

SAR Compliance Test Report

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Test results:	The tested device complies with the requirements in respect of all parameters subject to the test. The test results and statements relate only to the items tested. The test report shall not be reproduced except in full, without written approval of the laboratory.		

Date and signatures:

For the contents:

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1. SUMMARY OF SAR TEST REPORT

1.1 Test Details

Period of test	2011-02-02 to 2011-02-23
SN, HW and SW numbers of tested device	SN: 004402/13/343431/0, HW: 3500, SW: 020.027, DUT: 23784
Batteries used in testing	BP-4L Sony, DUT: 23776, 23777, 23778, 23781, 23782, 23783 BP-4L LG, DUT: 23764, 23768, 23769, 23770, 23771, 23772, 23773, 23774, 23775, 23779
Headsets used in testing	WH-207, DUT: 23765
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
GSM850	190/836.6	32.5 dBm	Left, Cheek	0.732 W/kg	0.82 W/kg	1.6 W/kg	PASSED
WCDMA850	4233/846.6	23.2 dBm	Left, Cheek	0.620 W/kg	0.69 W/kg	1.6 W/kg	PASSED
WCDMA 1700/2100	1412/1732.4	21.2 dBm	Right, Cheek	0.830 W/kg	0.93 W/kg	1.6 W/kg	PASSED
GSM1900	512/1850.2	29.0 dBm	Right, Cheek	0.512 W/kg	0.57 W/kg	1.6 W/kg	PASSED
WCDMA1900	9400/1880.0	20.7 dBm	Right, Cheek	0.914 W/kg	1.02 W/kg	1.6 W/kg	PASSED
WLAN2450	7/2442.0	15.4 dBm	Left, Tilt	0.111 W/kg	0.12 W/kg	1.6 W/kg	PASSED
GSM850 + WLAN2450	-	-	Left, Cheek	0.732 W/kg	0.82 W/kg	1.6 W/kg	PASSED
WCDMA850 + WLAN2450	-	-	Left, Cheek	0.629 W/kg	0.70 W/kg	1.6 W/kg	PASSED
WCDMA1700/2100 + WLAN2450	-	-	Right, Cheek	0.854 W/kg	0.96 W/kg	1.6 W/kg	PASSED
GSM1900 + WLAN2450	-	-	Right, Cheek	0.550 W/kg	0.62 W/kg	1.6 W/kg	PASSED
WCDMA1900 + WLAN2450	-	-	Right, Cheek	0.936 W/kg	1.05 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
GSM850	128/824.2	32.5 dBm	1.5 cm	0.633 W/kg	0.71 W/kg	1.6 W/kg	PASSED
WCDMA850	4132/826.4	23.2 dBm	1.5 cm	0.586 W/kg	0.66 W/kg	1.6 W/kg	PASSED
WCDMA1700/2100	1412/1732.4	21.2 dBm	1.5 cm	0.501 W/kg	0.56 W/kg	1.6 W/kg	PASSED
GSM1900	512/1850.2	29.0 dBm	1.5 cm	0.325 W/kg	0.36 W/kg	1.6 W/kg	PASSED
WCDMA1900	9400/1880.0	20.7dBm	1.5 cm	0.434 W/kg	0.49 W/kg	1.6 W/kg	PASSED
WLAN2450	7/2442.0	15.4dBm	1.5 cm	0.050 W/kg	0.06 W/kg	1.6 W/kg	PASSED
GSM850 + WLAN2450	-	-	1.5 cm	0.633 W/kg	0.71 W/kg	1.6 W/kg	PASSED
WCDMA850 + WLAN2450	-	-	1.5 cm	0.598 W/kg	0.67 W/kg	1.6 W/kg	PASSED
WCDMA1700/2100 + WLAN2450	-	-	1.5 cm	0.517 W/kg	0.58 W/kg	1.6 W/kg	PASSED
GSM1900 + WLAN2450	-	-	1.5 cm	0.352 W/kg	0.39 W/kg	1.6 W/kg	PASSED
WCDMA1900 + WLAN2450	-	-	1.5 cm	0.469 W/kg	0.53 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	0.49 dB

1.2.4 Measurement Uncertainty

Expanded Uncertainty (k=2) 95%	± 25.8%
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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	850 (Band V) 1700/2100 (Band IV) 1900 (Band II)		1	826 – 847 1712 – 1753 1852 – 1908
HSUPA	850 (Band V) 1700/2100 (Band IV) 1900 (Band II)		1	826 – 847 1712 – 1753 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 Wireless Router “Hotspot” mode capability.

2.1 Description of the Antenna

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

3. TEST CONDITIONS

3.1 Temperature and Humidity

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

3.2 Test Signal, Frequencies and Output Power

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

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

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

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

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

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

The number of test cases reported in this document has been minimised based on the earlier testing in FCC_RM-609_03.

Wireless Router “Hotspot” mode test details and results are given in Appendix E.

3.3 Test Cases and Test Minimisation

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

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

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

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

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

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

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

4. DESCRIPTION OF THE TEST EQUIPMENT

4.1 Measurement System and Components

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

The following table lists calibration dates of SPEAG components:

Test Equipment	Serial Number	Calibration interval	Calibration expiry
DAE3	573	12 months	2011-07
DAE4	710	12 months	2011-09
E-field Probe ES3DV3	3118	12 months	2011-09
E-field Probe ES3DV3	3119	12 months	2011-09
Dipole Validation Kit, D835V2	4d042	24 months	2012-07
Dipole Validation Kit, D1800V2	2d075	24 months	2012-02
Dipole Validation Kit, D1900V2	5d063	24 months	2012-02
Dipole Validation Kit, D2450V2	750	24 months	2012-02
DASY4 software	Version 4.7	-	-

Additional test equipment used in testing:

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

4.1.1 Isotropic E-field Probe Type ES3DV3

Construction	Symmetrical design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., butyl diglycol)
Calibration	Calibration certificate in Appendix C
Frequency	10 MHz to 4 GHz (dosimetry); Linearity: ± 0.2 dB (30 MHz to 4 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.3 dB in HSL (rotation normal to probe axis)
Dynamic Range	5 μ W/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 330 mm Tip length: 20 mm Body diameter: 12 mm Tip diameter: 3.9 mm Distance from probe tip to dipole centers: 2.0 mm

Application

General dosimetry up to 4 GHz
Compliance tests of mobile phones
Fast automatic scanning in arbitrary phantoms

4.2 Phantoms

The phantom used for all tests i.e. for both system checks and device testing, was the 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

1800MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Deionised Water	54.0	70.20
Tween 20	45.6	29.37
Salt	0.4	0.43

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	2.38	42.1	0.90	
	± 10% window	2.14 – 2.62			
	2011-02-10	2.59	40.6	0.90	22.4
	2011-02-16	2.53	40.6	0.90	22.2
	2011-02-17	2.52	40.2	0.89	22.3
1800	Reference result	9.50	39.4	1.37	
	± 10% window	8.55 – 10.45			
	2011-02-09	9.88	38.3	1.38	22.0
	2011-02-18	10.0	38.2	1.37	22.1
1900	Reference result	9.98	39.2	1.42	
	± 10% window	8.98 – 10.98			
	2011-02-09	10.7	37.9	1.47	22.0
	2011-02-21	10.6	38.1	1.46	21.9
	2011-02-23	10.8	38.0	1.48	22.1
2450	Reference result	13.5	38.7	1.77	
	± 10% window	12.1 - 14.9			
	2011-02-12	13.9	40.2	1.86	21.4
	2011-02-22	14.1	39.4	1.86	22.0

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]	
835	Recommended value	41.5	0.90	22.4
	± 5% window	39.4 – 43.6	0.86 – 0.95	
	2011-02-10	40.6	0.90	
836	Recommended value	41.5	0.90	22.4
	± 5% window	39.4 – 43.6	0.86 – 0.95	
	2011-02-10	40.6	0.90	
1732	Recommended value	40.1	1.36	22.0
	± 5% window	38.1 – 42.1	1.29 – 1.43	
	2011-02-09	38.6	1.31	
1880	Recommended value	40.0	1.40	22.0
	± 5% window	38.0 – 42.0	1.33 – 1.47	
	2011-02-09	38.0	1.45	
2442	Recommended value	39.2	1.79	21.4
	± 5% window	37.3 – 41.2	1.70 – 1.88	
	2011-02-12	40.2	1.85	

Body tissue simulant measurements

f [MHz]	Description	Dielectric Parameters		Temp [°C]
		ϵ_r	σ [S/m]	
835	Recommended value	55.2	0.97	
	± 5% window	52.4 – 58.0	0.92 – 1.02	
	2011-02-17	54.4	0.98	22.0
836	Recommended value	55.2	0.97	
	± 5% window	52.4 – 58.0	0.92 – 1.02	
	2011-02-16	54.9	0.98	22.0
1732	Recommended value	53.5	1.48	
	± 5% window	50.8 – 56.2	1.40 – 1.55	
	2011-02-18	53.2	1.43	22.1
1880	Recommended value	53.3	1.52	
	± 5% window	50.6 – 56.0	1.44 – 1.60	
	2011-02-21	52.5	1.57	22.5
	2011-02-23	52.7	1.59	21.8
2442	Recommended value	52.7	1.94	
	± 5% window	50.1 – 55.3	1.85 – 2.04	
	2011-02-22	50.9	1.97	22.0

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 given in section 1.2.2 using a separate flat spacer that was removed before the start of the measurements.

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

5.2.2.1 Body Worn Configuration for assessment of Wireless Router mode

The device was placed in the SPEAG holder and positioned below the flat section of the phantom. In turn, the display side, the back side and the 4 edges were oriented to be facing the flat phantom at 10mm separation distance. The SAR test data from these tests is given in Appendix E.

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	$C_i \cdot U_i$ (%)	ν_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:

850 MHz Head SAR results

Option used	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 128 824.2 MHz	Ch190 836.6 MHz	Ch 251 848.8 MHz
GSM	Conducted Power		32.5 dBm	32.5 dBm	32.5 dBm
BP-4L LG	Left	Cheek	0.611	0.732	0.725
		Tilt	-	-	-
	Right	Cheek	-	0.609	-
		Tilt	-	-	-
Option used	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 4132 826.4 MHz	Ch 4175 835.0 MHz	Ch 4233 846.6 MHz
WCDMA	Conducted Power		23.2 dBm	23.2 dBm	23.2 dBm
BP-4L LG	Left	Cheek	0.510	0.550	0.620
		Tilt	-	-	-
	Right	Cheek	-	0.478	-
		Tilt	-	-	-

1700/2100 MHz Head SAR results

Option used	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 1312 1712.4 MHz	Ch 1412 1732.4 MHz	Ch 1513 1752.6 MHz
WCDMA	Conducted Power		21.2 dBm	21.2 dBm	21.2 dBm
BP-4L Sony	Left	Cheek	-	0.588	-
		Tilt	-	-	-
	Right	Cheek	0.704	0.830	0.787
		Tilt	-	-	-

1900 MHz Head SAR results

Option used	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		29.0 dBm	29.0 dBm	29.0 dBm
BP-4L Sony	Left	Cheek	-	0.331	-
		Tilt	-	-	-
	Right	Cheek	0.512	0.449	0.477
		Tilt	-	-	-
Option used	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		20.7 dBm	20.7 dBm	20.7 dBm
BP-4L Sony	Left	Cheek	-	0.677	-
		Tilt	-	-	-
	Right	Cheek	0.904	0.914	0.826
		Tilt	-	-	-

2450 MHz Head SAR results

Option used	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		13.4 dBm	15.4 dBm	13.4 dBm
BP-4L Sony	Left	Cheek	-	0.091	-
		Tilt	0.074	0.111	0.068
	Right	Cheek	-	0.058	-
		Tilt	-	0.077	-
WLAN n-mode 20MHz	Conducted Power		12.4 dBm	15.4 dBm	12.4 dBm
BP-4L Sony	Left	Cheek	-	-	-
		Tilt	0.061	0.110	0.058
	Right	Cheek	-	-	-
		Tilt	-	-	-

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

850 MHz Body SAR results

Option used	Device orientation	Test configuration	SAR, averaged over 1g (W/kg)		
			Ch 128 824.2 MHz	Ch190 836.6 MHz	Ch 251 848.8 MHz
GSM		Conducted Power	32.5 dBm	32.5 dBm	32.5 dBm
BP-4L LG	Display facing phantom	Without headset	-	-	-
		Headset WH-207	-	-	-
	Back facing phantom	Without headset	0.633	0.629	0.592
		Headset WH-207	-	0.420	-
Option used	Device orientation	Test configuration	SAR, averaged over 1g (W/kg)		
			Ch 4132 826.4 MHz	Ch 4175 835.0 MHz	Ch 4233 846.6 MHz
WCDMA		Conducted Power	23.2 dBm	23.2 dBm	23.2 dBm
BP-4L LG	Display facing phantom	Without headset	-	-	-
		Headset WH-207	-	-	-
	Back facing phantom	Without headset	0.586	0.573	0.571
		Headset WH-207	-	0.427	-

1700/2100 MHz Body SAR results

Option used	Device orientation	Test configuration	SAR, averaged over 1g (W/kg)		
			Ch 1312 1712.4 MHz	Ch 1412 1732.4 MHz	Ch 1513 1752.6 MHz
GSM		Conducted Power	21.2 dBm	21.2 dBm	21.2 dBm
BP-4L LG	Display facing phantom	Without headset	-	-	-
		Headset WH-207	-	-	-
	Back facing phantom	Without headset	0.426	0.501	0.431
		Headset WH-207	-	0.438	-

1900 MHz Body SAR results

Option used	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
GSM		Conducted Power	29.0 dBm	29.0 dBm	29.0 dBm
BP-4L LG	Display facing phantom	Without headset	-	-	-
		Headset WH-207	-	-	-
	Back facing phantom	Without headset	0.325	0.313	0.282
		Headset WH-207	-	0.282	-
Option used	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	20.7 dBm	20.7 dBm	20.7 dBm
BP-4L LG	Display facing phantom	Without headset	-	-	-
		Headset WH-207	-	-	-
	Back facing phantom	Without headset	0.414	0.434	0.434
		Headset WH-207	-	0.416	-

2450 MHz Body SAR results

Option used	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	13.4 dBm	15.4 dBm	13.4 dBm
BP-4L LG	Display facing phantom	Without headset	-	-	-
		Headset WH-207	-	-	-
	Back facing phantom	Without headset	-	0.044	-
		Headset WH-207	0.035	0.049	0.029
WLAN n-mode 20MHz		Conducted Power	12.4 dBm	15.4 dBm	12.4 dBm
BP-4L LG	Display facing phantom	Without headset	-	-	-
		Headset WH-207	-	-	-
	Back facing phantom	Without headset	-	-	-
		Headset WH-207	0.028	0.050	0.022

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

Test configuration	Max. 1g SAR results					
	WLAN	GSM 850	WCDMA 850	WCDMA 1700/2100	GSM 1900	WCDMA 1900
Head: Left, Cheek	0.091	0.732	0.620	0.588	0.331	0.677
Head: Left, Tilt	0.111	-	-	-	-	-
Head: Right, Cheek	0.058	0.609	0.478	0.830	0.512	0.914
Head: Right, Tilt	0.077	-	-	-	-	-
Body: Display facing phantom, Without Headset	-	-	-	-	-	-
Body: Display facing phantom, Headset WH-207	-	-	-	-	-	-
Body: Back facing phantom, Without Headset	0.044	0.633	0.586	0.501	0.325	0.434
Body: Back facing phantom, Headset WH-207	0.050	0.420	0.427	0.438	0.282	0.416

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

Test configuration	Max. 1g SAR results				
	GSM 850 + WLAN	WCDMA 850 + WLAN	WCDMA 1700/2100 + WLAN	GSM 1900 + WLAN	WCDMA 1900 + WLAN
Head: Left, Cheek	0.823	0.711	0.679	0.422	0.768
Head: Left, Tilt	-	-	-	-	-
Head: Right, Cheek	0.667	0.536	0.888	0.570	0.972
Head: Right, Tilt	-	-	-	-	-
Body: Display facing phantom, Without Headset	-	-	-	-	-
Body: Display facing phantom, Headset WH-207	-	-	-	-	-
Body: Back facing phantom, Without Headset	0.677	0.630	0.545	0.369	0.478
Body: Back facing phantom, Headset WH-207	0.470	0.477	0.488	0.332	0.466

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. It is these values that appear in the Summary table in Section 1.2.

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

Test configuration	Max. 1g SAR results				
	GSM 850 + WLAN	WCDMA 850 + WLAN	WCDMA 1700/2100 + WLAN	GSM 1900 + WLAN	WCDMA 1900 + WLAN
Head: Left, Cheek	0.732	0.629	-	-	-
Head: Left, Tilt	-	-	-	-	-
Head: Right, Cheek	-	-	0.854	0.550	0.936
Head: Right, Tilt	-	-	-	-	-
Body: Display facing phantom, Without Headset	-	-	-	-	-
Body: Display facing phantom, Headset WH-207	-	-	-	-	-
Body: Back facing phantom, Without Headset	0.633	0.598	0.517	0.352	0.469
Body: Back facing phantom, Headset WH-207	-	-	-	-	-

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

See the following pages.

Date/Time: 2011-02-10 15:55:23

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

Communication System: CW835

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 22.4 C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.898$ mho/m; $\epsilon_r = 40.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 2.78 mW/g

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

Reference Value = 55.8 V/m

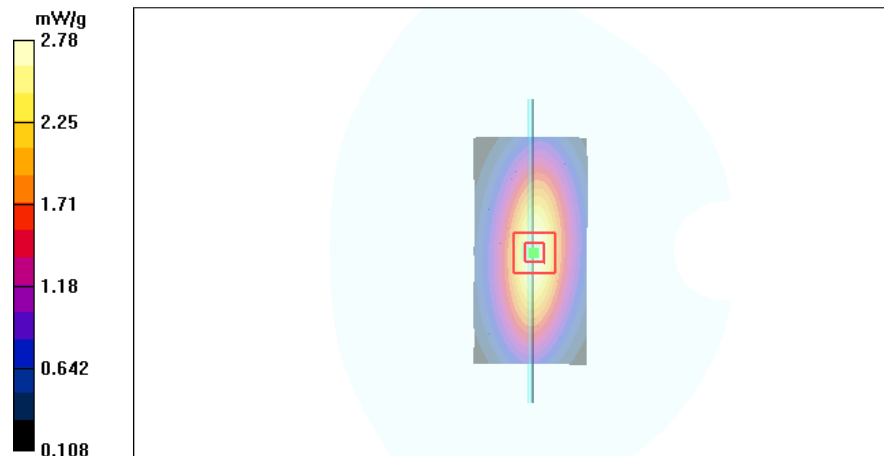
Peak SAR (extrapolated) = 3.91 W/kg

SAR(1 g) = 2.59 mW/g

SAR(10 g) = 1.69 mW/g

Power Drift = 0.049 dB

Maximum value of SAR (measured) = 2.80 mW/g



Date/Time: 2011-02-16 10:47:03

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

Communication System: CW835

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 22.2 C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.898$ mho/m; $\epsilon_r = 40.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

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

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

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

Reference Value = 54.9 V/m

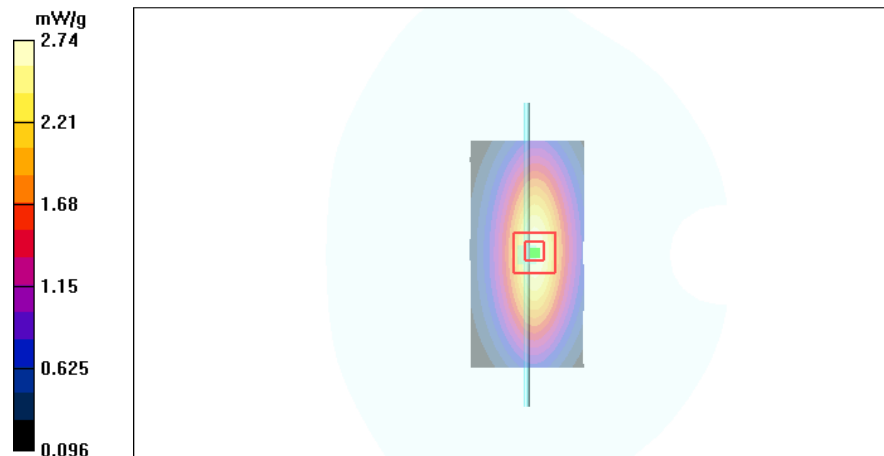
Peak SAR (extrapolated) = 3.81 W/kg

SAR(1 g) = 2.53 mW/g

SAR(10 g) = 1.65 mW/g

Power Drift = -0.073 dB

Maximum value of SAR (measured) = 2.73 mW/g



Date/Time: 2011-02-17 09:20:03

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

Communication System: CW835

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 22.3 C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.889$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

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

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

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

Reference Value = 55.0 V/m

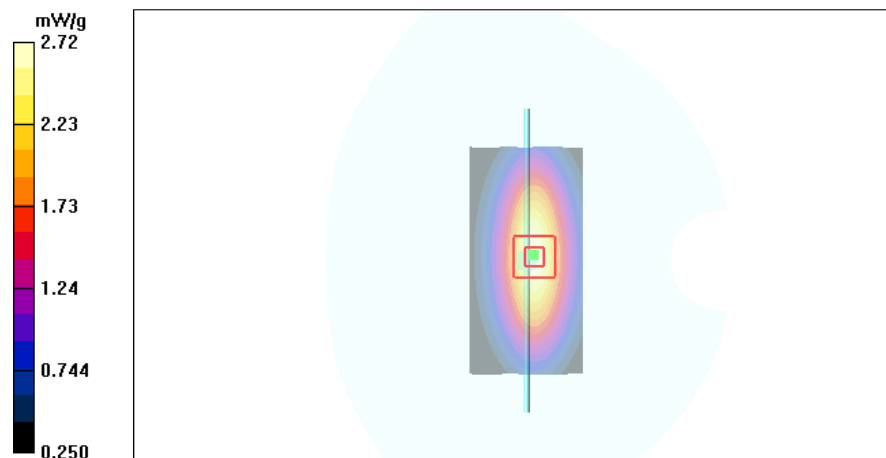
Peak SAR (extrapolated) = 3.80 W/kg

SAR(1 g) = 2.52 mW/g

SAR(10 g) = 1.64 mW/g

Power Drift = -0.050 dB

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



Date/Time: 2011-02-09 20:27:41

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

Communication System: CW1800

Frequency: 1800 MHz; Duty Cycle: 1:1

Medium: Head 1800; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 1800$ MHz; $\sigma = 1.38$ mho/m; $\epsilon_r = 38.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.93, 4.93, 4.93); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

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

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

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

Reference Value = 72.3 V/m

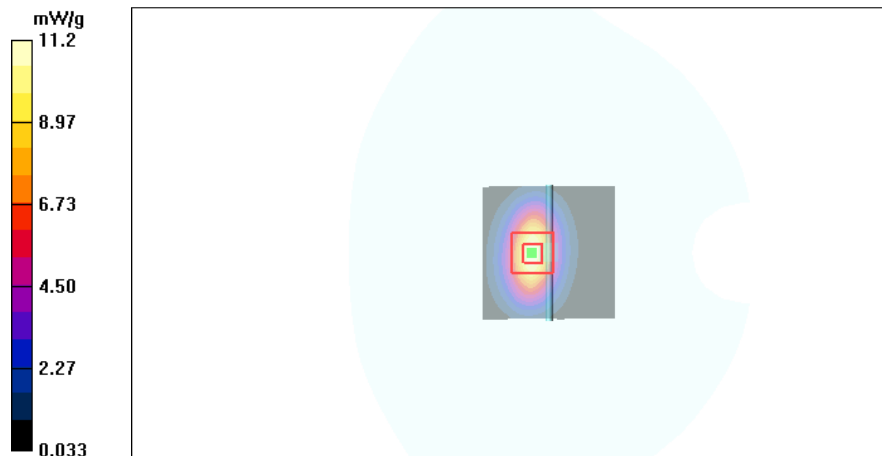
Peak SAR (extrapolated) = 18.1 W/kg

SAR(1 g) = 9.88 mW/g

SAR(10 g) = 5.19 mW/g

Power Drift = -0.046 dB

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



Date/Time: 2011-02-18 09:11:23

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

Communication System: CW1800

Frequency: 1800 MHz; Duty Cycle: 1:1

Medium: Head 1800; Medium Notes: Medium Temperature: 22.1 C

Medium parameters used: $f = 1800$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 38.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3119; Probe Notes:
- ConvF(4.94, 4.94, 4.94); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2010-07-16
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW 2/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm

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

d=10mm, Pin=250mW 2/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.2 V/m

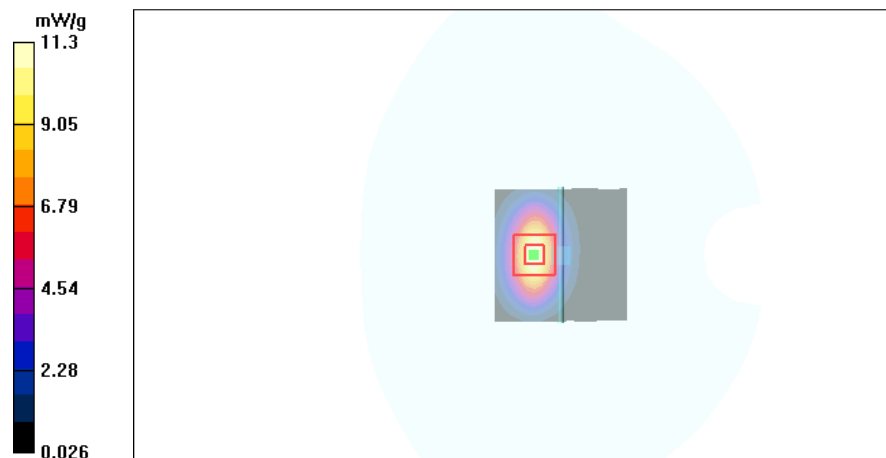
Peak SAR (extrapolated) = 18.3 W/kg

SAR(1 g) = 10 mW/g

SAR(10 g) = 5.25 mW/g

Power Drift = -0.045 dB

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



Date/Time: 2011-02-09 09:42:47

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

Communication System: CW1900

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 37.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.76, 4.76, 4.76); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW 2/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 12.2 mW/g

d=10mm, Pin=250mW 2/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 80.2 V/m

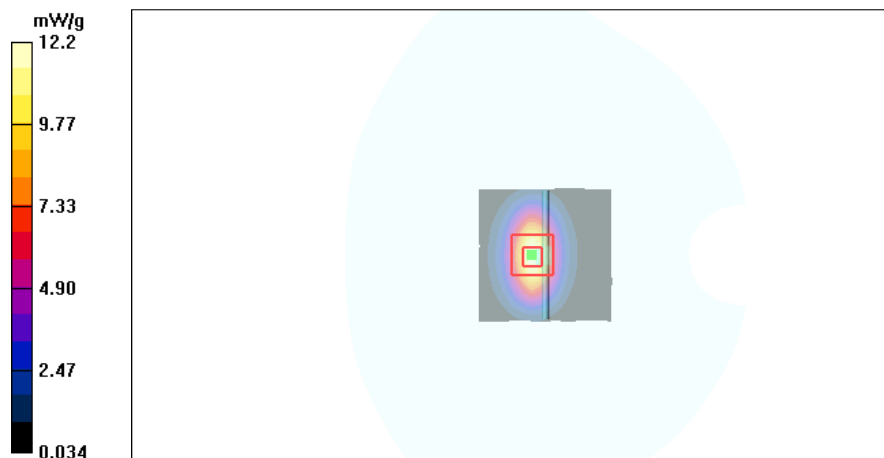
Peak SAR (extrapolated) = 20.0 W/kg

SAR(1 g) = 10.7 mW/g

SAR(10 g) = 5.51 mW/g

Power Drift = -0.024 dB

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



Date/Time: 2011-02-21 09:32:01

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

Communication System: CW1900

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: 21.9 C

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 38.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.76, 4.76, 4.76); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW 2/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm

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

d=10mm, Pin=250mW 2/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56.8 V/m

