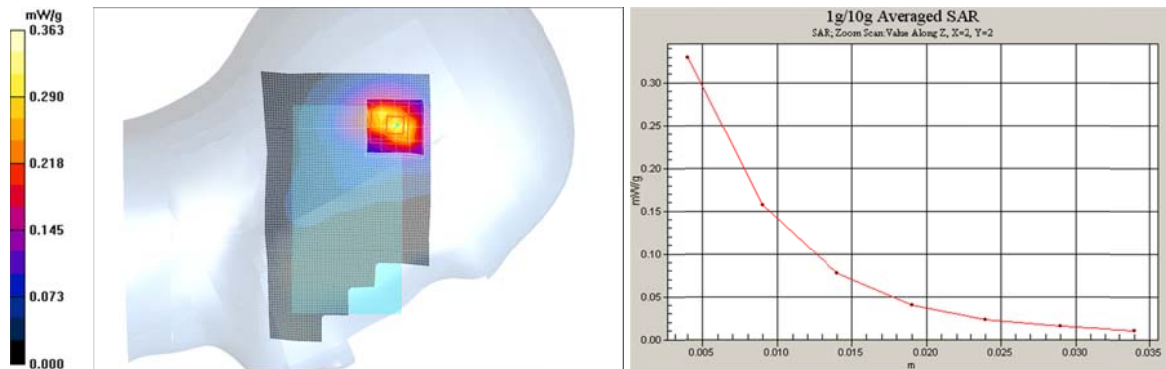
Peak SAR (extrapolated) = 0.667 W/kg

SAR(1 g) = 0.301 mW/g

SAR(10 g) = 0.151 mW/g

Power Drift = 0.167 dB

Maximum value of SAR (measured) = 0.330 mW/g



Date/Time: 2011-09-14 12:15:02 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635631/2

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: $t=21.9\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 2442\text{ MHz}$; $\sigma = 1.79\text{ mho/m}$; $\epsilon_r = 39.5$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3574; Probe Notes:
- ConvF(6.37, 6.37, 6.37); Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2010-10-25
- Phantom: SAM5; Type: SAM; Serial: TP - 1178
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.091 mW/g

Tilt position - Middle - BP-3L Sony/Zoom Scan 2 (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.53 V/m

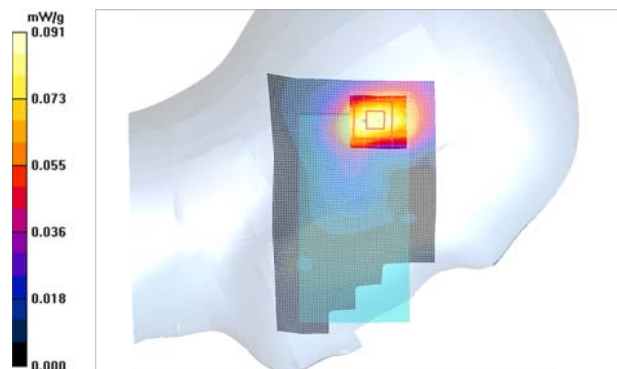
Peak SAR (extrapolated) = 0.186 W/kg

SAR(1 g) = 0.092 mW/g

SAR(10 g) = 0.049 mW/g

Power Drift = 0.473 dB

Maximum value of SAR (measured) = 0.102 mW/g



Date/Time: 2011-09-14 1:21:05 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635631/2

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: $t=21.9\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 2442\text{ MHz}$; $\sigma = 1.79\text{ mho/m}$; $\epsilon_r = 39.5$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3574; Probe Notes:
- ConvF(6.37, 6.37, 6.37); Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2010-10-25
- Phantom: SAM5; Type: SAM; Serial: TP - 1178
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{ mm}$, $dy=15\text{ mm}$

Maximum value of SAR (interpolated) = 0.110 mW/g

Cheek position - Middle - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{ mm}$, $dy=7.5\text{ mm}$, $dz=5\text{ mm}$

Reference Value = 7.64 V/m

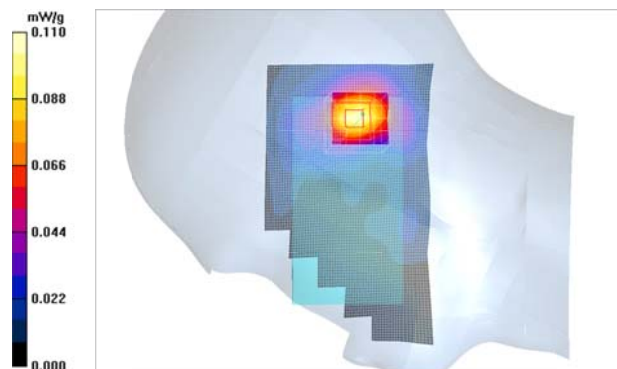
Peak SAR (extrapolated) = 0.207 W/kg

SAR(1 g) = 0.104 mW/g

SAR(10 g) = 0.055 mW/g

Power Drift = 0.284 dB

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



Date/Time: 2011-09-14 1:37:39 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635631/2

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: $t=21.9\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 2442\text{ MHz}$; $\sigma = 1.79\text{ mho/m}$; $\epsilon_r = 39.5$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3574; Probe Notes:
- ConvF(6.37, 6.37, 6.37); Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2010-10-25
- Phantom: SAM5; Type: SAM; Serial: TP - 1178
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{ mm}$, $dy=15\text{ mm}$

Maximum value of SAR (interpolated) = 0.117 mW/g

Tilt position - Middle - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{ mm}$, $dy=7.5\text{ mm}$, $dz=5\text{ mm}$

Reference Value = 7.80 V/m

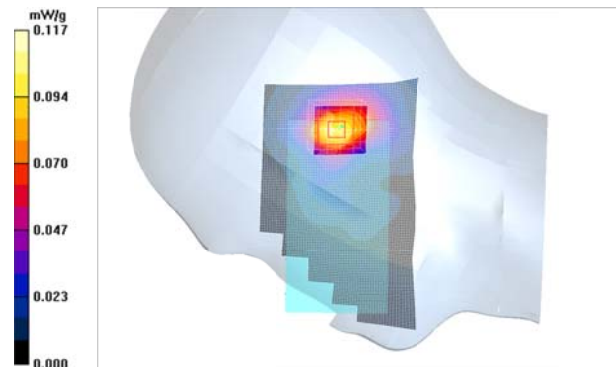
Peak SAR (extrapolated) = 0.196 W/kg

SAR(1 g) = 0.099 mW/g

SAR(10 g) = 0.052 mW/g

Power Drift = 0.342 dB

Maximum value of SAR (measured) = 0.110 mW/g



Date/Time: 2011-09-14 4:52:45 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635631/2

Communication System: WLAN2450 n-mode

Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: $t=21.9\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 2462\text{ MHz}$; $\sigma = 1.82\text{ mho/m}$; $\epsilon_r = 39.5$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3574; Probe Notes:
- ConvF(6.37, 6.37, 6.37); Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2010-10-25
- Phantom: SAM5; Type: SAM; Serial: TP - 1178
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - High - BP-3L Sony/Area Scan (61x101x1): Measurement grid: $dx=15\text{ mm}$, $dy=15\text{ mm}$

Maximum value of SAR (interpolated) = 0.103 mW/g

Cheek position - High - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{ mm}$, $dy=7.5\text{ mm}$, $dz=5\text{ mm}$

Reference Value = 4.92 V/m

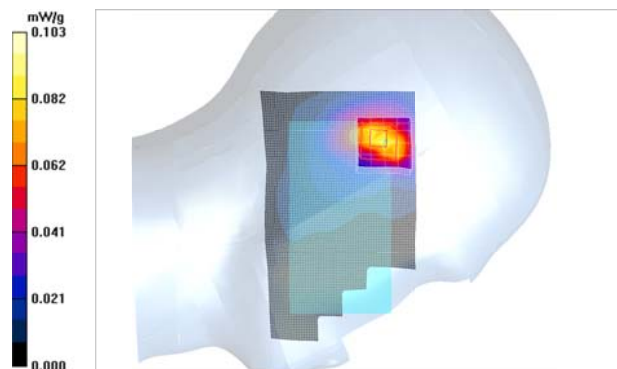
Peak SAR (extrapolated) = 0.198 W/kg

SAR(1 g) = 0.086 mW/g

SAR(10 g) = 0.044 mW/g

Power Drift = 0.496 dB

Maximum value of SAR (measured) = 0.094 mW/g



Date/Time: 2011-09-14 3:45:20 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635631/2

Communication System: WLAN2450 b-mode

Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: $t=21.9\text{ C}$

Medium parameters used: $f = 2462\text{ MHz}$; $\sigma = 1.82\text{ mho/m}$; $\epsilon_r = 39.5$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3574; Probe Notes:
- ConvF(6.37, 6.37, 6.37); Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2010-10-25
- Phantom: SAM5; Type: SAM; Serial: TP - 1178
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek position - High - BP-3L LG/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.324 mW/g

Cheek position - High - BP-3L LG/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 8.61 V/m

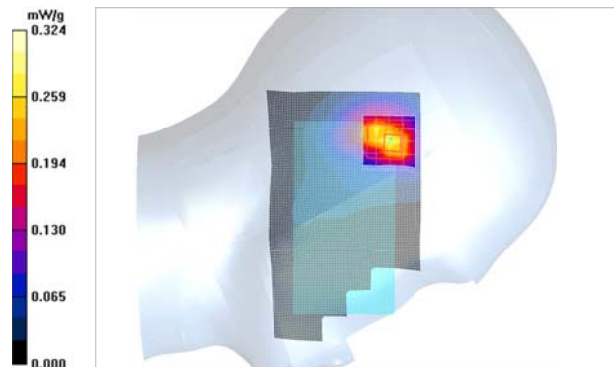
Peak SAR (extrapolated) = 0.608 W/kg

SAR(1 g) = 0.268 mW/g

SAR(10 g) = 0.133 mW/g

Power Drift = 0.068 dB

Maximum value of SAR (measured) = 0.297 mW/g



Date/Time: 2011-09-16 11:21:09 AM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635631/2

Communication System: 4-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.08

Medium: Body 835; Medium Notes: Medium Temperature: $t = 22.0\text{ C}$

Medium parameters used: $f = 837\text{ MHz}$; $\sigma = 0.982\text{ mho/m}$; $\epsilon_r = 54$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1652; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2010-10-21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2011-03-08
- Phantom: SAM2; Type: SAM; Serial: TP - 1508
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Display Facing Phantom - BP-3L Sony/Area Scan (61x101x1): Measurement grid:
 $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.684 mW/g

Body - Middle - No Accessory - Display Facing Phantom - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 14.1 V/m

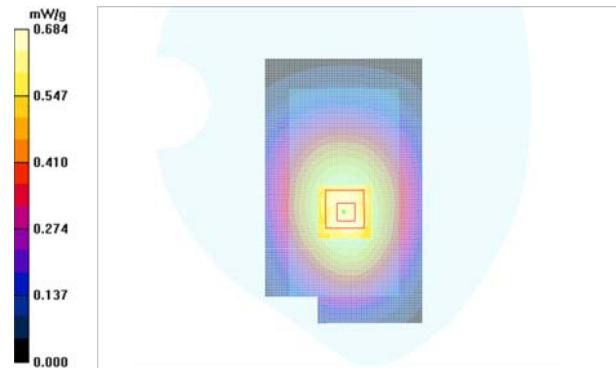
Peak SAR (extrapolated) = 0.786 W/kg

SAR(1 g) = 0.636 mW/g

SAR(10 g) = 0.480 mW/g

Power Drift = -0.224 dB

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



Date/Time: 2011-09-16 11:34:53 AM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635631/2

