

SAR Compliance Test Report

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FCC ID:	QMNRM-809	IC:	661X-RM809
Supplement reports:	FCC_RM-809_01 SAR_Photo_RM-809_07		
Testing has been carried out in accordance with:	47CFR §2.1093 Radiofrequency Radiation Exposure Evaluation: Portable Devices FCC OET Bulletin 65 (Edition 97-01), Supplement C (Edition 01-01) Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields RSS-102 Evaluation Procedure for Mobile and Portable Radio Transmitters with Respect to Health Canada's Safety Code 6 for Exposure of Humans to Radio Frequency Fields IEEE 1528 - 2003 IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Technique		
Documentation:	The documentation of the testing performed on the tested devices is archived for 15 years at TCC Nokia.		
Test results:	The tested device complies with the requirements in respect of all parameters subject to the test. The test results and statements relate only to the items tested. The test report shall not be reproduced except in full, without written approval of the laboratory.		
Date and signatures:			
For the contents:			

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1. SUMMARY OF SAR TEST REPORT

1.1 Test Details

Period of test	2011-12-13 to 2012-01-23
SN, HW and SW numbers of tested device	SN: 004402/13/704478/4, HW: 0201, SW: 1600.3007.7740.1145.2, DUT: 16092
Batteries used in testing	BP-3L Sony, DUT: 15778, 15940, 15943, 15944, 16099, 23517 BP-3L LG, DUT: 15781, 15941, 16094, 16098
Headsets used in testing	-
Other accessories used in testing	-
State of sample	Prototype unit
Notes	-

1.1.1 Supplement reports referenced on the front cover of this report

FCC_RM-809_01:

All the SAR data, except Wireless Router results, have been taken from this earlier report; one sample was used in the RM-809 SAR testing.

1.2 Maximum Results

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

1.2.1 Head Configuration**

Mode	Ch / f (MHz)	Conducted power	Position	Measured SAR value (1g avg)	Scaled* SAR value (1g avg)	SAR limit (1g avg)	Result
4-slot GPRS850	128 / 824.2	27.0 dBm	Left, Cheek	0.819 W/kg	0.92 W/kg	1.6 W/kg	PASSED
WCDMA850	4175 / 835.0	23.5 dBm	Left, Cheek	0.686 W/kg	0.77 W/kg	1.6 W/kg	PASSED
WCDMA1700/2100	1412 / 1732.4	24.0 dBm	Left, Cheek	0.595 W/kg	0.67 W/kg	1.6 W/kg	PASSED
4-slot GPRS1900	810 / 1909.8	26.0 dBm	Left, Cheek	0.738 W/kg	0.83 W/kg	1.6 W/kg	PASSED
WCDMA1900	9538 / 1907.6	24.0 dBm	Left, Cheek	1.02 W/kg	1.14 W/kg	1.6 W/kg	PASSED
WLAN2450	11 / 2462.0	18.0 dBm	Left, Cheek	0.301 W/kg	0.34 W/kg	1.6 W/kg	PASSED
4-slot GPRS850 + WLAN2450	-	-	Left, Cheek	0.819 W/kg	0.92 W/kg	1.6 W/kg	PASSED
WCDMA850 + WLAN2450	-	-	Left, Cheek	0.687 W/kg	0.77 W/kg	1.6 W/kg	PASSED
WCDMA1700/2100 + WLAN2450	-	-	Left, Cheek	0.595 W/kg	0.67 W/kg	1.6 W/kg	PASSED
4-slot GPRS1900 + WLAN2450	-	-	Left, Cheek	0.747 W/kg	0.84 W/kg	1.6 W/kg	PASSED
WCDMA1900 + WLAN2450	-	-	Left, Cheek	1.03 W/kg	1.15 W/kg	1.6 W/kg	PASSED

1.2.2 Body Worn Configuration**

Mode	Ch / f (MHz)	Conducted power	Separation distance	Measured SAR value (1g avg)	Scaled* SAR value (1g avg)	SAR limit (1g avg)	Result
4-slot GPRS850	128 / 824.2	27.0 dBm	2.2 cm	0.769 W/kg	0.86 W/kg	1.6 W/kg	PASSED
WCDMA850	4175 / 835.0	23.5 dBm	2.2 cm	0.725 W/kg	0.81 W/kg	1.6 W/kg	PASSED
WCDMA1700/2100	1513 / 1752.6	24.0 dBm	2.2 cm	1.04 W/kg	1.16 W/kg	1.6 W/kg	PASSED
4-slot GPRS1900	661 / 1880.0	26.0 dBm	2.2 cm	0.917 W/kg	1.03 W/kg	1.6 W/kg	PASSED
WCDMA1900	9538 / 1907.6	24.0 dBm	2.2 cm	0.864 W/kg	0.97 W/kg	1.6 W/kg	PASSED
WLAN2450	1 / 2412.0	18.0 dBm	2.2 cm	0.063 W/kg	0.07 W/kg	1.6 W/kg	PASSED
4-slot GPRS850 + WLAN2450	-	-	2.2 cm	0.816 W/kg	0.91 W/kg	1.6 W/kg	PASSED
WCDMA850 + WLAN2450	-	-	2.2 cm	0.768 W/kg	0.86 W/kg	1.6 W/kg	PASSED
WCDMA1700/2100 + WLAN2450	-	-	2.2 cm	1.05 W/kg	1.18 W/kg	1.6 W/kg	PASSED
4-slot GPRS1900 + WLAN2450	-	-	2.2 cm	0.932 W/kg	1.04 W/kg	1.6 W/kg	PASSED
WCDMA1900 + WLAN2450	-	-	2.2 cm	0.869 W/kg	0.97 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.

** SAR data taken from FCC_RM-809_01.

1.2.3 Summary SAR data

		FCC-defined SAR values for the Grants of Equipment Authorization*
Maximum Cellular/AWS/PCS Head SAR value		1.14 W/kg
Maximum WLAN Head SAR value		0.34 W/kg
{Max + Max} Simultaneous Head SAR value	1.48 W/kg	
Maximum Cellular/AWS/PCS Body SAR value		1.16 W/kg
Maximum WLAN Body SAR value		0.07 W/kg
{Max + Max} Simultaneous Body SAR value	1.23 W/kg	
Maximum Product Specific (Wireless Router) SAR value		1.51 W/kg***
Maximum Simultaneous SAR value		1.48 W/kg****

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

*** The highest {Max + Max} SAR value measured during Wireless Router SAR testing was 1.527 (see Appendix E.1). Scaling up by 12% gives a value of 1.71W/kg, but Simultaneous Transmission Procedures are not required as the "Antenna Pair SAR to Peak Location Separation Ration is $1.71\text{W/kg}/8.92\text{cm} = 0.19$ i.e. < 0.3 . The SAR value presented here is the highest stand-alone SAR value of 1.35W/kg (for 4-slot GPRS1900) scaled up by 12%.

**** The highest {Max + Max} SAR value measured during Head and Body-worn SAR testing was 1.321 (see Section 7). Scaling up by 12% gives the 1.48W/kg value presented here.

1.2.4 Maximum Drift

Maximum drift covered by 12% scaling up of the SAR values	Maximum drift during measurements
0.5dB	0.47dB

1.2.5 Measurement Uncertainty

Expanded Uncertainty (k=2) 95%	$\pm 25.8\%$
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2. DESCRIPTION OF THE DEVICE UNDER TEST

Device category	Portable
Exposure environment	General population / uncontrolled

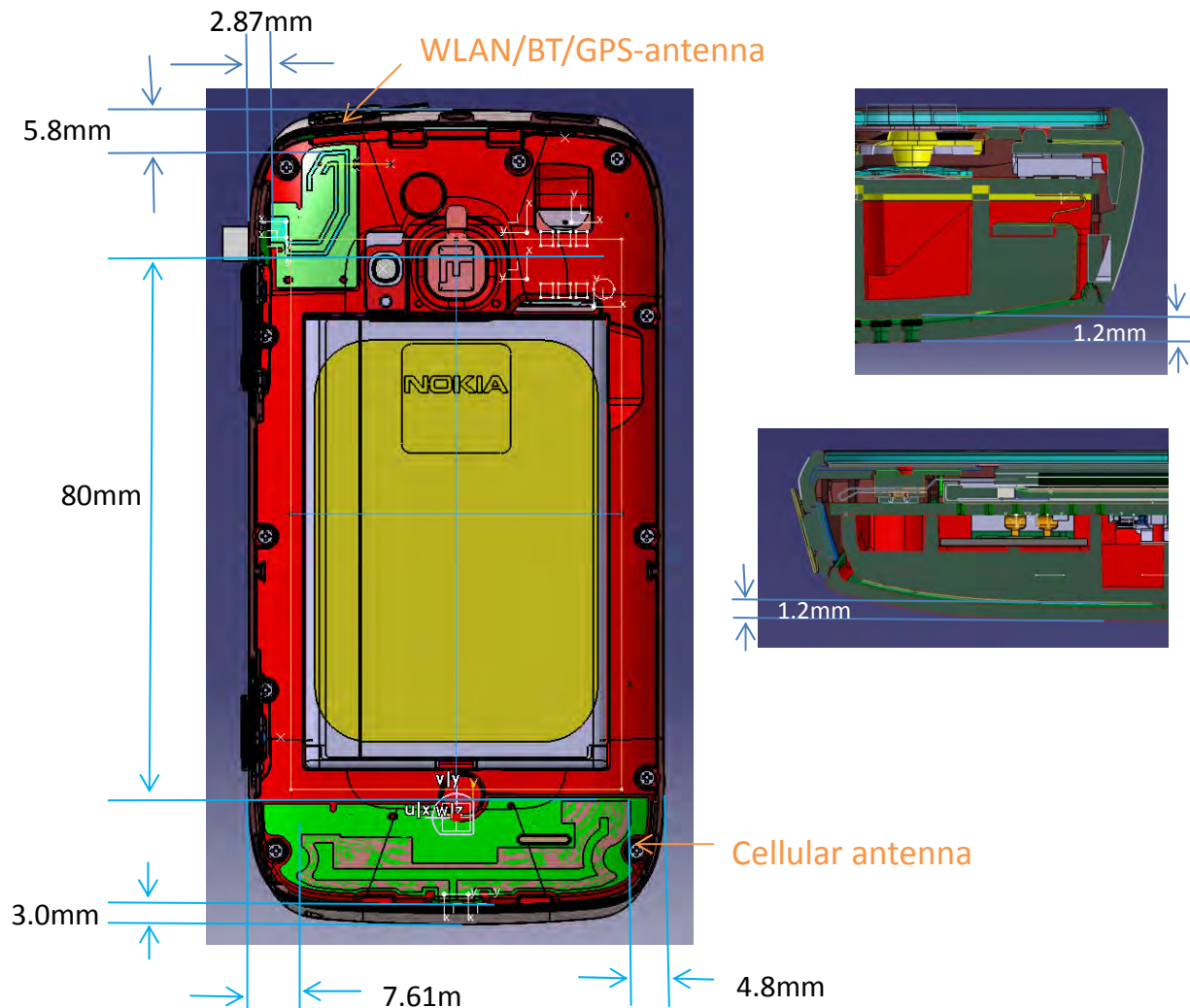
Modes of Operation	Bands	Modulation Mode	Duty Cycle	Transmitter Frequency Range (MHz)
GSM	850 1900	GMSK	1/8	824 – 849 1850 – 1910
GPRS	850 1900	GMSK	1/8 to 4/8	824 – 849 1850 – 1910
EGPRS	850 1900	GMSK / 8PSK	1/8 to 4/8	824 – 849 1850 – 1910
WCDMA	850 (Band V) 1700/2100 (Band IV) 1900 (Band II)	-	1	826 – 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 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/AWS/PCS and WLAN use. The cellular/AWS/PCS antenna is located at the bottom underneath the back cover. The WLAN antenna is located at the top underneath the back cover. The antenna locations, antenna distances from nearest edges and antenna interdistances are illustrated below.



3. TEST CONDITIONS

3.1 Temperature and Humidity

Ambient temperature (°C):	20.5 – 23.0
Ambient humidity (RH %):	26 - 37

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.

All of the Head SAR and Body-worn (at 15mm) SAR results presented in this report have been taken from the earlier report FCC_RM-809_01. This report presents test details and results for Body SAR testing at 10mm separation distance (i.e. Wireless Router “Hotspot” mode) only; these 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 date	Calibration expiry
DAE 4	555	2011-02	2012-02
DAE 4	728	2011-05	2012-05
DAE 4	1213	2011-02	2012-02
E-field Probe ES3DV3	3165	2011-02	2012-02
E-field Probe ES3DV3	3194	2011-09	2012-09
E-field Probe EX3DV4	3790	2011-05	2012-05
Dipole Validation Kit, D835V2	462	2011-09	2013-09
Dipole Validation Kit, D1800V2	2d065	2011-09	2013-09
Dipole Validation Kit, D1900V2	5d013	2010-03	2012-03
Dipole Validation Kit, D2450V2	729	2011-09	2013-09
DASY4 software	Version 4.7	-	-
DASY5 software	Version 52.6.1.408	-	-

Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration date	Calibration expiry
Signal Generator	SML03	101265	2011-08	2012-08
Signal Generator	E4436B	US39260114	2011-08	2012-08
Amplifier	5S1G4M3	302338	-	-
Amplifier	5S1G4	25583	-	-
Power Meter	NRVS	838624/032	2011-08	2012-08
Power Sensor	NRV-Z32	100067	2011-08	2012-08
Power Meter	NRVS	849305/028	2011-08	2012-08
Power Sensor	NRV-Z32	100069	2011-07	2012-08
Call Tester	CMU 200	101111	-	-
Call Tester	CMU 200	103293	-	-
Call Tester	MT8820C	6200883095	-	-
Vector Network Analyzer	8753E	US38432928	2011-08	2012-08
Dielectric Probe Kit	85070B	US33020420	-	-

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

4.1.2 Isotropic E-field Probe Type EX3DV4

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

4.2 Phantoms

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

System checking was performed using the flat section. 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 Body tissue simulant(s):

800MHz band

Ingredient	Body (% by weight)
Deionised Water	69.25
Tween 20	30.00
Salt	0.75

1800MHz band

Ingredient	Body (% by weight)
Deionised Water	70.20
Tween 20	29.37
Salt	0.43

1900MHz band

Ingredient	Body (% by weight)
Deionised Water	70.25
Tween 20	29.41
Salt	0.34

2450MHz band

Ingredient	Body (% by weight)
Deionised Water	70.20
Tween 20	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, body tissue simulant

<i>f</i> [MHz]	Description	SAR [W/kg], 1g	Dielectric Parameters		Temp [°C]
			ϵ_r	σ [S/m]	
835	Reference result	2.45	53.5	1.00	
	± 10% window	2.20 – 2.70			
	OET Supplement C/RSS-102 Target values		55.2	0.97	
	2012-01-09	2.58	52.6	0.98	21.0
	2012-01-23	2.66	53.3	1.00	21.0
1800	Reference result	9.86	54.3	1.52	
	± 10% window	8.87 – 10.85			
	OET Supplement C/RSS-102 Target values		53.3	1.52	
	2012-01-20	10.4	52.6	1.48	21.0
1900	Reference result	10.4	55.0	1.58	
	± 10% window	9.4 – 11.4			
	OET Supplement C/RSS-102 Target values		53.3	1.52	
	2011-12-13	10.9	52.5	1.54	21.0
	2012-01-10	10.6	52.4	1.51	21.0
	2012-01-11	10.5	52.3	1.51	21.0
2450	Reference result	13.3	51.7	2.04	
	± 10% window	12.0 – 14.6			
	OET Supplement C/RSS-102 Target values		52.7	1.95	
	2012-01-09	13.0	50.1	1.98	21.0

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

4.3.3 Tissue Simulants used in the Measurements

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	
	2012-01-09	52.6	0.98	21.0
	2012-01-23	53.3	1.00	21.0
836	Recommended value	55.2	0.97	
	± 5% window	52.4 – 58.0	0.92 – 1.02	
	2012-01-09	52.6	0.98	21.0
	2012-01-23	53.3	1.00	21.0
1732	Recommended value	53.5	1.48	
	± 5% window	50.8 – 56.2	1.40 – 1.55	
	2012-01-20	52.9	1.42	21.0
1880	Recommended value	53.3	1.52	
	± 5% window	50.6 – 56.0	1.44 – 1.60	
	2011-12-13	52.6	1.52	21.0
	2012-01-10	52.5	1.49	21.0
	2012-01-11	52.4	1.50	21.0
2442	Recommended value	52.7	1.94	
	± 5% window	50.1 – 55.3	1.85 – 2.04	
	2012-01-09	50.1	1.97	21.0

Dielectric parameter data for the band edges is given in Appendix B.

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 Wireless Router Configuration

The device was placed in the SPEAG holder using the Nokia spacer and, in sequence, the display, the back and each of the 4 edges was positioned 10.0mm away from the flat phantom. The spacer was removed before the start of the measurements.

5.3 Scan Procedures

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

5.4 SAR Averaging Methods

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

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

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

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

6. MEASUREMENT UNCERTAINTY

Table 6.1 – Measurement uncertainty evaluation

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

7. RESULTS**

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

850MHz Head SAR results

Mode	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 128 824.2 MHz	Ch 190 836.6 MHz	Ch 251 848.8 MHz
GSM	Conducted Power		-	31.7 dBm	-
BP-3L Sony	Left	Cheek	-	0.440	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
2-slot GPRS	Conducted Power		-	30.0 dBm	-
BP-3L Sony	Left	Cheek	-	0.588	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
3-slot GPRS	Conducted Power		-	28.0 dBm	-
BP-3L Sony	Left	Cheek	-	0.585	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
4-slot GPRS	Conducted Power		27.0 dBm	27.0 dBm	27.0 dBm
BP-3L Sony	Left	Cheek	0.819	0.636	0.535
		Tilt	-	0.514	-
	Right	Cheek	-	0.562	-
		Tilt	-	0.537	-
4-slot 8PSK EGPRS	Conducted Power		24.0 dBm	-	-
BP-3L Sony	Left	Cheek	0.318	-	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-

(850MHz Table continues)

(850MHz Table continues)

Mode	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		23.5 dBm	23.5 dBm	23.5 dBm
BP-3L Sony	Left	Cheek	0.671	0.686	0.599
		Tilt	-	0.464	-
	Right	Cheek	-	0.649	-
		Tilt	-	0.486	-
4-slot GPRS BP-3L LG	Left Cheek		0.793	0.657	0.523

1700/2100MHz Head SAR results

Mode	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		24.0 dBm	24.0 dBm	24.0 dBm
BP-3L Sony	Left	Cheek	0.536	0.576	0.575
		Tilt	-	0.109	-
	Right	Cheek	-	0.346	-
		Tilt	-	0.092	-
WCDMA BP-3L LG	Left Cheek		0.554	0.595	0.579

1900MHz Head SAR results

Mode	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz
GSM	Conducted Power		-	30.0 dBm	-
BP-3L Sony	Left	Cheek	-	0.346	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
2-slot GPRS	Conducted Power		-	29.0 dBm	-
BP-3L Sony	Left	Cheek	-	0.531	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
3-slot GPRS	Conducted Power		-	27.0 dBm	-
BP-3L Sony	Left	Cheek	-	0.525	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
4-slot GPRS	Conducted Power		26.0 dBm	26.0 dBm	26.0 dBm
BP-3L Sony	Left	Cheek	0.461	0.614	0.738
		Tilt	-	0.168	-
	Right	Cheek	-	0.546	-
		Tilt	-	0.202	-
4-slot 8PSK EGPRS	Conducted Power		-	-	23.0 dBm
BP-3L Sony	Left	Cheek	-	-	0.313
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-

(1900MHz Table continues)

(1900MHz Table continues)

Mode	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 9262 1852.4 MHz	Ch 9400 1880.0 MHz	Ch 9538 1907.6 MHz
WCDMA	Conducted Power		24.0 dBm	24.0 dBm	24.0 dBm
BP-3L Sony	Left	Cheek	0.734	0.705	0.945
		Tilt	-	0.221	-
	Right	Cheek	-	0.598	-
		Tilt	-	0.231	-
WCDMA BP-3L LG	Left Cheek		0.721	0.744	1.02

2450MHz Head SAR results**

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

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

850MHz Body SAR results

Mode	Device orientation	Test configuration	SAR, averaged over 1g (W/kg)		
			Ch 128 824.2 MHz	Ch 190 836.6 MHz	Ch 251 848.8 MHz
4-slot GPRS		Conducted Power	27.0 dBm	27.0 dBm	27.0 dBm
BP-3L Sony	Display facing phantom	Without headset	-	0.564	-
		Headset WH-208	-	0.360	-
	Back facing phantom	Without headset	0.769	0.716	0.644
		Headset WH-208	-	0.478	-
Mode	Device orientation	Test configuration	Ch 4132 826.4 MHz	Ch 4175 835.0 MHz	Ch 4233 846.6 MHz
WCDMA		Conducted Power	23.5 dBm	23.5 dBm	23.5 dBm
BP-3L Sony	Display facing phantom	Without headset	-	0.599	-
		Headset WH-208	-	0.387	-
	Back facing phantom	Without headset	0.592	0.725	0.635
		Headset WH-208	-	0.481	-
4-slot GPRS BP-3L LG	Back facing phantom	Without headset	0.766	0.687	0.658

1700/2100MHz Body SAR results

Mode	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
WCDMA		Conducted Power	24.0 dBm	24.0 dBm	24.0 dBm
BP-3L Sony	Display facing phantom	Without headset	-	0.378	-
		Headset WH-208	-	0.335	-
	Back facing phantom	Without headset	1.04	1.02	1.04
		Headset WH-208	1.04	1.03	1.03
WCDMA BP-3L LG	Back facing phantom	Without headset	1.04	1.03	1.04