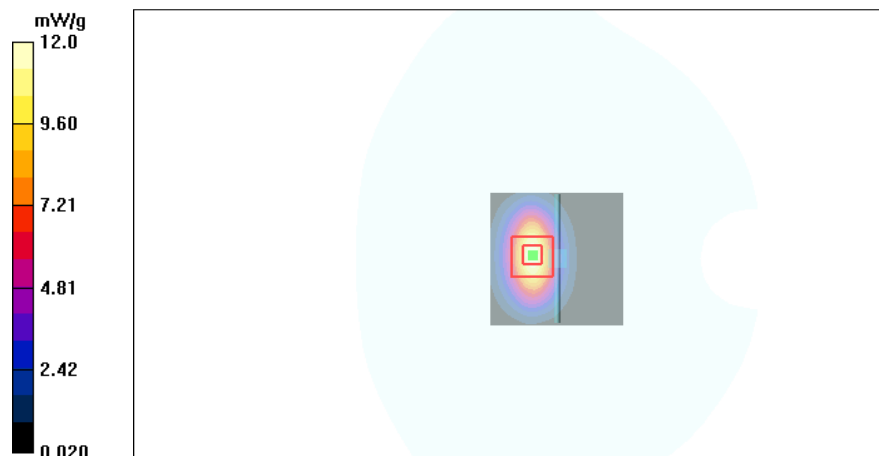
Peak SAR (extrapolated) = 20.1 W/kg

SAR(1 g) = 10.6 mW/g

SAR(10 g) = 5.46 mW/g

Power Drift = -0.109 dB

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



Date/Time: 2011-02-23 10:58:22

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

Communication System: CW1900

Frequency: 1900 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.48$ mho/m; $\epsilon_r = 38$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.76, 4.76, 4.76); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 12.3 mW/g

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

Reference Value = 66.8 V/m

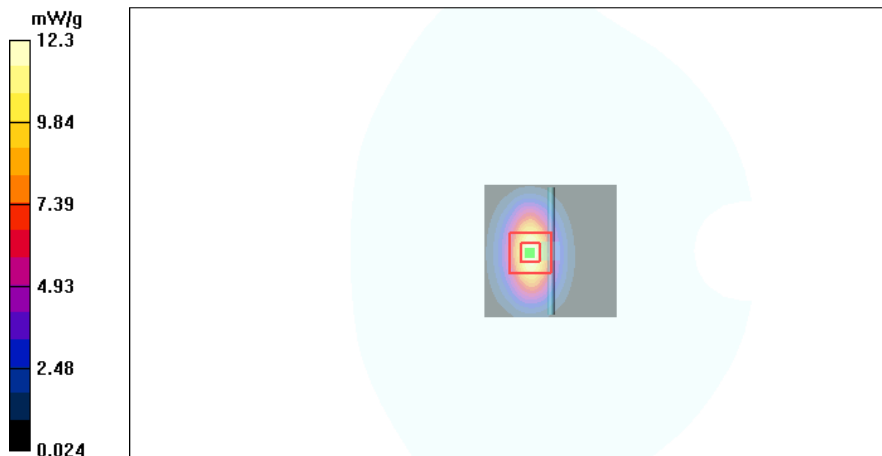
Peak SAR (extrapolated) = 20.4 W/kg

SAR(1 g) = 10.8 mW/g

SAR(10 g) = 5.54 mW/g

Power Drift = -0.195 dB

Maximum value of SAR (measured) = 12.2 mW/g



Date/Time: 2011-02-12 17:20:40

Test Laboratory: TCC Nokia

Type: D2450V2; Serial: 750

Communication System: CW2450

Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: 21.4 C

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.86$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.19, 4.19, 4.19); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1408
- 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) = 16.0 mW/g

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

Reference Value = 93.5 V/m

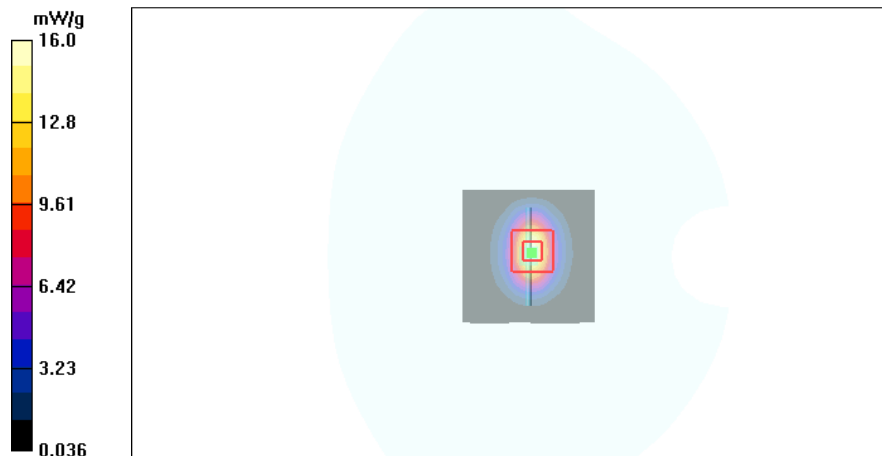
Peak SAR (extrapolated) = 28.7 W/kg

SAR(1 g) = 13.9 mW/g

SAR(10 g) = 6.5 mW/g

Power Drift = 0.017 dB

Maximum value of SAR (measured) = 15.9 mW/g



Date/Time: 2011-02-22 09:47:12

Test Laboratory: TCC Nokia

Type: D2450V2; Serial: 750

Communication System: CW2450

Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.86$ mho/m; $\epsilon_r = 39.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.19, 4.19, 4.19); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1408
- 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 (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 94.3 V/m

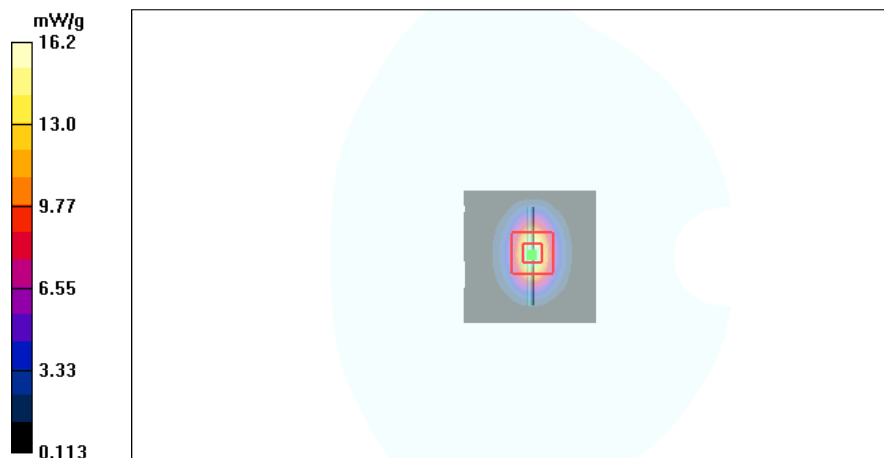
Peak SAR (extrapolated) = 29.0 W/kg

SAR(1 g) = 14.1 mW/g

SAR(10 g) = 6.56 mW/g

Power Drift = -0.010 dB

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



APPENDIX B: MEASUREMENT SCANS

See the following pages.

Date/Time: 2011-02-10 16:38:14

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: Head 850; Medium Notes: Medium Temperature: 22.4 C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.902$ mho/m; $\epsilon_r = 40.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle - BP-4L LG/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.765 mW/g

Cheek - Middle - BP-4L LG/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 13.3 V/m

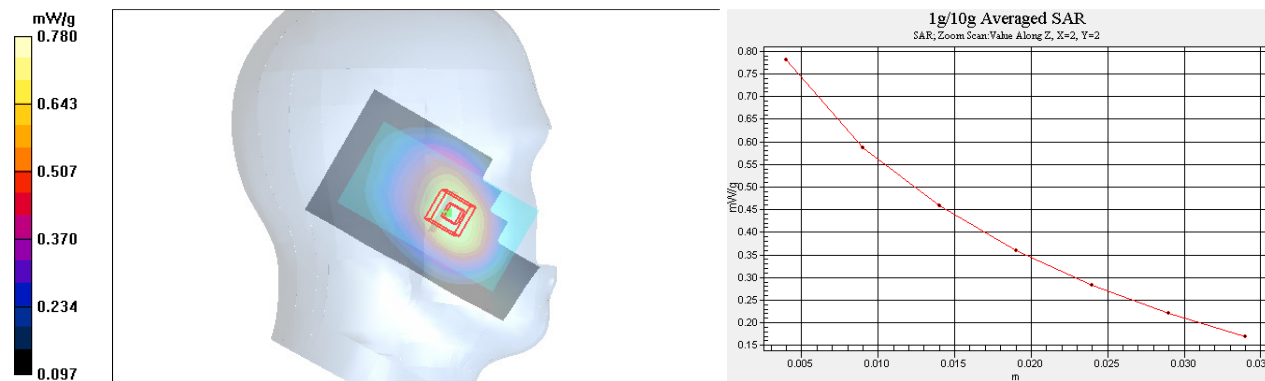
Peak SAR (extrapolated) = 0.970 W/kg

SAR(1 g) = 0.732 mW/g

SAR(10 g) = 0.528 mW/g

Power Drift = 0.133 dB

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



Date/Time: 2011-02-10 17:03:59

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: Head 850; Medium Notes: Medium Temperature: 22.4 C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.902$ mho/m; $\epsilon_r = 40.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle - BP-4L LG/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.645 mW/g

Cheek - Middle - BP-4L LG/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.0 V/m

Peak SAR (extrapolated) = 0.811 W/kg

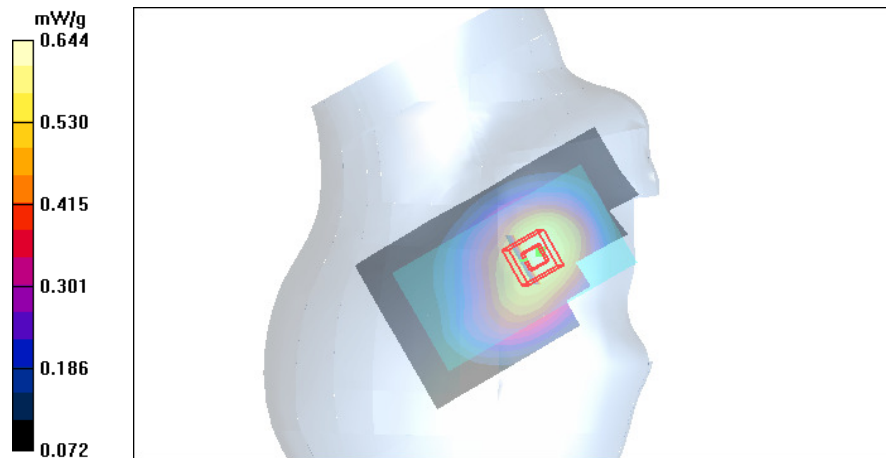
SAR(1 g) = 0.609 mW/g

SAR(10 g) = 0.444 mW/g

Power Drift = -0.070 dB

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

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



Date/Time: 2011-02-10 17:52:25

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA850

Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 22.4 C

Medium parameters used: $f = 847$ MHz; $\sigma = 0.911$ mho/m; $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - High - BP-4L Sony/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.662 mW/g

Cheek - High - BP-4L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.4 V/m

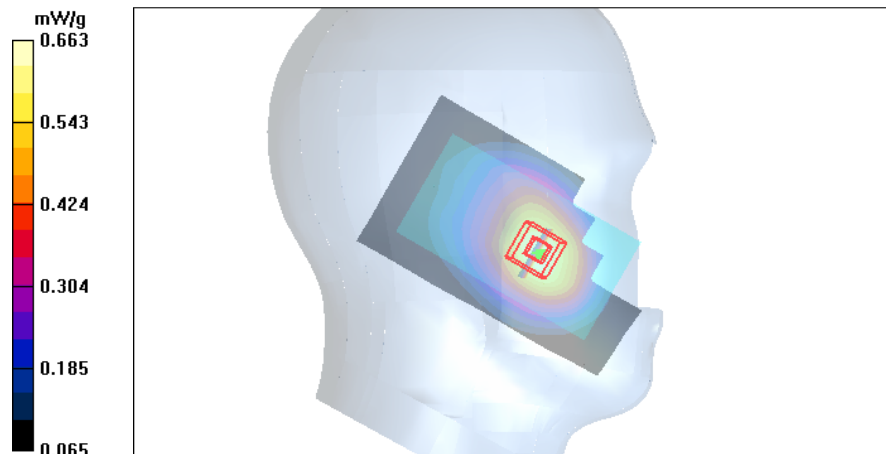
Peak SAR (extrapolated) = 0.819 W/kg

SAR(1 g) = 0.620 mW/g

SAR(10 g) = 0.448 mW/g

Power Drift = 0.033 dB

Maximum value of SAR (measured) = 0.663 mW/g



Date/Time: 2011-02-10 18:07:35

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: Head 850; Medium Notes: Medium Temperature: 22.4 C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.898$ mho/m; $\epsilon_r = 40.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.79, 5.79, 5.79); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle - BP-4L Sony/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.520 mW/g

Cheek - Middle - BP-4L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.50 V/m

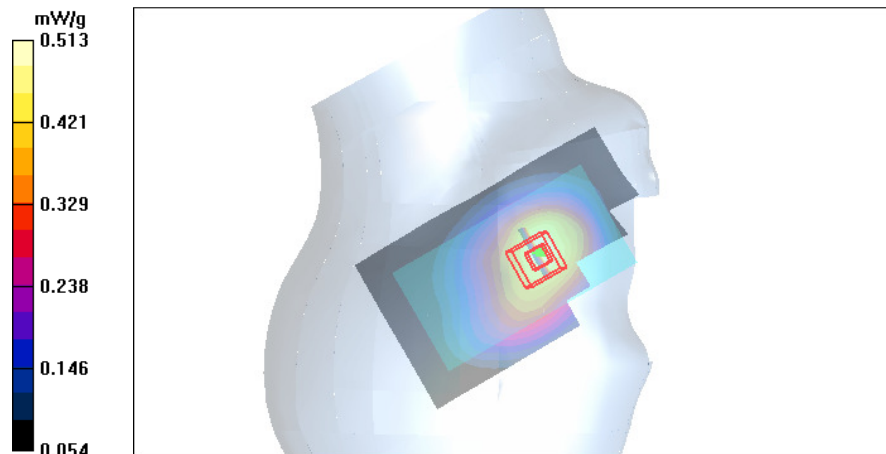
Peak SAR (extrapolated) = 0.645 W/kg

SAR(1 g) = 0.478 mW/g

SAR(10 g) = 0.345 mW/g

Power Drift = -0.055 dB

Maximum value of SAR (measured) = 0.513 mW/g



Date/Time: 2011-02-09 20:54:22

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1700/2100

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Head 1800; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.32$ mho/m; $\epsilon_r = 38.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.93, 4.93, 4.93); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle - BP-4L Sony/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.662 mW/g

Cheek - Middle - BP-4L Sony/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 12.1 V/m

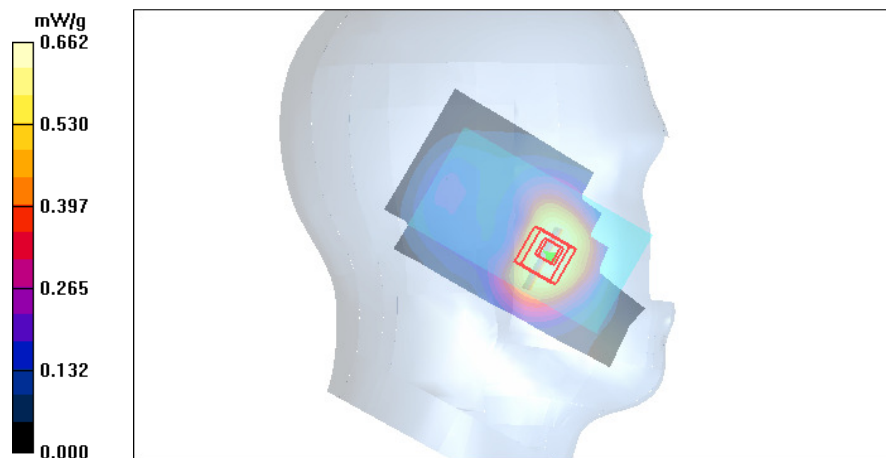
Peak SAR (extrapolated) = 0.805 W/kg

SAR(1 g) = 0.588 mW/g

SAR(10 g) = 0.406 mW/g

Power Drift = -0.063 dB

Maximum value of SAR (measured) = 0.629 mW/g



Date/Time: 2011-02-09 21:54:34

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1700/2100

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Head 1800; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.32$ mho/m; $\epsilon_r = 38.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.93, 4.93, 4.93); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle - BP-4L Sony/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

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

Cheek - Middle - BP-4L Sony/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 12.0 V/m

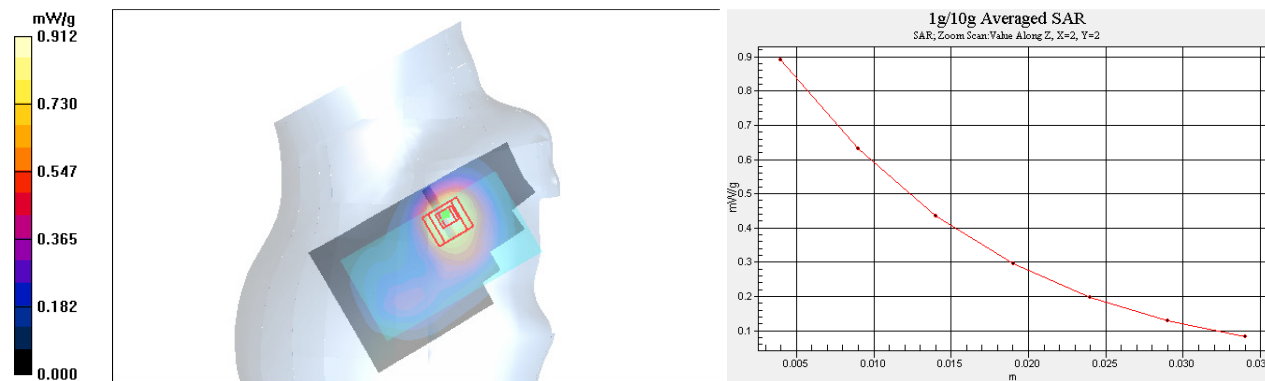
Peak SAR (extrapolated) = 1.19 W/kg

SAR(1 g) = 0.830 mW/g

SAR(10 g) = 0.540 mW/g

Power Drift = 0.000 dB

Maximum value of SAR (measured) = 0.890 mW/g



Date/Time: 2011-02-09 16:48:02

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM 1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 38$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.76, 4.76, 4.76); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle - BP-4L Sony/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.350 mW/g

Cheek - Middle - BP-4L Sony/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 10.3 V/m

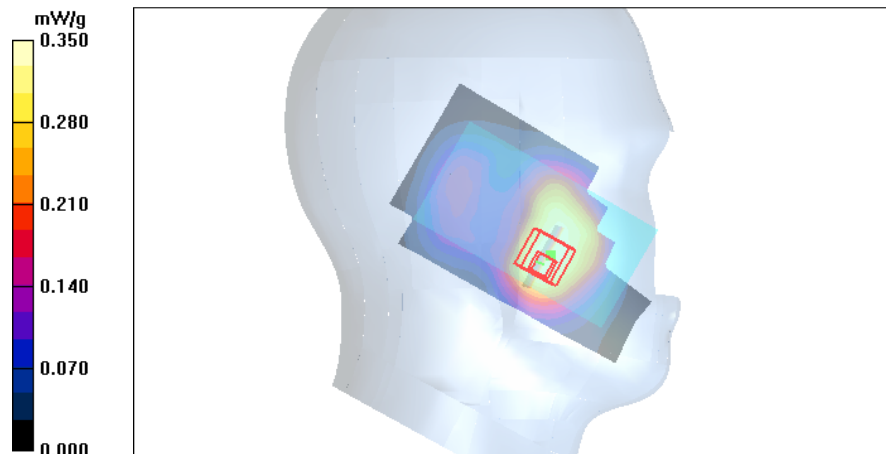
Peak SAR (extrapolated) = 0.462 W/kg

SAR(1 g) = 0.331 mW/g

SAR(10 g) = 0.220 mW/g

Power Drift = -0.053 dB

Maximum value of SAR (measured) = 0.351 mW/g



Date/Time: 2011-02-09 18:07:17

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM 1900

Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium: Head 1900; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 38.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.76, 4.76, 4.76); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Low - BP-4L Sony/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.591 mW/g

Cheek - Low - BP-4L Sony/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 10.4 V/m

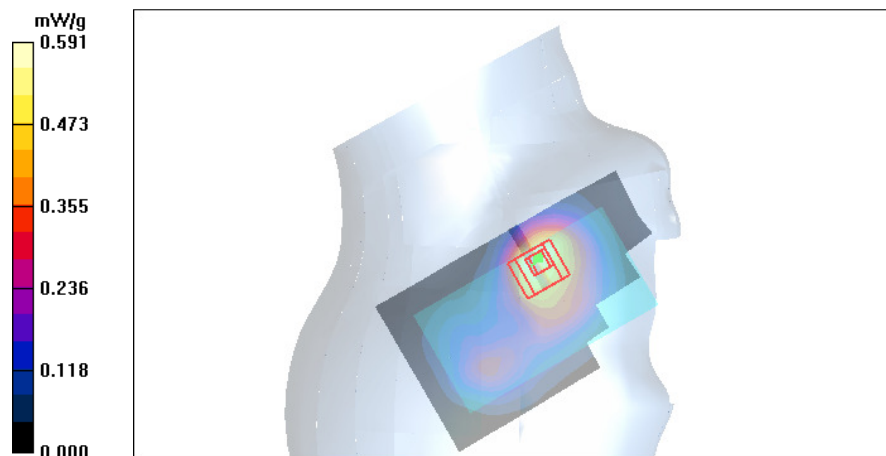
Peak SAR (extrapolated) = 0.753 W/kg

SAR(1 g) = 0.512 mW/g

SAR(10 g) = 0.329 mW/g

Power Drift = 0.016 dB

Maximum value of SAR (measured) = 0.553 mW/g



Date/Time: 2011-02-09 18:49:48

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 38$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.76, 4.76, 4.76); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle - BP-4L Sony/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

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

Cheek - Middle - BP-4L Sony/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 12.7 V/m

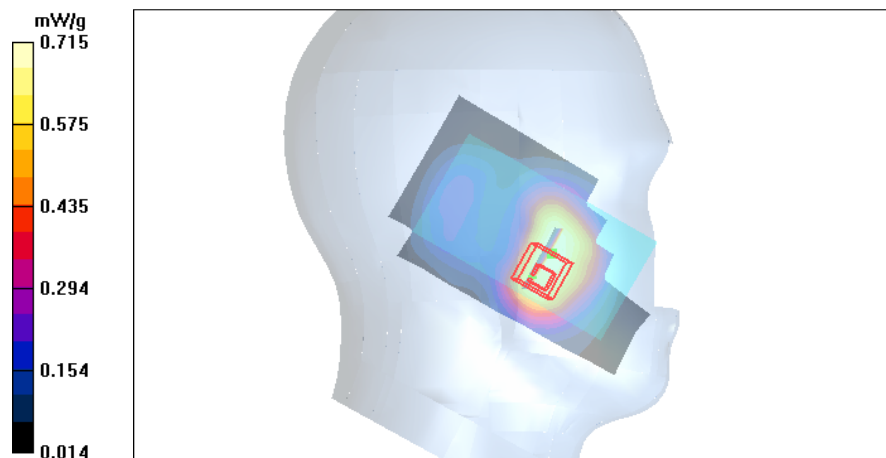
Peak SAR (extrapolated) = 0.937 W/kg

SAR(1 g) = 0.677 mW/g

SAR(10 g) = 0.445 mW/g

Power Drift = -0.114 dB

Maximum value of SAR (measured) = 0.715 mW/g



Date/Time: 2011-02-09 19:08:27

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Head 1900; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 38$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.76, 4.76, 4.76); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle - BP-4L Sony/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.997 mW/g

Cheek - Middle - BP-4L Sony/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 12.5 V/m

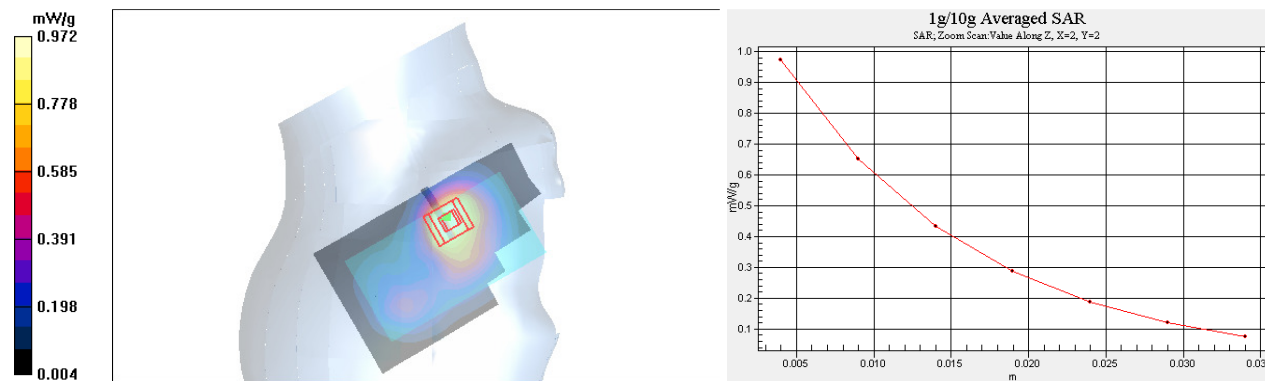
Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 0.914 mW/g

SAR(10 g) = 0.571 mW/g

Power Drift = -0.068 dB

Maximum value of SAR (measured) = 0.972 mW/g



SAR Report

FCC_RM-609_11

Applicant: Nokia Corporation

Type: RM-609

Copyright © 2011 TCC Nokia

Date/Time: 2011-02-12 18:23:12

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: 21.4 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.85$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.19, 4.19, 4.19); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle - BP-4L Sony/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.089 mW/g

Cheek - Middle - BP-4L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.85 V/m

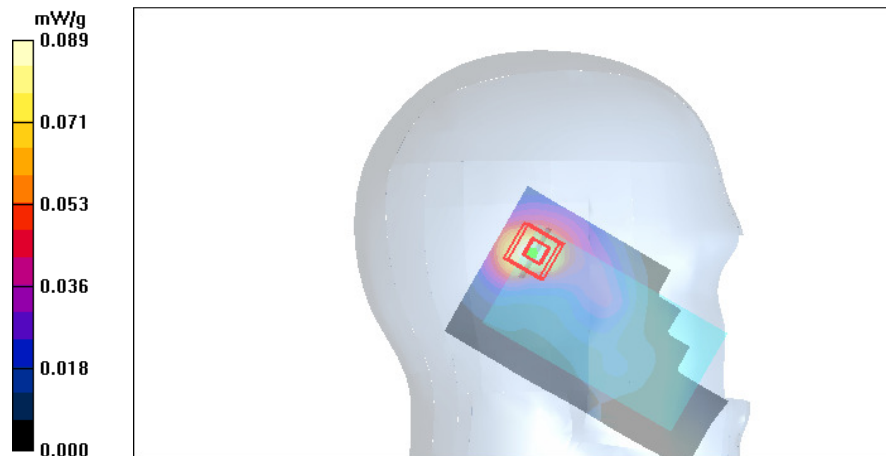
Peak SAR (extrapolated) = 0.184 W/kg

SAR(1 g) = 0.091 mW/g

SAR(10 g) = 0.047 mW/g

Power Drift = -0.125 dB

Maximum value of SAR (measured) = 0.100 mW/g



Date/Time: 2011-02-12 18:39:51

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: 21.4 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.85$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.19, 4.19, 4.19); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt - Middle - BP-4L Sony/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.116 mW/g

Tilt - Middle - BP-4L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 5.06 V/m

