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SAR Compliance Test Report

Test report no.:	FCC_RM-662_03	**Date of report:**	2010-07-14
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Tested device:	RM-662		
FCC ID:	PPIRM-662	**IC:**	661U-RM662
Supplement reports:	FCC_RM-640_03 for RM-640 / FCC ID: PPIRM-640 / IC: 661U-RM640 SAR_Photo_RM-662_04		
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.		

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CONTENTS

1. SUMMARY OF SAR TEST REPORT

1.1 Test Details

Period of test	2010-06-07 to 2010-07-05
SN, HW and SW numbers of tested device	SN: 004402/13/036324/9, HW: 0211, SW: Vp re5.04, DUT: 24201 SN: 004402/13/036904/8, HW: 0210, SW: Vp re5.04, DUT: 24264
Batteries used in testing	BL-5CT Sanyo, DUT: 24265, 24266, 24267 BL-5CT Panasonic, DUT: 24260, 24261, 24262
Headsets used in testing	WH-102, DUT: 24242
Other accessories used in testing	-
State of sample	Prototype unit
Notes	-

1.2 Maximum Results**

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

1.2.1 Head Configuration

Mode	Ch / *f* (MHz)	Conducted power	Position	Measured SAR value (1g avg)	Scaled* SAR value (1g avg)	SAR limit (1g avg)	Result
2-slot GPRS850	128 / 824.2	29.5 dBm	Left, Cheek	0.644 W/kg	**0.72 W/kg**	1.6 W/kg	PASSED
2-slot GPRS1900	661 / 1880.0	27.5 dBm	Right, Cheek	0.751 W/kg	**0.84 W/kg**	1.6 W/kg	PASSED
WLAN2450	11 / 2462.0	15.0 dBm	Left, Cheek	0.272 W/kg	**0.30 W/kg**	1.6 W/kg	PASSED
2-slot GPRS850 + WLAN2450	-	-	Left, Cheek	0.849 W/kg	**0.95 W/kg**	1.6 W/kg	PASSED
2-slot GPRS1900 + WLAN2450	-	-	Left, Cheek	0.881 W/kg	**0.99 W/kg**	1.6 W/kg	PASSED

1.2.2 Body Worn Configuration

Mode	Ch / *f* (MHz)	Conducted power	Separation distance	Measured SAR value (1g avg)	Scaled* SAR value (1g avg)	SAR limit (1g avg)	Result
2-slot GPRS850	128 / 824.2	29.5 dBm	1.5 cm	0.483 W/kg	**0.54 W/kg**	1.6 W/kg	PASSED
2-slot GPRS1900	810 / 1909.8	27.5 dBm	1.5 cm	0.377 W/kg	**0.42 W/kg**	1.6 W/kg	PASSED
WLAN2450	11 / 2462.0	15.0 dBm	1.5 cm	0.277 W/kg	**0.31 W/kg**	1.6 W/kg	PASSED
2-slot GPRS850 + WLAN2450	-	-	1.5 cm	0.519 W/kg	**0.58 W/kg**	1.6 W/kg	PASSED
2-slot GPRS1900 + WLAN2450	-	-	1.5 cm	0.413 W/kg	**0.46 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 values duplicated from FCC_RM-640_03 for RM-640 / FCC ID: PPIRM-640 / IC: 661U-RM640.

1.2.3 Maximum Drift

Maximum drift covered by 12% scaling up of the SAR values	Maximum drift during measurements
0.5dB	0.49 dB

1.2.4 Measurement Uncertainty

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

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
BT	2450	GFSK	1	2402 – 2480
WLAN b-mode	2450	11Mbps QPSK	1	2412 – 2472
WLAN n-mode 20MHz	2450	6.5Mbps BPSK	1	2412 – 2472

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

This device has Voice-over-IP/Dual Transfer mode capability for use at the ear. Therefore, SAR for multi slot GPRS mode was evaluated against the head profile of the phantom.

This is a BT Class I device; as the maximum output power is 10dBm (10mW), SAR testing was deemed unnecessary.

2.1 Description of the Antenna

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

3. TEST CONDITIONS

3.1 Temperature and Humidity

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

3.2 Test Signal, Frequencies and Output Power

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

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 tests, BPSK 6.5Mbps with 20MHz bandwidth was used.

The testing of two hardwares is presented in this report. The change from HW0210 to HW0211 only affects WLAN, hence the reported testing for HW0211 is limited to WLAN testing.

All of the SAR results, SAR plots and test details given in this report are duplicated from the earlier test report FCC_RM-640_03 for RM-640 / FCC ID: PPIRM-640 / IC: 661U-RM640. The only difference between RM-662 and RM-640 is that RM-662 has had all WCDMA components removed.

3.3 Test Cases and Test Minimisation

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

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

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

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

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

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

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

4. DESCRIPTION OF THE TEST EQUIPMENT

4.1 Measurement System and Components

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

The following table lists calibration dates of SPEAG components:

Test Equipment	Serial Number	Calibration interval	Calibration expiry
DAE4	682	12 months	2010-07
DAE4	710	12 months	2010-09
DAE3	573	12 months	2010-07
E-field Probe ES3DV3	3116	12 months	2011-02
E-field Probe ES3DV3	3117	12 months	2010-07
E-field Probe ES3DV3	3118	12 months	2010-09
Dipole Validation Kit, D835V2	4d042	24 months	2010-09
Dipole Validation Kit, D1900V2	5d063	24 months	2012-02
Dipole Validation Kit, D2450V2	790	24 months	2010-09
DASY4 software	Version 4.7	-	-

Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration interval	Calibration expiry
Signal Generator	SME06	829445/008	36 months	2012-02
Signal Generator	SME06	848650/011	36 months	2012-08
Amplifier	ZHL-42W	E012903	-	-
Amplifier	2100-BBS3Q8CCJ	1003	-	-
Power Meter	NRP	100808	24 months	2012-04
Power Meter	NRP	101293	24 months	2011-08
Power Sensor	NRP-Z51	100410	24 months	2012-04
Power Sensor	NRP-Z51	100830	24 months	2011-08
Call Tester	CMU200	110735	-	-
Call Tester	CMU200	105900	-	-
Vector Network Analyzer	AT8753ES	MY40001091	12 months	
Dielectric Probe Kit	HP85070B	US33020403	-	-

4.1.1 Isotropic E-field Probe Type ES3DV3

Construction	Symmetrical design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., butyl diglycol)
Calibration	Calibration certificate in Appendix D
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 µW/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 330 mm Tip length: 20 mm Body diameter: 12 mm Tip diameter: 3.9 mm Distance from probe tip to dipole centers: 2.0 mm
Application	General dosimetry up to 4 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms

4.2 Phantoms

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

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

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

4.3 Tissue Simulants

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

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

4.3.1 Tissue Simulant Recipes

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

800MHz band

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

1900MHz band

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

2450MHz band

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

4.3.2 System Checking

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

System checking, head tissue simulant

f [MHz]	Description	SAR [W/kg], 1g	Dielectric Parameters		Temp [°C]
			ε_r	σ [S/m]	
835	Reference result	2.38	41.4	0.90	
	± 10% window	2.14 - 2.62			
	2010-06-07	2.40	40.3	0.89	22.2
	2010-06-17	2.44	39.8	0.90	21.9
	2010-06-28	2.51	42.6	0.93	22.2
1900	Reference result	9.98	39.2	1.42	
	± 10% window	8.98 - 10.98			
	2010-06-17	10.6	39.1	1.45	22.5
	2010-07-01	10.3	38.4	1.39	22.2
2450	Reference result	13.2	39.8	1.80	
	± 10% window	11.9 – 14.5			
	2010-06-30	13.6	39.0	1.88	22.4
	2010-07-02	14.4	38.2	1.88	22.3
	2010-07-05	14.1	38.1	1.88	22.3

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

4.3.3 Tissue Simulants used in the Measurements

Head tissue simulant measurements

f [MHz]	Description	Dielectric Parameters		Temp [°C]
		ε_r	σ [S/m]	
836	Recommended value	41.5	0.90	
	± 5% window	39.4 – 43.6	0.86 – 0.95	
	2010-06-07	40.3	0.89	22.2
	2010-06-28	42.6	0.93	22.2
1880	Recommended value	40.0	1.40	
	± 5% window	38.0 – 42.0	1.33 – 1.47	
	2010-06-17	39.2	1.43	22.5
	2010-07-01	38.5	1.37	22.2
2442	Recommended value	39.2	1.79	
	± 5% window	37.3 – 41.2	1.70 – 1.88	
	2010-06-30	39.0	1.88	22.4
	2010-07-05	38.2	1.87	22.3

Body tissue simulant measurements

f [MHz]	Description	Dielectric Parameters		Temp [°C]
		ε_r	σ [S/m]	
	Recommended value	55.2	0.97	
	± 5% window	52.4 – 58.0	0.92 – 1.02	
836	2010-06-17	53.8	0.98	21.9
	Recommended value	53.3	1.52	
	± 5% window	50.6 – 56.0	1.44 – 1.60	
1880	2010-07-01	51.8	1.51	22.5
	Recommended value	52.7	1.94	
	± 5% window	50.1 – 55.3	1.85 – 2.04	
2442	2010-07-02	51.9	1.98	22.2
	2010-07-05	51.7	1.97	22.5

5. DESCRIPTION OF THE TEST PROCEDURE

5.1 Device Holder

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

Device holder supplied by SPEAG

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

Nokia spacer

5.2 Test Positions

5.2.1 Against Phantom Head

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

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

5.2.2 Body Worn Configuration

The device was placed in the SPEAG holder using the Nokia spacer and placed below the flat section of the phantom. The distance between the device and the phantom was kept at the separation distance indicated in Section 1.2.2 using a separate flat spacer that was removed before the start of the measurements. The device was oriented with both sides facing the phantom to find the highest results.

5.3 Scan Procedures

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

5.4 SAR Averaging Methods

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

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

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

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

6. MEASUREMENT UNCERTAINTY

Table 6.1 – Measurement uncertainty evaluation

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

7. RESULTS

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

850MHz Head SAR results

Hardware ID	Option used	Test configuration		SAR, averaged over 1g (W/kg)		
				Ch 128 824.2 MHz	Ch 190 836.6 MHz	Ch 251 848.8 MHz
GSM		**Conducted Power**		**-**	**32.5 dBm**	**-**
0210	BL-5CT Sanyo	Left	Cheek	-	0.537	-
			Tilt	-	-	-
		Right	Cheek	-	-	-
			Tilt	-	-	-
2-slot GPRS		**Conducted Power**		**29.5 dBm**	**29.5 dBm**	**29.5 dBm**
0210	BL-5CT Sanyo	Left	Cheek	**0.644**	0.543	0.520
			Tilt	-	0.325	-
		Right	Cheek	-	0.453	-
			Tilt	-	0.296	-
3-slot GPRS		**Conducted Power**		**-**	**27.7 dBm**	**-**
0210	BL-5CT Sanyo	Left	Cheek	-	0.533	-
			Tilt	-	-	-
		Right	Cheek	-	-	-
			Tilt	-	-	-
4-slot GPRS		**Conducted Power**		**-**	**26.5 dBm**	**-**
0210	BL-5CT Sanyo	Left	Cheek	-	0.540	-
			Tilt	-	-	-
		Right	Cheek	-	-	-
			Tilt	-	-	-
2-slot 8PSK EGPRS		**Conducted Power**		**27.0 dBm**	**-**	**-**
0210	BL-5CT Sanyo	Left	Cheek	0.388	-	-
			Tilt	-	-	-
		Right	Cheek	-	-	-
			Tilt	-	-	-
2-slot GPRS		**Conducted Power**		**29.5 dBm**	**29.5 dBm**	**29.5 dBm**
0210	BL-5CT Panasonic	Left	Cheek	0.640	0.558	0.519
			Tilt	-	-	-
		Right	Cheek	-	-	-
			Tilt	-	-	-