Communication System: 4-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.08

Medium: Body 835; Medium Notes: Medium Temperature: $t = 22.0\text{ C}$

Medium parameters used: $f = 837\text{ MHz}$; $\sigma = 0.982\text{ mho/m}$; $\epsilon_r = 54$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1652; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2010-10-21
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2011-03-08
- Phantom: SAM2; Type: SAM; Serial: TP - 1508
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - WH-208 - Display Facing Phantom - BP-3L Sony/Area Scan (61x101x1): Measurement grid:

$dx=15\text{mm}$, $dy=15\text{mm}$

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

Body - Middle - WH-208 - Display Facing Phantom - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 12.7 V/m

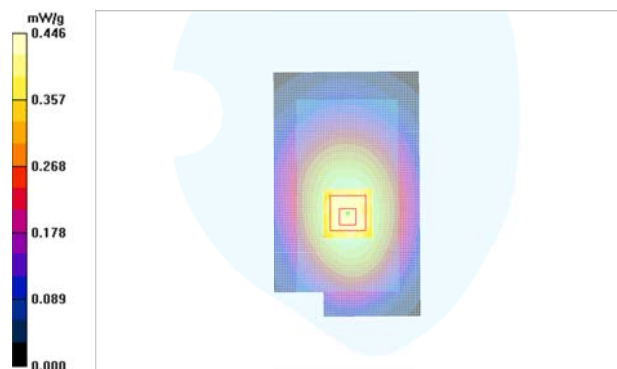
Peak SAR (extrapolated) = 0.510 W/kg

SAR(1 g) = 0.414 mW/g

SAR(10 g) = 0.313 mW/g

Power Drift = -0.076 dB

Maximum value of SAR (measured) = 0.434 mW/g



Date/Time: 2011-09-16 11:48:09 AM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635631/2

Communication System: 4-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.08

Medium: Body 835; Medium Notes: Medium Temperature: $t = 22.0\text{ C}$

Medium parameters used: $f = 837\text{ MHz}$; $\sigma = 0.982\text{ mho/m}$; $\epsilon_r = 54$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1652; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2010-10-21
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2011-03-08
- Phantom: SAM2; Type: SAM; Serial: TP - 1508
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Back Facing Phantom - BP-3L Sony/Area Scan (61x101x1): Measurement grid:
 $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.892 mW/g

Body - Middle - No Accessory - Back Facing Phantom - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.8 V/m

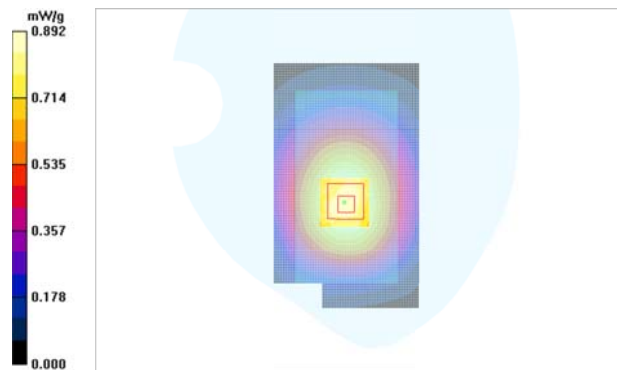
Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.831 mW/g

SAR(10 g) = 0.618 mW/g

Power Drift = -0.206 dB

Maximum value of SAR (measured) = 0.882 mW/g



Date/Time: 2011-09-16 11:58:17 AM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635631/2

Communication System: 4-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.08

Medium: Body 835; Medium Notes: Medium Temperature: $t = 22.0\text{ C}$

Medium parameters used: $f = 837\text{ MHz}$; $\sigma = 0.982\text{ mho/m}$; $\epsilon_r = 54$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1652; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2010-10-21
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2011-03-08
- Phantom: SAM2; Type: SAM; Serial: TP - 1508
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - WH-208 - Back Facing Phantom - BP-3L Sony/Area Scan (61x101x1): Measurement grid:

$dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.599 mW/g

Body - Middle - WH-208 - Back Facing Phantom - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.9 V/m

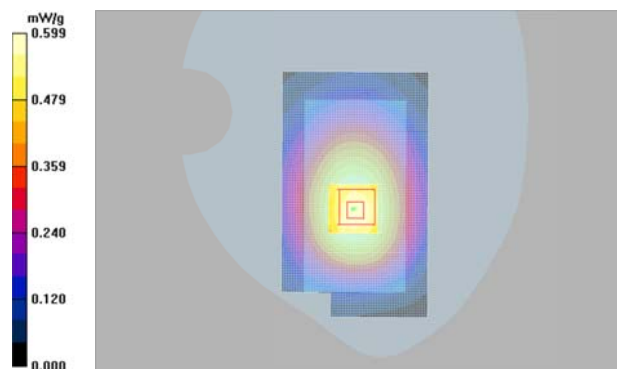
Peak SAR (extrapolated) = 0.704 W/kg

SAR(1 g) = 0.560 mW/g

SAR(10 g) = 0.416 mW/g

Power Drift = -0.234 dB

Maximum value of SAR (measured) = 0.593 mW/g



Date/Time: 2011-09-16 1:21:31 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635631/2

Communication System: 4-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.08

Medium: Body 835; Medium Notes: Medium Temperature: $t = 22.0\text{ C}$

Medium parameters used: $f = 837\text{ MHz}$; $\sigma = 0.982\text{ mho/m}$; $\epsilon_r = 54$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1652; Probe Notes:
- ConvF(5.9, 5.9, 5.9); Calibrated: 2010-10-21
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)) Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn858; Calibrated: 2011-03-08
- Phantom: SAM2; Type: SAM; Serial: TP - 1508
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Back Facing Phantom - BP-3L LG/Area Scan (61x101x1): Measurement grid:

$dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.826 mW/g

Body - Middle - No Accessory - Back Facing Phantom - BP-3L LG/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.7 V/m

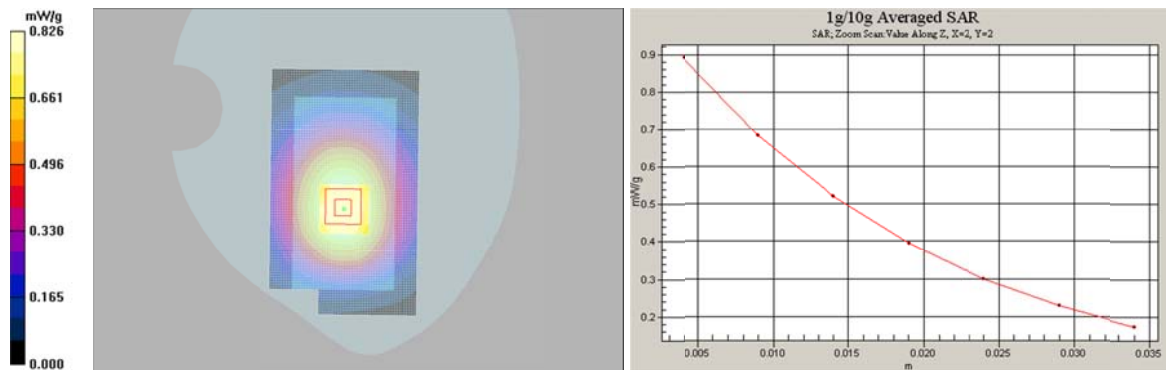
Peak SAR (extrapolated) = 1.05 W/kg

SAR(1 g) = 0.841 mW/g

SAR(10 g) = 0.621 mW/g

Power Drift = 0.037 dB

Maximum value of SAR (measured) = 0.891 mW/g



Date/Time: 2011-09-13 3:35:46 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: Body 1900; Medium Notes: Medium Temperature: t=22.0 C

Medium parameters used: f = 1880 MHz; σ = 1.55 mho/m; ϵ_r = 51.7; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(4.7, 4.7, 4.7); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM3; Type: SAM; Serial: TP-1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Display Facing Phantom - BP-3L Sony/Area Scan (61x101x1): Measurement grid:
dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.190 mW/g

Body - Middle - No Accessory - Display Facing Phantom - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 5.61 V/m

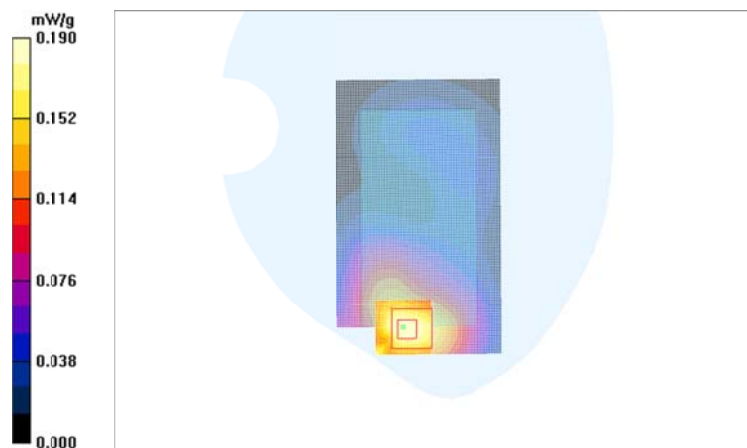
Peak SAR (extrapolated) = 0.286 W/kg

SAR(1 g) = 0.179 mW/g

SAR(10 g) = 0.111 mW/g

Power Drift = 0.074 dB

Maximum value of SAR (measured) = 0.194 mW/g



Date/Time: 2011-09-13 3:49:55 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: Body 1900; Medium Notes: Medium Temperature: $t=22.0\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.55\text{ mho/m}$; $\epsilon_r = 51.7$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(4.7, 4.7, 4.7); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM3; Type: SAM; Serial: TP-1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - WH-208 - Display Facing Phantom - BP-3L Sony/Area Scan (61x101x1): Measurement grid:

$dx=15\text{mm}$, $dy=15\text{mm}$

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

Body - Middle - WH-208 - Display Facing Phantom - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.03 V/m

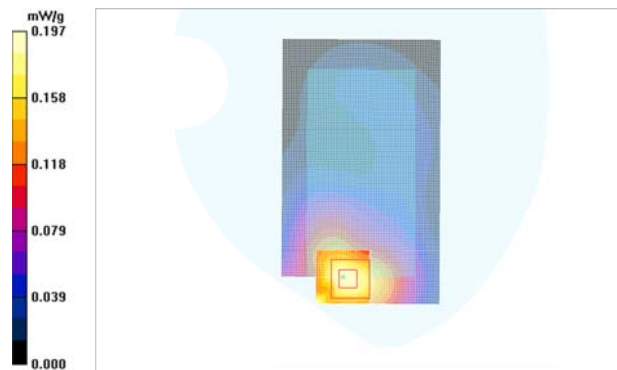
Peak SAR (extrapolated) = 0.292 W/kg

SAR(1 g) = 0.183 mW/g

SAR(10 g) = 0.112 mW/g

Power Drift = 0.046 dB

Maximum value of SAR (measured) = 0.200 mW/g



Date/Time: 2011-09-13 4:00:49 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: Body 1900; Medium Notes: Medium Temperature: $t=22.0\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.55\text{ mho/m}$; $\epsilon_r = 51.7$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(4.7, 4.7, 4.7); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM3; Type: SAM; Serial: TP-1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Back Facing Phantom - BP-3L Sony/Area Scan (61x101x1): Measurement grid:
 $dx=15\text{mm}$, $dy=15\text{mm}$