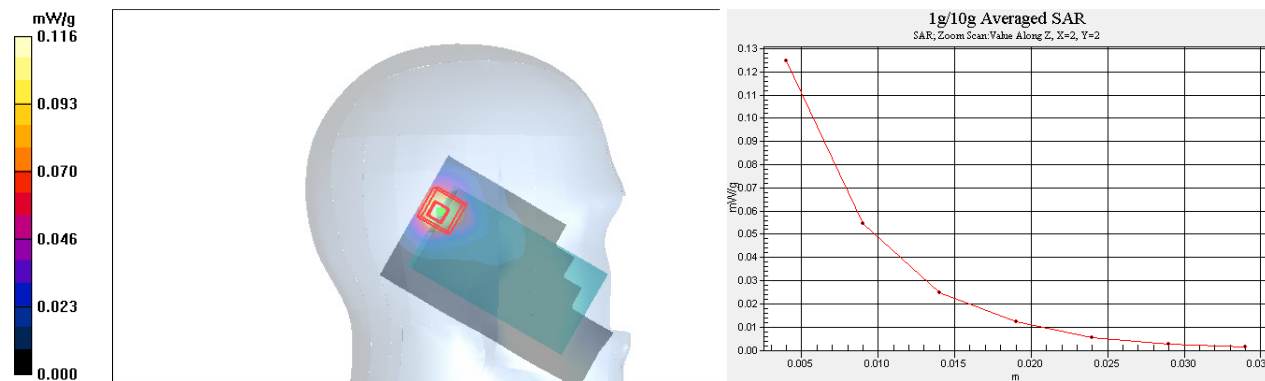
Peak SAR (extrapolated) = 0.249 W/kg

SAR(1 g) = 0.111 mW/g

SAR(10 g) = 0.052 mW/g

Power Drift = 0.374 dB

Maximum value of SAR (measured) = 0.125 mW/g



Date/Time: 2011-02-12 18:56:43

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: 21.4 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.85$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.19, 4.19, 4.19); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.063 mW/g

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

Reference Value = 4.52 V/m

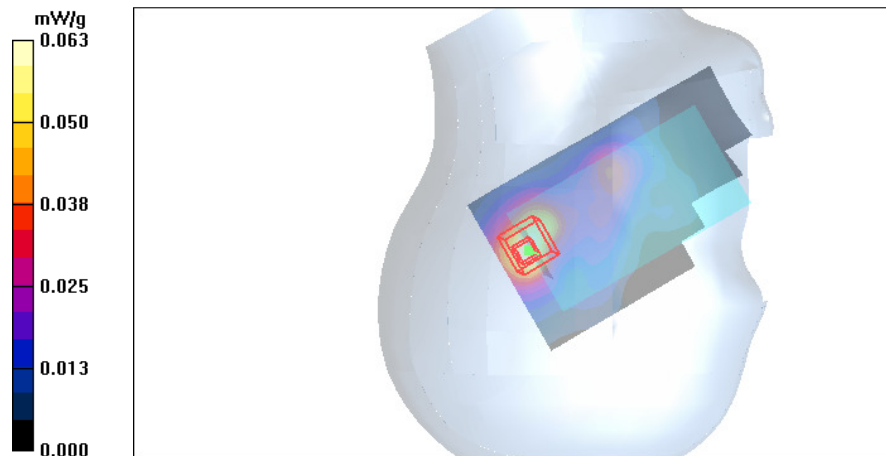
Peak SAR (extrapolated) = 0.118 W/kg

SAR(1 g) = 0.058 mW/g

SAR(10 g) = 0.030 mW/g

Power Drift = 0.095 dB

Maximum value of SAR (measured) = 0.064 mW/g



Date/Time: 2011-02-12 19:11:07

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: 21.4 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.85$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.19, 4.19, 4.19); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.085 mW/g

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

Reference Value = 5.10 V/m

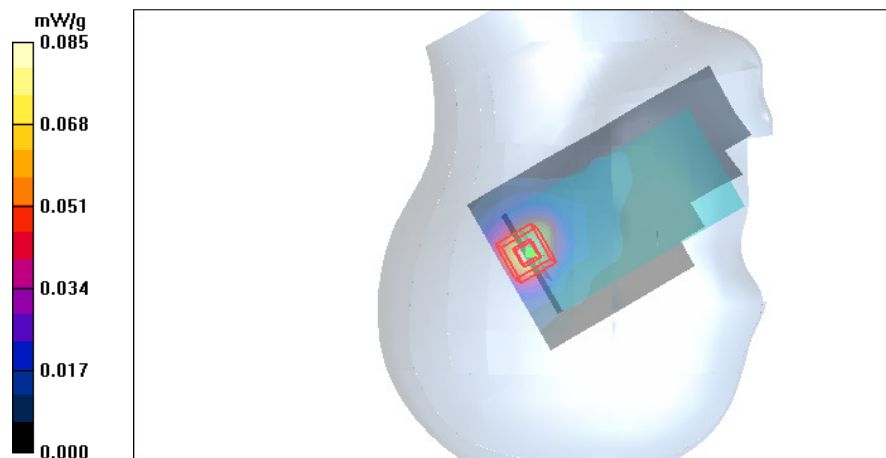
Peak SAR (extrapolated) = 0.164 W/kg

SAR(1 g) = 0.077 mW/g

SAR(10 g) = 0.037 mW/g

Power Drift = 0.295 dB

Maximum value of SAR (measured) = 0.086 mW/g



Date/Time: 2011-02-12 21:34:29

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WLAN2450 n-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Head 2450; Medium Notes: Medium Temperature: 21.4 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.85$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.19, 4.19, 4.19); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt - Middle - BP-4L Sony/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.113 mW/g

Tilt - Middle - BP-4L Sony/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 5.04 V/m

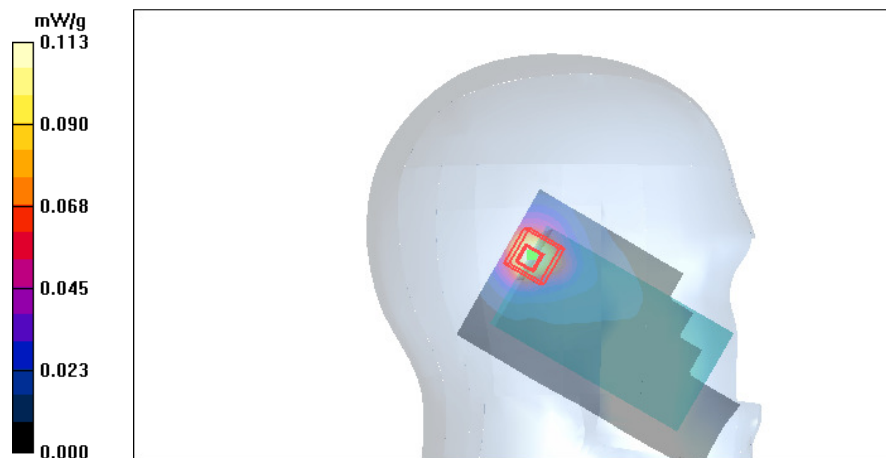
Peak SAR (extrapolated) = 0.248 W/kg

SAR(1 g) = 0.110 mW/g

SAR(10 g) = 0.052 mW/g

Power Drift = 0.234 dB

Maximum value of SAR (measured) = 0.121 mW/g



Date/Time: 2011-02-16 12:37:38

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM850

Frequency: 824.2 MHz; Duty Cycle: 1:8.3

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

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.971$ mho/m; $\epsilon_r = 55$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Low - No Accessory - Back Facing Phantom - Spacer 1.5mm - BP-4L LG/Area Scan (61x101x1):

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

Maximum value of SAR (interpolated) = 0.664 mW/g

Body - Low - No Accessory - Back Facing Phantom - Spacer 1.5mm - BP-4L LG/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.60 V/m

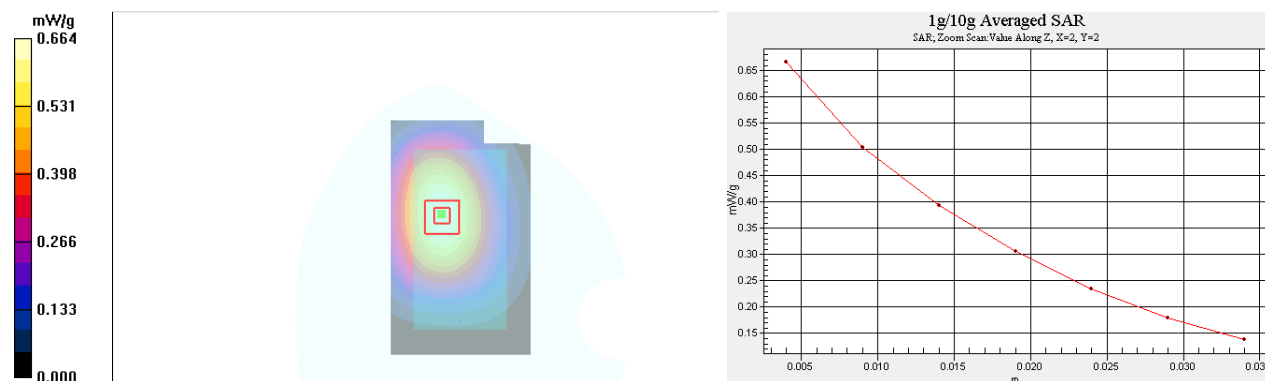
Peak SAR (extrapolated) = 0.833 W/kg

SAR(1 g) = 0.633 mW/g

SAR(10 g) = 0.471 mW/g

Power Drift = -0.075 dB

Maximum value of SAR (measured) = 0.666 mW/g



Date/Time: 2011-02-16 12:00:19

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

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

Medium parameters used: $f = 837$ MHz; $\sigma = 0.984$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - Headset WH-207 - Back Facing Phantom - Spacer 1.5mm - BP-4L LG/Area Scan (61x101x1):

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

Maximum value of SAR (interpolated) = 0.443 mW/g

Body - Middle - Headset WH-207 - Back Facing Phantom - Spacer 1.5mm - BP-4L LG/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.47 V/m

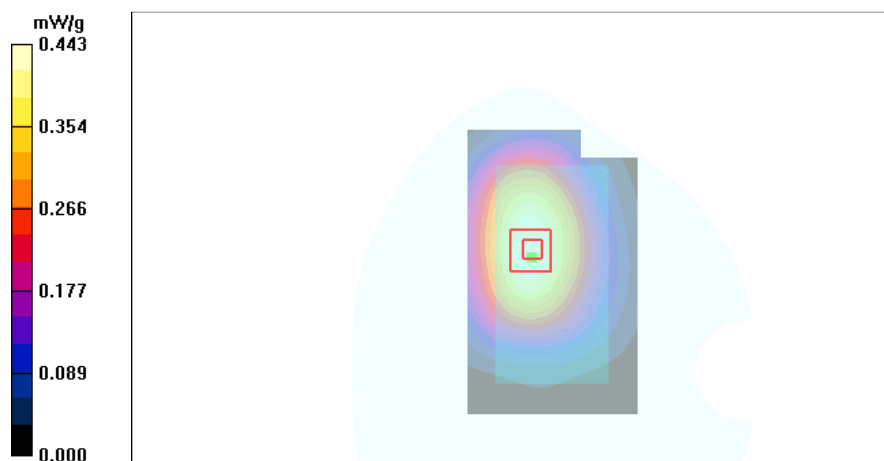
Peak SAR (extrapolated) = 0.535 W/kg

SAR(1 g) = 0.420 mW/g

SAR(10 g) = 0.315 mW/g

Power Drift = -0.205 dB

Maximum value of SAR (measured) = 0.440 mW/g



Date/Time: 2011-02-17 10:39:43

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA850

Frequency: 826.4 MHz; Duty Cycle: 1:1

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

Medium parameters used (interpolated): $f = 826.4$ MHz; $\sigma = 0.968$ mho/m; $\epsilon_r = 54.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Low - No Accessory - Back Facing Phantom - spacer 1.5cm - BP-4L LG/Area Scan (61x101x1):

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

Maximum value of SAR (interpolated) = 0.622 mW/g

Body - Low - No Accessory - Back Facing Phantom - spacer 1.5cm - BP-4L LG/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.56 V/m

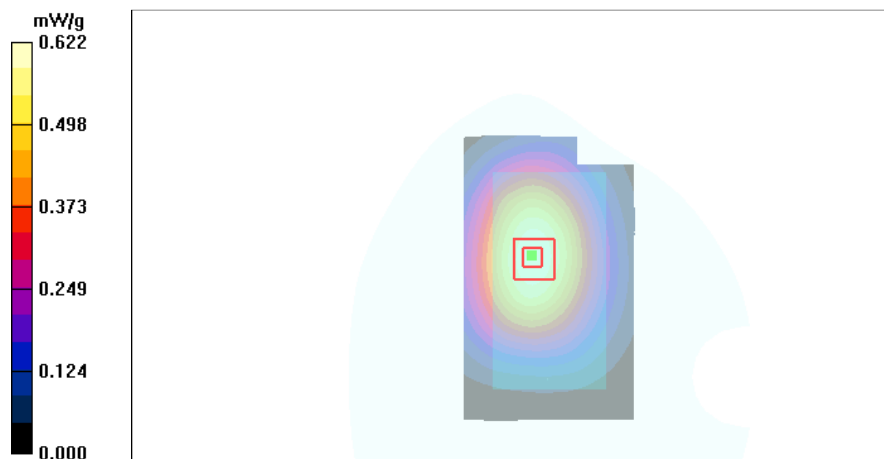
Peak SAR (extrapolated) = 0.740 W/kg

SAR(1 g) = 0.586 mW/g

SAR(10 g) = 0.441 mW/g

Power Drift = -0.072 dB

Maximum value of SAR (measured) = 0.616 mW/g



Date/Time: 2011-02-17 10:28:36

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.976$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - Headset WH-207 - Back Facing Phantom - spacer 1.5cm - BP-4L LG/Area Scan (61x101x1):

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

Maximum value of SAR (interpolated) = 0.457 mW/g

Body - Middle - Headset WH-207 - Back Facing Phantom - spacer 1.5cm - BP-4L LG/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 10.9 V/m

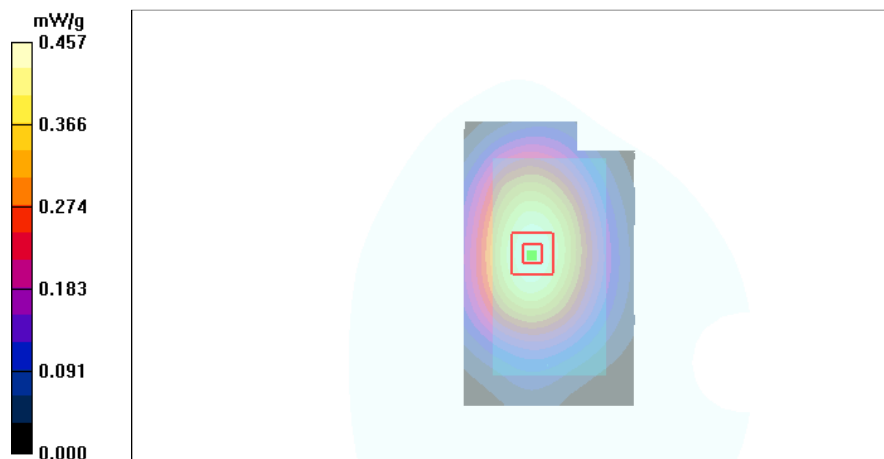
Peak SAR (extrapolated) = 0.539 W/kg

SAR(1 g) = 0.427 mW/g

SAR(10 g) = 0.321 mW/g

Power Drift = -0.141 dB

Maximum value of SAR (measured) = 0.450 mW/g



Date/Time: 2011-02-18 10:46:50

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1700/2100

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Body 1800; Medium Notes: Medium Temperature: 22.1 C

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3119; Probe Notes:
- ConvF(4.57, 4.57, 4.57); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Back Facing Phantom - 1.5cm spacer - BP-4L LG/Area Scan (61x101x1):

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

Maximum value of SAR (interpolated) = 0.547 mW/g

Body - Middle - No Accessory - Back Facing Phantom - 1.5cm spacer - BP-4L LG/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 13.0 V/m

Peak SAR (extrapolated) = 0.698 W/kg

SAR(1 g) = 0.501 mW/g

SAR(10 g) = 0.340 mW/g

Power Drift = -0.225 dB

Maximum value of SAR (measured) = 0.535 mW/g

Body - Middle - No Accessory - Back Facing Phantom - 1.5cm spacer - BP-4L LG/Zoom Scan 2 (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 13.0 V/m

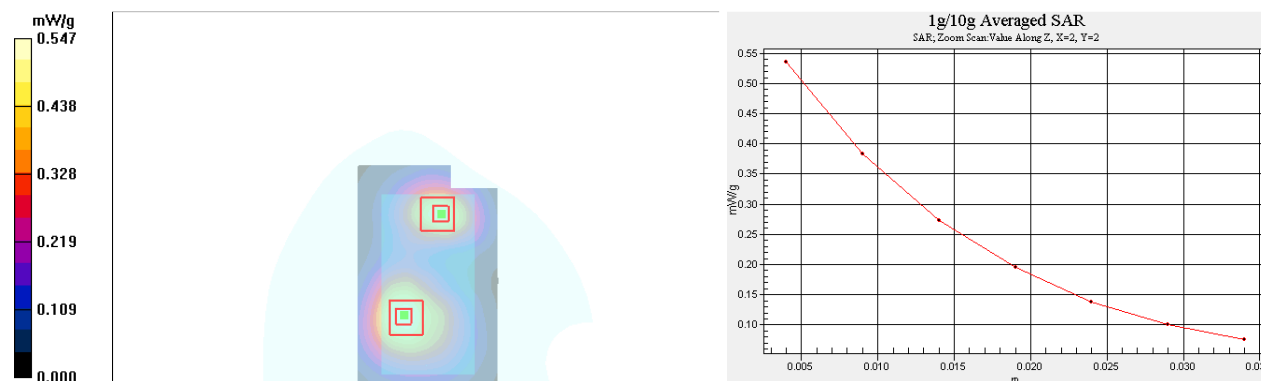
Peak SAR (extrapolated) = 0.693 W/kg

SAR(1 g) = 0.461 mW/g

SAR(10 g) = 0.289 mW/g

Power Drift = -0.225 dB

Maximum value of SAR (measured) = 0.502 mW/g



SAR Report

FCC_RM-609_11

Applicant: Nokia Corporation

Type: RM-609

Copyright © 2011 TCC Nokia

Date/Time: 2011-02-18 11:09:09

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1700/2100

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Body 1800; Medium Notes: Medium Temperature: 22.1 C

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3119; Probe Notes:
- ConvF(4.57, 4.57, 4.57); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - Headset WH-207 - Back Facing Phantom - 1.5cm spacer - BP-4L LG/Area Scan (61x101x1):

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

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

Body - Middle - Headset WH-207 - Back Facing Phantom - 1.5cm spacer - BP-4L LG/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.0 V/m

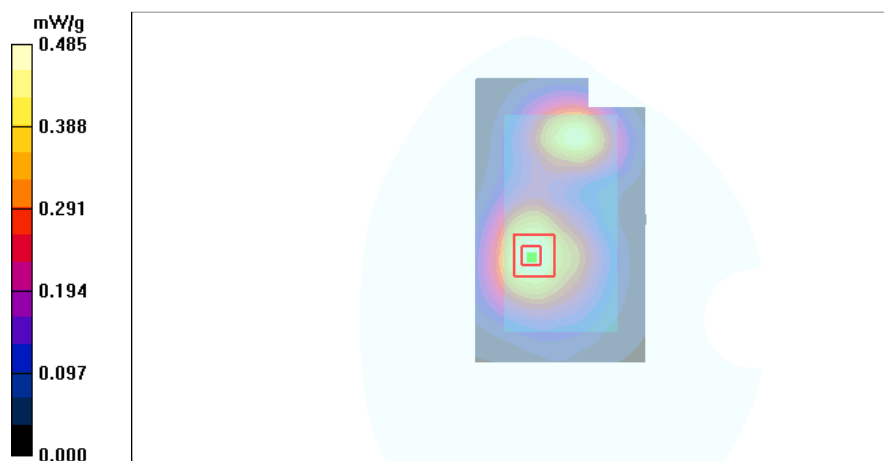
Peak SAR (extrapolated) = 0.608 W/kg

SAR(1 g) = 0.438 mW/g

SAR(10 g) = 0.298 mW/g

Power Drift = -0.136 dB

Maximum value of SAR (measured) = 0.470 mW/g



Date/Time: 2011-02-23 12:45:34

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM 1900

Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

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

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Low - No Accessory - Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Area Scan (61x101x1):

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

Maximum value of SAR (interpolated) = 0.356 mW/g

Body - Low - No Accessory - Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.8 V/m

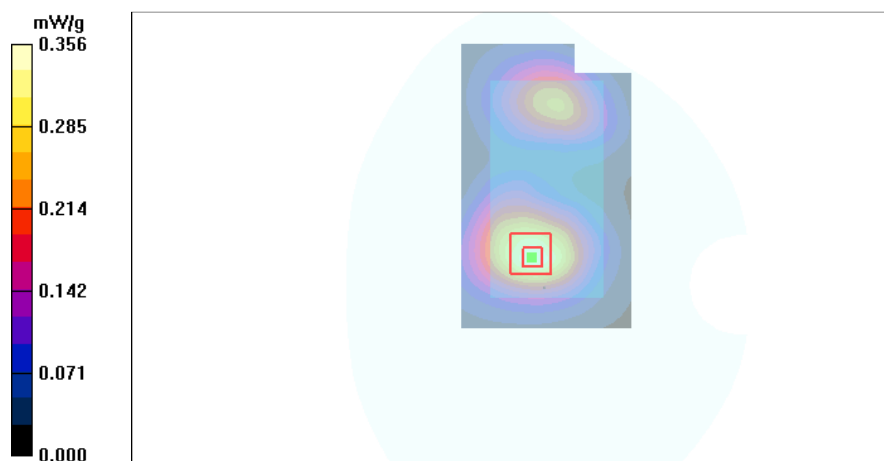
Peak SAR (extrapolated) = 0.464 W/kg

SAR(1 g) = 0.325 mW/g

SAR(10 g) = 0.211 mW/g

Power Drift = -0.007 dB

Maximum value of SAR (measured) = 0.354 mW/g



Date/Time: 2011-02-23 12:21:22

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM 1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

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

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.59$ mho/m; $\epsilon_r = 52.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - Headset WH-207 - Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Area Scan (61x101x1):

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

Maximum value of SAR (interpolated) = 0.310 mW/g

Body - Middle - Headset WH-207 - Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.1 V/m

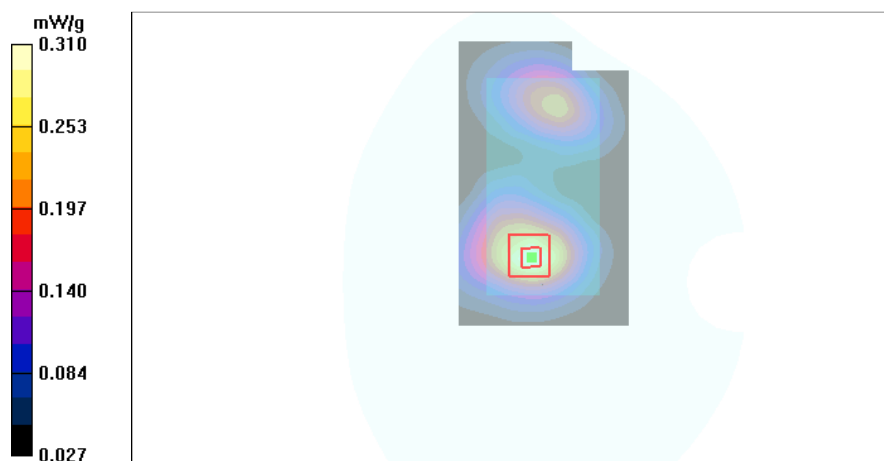
Peak SAR (extrapolated) = 0.411 W/kg

SAR(1 g) = 0.282 mW/g

SAR(10 g) = 0.180 mW/g

Power Drift = -0.031 dB

Maximum value of SAR (measured) = 0.310 mW/g



Date/Time: 2011-02-21 13:44:25

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: 22.5C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Area Scan (61x101x1):

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

Maximum value of SAR (interpolated) = 0.489 mW/g

Body - Middle - No Accessory - Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 12.1 V/m

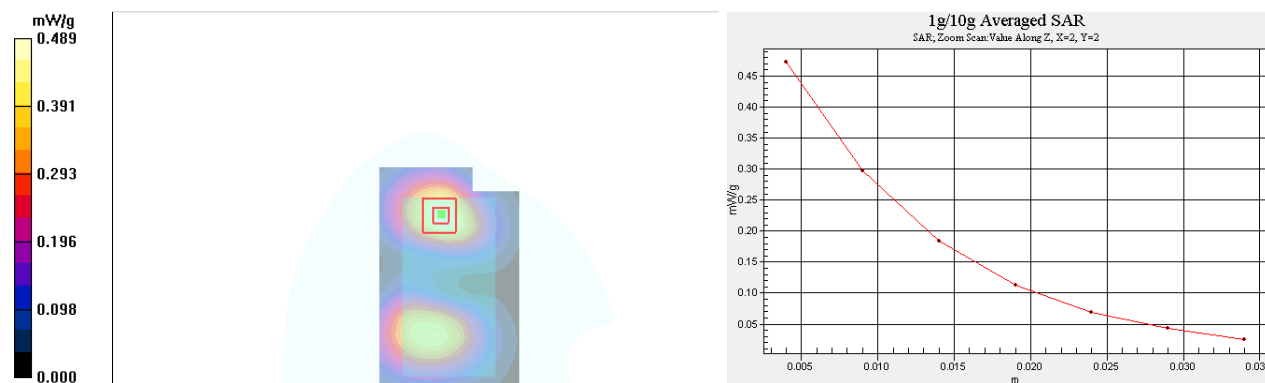
Peak SAR (extrapolated) = 0.669 W/kg

SAR(1 g) = 0.434 mW/g

SAR(10 g) = 0.265 mW/g

Power Drift = -0.052 dB

Maximum value of SAR (measured) = 0.472 mW/g



Date/Time: 2011-02-21 13:59:13

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: 22.5C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - Headset WH-207 -Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Area Scan (61x101x1):

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

Maximum value of SAR (interpolated) = 0.458 mW/g

Body - Middle - Headset WH-207 -Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 10.2 V/m

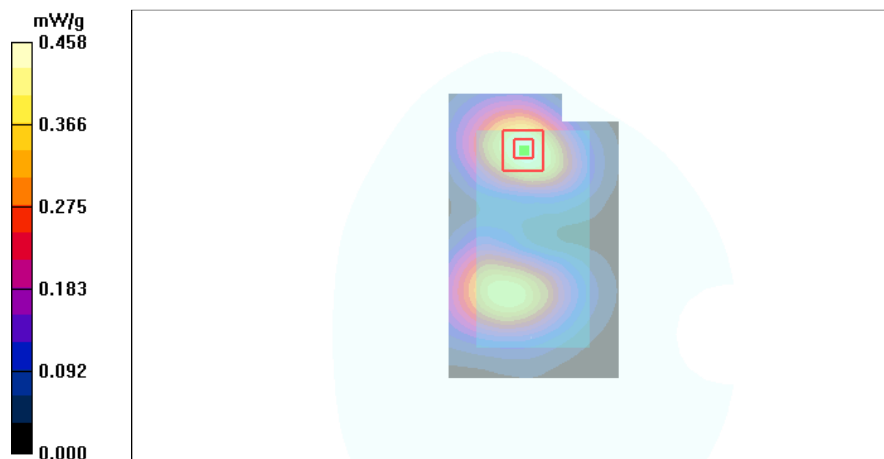
Peak SAR (extrapolated) = 0.649 W/kg

SAR(1 g) = 0.416 mW/g

SAR(10 g) = 0.252 mW/g

Power Drift = -0.110 dB

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



Date/Time: 2011-02-22 10:40:51

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Area Scan (61x101x1):

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

Maximum value of SAR (interpolated) = 0.047 mW/g

Body - Middle - No Accessory - Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.93 V/m