1900MHz Body SAR results

Mode	Device orientation	Test configuration	SAR, averaged over 1g (W/kg)		
			Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz
4-slot GPRS		Conducted Power	26.0 dBm	26.0 dBm	26.0 dBm
BP-3L Sony	Display facing phantom	Without headset	-	0.303	-
		Headset WH-208	-	0.331	-
	Back facing phantom	Without headset	0.550	0.917	0.646
		Headset WH-208	0.736	0.914	0.862
Mode	Device orientation	Test configuration	Ch 9262 1852.4 MHz	Ch 9400 1880.0 MHz	Ch 9538 1907.6 MHz
WCDMA		Conducted Power	24.0 dBm	24.0 dBm	24.0 dBm
BP-3L Sony	Display facing phantom	Without headset	-	0.335	-
		Headset WH-208	-	0.331	-
	Back facing phantom	Without headset	-	0.766	-
		Headset WH-208	0.853	0.770	0.864
4-slot GPRS BP-3L LG	Back facing phantom	Without headset	0.595	0.665	0.665

2450MHz Body SAR results

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

Simultaneous transmissions: Combined SAR results – Individual band Max results

Test configuration	Max. 1g SAR results					
	WLAN	4-slot GPRS850	WCDMA 850	WCDMA 1700/2100	4-slot GPRS1900	WCDMA 1900
Head: Left, Cheek	0.301	0.819	0.686	0.595	0.738	1.02
Head: Left, Tilt	0.092	0.514	0.464	0.109	0.168	0.221
Head: Right, Cheek	0.104	0.562	0.649	0.346	0.546	0.598
Head: Right, Tilt	0.099	0.605	0.486	0.092	0.202	0.231
Body: Display facing phantom, Without Headset	0.023	0.564	0.599	0.378	0.303	0.335
Body: Display facing phantom, Headset WH-208	0.026	0.360	0.387	0.335	0.331	0.331
Body: Back facing phantom, Without Headset	0.056	0.769	0.725	1.04	0.917	0.766
Body: Back facing phantom, Headset WH-208	0.063	0.478	0.481	1.04	0.914	0.864

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

Test configuration	Max. 1g SAR results				
	4-slot GPRS850 + WLAN	WCDMA850 + WLAN	WCDMA 1700/2100 + WLAN	4-slot GPRS1900 + WLAN	WCDMA1900 + WLAN
Head: Left, Cheek	1.120	0.987	0.896	1.039	1.321
Head: Left, Tilt	0.606	0.556	0.201	0.260	0.313
Head: Right, Cheek	0.666	0.753	0.450	0.650	0.702
Head: Right, Tilt	0.704	0.585	0.191	0.301	0.330
Body: Display facing phantom, Without Headset	0.587	0.622	0.401	0.326	0.358
Body: Display facing phantom, Headset WH-208	0.386	0.413	0.361	0.357	0.357
Body: Back facing phantom, Without Headset	0.825	0.781	1.096	0.973	0.822
Body: Back facing phantom, Headset WH-208	0.541	0.544	1.103	0.977	0.927

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

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

Test configuration	Max. 1g SAR results				
	4-slot GPRS850 + WLAN	WCDMA850 + WLAN	WCDMA 1700/2100 + WLAN	4-slot GPRS1900 + WLAN	WCDMA1900 + WLAN
Head: Left, Cheek	0.763	0.687	0.452	0.747	1.03
Head: Left, Tilt	-	-	-	-	-
Head: Right, Cheek	-	-	-	-	-
Head: Right, Tilt	-	-	-	-	-
Body: Display facing phantom, Without Headset	-	-	-	-	-
Body: Display facing phantom, Headset WH-208	-	-	-	-	-
Body: Back facing phantom, Without Headset	0.816	0.768	-	-	-
Body: Back facing phantom, Headset WH-208	-	-	1.05	0.932	0.869

**SAR data taken from FCC_RM-809_01.

APPENDIX A: SYSTEM CHECKING SCANS

Date/Time: 2012-01-09 14:28:51, Date/Time: 2012-01-09 14:34:46

Test Laboratory: TCC Nokia

Type: D835V2; Serial: D835V2 - SN:462

Communication System: CW835

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850 ; Medium Notes: $t = 22.0$ C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.983$ mho/m; $\epsilon_r = 52.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2011-05-09
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

Configuration/d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.75 mW/g

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

Reference Value = 53.5 V/m

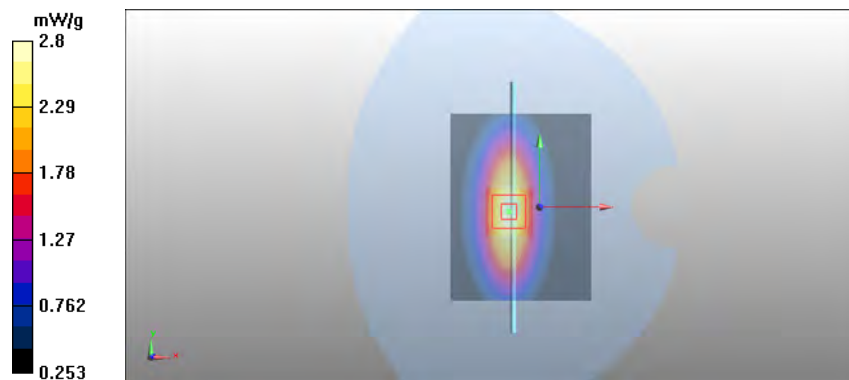
Peak SAR (extrapolated) = 3.94 W/kg

SAR(1 g) = 2.58 mW/g

SAR(10 g) = 1.68 mW/g

Power Drift = -0.016 dB

Maximum value of SAR (measured) = 2.8 mW/g



Date/Time: 2012-01-23 08:53:09, Date/Time: 2012-01-23 08:59:20

Test Laboratory: TCC Nokia

Type: D835V2; Serial: D835V2 - SN:462

Communication System: CW835

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: t= 20.6 C

Medium parameters used: f = 835 MHz; σ = 0.997 mho/m; ϵ_r = 53.3; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2011-05-09
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

Configuration/d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.83 mW/g

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

Reference Value = 54.4 V/m

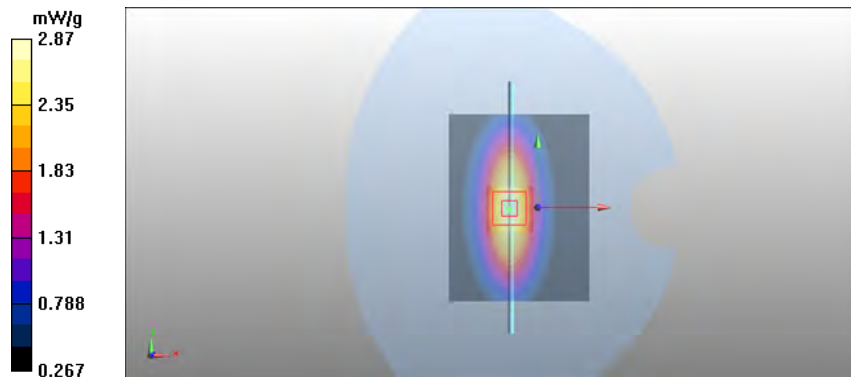
Peak SAR (extrapolated) = 4.06 W/kg

SAR(1 g) = 2.66 mW/g

SAR(10 g) = 1.72 mW/g

Power Drift = 0.013 dB

Maximum value of SAR (measured) = 2.87 mW/g



Date/Time: 2012-01-20 08:53:46, Date/Time: 2012-01-20 08:59:33

Test Laboratory: TCC Nokia

Type: D1800V2; Serial: D1800V2 - SN:2d065

Communication System: CW1800

Frequency: 1800 MHz; Duty Cycle: 1:1

Medium: BSL1800; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 1800$ MHz; $\sigma = 1.48$ mho/m; $\epsilon_r = 52.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.76, 4.76, 4.76); Calibrated: 2011-09-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

Configuration/d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 89.6 V/m

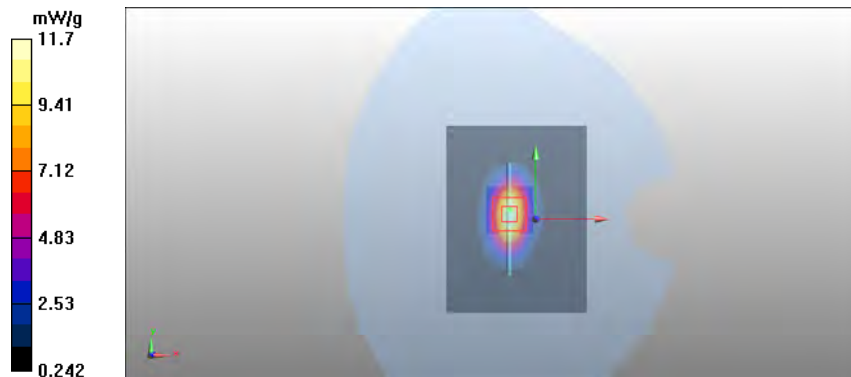
Peak SAR (extrapolated) = 18.6 W/kg

SAR(1 g) = 10.4 mW/g

SAR(10 g) = 5.47 mW/g

Power Drift = 0.047 dB

Maximum value of SAR (measured) = 11.7 mW/g



Date/Time: 2011-12-13 09:04:16, Date/Time: 2011-12-13 09:10:03

Test Laboratory: TCC Nokia

Type: D1900V2; Serial: D1900V2 - SN:5d013

Communication System: CW1900

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(4.61, 4.61, 4.61); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

Configuration/d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 13 mW/g

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

Reference Value = 90.5 V/m

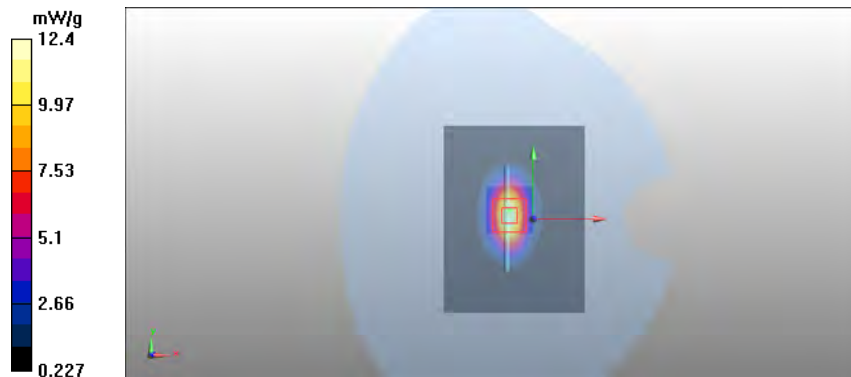
Peak SAR (extrapolated) = 19.3 W/kg

SAR(1 g) = 10.9 mW/g

SAR(10 g) = 5.68 mW/g

Power Drift = 0.027 dB

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



Date/Time: 2012-01-10 09:04:08, Date/Time: 2012-01-10 09:38:01

Test Laboratory: TCC Nokia

Type: D1900V2; Serial: D1900V2 - SN:5d013

Communication System: CW1900

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: BSLmik | lie; Medium Notes: t= 21.0 C

Medium parameters used: f = 1900 MHz; σ = 1.51 mho/m; ϵ_r = 52.4; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.59, 4.59, 4.59); Calibrated: 2011-09-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

Configuration/d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 89.9 V/m

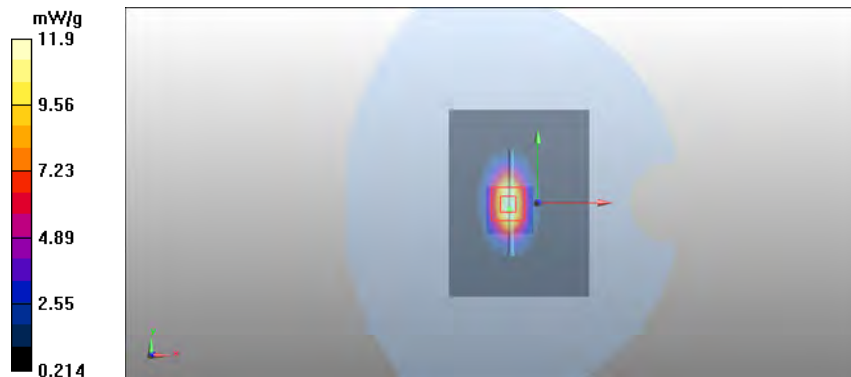
Peak SAR (extrapolated) = 19 W/kg

SAR(1 g) = 10.6 mW/g

SAR(10 g) = 5.55 mW/g

Power Drift = 0.041 dB

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



Date/Time: 2012-01-11 08:56:43, Date/Time: 2012-01-11 09:13:30

Test Laboratory: TCC Nokia

Type: D1900V2; Serial: D1900V2 - SN:5d013

Communication System: CW1900

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.59, 4.59, 4.59); Calibrated: 2011-09-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

Configuration/d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 12.9 mW/g

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

Reference Value = 87.7 V/m

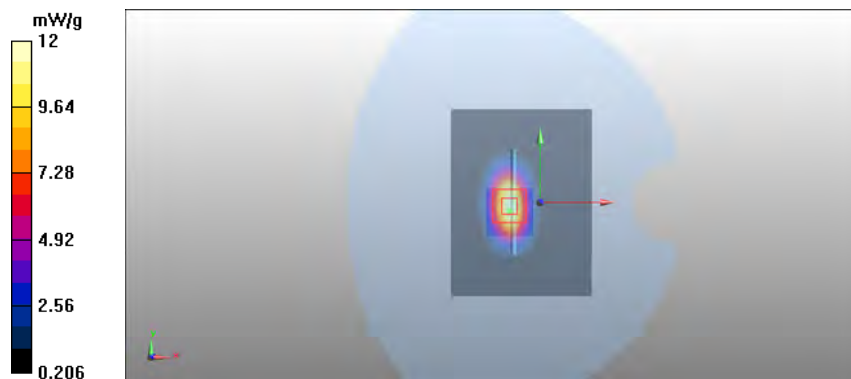
Peak SAR (extrapolated) = 19.1 W/kg

SAR(1 g) = 10.5 mW/g

SAR(10 g) = 5.48 mW/g

Power Drift = 0.076 dB

Maximum value of SAR (measured) = 12 mW/g



Date/Time: 2012-01-09 09:01:48, Date/Time: 2012-01-09 09:07:51

Test Laboratory: TCC Nokia

Type: D2450V2; Serial: D2450V2 - SN:729

Communication System: CW2450

Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.98$ mho/m; $\epsilon_r = 50.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(6.85, 6.85, 6.85); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2011-02-14
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, V52.8 Build 0; SEMCAD X Version 14.0 Build 61

Configuration/d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 14.8 mW/g

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

Reference Value = 84.8 V/m

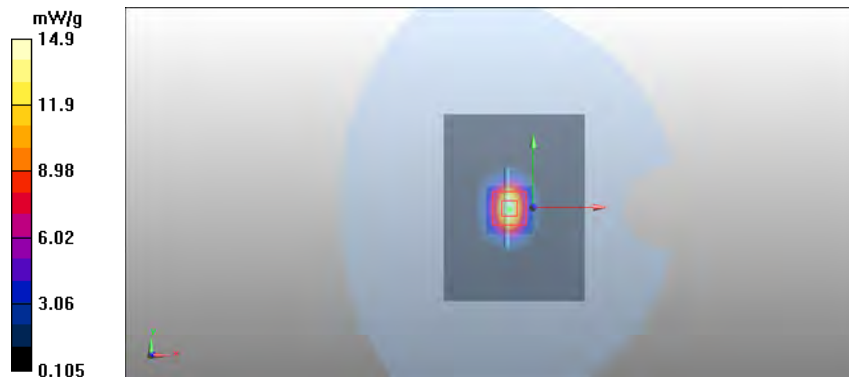
Peak SAR (extrapolated) = 26.8 W/kg

SAR(1 g) = 13 mW/g

SAR(10 g) = 5.99 mW/g

Power Drift = 0.103 dB

Maximum value of SAR (measured) = 14.9 mW/g



APPENDIX B: DIELECTRIC PARAMETERS OF THE TISSUE SIMULANTS

Body tissue simulant dielectric parameters used in the measurements:

f (MHz)	Date	Dielectric Parameters					
		Ch 4132 826.4 MHz		Ch 4175 835.0 MHz		Ch 4233 846.6 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
835	2012-01-09	52.6	0.98	52.6	0.98	52.5	0.99
	2012-01-23	53.3	0.99	53.3	1.00	53.2	1.00
f (MHz)	Date	Dielectric Parameters					
		Ch 128 824.2 MHz		Ch 190 836.6 MHz		Ch 251 848.8 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
836	2012-01-09	52.6	0.98	52.6	0.98	52.5	0.99
	2012-01-23	53.3	0.99	53.3	1.00	53.2	1.01
f (MHz)	Date	Dielectric Parameters					
		Ch 1312 1712.4 MHz		Ch 1412 1732.4 MHz		Ch 1513 1752.6 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
1732	2012-01-20	52.9	1.40	52.9	1.42	52.8	1.44
f (MHz)	Date	Dielectric Parameters					
		Ch 512 1850.2 MHz		Ch 661 1880.0 MHz		Ch 810 1909.8 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
1880	2012-01-10	52.5	1.46	52.5	1.49	52.4	1.52
	2012-01-11	52.5	1.47	52.4	1.50	52.3	1.52
f (MHz)	Date	Dielectric Parameters					
		Ch 9262 1852.4 MHz		Ch 9400 1880.0 MHz		Ch 9538 1907.6 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
1880	2011-12-13	52.7	1.50	52.6	1.52	52.5	1.55
f (MHz)	Date	Dielectric Parameters					
		Ch 1 2412.0 MHz		Ch 7 2442.0 MHz		Ch 11 2462.0 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
2442	2012-01-09	50.2	1.93	50.1	1.97	50.1	2.00

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



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 Salo TCC** Certificate No: **ES3-3165_Feb11**

CALIBRATION CERTIFICATE

Object **ES3DV3 - SN:3165**

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

Calibration date: **February 17, 2011**

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

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 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	01-Apr-10 (No. 217-01136)	Apr-11
Power sensor E4412A	MY41495277	01-Apr-10 (No. 217-01136)	Apr-11
Power sensor E4412A	MY41498087	01-Apr-10 (No. 217-01136)	Apr-11
Reference 3 dB Attenuator	SN: S5054 (3c)	30-Mar-10 (No. 217-01159)	Mar-11
Reference 20 dB Attenuator	SN: S5086 (20b)	30-Mar-10 (No. 217-01161)	Mar-11
Reference 30 dB Attenuator	SN: S5129 (30b)	30-Mar-10 (No. 217-01160)	Mar-11
Reference Probe ES3DV2	SN: 3013	29-Dec-10 (No. ES3-3013_Dec10)	Dec-11
DAE4	SN: 654	23-Apr-10 (No. DAE4-654_Apr10)	Apr-11
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

Calibrated by:	Name Jeton Kastrati	Function Laboratory Technician	Signature
Approved by:	Katja Pokovic	Technical Manager	

Issued: February 22, 2011

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

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3165

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unci. (k=2)
835	41.5	0.90	6.09	6.09	6.09	0.43	1.44	± 12.0 %
1750	40.1	1.37	5.19	5.19	5.19	0.35	1.84	± 12.0 %
1900	40.0	1.40	5.03	5.03	5.03	0.64	1.34	± 12.0 %
2450	39.2	1.80	4.44	4.44	4.44	0.79	1.13	± 12.0 %

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

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

DASY/EASY - Parameters of Probe: ES3DV3- SN:3165

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
835	55.2	0.97	6.04	6.04	6.04	0.50	1.43	± 12.0 %
1750	53.4	1.49	4.91	4.91	4.91	0.36	2.50	± 12.0 %
1900	53.3	1.52	4.61	4.61	4.61	0.34	2.38	± 12.0 %
2450	52.7	1.95	4.18	4.18	4.18	0.79	0.83	± 12.0 %

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

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



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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Client Nokia Salo TCC Certificate No: ES3-3194_Sep11

CALIBRATION CERTIFICATE

Object ES3DV3 - SN:3194

Calibration procedure(s) QA CAL-01.v8, QA CAL-23.v4, QA CAL-25.v4
Calibration procedure for dosimetric E-field probes

Calibration date: September 14, 2011

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

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 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	31-Mar-11 (No. 217-01372)	Apr-12
Power sensor E4412A	MY41498087	31-Mar-11 (No. 217-01372)	Apr-12
Reference 3 dB Attenuator	SN: S5054 (3c)	29-Mar-11 (No. 217-01369)	Apr-12
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Reference 30 dB Attenuator	SN: S5129 (30b)	29-Mar-11 (No. 217-01370)	Apr-12
Reference Probe ES3DV2	SN: 3013	29-Dec-10 (No. ES3-3013_Dec10)	Dec-11
DAE4	SN: 654	3-May-11 (No. DAE4-654_May11)	May-12
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

Calibrated by:	Name Jeton Kastrati	Function Laboratory Technician	Signature
Approved by:	Katja Pokovic	Technical Manager	

Issued: September 15, 2011

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

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3194

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	41.9	0.89	6.27	6.27	6.27	0.80	1.00	± 12.0 %
835	41.5	0.90	6.05	6.05	6.05	0.80	1.00	± 12.0 %
1750	40.1	1.37	5.29	5.29	5.29	0.80	1.27	± 12.0 %
1900	40.0	1.40	5.10	5.10	5.10	0.80	1.27	± 12.0 %
2450	39.2	1.80	4.43	4.43	4.43	0.80	1.29	± 12.0 %
2600	39.0	1.96	4.33	4.33	4.33	0.77	1.36	± 12.0 %

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

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

DASY/EASY - Parameters of Probe: ES3DV3- SN:3194

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	55.5	0.96	6.15	6.15	6.15	0.80	1.00	± 12.0 %
835	55.2	0.97	6.08	6.08	6.08	0.80	1.00	± 12.0 %
1750	53.4	1.49	4.76	4.76	4.76	0.80	1.32	± 12.0 %
1900	53.3	1.52	4.59	4.59	4.59	0.80	1.33	± 12.0 %
2450	52.7	1.95	4.19	4.19	4.19	0.80	1.00	± 12.0 %
2600	52.5	2.16	4.08	4.08	4.08	0.80	1.25	± 12.0 %

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

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



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Accreditation No.: SCS 108

Client Nokia Salo TCC

Certificate No: EX3-3790_May11

CALIBRATION CERTIFICATE

Object EX3DV4 - SN:3790

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

Calibration date: May 24, 2011

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

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 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	31-Mar-11 (No. 217-01372)	Apr-12
Power sensor E4412A	MY41498087	31-Mar-11 (No. 217-01372)	Apr-12
Reference 3 dB Attenuator	SN: S5054 (3c)	29-Mar-11 (No. 217-01369)	Apr-12
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Reference 30 dB Attenuator	SN: S5129 (30b)	29-Mar-11 (No. 217-01370)	Apr-12
Reference Probe ES3DV2	SN: 3013	29-Dec-10 (No. ES3-3013_Dec10)	Dec-11
DAE4	SN: 654	3-May-11 (No. DAE4-654_May11)	May-12
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

Calibrated by:	Name Jeton Kastrati	Function Laboratory Technician	Signature
Approved by:	Name Katja Pokovic	Function Technical Manager	Signature

Issued: May 27, 2011

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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3790

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	41.9	0.89	8.74	8.74	8.74	0.80	0.72	± 12.0 %
835	41.5	0.90	8.49	8.49	8.49	0.80	0.69	± 12.0 %
1750	40.1	1.37	7.49	7.49	7.49	0.80	0.59	± 12.0 %
1900	40.0	1.40	7.25	7.25	7.25	0.80	0.59	± 12.0 %
2450	39.2	1.80	6.67	6.67	6.67	0.75	0.59	± 12.0 %

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

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

DASY/EASY - Parameters of Probe: EX3DV4- SN:3790

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	55.5	0.96	8.57	8.57	8.57	0.80	0.74	± 12.0 %
835	55.2	0.97	8.39	8.39	8.39	0.80	0.75	± 12.0 %
1750	53.4	1.49	7.72	7.72	7.72	0.80	0.72	± 12.0 %
1900	53.3	1.52	7.32	7.32	7.32	0.80	0.71	± 12.0 %
2450	52.7	1.95	6.85	6.85	6.85	0.80	0.58	± 12.0 %

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

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

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

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Accreditation No.: SCS 108

Client Nokia Salo TCC Certificate No: D835V2-462_Sep11

CALIBRATION CERTIFICATE

Object	D835V2 - SN: 462		
Calibration procedure(s)	QA CAL-05.v8 Calibration procedure for dipole validation kits above 700 MHz		
Calibration date:	September 13, 2011		
This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate. All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 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-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	29-Apr-11 (No. ES3-3205_Apr11)	Apr-12
DAE4	SN: 601	04-Jul-11 (No. DAE4-601_Jul11)	Jul-12
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	04-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-10)	In house check: Oct-11
Calibrated by:	Name Dimce Iliev	Function Laboratory Technician	Signature
Approved by:	Katja Pokovic	Technical Manager	
			Issued: September 13, 2011
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.			