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

Body - Middle - No Accessory - Back Facing Phantom - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.17 V/m

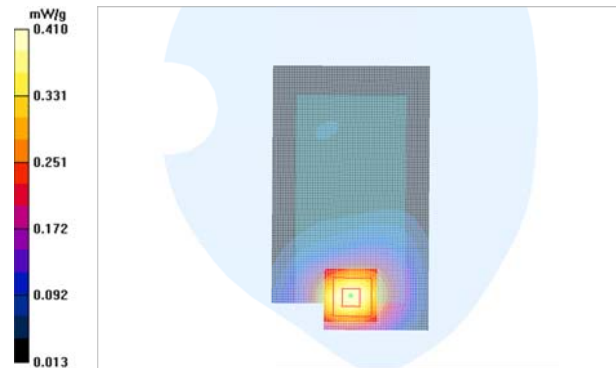
Peak SAR (extrapolated) = 0.560 W/kg

SAR(1 g) = 0.379 mW/g

SAR(10 g) = 0.237 mW/g

Power Drift = -0.069 dB

Maximum value of SAR (measured) = 0.410 mW/g



Date/Time: 2011-09-13 4:33:03 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: 2-slot GPRS1900

Frequency: 1909.8 MHz; Duty Cycle: 1:4.2

Medium: Body 1900; Medium Notes: Medium Temperature: $t=22.0\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 1910\text{ MHz}$; $\sigma = 1.57\text{ mho/m}$; $\epsilon_r = 51.6$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(4.7, 4.7, 4.7); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM3; Type: SAM; Serial: TP-1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - High - WH-208 - Back Facing Phantom - BP-3L Sony/Area Scan (61x101x1): Measurement grid:

$dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.421 mW/g

Body - High - WH-208 - Back Facing Phantom - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 4.22 V/m

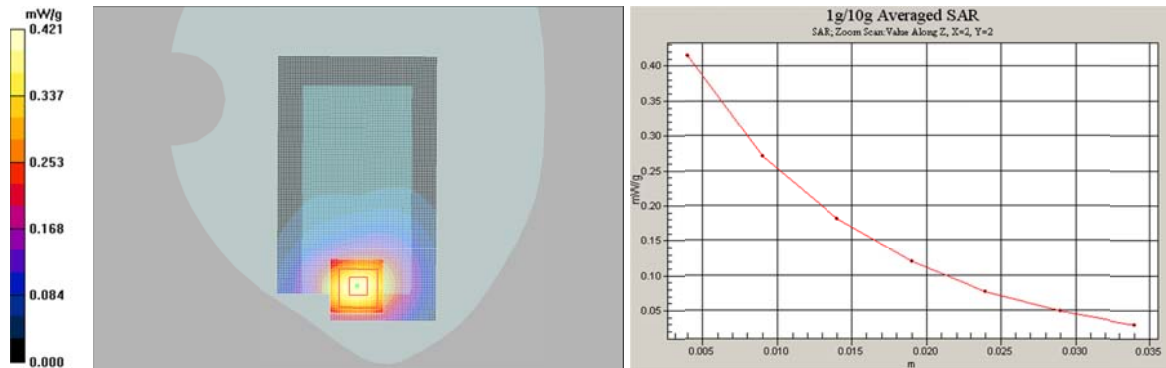
Peak SAR (extrapolated) = 0.582 W/kg

SAR(1 g) = 0.383 mW/g

SAR(10 g) = 0.239 mW/g

Power Drift = -0.212 dB

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



Date/Time: 2011-09-14 1:53:59 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: t=22.0C

Medium parameters used: f = 1880 MHz; σ = 1.57 mho/m; ϵ_r = 51.9; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(4.7, 4.7, 4.7); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM3; Type: SAM; Serial: TP-1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Display Facing Phantom - BP-3L Sony/Area Scan (61x101x1): Measurement grid:
dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.370 mW/g

Body - Middle - No Accessory - Display Facing Phantom - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.11 V/m

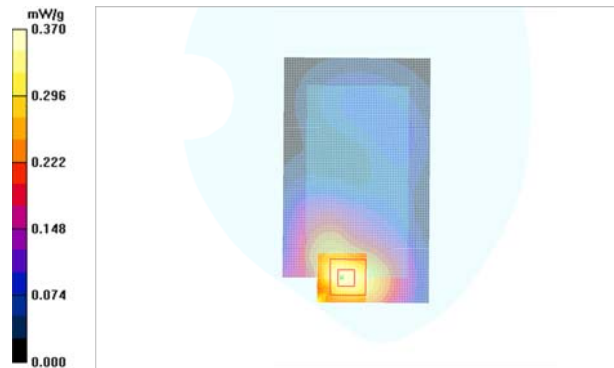
Peak SAR (extrapolated) = 0.529 W/kg

SAR(1 g) = 0.341 mW/g

SAR(10 g) = 0.213 mW/g

Power Drift = -0.122 dB

Maximum value of SAR (measured) = 0.366 mW/g



Date/Time: 2011-09-14 2:07:56 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: t=22.0C

Medium parameters used: f = 1880 MHz; σ = 1.57 mho/m; ϵ_r = 51.9; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(4.7, 4.7, 4.7); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM3; Type: SAM; Serial: TP-1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - WH-208 - Display Facing Phantom - BP-3L Sony/Area Scan (61x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.369 mW/g

Body - Middle - WH-208 - Display Facing Phantom - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

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

Reference Value = 7.17 V/m

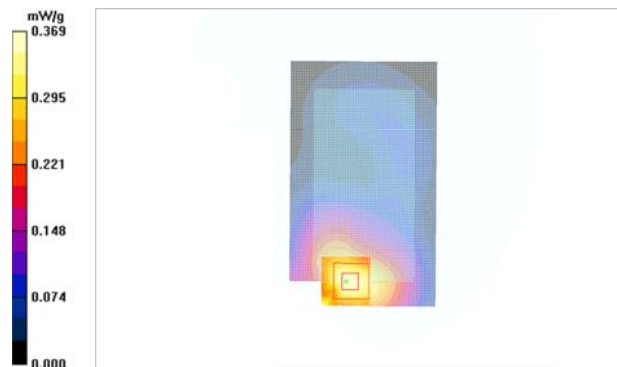
Peak SAR (extrapolated) = 0.537 W/kg

SAR(1 g) = 0.341 mW/g

SAR(10 g) = 0.210 mW/g

Power Drift = -0.049 dB

Maximum value of SAR (measured) = 0.368 mW/g



Date/Time: 2011-09-14 2:19:02 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: t=22.0C

Medium parameters used: f = 1880 MHz; σ = 1.57 mho/m; ϵ_r = 51.9; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(4.7, 4.7, 4.7); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM3; Type: SAM; Serial: TP-1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Back Facing Phantom - BP-3L Sony/Area Scan (61x101x1): Measurement grid:
dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.770 mW/g

Body - Middle - No Accessory - Back Facing Phantom - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.06 V/m

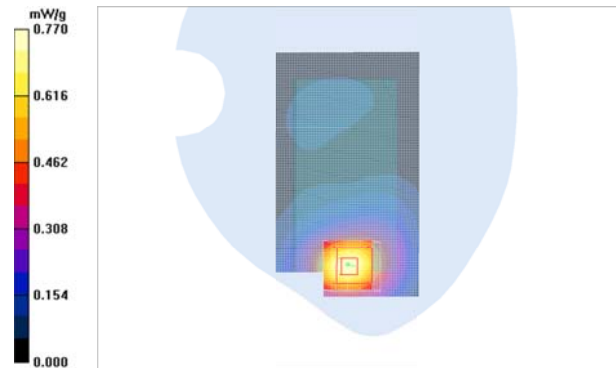
Peak SAR (extrapolated) = 1.05 W/kg

SAR(1 g) = 0.706 mW/g

SAR(10 g) = 0.443 mW/g

Power Drift = 0.086 dB

Maximum value of SAR (measured) = 0.762 mW/g



Date/Time: 2011-09-14 3:04:36 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: WCDMA1900

Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: t=22.0C

Medium parameters used: f = 1908 MHz; σ = 1.6 mho/m; ϵ_r = 51.7; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(4.7, 4.7, 4.7); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM3; Type: SAM; Serial: TP-1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - High - WH-208 - Back Facing Phantom - BP-3L Sony/Area Scan (61x101x1): Measurement grid:

dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.876 mW/g

Body - High - WH-208 - Back Facing Phantom - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

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

Reference Value = 6.06 V/m

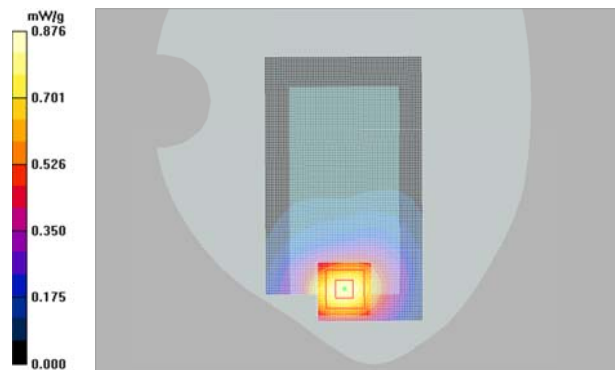
Peak SAR (extrapolated) = 1.22 W/kg

SAR(1 g) = 0.804 mW/g

SAR(10 g) = 0.499 mW/g

Power Drift = -0.069 dB

Maximum value of SAR (measured) = 0.869 mW/g



Date/Time: 2011-09-14 3:38:45 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4

Communication System: WCDMA1900

Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: t=22.0C

Medium parameters used: f = 1908 MHz; $\sigma = 1.6$ mho/m; $\epsilon_r = 51.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650; Probe Notes:
- ConvF(4.7, 4.7, 4.7); Calibrated: 2011-03-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn480; Calibrated: 2010-10-25
- Phantom: SAM3; Type: SAM; Serial: TP-1427
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - High - WH-208 - Back Facing Phantom - BP-3L LG/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.895 mW/g

Body - High - WH-208 - Back Facing Phantom - BP-3L LG/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.22 V/m

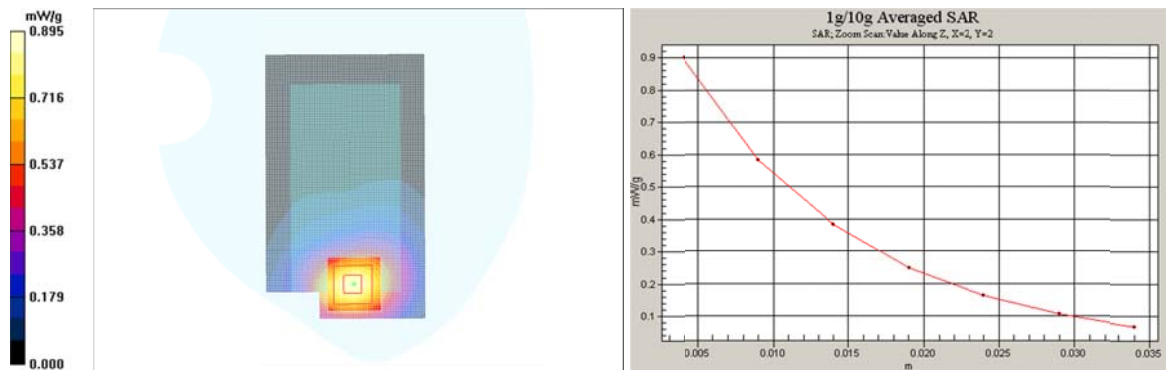
Peak SAR (extrapolated) = 1.26 W/kg

SAR(1 g) = 0.826 mW/g

SAR(10 g) = 0.512 mW/g

Power Drift = -0.175 dB

Maximum value of SAR (measured) = 0.900 mW/g



Date/Time: 2011-09-15 11:05:37 AM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635631/2