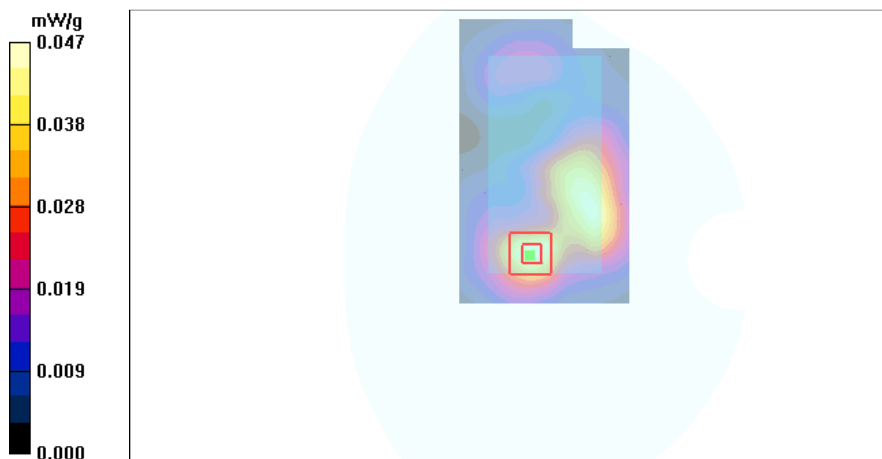
Peak SAR (extrapolated) = 0.083 W/kg

SAR(1 g) = 0.044 mW/g

SAR(10 g) = 0.024 mW/g

Power Drift = -0.070 dB

Maximum value of SAR (measured) = 0.049 mW/g



Date/Time: 2011-02-22 10:56:46

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - Headset WH-207 - Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Area Scan (61x101x1):

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

Maximum value of SAR (interpolated) = 0.049 mW/g

Body - Middle - Headset WH-207 - Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 5.35 V/m

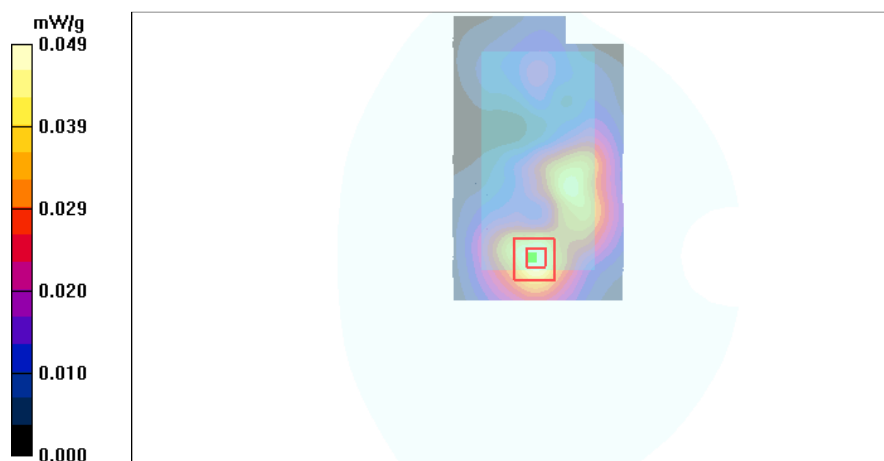
Peak SAR (extrapolated) = 0.091 W/kg

SAR(1 g) = 0.049 mW/g

SAR(10 g) = 0.026 mW/g

Power Drift = -0.157 dB

Maximum value of SAR (measured) = 0.054 mW/g



Date/Time: 2011-02-22 15:46:16

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WLAN2450 n-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - Headset WH-207 - Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Area Scan (61x101x1):

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

Maximum value of SAR (interpolated) = 0.053 mW/g

Body - Middle - Headset WH-207 - Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 5.41 V/m

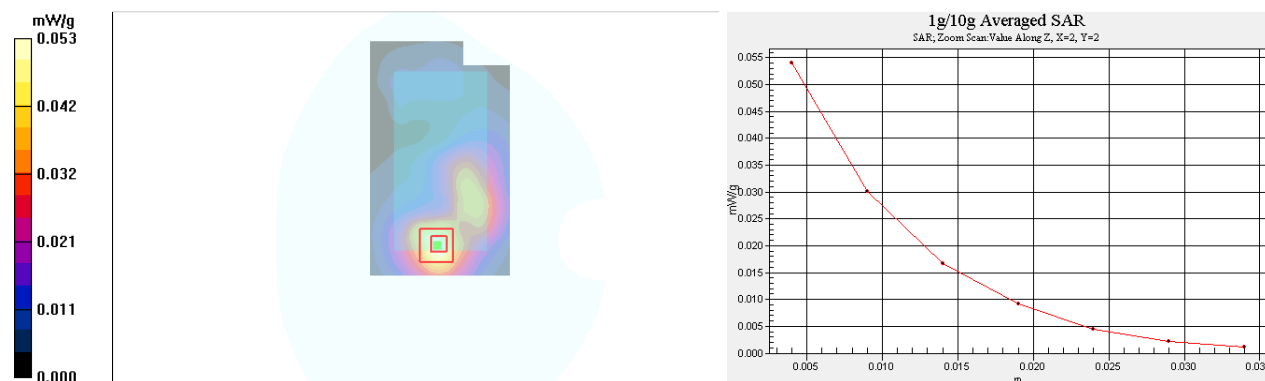
Peak SAR (extrapolated) = 0.093 W/kg

SAR(1 g) = 0.050 mW/g

SAR(10 g) = 0.027 mW/g

Power Drift = -0.153 dB

Maximum value of SAR (measured) = 0.054 mW/g



Date/Time: 2011-02-10 16:38:14, Date/Time: 2011-02-12 18:23:12

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM850, Communication System: WLAN2450 b-mode

Frequency: 836.6 MHz, Frequency: 2442 MHz; Duty Cycle: 1:8.3, Duty Cycle: 1:1

Medium: Head 850, Medium: Head 2450; Medium Notes: Medium Temperature: 22.4 C, Medium Notes: Medium Temperature: 21.4 C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.902$ mho/m; $\epsilon_r = 40.6$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 2442$ MHz; $\sigma = 1.85$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.79, 5.79, 5.79), ConvF(4.19, 4.19, 4.19); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 3, Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1302, Serial: TP-1408
- ; SEMCAD X Version 14.0 Build 61

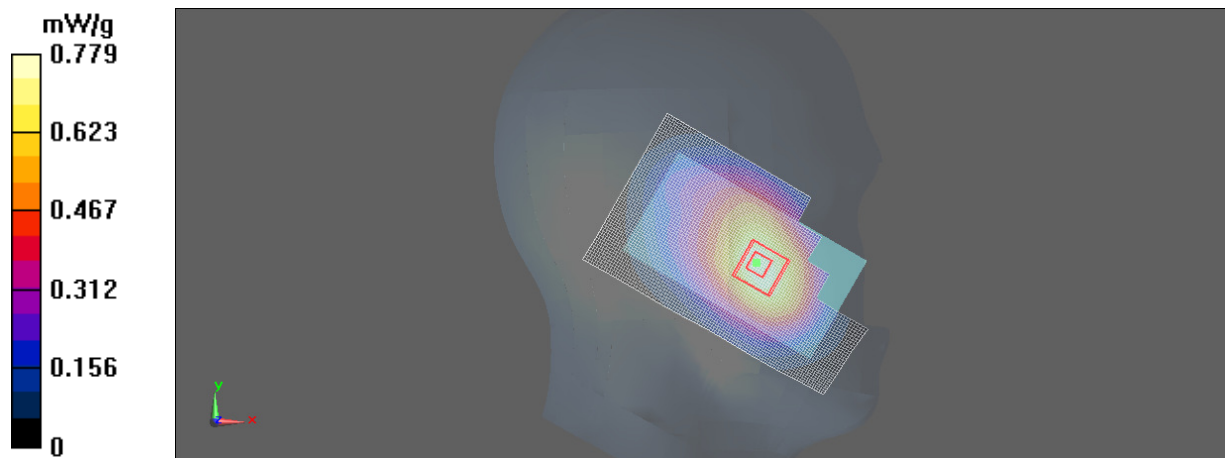
Configuration/Cheek - Middle - BP-4L LG/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Cheek - Middle - BP-4L Sony/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.732 mW/g

SAR(10 g) = 0.509 mW/g

Maximum value of SAR (measured) = 0.779 mW/g



Date/Time: 2011-02-10 17:52:25, Date/Time: 2011-02-12 18:23:12

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA850, Communication System: WLAN2450 b-mode

Frequency: 846.6 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Head 850, Medium: Head 2450; Medium Notes: Medium Temperature: 22.4 C, Medium Notes: Medium Temperature: 21.4 C

Medium parameters used: $f = 847$ MHz; $\sigma = 0.911$ mho/m; $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 2442$ MHz; $\sigma = 1.85$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.79, 5.79, 5.79), ConvF(4.19, 4.19, 4.19); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 3, Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1302, Serial: TP-1408
- ; SEMCAD X Version 14.0 Build 61

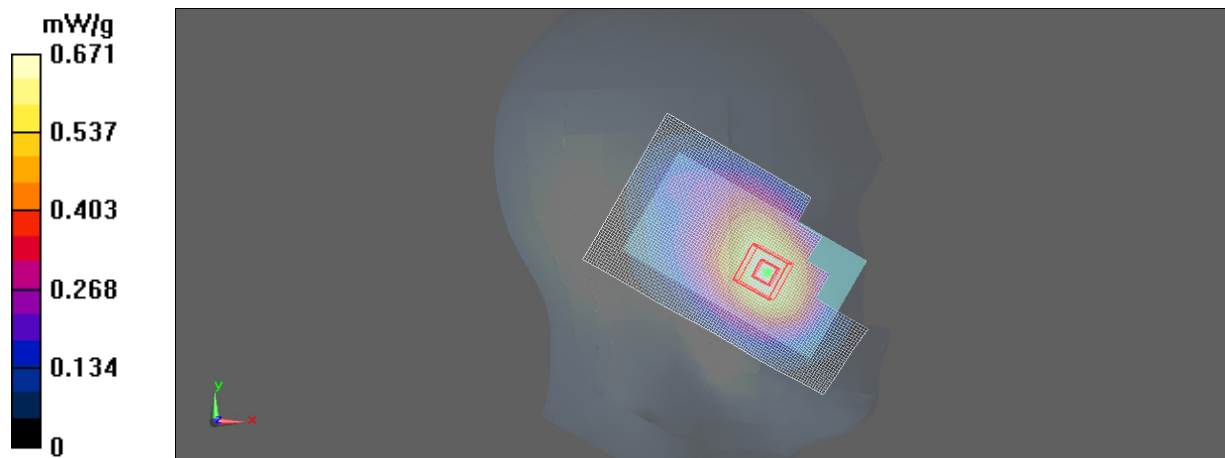
Configuration/Cheek - High - BP-4L LG/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Cheek - Middle - BP-4L Sony/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.629 mW/g

SAR(10 g) = 0.434 mW/g

Maximum value of SAR (measured) = 0.671 mW/g



Date/Time: 2011-02-09 21:54:34, Date/Time: 2011-02-12 18:56:43

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1700/2100, Communication System: WLAN2450 b-mode

Frequency: 1732.4 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Head 1800, Medium: Head 2450; Medium Notes: Medium Temperature: 22.0 C, Medium Notes:

Medium Temperature: 21.4 C

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.32$ mho/m; $\epsilon_r = 38.6$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 2442$ MHz; $\sigma = 1.85$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:

- ConvF(4.93, 4.93, 4.93), ConvF(4.19, 4.19, 4.19); Calibrated: 2010-09-09

- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn710; Calibrated: 2010-09-17

- Phantom: SAM 4.5, Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1215, Serial: TP-1408

-; SEMCAD X Version 14.0 Build 61

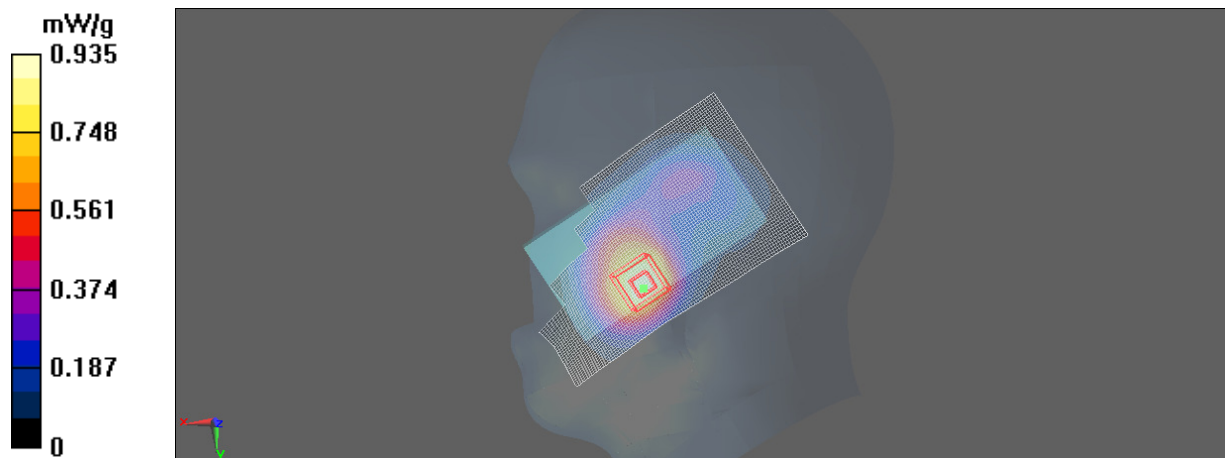
Configuration/Cheek - Middle - BP-4L Sony/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

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

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.854 mW/g

SAR(10 g) = 0.523 mW/g

Maximum value of SAR (measured) = 0.935 mW/g



Date/Time: 2011-02-09 18:07:17, Date/Time: 2011-02-12 18:56:43

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM 1900, Communication System: WLAN2450 b-mode

Frequency: 1850.2 MHz, Frequency: 2442 MHz; Duty Cycle: 1:8.3, Duty Cycle: 1:1

Medium: Head 1900, Medium: Head 2450; Medium Notes: Medium Temperature: 22.0 C, Medium Notes:

Medium Temperature: 21.4 C

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 38.1$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 2442$ MHz; $\sigma = 1.85$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:

- ConvF(4.76, 4.76, 4.76), ConvF(4.19, 4.19, 4.19); Calibrated: 2010-09-09

- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn710; Calibrated: 2010-09-17

- Phantom: SAM 4.5, Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1215, Serial: TP-1408

-; SEMCAD X Version 14.0 Build 61

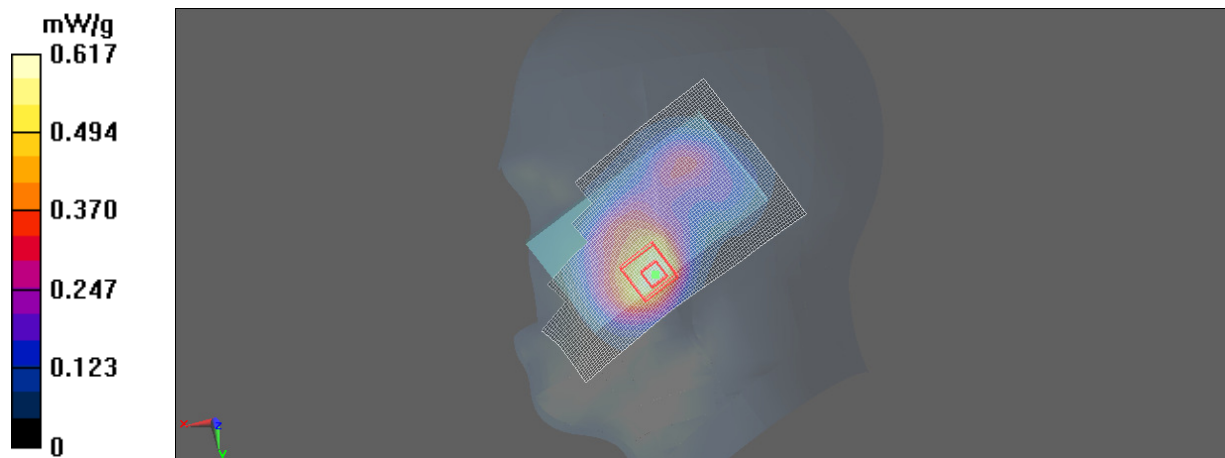
Configuration/Cheek - Low - BP-4L Sony/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

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

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.550 mW/g

SAR(10 g) = 0.326 mW/g

Maximum value of SAR (measured) = 0.617 mW/g



Date/Time: 2011-02-09 19:08:27, Date/Time: 2011-02-12 18:56:43

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

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

Frequency: 1880 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Head 1900, Medium: Head 2450; Medium Notes: Medium Temperature: 22.0 C, Medium Notes:

Medium Temperature: 21.4 C

Medium parameters used: $f = 1880 \text{ MHz}$; $\sigma = 1.45 \text{ mho/m}$; $\epsilon_r = 38$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $f = 2442 \text{ MHz}$; $\sigma = 1.85 \text{ mho/m}$; $\epsilon_r = 40.2$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.76, 4.76, 4.76), ConvF(4.19, 4.19, 4.19); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 4.5, Phantom: SAM 9; Type: Twin Phantom; Serial: TP-1215, Serial: TP-1408
- ; SEMCAD X Version 14.0 Build 61

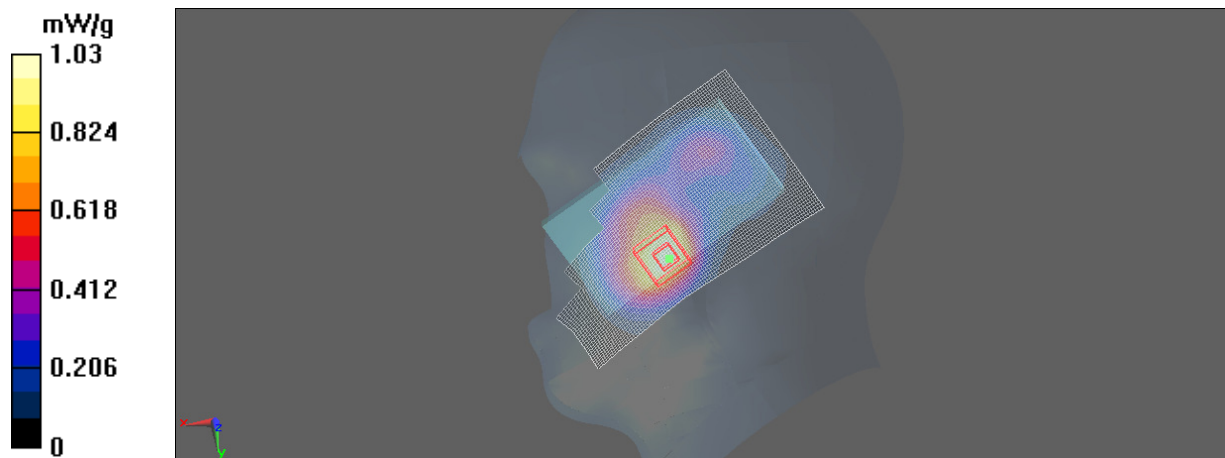
Configuration/Cheek - Middle - BP-4L Sony/Area Scan (7x11x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.936 mW/g

SAR(10 g) = 0.558 mW/g

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



Date/Time: 2011-02-16 12:37:38, Date/Time: 2011-02-22 10:40:51

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM850, Communication System: WLAN2450 b-mode

Frequency: 824.2 MHz, Frequency: 2442 MHz; Duty Cycle: 1:8.3, Duty Cycle: 1:1

Medium: Body 850, Medium: Body 2450; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.971$ mho/m; $\epsilon_r = 55$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67), ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5, Phantom: SAM 8; Type: Twin Phantom, Type: SAM Twin Phantom; Serial: TP-1302, Serial: TP-1328
- ; SEMCAD X Version 14.0 Build 61

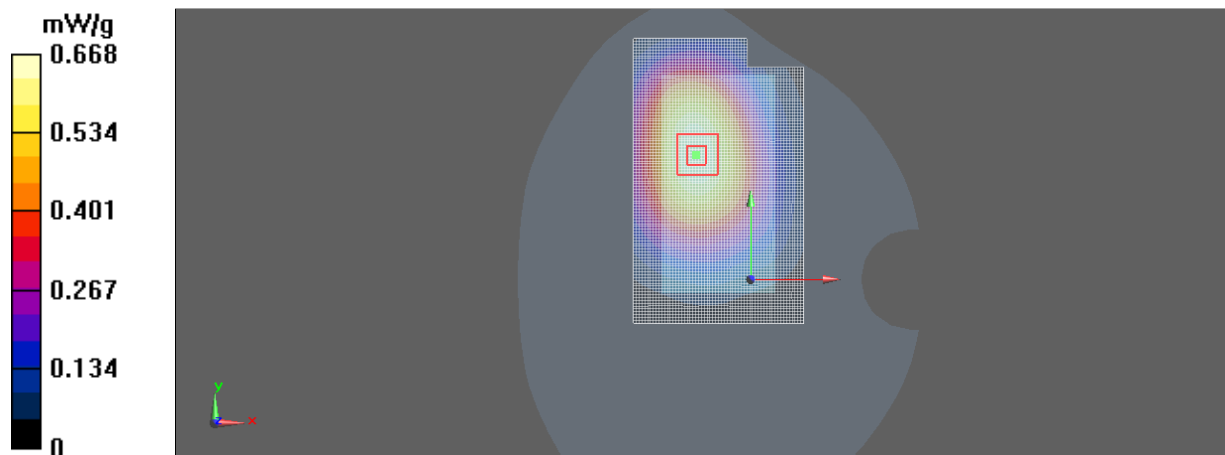
Configuration/Body - Low - No Accessory - Back Facing Phantom - Spacer 1.5mm - BP-4L LG/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Body - Middle - No Accessory - Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.633 mW/g

SAR(10 g) = 0.451 mW/g

Maximum value of SAR (measured) = 0.668 mW/g



Date/Time: 2011-02-17 10:39:43, Date/Time: 2011-02-22 10:40:51

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA850, Communication System: WLAN2450 b-mode

Frequency: 826.4 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 850, Medium: Body 2450; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used (interpolated): $f = 826.4$ MHz; $\sigma = 0.968$ mho/m; $\epsilon_r = 54.5$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67), ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5, Phantom: SAM 8; Type: Twin Phantom, Type: SAM Twin Phantom; Serial: TP-1302, Serial: TP-1328
- ; SEMCAD X Version 14.0 Build 61

Configuration/Body - Low - No Accessory - Back Facing Phantom - spacer 1.5cm - BP-4L LG/Area Scan (7x11x1):

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

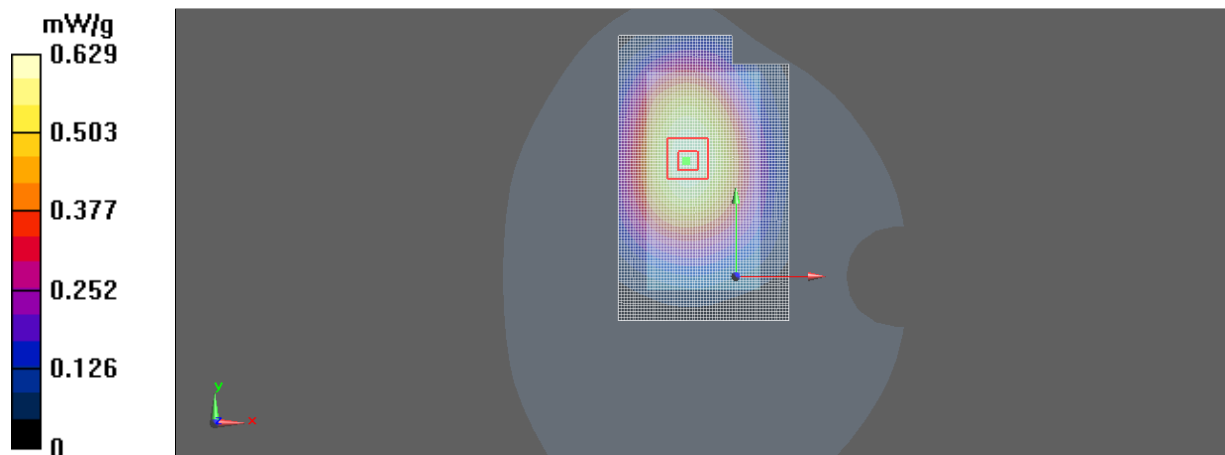
Configuration/Body - Middle - No Accessory - Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Area Scan

(7x11x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.598 mW/g

SAR(10 g) = 0.425 mW/g

Maximum value of SAR (measured) = 0.629 mW/g



Date/Time: 2011-02-18 10:46:50, Date/Time: 2011-02-22 10:40:51

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1700/2100, Communication System: WLAN2450 b-mode

Frequency: 1732.4 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 1800, Medium: Body 2450; Medium Notes: Medium Temperature: 22.1 C, Medium Notes:

Medium Temperature: 22.0 C

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

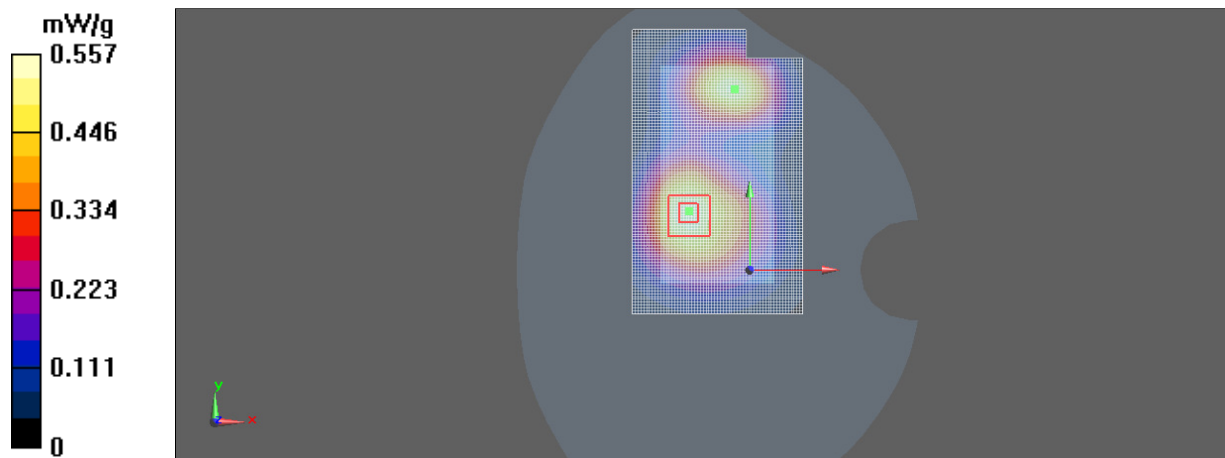
- Probe: ES3DV3 - SN3119, Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.57, 4.57, 4.57), ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573, Electronics: DAE4 Sn710; Calibrated: 2010-07-16, Calibrated: 2010-09-17
- Phantom: SAM 2, Phantom: SAM 8; Type: Twin Phantom, Type: SAM Twin Phantom; Serial: TP-1037, Serial: TP-1328
- ; SEMCAD X Version 14.0 Build 61

Configuration/Body - Middle - No Accessory - Back Facing Phantom - 1.5cm spacer - BP-4L LG/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Body - Middle - No Accessory - Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.517 mW/g
SAR(10 g) = 0.323 mW/g

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



Date/Time: 2011-02-23 12:45:34, Date/Time: 2011-02-22 10:40:51

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM 1900, Communication System: WLAN2450 b-mode

Frequency: 1850.2 MHz, Frequency: 2442 MHz; Duty Cycle: 1:8.3, Duty Cycle: 1:1

Medium: Body 1900, Medium: Body 2450; Medium Notes: Medium Temperature: 21.8 C, Medium Notes:

Medium Temperature: 22.0 C

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.8$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36), ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2, Phantom: SAM 8; Type: Twin Phantom, Type: SAM Twin Phantom; Serial: TP-1037, Serial: TP-1328
- ; SEMCAD X Version 14.0 Build 61

Configuration/Body - Low - No Accessory - Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Area Scan (7x11x1):