1900MHz Head SAR results

Hardware ID	Option used	Test configuration		SAR, averaged over 1g (W/kg)		
				Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz
GSM		**Conducted Power**		**-**	**30.5 dBm**	**-**
0210	BL-5CT Sanyo	Left	Cheek	-	0.713	-
			Tilt	-	-	-
		Right	Cheek	-	-	-
			Tilt	-	-	-
2-slot GPRS		**Conducted Power**		**27.5 dBm**	**27.5 dBm**	**27.5 dBm**
0210	BL-5CT Sanyo	Left	Cheek	-	0.716	-
			Tilt	-	0.206	-
		Right	Cheek	0.732	**0.751**	0.733
			Tilt	-	0.355	-
3-slot GPRS		**Conducted Power**		**-**	**25.7 dBm**	**-**
0210	BL-5CT Sanyo	Left	Cheek	-	0.699	-
			Tilt	-	-	-
		Right	Cheek	-	-	-
			Tilt	-	-	-
4-slot GPRS		**Conducted Power**		**-**	**24.5 dBm**	**-**
0210	BL-5CT Sanyo	Left	Cheek	-	0.691	-
			Tilt	-	-	-
		Right	Cheek	-	-	-
			Tilt	-	-	-
2-slot 8PSK EGPRS		**Conducted Power**		**-**	**26.0 dBm**	**-**
0210	BL-5CT Sanyo	Left	Cheek	-	-	-
			Tilt	-	-	-
		Right	Cheek	-	0.410	
			Tilt	-	-	-
2-slot GPRS		**Conducted Power**		**27.5 dBm**	**27.5 dBm**	**27.5 dBm**
0210	BL-5CT Panasonic	Left	Cheek	-	-	-
			Tilt	-	-	-
		Right	Cheek	0.693	0.712	0.706
			Tilt	-	-	-

2450MHz Head SAR results

Hardware ID	Option used	Test configuration		SAR, averaged over 1g (W/kg)		
				Ch 1 2412.0 MHz	Ch 7 2442.0 MHz	Ch 11 2462.0 MHz
WLAN b-mode		**Conducted Power**		**17.0 dBm**	**17.0 dBm**	**15.0 dBm**
0210	BL-5CT Sanyo	Left	Cheek	0.172	0.260	**0.272**
			Tilt	-	0.113	-
		Right	Cheek	-	0.228	-
			Tilt	-	0.088	-
WLAN n-mode		**Conducted Power**		**7.0 dBm**	**14.0 dBm**	**6.0 dBm**
0210	BL-5CT Sanyo	Left	Cheek	0.070	0.068	0.005
			Tilt	-	-	-
		Right	Cheek	-	-	-
			Tilt	-	-	-
WLAN b-mode		**Conducted Power**		**17.0 dBm**	**17.0 dBm**	**15.0 dBm**
0210	BL-5CT Panasonic	Left	Cheek	0.173	0.215	0.253
			Tilt	-	-	-
		Right	Cheek	-	-	-
			Tilt	-	-	-
WLAN b-mode		**Conducted Power**		**17.0 dBm**	**17.0 dBm**	**15.0 dBm**
0211	BL-5CT Sanyo	Left	Cheek	0.097	0.107	0.058
			Tilt	-	-	-
		Right	Cheek	-	-	-
			Tilt	-	-	-

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

850MHz Body SAR results

Hardware ID	Option used	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
2-slot GPRS			Conducted Power	29.5 dBm	29.5 dBm	29.5 dBm
0210	BL-5CT Sanyo	Display facing phantom	Without headset	-	0.345	-
			Headset WH-102	-	0.266	-
		Back facing phantom	Without headset	**0.483**	0.429	0.426
			Headset WH-102	-	0.339	-
2-slot GPRS			Conducted Power	29.5 dBm	29.5 dBm	29.5 dBm
0210	BL-5CT Panasonic	Display facing phantom	Without headset	-	-	-
			Headset WH-102	-	-	-
		Back facing phantom	Without headset	0.463	0.415	0.408
			Headset WH-102	-	-	-

1900MHz Body SAR results

Hardware ID	Option used	Device orientation	Test configuration	SAR, averaged over 1g (W/kg)		
				Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz
2-slot GPRS			Conducted Power	27.5 dBm	27.5 dBm	27.5 dBm
0210	BL-5CT Sanyo	Display facing phantom	Without headset	-	0.326	-
			Headset WH-102	-	0.310	-
		Back facing phantom	Without headset	0.355	0.365	**0.375**
			Headset WH-102	-	0.344	-
2-slot GPRS			Conducted Power	27.5 dBm	27.5 dBm	27.5 dBm
0210	BL-5CT Panasonic	Display facing phantom	Without headset	-	-	-
			Headset WH-102	-	-	-
		Back facing phantom	Without headset	0.359	0.369	**0.377**
			Headset WH-102	-	-	-

2450MHz Body SAR results

Hardware ID	Option used	Device orientation	Test configuration	SAR, averaged over 1g (W/kg)		
				Ch 1 2412.0 MHz	Ch 7 2442.0 MHz	Ch 11 2462.0 MHz
WLAN b-mode			**Conducted Power**	**17.0 dBm**	**17.0 dBm**	**15.0 dBm**
0210	BL-5CT Sanyo	Display facing phantom	Without headset	-	0.178	-
			Headset WH-102	-	0.180	-
		Back facing phantom	Without headset	-	0.272	-
			Headset WH-102	0.247	**0.272**	0.197
WLAN n-mode			**Conducted Power**	**7.0 dBm**	**14.0 dBm**	**6.0 dBm**
0210	BL-5CT Sanyo	Display facing phantom	Without headset	-	-	-
			Headset WH-102	-	-	-
		Back facing phantom	Without headset	-	-	-
			Headset WH-102	0.117	0.145	0.114
WLAN b-mode			**Conducted Power**	**17.0 dBm**	**17.0 dBm**	**15.0 dBm**
0210	BL-5CT Panasonic	Display facing phantom	Without headset	-	-	-
			Headset WH-102	-	-	-
		Back facing phantom	Without headset	-	-	-
			Headset WH-102	0.207	0.255	0.180
WLAN b-mode			**Conducted Power**	**17.0 dBm**	**17.0 dBm**	**15.0 dBm**
0211	BL-5CT Sanyo	Display facing phantom	Without headset	-	-	-
			Headset WH-102	-	-	-
		Back facing phantom	Without headset	-	-	-
			Headset WH-102	0.189	0.274	**0.277**

Simultaneous transmissions: Combined SAR results – Individual band Max results

Test configuration	Max. 1g SAR results		
	WLAN	2-slot GPRS 850	2-slot GPRS 1900
Head: Left, Cheek	0.272	0.644	0.716
Head: Left, Tilt	0.113	0.325	0.206
Head: Right, Cheek	0.228	0.453	0.751
Head: Right, Tilt	0.088	0.296	0.355
Body: Without Headset	0.272	0.483	0.377
Body: Headset WH-102	0.277	0.339	0.344

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

Test configuration	Combined 1g SAR values	
	WLAN + 2-slot GPRS 850	WLAN + 2-slot GPRS 1900
Head: Left, Cheek	**0.916**	**0.988**
Head: Left, Tilt	0.438	0.319
Head: Right, Cheek	0.681	0.979
Head: Right, Tilt	0.384	0.443
Body: Without Headset	**0.755**	**0.649**
Body: Headset WH-102	0.616	0.621

The following table gives a more accurate assessment of the SAR values for simultaneous transmission. These values have been calculated using the SPEAG Combined Multiband algorithm, which is based on area scans. It a) converts the 2D area scans into 3D volume scans by assuming frequency-dependent decay characteristics for the E-field, b) sums the SAR values for WLAN2450 and the cellular bands point-by-point and c) calculates the combined average SAR values. It is these values that appear in the Summary table in Section 1.2.

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

Test configuration	Combined 1g SAR values	
	WLAN + 2-slot GPRS 850	WLAN + 2-slot GPRS 1900
Head: Left, Cheek	**0.849**	**0.881**
Head: Left, Tilt	-	-
Head: Right, Cheek	-	-
Head: Right, Tilt	-	-
Body: Without Headset	**0.519**	**0.413**
Body: Headset WH-102	-	-

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

Plots of the Measurement scans are given in Appendix B.

APPENDIX A: SYSTEM CHECKING SCANS

See the following pages

Date/Time: 2010-06-07 10:17:25

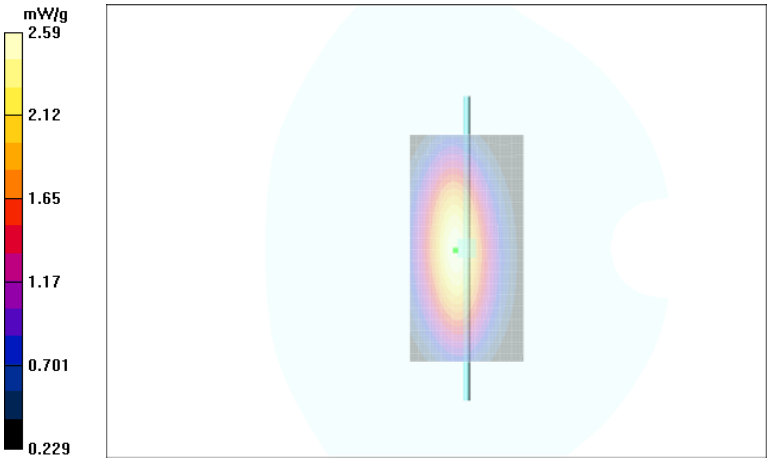
Test Laboratory: TCC Nokia
Type: D835V2; Serial: 4d042

Communication System: CW835
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Head 835; Medium Notes: Medium Temperature: 22.2 C
Medium parameters used: f = 835 MHz; σ = 0.891 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

d=15mm, Pin=250mW/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 2.58 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.0 V/m
Peak SAR (extrapolated) = 3.65 W/kg
SAR(1 g) = 2.4 mW/g
SAR(10 g) = 1.55 mW/g
Power Drift = -0.013 dB
Maximum value of SAR (measured) = 2.59 mW/g



Date/Time: 2010-06-17 09:49:00

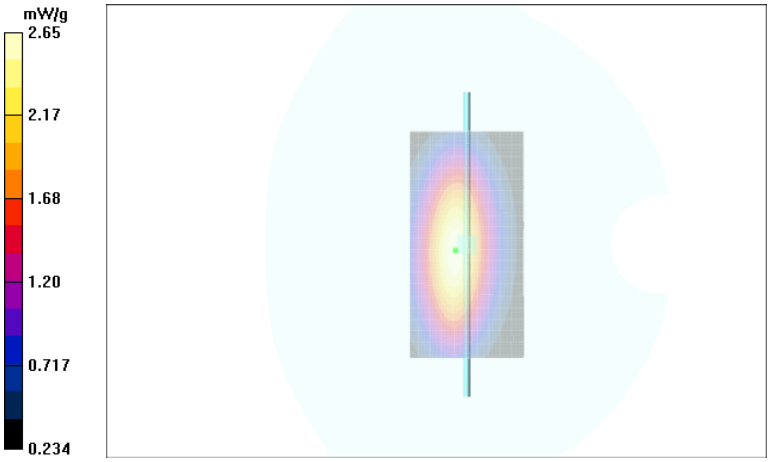
Test Laboratory: TCC Nokia
Type: D835V2; Serial: 4d042

Communication System: CW835
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Head 835; Medium Notes: Medium Temperature: 21.9 C
Medium parameters used: f = 835 MHz; σ = 0.9 mho/m; ε_r = 39.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

d=15mm, Pin=250mW/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 2.63 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.3 V/m
Peak SAR (extrapolated) = 3.71 W/kg
SAR(1 g) = 2.44 mW/g
SAR(10 g) = 1.59 mW/g
Power Drift = -0.039 dB
Maximum value of SAR (measured) = 2.65 mW/g