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: $t=21.9\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 2442\text{ MHz}$; $\sigma = 1.89\text{ mho/m}$; $\epsilon_r = 52.7$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3574; Probe Notes:
- ConvF(6.45, 6.45, 6.45); Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2010-10-25
- Phantom: SAM6; Type: SAM; Serial: TP - 1426
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Display Facing Phantom - BP-3L Sony/Area Scan (61x101x1): Measurement grid:
 $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.024 mW/g

Body - Middle - No Accessory - Display Facing Phantom - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 3.03 V/m

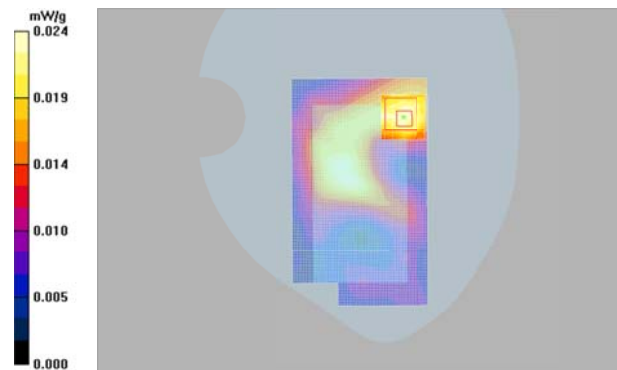
Peak SAR (extrapolated) = 0.040 W/kg

SAR(1 g) = 0.023 mW/g

SAR(10 g) = 0.015 mW/g

Power Drift = 0.347 dB

Maximum value of SAR (measured) = 0.025 mW/g



Date/Time: 2011-09-15 11:26:26 AM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635631/2

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: $t=21.9\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 2442\text{ MHz}$; $\sigma = 1.89\text{ mho/m}$; $\epsilon_r = 52.7$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3574; Probe Notes:
- ConvF(6.45, 6.45, 6.45); Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2010-10-25
- Phantom: SAM6; Type: SAM; Serial: TP - 1426
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - WH-208 - Display Facing Phantom - BP-3L Sony/Area Scan (61x101x1): Measurement grid:
 $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.031 mW/g

Body - Middle - WH-208 - Display Facing Phantom - BP-3L Sony/Zoom Scan 2 (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 3.08 V/m

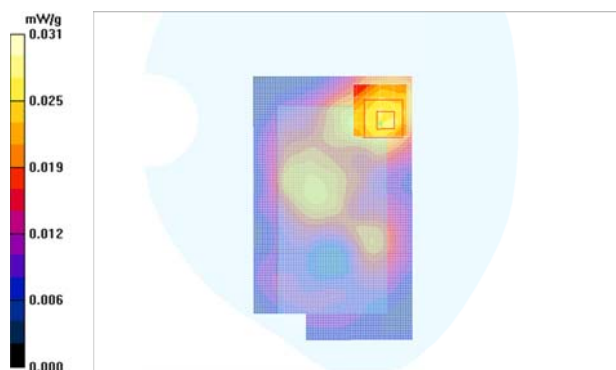
Peak SAR (extrapolated) = 0.053 W/kg

SAR(1 g) = 0.026 mW/g

SAR(10 g) = 0.017 mW/g

Power Drift = 0.224 dB

Maximum value of SAR (measured) = 0.028 mW/g



Date/Time: 2011-09-15 11:50:56 AM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635631/2

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: $t=21.9\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 2442\text{ MHz}$; $\sigma = 1.89\text{ mho/m}$; $\epsilon_r = 52.7$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3574; Probe Notes:
- ConvF(6.45, 6.45, 6.45); Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2010-10-25
- Phantom: SAM6; Type: SAM; Serial: TP - 1426
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Back Facing Phantom - BP-3L Sony/Area Scan (61x101x1): Measurement grid:
 $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.065 mW/g

Body - Middle - No Accessory - Back Facing Phantom - BP-3L Sony/Zoom Scan 2 (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.21 V/m

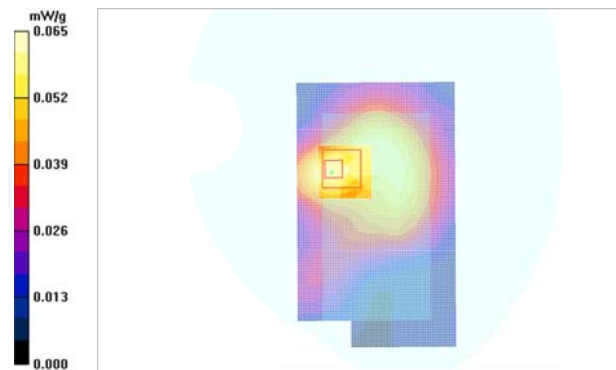
Peak SAR (extrapolated) = 0.097 W/kg

SAR(1 g) = 0.056 mW/g

SAR(10 g) = 0.034 mW/g

Power Drift = -0.050 dB

Maximum value of SAR (measured) = 0.059 mW/g



Date/Time: 2011-09-15 12:44:36 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635631/2

Communication System: WLAN2450 b-mode

Frequency: 2412 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: $t=21.9\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 2412\text{ MHz}$; $\sigma = 1.84\text{ mho/m}$; $\epsilon_r = 52.7$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3574; Probe Notes:
- ConvF(6.45, 6.45, 6.45); Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2010-10-25
- Phantom: SAM6; Type: SAM; Serial: TP - 1426
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Low - WH-208 - Back Facing Phantom - BP-3L Sony/Area Scan (61x101x1): Measurement grid:

$dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.072 mW/g

Body - Low - WH-208 - Back Facing Phantom - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 4.81 V/m

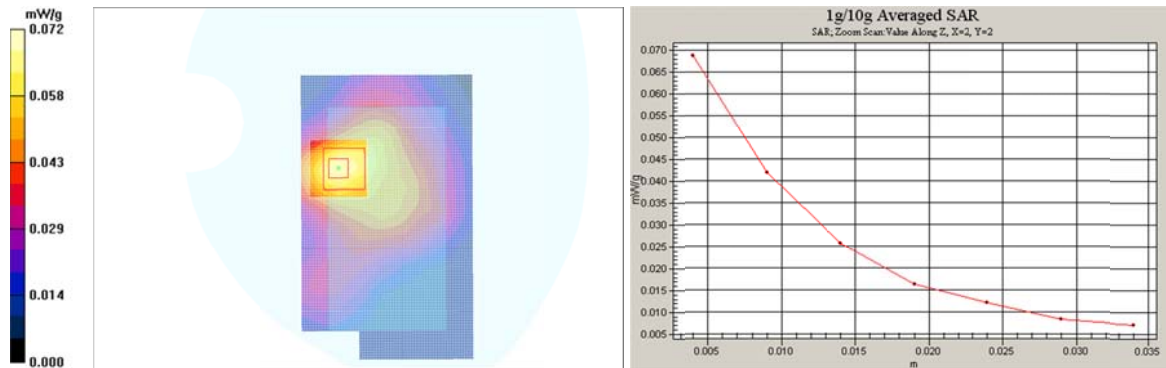
Peak SAR (extrapolated) = 0.101 W/kg

SAR(1 g) = 0.063 mW/g

SAR(10 g) = 0.038 mW/g

Power Drift = 0.058 dB

Maximum value of SAR (measured) = 0.069 mW/g



Date/Time: 2011-09-15 3:08:44 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635631/2

Communication System: WLAN2450 n-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: $t=21.9\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 2442\text{ MHz}$; $\sigma = 1.89\text{ mho/m}$; $\epsilon_r = 52.7$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3574; Probe Notes:
- ConvF(6.45, 6.45, 6.45); Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2010-10-25
- Phantom: SAM6; Type: SAM; Serial: TP - 1426
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - WH-208 - Back Facing Phantom - BP-3L Sony/Area Scan (61x101x1): Measurement grid:

$dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.034 mW/g

Body - Middle - WH-208 - Back Facing Phantom - BP-3L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 3.25 V/m

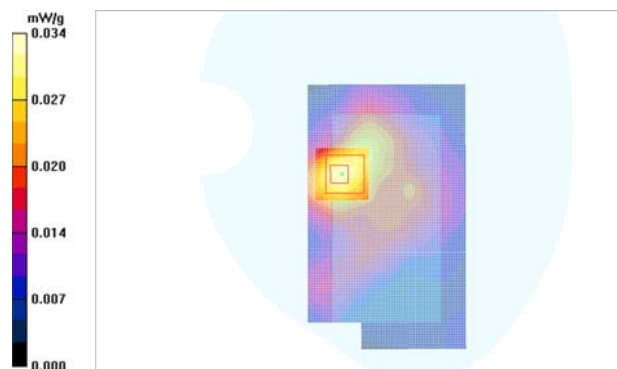
Peak SAR (extrapolated) = 0.065 W/kg

SAR(1 g) = 0.031 mW/g

SAR(10 g) = 0.019 mW/g

Power Drift = 0.471 dB

Maximum value of SAR (measured) = 0.034 mW/g



Date/Time: 2011-09-15 1:55:22 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635631/2

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: $t=21.9\text{ C}$

Medium parameters used: $f = 2442\text{ MHz}$; $\sigma = 1.89\text{ mho/m}$; $\epsilon_r = 52.7$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3574; Probe Notes:
- ConvF(6.45, 6.45, 6.45); Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn860; Calibrated: 2010-10-25
- Phantom: SAM6; Type: SAM; Serial: TP - 1426
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - WH-208 - Back Facing Phantom - BP-3L LG/Area Scan (61x101x1): Measurement grid:

$dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.042 mW/g

Body - Middle - WH-208 - Back Facing Phantom - BP-3L LG/Zoom Scan (5x5x7)/Cube 0: Measurement grid:

$dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 3.61 V/m

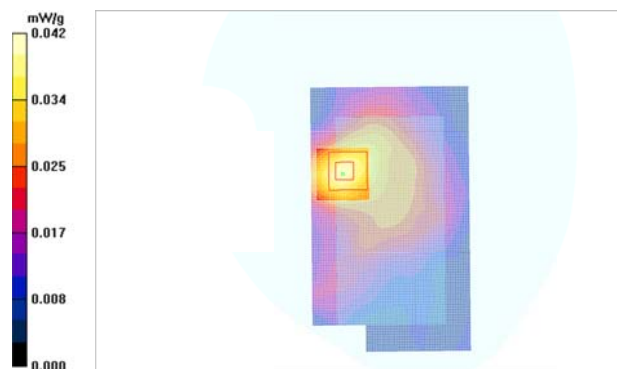
Peak SAR (extrapolated) = 0.068 W/kg

SAR(1 g) = 0.037 mW/g

SAR(10 g) = 0.022 mW/g

Power Drift = 0.068 dB

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



Date/Time: 2011-09-09 12:49:11 PM, Date/Time: 2011-09-14 2:45:30 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4, Serial: 004402/13/635631/2