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

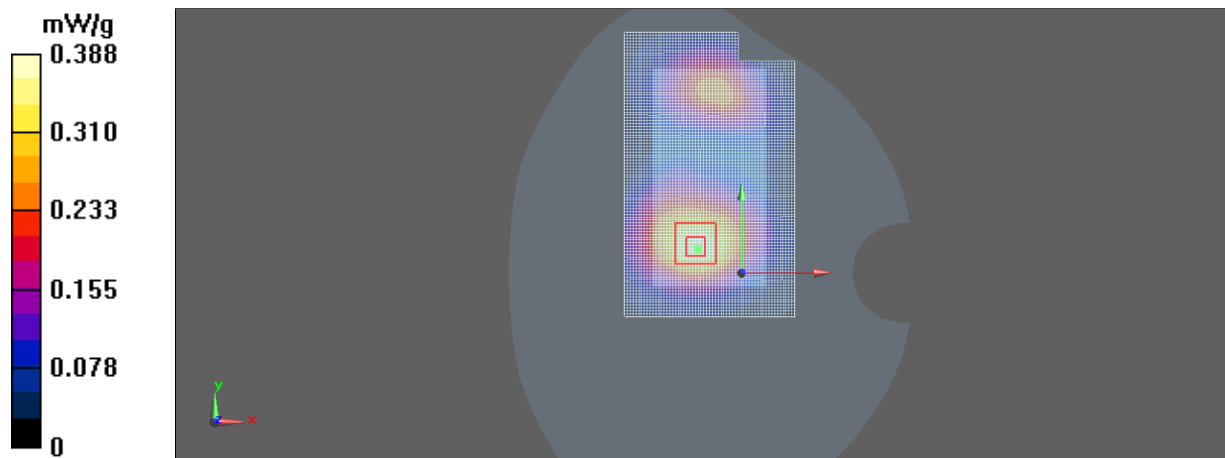
Configuration/Body - Middle - No Accessory - Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Area Scan

(7x11x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.352 mW/g

SAR(10 g) = 0.211 mW/g

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



Date/Time: 2011-02-21 13:44:25, Date/Time: 2011-02-22 10:40:51

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

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

Frequency: 1880 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 1900, Medium: Body 2450; Medium Notes: Medium Temperature: 22.5C, Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

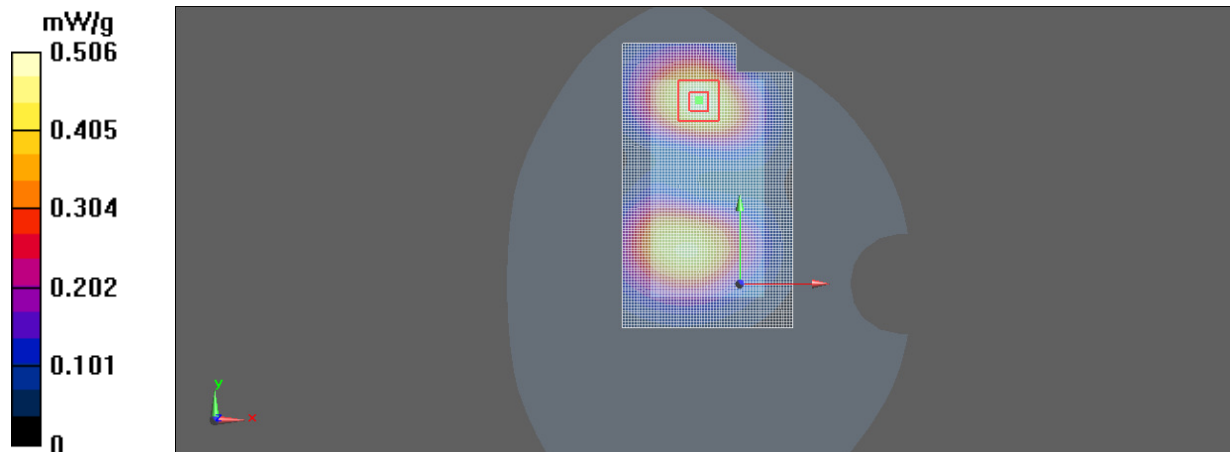
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36), ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2, Phantom: SAM 8; Type: Twin Phantom, Type: SAM Twin Phantom; Serial: TP-1037, Serial: TP-1328
- ; SEMCAD X Version 14.0 Build 61

Configuration/Body - Middle - No Accessory - Back Facing Phantom - Spacer 1.5cm - BP-4L LG/Area Scan (7x11x1); Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.469 mW/g

SAR(10 g) = 0.279 mW/g

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



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

See the following pages.



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

Accreditation No.: **SCS 108**

Client **Nokia Denmark A/S**

Certificate No: **ES3-3118_Sep10**

CALIBRATION CERTIFICATE

Object **ES3DV3 - SN:3118**

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

Calibration date: **September 9, 2010**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards:	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-10 (No. 217-01136)	Apr-11
Power sensor E4412A	MY41495277	1-Apr-10 (No. 217-01136)	Apr-11
Power sensor E4412A	MY41498087	1-Apr-10 (No. 217-01136)	Apr-11
Reference 3 dB Attenuator	SN: S5054 (3c)	30-Mar-10 (No. 217-01159)	Mar-11
Reference 20 dB Attenuator	SN: S5086 (20b)	30-Mar-10 (No. 217-01161)	Mar-11
Reference 30 dB Attenuator	SN: S5129 (30b)	30-Mar-10 (No. 217-01160)	Mar-11
Reference Probe ES3DV2	SN: 3013	30-Dec-09 (No. ES3-3013_Dec09)	Dec-10
DAE4	SN: 660	20-Apr-10 (No. DAE4-660_Apr10)	Apr-11
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-09)	In house check: Oct10

Calibrated by: **Jeton Kastrati** Laboratory Technician

Approved by: **Katja Pokovic** Technical Manager

Signature

Issued: September 9, 2010

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

DASY/EASY - Parameters of Probe: ES3DV3 SN:3118

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%	5.79	5.79	5.79	0.99	1.05 ± 11.0%
1750	± 50 / ± 100	40.1 ± 5%	1.37 ± 5%	4.93	4.93	4.93	0.59	1.35 ± 11.0%
1900	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	4.76	4.76	4.76	0.55	1.41 ± 11.0%
2450	± 50 / ± 100	39.2 ± 5%	1.80 ± 5%	4.19	4.19	4.19	0.52	1.58 ± 11.0%

^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: ES3DV3 SN:3118

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%	5.67	5.67	5.67	0.99	1.08 ± 11.0%
1750	± 50 / ± 100	53.4 ± 5%	1.49 ± 5%	4.57	4.57	4.57	0.38	1.89 ± 11.0%
1900	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	4.36	4.36	4.36	0.34	2.27 ± 11.0%
2450	± 50 / ± 100	52.7 ± 5%	1.95 ± 5%	4.05	4.05	4.05	0.85	1.17 ± 11.0%

^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.



Accredited by the Swiss Accreditation Service (SAS)
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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Nokia Denmark A/S**

Certificate No: **ES3-3119_Sep10**

CALIBRATION CERTIFICATE

Object **ES3DV3 - SN:3119**

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

Calibration date: **September 9, 2010**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards:	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-10 (No. 217-01136)	Apr-11
Power sensor E4412A	MY41495277	1-Apr-10 (No. 217-01136)	Apr-11
Power sensor E4412A	MY41498087	1-Apr-10 (No. 217-01136)	Apr-11
Reference 3 dB Attenuator	SN: S5054 (3c)	30-Mar-10 (No. 217-01159)	Mar-11
Reference 20 dB Attenuator	SN: S5086 (20b)	30-Mar-10 (No. 217-01161)	Mar-11
Reference 30 dB Attenuator	SN: S5129 (30b)	30-Mar-10 (No. 217-01160)	Mar-11
Reference Probe ES3DV2	SN: 3013	30-Dec-09 (No. ES3-3013_Dec09)	Dec-10
DAE4	SN: 660	20-Apr-10 (No. DAE4-660_Apr10)	Apr-11
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-09)	In house check: Oct10

Calibrated by: **Jeton Kastrati** Laboratory Technician

Approved by: **Katja Pokovic** Technical Manager

Signature

Issued: September 9, 2010

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

DASY/EASY - Parameters of Probe: ES3DV3 SN:3119

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%	5.80	5.80	5.80	0.81	1.11 ± 11.0%
1750	± 50 / ± 100	40.1 ± 5%	1.37 ± 5%	4.94	4.94	4.94	0.51	1.52 ± 11.0%
1900	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	4.76	4.76	4.76	0.61	1.37 ± 11.0%
2450	± 50 / ± 100	39.2 ± 5%	1.80 ± 5%	4.28	4.28	4.28	0.51	1.63 ± 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: ES3DV3 SN:3119

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%	5.68	5.68	5.68	0.94	1.10 ± 11.0%
1750	± 50 / ± 100	53.4 ± 5%	1.49 ± 5%	4.57	4.57	4.57	0.38	1.94 ± 11.0%
1900	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	4.39	4.39	4.39	0.37	2.17 ± 11.0%
2450	± 50 / ± 100	52.7 ± 5%	1.95 ± 5%	4.07	4.07	4.07	0.89	1.11 ± 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.

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

See the following pages.



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

Accreditation No.: **SCS 108**

Client **Nokia Denmark A/S**

Certificate No: **D835V2-4d042_Jul10**

CALIBRATION CERTIFICATE

Object **D835V2 - SN: 4d042**

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

Calibration date: **July 20, 2010**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-09 (No. 217-01086)	Oct-10
Power sensor HP 8481A	US37292783	06-Oct-09 (No. 217-01086)	Oct-10
Reference 20 dB Attenuator	SN: 5086 (20g)	30-Mar-10 (No. 217-01158)	Mar-11
Type-N mismatch combination	SN: 5047.2 / 06327	30-Mar-10 (No. 217-01162)	Mar-11
Reference Probe ES3DV3	SN: 3205	30-Apr-10 (No. ES3-3205_Apr10)	Apr-11
DAE4	SN: 601	10-Jun-10 (No. DAE4-601_Jun10)	Jun-11

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

	Name	Function	Signature
Calibrated by:	Dimce Iliev	Laboratory Technician	

Approved by:	Katja Pokovic	Technical Manager
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Issued: July 20, 2010

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DASY5 Validation Report for Head TSL

Date/Time: 12.07.2010 10:35:49

Test Laboratory: SPEAG, Zurich, Switzerland

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

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

Medium: HSL900

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.9 \text{ mho/m}$; $\epsilon_r = 42.1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.03, 6.03, 6.03); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY52, V52.2 Build 0, Version 52.2.0 (163)
- Postprocessing SW: SEMCAD X, V14.2 Build 2, Version 14.2.2 (1685)

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

Reference Value = 57 V/m; Power Drift = 0.025 dB

Peak SAR (extrapolated) = 3.56 W/kg

SAR(1 g) = 2.38 mW/g; SAR(10 g) = 1.55 mW/g

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



DASY5 Validation Report for Body

Date/Time: 20.07.2010 11:38:55

Test Laboratory: SPEAG, Zurich, Switzerland

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

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

Medium: MSL900

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 1.01 \text{ mho/m}$; $\epsilon_r = 55$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.86, 5.86, 5.86); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY52, V52.2 Build 0, Version 52.2.0 (163)
- Postprocessing SW: SEMCAD X, V14.2 Build 2, Version 14.2.2 (1685)

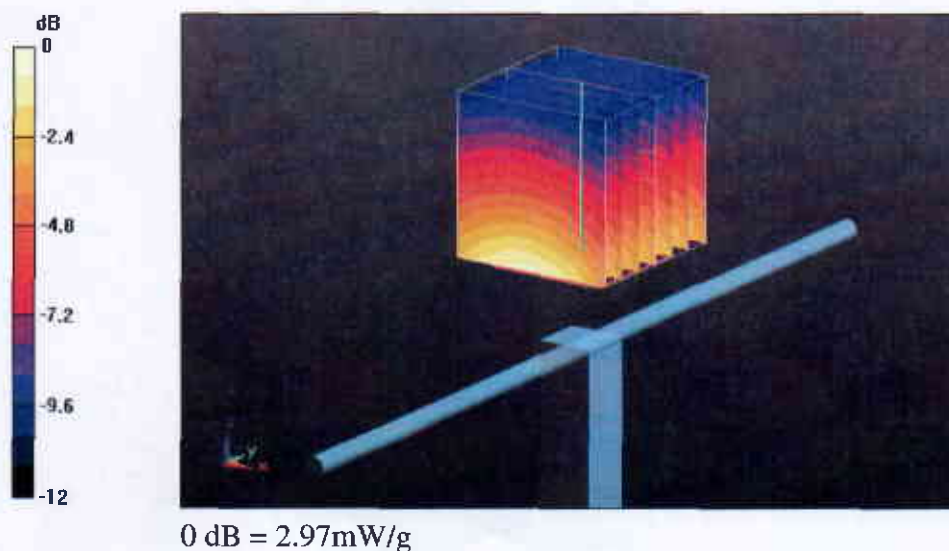
Pin=250 mW /d=15mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) Cube 0: Measurement
grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56.1 V/m; Power Drift = 0.014 dB

Peak SAR (extrapolated) = 3.78 W/kg

SAR(1 g) = 2.56 mW/g; SAR(10 g) = 1.68 mW/g

Maximum value of SAR (measured) = 2.97 mW/g





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Accreditation No.: **SCS 108**

Client **Nokia Denmark A/S**

Certificate No: **D1800V2_2d075_Feb10**

CALIBRATION CERTIFICATE

Object **D1800V2 - SN: 2d075**

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

Calibration date: **February 23, 2010**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-09 (No. 217-01086)	Oct-10
Power sensor HP 8481A	US37292783	06-Oct-09 (No. 217-01086)	Oct-10
Reference 20 dB Attenuator	SN: 5086 (20g)	31-Mar-09 (No. 217-01025)	Mar-10
Type-N mismatch combination	SN: 5047.2 / 06327	31-Mar-09 (No. 217-01029)	Mar-10
Reference Probe ES3DV3	SN: 3205	26-Jun-09 (No. ES3-3205_Jun09)	Jun-10
DAE4	SN: 601	07-Mar-09 (No. DAE4-601_Mar09)	Mar-10
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-09)	In house check: Oct-10

Calibrated by: **Jeton Kastrati** **Laboratory Technician**

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

Signature

Issued: February 23, 2010

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

DASY5 Validation Report for Head TSL

Date/Time: 23.02.2010 11:16:34

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:2d075

Communication System: CW; Frequency: 1800 MHz; Duty Cycle: 1:1

Medium: HSL U11 BB

Medium parameters used: $f = 1800$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 39.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.25, 5.25, 5.25); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

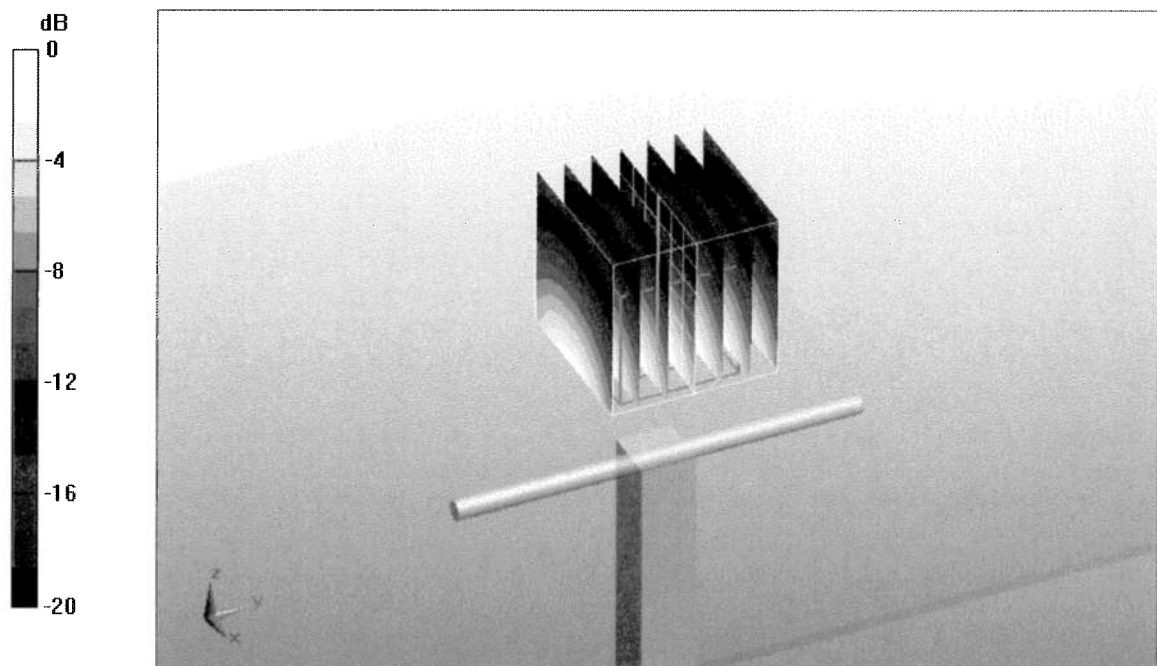
Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 96.3 V/m; Power Drift = 0.050 dB

Peak SAR (extrapolated) = 17.2 W/kg

SAR(1 g) = 9.5 mW/g; SAR(10 g) = 5.01 mW/g

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



0 dB = 11.9mW/g

DASY5 Validation Report for Body

Date/Time: 16.02.2010 10:42:30

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:2d075

Communication System: CW; Frequency: 1800 MHz; Duty Cycle: 1:1

Medium: MSL U10 BB

Medium parameters used: $f = 1800 \text{ MHz}$; $\sigma = 1.49 \text{ mho/m}$; $\epsilon_r = 52.7$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.8, 4.8, 4.8); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

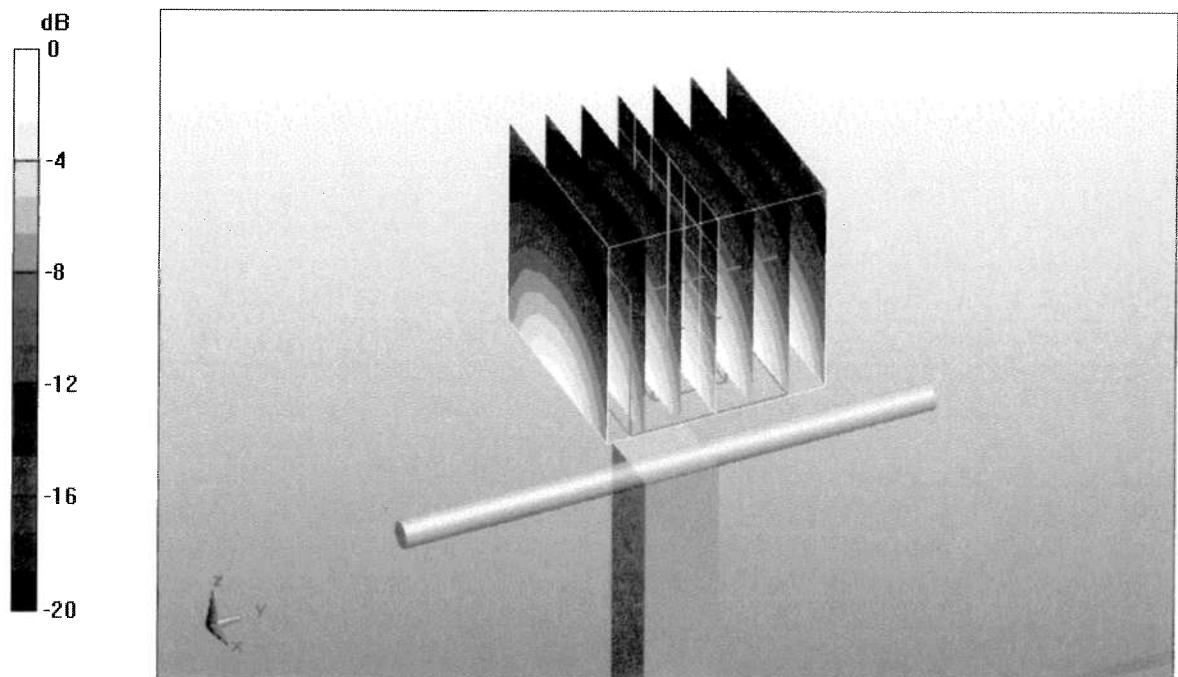
Pin250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement
grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 94.5 V/m; Power Drift = -0.015 dB

Peak SAR (extrapolated) = 16.7 W/kg

SAR(1 g) = 9.55 mW/g; SAR(10 g) = 5.07 mW/g

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



0 dB = 12.1mW/g



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

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Multilateral Agreement for the recognition of calibration certificates

Client **Nokia Denmark A/S**

Certificate No: **D1900V2-5d063_Feb10**

CALIBRATION CERTIFICATE

Object **D1900V2 - SN: 5d063**

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

Calibration date: **February 23, 2010**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-09 (No. 217-01086)	Oct-10
Power sensor HP 8481A	US37292783	06-Oct-09 (No. 217-01086)	Oct-10
Reference 20 dB Attenuator	SN: 5086 (20g)	31-Mar-09 (No. 217-01025)	Mar-10
Type-N mismatch combination	SN: 5047.2 / 06327	31-Mar-09 (No. 217-01029)	Mar-10
Reference Probe ES3DV3	SN: 3205	26-Jun-09 (No. ES3-3205_Jun09)	Jun-10
DAE4	SN: 601	07-Mar-09 (No. DAE4-601_Mar09)	Mar-10
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-09)	In house check: Oct-10

Calibrated by: **Jeton Kastrati**

Name
Function
Laboratory Technician

Signature

Approved by: **Katja Pokovic**

Technical Manager

Issued: February 25, 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: 23.02.2010 13:21:31

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d063

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

Medium: HSL U11 BB

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.2$; $\rho = 1000$ kg/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: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

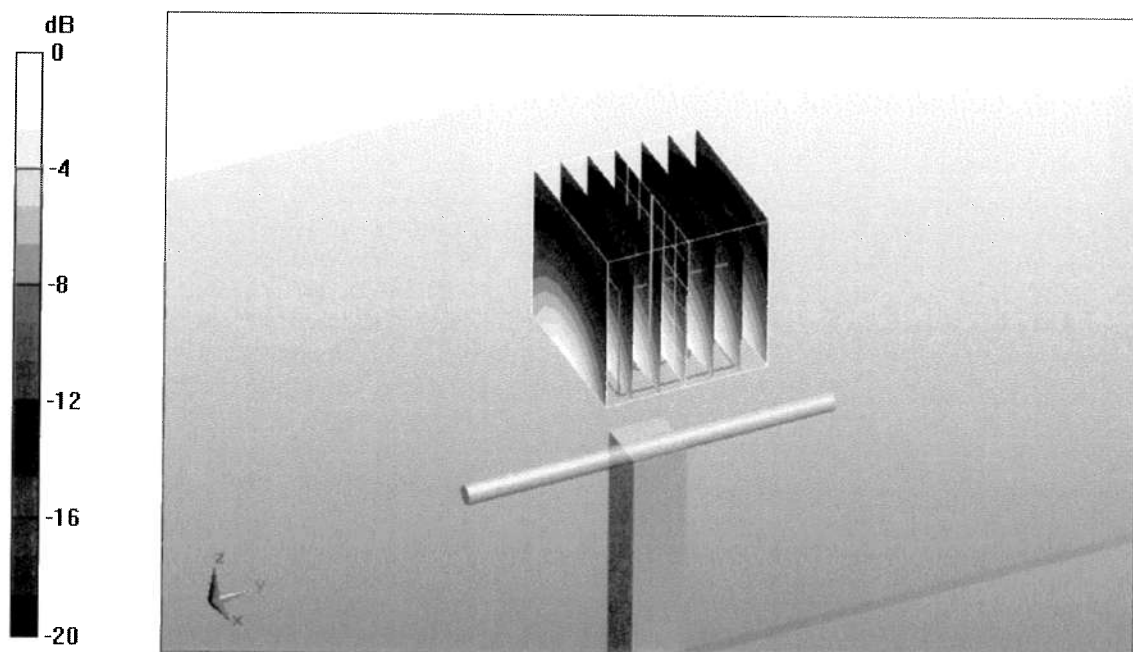
Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 97.1 V/m; Power Drift = 0.041 dB

Peak SAR (extrapolated) = 18.3 W/kg

SAR(1 g) = 9.98 mW/g; SAR(10 g) = 5.2 mW/g

Maximum value of SAR (measured) = 12.4 mW/g



0 dB = 12.4mW/g

DASY5 Validation Report for Body

Date/Time: 16.02.2010 13:00:42

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d063

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

Medium: MSL U10 BB

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.56 \text{ mho/m}$; $\epsilon_r = 52.7$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.59, 4.59, 4.59); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

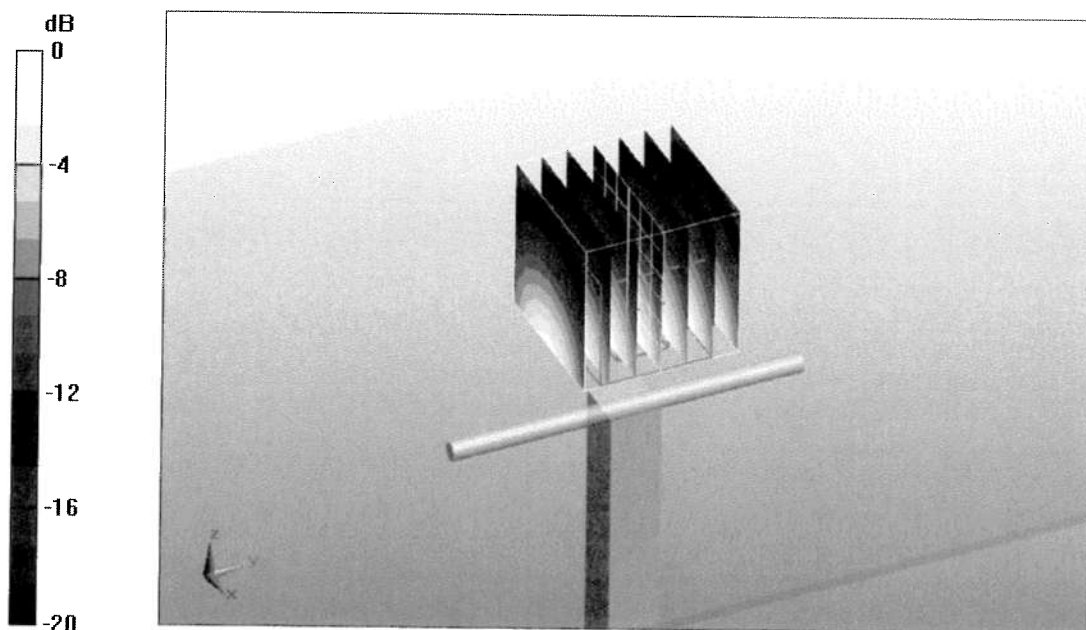
Pin250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement
grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 96.1 V/m; Power Drift = 0.078 dB

Peak SAR (extrapolated) = 16.7 W/kg

SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.31 mW/g

Maximum value of SAR (measured) = 12.8 mW/g



0 dB = 12.8mW/g



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

Accreditation No.: **SCS 108**

Client **Nokia Denmark A/S**

Certificate No: **D2450V2-750_Feb10**

CALIBRATION CERTIFICATE

Object **D2450V2 - SN: 750**

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

Calibration date: **February 19, 2010**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-09 (No. 217-01086)	Oct-10
Power sensor HP 8481A	US37292783	06-Oct-09 (No. 217-01086)	Oct-10
Reference 20 dB Attenuator	SN: 5086 (20g)	31-Mar-09 (No. 217-01025)	Mar-10
Type-N mismatch combination	SN: 5047.2 / 06327	31-Mar-09 (No. 217-01029)	Mar-10
Reference Probe ES3DV3	SN: 3205	26-Jun-09 (No. ES3-3205_Jun09)	Jun-10
DAE4	SN: 601	07-Mar-09 (No. DAE4-601_Mar09)	Mar-10
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-09)	In house check: Oct-10

Calibrated by: **Jeton Kastrati** Name: **Jeton Kastrati** Function: **Laboratory Technician**