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 462

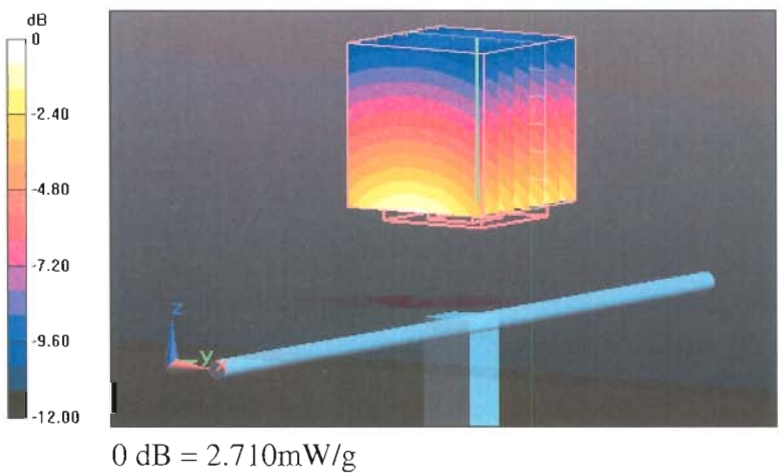
Communication System: CW; Frequency: 835 MHz
Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.89 \text{ mho/m}$; $\epsilon_r = 41.1$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.07, 6.07, 6.07); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
Reference Value = 56.987 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 3.423 W/kg
SAR(1 g) = 2.33 mW/g; SAR(10 g) = 1.52 mW/g
Maximum value of SAR (measured) = 2.708 mW/g



Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 462

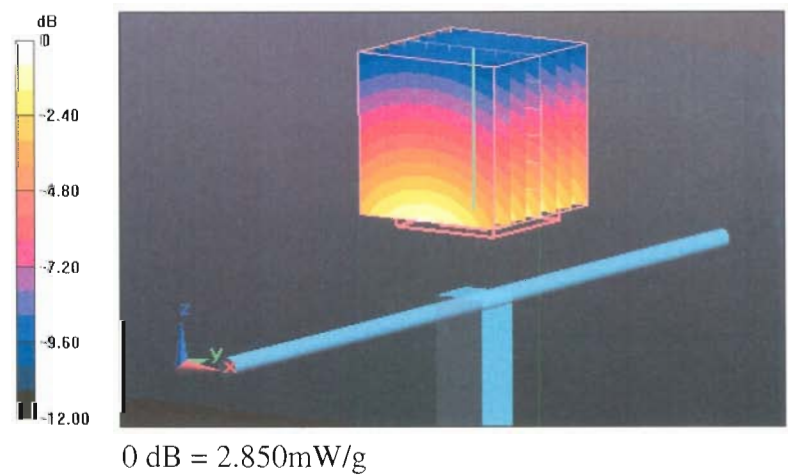
Communication System: CW; Frequency: 835 MHz
Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 1 \text{ mho/m}$; $\epsilon_r = 53.5$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.02, 6.02, 6.02); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
Reference Value = 55.464 V/m; Power Drift = 0.0033 dB
Peak SAR (extrapolated) = 3.540 W/kg
SAR(1 g) = 2.45 mW/g; SAR(10 g) = 1.61 mW/g
Maximum value of SAR (measured) = 2.851 mW/g





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Accreditation No.: SCS 108

Client Nokia Salo TCC

Certificate No: D1800V2-2d065_Sep11

CALIBRATION CERTIFICATE

Object D1800V2 - SN: 2d065

Calibration procedure(s) QA CAL-05.v8
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: September 15, 2011

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

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 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-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	29-Apr-11 (No. ES3-3205_Apr11)	Apr-12
DAE4	SN: 601	04-Jul-11 (No. DAE4-601_Jul11)	Jul-12
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	04-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

Calibrated by: Name Dimce Iliev Function Laboratory Technician Signature [Signature]

Approved by: Katja Pokovic Technical Manager [Signature]

Issued: September 15, 2011

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

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN: 2d065

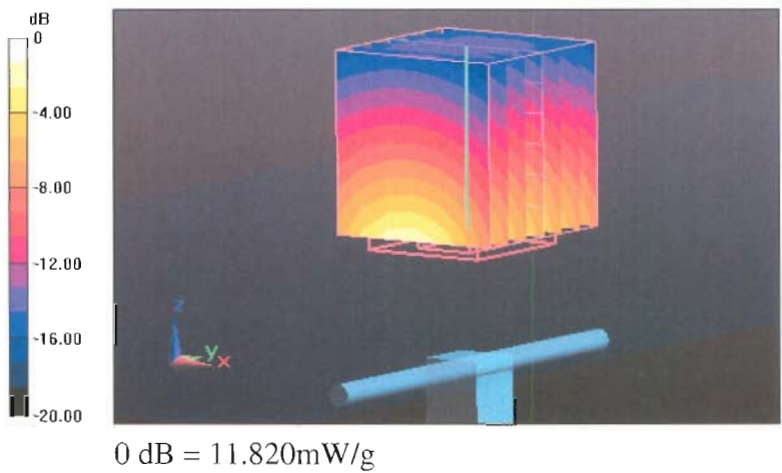
Communication System: CW; Frequency: 1800 MHz
Medium parameters used: $f = 1800 \text{ MHz}$; $\sigma = 1.37 \text{ mho/m}$; $\epsilon_r = 39.7$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.07, 5.07, 5.07); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
Reference Value = 96.966 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 16.764 W/kg
SAR(1 g) = 9.43 mW/g; SAR(10 g) = 4.98 mW/g
Maximum value of SAR (measured) = 11.819 mW/g



Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN: 2d065

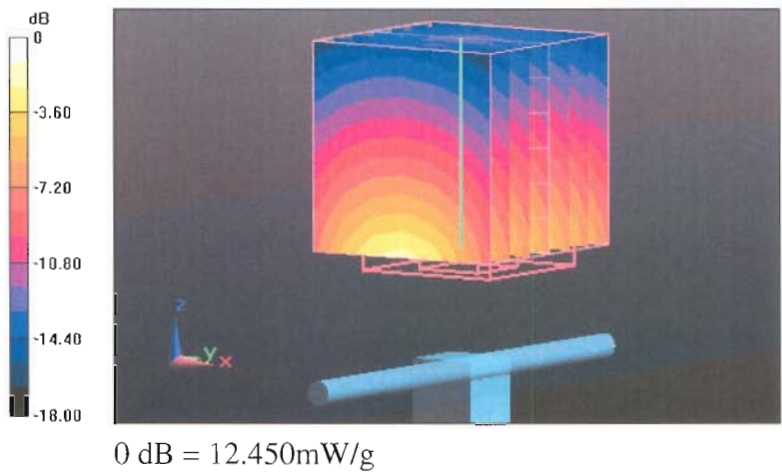
Communication System: CW; Frequency: 1800 MHz
Medium parameters used: $f = 1800 \text{ MHz}$; $\sigma = 1.52 \text{ mho/m}$; $\epsilon_r = 54.3$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.74, 4.74, 4.74); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
Reference Value = 94.166 V/m; Power Drift = -0.004 dB
Peak SAR (extrapolated) = 17.264 W/kg
SAR(1 g) = 9.86 mW/g; SAR(10 g) = 5.25 mW/g
Maximum value of SAR (measured) = 12.449 mW/g





Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

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

Client **Nokia Salo TCC**

Certificate No: **D1900V2-5d013_Mar10**

CALIBRATION CERTIFICATE

Object **D1900V2 - SN: 5d013**

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

Calibration date: **March 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	02-Mar-10 (No. DAE4-601_Mar10)	Mar-11
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-09)	In house check: Oct-10

Calibrated by: **Dinco Iliev** Name: **Dinco Iliev** Function: **Laboratory Technician** Signature: *[Signature]*

Approved by: **Katja Pokovic** Name: **Katja Pokovic** Function: **Technical Manager** Signature: *[Signature]*

Issued: March 23, 2010

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Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.7 Ω + 6.5 j Ω
Return Loss	- 23.7 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.7 Ω + 7.0 j Ω
Return Loss	- 22.5 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.195 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	April 30, 2002

DASY5 Validation Report for Head TSL

Date/Time: 23.03.2010 10:16:39

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d013

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

Medium: HSL U11 BB

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 41.2$; $\rho = 1000$ 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: 02.03.2010
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

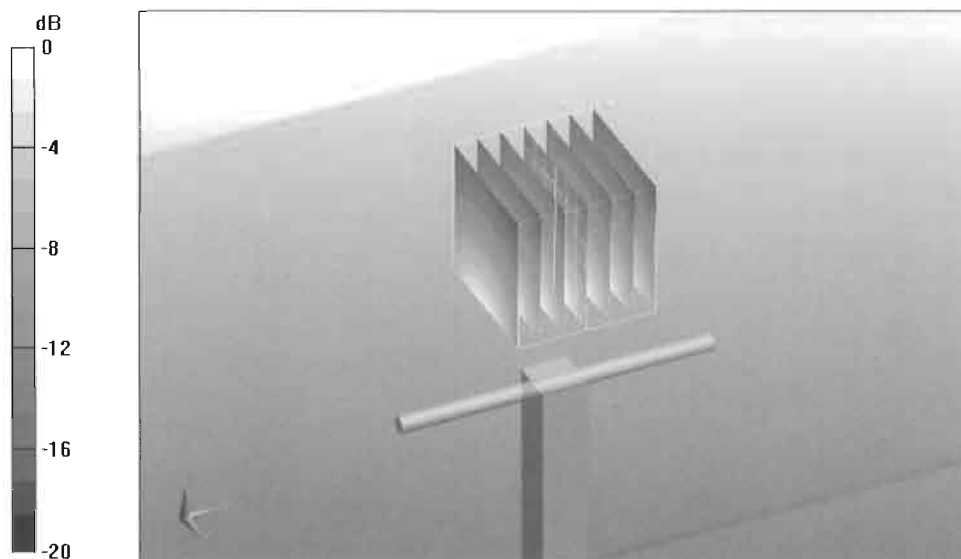
Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 96.4 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 18.5 W/kg

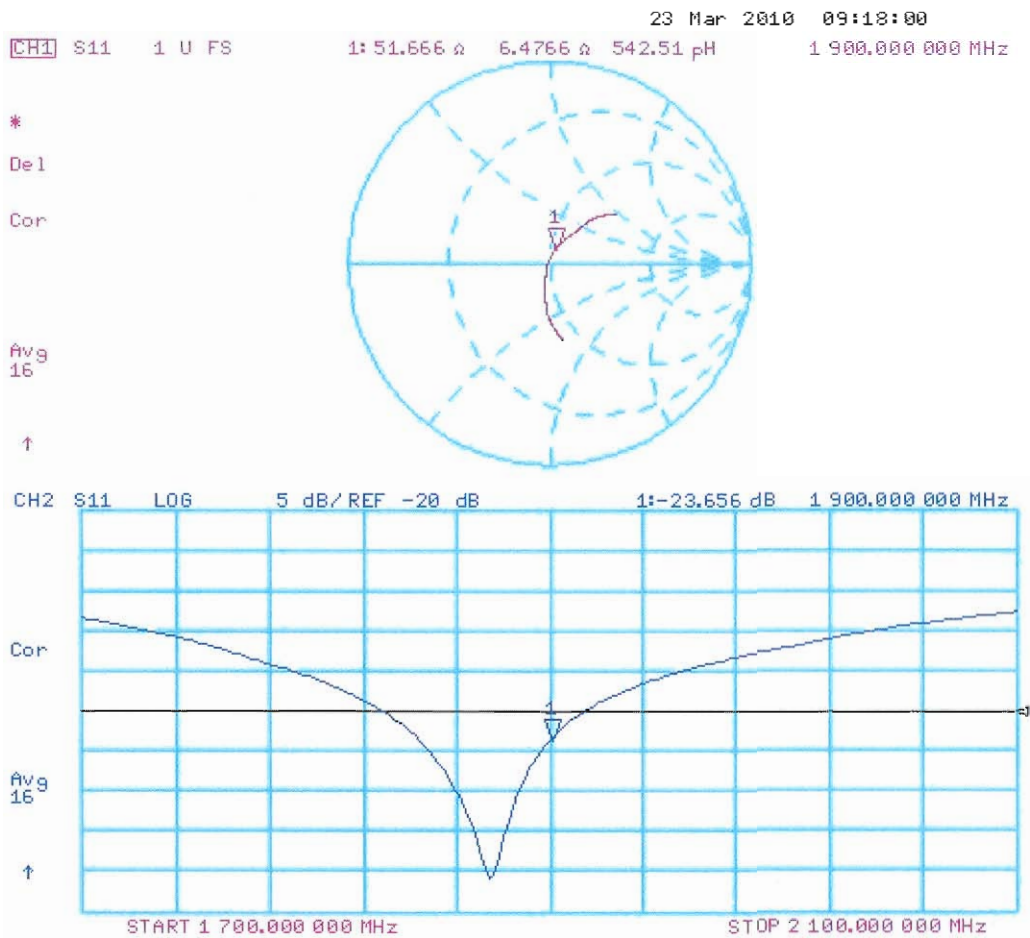
SAR(1 g) = 10.2 mW/g; SAR(10 g) = 5.32 mW/g

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



0 dB = 12.6mW/g

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body

Date/Time: 23.03.2010 13:12:18

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d013

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

Medium: MSL U11 BB

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.58$ mho/m; $\epsilon_r = 55$; $\rho = 1000$ kg/m³

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: 02.03.2010
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

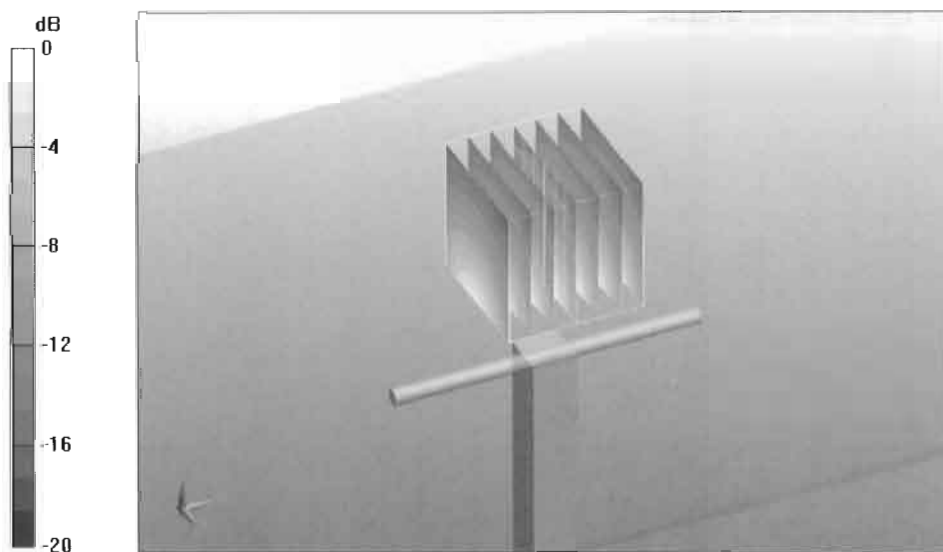
Pin250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 94.9 V/m; Power Drift = 0.00956 dB

Peak SAR (extrapolated) = 17.5 W/kg

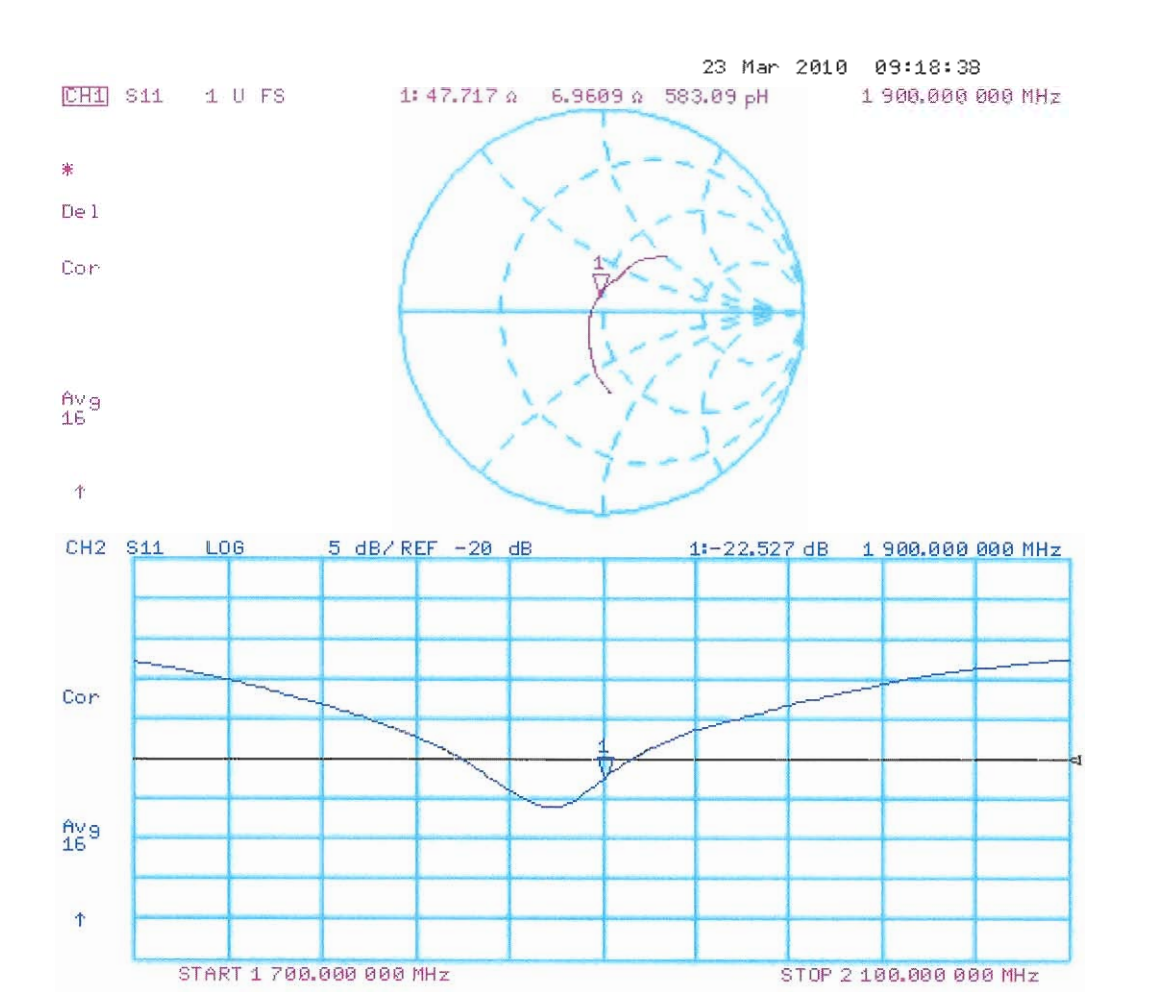
SAR(1 g) = 10.4 mW/g; SAR(10 g) = 5.58 mW/g