Communication System: 4-slot GPRS850, Communication System: WLAN2450 b-mode

Frequency: 836.6 MHz, Frequency: 2462 MHz; Duty Cycle: 1:2.08, Duty Cycle: 1:1

Medium: Head 835, Medium: Head 2450; Medium Notes: Medium Temperature: $t = 21.9$ C, Medium Notes:

Medium Temperature: $t = 21.9$ C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.88$ mho/m; $\epsilon_r = 40.8$; $\rho = 1000$ kg/m³, Medium parameters used:

$f = 2462$ MHz; $\sigma = 1.82$ mho/m; $\epsilon_r = 39.5$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650, Probe: EX3DV4 - SN3574
- ConvF(6.53, 6.53, 6.53), ConvF(6.37, 6.37, 6.37); Calibrated: 2011-03-09, Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn480, Electronics: DAE4 Sn860; Calibrated: 2010-10-25
- Phantom: SAM1, Phantom: SAM5; Type: SAM; Serial: TP - 01097, Serial: TP - 1178
- ; SEMCAD X Version 14.0 Build 61

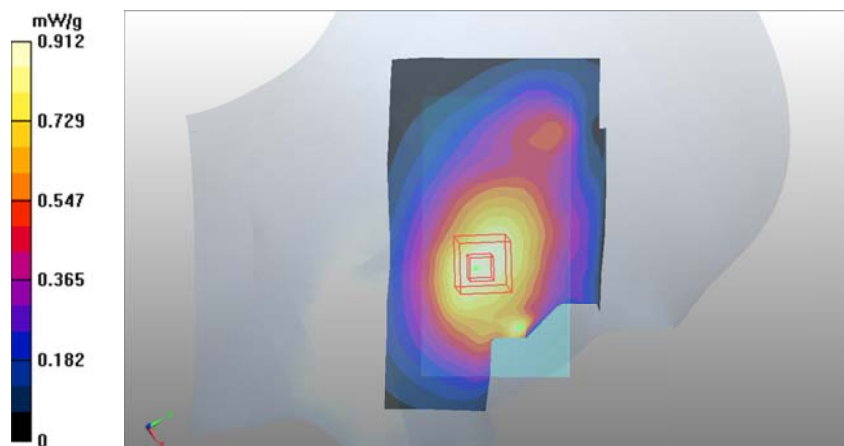
Configuration/Cheek position - Middle - BP-3L Sony/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Cheek position - High - BP-3L Sony/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.856 mW/g

SAR(10 g) = 0.598 mW/g

Maximum value of SAR (measured) = 0.912 mW/g



Date/Time: 2011-09-13 11:32:03 AM, Date/Time: 2011-09-14 2:45:30 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4, Serial: 004402/13/635631/2

Communication System: 2-slot GPRS1900, Communication System: WLAN2450 b-mode

Frequency: 1880 MHz, Frequency: 2462 MHz; Duty Cycle: 1:4.2, Duty Cycle: 1:1

Medium: Head 1900, Medium: Head 2450; Medium Notes: Medium Temperature: $t=22.1^{\circ}\text{C}$, Medium Notes:

Medium Temperature: $t=21.9^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.42\text{ mho/m}$; $\epsilon_r = 38.2$; $\rho = 1000\text{ kg/m}^3$, Medium parameters used:
 $f = 2462\text{ MHz}$; $\sigma = 1.82\text{ mho/m}$; $\epsilon_r = 39.5$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

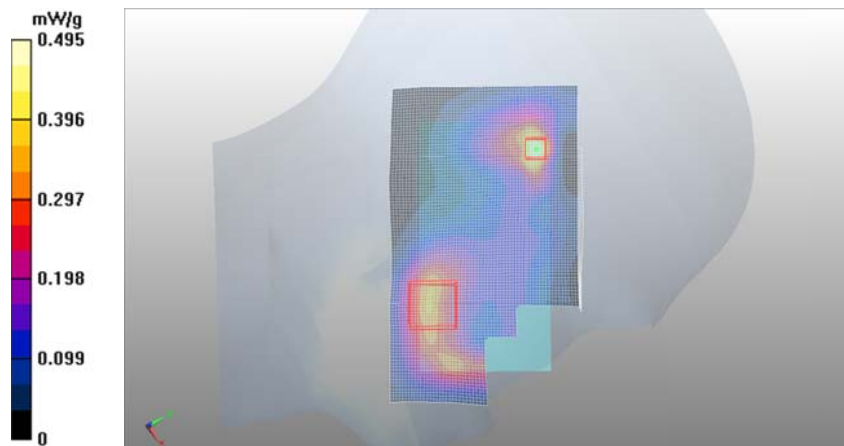
- Probe: ET3DV6 - SN1650, Probe: EX3DV4 - SN3574
- ConvF(5.33, 5.33, 5.33), ConvF(6.37, 6.37, 6.37); Calibrated: 2011-03-09, Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn480, Electronics: DAE4 Sn860; Calibrated: 2010-10-25
- Phantom: SAM4, Phantom: SAM5; Type: SAM; Serial: TP - 1427, Serial: TP - 1178
- ; SEMCAD X Version 14.0 Build 61

Configuration/Cheek position - Middle - BP-3L Sony/Area Scan (7x11x1): Measurement grid: $dx=15\text{mm}$,
 $dy=15\text{mm}$

Configuration/Cheek position - High - BP-3L Sony/Area Scan (7x11x1): Measurement grid: $dx=15\text{mm}$,
 $dy=15\text{mm}$

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.329 mW/g
SAR(10 g) = 0.171 mW/g

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



Date/Time: 2011-09-14 1:10:42 PM, Date/Time: 2011-09-14 2:45:30 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4, Serial: 004402/13/635631/2

Communication System: WCDMA1900, Communication System: WLAN2450 b-mode

Frequency: 1907.6 MHz, Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: Head 1900, Medium: Head 2450; Medium Notes: Medium Temperature: t=22.1C, Medium Notes:

Medium Temperature: t=21.9 C

Medium parameters used: f = 1908 MHz; σ = 1.46 mho/m; ϵ_r = 38.1; ρ = 1000 kg/m³, Medium parameters used:
f = 2462 MHz; σ = 1.82 mho/m; ϵ_r = 39.5; ρ = 1000 kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650, Probe: EX3DV4 - SN3574
- ConvF(5.33, 5.33, 5.33), ConvF(6.37, 6.37, 6.37); Calibrated: 2011-03-09, Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn480, Electronics: DAE4 Sn860; Calibrated: 2010-10-25
- Phantom: SAM4, Phantom: SAM5; Type: SAM; Serial: TP - 1427, Serial: TP - 1178
- ; SEMCAD X Version 14.0 Build 61

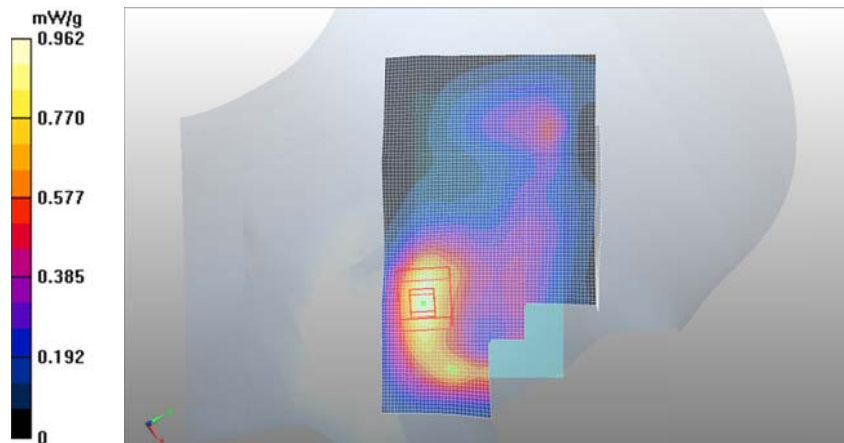
Configuration/Cheek position - High - BP-3L LG/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Cheek position - High - BP-3L Sony/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.820 mW/g

SAR(10 g) = 0.463 mW/g

Maximum value of SAR (measured) = 0.962 mW/g



Date/Time: 2011-09-16 1:21:31 PM, Date/Time: 2011-09-15 11:50:56 AM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635631/2

Communication System: 4-slot GPRS850, Communication System: WLAN2450 b-mode

Frequency: 836.6 MHz, Frequency: 2442 MHz; Duty Cycle: 1:2.08, Duty Cycle: 1:1

Medium: Body 835, Medium: Body 2450; Medium Notes: Medium Temperature: $t = 22.0$ C, Medium Notes:

Medium Temperature: $t = 21.9$ C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.982$ mho/m; $\epsilon_r = 54$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 2442$ MHz; $\sigma = 1.89$ mho/m; $\epsilon_r = 52.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1652, Probe: EX3DV4 - SN3574
- ConvF(5.9, 5.9, 5.9), ConvF(6.45, 6.45, 6.45); Calibrated: 2010-10-21, Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn858, Electronics: DAE4 Sn860; Calibrated: 2011-03-08, Calibrated: 2010-10-25
- Phantom: SAM2, Phantom: SAM6; Type: SAM; Serial: TP - 1508, Serial: TP - 1426
- ; SEMCAD X Version 14.0 Build 61

Configuration/Body - Middle - No Accessory - Back Facing Phantom - BP-3L LG/Area Scan (7x11x1):

Measurement grid: $dx = 15$ mm, $dy = 15$ mm

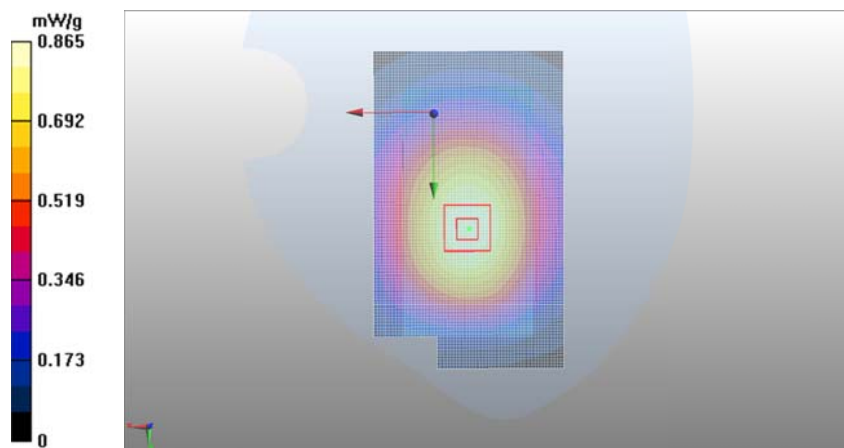
Configuration/Body - Middle - No Accessory - Back Facing Phantom - BP-3L Sony/Area Scan (7x11x1):

Measurement grid: $dx = 15$ mm, $dy = 15$ mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.818 mW/g

SAR(10 g) = 0.578 mW/g

Maximum value of SAR (measured) = 0.865 mW/g



Date/Time: 2011-09-13 4:33:03 PM, Date/Time: 2011-09-15 12:44:36 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4, Serial: 004402/13/635631/2

Communication System: 2-slot GPRS1900, Communication System: WLAN2450 b-mode

Frequency: 1909.8 MHz, Frequency: 2412 MHz; Duty Cycle: 1:4.2, Duty Cycle: 1:1

Medium: Body 1900, Medium: Body 2450; Medium Notes: Medium Temperature: $t=22.0$ C, Medium Notes:

Medium Temperature: $t=21.9$ C

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 51.6$; $\rho = 1000$ kg/m³, Medium parameters used:
 $f = 2412$ MHz; $\sigma = 1.84$ mho/m; $\epsilon_r = 52.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

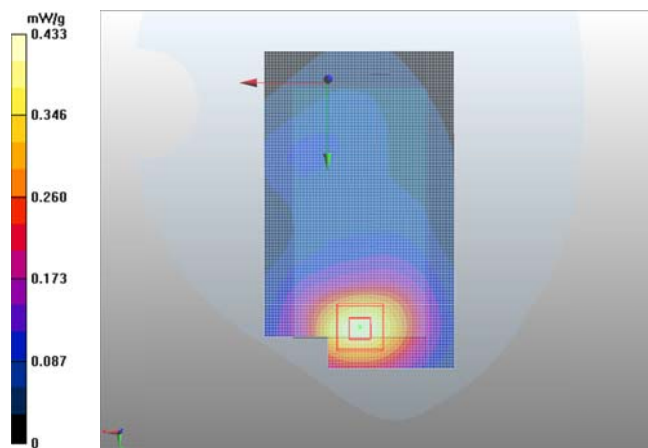
- Probe: ET3DV6 - SN1650, Probe: EX3DV4 - SN3574
- ConvF(4.7, 4.7, 4.7), ConvF(6.45, 6.45, 6.45); Calibrated: 2011-03-09, Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn480, Electronics: DAE4 Sn860; Calibrated: 2010-10-25
- Phantom: SAM3, Phantom: SAM6; Type: SAM; Serial: TP-1427, Serial: TP - 1426
- ; SEMCAD X Version 14.0 Build 61

Configuration/Body - High - WH-208 - Back Facing Phantom - BP-3L Sony/Area Scan (7x11x1): Measurement
grid: dx=15mm, dy=15mm

Configuration/Body - Low - WH-208 - Back Facing Phantom - BP-3L Sony/Area Scan (7x11x1): Measurement
grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.396 mW/g
SAR(10 g) = 0.233 mW/g

Maximum value of SAR (measured) = 0.433 mW/g



Date/Time: 2011-09-14 3:38:45 PM, Date/Time: 2011-09-15 12:44:36 PM

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635625/4, Serial: 004402/13/635631/2

Communication System: WCDMA1900, Communication System: WLAN2450 b-mode

Frequency: 1907.6 MHz, Frequency: 2412 MHz; Duty Cycle: 1:1

Medium: Body 1900, Medium: Body 2450; Medium Notes: Medium Temperature: t=22.0C, Medium Notes:

Medium Temperature: t=21.9 C

Medium parameters used: f = 1908 MHz; $\sigma = 1.6$ mho/m; $\epsilon_r = 51.7$; $\rho = 1000$ kg/m³, Medium parameters used:

f = 2412 MHz; $\sigma = 1.84$ mho/m; $\epsilon_r = 52.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1650, Probe: EX3DV4 - SN3574
- ConvF(4.7, 4.7, 4.7), ConvF(6.45, 6.45, 6.45); Calibrated: 2011-03-09, Calibrated: 2010-10-19
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn480, Electronics: DAE4 Sn860; Calibrated: 2010-10-25
- Phantom: SAM3, Phantom: SAM6; Type: SAM; Serial: TP-1427, Serial: TP - 1426
- ; SEMCAD X Version 14.0 Build 61

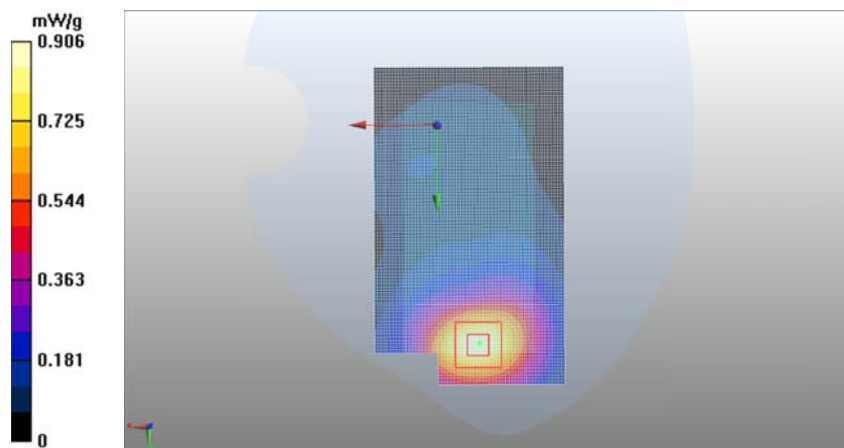
Configuration/Body - High - WH-208 - Back Facing Phantom - BP-3L LG/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Body - Low - WH-208 - Back Facing Phantom - BP-3L Sony/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.828 mW/g

SAR(10 g) = 0.486 mW/g

Maximum value of SAR (measured) = 0.906 mW/g



APPENDIX C: CONDUCTED AVERAGE POWER MEASUREMENTS FOR WCDMA AND HSUPA

Test Laboratory: TCC Nokia

Type: RM-803; Serial: 004402/13/635649/4, HW: 0110, SW: 1600.2201.7720.11350

C.1. WCDMA1900 Test results

Average power

Ch	P [dBm]
9263	23.10
9400	22.79
9537	22.94

C.2. HSUPA1900 Test results

Average power

Ch	P [dBm]				
	Subtest mode 1	Subtest mode 2	Subtest mode 3	Subtest mode 4	Subtest mode 5
9263	20.68	21.45	21.31	21.50	21.50
9400	20.76	21.16	20.93	21.03	21.06
9537	21.25	21.64	21.54	21.49	21.47

Note: In HSUPA operation, the output power is reduced relative to the tuning target power for WCDMA. This device runs two separate HSUPA power control routines: MPR and E-TFC MPR. In each Subtest mode, the routine with the higher power reduction dominates. In addition, to ensure linearity of the PA output, a further 1dB power reduction for Subtest mode 1, 0.5dB for Subtest mode 3 and 2.0dB for Subtest mode 5 is implemented. As a result, the MPR for each of the Subtest modes is as follows:

Maximum Power Reduction (MPR)				
Subtest mode 1	Subtest mode 2	Subtest mode 3	Subtest mode 4	Subtest mode 5
2.5 dB	2.0 dB	1.5 dB	2.0 dB	2.0 dB

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



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Client **Nokia Beijing TCC**

Certificate No: **ET3-1652_Oct10**

CALIBRATION CERTIFICATE

Object **ET3DV6 - SN:1652**

Calibration procedure(s) **QA CAL-01.v6, QA CAL-23.v3 and QA CAL-25.v2
Calibration procedure for dosimetric E-field probes**

Calibration date: **October 21, 2010**

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

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^\circ\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-10 (No. 217-01136)	Apr-11
Power sensor E4412A	MY41495277	1-Apr-10 (No. 217-01136)	Apr-11
Power sensor E4412A	MY41498087	1-Apr-10 (No. 217-01136)	Apr-11
Reference 3 dB Attenuator	SN: S5054 (3c)	30-Mar-10 (No. 217-01159)	Mar-11
Reference 20 dB Attenuator	SN: S5086 (20b)	30-Mar-10 (No. 217-01161)	Mar-11
Reference 30 dB Attenuator	SN: S5129 (30b)	30-Mar-10 (No. 217-01160)	Mar-11
Reference Probe ES3DV2	SN: 3013	30-Dec-09 (No. ES3-3013_Dec09)	Dec-10
DAE4	SN: 660	20-Apr-10 (No. DAE4-660_Apr10)	Apr-11
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

Calibrated by: **Claudio Leubler** Laboratory Technician

Signature

Approved by: **Katja Pokovic** Technical Manager

Issued: October 21, 2010

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

DASY/EASY - Parameters of Probe: ET3DV6 SN:1652

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V/m})^2$) ^A	2.00	2.06	2.00	± 10.1%
DCP (mV) ^B	91.7	93.3	92.5	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dBuV	C	VR mV	Unc ^E (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	300.0	± 1.5%
			Y	0.00	0.00	1.00	300.0	
			Z	0.00	0.00	1.00	300.0	

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Pages 5 and 6).

^B Numerical linearization parameter: uncertainty not required.

^E Uncertainty is determined using the maximum deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: ET3DV6 SN:1652

Calibration Parameter Determined in Head Tissue Simulating Media

f [MHz]	Validity [MHz] ^c	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
835	± 50 / ± 100	41.5 ± 5%	0.90 ± 5%	6.04	6.04	6.04	0.52	2.09 ± 11.0%
1750	± 50 / ± 100	40.1 ± 5%	1.37 ± 5%	5.15	5.15	5.15	0.54	2.71 ± 11.0%
1900	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	4.91	4.91	4.91	0.69	2.30 ± 11.0%

^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.

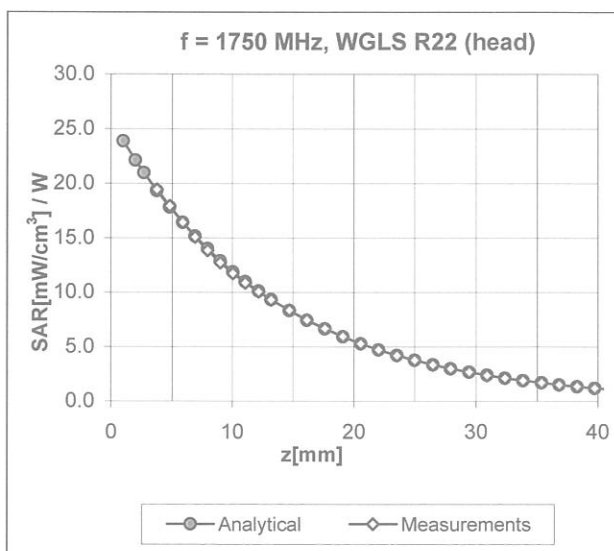
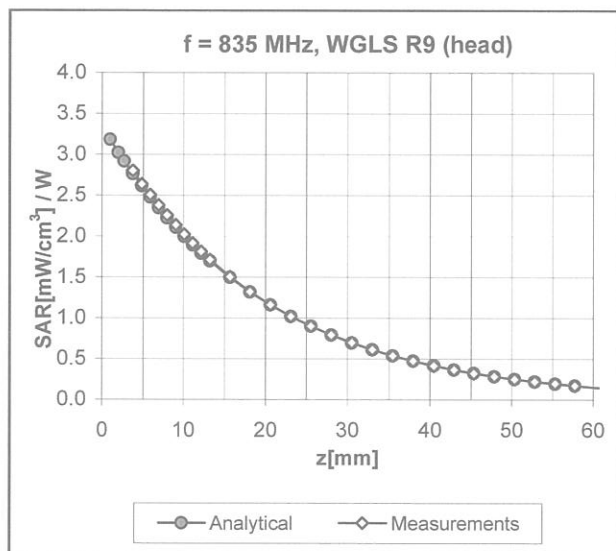
DASY/EASY - Parameters of Probe: ET3DV6 SN:1652

Calibration Parameter Determined in Body Tissue Simulating Media

f [MHz]	Validity [MHz] ^c	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
835	± 50 / ± 100	55.2 ± 5%	0.97 ± 5%	5.90	5.90	5.90	0.50	2.25 ± 11.0%
1750	± 50 / ± 100	53.4 ± 5%	1.49 ± 5%	4.57	4.57	4.57	0.65	2.93 ± 11.0%
1900	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	4.33	4.33	4.33	0.93	2.28 ± 11.0%