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

Signature




Issued: February 22, 2010

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

DASY5 Validation Report for Head TSL

Date/Time: 17.02.2010 14:26:37

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:750

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

Medium: HSL U11 BB

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.77$ mho/m; $\epsilon_r = 38.7$; $\rho = 1000$ kg/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: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

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

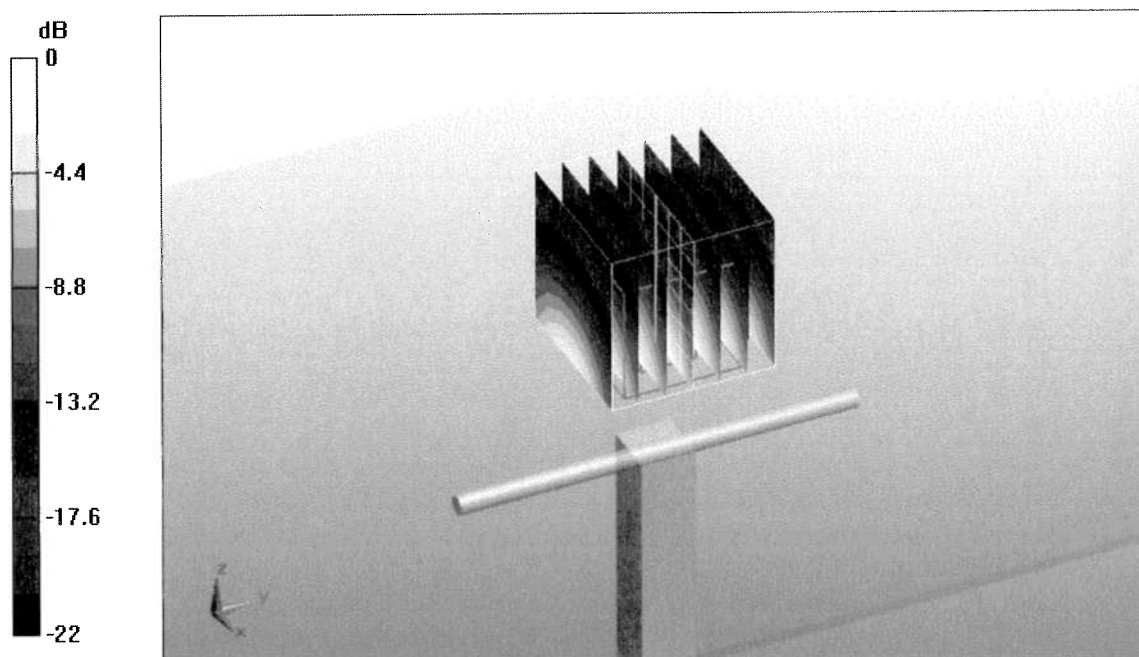
grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 103.2 V/m; Power Drift = 0.00838 dB

Peak SAR (extrapolated) = 27.5 W/kg

SAR(1 g) = 13.5 mW/g; SAR(10 g) = 6.3 mW/g

Maximum value of SAR (measured) = 17.4 mW/g



0 dB = 17.4mW/g

DASY5 Validation Report for Body

Date/Time: 19.02.2010 14:00:59

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:750

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

Medium: MSL U10 BB

Medium parameters used: $f = 2450$ MHz; $\sigma = 2.01$ mho/m; $\epsilon_r = 51.8$; $\rho = 1000$ kg/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: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Body/d=10mm, Pin250 mW, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0:

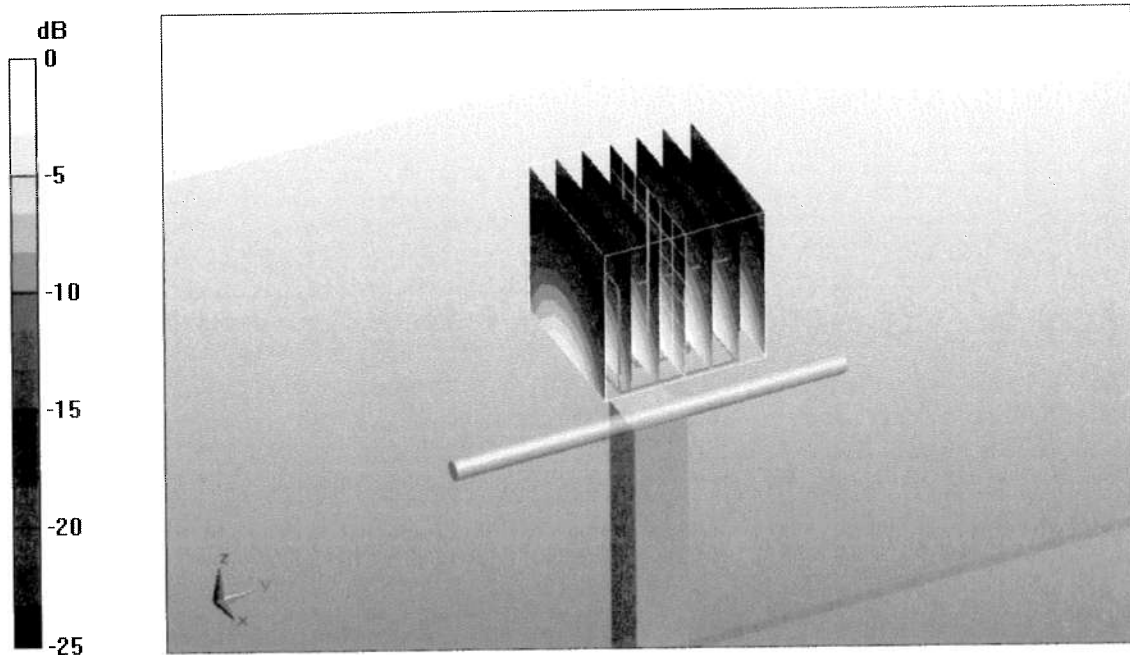
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 94.7 V/m; Power Drift = 0.082 dB

Peak SAR (extrapolated) = 26.9 W/kg

SAR(1 g) = 12.9 mW/g; SAR(10 g) = 5.9 mW/g

Maximum value of SAR (measured) = 17.1 mW/g



0 dB = 17.1mW/g

APPENDIX E: WIRELESS ROUTER MODE EVALUATION

E.1 Body SAR assessment of Wireless Router mode at 10mm separation distance

850MHz Body SAR results

Mode	Device orientation	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	32.5 dBm	32.5 dBm
BP-4L LG	Display facing phantom	-	0.699	-
	Back facing phantom	-	0.699	-
	Left edge facing phantom	0.689	0.712	0.718
	Right edge facing phantom	-	0.469	-
	Top edge facing phantom	-	0.030	-
	Bottom edge facing phantom	-	0.179	-
Mode	Device orientation	SAR, averaged over 1g (W/kg)		
		Ch 4132 826.4 MHz	Ch 4175 835.0 MHz	Ch 4233 846.6 MHz
WCDMA	Conducted Power	23.2 dBm	23.2 dBm	23.2 dBm
BP-4L Sony	Display facing phantom	-	0.591	-
	Back facing phantom	-	0.687	-
	Left edge facing phantom	0.753	0.696	0.845
	Right edge facing phantom	-	0.406	-
	Top edge facing phantom	-	0.029	-
	Bottom edge facing phantom	-	0.165	-

1700/2100 MHz Body SAR results

Mode	Device orientation	SAR, averaged over 1g (W/kg)		
		Ch 1312 1712.4 MHz	Ch 1412 1732.4 MHz	Ch 1513 1752.6 MHz
WCDMA	Conducted Power	21.2 dBm	21.2 dBm	21.2 dBm
BP-4L Sony	Display facing phantom	0.648	0.775	0.682
	Back facing phantom	-	0.724	-
	Left edge facing phantom	-	0.432	-
	Right edge facing phantom	-	0.333	-
	Top edge facing phantom	-	0.157	-
	Bottom edge facing phantom	-	0.520	-

1900 MHz Body SAR results

Mode	Device orientation	SAR, averaged over 1g (W/kg)		
		Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz
GSM	Conducted Power	29.0 dBm	29.0 dBm	29.0 dBm
BP-4L Sony	Display facing phantom	0.642	0.615	0.646
	Back facing phantom	-	0.458	-
	Left edge facing phantom	-	0.269	-
	Right edge facing phantom	-	0.367	-
	Top edge facing phantom	-	0.063	-
	Bottom edge facing phantom	-	0.214	-
Mode	Device orientation	SAR, averaged over 1g (W/kg)		
		Ch 9262 1852.4 MHz	Ch 9400 1880.0 MHz	Ch 9538 1907.6 MHz
WCDMA	Conducted Power	20.7 dBm	20.7 dBm	20.7 dBm
BP-4L Sony	Display facing phantom	0.725	0.799	0.652
	Back facing phantom	-	0.739	-
	Left edge facing phantom	-	0.352	-
	Right edge facing phantom	-	0.500	-
	Top edge facing phantom	-	0.084	-
	Bottom edge facing phantom	-	0.332	-

2450 MHz Body SAR results

Mode	Device orientation	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	13.4 dBm	15.4 dBm	13.4 dBm
BP-4L Sony	Display facing phantom	-	0.027	-
	Back facing phantom	-	0.108	-
	Left edge facing phantom	-	0.010	-
	Right edge facing phantom	-	0.065	-
	Top edge facing phantom	0.083	0.123	0.068
	Bottom edge facing phantom	-	0.014	-
WLAN n-mode 20 MHz	Conducted Power	12.4 dBm	15.4 dBm	12.4 dBm
BP-4L Sony	Display facing phantom	-	-	-
	Back facing phantom	-	-	-
	Left edge facing phantom	-	-	-
	Right edge facing phantom	-	-	-
	Top edge facing phantom	0.063	0.113	0.053
	Bottom edge facing phantom	-	-	-

Simultaneous transmissions: Combined SAR results – Individual band Max results

Test configuration	Max. 1g SAR results					
	WLAN	GSM850	WCDMA 850	WCDMA 1700/2100	GSM1900	WCDMA 1900
Display facing phantom	0.027	0.699	0.591	0.775	0.646	0.799
Back facing phantom	0.108	0.699	0.687	0.724	0.458	0.739
Left edge facing phantom	0.010	0.718	0.845	0.432	0.269	0.352
Right edge facing phantom	0.065	0.469	0.406	0.333	0.367	0.500
Top edge facing phantom	0.123	0.030	0.029	0.157	0.063	0.085
Bottom edge facing phantom	0.014	0.179	0.165	0.520	0.214	0.332

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

Test configuration	Max. 1g SAR results				
	GSM850 + WLAN	WCDMA 850 + WLAN	WCDMA 1700/2100 + WLAN	GSM1900 + WLAN	WCDMA 1900 + WLAN
Display facing phantom	0.726	0.618	0.802	0.673	0.826
Back facing phantom	0.807	0.795	0.832	0.566	0.847
Left edge facing phantom	0.728	0.855	0.442	0.279	0.362
Right edge facing phantom	0.534	0.471	0.398	0.432	0.565
Top edge facing phantom	0.153	0.152	0.28	0.186	0.208
Bottom edge facing phantom	0.193	0.179	0.534	0.228	0.346

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				
	GSM850 + WLAN	WCDMA850 + WLAN	WCDMA 1700/2100 + WLAN	GSM1900 + WLAN	WCDMA 1900 + WLAN
Display facing phantom	-	-	-	0.689	-
Back facing phantom	0.713	-	0.770	-	0.807
Left edge facing phantom	-	0.854	-	-	-
Right edge facing phantom	-	-	-	-	-
Top edge facing phantom	-	-	-	-	-
Bottom edge facing phantom	-	-	-	-	-

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.

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.

E.2 Summary of Maximum Results for Wireless Router mode at 10.0mm

Mode	Ch / f (MHz)	Conducted power	Separation distance	Measured SAR value (1g avg)	SAR limit (1g avg)	Result
GSM850	251/848.8	32.5 dBm	10 mm	0.718 W/kg	1.6 W/kg	PASSED
WCDMA850	4233/846.6	23.2 dBm	10 mm	0.845 W/kg	1.6 W/kg	PASSED
WCDMA1700/2100	1412/1732.4	21.2 dBm	10 mm	0.775 W/kg	1.6 W/kg	PASSED
GSM1900	810/1909.8	29.0 dBm	10 mm	0.646 W/kg	1.6 W/kg	PASSED
WCDMA1900	9400/1880.0	20.7 dBm	10 mm	0.799 W/kg	1.6 W/kg	PASSED
WLAN2450	7/2442.0	15.4 dBm	10 mm	0.123 W/kg	1.6 W/kg	PASSED
GSM850 + WLAN2450	-	-	10 mm	0.718 W/kg	1.6 W/kg	PASSED
WCDMA850 + WLAN2450	-	-	10 mm	0.854 W/kg	1.6 W/kg	PASSED
WCDMA1700/2100 + WLAN2450	-	-	10 mm	0.775 W/kg	1.6 W/kg	PASSED
GSM1900 + WLAN2450	-	-	10 mm	0.689 W/kg	1.6 W/kg	PASSED
WCDMA1900 + WLAN2450	-	-	10 mm	0.807 W/kg	1.6 W/kg	PASSED

E.3 SAR plots corresponding to the Wireless Router mode results given above

See the following pages.

Date/Time: 2011-02-16 13:45:51

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

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

Medium parameters used: $f = 837$ MHz; $\sigma = 0.984$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Display Facing Phantom - 10mm separation distance - Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.731 mW/g

Body - Middle - No Accessory - Display Facing Phantom - 10mm separation distance - Sony Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.14 V/m

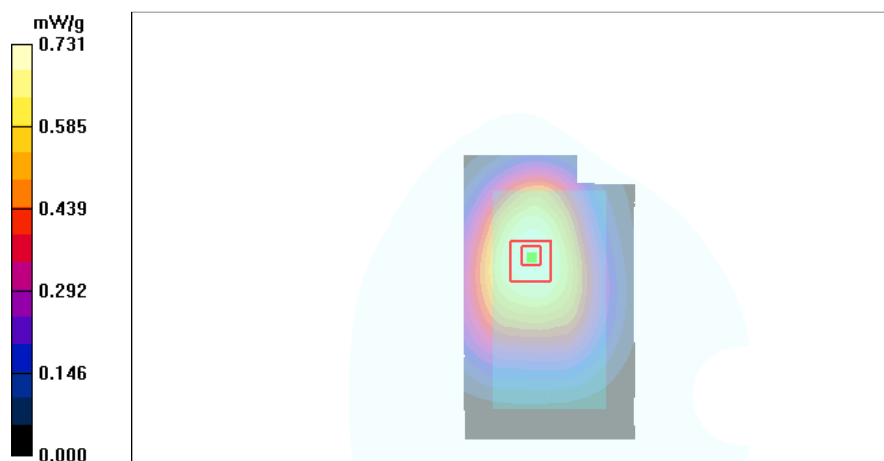
Peak SAR (extrapolated) = 0.909 W/kg

SAR(1 g) = 0.699 mW/g

SAR(10 g) = 0.523 mW/g

Power Drift = -0.016 dB

Maximum value of SAR (measured) = 0.736 mW/g



Date/Time: 2011-02-16 13:56:38

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

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

Medium parameters used: $f = 837$ MHz; $\sigma = 0.984$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Back Facing Phantom - 10mm separation distance - Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

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

Body - Middle - No Accessory - Back Facing Phantom - 10mm separation distance - Sony Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.91 V/m

Peak SAR (extrapolated) = 0.884 W/kg

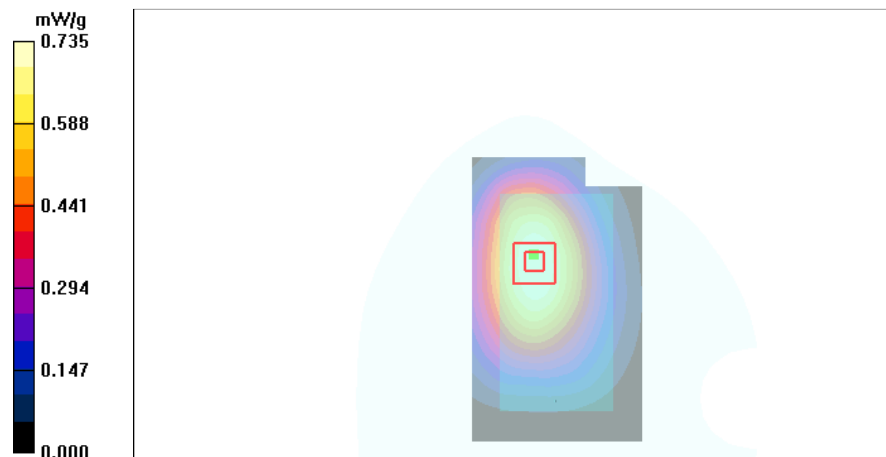
SAR(1 g) = 0.699 mW/g

SAR(10 g) = 0.519 mW/g

Power Drift = -0.040 dB

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

Maximum value of SAR (measured) = 0.738 mW/g



Date/Time: 2011-02-16 15:55:11

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM850

Frequency: 848.8 MHz; Duty Cycle: 1:8.3

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

Medium parameters used: $f = 849$ MHz; $\sigma = 0.997$ mho/m; $\epsilon_r = 54.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - High- No Accessory - Left edge Facing Phantom - 10mm separation distance - Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.774 mW/g

Body - High- No Accessory - Left edge Facing Phantom - 10mm separation distance - Sony Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.95 V/m

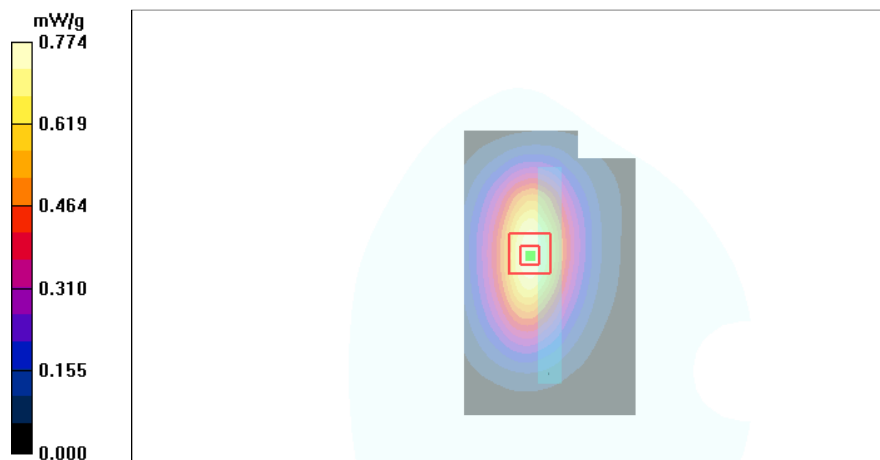
Peak SAR (extrapolated) = 1.06 W/kg

SAR(1 g) = 0.718 mW/g

SAR(10 g) = 0.485 mW/g

Power Drift = 0.005 dB

Maximum value of SAR (measured) = 0.767 mW/g



Date/Time: 2011-02-16 14:18:23

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

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

Medium parameters used: $f = 837$ MHz; $\sigma = 0.984$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Right edge Facing Phantom - 10mm separation distance - Sony Battery/Area

Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.501 mW/g

Body - Middle - No Accessory - Right edge Facing Phantom - 10mm separation distance - Sony Battery/Zoom

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

Reference Value = 9.30 V/m

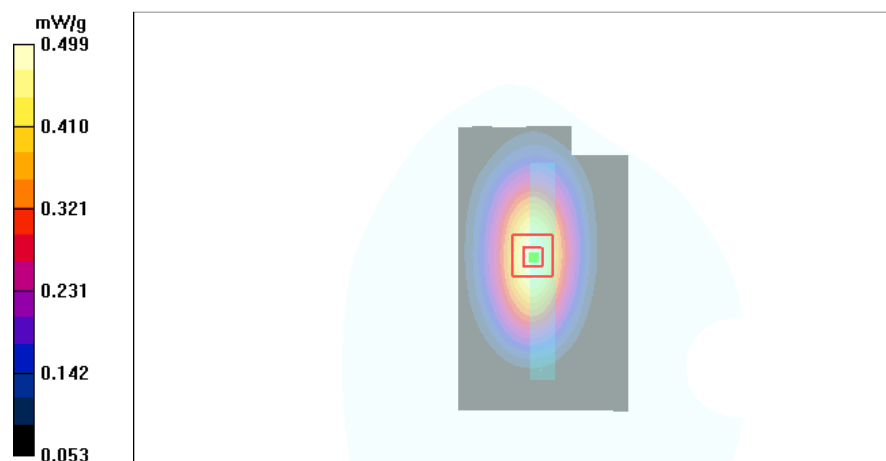
Peak SAR (extrapolated) = 0.673 W/kg

SAR(1 g) = 0.469 mW/g

SAR(10 g) = 0.319 mW/g

Power Drift = 0.014 dB

Maximum value of SAR (measured) = 0.499 mW/g



Date/Time: 2011-02-16 14:58:58

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

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

Medium parameters used: $f = 837$ MHz; $\sigma = 0.984$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Top edge Facing Phantom - 10mm separation distance - Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.032 mW/g

Body - Middle - No Accessory - Top edge Facing Phantom - 10mm separation distance - Sony Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 5.52 V/m

Peak SAR (extrapolated) = 0.040 W/kg

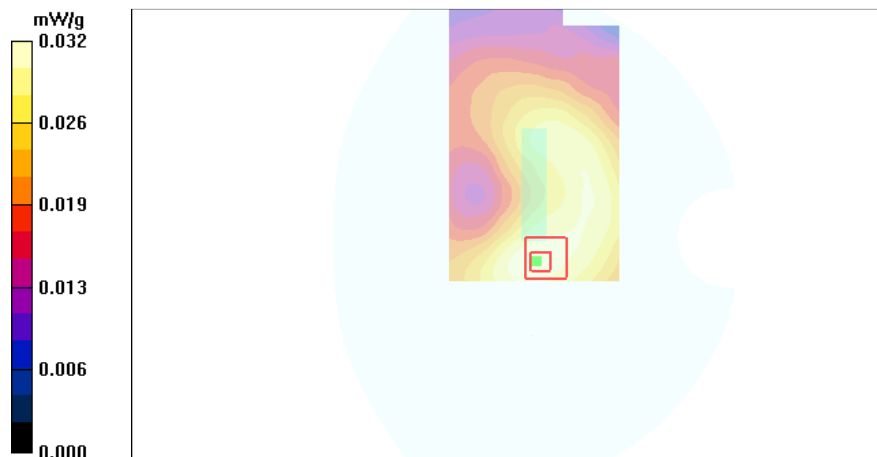
SAR(1 g) = 0.030 mW/g

SAR(10 g) = 0.022 mW/g

Power Drift = 0.054 dB

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

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



Date/Time: 2011-02-16 15:26:56

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

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

Medium parameters used: $f = 837$ MHz; $\sigma = 0.984$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Bottom edge Facing Phantom - 10mm separation distance - Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.207 mW/g

Body - Middle - No Accessory - Bottom edge Facing Phantom - 10mm separation distance - Sony Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.68 V/m

Peak SAR (extrapolated) = 0.344 W/kg

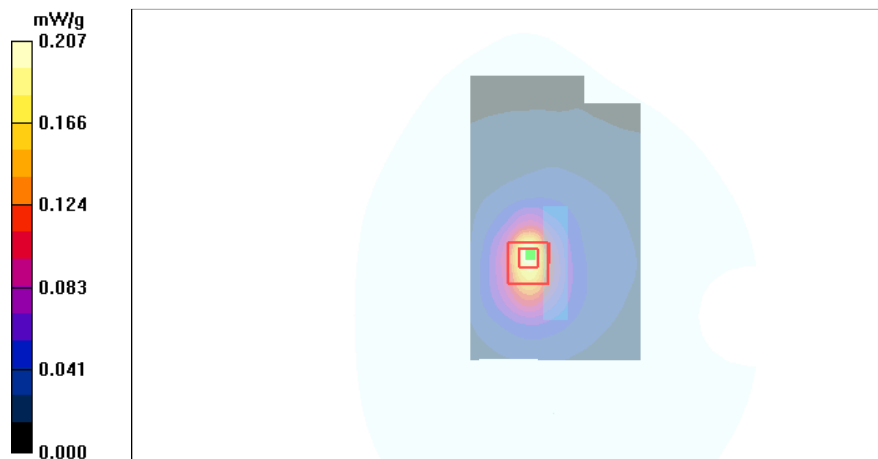
SAR(1 g) = 0.179 mW/g

SAR(10 g) = 0.099 mW/g

Power Drift = 0.029 dB

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

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



Date/Time: 2011-02-17 11:28:30

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.976$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory -Display Facing Phantom - 10mm separation distance - Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.629 mW/g

Body - Middle - No Accessory -Display Facing Phantom - 10mm separation distance - Sony Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.60 V/m

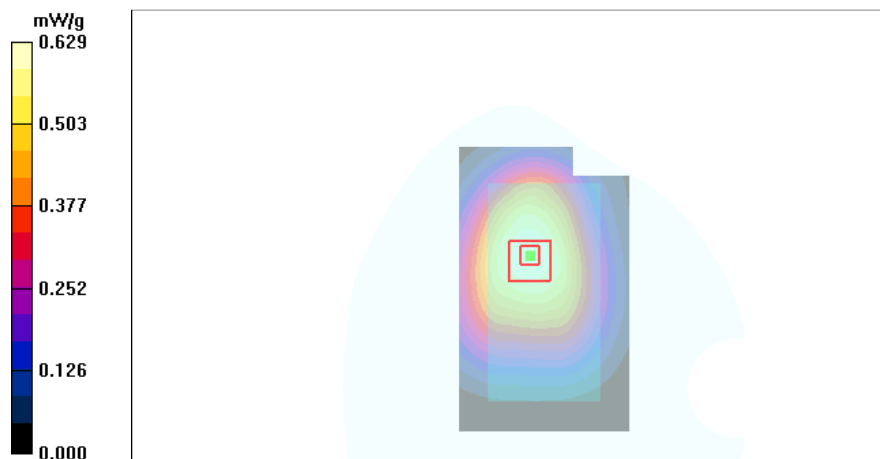
Peak SAR (extrapolated) = 0.745 W/kg

SAR(1 g) = 0.591 mW/g

SAR(10 g) = 0.448 mW/g

Power Drift = -0.124 dB

Maximum value of SAR (measured) = 0.621 mW/g



Date/Time: 2011-02-17 11:39:25

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.976$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory -Back Facing Phantom - 10mm separation distance - Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.718 mW/g

Body - Middle - No Accessory -Back Facing Phantom - 10mm separation distance - Sony Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 10.1 V/m

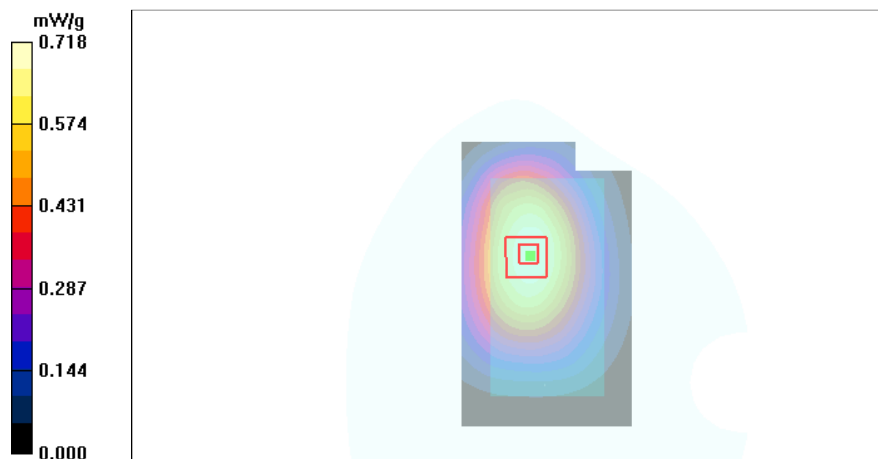
Peak SAR (extrapolated) = 0.874 W/kg

SAR(1 g) = 0.687 mW/g

SAR(10 g) = 0.510 mW/g

Power Drift = 0.020 dB

Maximum value of SAR (measured) = 0.727 mW/g



Date/Time: 2011-02-17 12:59:00

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA850

Frequency: 846.6 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 847$ MHz; $\sigma = 0.99$ mho/m; $\epsilon_r = 54.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - High - No Accessory - Left edge Facing Phantom - 10mm separation distance - Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.907 mW/g