Maximum value of SAR (measured) = 12.7 mW/g



0 dB = 12.7mW/g

Impedance Measurement Plot for Body TSL



Dipole D1900V2 – SN: 5d013 Antenna Parameters

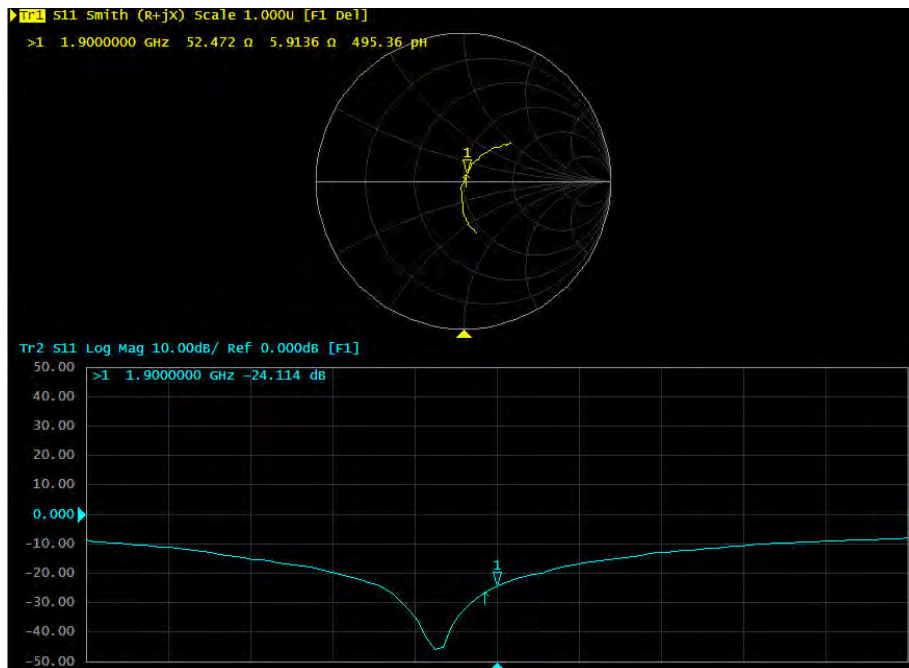
Antenna Parameters with Head TSL

	Calibration certificate	Annual measurement 2012-02-27
Impedance, transformed to feed point	51.7 Ω + 6.5 j Ω	52.5 Ω + 5.9 j Ω
Return loss	-23.7 dB	-24.1 dB

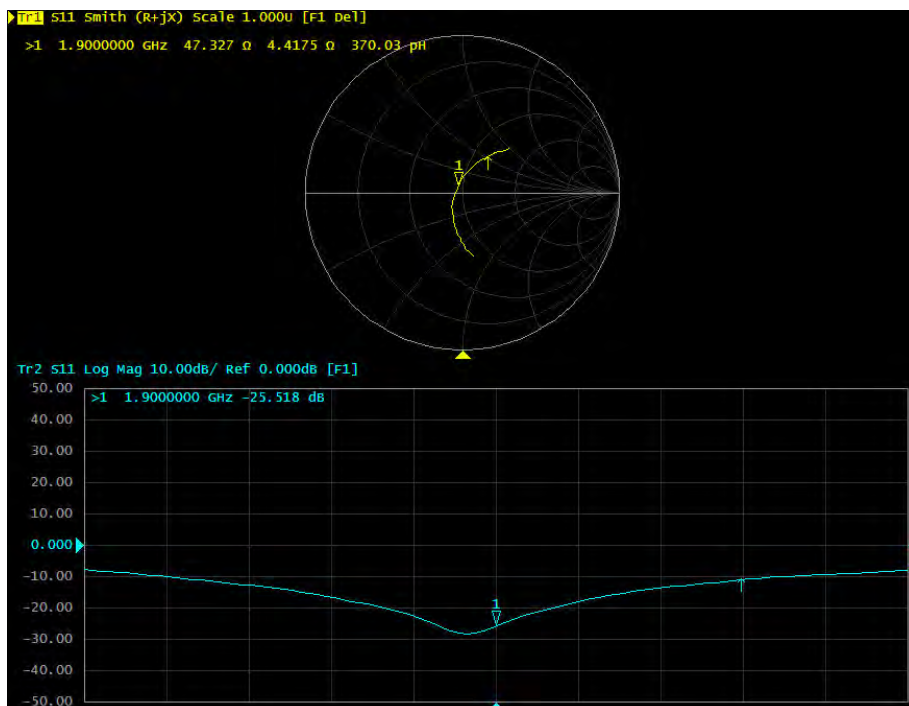
Antenna Parameters with Body TSL

	Calibration certificate	Annual measurement 2012-02-27
Impedance, transformed to feed point	47.7 Ω + 7.0 j Ω	47.3 Ω + 4.4 j Ω
Return loss	-22.5 dB	-25.5 dB

Impedance Measurement Plot for Head TSL 1900



Impedance Measurement Plot for Body TSL 1900





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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Client **Nokia Salo TCC** Certificate No: **D2450V2-729_Sep11**

CALIBRATION CERTIFICATE

Object **D2450V2 - SN: 729**

Calibration procedure(s) **QA CAL-05.v8
Calibration procedure for dipole validation kits above 700 MHz**

Calibration date: **September 13, 2011**

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

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 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-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	29-Apr-11 (No. ES3-3205_Apr11)	Apr-12
DAE4	SN: 601	04-Jul-11 (No. DAE4-601_Jul11)	Jul-12
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	04-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

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

Issued: September 13, 2011

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

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 729

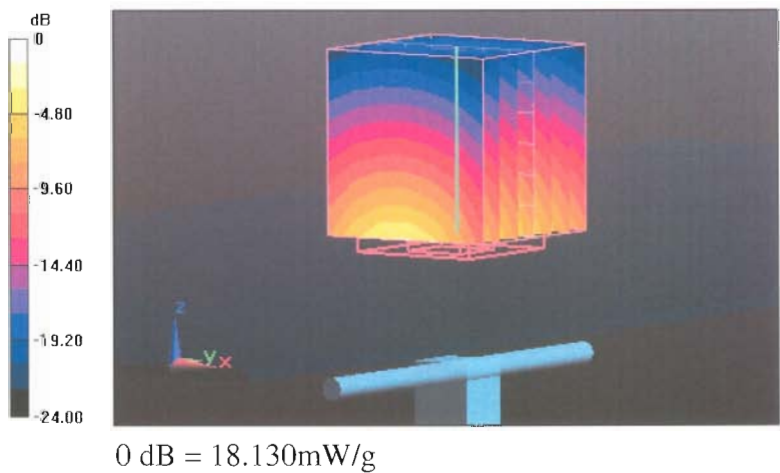
Communication System: CW; Frequency: 2450 MHz
Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 1.85 \text{ mho/m}$; $\epsilon_r = 38.3$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.45, 4.45, 4.45); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
Reference Value = 102.5 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 28.852 W/kg
SAR(1 g) = 13.9 mW/g; SAR(10 g) = 6.45 mW/g
Maximum value of SAR (measured) = 18.134 mW/g



Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 729

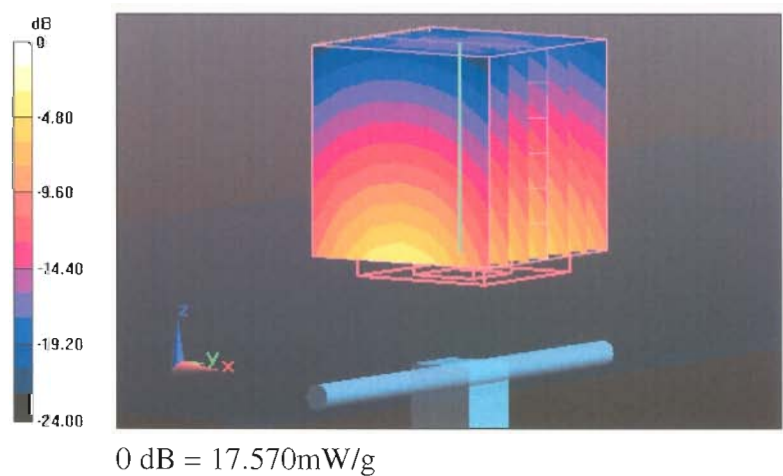
Communication System: CW; Frequency: 2450 MHz
Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 2.04 \text{ mho/m}$; $\epsilon_r = 51.7$; $\rho = 1000 \text{ kg/m}^3$
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.26, 4.26, 4.26); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
Reference Value = 96.035 V/m; Power Drift = -0.0016 dB
Peak SAR (extrapolated) = 27.393 W/kg
SAR(1 g) = 13.3 mW/g; SAR(10 g) = 6.18 mW/g
Maximum value of SAR (measured) = 17.569 mW/g



APPENDIX E: WIRELESS ROUTER MODE EVALUATION

E.1 Body SAR assessment of Wireless Router mode at 10.0mm separation distance

850MHz Body SAR results

Mode	Device orientation	SAR, averaged over 1g (W/kg)		
		Ch 128 824.2 MHz	Ch 190 836.6 MHz	Ch 251 848.8 MHz
GSM	Conducted Power	-	29.2 dBm	-
BP-3L Sony	Display facing phantom	-	0.360	-
	Back facing phantom	-	-	-
	Top edge facing phantom	-	-	-
	Bottom edge facing phantom	-	-	-
	Left edge facing phantom	-	-	-
	Right edge facing phantom	-	-	-
2-slot GPRS	Conducted Power	-	27.5 dBm	-
BP-3L Sony	Display facing phantom	-	0.427	-
	Back facing phantom	-	-	-
	Top edge facing phantom	-	-	-
	Bottom edge facing phantom	-	-	-
	Left edge facing phantom	-	-	-
	Right edge facing phantom	-	-	-
3-slot GPRS	Conducted Power	25.5 dBm	25.5 dBm	25.5 dBm
BP-3L Sony	Display facing phantom	-	0.446	-
	Back facing phantom	0.590	0.542	0.498
	Top edge facing phantom	-	0.024	-
	Bottom edge facing phantom	-	0.056	-
	Left edge facing phantom	-	0.335	-
	Right edge facing phantom	-	0.298	-

(850MHz Table continues)

(850MHz Table continues)

Mode	Device orientation	SAR, averaged over 1g (W/kg)		
		Ch 128 824.2 MHz	Ch 190 836.6 MHz	Ch 251 848.8 MHz
4-slot GPRS	Conducted Power	-	24.5 dBm	-
BP-3L Sony	Display facing phantom	-	0.439	-
	Back facing phantom	-	-	-
	Top edge facing phantom	-	-	-
	Bottom edge facing phantom	-	-	-
	Left edge facing phantom	-	-	-
	Right edge facing phantom	-	-	-
Option used	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	22.5 dBm	22.5 dBm	22.5 dBm
BP-3L Sony	Display facing phantom	0.723	0.834	0.770
	Back facing phantom	0.911	1.05	1.02
	Top edge facing phantom	-	0.038	-
	Bottom edge facing phantom	-	0.073	-
	Left edge facing phantom	-	0.663	-
	Right edge facing phantom	-	0.644	-
WCDMA BP-3L LG	Back facing phantom	0.980	1.15	1.11

1700/2100MHz 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	16.4 dBm	16.4 dBm	16.4 dBm
BP-3L Sony	Display facing phantom	-	0.257	-
	Back facing phantom	1.07	0.880	1.01
	Top edge facing phantom	-	0.002	-
	Bottom edge facing phantom	-	0.499	-
	Left edge facing phantom	-	0.050	-
	Right edge facing phantom	-	0.033	-
WCDMA BP-3L LG	Back facing phantom	1.11	1.06	1.07

1900MHz 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	-	25.5 dBm	-
BP-3L Sony	Display facing phantom	-	0.314	-
	Back facing phantom	-	-	-
	Top edge facing phantom	-	-	-
	Bottom edge facing phantom	-	-	-
	Left edge facing phantom	-	-	-
	Right edge facing phantom	-	-	-
2-slot GPRS	Conducted Power	-	24.5 dBm	-
BP-3L Sony	Display facing phantom	-	0.458	-
	Back facing phantom	-	-	-
	Top edge facing phantom	-	-	-
	Bottom edge facing phantom	-	-	-
	Left edge facing phantom	-	-	-
	Right edge facing phantom	-	-	-
3-slot GPRS	Conducted Power	-	22.5 dBm	-
BP-3L Sony	Display facing phantom	-	0.447	-
	Back facing phantom	-	-	-
	Top edge facing phantom	-	-	-
	Bottom edge facing phantom	-	-	-
	Left edge facing phantom	-	-	-
	Right edge facing phantom	-	-	-

(1900MHz Table continues)

(1900MHz Table continues)

Mode	Device orientation	SAR, averaged over 1g (W/kg)		
		Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz
4-slot GPRS	Conducted Power	21.5 dBm	21.5 dBm	21.5 dBm
BP-3L Sony	Display facing phantom	-	0.569	-
	Back facing phantom	1.19	0.999	1.23
	Top edge facing phantom	-	0.005	-
	Bottom edge facing phantom	-	0.610	-
	Left edge facing phantom	-	0.125	-
	Right edge facing phantom	-	0.092	-
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	18.3 dBm	18.3 dBm	18.3 dBm
BP-3L Sony	Display facing phantom	-	0.503	-
	Back facing phantom	1.01	0.983	0.962
	Top edge facing phantom	-	0.004	-
	Bottom edge facing phantom	-	0.526	-
	Left edge facing phantom	-	0.124	-
	Right edge facing phantom	-	0.087	-
4-slot GPRS BP-3L LG	Back facing phantom	1.23	1.30	1.35

2450MHz 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	18.0 dBm	18.0 dBm	18.0 dBm
BP-3L Sony	Display facing phantom	-	0.085	-
	Back facing phantom	-	0.177	-
	Top edge facing phantom	-	0.140	-
	Bottom edge facing phantom	-	0.014	-
	Left edge facing phantom	-	0.013	-
	Right edge facing phantom	0.128	0.207	0.191
WLAN n-mode 20MHz	Conducted Power	13.0 dBm	15.0 dBm	13.0 dBm
BP-3L Sony	Display facing phantom	-	-	-
	Back facing phantom	-	-	-
	Top edge facing phantom	-	-	-
	Bottom edge facing phantom	-	-	-
	Left edge facing phantom	-	-	-
	Right edge facing phantom	0.041	0.096	0.064
WLAN b-mode BP-3L LG	Right edge facing phantom	0.134	0.211	0.192

Simultaneous transmissions: Combined SAR results – Individual band Max results

Test configuration	Max. 1g SAR results					
	WLAN	3-slot GPRS850	WCDMA 850	WCDMA 1700/2100	4-slot GPRS1900	WCDMA 1900
Display facing phantom	0.085	0.446	0.834	0.257	0.569	0.503
Back facing phantom	0.177	0.590	1.15	1.11	1.35	1.01
Top edge facing phantom	0.140	0.024	0.038	0.002	0.005	0.004
Bottom edge facing phantom	0.014	0.056	0.073	0.449	0.610	0.526
Left edge facing phantom	0.013	0.335	0.663	0.050	0.125	0.124
Right edge facing phantom	0.211	0.298	0.644	0.033	0.092	0.087

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

Test configuration	Max. 1g SAR results				
	3-slot GPRS850 + WLAN	WCDMA850 + WLAN	WCDMA 1700/2100 + WLAN	4-slot GPRS1900 + WLAN	WCDMA1900 + WLAN
Display facing phantom	0.531	0.919	0.342	0.654	0.588
Back facing phantom	0.767	1.327	1.287	1.527	1.187
Top edge facing phantom	0.164	0.178	0.142	0.145	0.144
Bottom edge facing phantom	0.070	0.087	0.463	0.624	0.540
Left edge facing phantom	0.348	0.676	0.063	0.138	0.137
Right edge facing phantom	0.509	0.855	0.244	0.303	0.298

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				
	3-slot GPRS850 + WLAN	WCDMA850 + WLAN	WCDMA 1700/2100 + WLAN	4-slot GPRS1900 + WLAN	WCDMA1900 + WLAN
Display facing phantom	-	-	-	-	-
Back facing phantom	0.695	1.24	1.09	1.25	0.980
Top edge facing phantom	-	-	-	-	-
Bottom edge facing phantom	-	-	-	-	-
Left edge facing phantom	-	-	-	-	-
Right edge facing phantom	-	-	-	-	-

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

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

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)	Scaled* SAR value (1g avg)	SAR limit (1g avg)	Result
3-slot GPRS850	128 / 824.2	25.5 dBm	10.0 mm	0.590 W/kg	0.66 W/kg	1.6 W/kg	PASSED
WCDMA850	4175 / 835.0	22.5 dBm	10.0 mm	1.15 W/kg	1.29 W/kg	1.6 W/kg	PASSED
WCDMA1700/2100	1312 / 1712.4	16.4 dBm	10.0 mm	1.11 W/kg	1.24 W/kg	1.6 W/kg	PASSED
4-slot GPRS1900	810 / 1909.8	21.5 dBm	10.0 mm	1.35 W/kg	1.51 W/kg	1.6 W/kg	PASSED
WCDMA1900	9262 / 1852.4	18.3 dBm	10.0 mm	1.01 W/kg	1.13 W/kg	1.6 W/kg	PASSED
WLAN2450	7 / 2442.0	18.0 dBm	10.0 mm	0.211 W/kg	0.24 W/kg	1.6 W/kg	PASSED
3-slot GPRS850 + WLAN2450	-	-	10.0 mm	0.695 W/kg	0.78 W/kg	1.6 W/kg	PASSED
WCDMA850 + WLAN2450	-	-	10.0 mm	1.24 W/kg	1.39 W/kg	1.6 W/kg	PASSED
WCDMA1700/2100 + WLAN2450	-	-	10.0 mm	1.11 W/kg	1.24 W/kg	1.6 W/kg	PASSED
4-slot GPRS1900 + WLAN2450	-	-	10.0 mm	1.35 W/kg	1.51 W/kg	1.6 W/kg	PASSED
WCDMA1900 + WLAN2450	-	-	10.0 mm	1.01 W/kg	1.13 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.

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

Date/Time: 2012-01-09 17:04:56, Date/Time: 2012-01-09 17:22:42

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: GSM850

Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium: BSL850 ; Medium Notes: $t = 22.0$ C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.984$ mho/m; $\epsilon_r = 52.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2011-05-09
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

GSM/Body - Middle – Spacer 10mm - No Accessory - BP-3L Sony - Display Facing Phantom/Area Scan

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

Maximum value of SAR (interpolated) = 0.391 mW/g

GSM/Body - Middle - 10mm spacer - No Accessory - BP-3L Sony - Display Facing Phantom/Zoom Scan

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

Reference Value = 7.08 V/m

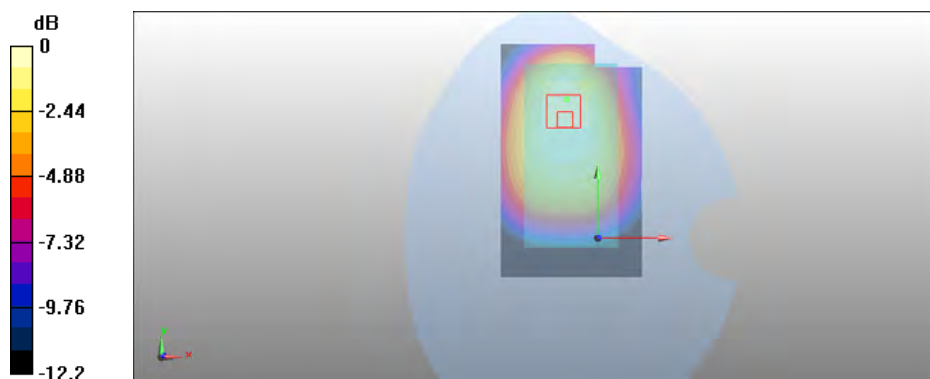
Peak SAR (extrapolated) = 0.553 W/kg

SAR(1 g) = 0.360 mW/g

SAR(10 g) = 0.256 mW/g

Power Drift = 0.055 dB

Maximum value of SAR (measured) = 0.381 mW/g



Date/Time: 2012-01-09 17:31:25, Date/Time: 2012-01-09 17:46:43

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: 2-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:4.2

Medium: BSL850 ; Medium Notes: $t = 22.0$ C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.984$ mho/m; $\epsilon_r = 52.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2011-05-09
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Display Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.469 mW/g

2-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.65 V/m

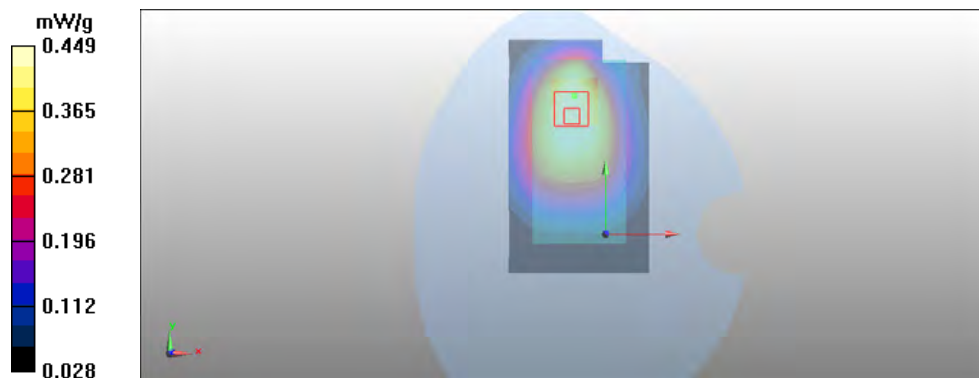
Peak SAR (extrapolated) = 0.663 W/kg

SAR(1 g) = 0.427 mW/g

SAR(10 g) = 0.304 mW/g

Power Drift = 0.053 dB

Maximum value of SAR (measured) = 0.449 mW/g



Date/Time: 2012-01-09 17:54:37, Date/Time: 2012-01-09 18:15:51

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.8

Medium: BSL850 ; Medium Notes: t= 22.0 C

Medium parameters used: f = 837 MHz; σ = 0.984 mho/m; ϵ_r = 52.6; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2011-05-09
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

3-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Display Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

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

3-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Display Facing Phantom/Zoom Scan(5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.79 V/m