Date/Time: 2010-06-28 14:53:07

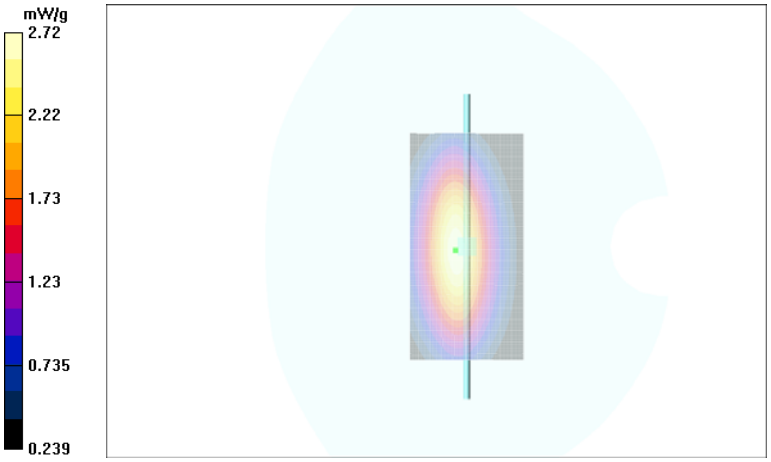
Test Laboratory: TCC Nokia
Type: D835V2; Serial: 4d042

Communication System: CW835
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Head 850; Medium Notes: Medium Temperature: 22.2 C
Medium parameters used: f = 835 MHz; σ = 0.934 mho/m; ε_r = 42.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

d=15mm, Pin=250mW/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 2.71 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.1 V/m
Peak SAR (extrapolated) = 3.83 W/kg
SAR(1 g) = 2.51 mW/g
SAR(10 g) = 1.63 mW/g
Power Drift = 0.008 dB
Maximum value of SAR (measured) = 2.72 mW/g



Date/Time: 2010-06-17 19:28:24

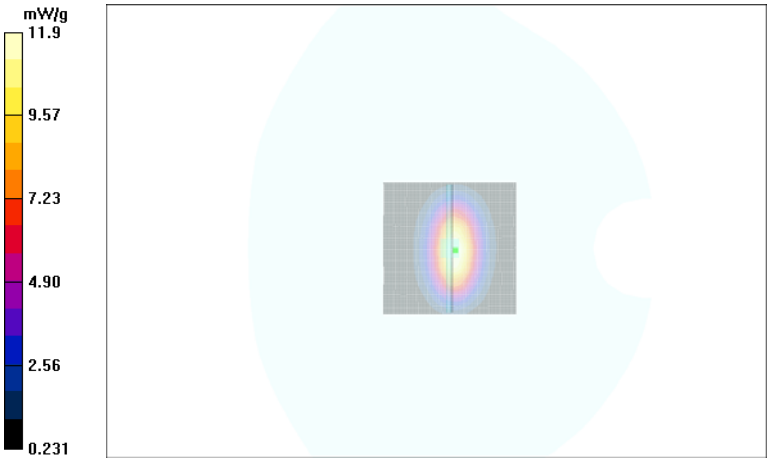
Test Laboratory: TCC Nokia
Type: D1900V2; Serial: 5d063

Communication System: CW1900
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Medium Temperature: 22.5 C
Medium parameters used: f = 1900 MHz; σ = 1.45 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.9, 4.9, 4.9); Calibrated: 2009-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2009-07-21
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 12.2 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.1 V/m
Peak SAR (extrapolated) = 19.6 W/kg
SAR(1 g) = 10.6 mW/g
SAR(10 g) = 5.49 mW/g
Power Drift = -0.071 dB
Maximum value of SAR (measured) = 11.9 mW/g



Date/Time: 2010-07-01 12:32:09

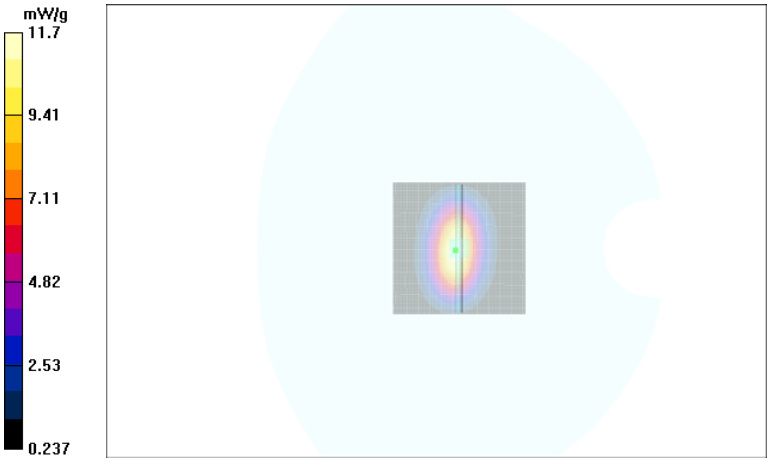
Test Laboratory: TCC Nokia
Type: D1900V2; Serial: 5d063

Communication System: CW1900
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: Head 1950; Medium Notes: Medium Temperature: 22.2 C
Medium parameters used: f = 1900 MHz; σ = 1.39 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.9, 4.9, 4.9); Calibrated: 2009-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2009-07-21
- Phantom: SAM 6; Type: SAM Twin Phantom; Serial: TP-1301
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 11.7 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 92.5 V/m
Peak SAR (extrapolated) = 19.0 W/kg
SAR(1 g) = 10.3 mW/g
SAR(10 g) = 5.36 mW/g
Power Drift = 0.010 dB
Maximum value of SAR (measured) = 11.7 mW/g



Date/Time: 2010-06-30 10:58:18

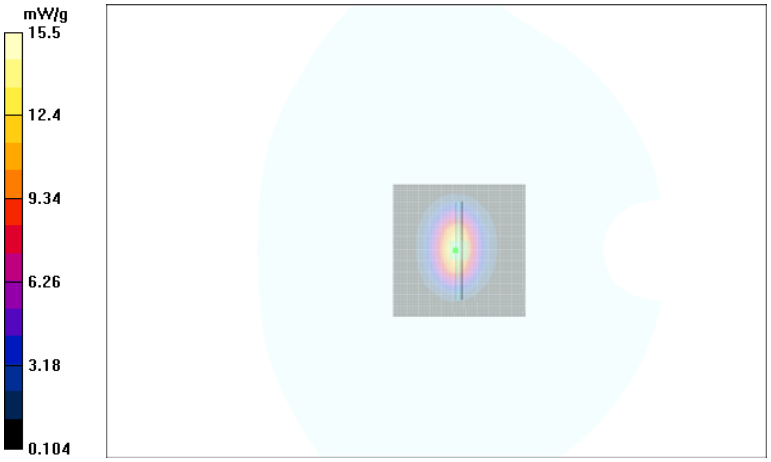
Test Laboratory: TCC Nokia
Type: D2450V2; Serial: 790

Communication System: CW2450
Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: Head 2450; Medium Notes: Medium Temperature: 22.4 C
Medium parameters used: f = 2450 MHz; σ = 1.88 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.21, 4.21, 4.21); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 14.0 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.4 V/m
Peak SAR (extrapolated) = 27.9 W/kg
SAR(1 g) = 13.6 mW/g
SAR(10 g) = 6.32 mW/g
Power Drift = 0.008 dB
Maximum value of SAR (measured) = 15.5 mW/g



Date/Time: 2010-07-02 09:37:29

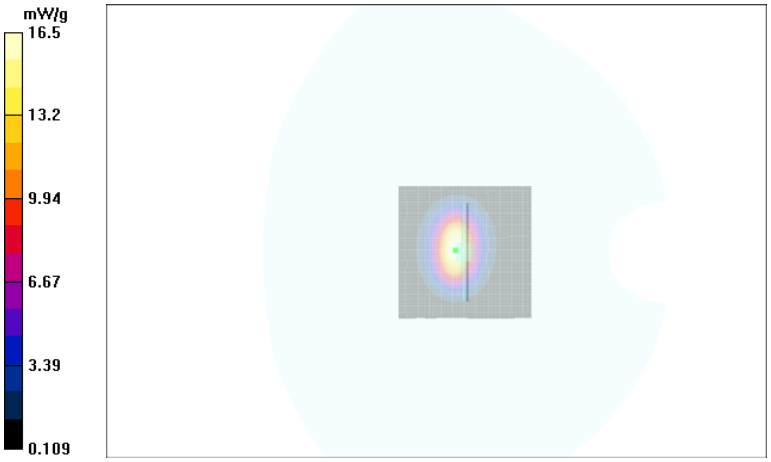
Test Laboratory: TCC Nokia
Type: D2450V2; Serial: 790

Communication System: CW2450
Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: Head 2450; Medium Notes: Medium Temperature: 22,3 C
Medium parameters used: f = 2450 MHz; σ = 1.88 mho/m; ε_r = 38.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-02-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2009-09-18
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 16.9 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 87.5 V/m
Peak SAR (extrapolated) = 29.8 W/kg
SAR(1 g) = 14.4 mW/g
SAR(10 g) = 6.64 mW/g
Power Drift = -0.049 dB
Maximum value of SAR (measured) = 16.5 mW/g



Date/Time: 2010-07-05 10:58:15

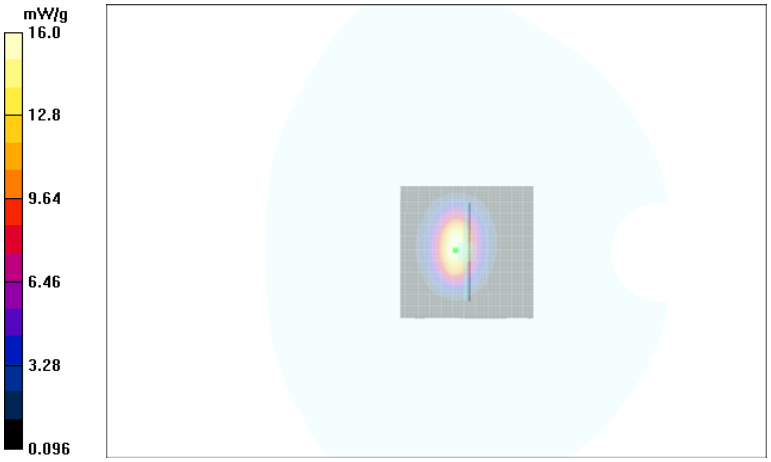
Test Laboratory: TCC Nokia
Type: D2450V2; Serial: 790

Communication System: CW2450
Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: Head 2450; Medium Notes: Medium Temperature: 22.3 C
Medium parameters used: f = 2450 MHz; σ = 1.88 mho/m; ε_r = 38.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-02-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2009-09-18
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 16.5 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 85.2 V/m
Peak SAR (extrapolated) = 29.0 W/kg
SAR(1 g) = 14.1 mW/g
SAR(10 g) = 6.5 mW/g
Power Drift = -0.077 dB
Maximum value of SAR (measured) = 16.0 mW/g



APPENDIX B: MEASUREMENT SCANS

See the following pages

Date/Time: 2010-06-07 16:54:51

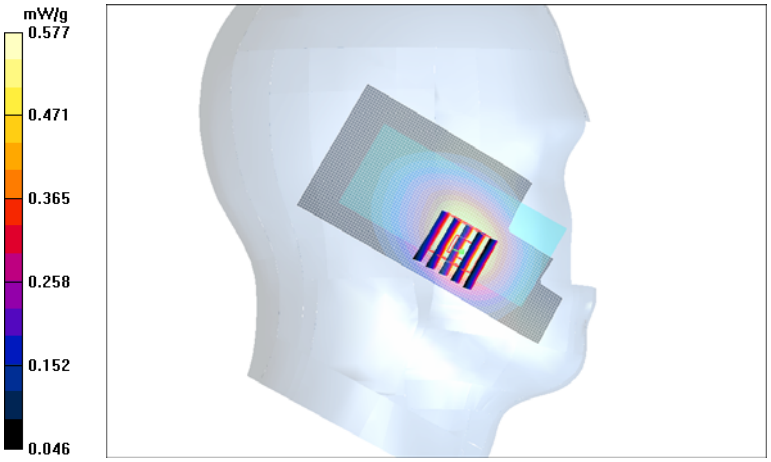
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 835; Medium Notes: Medium Temperature: 22.2 C
Medium parameters used: f = 837 MHz; σ = 0.891 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek - Middle - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.572 mW/g

Cheek - Middle - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.61 V/m
Peak SAR (extrapolated) = 0.729 W/kg
SAR(1 g) = 0.537 mW/g
SAR(10 g) = 0.374 mW/g
Power Drift = -0.223 dB
Maximum value of SAR (measured) = 0.577 mW/g