Body - High - No Accessory - Left edge Facing Phantom - 10mm separation distance - Sony Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 15.1 V/m

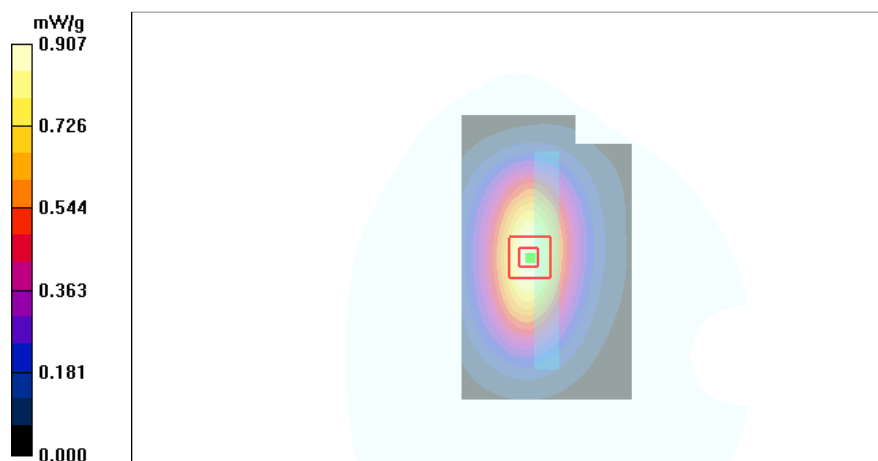
Peak SAR (extrapolated) = 1.21 W/kg

SAR(1 g) = 0.845 mW/g

SAR(10 g) = 0.577 mW/g

Power Drift = -0.136 dB

Maximum value of SAR (measured) = 0.908 mW/g



Date/Time: 2011-02-17 12:12:32

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.976$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Right edge Facing Phantom - 10mm separation distance - Sony Battery/Area

Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

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

Body - Middle - No Accessory - Right edge Facing Phantom - 10mm separation distance - Sony Battery/Zoom

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

Reference Value = 9.24 V/m

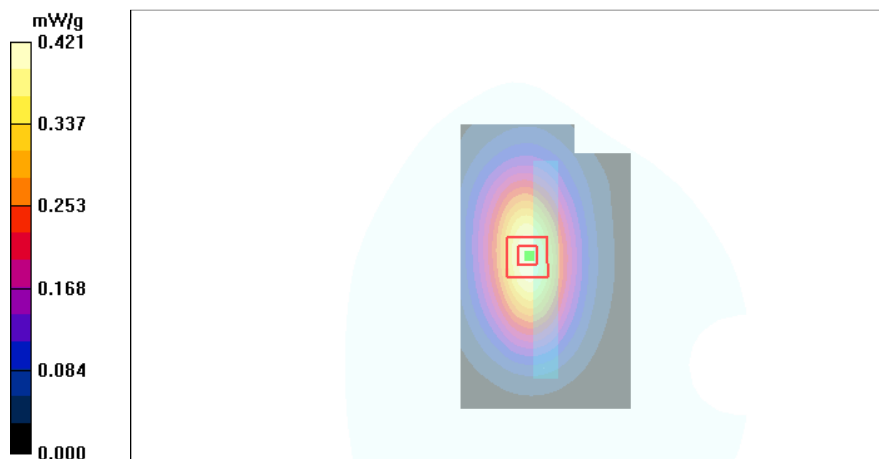
Peak SAR (extrapolated) = 0.586 W/kg

SAR(1 g) = 0.406 mW/g

SAR(10 g) = 0.273 mW/g

Power Drift = -0.078 dB

Maximum value of SAR (measured) = 0.441 mW/g



Date/Time: 2011-02-17 12:29:14

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.976$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Top edge Facing Phantom - 10mm separation distance - Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

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

Body - Middle - No Accessory - Top edge Facing Phantom - 10mm separation distance - Sony Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 5.52 V/m

Peak SAR (extrapolated) = 0.039 W/kg

SAR(1 g) = 0.029 mW/g

SAR(10 g) = 0.022 mW/g

Power Drift = 0.106 dB

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



Date/Time: 2011-02-17 12:43:55

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.976$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Bottom edge Facing Phantom - 10mm separation distance - Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.180 mW/g

Body - Middle - No Accessory - Bottom edge Facing Phantom - 10mm separation distance - Sony Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.85 V/m

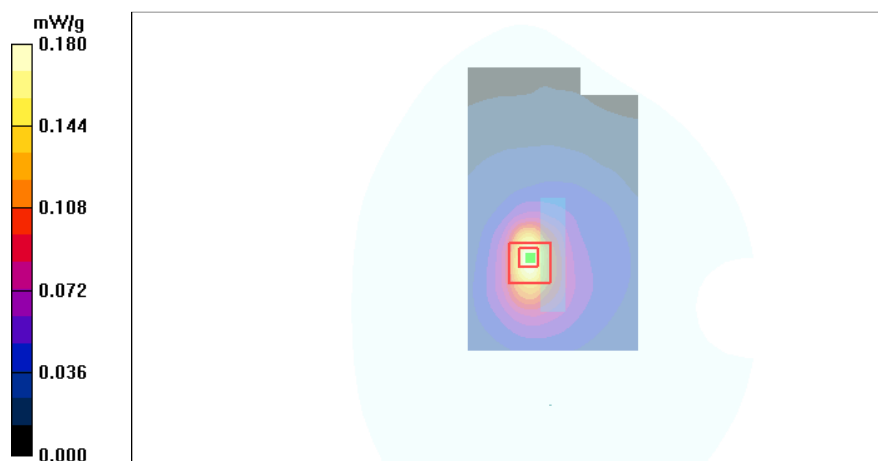
Peak SAR (extrapolated) = 0.312 W/kg

SAR(1 g) = 0.165 mW/g

SAR(10 g) = 0.093 mW/g

Power Drift = -0.005 dB

Maximum value of SAR (measured) = 0.185 mW/g



Date/Time: 2011-02-18 13:10:53

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1700/2100

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Body 1800; Medium Notes: Medium Temperature: 22.1 C

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3119; Probe Notes:
- ConvF(4.57, 4.57, 4.57); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Display Facing Phantom - 10mm separation distance - LG Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.944 mW/g

Body - Middle - No Accessory - Display Facing Phantom - 10mm separation distance - LG Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 13.6 V/m

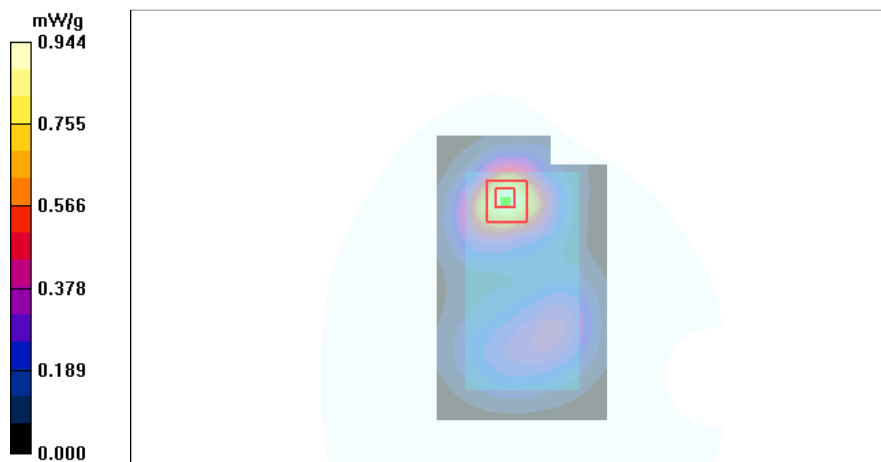
Peak SAR (extrapolated) = 1.19 W/kg

SAR(1 g) = 0.775 mW/g

SAR(10 g) = 0.482 mW/g

Power Drift = -0.035 dB

Maximum value of SAR (measured) = 0.835 mW/g



Date/Time: 2011-02-18 13:23:16

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1700/2100

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Body 1800; Medium Notes: Medium Temperature: 22.1 C

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3119; Probe Notes:
- ConvF(4.57, 4.57, 4.57); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Back Facing Phantom - 10mm separation distance - LG Battery/Area Scan

(61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.841 mW/g

Body - Middle - No Accessory - Back Facing Phantom - 10mm separation distance - LG Battery/Zoom Scan

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

Reference Value = 14.0 V/m

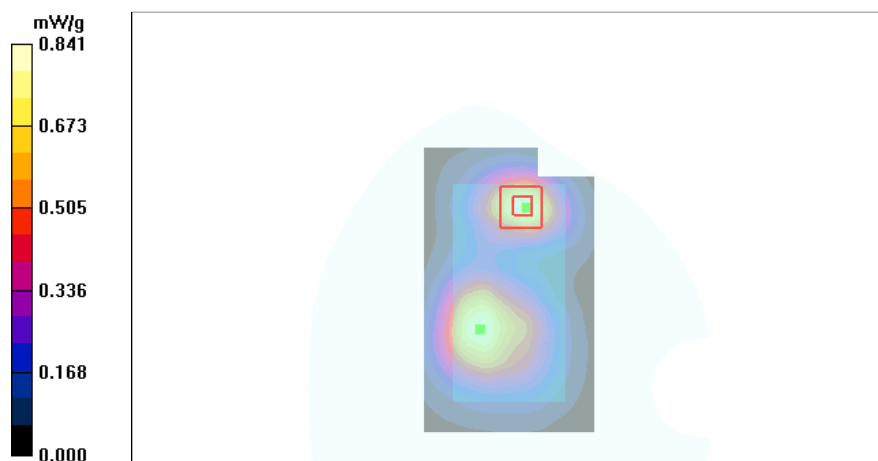
Peak SAR (extrapolated) = 1.15 W/kg

SAR(1 g) = 0.724 mW/g

SAR(10 g) = 0.432 mW/g

Power Drift = -0.202 dB

Maximum value of SAR (measured) = 0.796 mW/g



Date/Time: 2011-02-18 13:47:31

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1700/2100

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Body 1800; Medium Notes: Medium Temperature: 22.1 C

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3119; Probe Notes:
- ConvF(4.57, 4.57, 4.57); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Left edge Facing Phantom - 10mm separation distance - LG Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.479 mW/g

Body - Middle - No Accessory - Left edge Facing Phantom - 10mm separation distance - LG Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.2 V/m

Peak SAR (extrapolated) = 0.648 W/kg

SAR(1 g) = 0.432 mW/g

SAR(10 g) = 0.270 mW/g

Power Drift = -0.187 dB

Maximum value of SAR (measured) = 0.472 mW/g



Date/Time: 2011-02-18 14:00:11

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1700/2100

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Body 1800; Medium Notes: Medium Temperature: 22.1 C

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3119; Probe Notes:
- ConvF(4.57, 4.57, 4.57); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Right edge Facing Phantom - 10mm separation distance - LG Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.401 mW/g

Body - Middle - No Accessory - Right edge Facing Phantom - 10mm separation distance - LG Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 14.5 V/m

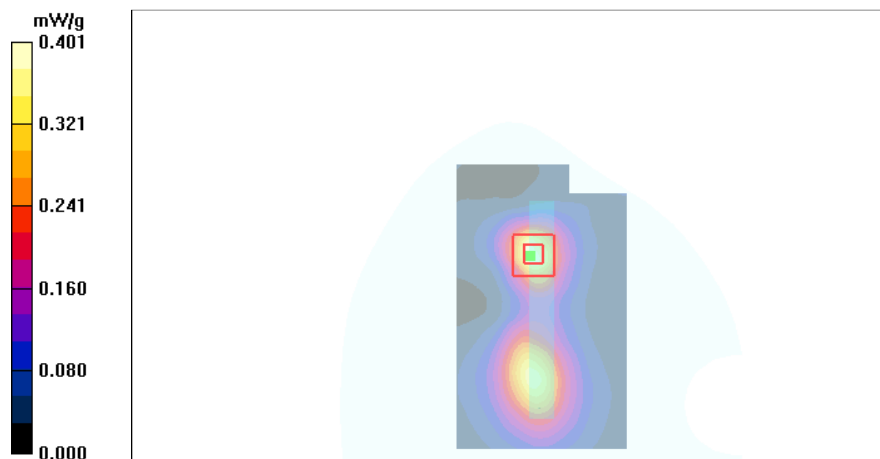
Peak SAR (extrapolated) = 0.522 W/kg

SAR(1 g) = 0.333 mW/g

SAR(10 g) = 0.198 mW/g

Power Drift = -0.170 dB

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



Date/Time: 2011-02-18 14:13:44

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1700/2100

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Body 1800; Medium Notes: Medium Temperature: 22.1 C

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3119; Probe Notes:
- ConvF(4.57, 4.57, 4.57); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Top edge Facing Phantom - 10mm separation distance - LG Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.176 mW/g

Body - Middle - No Accessory - Top edge Facing Phantom - 10mm separation distance - LG Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.28 V/m

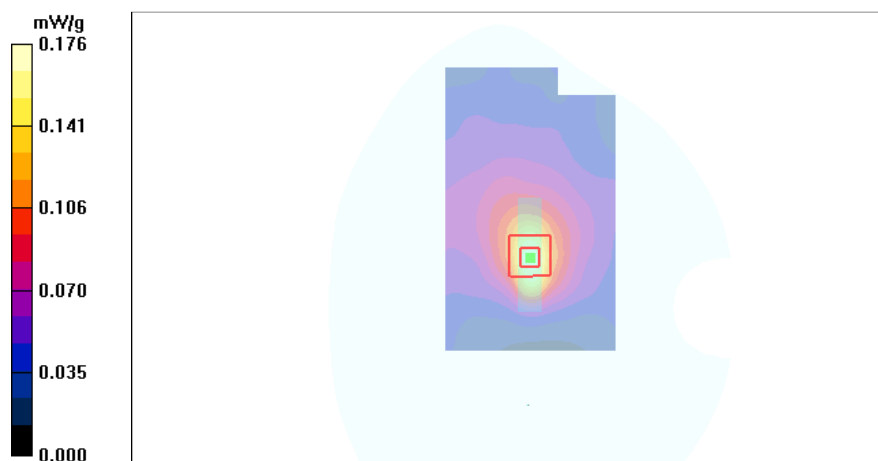
Peak SAR (extrapolated) = 0.231 W/kg

SAR(1 g) = 0.157 mW/g

SAR(10 g) = 0.103 mW/g

Power Drift = 0.103 dB

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



Date/Time: 2011-02-18 14:26:20

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1700/2100

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: Body 1800; Medium Notes: Medium Temperature: 22.1 C

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3119; Probe Notes:
- ConvF(4.57, 4.57, 4.57); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2010-07-16
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Bottom edge Facing Phantom - 10mm separation distance - LG Battery/Area

Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.587 mW/g

Body - Middle - No Accessory - Bottom edge Facing Phantom - 10mm separation distance - LG Battery/Zoom

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

Reference Value = 14.1 V/m

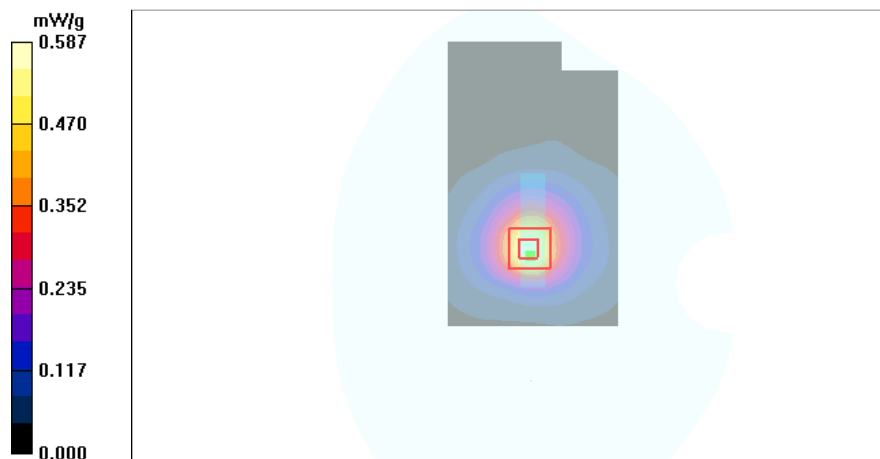
Peak SAR (extrapolated) = 0.789 W/kg

SAR(1 g) = 0.520 mW/g

SAR(10 g) = 0.322 mW/g

Power Drift = -0.096 dB

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



Date/Time: 2011-02-21 12:48:27

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM 1900

Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: Body 1900; Medium Notes: Medium Temperature: 22.5C

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.6$ mho/m; $\epsilon_r = 52.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - High - No Accessory - Display Facing Phantom - 10mm separation distance - LG Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.727 mW/g

Body - High - No Accessory - Display Facing Phantom - 10mm separation distance - LG Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.28 V/m

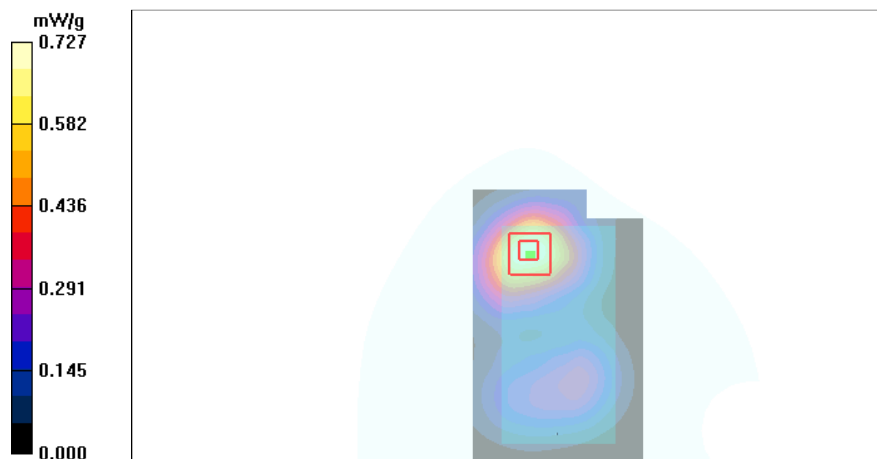
Peak SAR (extrapolated) = 1.02 W/kg

SAR(1 g) = 0.646 mW/g

SAR(10 g) = 0.391 mW/g

Power Drift = 0.020 dB

Maximum value of SAR (measured) = 0.694 mW/g



Date/Time: 2011-02-21 11:35:32

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM 1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Body 1900; Medium Notes: Medium Temperature: 22.5C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Back Facing Phantom - 10mm separation distance - LG Battery/Area Scan

(61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.509 mW/g

Body - Middle - No Accessory - Back Facing Phantom - 10mm separation distance - LG Battery/Zoom Scan

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

Reference Value = 11.0 V/m

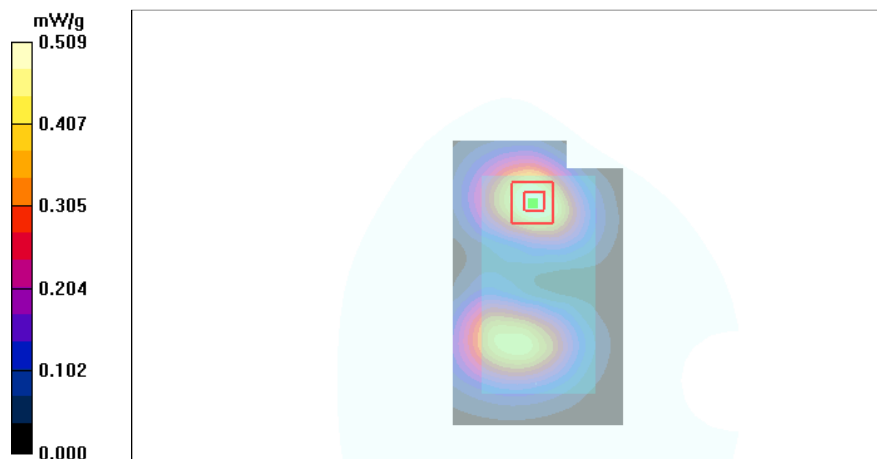
Peak SAR (extrapolated) = 0.719 W/kg

SAR(1 g) = 0.458 mW/g

SAR(10 g) = 0.275 mW/g

Power Drift = 0.022 dB

Maximum value of SAR (measured) = 0.501 mW/g



Date/Time: 2011-02-21 11:48:08

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM 1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Body 1900; Medium Notes: Medium Temperature: 22.5C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Left edge Facing Phantom - 10mm separation distance - LG Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.311 mW/g

Body - Middle - No Accessory - Left edge Facing Phantom - 10mm separation distance - LG Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.01 V/m

Peak SAR (extrapolated) = 0.433 W/kg

SAR(1 g) = 0.269 mW/g

SAR(10 g) = 0.154 mW/g

Power Drift = 0.011 dB

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



Date/Time: 2011-02-21 11:59:52

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM 1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Body 1900; Medium Notes: Medium Temperature: 22.5C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Right edge Facing Phantom - 10mm separation distance - LG Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

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

Body - Middle - No Accessory - Right edge Facing Phantom - 10mm separation distance - LG Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 12.3 V/m

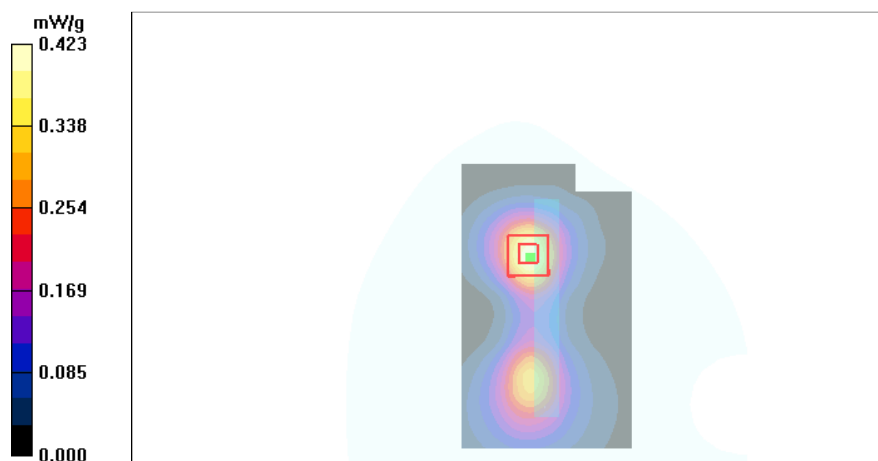
Peak SAR (extrapolated) = 0.591 W/kg

SAR(1 g) = 0.367 mW/g

SAR(10 g) = 0.209 mW/g

Power Drift = -0.001 dB

Maximum value of SAR (measured) = 0.404 mW/g



Date/Time: 2011-02-21 12:12:09

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM 1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Body 1900; Medium Notes: Medium Temperature: 22.5C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Top edge Facing Phantom - 10mm separation distance - LG Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.070 mW/g

Body - Middle - No Accessory - Top edge Facing Phantom - 10mm separation distance - LG Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 3.80 V/m

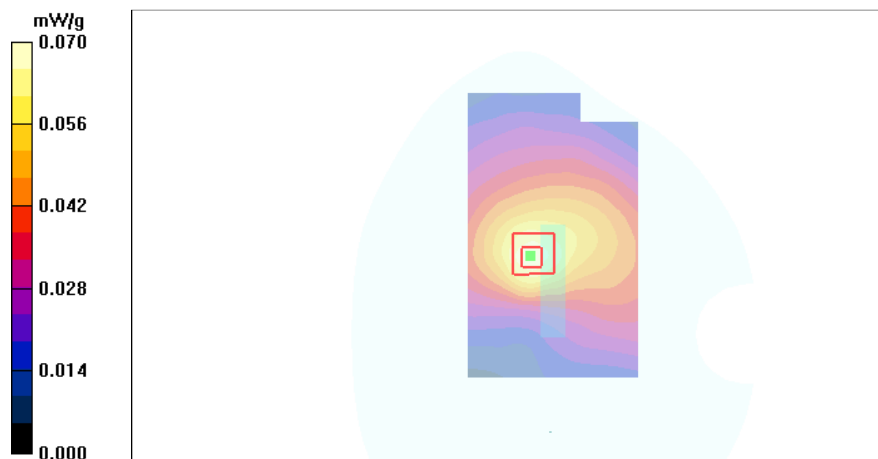
Peak SAR (extrapolated) = 0.097 W/kg

SAR(1 g) = 0.063 mW/g

SAR(10 g) = 0.040 mW/g

Power Drift = 0.042 dB

Maximum value of SAR (measured) = 0.067 mW/g



Date/Time: 2011-02-21 12:24:28

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM 1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Body 1900; Medium Notes: Medium Temperature: 22.5C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Bottom edge Facing Phantom - 10mm separation distance - LG Battery/Area

Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

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

Body - Middle - No Accessory - Bottom edge Facing Phantom - 10mm separation distance - LG Battery/Zoom

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

Reference Value = 7.10 V/m

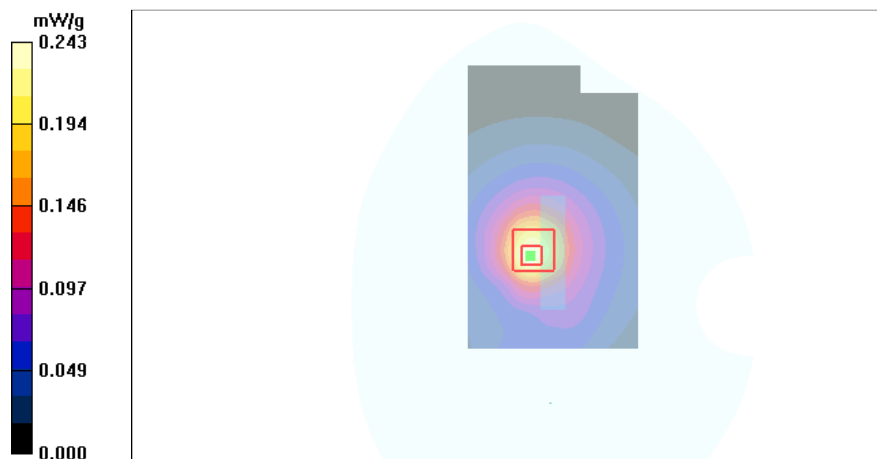
Peak SAR (extrapolated) = 0.332 W/kg

SAR(1 g) = 0.214 mW/g

SAR(10 g) = 0.128 mW/g

Power Drift = 0.013 dB

Maximum value of SAR (measured) = 0.233 mW/g



Date/Time: 2011-02-21 15:22:11

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: 22.5C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory -Display Facing Phantom - 10mm separation distance - Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.921 mW/g

Body - Middle - No Accessory -Display Facing Phantom - 10mm separation distance - Sony Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 13.7 V/m

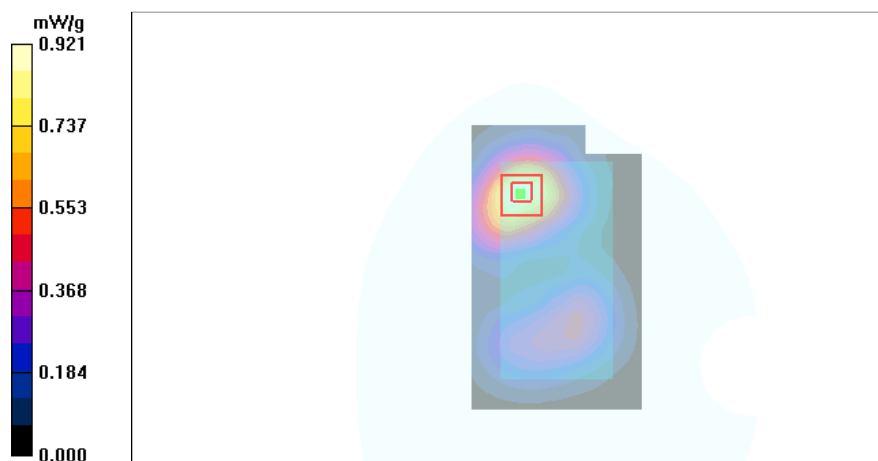
Peak SAR (extrapolated) = 1.22 W/kg

SAR(1 g) = 0.799 mW/g

SAR(10 g) = 0.501 mW/g

Power Drift = -0.189 dB

Maximum value of SAR (measured) = 0.867 mW/g



Date/Time: 2011-02-21 15:41:24

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: 22.5C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body -Middle - No Accessory - Back Facing Phantom - 10mm separation distance - Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.855 mW/g