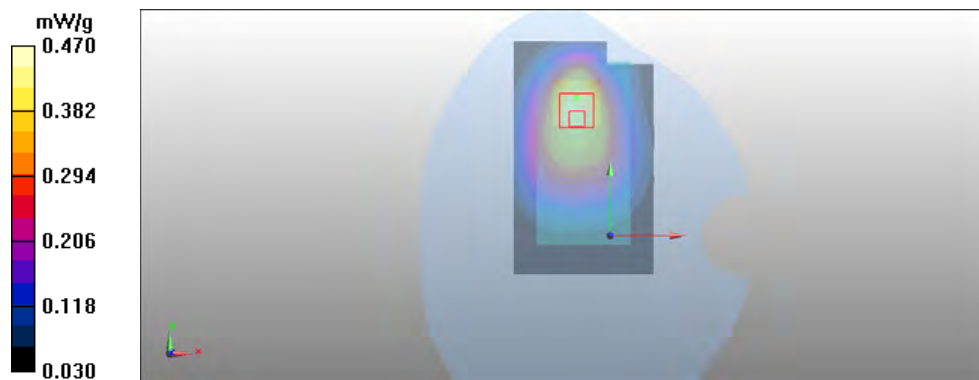
Peak SAR (extrapolated) = 0.674 W/kg

SAR(1 g) = 0.446 mW/g

SAR(10 g) = 0.318 mW/g

Power Drift = 0.085 dB

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



Date/Time: 2012-01-23 11:15:44, Date/Time: 2012-01-23 11:25:51

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: 3-slot GPRS850

Frequency: 824.2 MHz; Duty Cycle: 1:2.8

Medium: BSL850; Medium Notes: t= 20.6 C

Medium parameters used (interpolated): f = 824.2 MHz; $\sigma = 0.991$ mho/m; $\epsilon_r = 53.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2011-05-09
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

3-slot GPRS/Body - Low - Spacer 10mm - No Accessory - BP-3L Sony - Back Facing Phantom/Area Scan

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

Maximum value of SAR (interpolated) = 0.652 mW/g

3-slot GPRS/Body - Low - Spacer 10mm - No Accessory - BP-3L Sony - Back Facing Phantom/Zoom Scan

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

Reference Value = 10.5 V/m

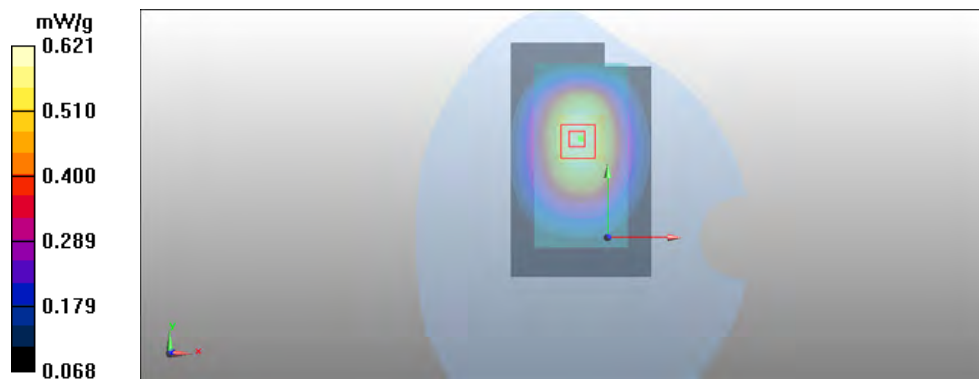
Peak SAR (extrapolated) = 0.787 W/kg

SAR(1 g) = 0.590 mW/g

SAR(10 g) = 0.431 mW/g

Power Drift = -0.099 dB

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



Date/Time: 2012-01-09 21:33:52, Date/Time: 2012-01-09 21:36:37

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.8

Medium: BSL850 ; Medium Notes: t= 22.0 C

Medium parameters used: f = 837 MHz; σ = 0.984 mho/m; ϵ_r = 52.6; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2011-05-09
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

3-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Top Edge Facing Phantom/Area Scan (31x61x1): Measurement grid: dx=15mm, dy=15mm

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

3-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Top Edge Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 3.78 V/m

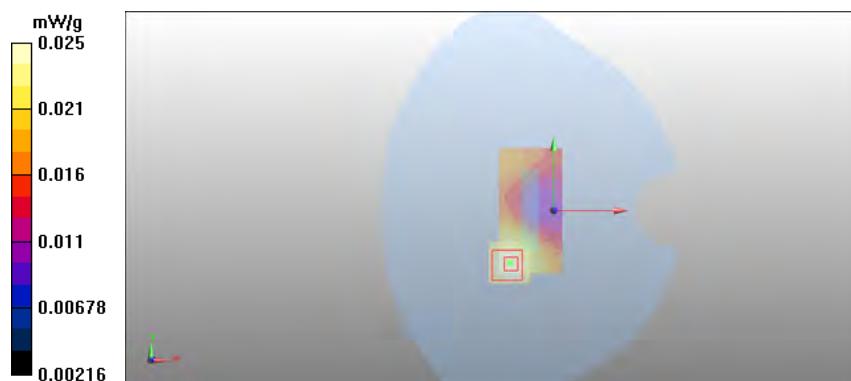
Peak SAR (extrapolated) = 0.034 W/kg

SAR(1 g) = 0.024 mW/g

SAR(10 g) = 0.017 mW/g

Power Drift = -0.035 dB

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



Date/Time: 2012-01-09 21:44:03, Date/Time: 2012-01-09 21:45:28

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.8

Medium: BSL850 ; Medium Notes: $t = 22.0$ C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.984$ mho/m; $\epsilon_r = 52.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2011-05-09
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

3-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony – Bottom Edge Facing Phantom/Area

Scan (31x61x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.062 mW/g

3-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony – Bottom Edge Facing Phantom/Zoom

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

Reference Value = 7.8 V/m

Peak SAR (extrapolated) = 0.104 W/kg

SAR(1 g) = 0.056 mW/g

SAR(10 g) = 0.032 mW/g

Power Drift = 0.160 dB

Maximum value of SAR (measured) = 0.062 mW/g



Date/Time: 2012-01-23 10:04:03, Date/Time: 2012-01-23 10:13:30

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.8

Medium: BSL850; Medium Notes: t= 20.6 C

Medium parameters used: f = 837 MHz; σ = 0.997 mho/m; ϵ_r = 53.3; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2011-05-09
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

3-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Left Edge Facing Phantom/Area Scan (31x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.383 mW/g

3-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Left Edge Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.84 V/m

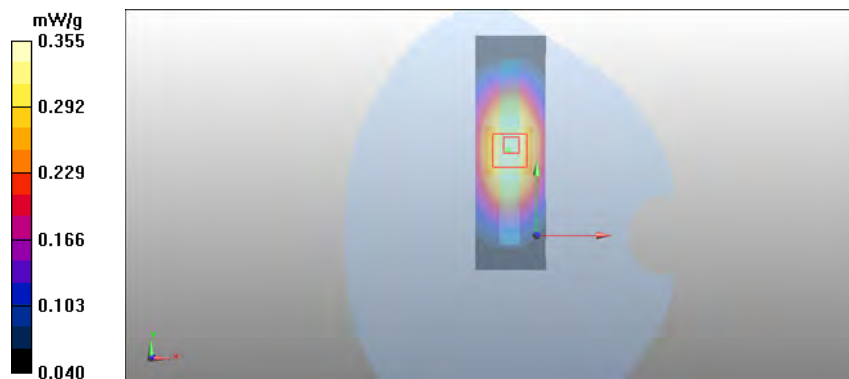
Peak SAR (extrapolated) = 0.495 W/kg

SAR(1 g) = 0.335 mW/g

SAR(10 g) = 0.232 mW/g

Power Drift = 0.040 dB

Maximum value of SAR (measured) = 0.355 mW/g



Date/Time: 2012-01-23 09:28:00, Date/Time: 2012-01-23 09:32:30

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: 3-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.8

Medium: BSL850; Medium Notes: t= 20.6 C

Medium parameters used: f = 837 MHz; σ = 0.997 mho/m; ϵ_r = 53.3; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2011-05-09
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

3-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Right Edge Facing Phantom/Area Scan (31x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.328 mW/g

3-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Right Edge Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.52 V/m

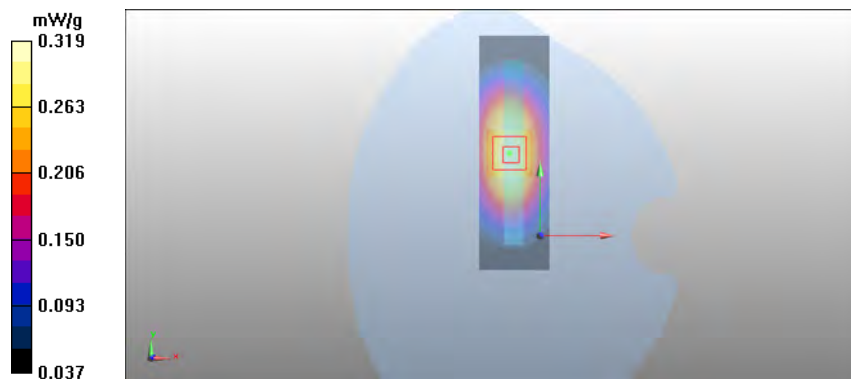
Peak SAR (extrapolated) = 0.431 W/kg

SAR(1 g) = 0.298 mW/g

SAR(10 g) = 0.204 mW/g

Power Drift = -0.101 dB

Maximum value of SAR (measured) = 0.319 mW/g



Date/Time: 2012-01-09 18:24:58, Date/Time: 2012-01-09 18:32:06

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: 4-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:2.1

Medium: BSL850 ; Medium Notes: t= 22.0 C

Medium parameters used: f = 837 MHz; σ = 0.984 mho/m; ϵ_r = 52.6; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2011-05-09
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

4-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Display Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

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

4-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.55 V/m

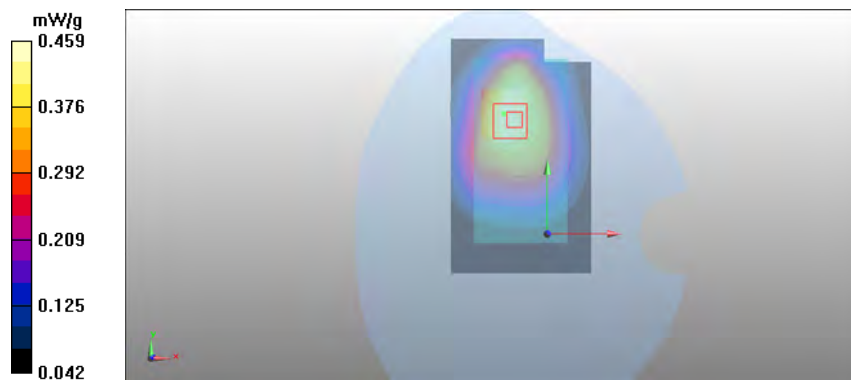
Peak SAR (extrapolated) = 0.641 W/kg

SAR(1 g) = 0.439 mW/g

SAR(10 g) = 0.322 mW/g

Power Drift = 0.418 dB

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



Date/Time: 2012-01-09 18:41:44, Date/Time: 2012-01-09 18:56:42

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850 ; Medium Notes: t= 22.0 C

Medium parameters used: f = 835 MHz; σ = 0.983 mho/m; ϵ_r = 52.6; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2011-05-09
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

WCDMA/ Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Display Facing Phantom/Area Scan

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

Maximum value of SAR (interpolated) = 0.886 mW/g

WCDMA/ Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Display Facing Phantom/Zoom Scan

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

Reference Value = 10.9 V/m

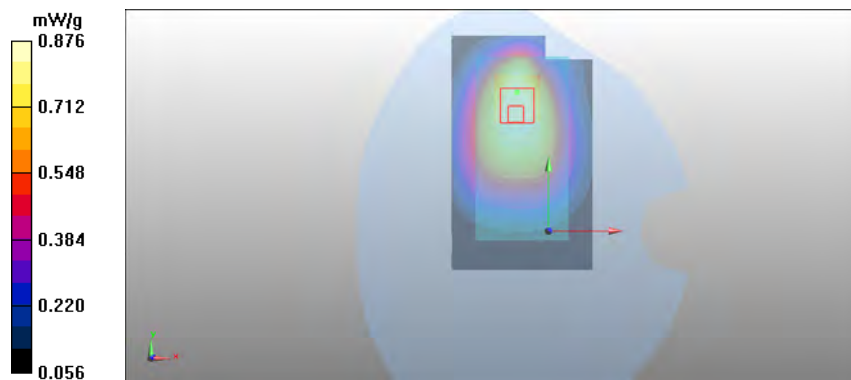
Peak SAR (extrapolated) = 1.3 W/kg

SAR(1 g) = 0.834 mW/g

SAR(10 g) = 0.596 mW/g

Power Drift = 0.039 dB

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



Date/Time: 2012-01-09 19:43:15, Date/Time: 2012-01-09 19:47:44

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850 ; Medium Notes: $t = 22.0\text{ C}$

Medium parameters used: $f = 835\text{ MHz}$; $\sigma = 0.983\text{ mho/m}$; $\epsilon_r = 52.6$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2011-05-09
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Back Facing Phantom/Area Scan

(61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 1.12 mW/g

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Back Facing Phantom/Zoom Scan

(5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 12.9 V/m

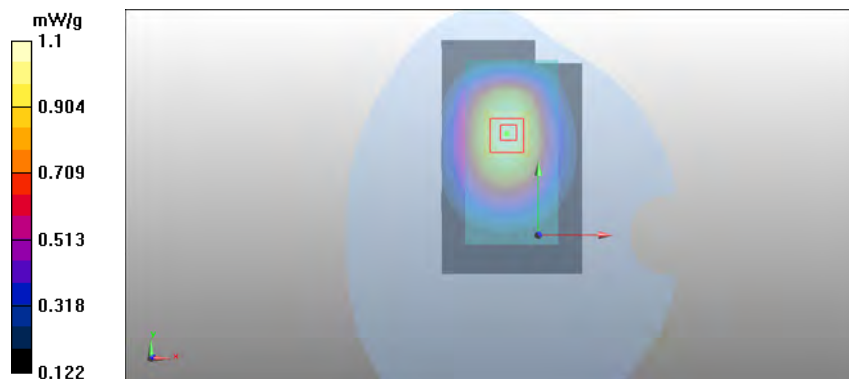
Peak SAR (extrapolated) = 1.4 W/kg

SAR(1 g) = 1.05 mW/g

SAR(10 g) = 0.760 mW/g

Power Drift = -0.075 dB

Maximum value of SAR (measured) = 1.1 mW/g



Date/Time: 2012-01-09 21:22:02, Date/Time: 2012-01-09 21:24:43

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850 ; Medium Notes: t= 22.0 C

Medium parameters used: f = 835 MHz; σ = 0.983 mho/m; ϵ_r = 52.6; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2011-05-09
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony – Top Edge Facing Phantom/Area Scan

(31x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.041 mW/g

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony – Top Edge Facing Phantom/Zoom Scan

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

Reference Value = 4.74 V/m

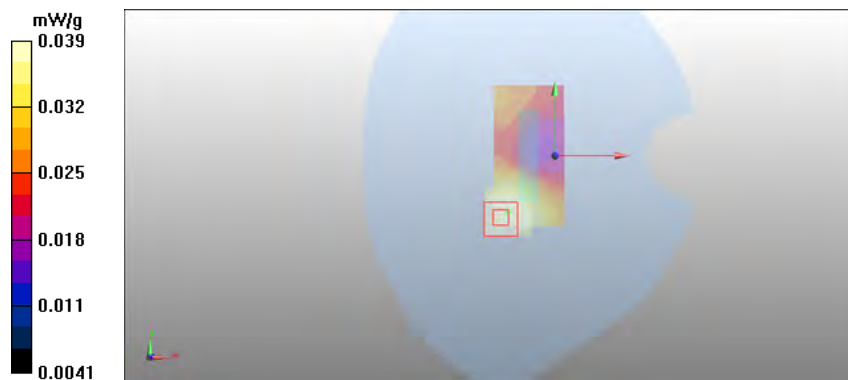
Peak SAR (extrapolated) = 0.051 W/kg

SAR(1 g) = 0.038 mW/g

SAR(10 g) = 0.027 mW/g

Power Drift = 0.139 dB

Maximum value of SAR (measured) = 0.039 mW/g



Date/Time: 2012-01-09 21:54:03, Date/Time: 2012-01-09 21:55:28

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850 ; Medium Notes: t= 22.0 C

Medium parameters used: f = 835 MHz; σ = 0.983 mho/m; ϵ_r = 52.6; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2011-05-09
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

WCDMA /Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony – Bottom Edge Facing Phantom/Area Scan

(31x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.080 mW/g

WCDMA /Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony – Bottom Edge Facing Phantom/Zoom Scan

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

Reference Value = 8.92 V/m

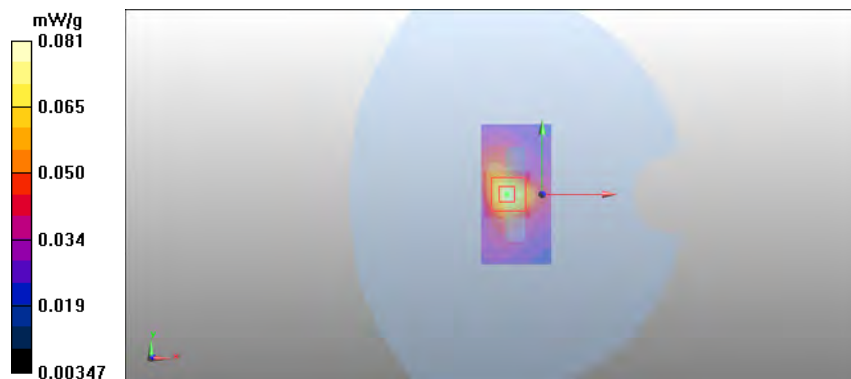
Peak SAR (extrapolated) = 0.137 W/kg

SAR(1 g) = 0.073 mW/g

SAR(10 g) = 0.041 mW/g

Power Drift = 0.024 dB

Maximum value of SAR (measured) = 0.081 mW/g



Date/Time: 2012-01-23 10:21:50, Date/Time: 2012-01-23 10:24:05

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: t= 20.6 C

Medium parameters used: f = 835 MHz; σ = 0.997 mho/m; ϵ_r = 53.3; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2011-05-09
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Left Edge Facing Phantom/Area Scan

(31x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.697 mW/g

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Left Edge Facing Phantom/Zoom Scan

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

Reference Value = 13.7 V/m

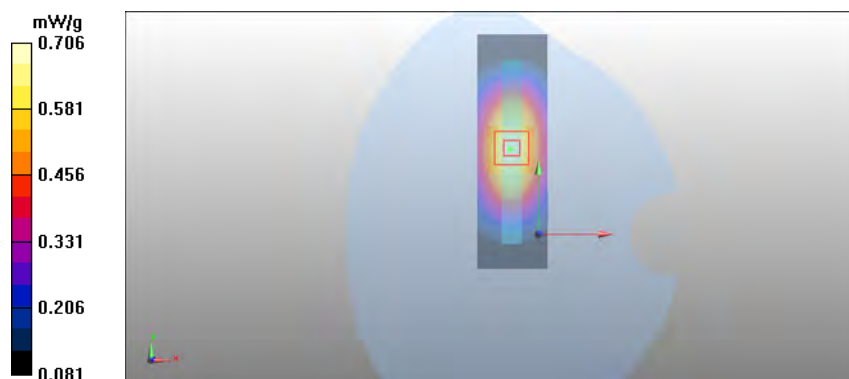
Peak SAR (extrapolated) = 0.953 W/kg

SAR(1 g) = 0.663 mW/g

SAR(10 g) = 0.455 mW/g

Power Drift = -0.028 dB

Maximum value of SAR (measured) = 0.706 mW/g



Date/Time: 2012-01-23 09:45:50, Date/Time: 2012-01-23 09:50:11

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: t= 20.6 C

Medium parameters used: f = 835 MHz; σ = 0.997 mho/m; ϵ_r = 53.3; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2011-05-09
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Right Edge Facing Phantom/Area Scan (31x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.678 mW/g

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Right Edge Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 13.8 V/m

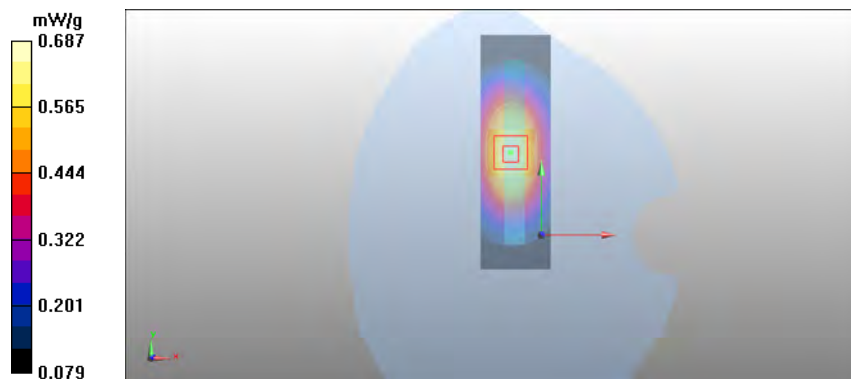
Peak SAR (extrapolated) = 0.924 W/kg

SAR(1 g) = 0.644 mW/g

SAR(10 g) = 0.441 mW/g

Power Drift = -0.026 dB

Maximum value of SAR (measured) = 0.687 mW/g



Date/Time: 2012-01-23 12:50:16, Date/Time: 2012-01-23 12:57:55

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA850

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: t= 20.6 C

Medium parameters used: f = 835 MHz; $\sigma = 0.997$ mho/m; $\epsilon_r = 53.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2011-05-09
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L LG - Back Facing Phantom/Area Scan (61x101x1):

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

Maximum value of SAR (interpolated) = 1.24 mW/g

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L LG - Back Facing Phantom/Zoom Scan