Date/Time: 2010-06-07 20:23:01

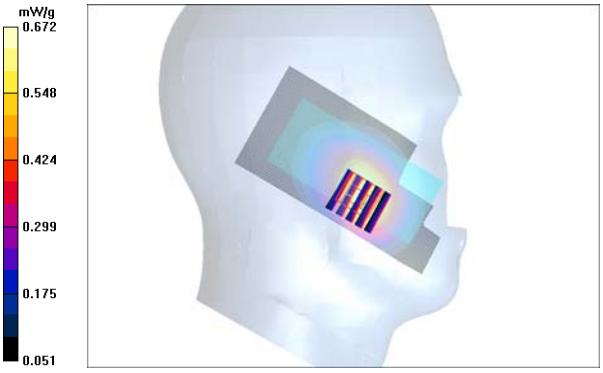
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

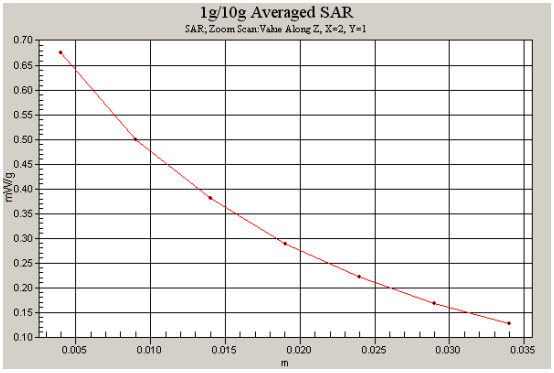
Communication System: 2-slot GPRS850
Frequency: 824.2 MHz; Duty Cycle: 1:4.2
Medium: Head 835; Medium Notes: Medium Temperature: 22.2 C
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.88 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek - Low - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.688 mW/g

Cheek - Low - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.04 V/m
Peak SAR (extrapolated) = 0.888 W/kg
SAR(1 g) = 0.644 mW/g
SAR(10 g) = 0.446 mW/g
Power Drift = -0.114 dB
Maximum value of SAR (measured) = 0.672 mW/g





Date/Time: 2010-06-07 19:23:33

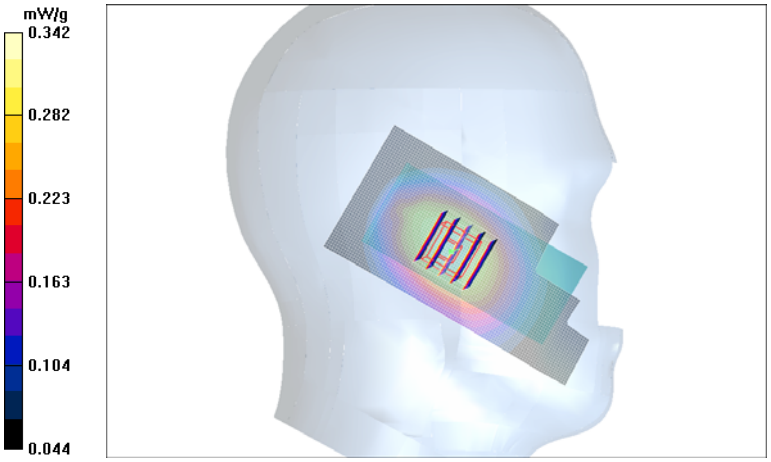
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 2-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium: Head 835; Medium Notes: Medium Temperature: 22.2 C
Medium parameters used: f = 837 MHz; σ = 0.891 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilt - Middle - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.343 mW/g

Tilt - Middle - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 16.0 V/m
Peak SAR (extrapolated) = 0.412 W/kg
SAR(1 g) = 0.325 mW/g
SAR(10 g) = 0.243 mW/g
Power Drift = -0.005 dB
Maximum value of SAR (measured) = 0.342 mW/g



Date/Time: 2010-06-07 19:49:11

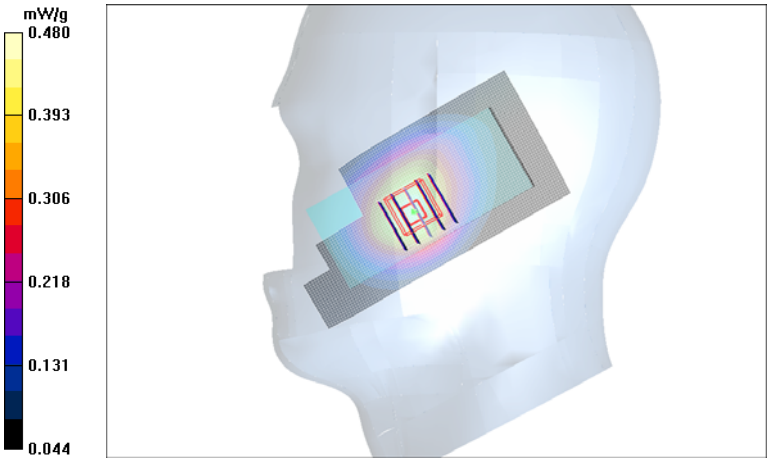
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 2-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium: Head 835; Medium Notes: Medium Temperature: 22.2 C
Medium parameters used: f = 837 MHz; σ = 0.891 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek - Middle - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.490 mW/g

Cheek - Middle - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.37 V/m
Peak SAR (extrapolated) = 0.635 W/kg
SAR(1 g) = 0.453 mW/g
SAR(10 g) = 0.324 mW/g
Power Drift = -0.085 dB
Maximum value of SAR (measured) = 0.480 mW/g



Date/Time: 2010-06-07 20:05:02

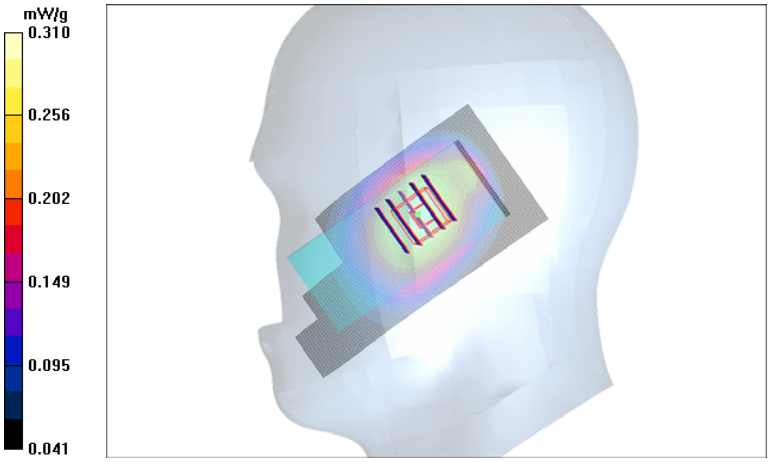
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 2-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium: Head 835; Medium Notes: Medium Temperature: 22.2 C
Medium parameters used: f = 837 MHz; σ = 0.891 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilt - Middle - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.308 mW/g

Tilt - Middle - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 14.3 V/m
Peak SAR (extrapolated) = 0.373 W/kg
SAR(1 g) = 0.296 mW/g
SAR(10 g) = 0.221 mW/g
Power Drift = 0.047 dB
Maximum value of SAR (measured) = 0.310 mW/g



Date/Time: 2010-06-07 17:36:02

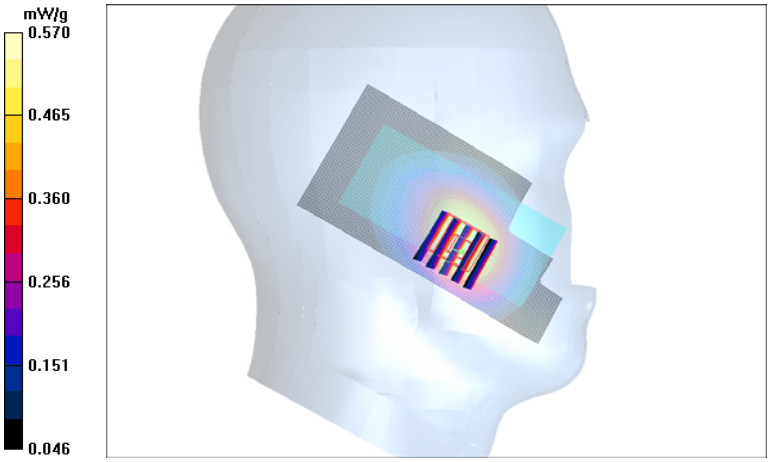
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 3-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:2.8
Medium: Head 835; Medium Notes: Medium Temperature: 22.2 C
Medium parameters used: f = 837 MHz; σ = 0.891 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek - Middle - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.567 mW/g

Cheek - Middle - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.53 V/m
Peak SAR (extrapolated) = 0.724 W/kg
SAR(1 g) = 0.533 mW/g
SAR(10 g) = 0.374 mW/g
Power Drift = -0.049 dB
Maximum value of SAR (measured) = 0.570 mW/g



Date/Time: 2010-06-07 18:39:20

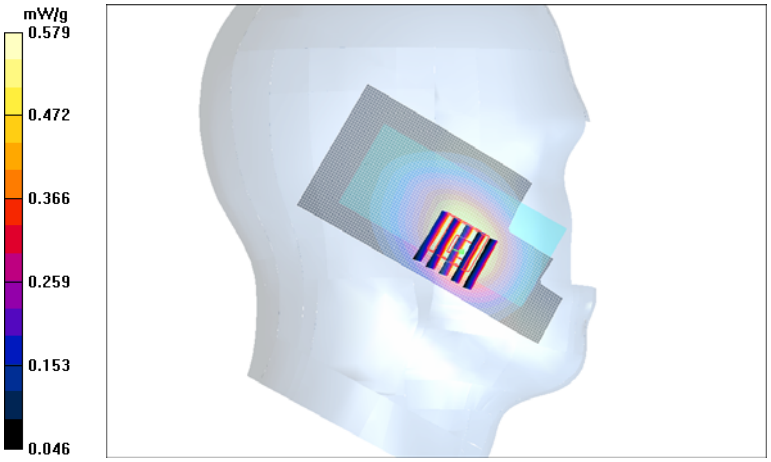
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 4-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:2.08
Medium: Head 835; Medium Notes: Medium Temperature: 22.2 C
Medium parameters used: f = 837 MHz; σ = 0.891 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek - Middle - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.576 mW/g

Cheek - Middle - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.54 V/m
Peak SAR (extrapolated) = 0.724 W/kg
SAR(1 g) = 0.540 mW/g
SAR(10 g) = 0.378 mW/g
Power Drift = -0.017 dB
Maximum value of SAR (measured) = 0.579 mW/g



Date/Time: 2010-06-28 18:31:48

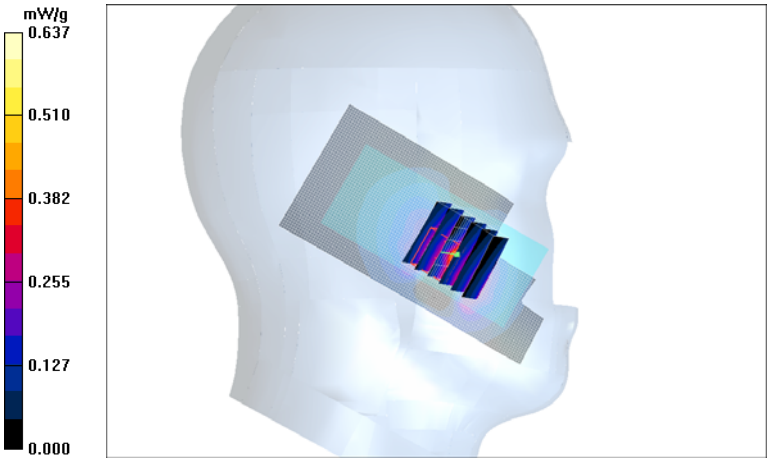
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 2-slot 8PSK EGPRS850
Frequency: 824.2 MHz; Duty Cycle: 1:4.2
Medium: Head 850; Medium Notes: Medium Temperature: 22.2 C
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.924 mho/m; ε_r = 42.8; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek - Low - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.489 mW/g