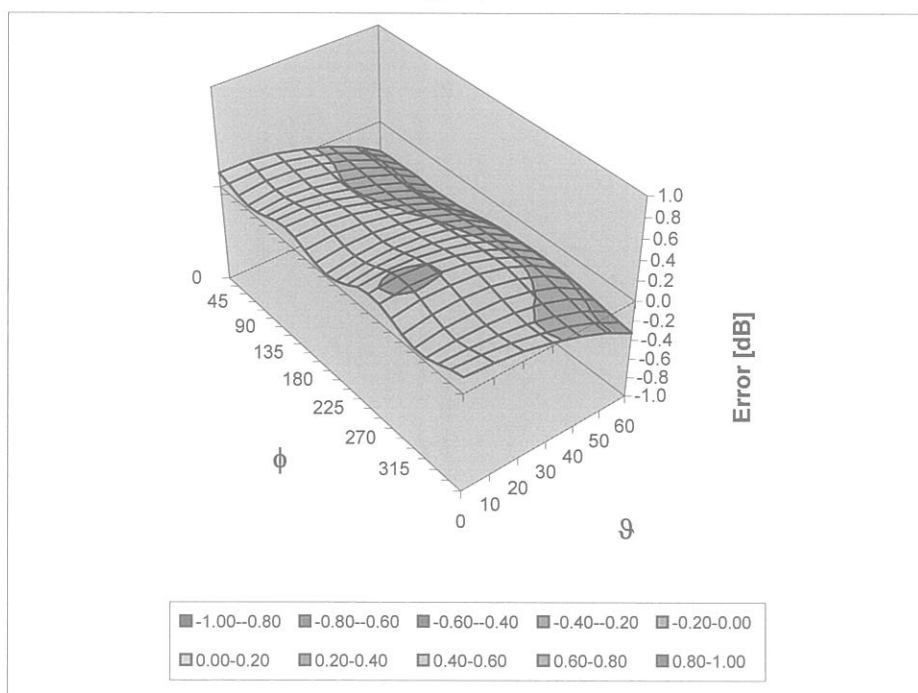
^c The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

Conversion Factor Assessment



Deviation from Isotropy in HSL

Error (ϕ , ϑ), f = 900 MHz



Uncertainty of Spherical Isotropy Assessment: $\pm 2.6\%$ (k=2)



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 Beijing TCC**

Certificate No: **ET3-1650_Mar11**

CALIBRATION CERTIFICATE

Object **ET3DV6 - SN:1650**

Calibration procedure(s) **QA CAL-01.v7, QA CAL-23.v4, QA CAL-25.v3
 Calibration procedure for dosimetric E-field probes**

Calibration date: **March 9, 2011**

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

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^{\circ}\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	01-Apr-10 (No. 217-01136)	Apr-11
Power sensor E4412A	MY41495277	01-Apr-10 (No. 217-01136)	Apr-11
Power sensor E4412A	MY41498087	01-Apr-10 (No. 217-01136)	Apr-11
Reference 3 dB Attenuator	SN: S5054 (3c)	30-Mar-10 (No. 217-01159)	Mar-11
Reference 20 dB Attenuator	SN: S5086 (20b)	30-Mar-10 (No. 217-01161)	Mar-11
Reference 30 dB Attenuator	SN: S5129 (30b)	30-Mar-10 (No. 217-01160)	Mar-11
Reference Probe ES3DV2	SN: 3013	29-Dec-10 (No. ES3-3013_Dec10)	Dec-11
DAE4	SN: 654	23-Apr-10 (No. DAE4-654_Apr10)	Apr-11
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	
Issued: March 10, 2011			
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.			

DASY/EASY - Parameters of Probe: ET3DV6 - SN:1650

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	1.94	1.87	1.84	± 10.1 %
DCP (mV) ^B	97.6	93.3	95.1	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dB	C dB	VR mV	Unc ^E (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	105.7	±3.0 %
			Y	0.00	0.00	1.00	109.2	
			Z	0.00	0.00	1.00	105.2	

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Pages 5 and 6).

^B Numerical linearization parameter: uncertainty not required.

^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: ET3DV6 - SN:1650

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
835	41.5	0.90	6.53	6.53	6.53	0.80	1.77	± 12.0 %
1750	40.1	1.37	5.55	5.55	5.55	0.62	2.28	± 12.0 %
1900	40.0	1.40	5.33	5.33	5.33	0.62	2.23	± 12.0 %

^C Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

DASY/EASY - Parameters of Probe: ET3DV6- SN:1650

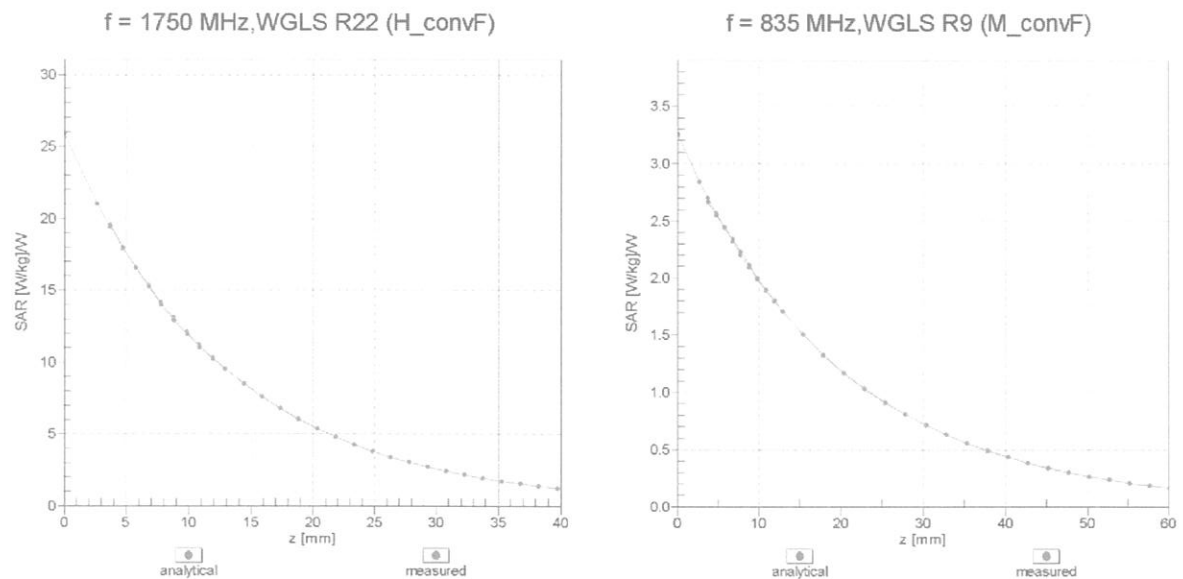
Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
835	55.2	0.97	6.69	6.69	6.69	0.73	2.01	± 12.0 %
1750	53.4	1.49	4.91	4.91	4.91	0.64	2.64	± 12.0 %
1900	53.3	1.52	4.70	4.70	4.70	0.66	2.48	± 12.0 %

^C Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

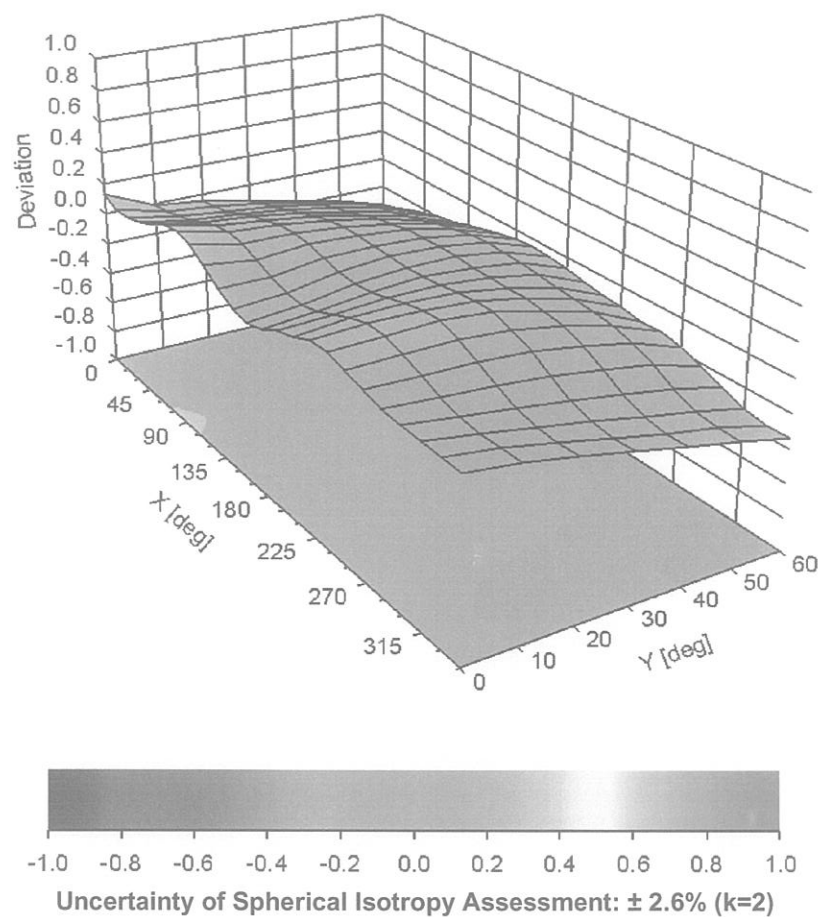
^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

Conversion Factor Assessment



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), $f = 900 \text{ MHz}$



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



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 Beijing TCC**

Certificate No: **D835V2-4d005_Mar10**

CALIBRATION CERTIFICATE

Object **D835V2 - SN: 4d005**

Calibration procedure(s) **QA CAL-05.v7**
Calibration procedure for dipole validation kits

Calibration date: **March 15, 2010**

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

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^{\circ}\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-09 (No. 217-01086)	Oct-10
Power sensor HP 8481A	US37292783	06-Oct-09 (No. 217-01086)	Oct-10
Reference 20 dB Attenuator	SN: 5086 (20g)	31-Mar-09 (No. 217-01025)	Mar-10
Type-N mismatch combination	SN: 5047.2 / 06327	31-Mar-09 (No. 217-01029)	Mar-10
Reference Probe ES3DV3	SN: 3205	26-Jun-09 (No. ES3-3205_Jun09)	Jun-10
DAE4	SN: 601	02-Mar-10 (No. DAE4-601_Mar10)	Mar-11

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-09)	In house check: Oct-10

	Name	Function	Signature
Calibrated by:	Dimce Iliev	Laboratory Technician	

Approved by:	Katja Pokovic	Technical Manager
--------------	---------------	-------------------

Issued: March 15, 2010

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

DASY5 Validation Report for Head TSL

Date/Time: 08.03.2010 10:09:46

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d005

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

Medium: HSL900

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.91 \text{ mho/m}$; $\epsilon_r = 42.9$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.04, 6.04, 6.04); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 02.03.2010
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