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

Reference Value = 15.2 V/m

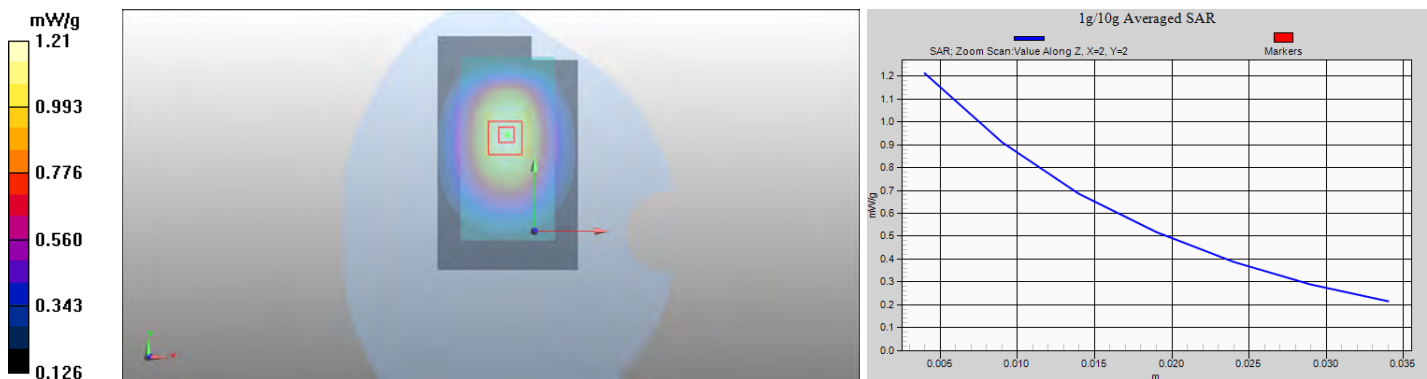
Peak SAR (extrapolated) = 1.52 W/kg

SAR(1 g) = 1.15 mW/g

SAR(10 g) = 0.835 mW/g

Power Drift = -0.100 dB

Maximum value of SAR (measured) = 1.21 mW/g



Date/Time: 2012-01-20 09:38:26, Date/Time: 2012-01-20 09:45:21

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA1700/2100

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: BSL1800; Medium Notes: $t = 21.0$ C

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.76, 4.76, 4.76); Calibrated: 2011-09-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

WCDMA/ Body - Middle - Spacer 10mm - No Accessory -BP-3L Sony - Display Facing Phantom/Area Scan

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

Maximum value of SAR (interpolated) = 0.299 mW/g

WCDMA/ Body - Middle - Spacer 10mm - No Accessory -BP-3L Sony - Display Facing Phantom/Zoom Scan

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

Reference Value = 3.21 V/m

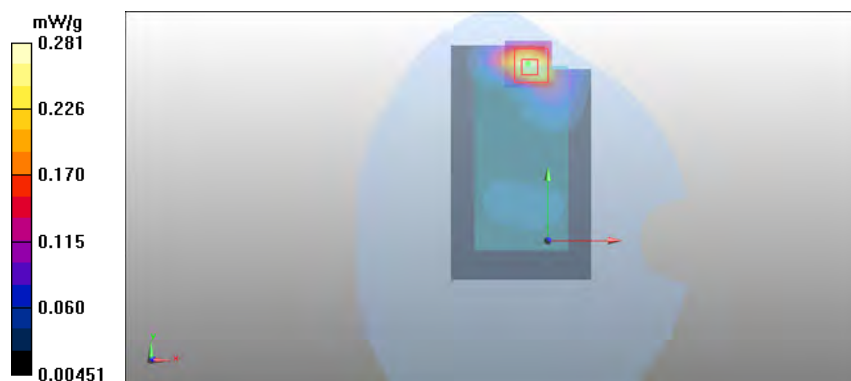
Peak SAR (extrapolated) = 0.414 W/kg

SAR(1 g) = 0.257 mW/g

SAR(10 g) = 0.144 mW/g

Power Drift = 0.040 dB

Maximum value of SAR (measured) = 0.281 mW/g



Date/Time: 2012-01-20 11:58:40, Date/Time: 2012-01-20 12:02:30

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA1700/2100

Frequency: 1712.4 MHz; Duty Cycle: 1:1

Medium: BSL1800; Medium Notes: $t = 21.0$ C

Medium parameters used (interpolated): $f = 1712.4$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194

- ConvF(4.76, 4.76, 4.76); Calibrated: 2011-09-14

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

- Electronics: DAE4 Sn555; Calibrated: 2011-02-22

- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179

- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

WCDMA/ Body - Low - Spacer 10mm - No Accessory -BP-3L Sony - Back Facing Phantom/Area Scan (61x101x1):

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

Maximum value of SAR (interpolated) = 1.23 mW/g

WCDMA/ Body - Low - Spacer 10mm - No Accessory -BP-3L Sony - Back Facing Phantom/Zoom Scan

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

Reference Value = 3.63 V/m

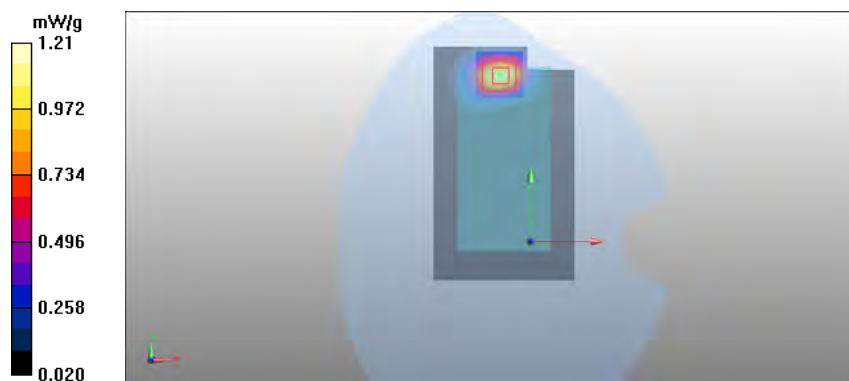
Peak SAR (extrapolated) = 1.86 W/kg

SAR(1 g) = 1.07 mW/g

SAR(10 g) = 0.555 mW/g

Power Drift = 0.110 dB

Maximum value of SAR (measured) = 1.21 mW/g



Date/Time: 2012-01-20 10:39:38, Date/Time: 2012-01-20 10:49:58

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA1700/2100

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: BSL1800; Medium Notes: $t = 21.0$ C

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.76, 4.76, 4.76); Calibrated: 2011-09-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony – Top Edge Facing Phantom/Area Scan

(31x61x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.00305 mW/g

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony – Top Edge Facing Phantom/Zoom Scan

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

Reference Value = 0.715 V/m

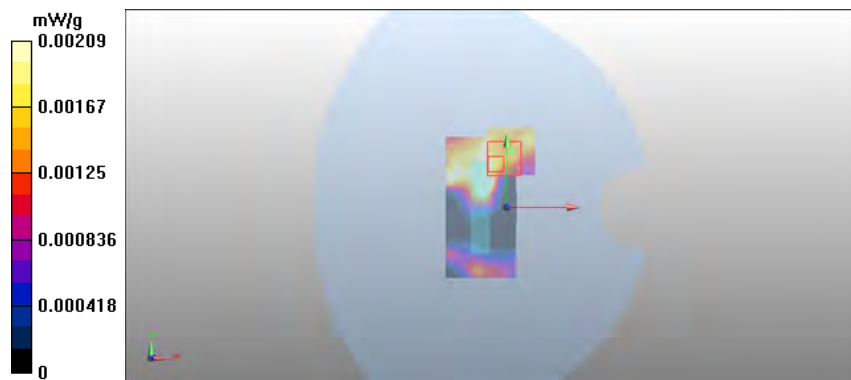
Peak SAR (extrapolated) = 0.00688 W/kg

SAR(1 g) = 0.00174 mW/g

SAR(10 g) = 0.000768 mW/g

Power Drift = 0.089 dB

Maximum value of SAR (measured) = 0.00209 mW/g



Date/Time: 2012-01-20 11:00:11, Date/Time: 2012-01-20 11:01:40

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA1700/2100

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: BSL1800; Medium Notes: $t = 21.0$ C

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.76, 4.76, 4.76); Calibrated: 2011-09-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony – Bottom Edge Facing Phantom/Area Scan (31x61x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

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

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony – Bottom Edge Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 18.3 V/m

Peak SAR (extrapolated) = 0.813 W/kg

SAR(1 g) = 0.499 mW/g

SAR(10 g) = 0.279 mW/g

Power Drift = 0.036 dB

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



Date/Time: 2012-01-20 13:10:00, Date/Time: 2012-01-20 13:12:16

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA1700/2100

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: BSL1800; Medium Notes: $t = 21.0$ C

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194

- ConvF(4.76, 4.76, 4.76); Calibrated: 2011-09-14

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

- Electronics: DAE4 Sn555; Calibrated: 2011-02-22

- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179

- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Left Edge Facing Phantom/Area Scan

(31x101x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.052 mW/g

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Left Edge Facing Phantom/Zoom Scan

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

Reference Value = 1.92 V/m

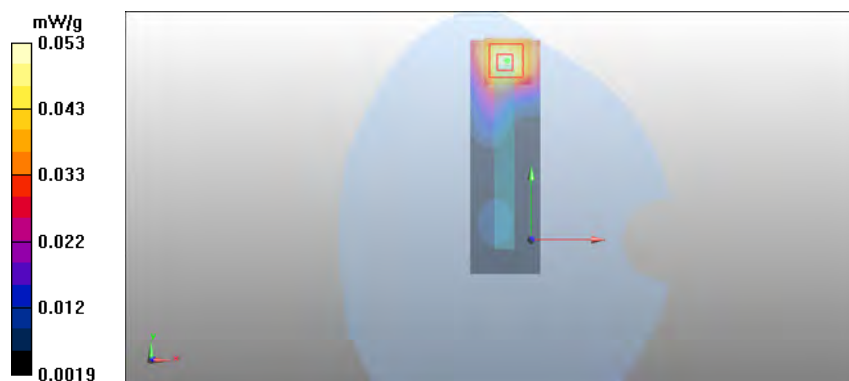
Peak SAR (extrapolated) = 0.076 W/kg

SAR(1 g) = 0.050 mW/g

SAR(10 g) = 0.031 mW/g

Power Drift = 0.433 dB

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



SAR Report

FCC_RM-809_06

Applicant: Nokia Corporation

Type: RM-809

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Date/Time: 2012-01-20 12:42:06, Date/Time: 2012-01-20 12:46:12

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA1700/2100

Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: BSL1800; Medium Notes: $t = 21.0$ C

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.76, 4.76, 4.76); Calibrated: 2011-09-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; SEMCAD X Version 14.0 Build 61

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Right Edge Facing Phantom/Area Scan (31x101x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

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

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Right Edge Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 2.8 V/m

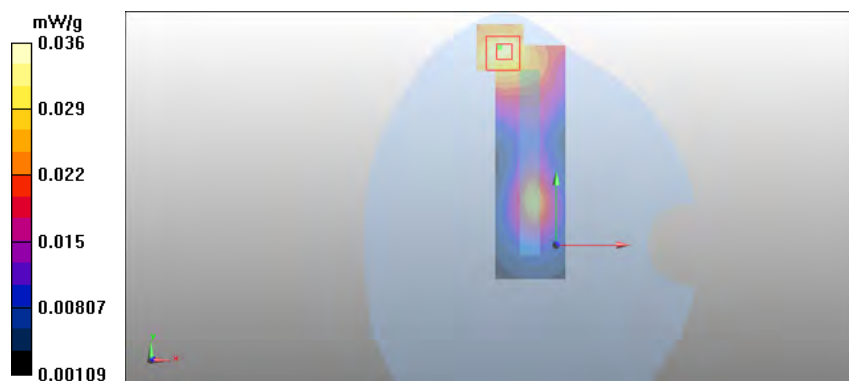
Peak SAR (extrapolated) = 0.051 W/kg

SAR(1 g) = 0.033 mW/g

SAR(10 g) = 0.021 mW/g

Power Drift = 0.074 dB

Maximum value of SAR (measured) = 0.036 mW/g



Date/Time: 2012-01-20 13:46:31, Date/Time: 2012-01-20 13:50:21

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA1700/2100

Frequency: 1712.4 MHz; Duty Cycle: 1:1

Medium: BSL1800; Medium Notes: t= 21.0 C

Medium parameters used (interpolated): f = 1712.4 MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194

- ConvF(4.76, 4.76, 4.76); Calibrated: 2011-09-14

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

- Electronics: DAE4 Sn555; Calibrated: 2011-02-22

- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179

- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

WCDMA/Body - Low - Spacer 10mm - No Accessory -BP-3L LG - Back Facing Phantom/Area Scan (61x101x1):

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

Maximum value of SAR (interpolated) = 1.28 mW/g

WCDMA/Body - Low - Spacer 10mm - No Accessory -BP-3L LG - Back Facing Phantom/Zoom Scan (5x5x7)/Cube

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

Reference Value = 3.57 V/m

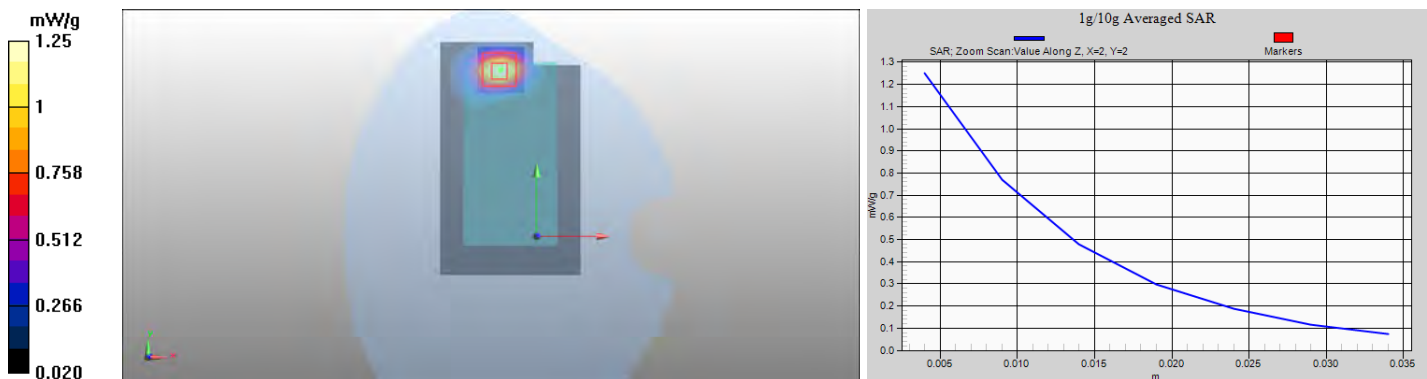
Peak SAR (extrapolated) = 1.95 W/kg

SAR(1 g) = 1.11 mW/g

SAR(10 g) = 0.572 mW/g

Power Drift = 0.115 dB

Maximum value of SAR (measured) = 1.25 mW/g



Date/Time: 2012-01-10 12:16:40, Date/Time: 2012-01-10 12:23:37

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: GSM1900

Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: BSL1900; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.59, 4.59, 4.59); Calibrated: 2011-09-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

GSM/ Body - Middle - Spacer 10mm - No Accessory -BP-3L Sony - Display Facing Phantom/Area Scan

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

Maximum value of SAR (interpolated) = 0.348 mW/g

GSM/ Body - Middle - Spacer 10mm - No Accessory -BP-3L Sony - Display Facing Phantom/Zoom Scan

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

Reference Value = 4.38 V/m

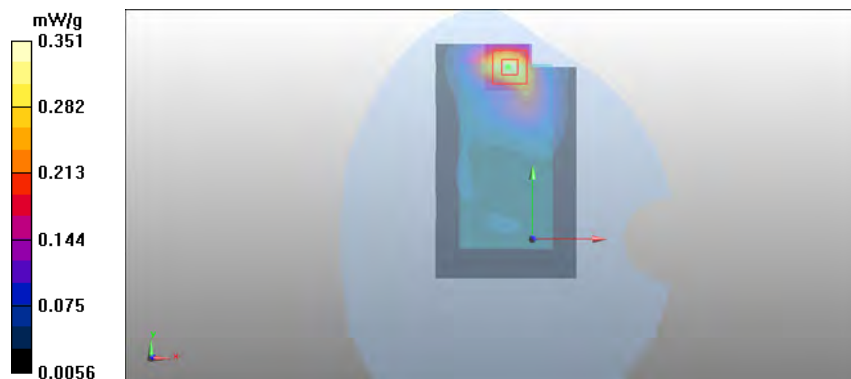
Peak SAR (extrapolated) = 0.522 W/kg

SAR(1 g) = 0.314 mW/g

SAR(10 g) = 0.174 mW/g

Power Drift = 0.102 dB

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



Date/Time: 2012-01-10 12:41:50, Date/Time: 2012-01-10 12:48:47

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: 2-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: BSL1900; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.59, 4.59, 4.59); Calibrated: 2011-09-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

2-slot GPRS/ Body - Middle - Spacer 10mm - No Accessory -BP-3L Sony - Display Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

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

2-slot GPRS/ Body - Middle - Spacer 10mm - No Accessory -BP-3L Sony - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 5.33 V/m

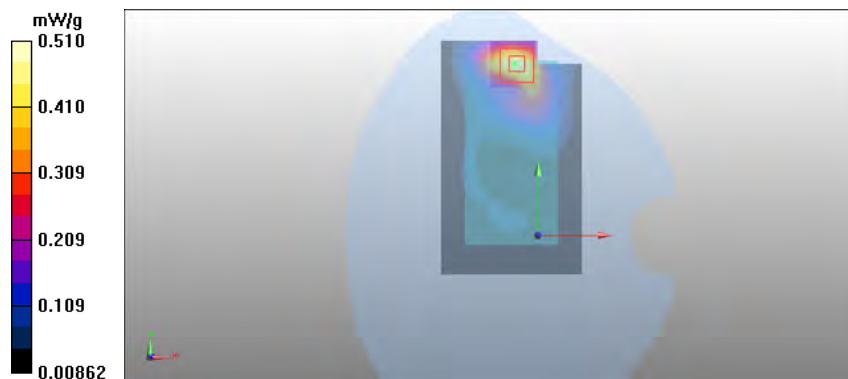
Peak SAR (extrapolated) = 0.758 W/kg

SAR(1 g) = 0.458 mW/g

SAR(10 g) = 0.254 mW/g

Power Drift = -0.052 dB

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



Date/Time: 2012-01-10 13:02:24, Date/Time: 2012-01-10 13:09:24

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: 3-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:2.8

Medium: BSL1900; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.59, 4.59, 4.59); Calibrated: 2011-09-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

3-slot GPRS/ Body - Middle - Spacer 10mm - No Accessory -BP-3L Sony - Display Facing Phantom/Area Scan (61x101x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

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

3-slot GPRS/ Body - Middle - Spacer 10mm - No Accessory -BP-3L Sony - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 5.42 V/m

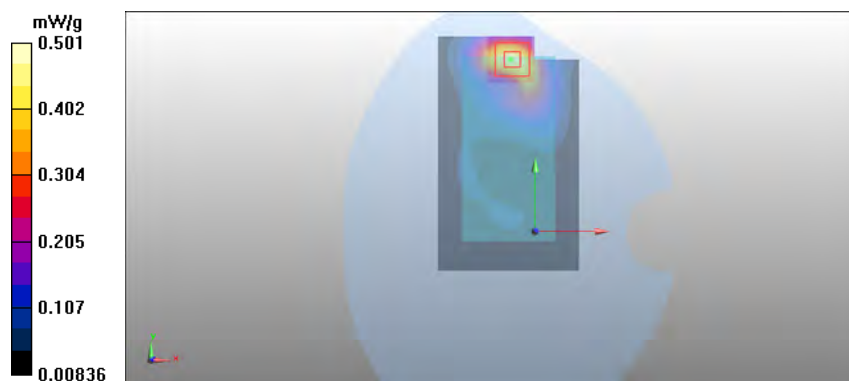
Peak SAR (extrapolated) = 0.739 W/kg

SAR(1 g) = 0.447 mW/g

SAR(10 g) = 0.249 mW/g

Power Drift = -0.199 dB

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



Date/Time: 2012-01-10 13:20:36, Date/Time: 2012-01-10 13:27:35

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: 4-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:2.1

Medium: BSL1900; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.59, 4.59, 4.59); Calibrated: 2011-09-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

4-slot GPRS/ Body - Middle - Spacer 10mm - No Accessory -BP-3L Sony - Display Facing Phantom/Area Scan (61x101x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.620 mW/g

4-slot GPRS/ Body - Middle - Spacer 10mm - No Accessory -BP-3L Sony - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 5.8 V/m

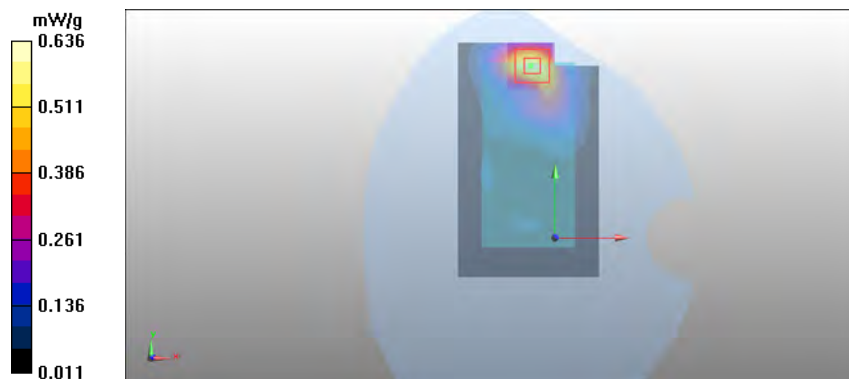
Peak SAR (extrapolated) = 0.954 W/kg

SAR(1 g) = 0.569 mW/g

SAR(10 g) = 0.317 mW/g

Power Drift = 0.224 dB

Maximum value of SAR (measured) = 0.636 mW/g



Date/Time: 2012-01-11 12:47:37, Date/Time: 2012-01-11 12:54:36

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: 4-slot GPRS1900

Frequency: 1909.8 MHz; Duty Cycle: 1:2.1

Medium: BSL1900; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.59, 4.59, 4.59); Calibrated: 2011-09-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

4-slot GPRS/ Body - High - Spacer 10mm - No Accessory - BP-3L Sony - Back Facing Phantom/Area Scan