Cheek - Low - BL-5CT Sanyo/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 5.55 V/m
Peak SAR (extrapolated) = 0.741 W/kg
SAR(1 g) = 0.388 mW/g
SAR(10 g) = 0.248 mW/g
Power Drift = 0.080 dB
Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.
Maximum value of SAR (measured) = 0.637 mW/g



Date/Time: 2010-06-07 10:18:30 PM

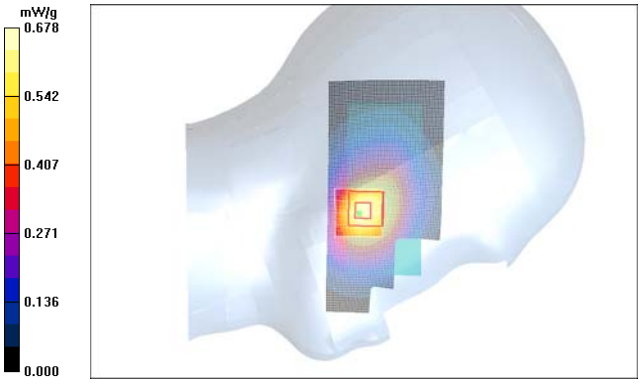
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 2-slot GPRS850
Frequency: 824.2 MHz; Duty Cycle: 1:4.2
Medium: Head 835; Medium Notes: Medium Temperature: 22.2 C
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.88 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 4; Type: Twin Phantom; Serial: TP-1410
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Low - BL-5CT Panasonic/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.678 mW/g

Cheek - Low - BL-5CT Panasonic/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.18 V/m
Peak SAR (extrapolated) = 0.872 W/kg
SAR(1 g) = 0.640 mW/g
SAR(10 g) = 0.445 mW/g
Power Drift = -0.063 dB
Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.
Maximum value of SAR (measured) = 0.675 mW/g



Date/Time: 2010-06-17 20:05:20

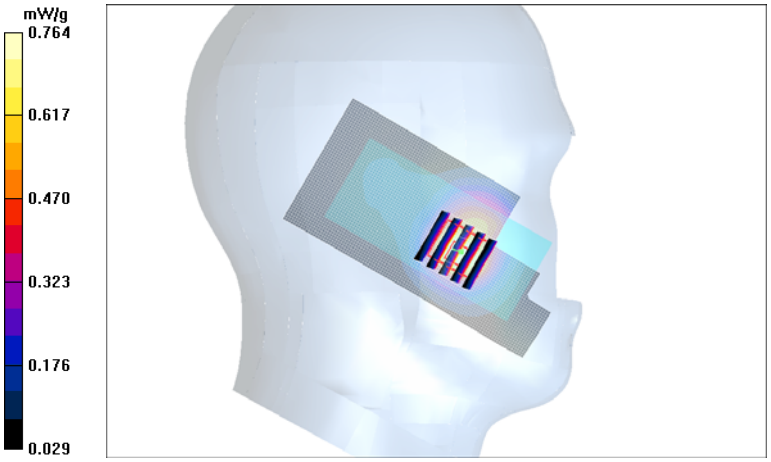
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: GSM 1900
Frequency: 1880.0 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Medium Temperature: 22.5 C
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.9, 4.9, 4.9); Calibrated: 2009-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2009-07-21
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek - Middle - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.841 mW/g

Cheek - Middle - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 6.97 V/m
Peak SAR (extrapolated) = 1.08 W/kg
SAR(1 g) = 0.713 mW/g
SAR(10 g) = 0.432 mW/g
Power Drift = 0.030 dB
Maximum value of SAR (measured) = 0.764 mW/g



Date/Time: 2010-06-17 20:19:36

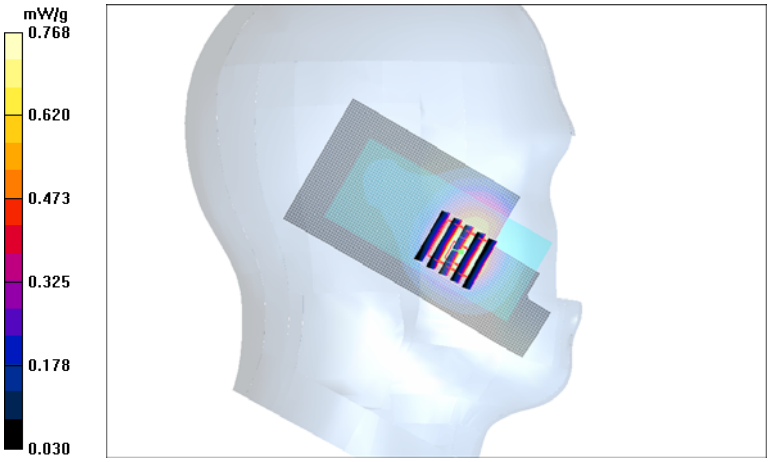
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 2-slot GPRS1900
Frequency: 1880.0 MHz; Duty Cycle: 1:4.2
Medium: Head 1900; Medium Notes: Medium Temperature: 22.5 C
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.9, 4.9, 4.9); Calibrated: 2009-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2009-07-21
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek - Middle - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.840 mW/g

Cheek - Middle - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.08 V/m
Peak SAR (extrapolated) = 1.10 W/kg
SAR(1 g) = 0.716 mW/g
SAR(10 g) = 0.435 mW/g
Power Drift = 0.007 dB
Maximum value of SAR (measured) = 0.768 mW/g



Date/Time: 2010-06-17 21:11:03

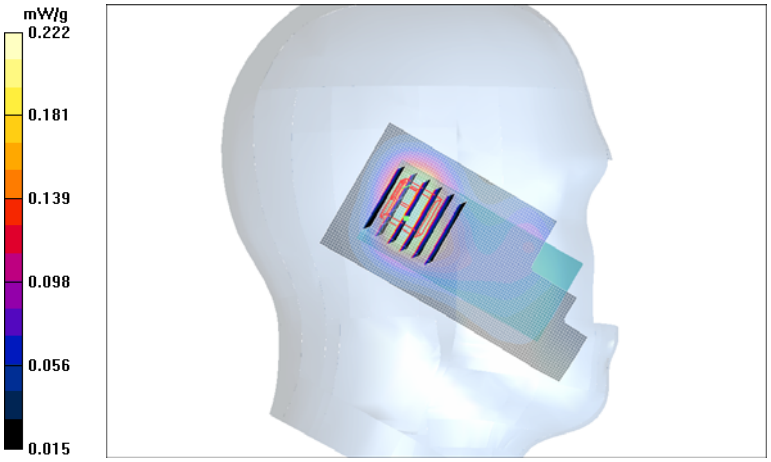
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 2-slot GPRS1900
Frequency: 1880.0 MHz; Duty Cycle: 1:4.2
Medium: Head 1900; Medium Notes: Medium Temperature: 22.5 C
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.9, 4.9, 4.9); Calibrated: 2009-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2009-07-21
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilt - Middle - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.245 mW/g

Tilt - Middle - BL-5CT Sanyo/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.9 V/m
Peak SAR (extrapolated) = 0.321 W/kg
SAR(1 g) = 0.206 mW/g
SAR(10 g) = 0.136 mW/g
Power Drift = -0.071 dB
Maximum value of SAR (measured) = 0.222 mW/g



Date/Time: 2010-06-17 21:45:44

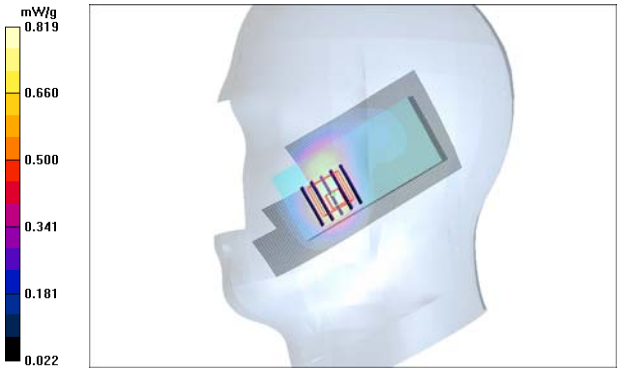
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

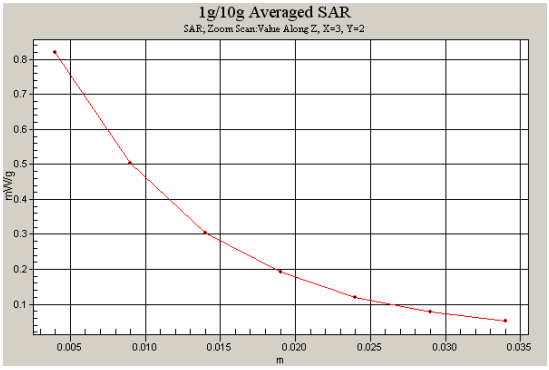
Communication System: 2-slot GPRS1900
Frequency: 1880.0 MHz; Duty Cycle: 1:4.2
Medium: Head 1900; Medium Notes: Medium Temperature: 22.5 C
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.9, 4.9, 4.9); Calibrated: 2009-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2009-07-21
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek - Middle - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.857 mW/g

Cheek - Middle - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 6.22 V/m
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.751 mW/g
SAR(10 g) = 0.449 mW/g
Power Drift = -0.255 dB
Maximum value of SAR (measured) = 0.819 mW/g





Date/Time: 2010-06-17 22:35:41

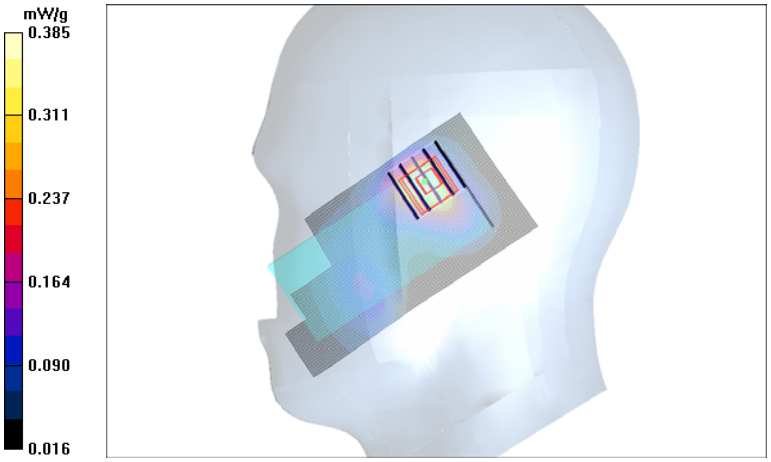
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 2-slot GPRS1900
Frequency: 1880.0 MHz; Duty Cycle: 1:4.2
Medium: Head 1900; Medium Notes: Medium Temperature: 22.5 C
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.9, 4.9, 4.9); Calibrated: 2009-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2009-07-21
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilt - Middle - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.454 mW/g

Tilt - Middle - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.9 V/m
Peak SAR (extrapolated) = 0.607 W/kg
SAR(1 g) = 0.355 mW/g
SAR(10 g) = 0.205 mW/g
Power Drift = -0.029 dB
Maximum value of SAR (measured) = 0.385 mW/g



Date/Time: 2010-06-17 20:34:28

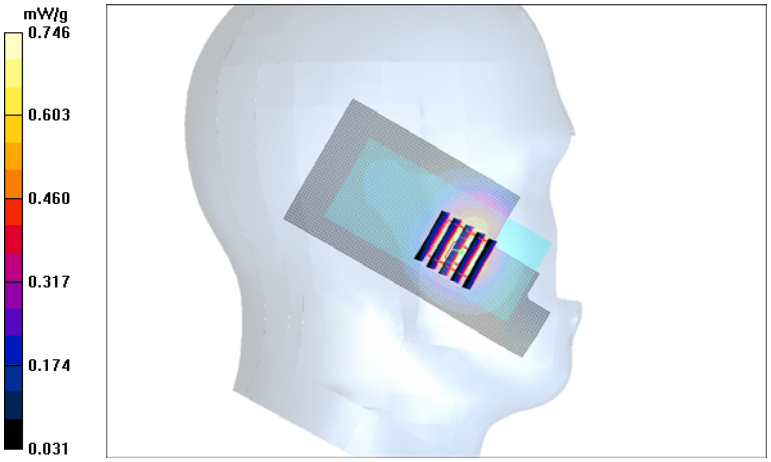
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 3-slot GPRS1900
Frequency: 1880.0 MHz; Duty Cycle: 1:2.8
Medium: Head 1900; Medium Notes: Medium Temperature: 22.5 C
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.9, 4.9, 4.9); Calibrated: 2009-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2009-07-21
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek - Middle - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.832 mW/g