Body -Middle - No Accessory - Back Facing Phantom - 10mm separation distance - Sony Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 13.8 V/m

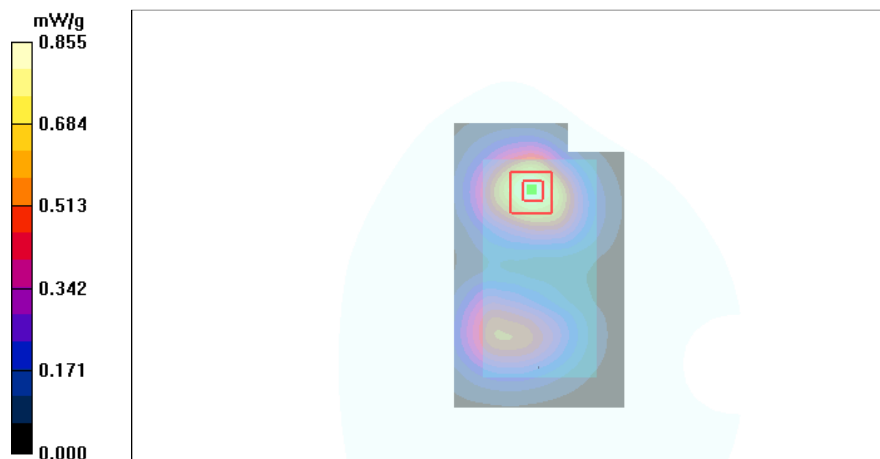
Peak SAR (extrapolated) = 1.14 W/kg

SAR(1 g) = 0.739 mW/g

SAR(10 g) = 0.462 mW/g

Power Drift = -0.306 dB

Maximum value of SAR (measured) = 0.798 mW/g



Date/Time: 2011-02-21 15:58:22

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: 22.5C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body -Middle - No Accessory - Left edge Facing Phantom - 10mm separation distance - Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

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

Body -Middle - No Accessory - Left edge Facing Phantom - 10mm separation distance - Sony Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.3 V/m

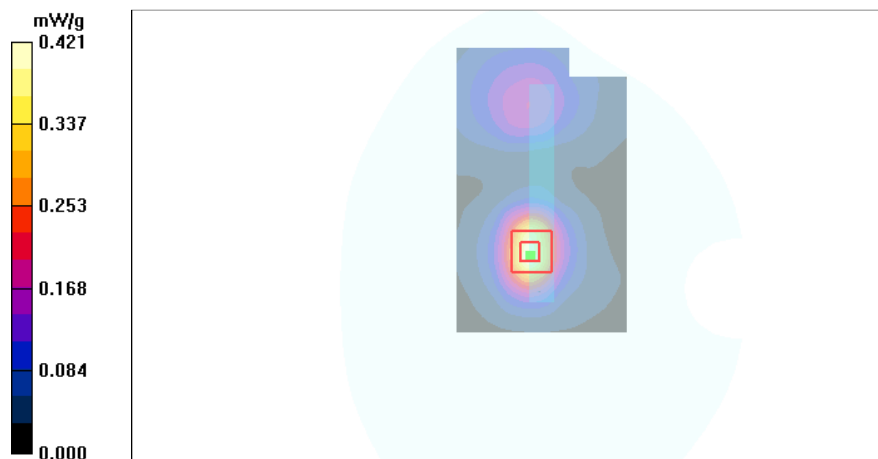
Peak SAR (extrapolated) = 0.545 W/kg

SAR(1 g) = 0.352 mW/g

SAR(10 g) = 0.211 mW/g

Power Drift = -0.080 dB

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



Date/Time: 2011-02-21 16:15:32

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: 22.5C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body -Middle - No Accessory - Right edge Facing Phantom - 10mm separation distance - Sony Battery/Area

Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.588 mW/g

Body -Middle - No Accessory - Right edge Facing Phantom - 10mm separation distance - Sony Battery/Zoom

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

Reference Value = 16.7 V/m

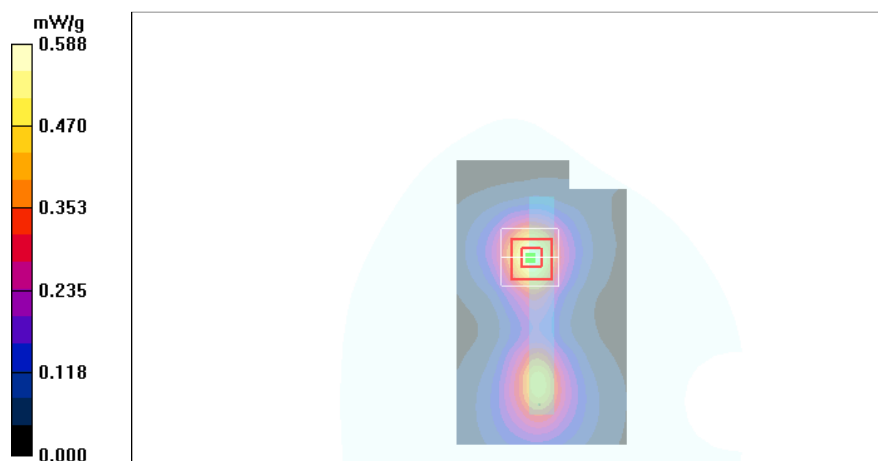
Peak SAR (extrapolated) = 0.772 W/kg

SAR(1 g) = 0.500 mW/g

SAR(10 g) = 0.300 mW/g

Power Drift = 0.013 dB

Maximum value of SAR (measured) = 0.550 mW/g



Date/Time: 2011-02-21 16:33:51

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: 22.5C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory -Top edge Facing Phantom - 10mm separation distance -Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.095 mW/g

Body - Middle - No Accessory -Top edge Facing Phantom - 10mm separation distance -Sony Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 4.43 V/m

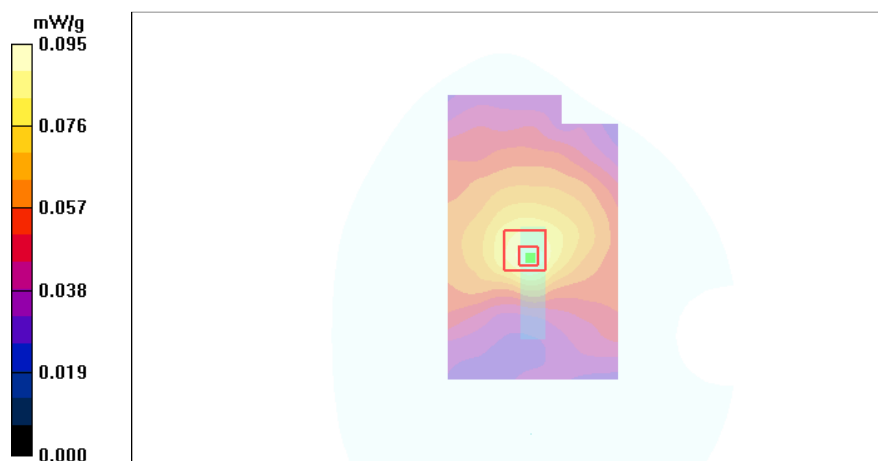
Peak SAR (extrapolated) = 0.126 W/kg

SAR(1 g) = 0.084 mW/g

SAR(10 g) = 0.061 mW/g

Power Drift = 0.189 dB

Maximum value of SAR (measured) = 0.090 mW/g



Date/Time: 2011-02-21 16:50:13

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: Body 1900; Medium Notes: Medium Temperature: 22.5C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory -Bottom edge Facing Phantom - 10mm separation distance -Sony Battery/Area

Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.359 mW/g

Body - Middle - No Accessory -Bottom edge Facing Phantom - 10mm separation distance -Sony Battery/Zoom

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

Reference Value = 8.28 V/m

Peak SAR (extrapolated) = 0.505 W/kg

SAR(1 g) = 0.332 mW/g

SAR(10 g) = 0.204 mW/g

Power Drift = -0.026 dB

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



Date/Time: 2011-02-22 12:10:16

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Display Facing Phantom - 10mm separation distance - Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.029 mW/g

Body - Middle - No Accessory - Display Facing Phantom - 10mm separation distance - Sony Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 2.92 V/m

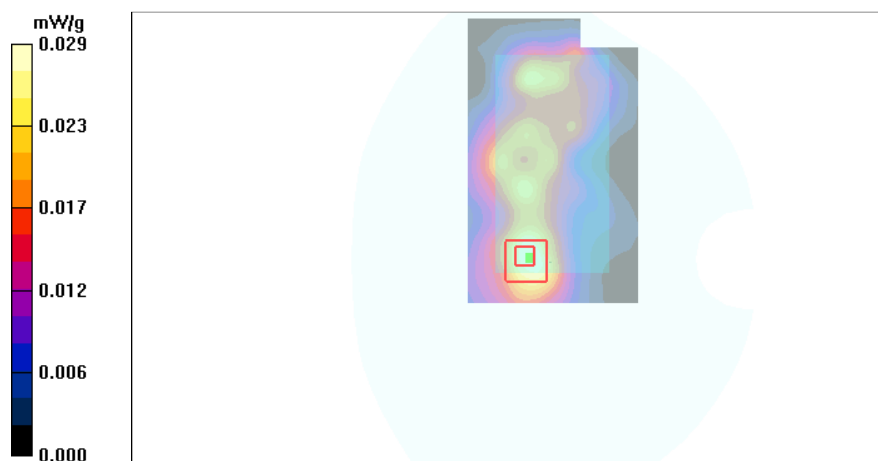
Peak SAR (extrapolated) = 0.053 W/kg

SAR(1 g) = 0.027 mW/g

SAR(10 g) = 0.015 mW/g

Power Drift = 0.330 dB

Maximum value of SAR (measured) = 0.029 mW/g



Date/Time: 2011-02-22 12:23:26

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Back Facing Phantom - 10mm separation distance - Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.107 mW/g

Body - Middle - No Accessory - Back Facing Phantom - 10mm separation distance - Sony Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.97 V/m

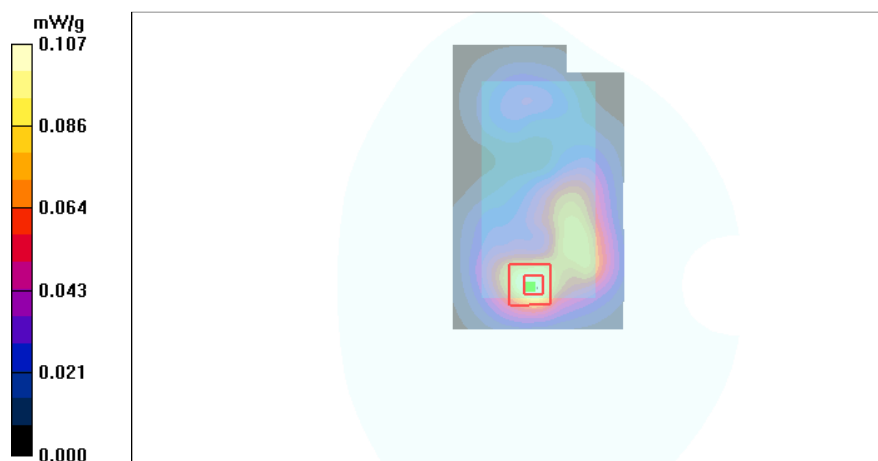
Peak SAR (extrapolated) = 0.214 W/kg

SAR(1 g) = 0.108 mW/g

SAR(10 g) = 0.055 mW/g

Power Drift = 0.015 dB

Maximum value of SAR (measured) = 0.119 mW/g



Date/Time: 2011-02-22 12:36:00

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Left edge Facing Phantom - 10mm separation distance - Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.013 mW/g

Body - Middle - No Accessory - Left edge Facing Phantom - 10mm separation distance - Sony Battery/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

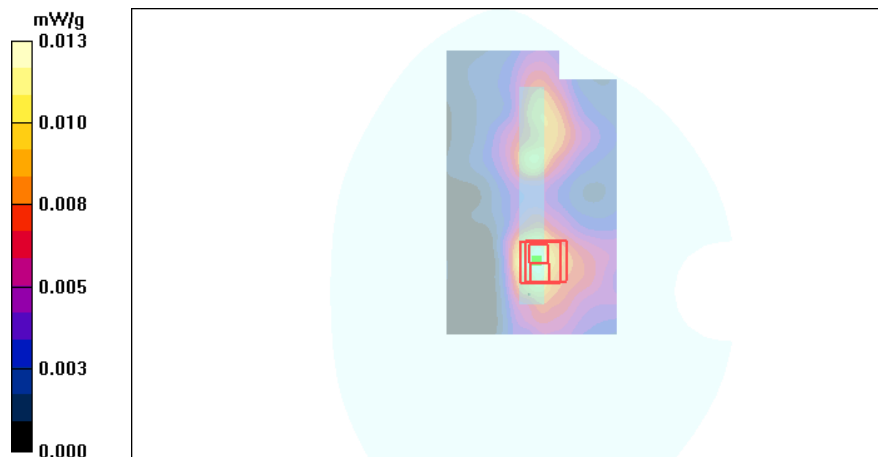
Reference Value = 2.12 V/m

Peak SAR (extrapolated) = 0.017 W/kg

SAR(1 g) = 0.00968 mW/g

SAR(10 g) = 0.00473 mW/g

Power Drift = -0.027 dB



Date/Time: 2011-02-22 12:57:21

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Right edge Facing Phantom - 10mm separation distance - Sony Battery/Area

Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.070 mW/g

Body - Middle - No Accessory - Right edge Facing Phantom - 10mm separation distance - Sony Battery/Zoom

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

Reference Value = 5.23 V/m

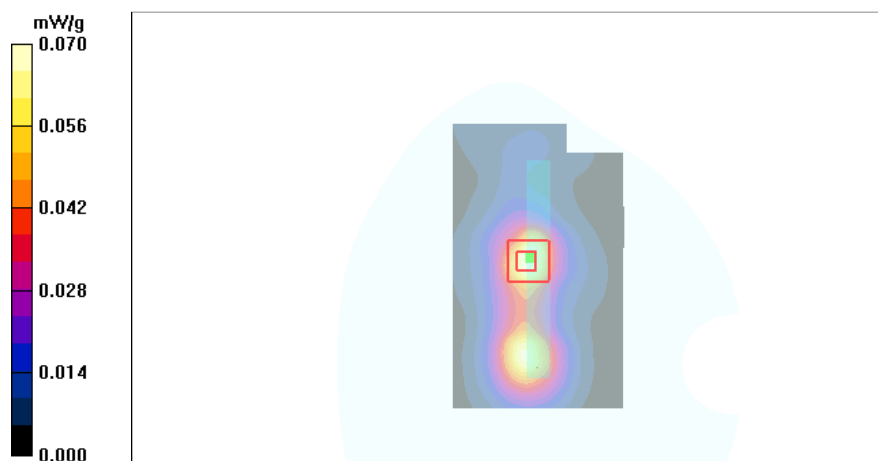
Peak SAR (extrapolated) = 0.120 W/kg

SAR(1 g) = 0.065 mW/g

SAR(10 g) = 0.034 mW/g

Power Drift = 0.028 dB

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



Date/Time: 2011-02-22 13:17:37

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Top edge Facing Phantom - 10mm separation distance - Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

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

Body - Middle - No Accessory - Top edge Facing Phantom - 10mm separation distance - Sony Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 3.21 V/m

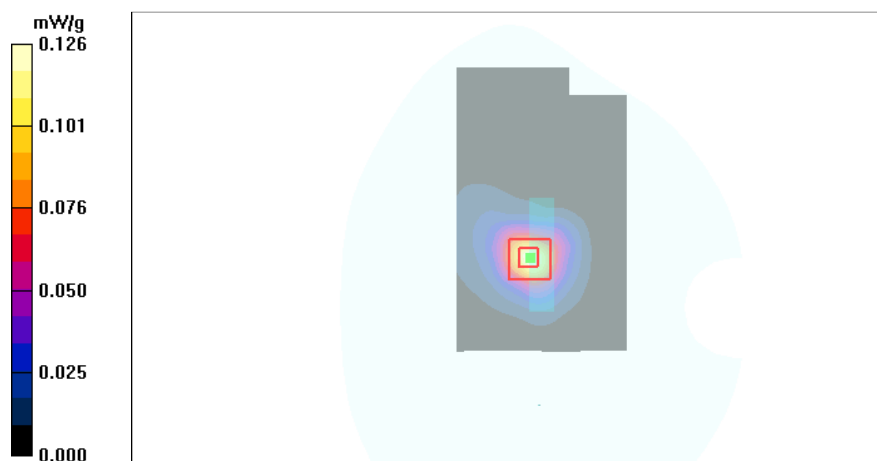
Peak SAR (extrapolated) = 0.253 W/kg

SAR(1 g) = 0.123 mW/g

SAR(10 g) = 0.058 mW/g

Power Drift = 0.239 dB

Maximum value of SAR (measured) = 0.140 mW/g



Date/Time: 2011-02-22 13:29:41

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Bottom edge Facing Phantom - 10mm separation distance - Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.015 mW/g

Body - Middle - No Accessory - Bottom edge Facing Phantom - 10mm separation distance - Sony Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 2.53 V/m

Peak SAR (extrapolated) = 0.025 W/kg

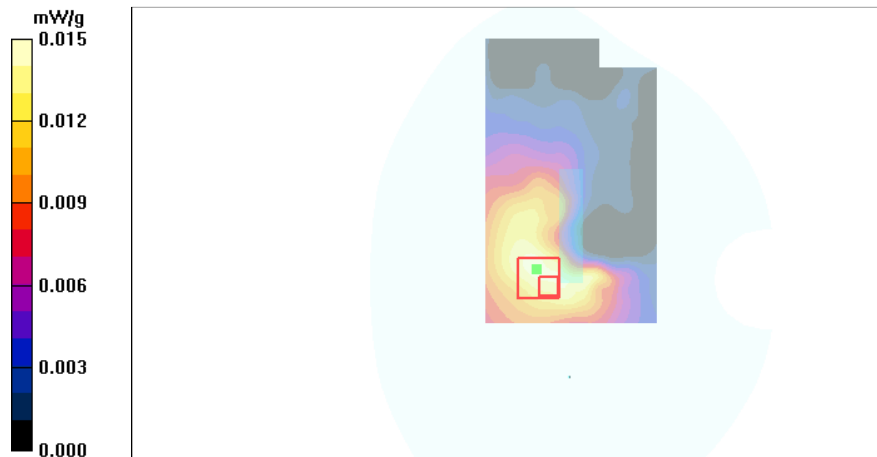
SAR(1 g) = 0.014 mW/g

SAR(10 g) = 0.00819 mW/g

Power Drift = 0.002 dB

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

Maximum value of SAR (measured) = 0.016 mW/g



Date/Time: 2011-02-22 14:44:59

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WLAN2450 n-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 2450; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1328
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Top edge Facing Phantom - 10mm separation distance - Sony Battery/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.125 mW/g

Body - Middle - No Accessory - Top edge Facing Phantom - 10mm separation distance - Sony Battery/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 2.88 V/m

Peak SAR (extrapolated) = 0.233 W/kg

SAR(1 g) = 0.113 mW/g

SAR(10 g) = 0.053 mW/g

Power Drift = -0.374 dB

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



Date/Time: 2011-02-16 13:56:38, Date/Time: 2011-02-22 12:23:26

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM850, Communication System: WLAN2450 b-mode

Frequency: 836.6 MHz, Frequency: 2442 MHz; Duty Cycle: 1:8.3, Duty Cycle: 1:1

Medium: Body 850, Medium: Body 2450; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.984$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³, Medium parameters used:
 $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

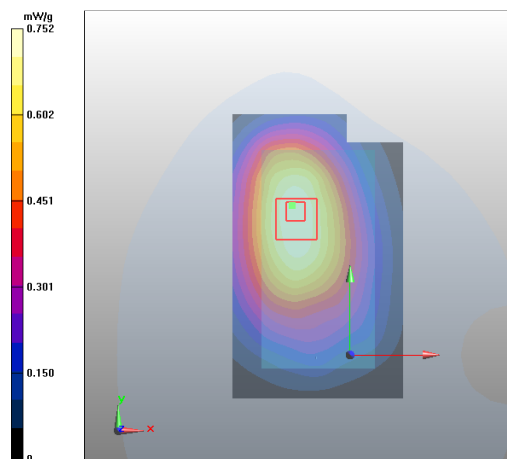
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67), ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5, Phantom: SAM 8; Type: Twin Phantom, Type: SAM Twin Phantom; Serial: TP-1302, Serial: TP-1328
- ; SEMCAD X Version 14.0 Build 61

Configuration/Body - Middle - No Accessory - Back Facing Phantom - Spacer 1.0cm - Sony Battery/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Body - Middle - No Accessory - Back Facing Phantom - Spacer 1.0cm - Sony Battery/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.713 mW/g
SAR(10 g) = 0.507 mW/g

Maximum value of SAR (measured) = 0.752 mW/g



Date/Time: 2011-02-17 12:59:00, Date/Time: 2011-02-22 12:36:00

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA850, Communication System: WLAN2450 b-mode

Frequency: 846.6 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 850, Medium: Body 2450; Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 847$ MHz; $\sigma = 0.99$ mho/m; $\epsilon_r = 54.3$; $\rho = 1000$ kg/m³, Medium parameters used:
 $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

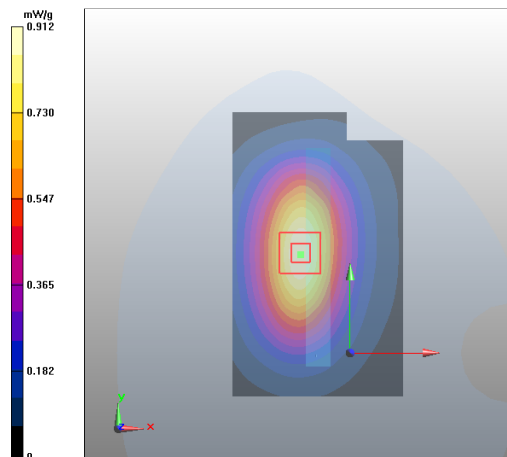
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.67, 5.67, 5.67), ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 5, Phantom: SAM 8; Type: Twin Phantom, Type: SAM Twin Phantom; Serial: TP-1302, Serial: TP-1328
- ; SEMCAD X Version 14.0 Build 61

Configuration/Body - High - No Accessory - Left edge Facing Phantom - spacer 1.0cm - Sony Battery/Area Scan (7x11x1); Measurement grid: dx=15mm, dy=15mm

Configuration/Body - Middle - No Accessory - Left edge Facing Phantom - Spacer 1.0cm - Sony Battery/Area Scan (7x11x1); Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.854 mW/g
SAR(10 g) = 0.588 mW/g

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



Date/Time: 2011-02-18 13:23:16, Date/Time: 2011-02-22 12:23:26

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: WCDMA1700/2100, Communication System: WLAN2450 b-mode

Frequency: 1732.4 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 1800, Medium: Body 2450; Medium Notes: Medium Temperature: 22.1 C, Medium Notes: Medium Temperature: 22.0 C

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

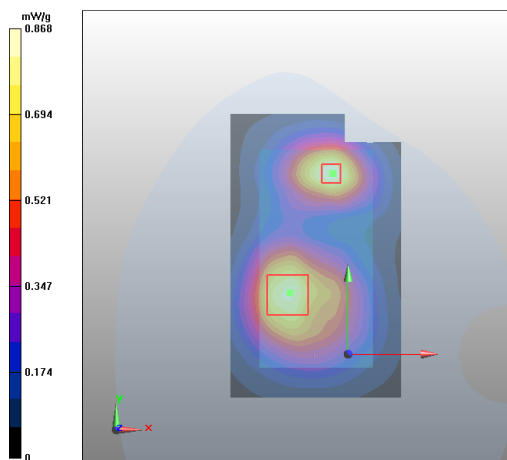
- Probe: ES3DV3 - SN3119, Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.57, 4.57, 4.57), ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE3 Sn573, Electronics: DAE4 Sn710; Calibrated: 2010-07-16, Calibrated: 2010-09-17
- Phantom: SAM 2, Phantom: SAM 8; Type: Twin Phantom, Type: SAM Twin Phantom; Serial: TP-1037, Serial: TP-1328
- ; SEMCAD X Version 14.0 Build 61

Configuration/Body - Middle - No Accessory - Back Facing Phantom - 1.0cm spacer - LG Battery/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Body - Middle - No Accessory - Back Facing Phantom - Spacer 1.0cm - Sony Battery/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.770 mW/g
SAR(10 g) = 0.468 mW/g

Maximum value of SAR (measured) = 0.868 mW/g



Date/Time: 2011-02-21 12:48:27, Date/Time: 2011-02-22 12:10:16

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

Communication System: GSM 1900, Communication System: WLAN2450 b-mode

Frequency: 1909.8 MHz, Frequency: 2442 MHz; Duty Cycle: 1:8.3, Duty Cycle: 1:1

Medium: Body 1900, Medium: Body 2450; Medium Notes: Medium Temperature: 22.5C, Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.6$ mho/m; $\epsilon_r = 52.4$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

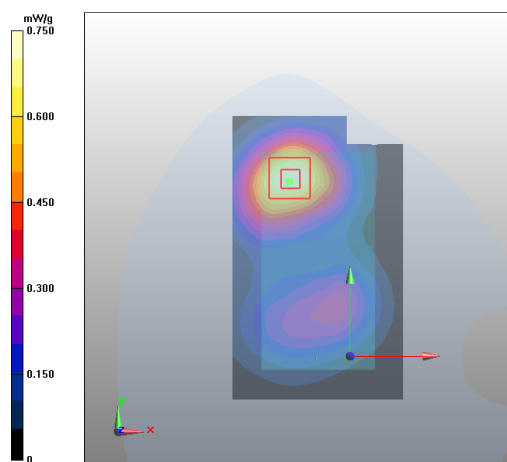
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36), ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2, Phantom: SAM 8; Type: Twin Phantom, Type: SAM Twin Phantom; Serial: TP-1037, Serial: TP-1328
- ; SEMCAD X Version 14.0 Build 61

Configuration/Body - High - No Accessory - Display Facing Phantom - Spacer 1.0cm - LG Battery/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Body - Middle - No Accessory - Display Facing Phantom - Spacer 1.0cm - Sony Battery/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.689 mW/g
SAR(10 g) = 0.407 mW/g

Maximum value of SAR (measured) = 0.750 mW/g



Date/Time: 2011-02-21 15:41:24, Date/Time: 2011-02-22 12:23:26

Test Laboratory: TCC Nokia

Type: RM-609; Serial: 004402/13/343431/0

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

Frequency: 1880 MHz; Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: Body 1900, Medium: Body 2450; Medium Notes: Medium Temperature: 22.5C, Medium Notes: Medium Temperature: 22.0 C

Medium parameters used: $f = 1880 \text{ MHz}$; $\sigma = 1.57 \text{ mho/m}$; $\epsilon_r = 52.5$; $\rho = 1000 \text{ kg/m}^3$, Medium parameters used: $f = 2442 \text{ MHz}$; $\sigma = 1.97 \text{ mho/m}$; $\epsilon_r = 50.9$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.36, 4.36, 4.36), ConvF(4.05, 4.05, 4.05); Calibrated: 2010-09-09
- Sensor-Surface: 4mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn710; Calibrated: 2010-09-17
- Phantom: SAM 2, Phantom: SAM 8; Type: Twin Phantom, Type: SAM Twin Phantom; Serial: TP-1037, Serial: TP-1328
- ; SEMCAD X Version 14.0 Build 61

Configuration/Body -Middle - No Accessory - Back Facing Phantom - Spacer 1.0cm - Sony Battery/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Body - Middle - No Accessory - Back Facing Phantom - Spacer 1.0cm - Sony Battery/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.807 mW/g
SAR(10 g) = 0.467 mW/g

Maximum value of SAR (measured) = 0.890 mW/g