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

Maximum value of SAR (interpolated) = 1.35 mW/g

4-slot GPRS/ Body - High - Spacer 10mm - No Accessory - BP-3L Sony - Back Facing Phantom/Zoom Scan

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

Reference Value = 5.61 V/m

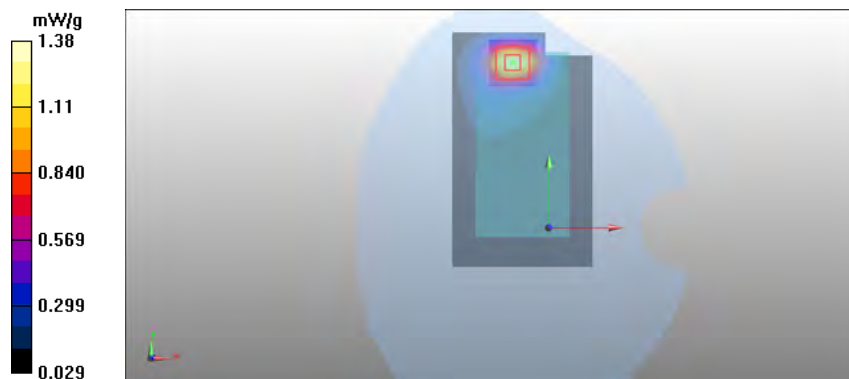
Peak SAR (extrapolated) = 2.1 W/kg

SAR(1 g) = 1.23 mW/g

SAR(10 g) = 0.662 mW/g

Power Drift = 0.00284 dB

Maximum value of SAR (measured) = 1.38 mW/g



Date/Time: 2012-01-11 10:38:18, Date/Time: 2012-01-11 10:40:56

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: 4-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:2.1

Medium: BSL1900; Medium Notes: $t = 21.0\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.5\text{ mho/m}$; $\epsilon_r = 52.4$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.59, 4.59, 4.59); Calibrated: 2011-09-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

4-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony – Top Edge Facing Phantom/Area Scan (31x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.00723 mW/g

4-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony – Top Edge Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 1.89 V/m

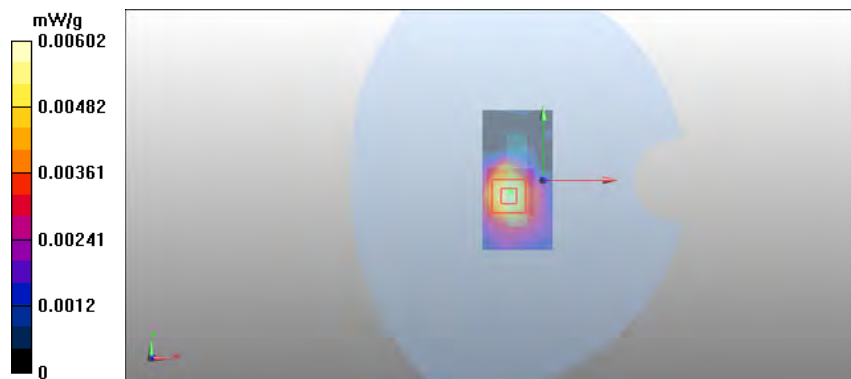
Peak SAR (extrapolated) = 0.00938 W/kg

SAR(1 g) = 0.00534 mW/g

SAR(10 g) = 0.00282 mW/g

Power Drift = 0.112 dB

Maximum value of SAR (measured) = 0.00602 mW/g



Date/Time: 2012-01-11 10:49:37, Date/Time: 2012-01-11 10:51:07

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: 4-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:2.1

Medium: BSL1900; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 52.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.59, 4.59, 4.59); Calibrated: 2011-09-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

4-slot GPRS /Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony – Bottom Edge Facing Phantom/Area

Scan (31x61x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

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

4-slot GPRS /Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony – Bottom Edge Facing Phantom/Zoom

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

Reference Value = 17.4 V/m

Peak SAR (extrapolated) = 1 W/kg

SAR(1 g) = 0.610 mW/g

SAR(10 g) = 0.346 mW/g

Power Drift = -0.024 dB

Maximum value of SAR (measured) = 0.667 mW/g



Date/Time: 2012-01-11 13:38:40, Date/Time: 2012-01-11 13:40:59

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: 4-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:2.1

Medium: BSL1900; Medium Notes: $t = 21.0\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.5\text{ mho/m}$; $\epsilon_r = 52.4$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.59, 4.59, 4.59); Calibrated: 2011-09-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

4-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Left Edge Facing Phantom/Area Scan (31x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.122 mW/g

4-slot GPRS/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Left Edge Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 4.08 V/m

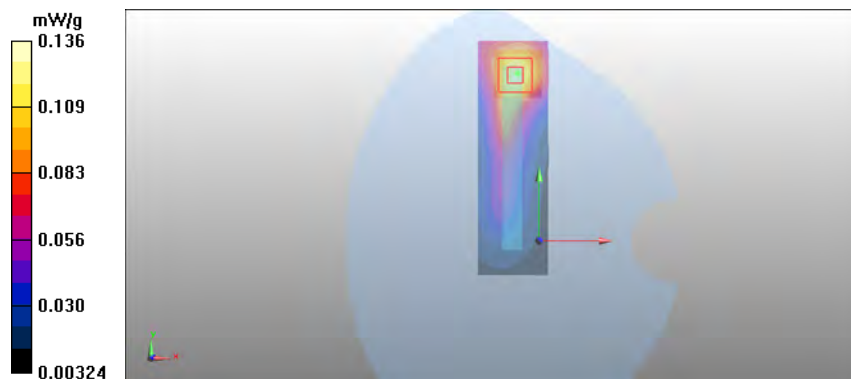
Peak SAR (extrapolated) = 0.198 W/kg

SAR(1 g) = 0.125 mW/g

SAR(10 g) = 0.075 mW/g

Power Drift = -0.046 dB

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



Date/Time: 2012-01-11 13:22:58, Date/Time: 2012-01-11 13:27:07

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: 4-slot GPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:2.1

Medium: BSL1900; Medium Notes: $t = 21.0\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.5\text{ mho/m}$; $\epsilon_r = 52.4$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.59, 4.59, 4.59); Calibrated: 2011-09-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

4-slot GPRS/ Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Right Edge Facing Phantom/Area Scan (31x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

4-slot GPRS/ Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Right Edge Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 2.64 V/m

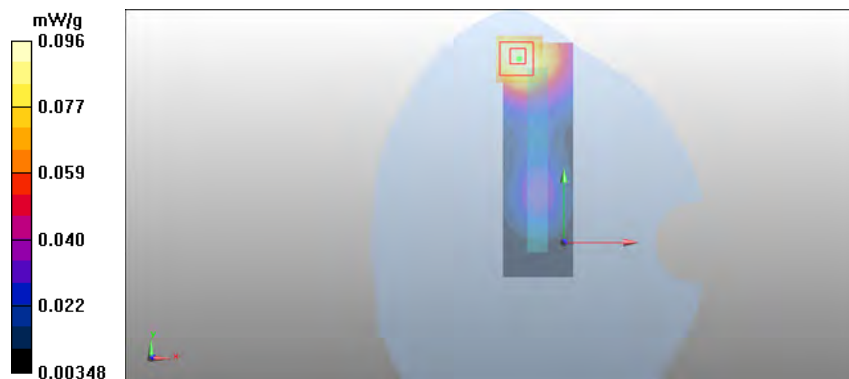
Peak SAR (extrapolated) = 0.139 W/kg

SAR(1 g) = 0.092 mW/g

SAR(10 g) = 0.059 mW/g

Power Drift = -0.190 dB

Maximum value of SAR (measured) = 0.096 mW/g



Date/Time: 2011-12-13 12:18:07, Date/Time: 2011-12-13 12:25:02

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.0\text{ C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.52\text{ mho/m}$; $\epsilon_r = 52.6$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(4.61, 4.61, 4.61); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Display Facing Phantom/Area Scan

(61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Display Facing Phantom/Zoom Scan

(5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.56 V/m

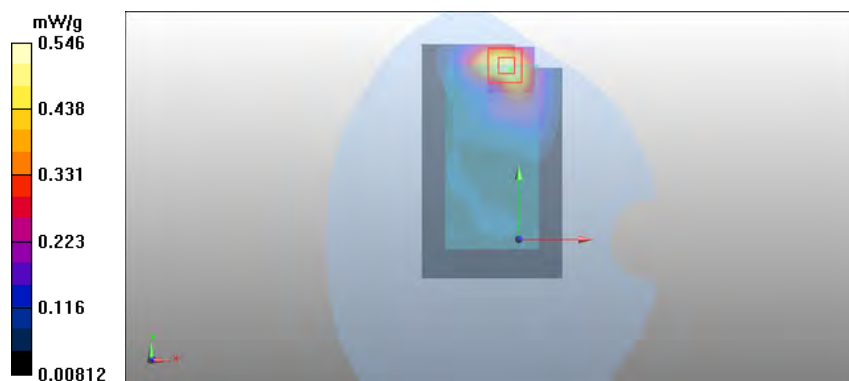
Peak SAR (extrapolated) = 0.816 W/kg

SAR(1 g) = 0.503 mW/g

SAR(10 g) = 0.281 mW/g

Power Drift = -0.053 dB

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



Date/Time: 2011-12-13 13:10:34, Date/Time: 2011-12-13 13:14:26

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA1900

Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.0$ C

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 52.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(4.61, 4.61, 4.61); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

WCDMA/ Body - Low - Spacer 10mm - No Accessory - BP-3L Sony - Back Facing Phantom/Area Scan (61x101x1):

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

Maximum value of SAR (interpolated) = 1.13 mW/g

WCDMA/ Body - Low - Spacer 10mm - No Accessory - BP-3L Sony - Back Facing Phantom/Zoom Scan

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

Reference Value = 5.34 V/m

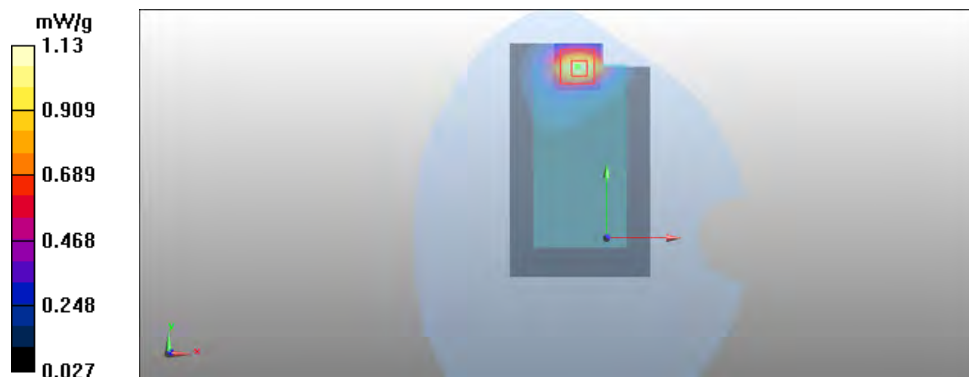
Peak SAR (extrapolated) = 1.63 W/kg

SAR(1 g) = 1.01 mW/g

SAR(10 g) = 0.554 mW/g

Power Drift = -0.024 dB

Maximum value of SAR (measured) = 1.13 mW/g



Date/Time: 2011-12-13 14:06:09, Date/Time: 2011-12-13 14:08:46

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.0\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.52\text{ mho/m}$; $\epsilon_r = 52.6$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(4.61, 4.61, 4.61); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony – Top Edge Facing Phantom/Area Scan

(31x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.00644 mW/g

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony – Top Edge Facing Phantom/Zoom Scan

(5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 1.81 V/m

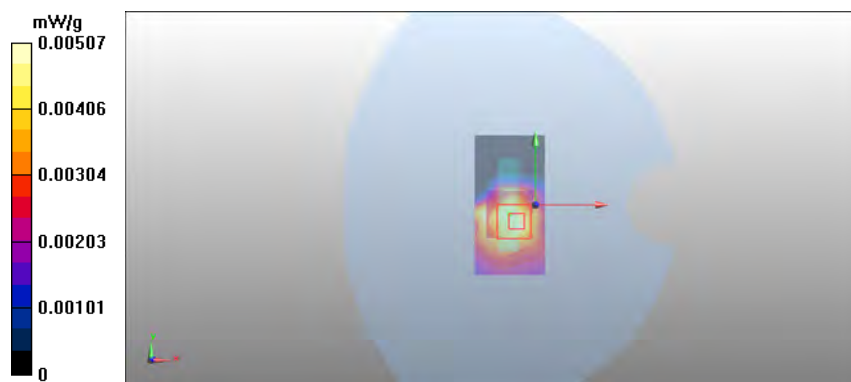
Peak SAR (extrapolated) = 0.0057 W/kg

SAR(1 g) = 0.00424 mW/g

SAR(10 g) = 0.00196 mW/g

Power Drift = -0.460 dB

Maximum value of SAR (measured) = 0.00507 mW/g



Date/Time: 2011-12-13 14:19:23, Date/Time: 2011-12-13 14:20:54

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 52.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(4.61, 4.61, 4.61); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony – Bottom Edge Facing Phantom/Area Scan

(31x61x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

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

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony – Bottom Edge Facing Phantom/Zoom Scan

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

Reference Value = 18.4 V/m

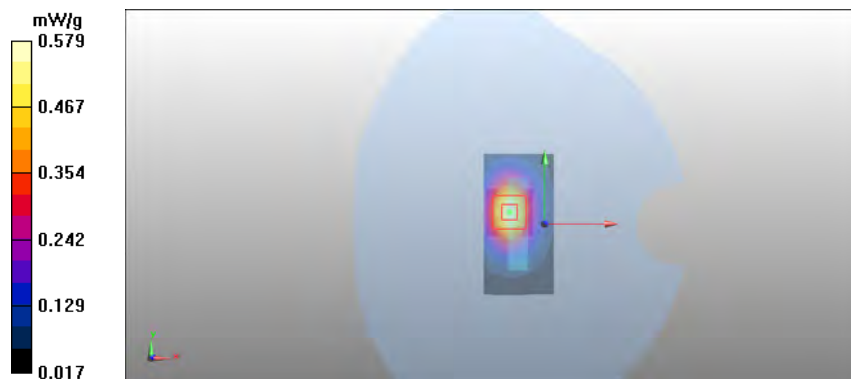
Peak SAR (extrapolated) = 0.847 W/kg

SAR(1 g) = 0.526 mW/g

SAR(10 g) = 0.302 mW/g

Power Drift = -0.091 dB

Maximum value of SAR (measured) = 0.579 mW/g



Date/Time: 2011-12-13 15:09:07, Date/Time: 2011-12-13 15:13:14

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.0\text{ C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.52\text{ mho/m}$; $\epsilon_r = 52.6$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(4.61, 4.61, 4.61); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Left Edge Facing Phantom/Area Scan

(31x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.135 mW/g

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Left Edge Facing Phantom/Zoom Scan

(5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 3.96 V/m

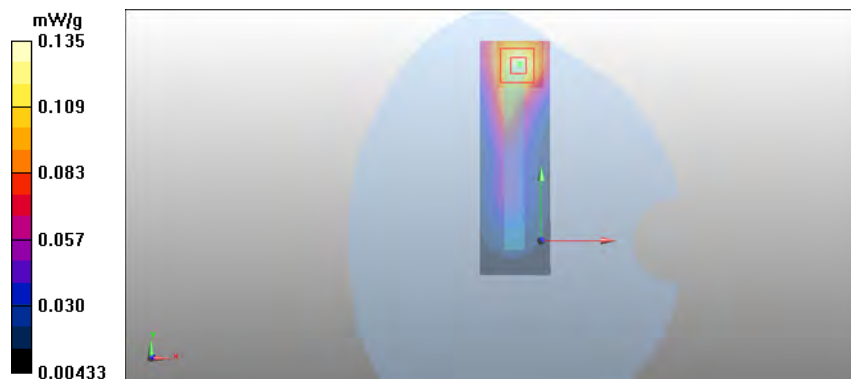
Peak SAR (extrapolated) = 0.192 W/kg

SAR(1 g) = 0.124 mW/g

SAR(10 g) = 0.076 mW/g

Power Drift = -0.151 dB

Maximum value of SAR (measured) = 0.135 mW/g



Date/Time: 2011-12-13 14:38:55, Date/Time: 2011-12-13 14:42:59

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WCDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.0\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.52\text{ mho/m}$; $\epsilon_r = 52.6$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(4.61, 4.61, 4.61); Calibrated: 2011-02-17
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Right Edge Facing Phantom/Area Scan

(31x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Right Edge Facing Phantom/Zoom Scan

(5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 2.25 V/m

Peak SAR (extrapolated) = 0.133 W/kg

SAR(1 g) = 0.087 mW/g

SAR(10 g) = 0.055 mW/g

Power Drift = -0.244 dB

Maximum value of SAR (measured) = 0.093 mW/g



Date/Time: 2012-01-11 14:59:08, Date/Time: 2012-01-11 15:03:01

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: 4-slot GPRS1900

Frequency: 1909.8 MHz; Duty Cycle: 1:2.1

Medium: BSL1900; Medium Notes: t= 21.0 C

Medium parameters used: f = 1910 MHz; σ = 1.52 mho/m; ϵ_r = 52.3; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.59, 4.59, 4.59); Calibrated: 2011-09-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2011-02-22
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 80; SEMCAD X Version 14.0 Build 61

4-slot GPRS/ Body - High - Spacer 10mm - No Accessory - BP-3L LG - Back Facing Phantom/Area Scan

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

Maximum value of SAR (interpolated) = 1.45 mW/g

4-slot GPRS/ Body - High - Spacer 10mm - No Accessory - BP-3L LG - Back Facing Phantom/Zoom Scan

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

Reference Value = 5.42 V/m

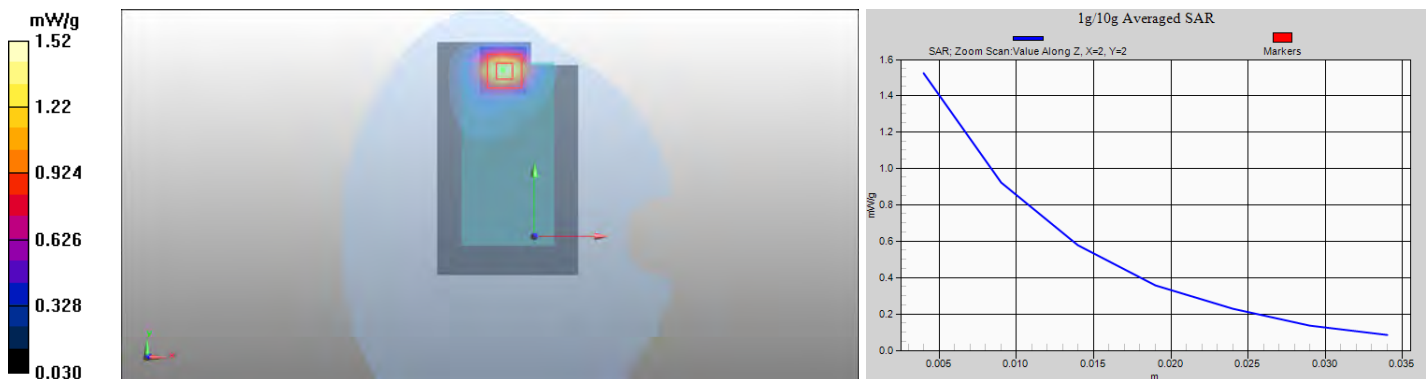
Peak SAR (extrapolated) = 2.31 W/kg

SAR(1 g) = 1.35 mW/g

SAR(10 g) = 0.722 mW/g

Power Drift = 0.048 dB

Maximum value of SAR (measured) = 1.52 mW/g



Date/Time: 2012-01-09 09:39:24, Date/Time: 2012-01-09 09:46:39

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(6.85, 6.85, 6.85); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2011-02-14
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, V52.8 Build 0; SEMCAD X Version 14.0 Build 61

WLAN b-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Display Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.099 mW/g

WLAN b-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 6.18 V/m

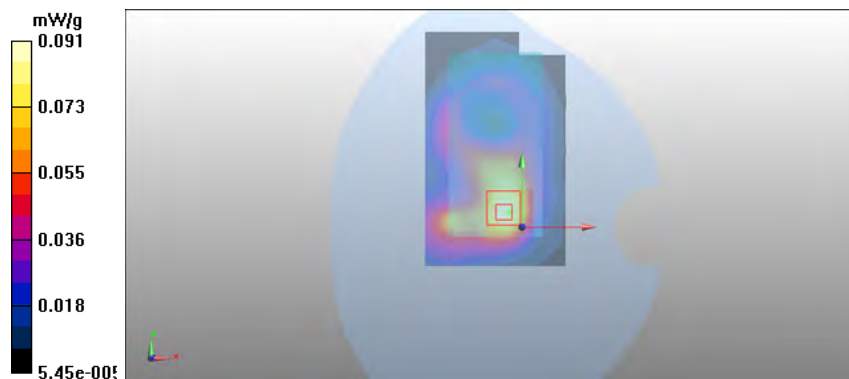
Peak SAR (extrapolated) = 0.148 W/kg

SAR(1 g) = 0.085 mW/g

SAR(10 g) = 0.049 mW/g

Power Drift = -0.022 dB

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



Date/Time: 2012-01-09 09:55:42, Date/Time: 2012-01-09 09:59:20

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(6.85, 6.85, 6.85); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2011-02-14
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, V52.8 Build 0; SEMCAD X Version 14.0 Build 61

WLAN b-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Back Facing Phantom/Area Scan (61x101x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.179 mW/g