Cheek - Middle - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.05 V/m
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.699 mW/g
SAR(10 g) = 0.426 mW/g
Power Drift = -0.035 dB
Maximum value of SAR (measured) = 0.746 mW/g



Date/Time: 2010-06-17 20:49:40

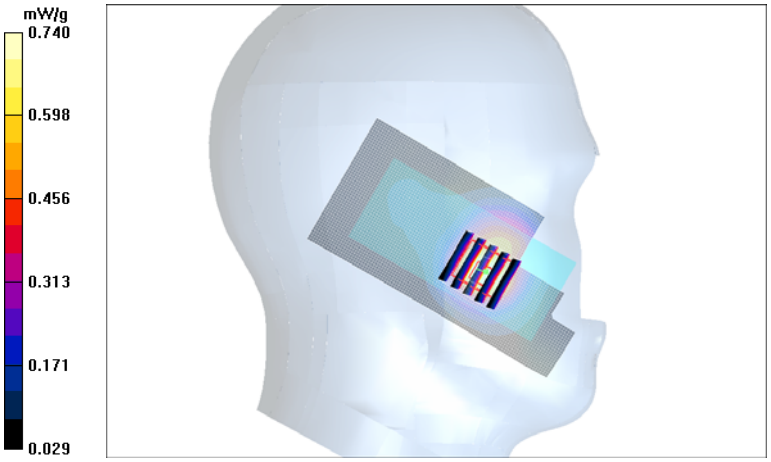
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 4-slot GPRS1900
Frequency: 1880.0 MHz; Duty Cycle: 1:2.08
Medium: Head 1900; Medium Notes: Medium Temperature: 22.5 C
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.9, 4.9, 4.9); Calibrated: 2009-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2009-07-21
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek - Middle - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.806 mW/g

Cheek - Middle - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.02 V/m
Peak SAR (extrapolated) = 1.07 W/kg
SAR(1 g) = 0.691 mW/g
SAR(10 g) = 0.418 mW/g
Power Drift = -0.095 dB
Maximum value of SAR (measured) = 0.740 mW/g



Date/Time: 2010-07-01 23:56:24

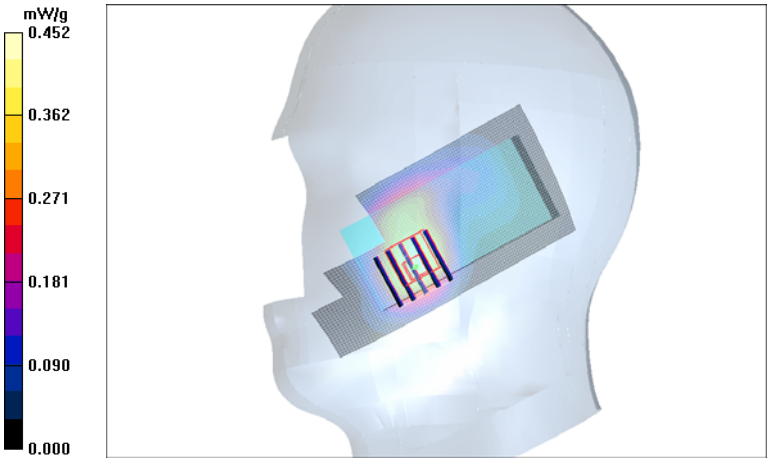
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 2-slot 8PSK EGPRS1900
Frequency: 1880.0 MHz; Duty Cycle: 1:4.2
Medium: Head 1900; Medium Notes: Medium Temperature: 22.2 C
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.9, 4.9, 4.9); Calibrated: 2009-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2009-07-21
- Phantom: SAM 6; Type: SAM Twin Phantom; Serial: TP-1301
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek - Middle - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.448 mW/g

Cheek - Middle - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 5.06 V/m
Peak SAR (extrapolated) = 0.641 W/kg
SAR(1 g) = 0.410 mW/g
SAR(10 g) = 0.252 mW/g
Power Drift = 0.085 dB
Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.
Maximum value of SAR (measured) = 0.452 mW/g



Date/Time: 2010-06-17 11:04:24 PM

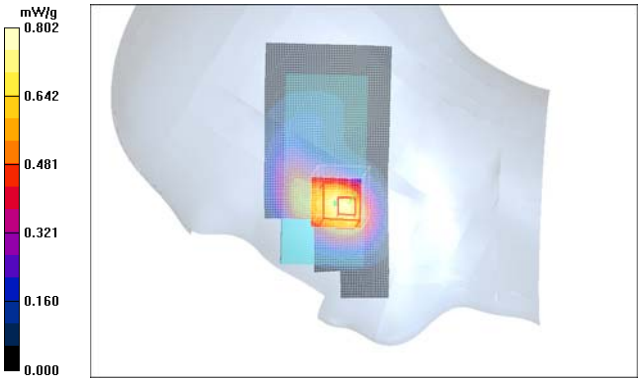
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 2-slot GPRS1900
Frequency: 1880 MHz; Duty Cycle: 1:4.2
Medium: Head 1900; Medium Notes: Medium Temperature: 22.5 C
Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.9, 4.9, 4.9); Calibrated: 2009-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2009-07-21
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle - BL-5CT Panasonic/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.802 mW/g

Cheek - Middle - BL-5CT Panasonic/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 5.26 V/m
Peak SAR (extrapolated) = 1.16 W/kg
SAR(1 g) = 0.712 mW/g
SAR(10 g) = 0.428 mW/g
Power Drift = 0.045 dB
Maximum value of SAR (measured) = 0.782 mW/g



Date/Time: 2010-06-30 19:00:59

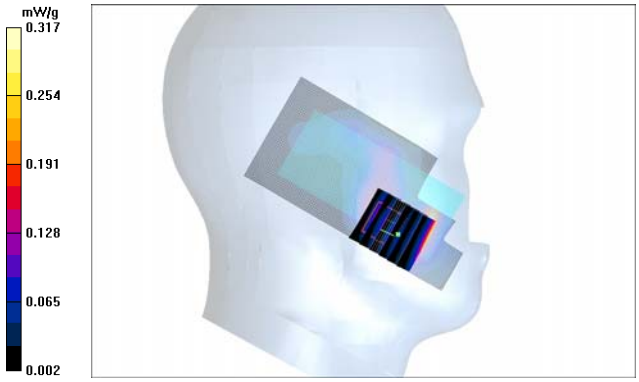
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

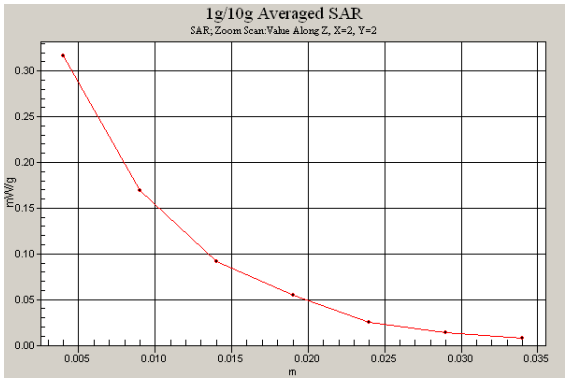
Communication System: WLAN2450 b-mode
Frequency: 2462.0 MHz; Duty Cycle: 1:1
Medium: Head 2450; Medium Notes: Medium Temperature: 22.4 C
Medium parameters used: f = 2462 MHz; σ = 1.9 mho/m; ε_r = 38.9; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.21, 4.21, 4.21); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek - High - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.298 mW/g

Cheek - High - BL-5CT Sanyo/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 4.23 V/m
Peak SAR (extrapolated) = 0.525 W/kg
SAR(1 g) = 0.272 mW/g
SAR(10 g) = 0.142 mW/g
Power Drift = 0.406 dB
Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.
Maximum value of SAR (measured) = 0.317 mW/g





Date/Time: 2010-06-30 16:55:42

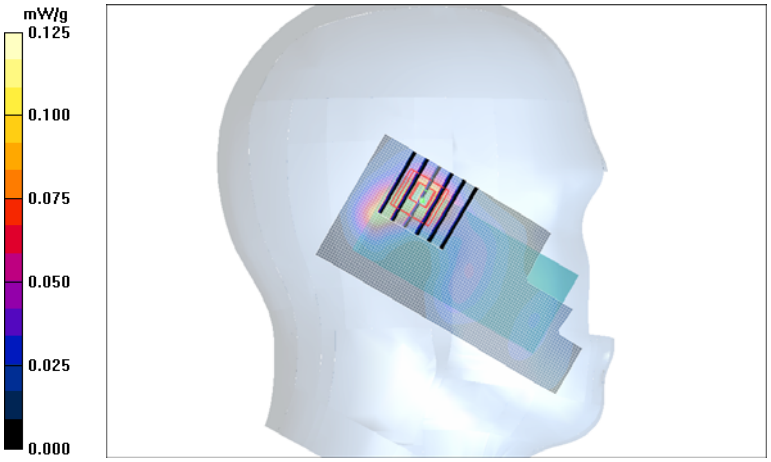
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: WLAN2450 b-mode
Frequency: 2442.0 MHz; Duty Cycle: 1:1
Medium: Head 2450; Medium Notes: Medium Temperature: 22.4 C
Medium parameters used: f = 2442 MHz; σ = 1.88 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.21, 4.21, 4.21); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilt - Middle - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.121 mW/g

Tilt - Middle - BL-5CT Sanyo/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 6.62 V/m
Peak SAR (extrapolated) = 0.212 W/kg
SAR(1 g) = 0.113 mW/g
SAR(10 g) = 0.057 mW/g
Power Drift = 0.270 dB
Maximum value of SAR (measured) = 0.125 mW/g



Date/Time: 2010-06-30 17:24:17

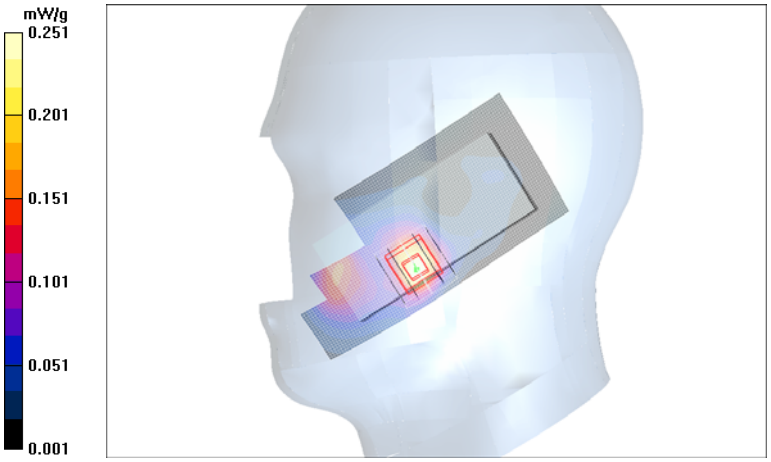
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: WLAN2450 b-mode
Frequency: 2442.0 MHz; Duty Cycle: 1:1
Medium: Head 2450; Medium Notes: Medium Temperature: 22.4 C
Medium parameters used: f = 2442 MHz; σ = 1.88 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.21, 4.21, 4.21); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek - Middle - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.263 mW/g

Cheek - Middle - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 4.69 V/m
Peak SAR (extrapolated) = 0.422 W/kg
SAR(1 g) = 0.228 mW/g
SAR(10 g) = 0.120 mW/g
Power Drift = 0.442 dB
Maximum value of SAR (measured) = 0.251 mW/g