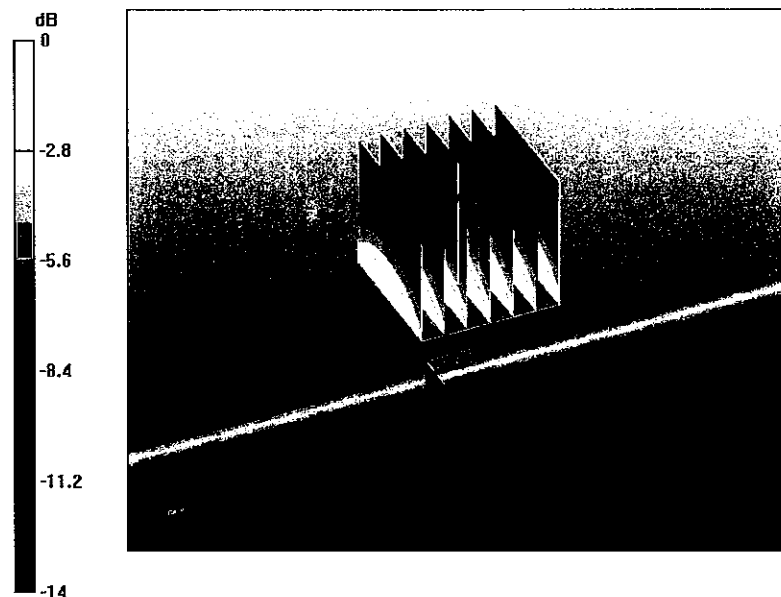
Pin=250 mW /d=15mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 57.1 V/m; Power Drift = 0.033 dB

Peak SAR (extrapolated) = 3.61 W/kg

SAR(1 g) = 2.41 mW/g; SAR(10 g) = 1.57 mW/g

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



0 dB = 2.81mW/g

DASY5 Validation Report for Body

Date/Time: 15.03.2010 10:35:39

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d005

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

Medium: MSL900

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 1.01 \text{ mho/m}$; $\epsilon_r = 55.3$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.97, 5.97, 5.97); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 02.03.2010
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

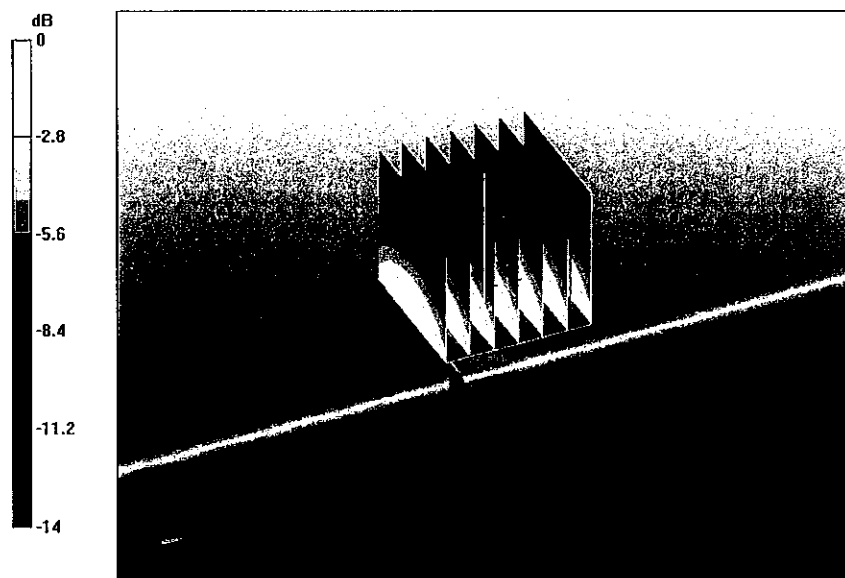
Pin250 mW /d=15mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56 V/m; Power Drift = 0.021 dB

Peak SAR (extrapolated) = 3.78 W/kg

SAR(1 g) = 2.56 mW/g; SAR(10 g) = 1.67 mW/g

Maximum value of SAR (measured) = 2.99 mW/g



0 dB = 2.99mW/g



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

Accreditation No.: **SCS 108**

Client **Nokia Beijing TCC**

Certificate No: **D1900V2-509_Oct10**

CALIBRATION CERTIFICATE

Object **D1900V2 - SN: 509**

Calibration procedure(s) **QA CAL-05.v7
Calibration procedure for dipole validation kits**

Calibration date: **October 21, 2010**

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

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^\circ\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: 5086 (20g)	30-Mar-10 (No. 217-01158)	Mar-11
Type-N mismatch combination	SN: 5047.2 / 06327	30-Mar-10 (No. 217-01162)	Mar-11
Reference Probe ES3DV3	SN: 3205	30-Apr-10 (No. ES3-3205_Apr10)	Apr-11
DAE4	SN: 601	10-Jun-10 (No. DAE4-601_Jun10)	Jun-11

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

Calibrated by: **Dimce Iliev** **Laboratory Technician** **D. Iliev**

Approved by: **Katja Pokovic** **Technical Manager**

Issued: October 22, 2010

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

DASY5 Validation Report for Head TSL

Date/Time: 20.10.2010 11:55:52

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: HSL U12 BB

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 38.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.09, 5.09, 5.09); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY52, V52.2 Build 0, Version 52.2.0 (163)
- Postprocessing SW: SEMCAD X, V14.2 Build 2, Version 14.2.2 (1685)

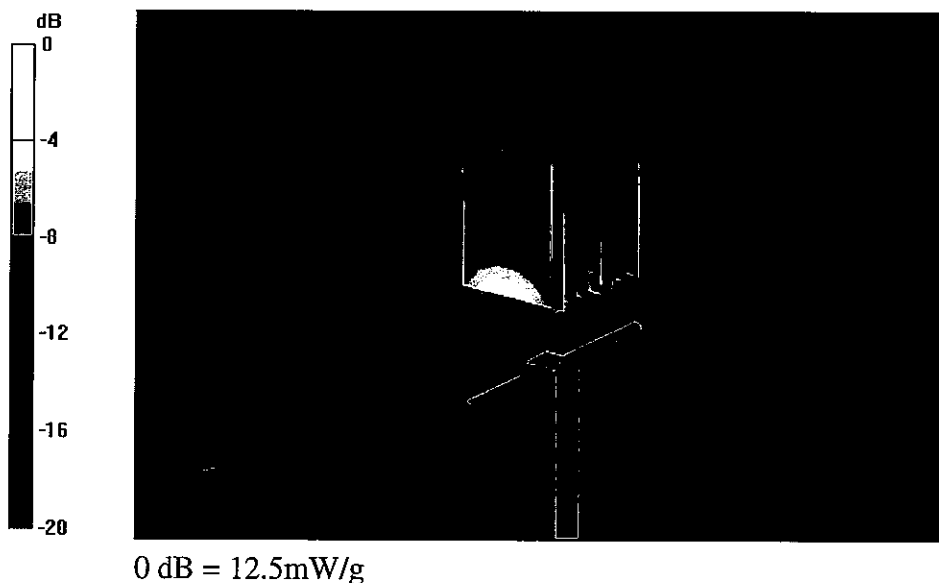
Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 97.9 V/m; Power Drift = 0.046 dB

Peak SAR (extrapolated) = 18.5 W/kg

SAR(1 g) = 10 mW/g; SAR(10 g) = 5.17 mW/g

Maximum value of SAR (measured) = 12.5 mW/g





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

Accreditation No.: **SCS 108**

Client **Nokia Beijing TCC**

Certificate No: **D2450V2-760_Mar11**

CALIBRATION CERTIFICATE

Object **D2450V2 - SN: 760**

Calibration procedure(s) **QA CAL-05.v8
Calibration procedure for dipole validation kits**

Calibration date: **March 17, 2011**

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

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^{\circ}\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: 5086 (20g)	30-Mar-10 (No. 217-01158)	Mar-11
Type-N mismatch combination	SN: 5047.2 / 06327	30-Mar-10 (No. 217-01162)	Mar-11
Reference Probe ES3DV3	SN: 3205	30-Apr-10 (No. ES3-3205_Apr10)	Apr-11
DAE4	SN: 601	10-Jun-10 (No. DAE4-601_Jun10)	Jun-11

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

	Name	Function	Signature
Calibrated by:	Dimce Iliev	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: March 17, 2011

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

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:760

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: HSL U12 BB

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.72$ mho/m; $\epsilon_r = 38.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.53, 4.53, 4.53); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY52, V52.6.2 Build (424)
- Postprocessing SW: SEMCAD X, V14.4.4 Build (2829)

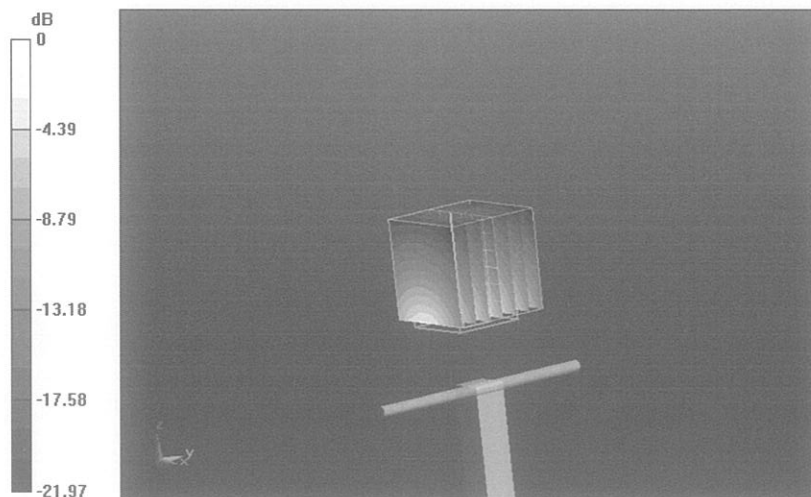
Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 101.2 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 27.253 W/kg

SAR(1 g) = 13.3 mW/g; SAR(10 g) = 6.25 mW/g

Maximum value of SAR (measured) = 17.126 mW/g



0 dB = 17.130mW/g

DASY5 Validation Report for Body TSL

Date/Time: 08.03.2011 14:08:11

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:760

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: MSL U12 BB

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.93$ mho/m; $\epsilon_r = 51.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.31, 4.31, 4.31); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY52, V52.6.2 Build (424)
- Postprocessing SW: SEMCAD X, V14.4.4 Build (2829)

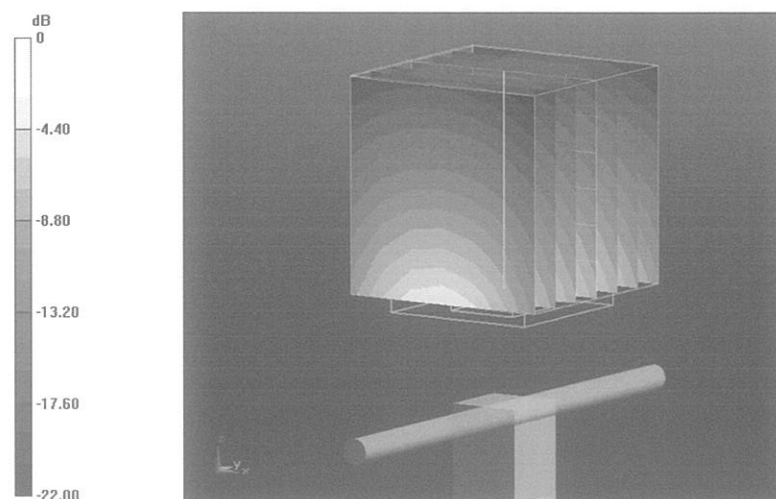
Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 97.844 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 27.853 W/kg

SAR(1 g) = 13.3 mW/g; SAR(10 g) = 6.14 mW/g

Maximum value of SAR (measured) = 17.439 mW/g



0 dB = 17.440mW/g