WLAN b-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 8.42 V/m

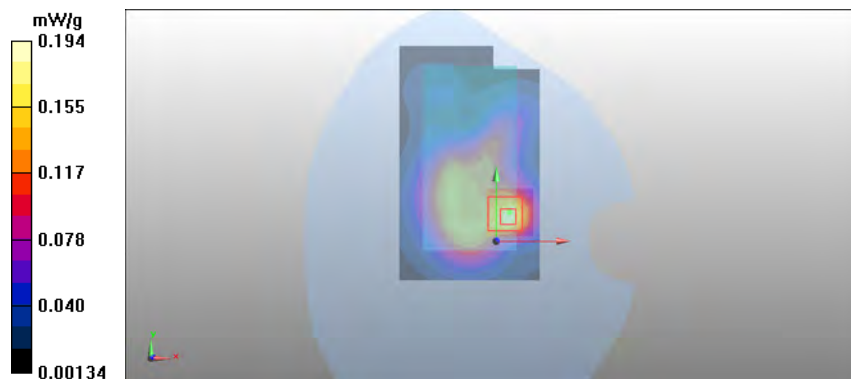
Peak SAR (extrapolated) = 0.339 W/kg

SAR(1 g) = 0.177 mW/g

SAR(10 g) = 0.093 mW/g

Power Drift = -0.150 dB

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



Date/Time: 2012-01-09 10:39:40, Date/Time: 2012-01-09 10:42:25

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(6.85, 6.85, 6.85); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2011-02-14
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, V52.8 Build 0; SEMCAD X Version 14.0 Build 61

WLAN b-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Top Edge Facing Phantom/Area Scan (31x61x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.157 mW/g

WLAN b-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Top Edge Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 8.8 V/m

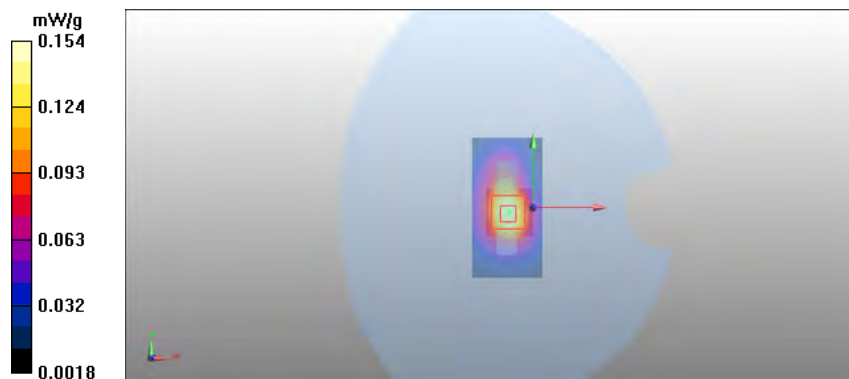
Peak SAR (extrapolated) = 0.254 W/kg

SAR(1 g) = 0.140 mW/g

SAR(10 g) = 0.075 mW/g

Power Drift = 0.043 dB

Maximum value of SAR (measured) = 0.154 mW/g



Date/Time: 2012-01-09 11:01:02, Date/Time: 2012-01-09 11:02:26

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.0\text{ C}$

Medium parameters used: $f = 2442\text{ MHz}$; $\sigma = 1.97\text{ mho/m}$; $\epsilon_r = 50.1$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(6.85, 6.85, 6.85); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2011-02-14
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, V52.8 Build 0; SEMCAD X Version 14.0 Build 61

WLAN b-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Bottom Edge Facing Phantom/Area Scan (31x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.017 mW/g

WLAN b-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Bottom Edge Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 2.78 V/m

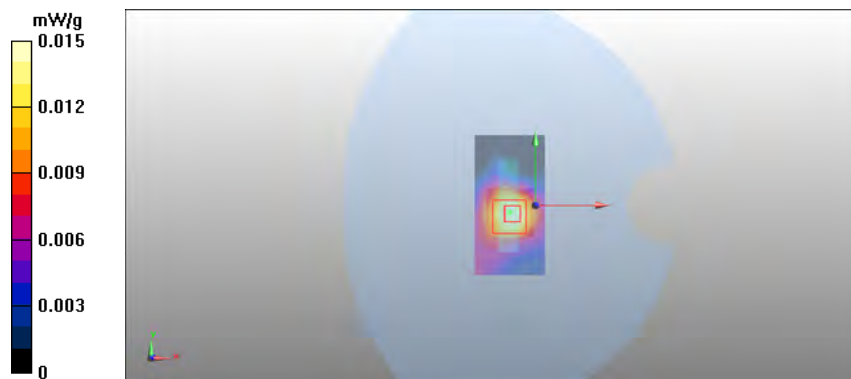
Peak SAR (extrapolated) = 0.022 W/kg

SAR(1 g) = 0.014 mW/g

SAR(10 g) = 0.00693 mW/g

Power Drift = 0.00634 dB

Maximum value of SAR (measured) = 0.015 mW/g



Date/Time: 2012-01-09 11:37:01, Date/Time: 2012-01-09 11:48:39

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(6.85, 6.85, 6.85); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2011-02-14
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASYS2, V52.8 Build 0; SEMCAD X Version 14.0 Build 61

WLAN b-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Left Edge Facing Phantom/Area Scan (31x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.014 mW/g

WLAN b-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Left Edge Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 2.19 V/m

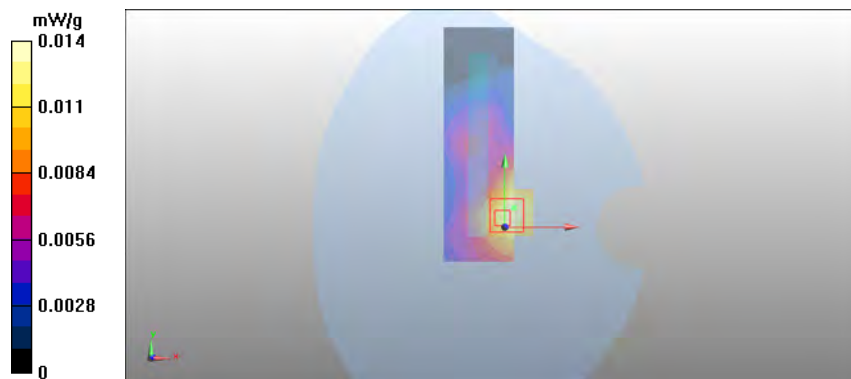
Peak SAR (extrapolated) = 0.024 W/kg

SAR(1 g) = 0.013 mW/g

SAR(10 g) = 0.0074 mW/g

Power Drift = -0.402 dB

Maximum value of SAR (measured) = 0.014 mW/g



Date/Time: 2012-01-09 11:19:27, Date/Time: 2012-01-09 11:23:52

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.0\text{ C}$

Medium parameters used: $f = 2442\text{ MHz}$; $\sigma = 1.97\text{ mho/m}$; $\epsilon_r = 50.1$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(6.85, 6.85, 6.85); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2011-02-14
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, V52.8 Build 0; SEMCAD X Version 14.0 Build 61

WLAN b-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Right Edge Facing Phantom/Area

Scan (31x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.232 mW/g

WLAN b-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Right Edge Facing Phantom/Zoom

Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 7.52 V/m

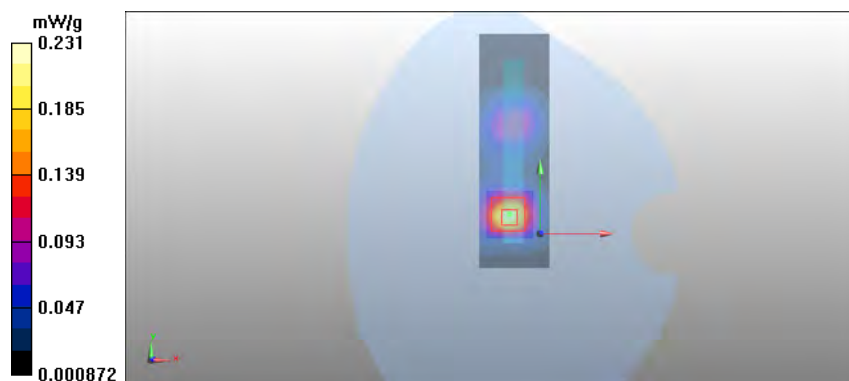
Peak SAR (extrapolated) = 0.408 W/kg

SAR(1 g) = 0.207 mW/g

SAR(10 g) = 0.099 mW/g

Power Drift = 0.134 dB

Maximum value of SAR (measured) = 0.231 mW/g



Date/Time: 2012-01-09 12:42:14, Date/Time: 2012-01-09 12:46:27

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WLAN2450 n-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(6.85, 6.85, 6.85); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2011-02-14
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, V52.8 Build 0; SEMCAD X Version 14.0 Build 61

WLAN n-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Right Edge Facing Phantom/Area

Scan (31x101x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (interpolated) = 0.108 mW/g

WLAN n-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Right Edge Facing Phantom/Zoom

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

Reference Value = 5.02 V/m

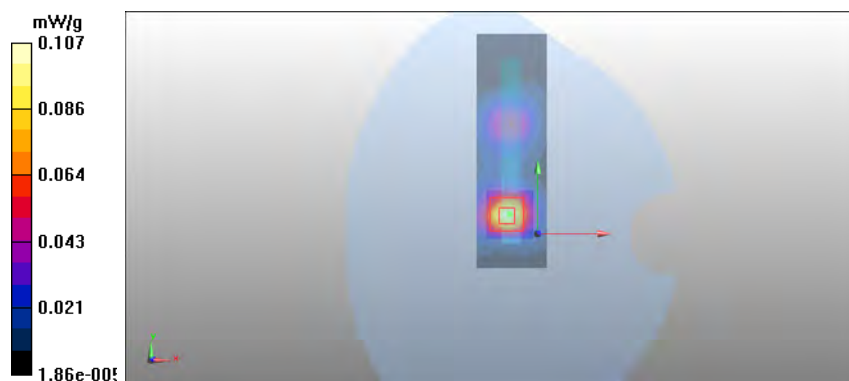
Peak SAR (extrapolated) = 0.191 W/kg

SAR(1 g) = 0.096 mW/g

SAR(10 g) = 0.046 mW/g

Power Drift = -0.031 dB

Maximum value of SAR (measured) = 0.107 mW/g



Date/Time: 2012-01-09 13:33:05, Date/Time: 2012-01-09 13:35:14

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: WLAN2450 b-mode

Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3790
- ConvF(6.85, 6.85, 6.85); Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2011-02-14
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, V52.8 Build 0; SEMCAD X Version 14.0 Build 61

WLAN b-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L LG - Right Edge Facing Phantom/Area Scan (31x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.232 mW/g

WLAN b-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L LG - Right Edge Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 7.41 V/m

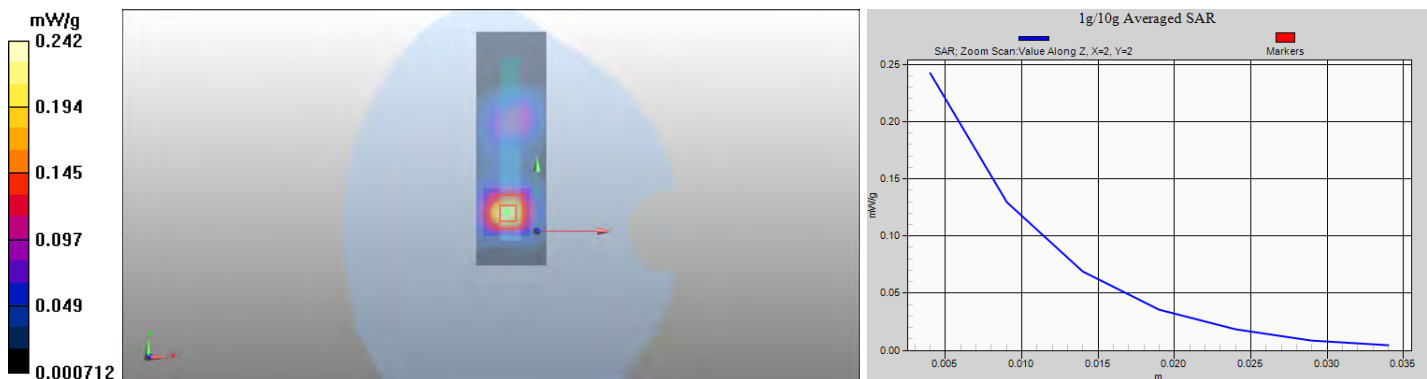
Peak SAR (extrapolated) = 0.424 W/kg

SAR(1 g) = 0.211 mW/g

SAR(10 g) = 0.101 mW/g

Power Drift = -0.149 dB

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



Date/Time: 2012-01-23 11:15:44, Date/Time: 2012-01-09 09:55:42

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: 3-slot GPRS850, Communication System: WLAN2450 b-mode

Frequency: 824.2 MHz, Frequency: 2442 MHz; Duty Cycle: 1:2.8, Duty Cycle: 1:1

Medium: BSL850, Medium: BSL2450; Medium Notes: $t = 20.6$ C, Medium Notes: $t = 21.0$ C

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.991$ mho/m; $\epsilon_r = 53.3$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165, Probe: EX3DV4 - SN3790
- ConvF(6.04, 6.04, 6.04), ConvF(6.85, 6.85, 6.85); Calibrated: 2011-02-17, Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn728, Electronics: DAE4 Sn1213; Calibrated: 2011-05-09, Calibrated: 2011-02-14
- Phantom: SAM1, Phantom: SAM 1; Type: SAM, Type: Twin SAM 040 CA; Serial: TP-1126, Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55, Measurement SW: DASY52, V52.8 Build 0; SEMCAD X Version 14.0 Build 61

3-slot GPRS/Body - Low - Spacer 10mm - No Accessory - BP-3L Sony - Back Facing Phantom/Area Scan (7x11x1):

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

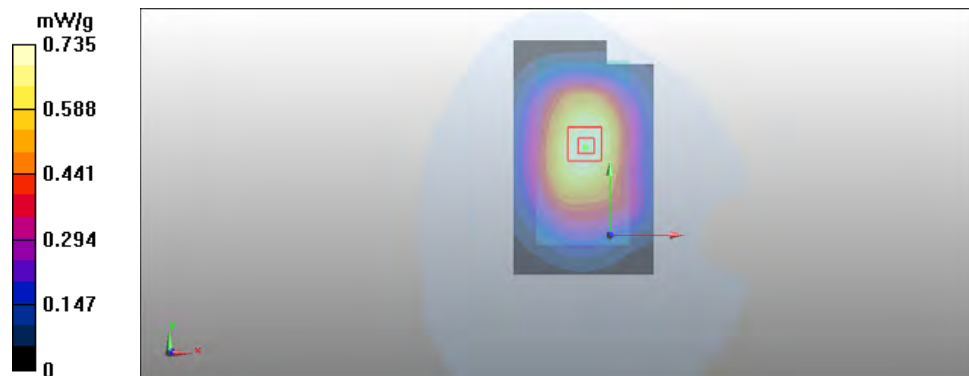
WLAN b-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Back Facing Phantom/Area Scan

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

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.695 mW/g

SAR(10 g) = 0.483 mW/g

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



Date/Time: 2012-01-23 12:50:16, Date/Time: 2012-01-09 09:55:42

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

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

Frequency: 835 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: BSL850, Medium: BSL2450; Medium Notes: $t = 20.6$ C, Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.997$ mho/m; $\epsilon_r = 53.3$; $\rho = 1000$ kg/m³, Medium parameters used:
 $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165, Probe: EX3DV4 - SN3790
- ConvF(6.04, 6.04, 6.04), ConvF(6.85, 6.85, 6.85); Calibrated: 2011-02-17, Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn728, Electronics: DAE4 Sn1213; Calibrated: 2011-05-09, Calibrated: 2011-02-14
- Phantom: SAM1, Phantom: SAM 1; Type: SAM, Type: Twin SAM 040 CA; Serial: TP-1126, Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55, Measurement SW: DASY52, V52.8 Build 0; SEMCAD X Version 14.0 Build 61

WCDMA/Body - Middle - Spacer 10mm - No Accessory - BP-3L LG - Back Facing Phantom/Area Scan (7x11x1):

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

WLAN b-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Back Facing Phantom/Area Scan

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

Motorola Fast SAR of Combined Scans: SAR(1 g) = 1.24 mW/g

SAR(10 g) = 0.873 mW/g

Maximum value of SAR (measured) = 1.31 mW/g



Date/Time: 2012-01-20 13:46:31, Date/Time: 2012-01-09 09:55:42

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

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

Frequency: 1712.4 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: BSL1800, Medium: BSL2450; Medium Notes: t= 21.0 C

Medium parameters used (interpolated): f = 1712.4 MHz; σ = 1.4 mho/m; ϵ_r = 52.9; ρ = 1000 kg/m³, Medium parameters used: f = 2442 MHz; σ = 1.97 mho/m; ϵ_r = 50.1; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194, Probe: EX3DV4 - SN3790
- ConvF(4.76, 4.76, 4.76), ConvF(6.85, 6.85, 6.85); Calibrated: 2011-09-14, Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn555, Electronics: DAE4 Sn1213; Calibrated: 2011-02-22, Calibrated: 2011-02-14
- Phantom: SAM 3, Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 80, Measurement SW: DASY52, V52.8 Build 0; SEMCAD X Version 14.0 Build 61

WCDMA/ Body - Low - Spacer 10mm - No Accessory -BP-3L LG - Back Facing Phantom/Area Scan (7x11x1):

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

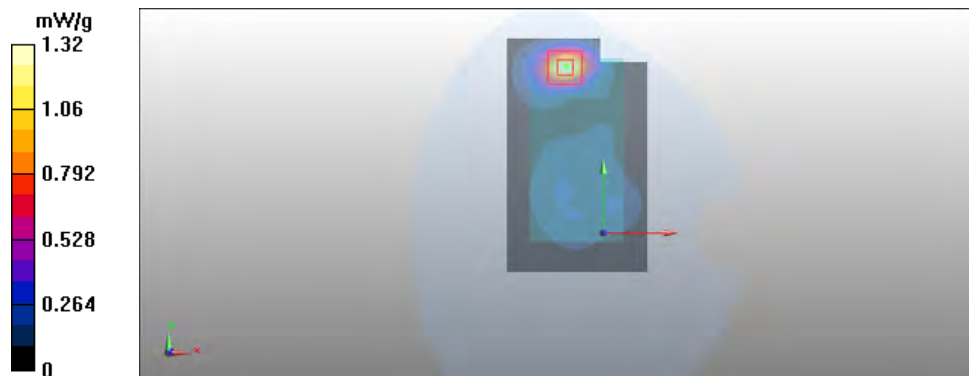
WLAN b-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Back Facing Phantom/Area Scan

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

Motorola Fast SAR of Combined Scans: SAR(1 g) = 1.09 mW/g

SAR(10 g) = 0.551 mW/g

Maximum value of SAR (measured) = 1.32 mW/g



Date/Time: 2012-01-11 14:59:08, Date/Time: 2012-01-09 09:55:42

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

Communication System: 4-slot GPRS1900, Communication System: WLAN2450 b-mode

Frequency: 1909.8 MHz, Frequency: 2442 MHz; Duty Cycle: 1:2.1, Duty Cycle: 1:1

Medium: BSL1900, Medium: BSL2450; Medium Notes: t= 21.0 C

Medium parameters used: f = 1910 MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³, Medium parameters used:
f = 2442 MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194, Probe: EX3DV4 - SN3790
- ConvF(4.59, 4.59, 4.59), ConvF(6.85, 6.85, 6.85); Calibrated: 2011-09-14, Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn555, Electronics: DAE4 Sn1213; Calibrated: 2011-02-22, Calibrated: 2011-02-14
- Phantom: SAM 2, Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP - 1177, Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 80, Measurement SW: DASY52, V52.8 Build 0; SEMCAD X Version 14.0 Build 61

4-slot GPRS/ Body - High - Spacer 10mm - No Accessory - BP-3L LG - Back Facing Phantom/Area Scan (7x11x1):

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

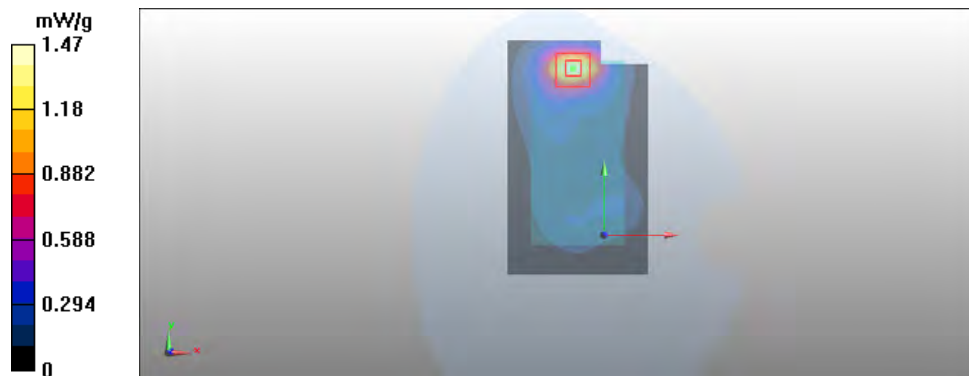
WLAN b-mode/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Back Facing Phantom/Area Scan

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

Motorola Fast SAR of Combined Scans: SAR(1 g) = 1.25 mW/g

SAR(10 g) = 0.648 mW/g

Maximum value of SAR (measured) = 1.47 mW/g



Date/Time: 2011-12-13 13:10:34, Date/Time: 2012-01-09 09:55:42

Test Laboratory: TCC Nokia

Type: RM-809; Serial: 004402/13/704478/4

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

Frequency: 1852.4 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1

Medium: BSL1900, Medium: BSL2450; Medium Notes: t= 21.0 C

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 52.7$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 2442$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 50.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165, Probe: EX3DV4 - SN3790
- ConvF(4.61, 4.61, 4.61), ConvF(6.85, 6.85, 6.85); Calibrated: 2011-02-17, Calibrated: 2011-05-24
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn555, Electronics: DAE4 Sn1213; Calibrated: 2011-02-22, Calibrated: 2011-02-14
- Phantom: SAM 2, Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP - 1177, Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 80, Measurement SW: DASY52, V52.8 Build 0; SEMCAD X Version 14.0 Build 61

WCDMA/Body - Low - Spacer 10mm - No Accessory - BP-3L Sony - Back Facing Phantom/Area Scan (7x11x1):

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

WLAN/Body - Middle - Spacer 10mm - No Accessory - BP-3L Sony - Back Facing Phantom/Area Scan (7x11x1):

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

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.980 mW/g

SAR(10 g) = 0.507 mW/g

Maximum value of SAR (measured) = 1.15 mW/g