Date/Time: 2010-06-30 17:52:20

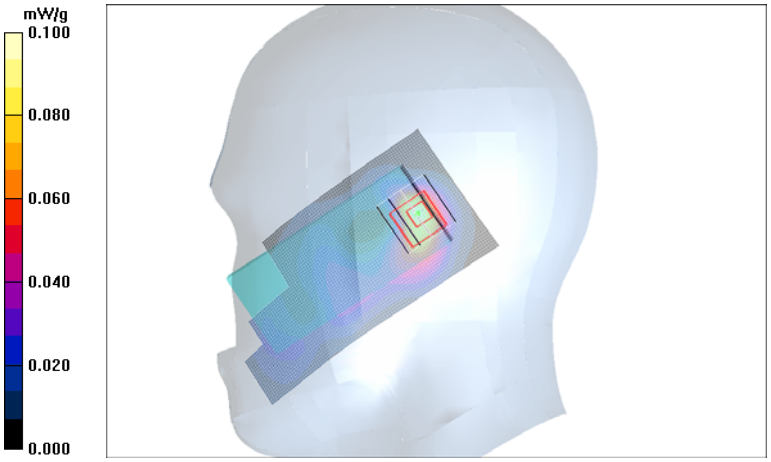
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: WLAN2450 b-mode
Frequency: 2442.0 MHz; Duty Cycle: 1:1
Medium: Head 2450; Medium Notes: Medium Temperature: 22.4 C
Medium parameters used: f = 2442 MHz; σ = 1.88 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.21, 4.21, 4.21); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Tilt - Middle - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.099 mW/g

Tilt - Middle - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.17 V/m
Peak SAR (extrapolated) = 0.172 W/kg
SAR(1 g) = 0.088 mW/g
SAR(10 g) = 0.042 mW/g
Power Drift = 0.266 dB
Maximum value of SAR (measured) = 0.100 mW/g



Date/Time: 2010-07-05 12:07:52

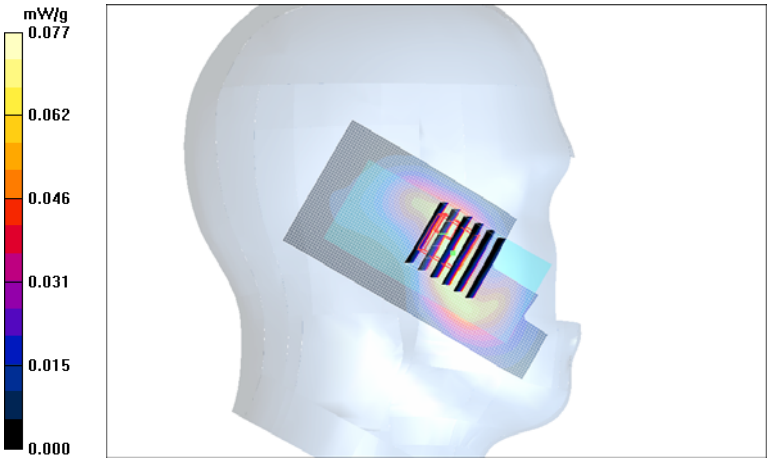
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: WLAN2450 n-mode
Frequency: 2412.0 MHz; Duty Cycle: 1:1
Medium: Head 2450; Medium Notes: Medium Temperature: 22.3 C
Medium parameters used: f = 2412 MHz; σ = 1.84 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-02-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2009-09-18
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek position - Low - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.071 mW/g

Cheek position - Low - BL-5CT Sanyo/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 2.04 V/m
Peak SAR (extrapolated) = 0.131 W/kg
SAR(1 g) = 0.070 mW/g
SAR(10 g) = 0.038 mW/g
Power Drift = -0.039 dB
Maximum value of SAR (measured) = 0.077 mW/g



Date/Time: 2010-06-30 22:33:01

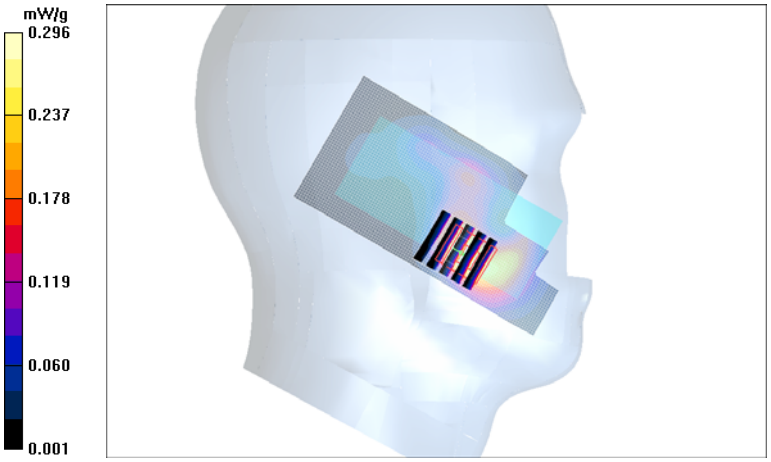
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: WLAN2450 b-mode
Frequency: 2462.0 MHz; Duty Cycle: 1:1
Medium: Head 2450; Medium Notes: Medium Temperature: 22.4 C
Medium parameters used: f = 2462 MHz; σ = 1.9 mho/m; ε_r = 38.9; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.21, 4.21, 4.21); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek - High - BL-5CT Panasonic/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.342 mW/g

Cheek - High - BL-5CT Panasonic/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 4.40 V/m
Peak SAR (extrapolated) = 0.483 W/kg
SAR(1 g) = 0.253 mW/g
SAR(10 g) = 0.130 mW/g
Power Drift = 0.185 dB
Maximum value of SAR (measured) = 0.296 mW/g



Date/Time: 2010-07-05 14:44:22

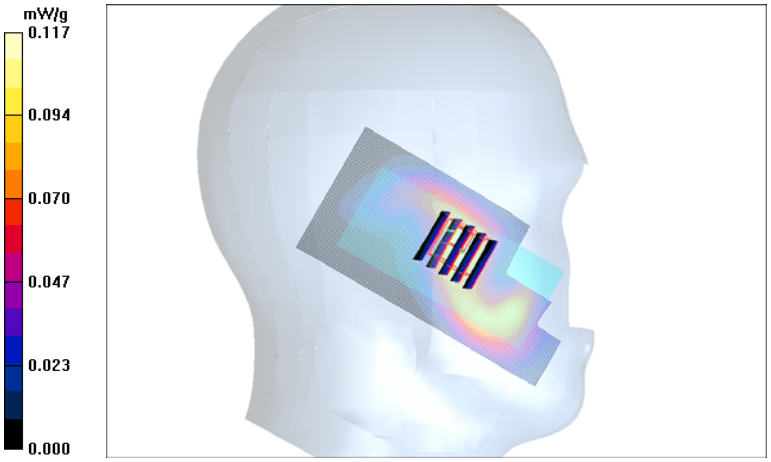
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036324/9

Communication System: WLAN2450 b-mode
Frequency: 2442.0 MHz; Duty Cycle: 1:1
Medium: Head 2450; Medium Notes: Medium Temperature: 22.3 C
Medium parameters used: f = 2442 MHz; σ = 1.87 mho/m; ε_r = 38.2; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(4.36, 4.36, 4.36); Calibrated: 2010-02-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2009-09-18
- Phantom: SAM 8; Type: SAM Twin Phantom; Serial: TP-1408
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 184

Cheek - Middle - HW0211 - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.120 mW/g

Cheek - Middle - HW0211 - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 3.82 V/m
Peak SAR (extrapolated) = 0.182 W/kg
SAR(1 g) = 0.107 mW/g
SAR(10 g) = 0.061 mW/g
Power Drift = 0.217 dB
Maximum value of SAR (measured) = 0.117 mW/g



Date/Time: 2010-06-17 10:31:55

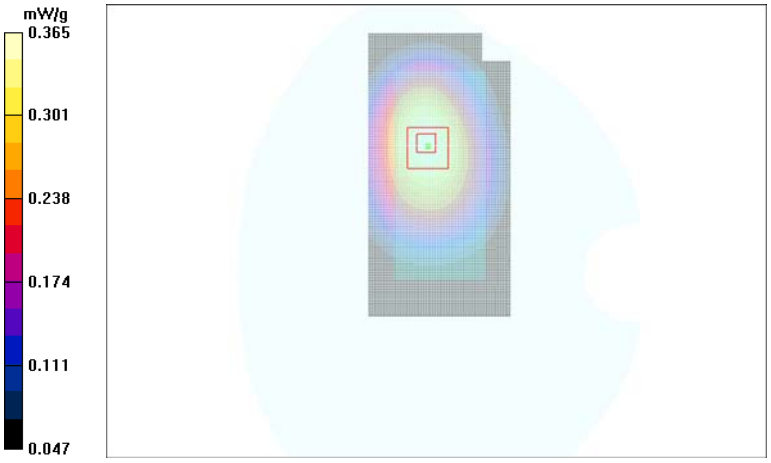
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 2-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium: Body 835; Medium Notes: Medium Temperature: 21.9 C
Medium parameters used: f = 837 MHz; σ = 0.976 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.65, 5.65, 5.65); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - No Accessory - Display Facing Phantom - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.361 mW/g

Body - Middle - No Accessory - Display Facing Phantom - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.60 V/m
Peak SAR (extrapolated) = 0.446 W/kg
SAR(1 g) = 0.345 mW/g
SAR(10 g) = 0.253 mW/g
Power Drift = -0.112 dB
Maximum value of SAR (measured) = 0.365 mW/g



Date/Time: 2010-06-17 11:35:46

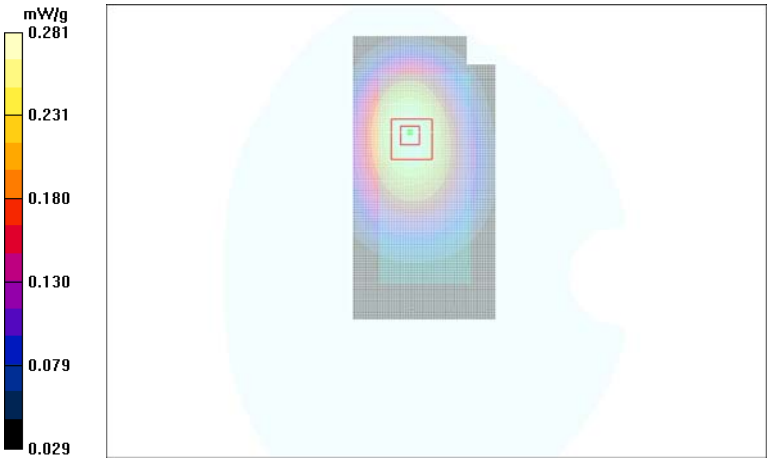
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 2-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium: Body 835; Medium Notes: Medium Temperature: 21.9 C
Medium parameters used: f = 837 MHz; σ = 0.976 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.65, 5.65, 5.65); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - WH-102 - Display Facing Phantom - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.283 mW/g

Body - Middle - WH-102 - Display Facing Phantom - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 5.51 V/m
Peak SAR (extrapolated) = 0.349 W/kg
SAR(1 g) = 0.266 mW/g
SAR(10 g) = 0.193 mW/g
Power Drift = -0.007 dB
Maximum value of SAR (measured) = 0.281 mW/g



Date/Time: 2010-06-17 12:09:04

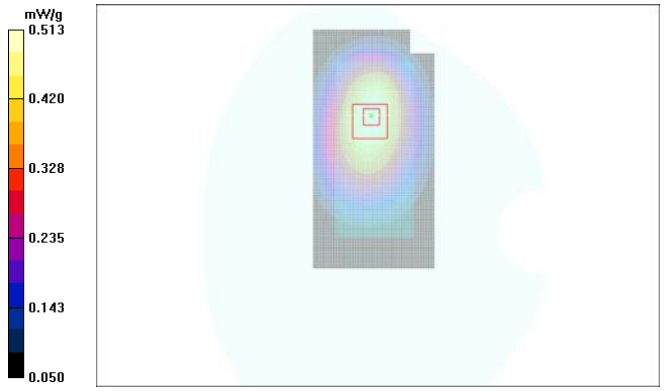
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

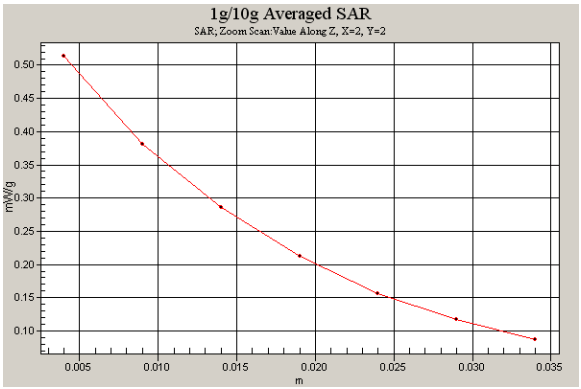
Communication System: 2-slot GPRS850
Frequency: 824.2 MHz; Duty Cycle: 1:4.2
Medium: Body 835; Medium Notes: Medium Temperature: 21.9 C
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.964 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.65, 5.65, 5.65); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Low -No Accessory - Back Facing Phantom - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.508 mW/g

Body - Low -No Accessory - Back Facing Phantom - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.42 V/m
Peak SAR (extrapolated) = 0.646 W/kg
SAR(1 g) = 0.483 mW/g
SAR(10 g) = 0.347 mW/g
Power Drift = -0.027 dB
Maximum value of SAR (measured) = 0.513 mW/g





Date/Time: 2010-06-17 11:58:19

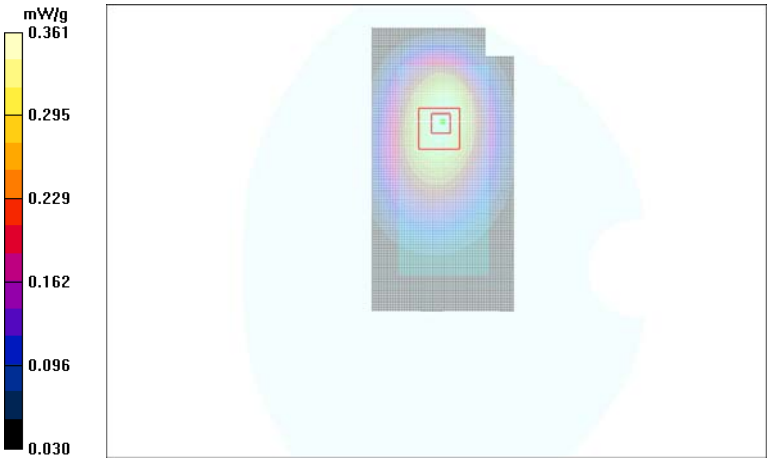
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 2-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium: Body 835; Medium Notes: Medium Temperature: 21.9 C
Medium parameters used: f = 837 MHz; σ = 0.976 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.65, 5.65, 5.65); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - WH-102 - Back Facing Phantom - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.361 mW/g

Body - Middle - WH-102 - Back Facing Phantom - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 5.92 V/m
Peak SAR (extrapolated) = 0.466 W/kg
SAR(1 g) = 0.339 mW/g
SAR(10 g) = 0.239 mW/g
Power Drift = -0.007 dB
Maximum value of SAR (measured) = 0.361 mW/g



Date/Time: 2010-06-17 12:52:17 PM

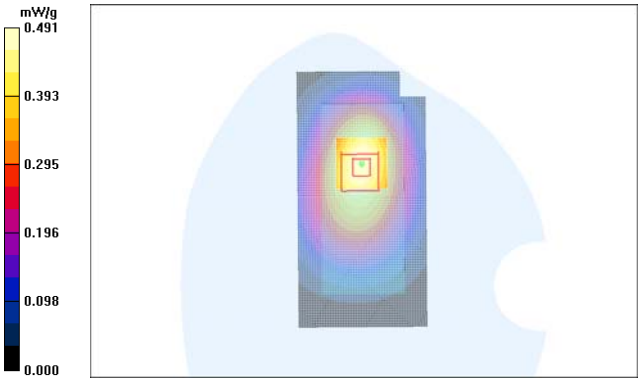
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 2-slot GPRS850
Frequency: 824.2 MHz; Duty Cycle: 1:4.2
Medium: Body 835; Medium Notes: Medium Temperature: 21.9 C
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.964 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(5.65, 5.65, 5.65); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1302
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body -Low -No Accessory - Back Facing Phantom – BL-5CT Panasonic/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.491 mW/g

Body -Low -No Accessory - Back Facing Phantom – BL-5CT Panasonic/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.38 V/m
Peak SAR (extrapolated) = 0.618 W/kg
SAR(1 g) = 0.463 mW/g
SAR(10 g) = 0.333 mW/g
Power Drift = 0.031 dB
Maximum value of SAR (measured) = 0.493 mW/g



Date/Time: 2010-07-01 20:22:52

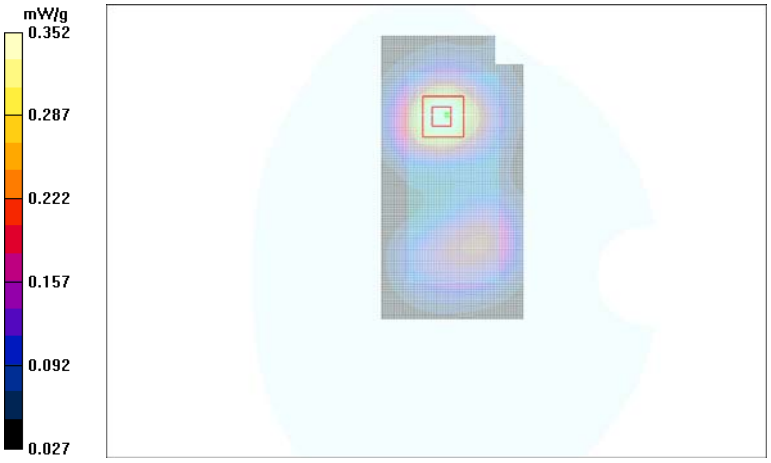
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 2-slot GPRS1900
Frequency: 1880.0 MHz; Duty Cycle: 1:4.2
Medium: Body 1900; Medium Notes: Medium Temperature: 22.5 C
Medium parameters used: f = 1880 MHz; σ = 1.51 mho/m; ε_r = 51.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.41, 4.41, 4.41); Calibrated: 2009-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2009-07-21
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - No Accessory - Display Facing Phantom - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.370 mW/g

Body - Middle - No Accessory - Display Facing Phantom - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.4 V/m
Peak SAR (extrapolated) = 0.474 W/kg
SAR(1 g) = 0.326 mW/g
SAR(10 g) = 0.207 mW/g
Power Drift = -0.108 dB
Maximum value of SAR (measured) = 0.352 mW/g



Date/Time: 2010-07-01 20:36:24

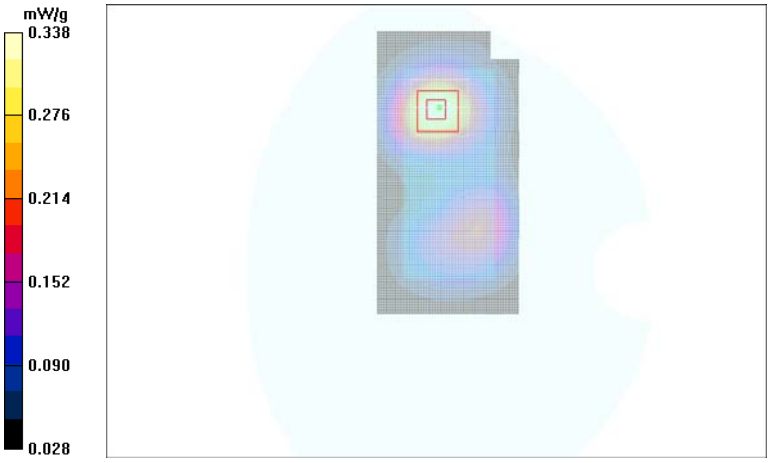
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 2-slot GPRS1900
Frequency: 1880.0 MHz; Duty Cycle: 1:4.2
Medium: Body 1900; Medium Notes: Medium Temperature: 22.5 C
Medium parameters used: f = 1880 MHz; σ = 1.51 mho/m; ε_r = 51.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.41, 4.41, 4.41); Calibrated: 2009-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2009-07-21
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - WH-102 - Display Facing Phantom - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.343 mW/g

Body - Middle - WH-102 - Display Facing Phantom - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.05 V/m
Peak SAR (extrapolated) = 0.457 W/kg
SAR(1 g) = 0.310 mW/g
SAR(10 g) = 0.194 mW/g
Power Drift = 0.033 dB
Maximum value of SAR (measured) = 0.338 mW/g



Date/Time: 2010-07-01 22:17:16

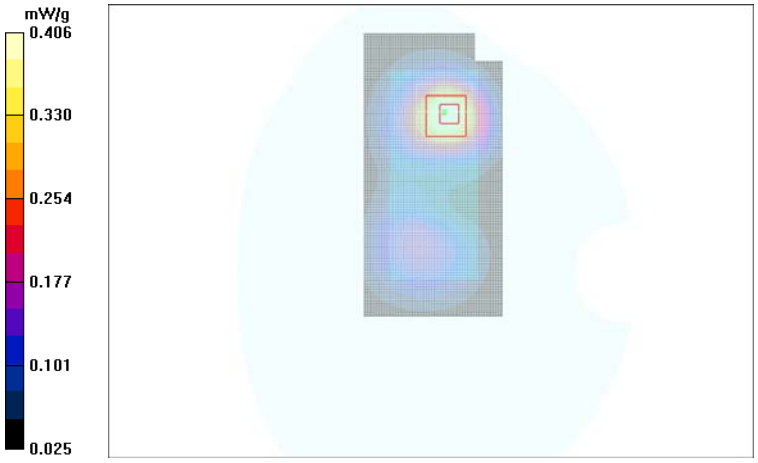
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 2-slot GPRS1900
Frequency: 1909.8 MHz; Duty Cycle: 1:4.2
Medium: Body 1900; Medium Notes: Medium Temperature: 22.5 C
Medium parameters used: f = 1910 MHz; σ = 1.54 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.41, 4.41, 4.41); Calibrated: 2009-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2009-07-21
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - High - No Accessory - Back Facing Phantom - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.409 mW/g

Body - High - No Accessory - Back Facing Phantom - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.89 V/m
Peak SAR (extrapolated) = 0.575 W/kg
SAR(1 g) = 0.375 mW/g
SAR(10 g) = 0.227 mW/g
Power Drift = -0.039 dB
Maximum value of SAR (measured) = 0.406 mW/g



Date/Time: 2010-07-01 20:59:03

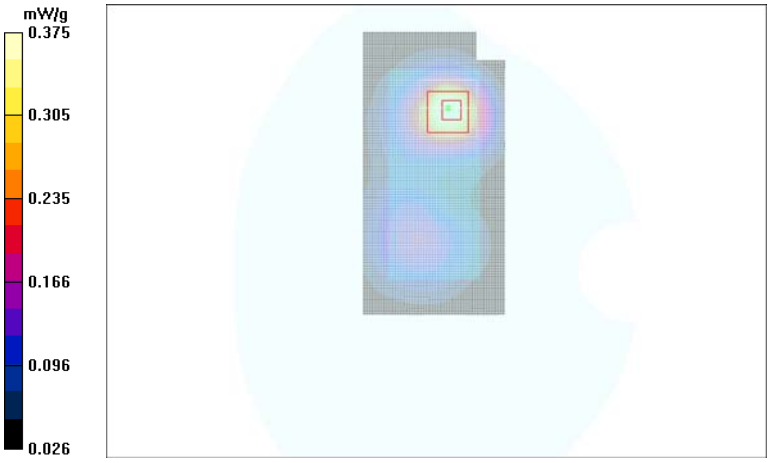
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: 2-slot GPRS1900
Frequency: 1880.0 MHz; Duty Cycle: 1:4.2
Medium: Body 1900; Medium Notes: Medium Temperature: 22.5 C
Medium parameters used: f = 1880 MHz; σ = 1.51 mho/m; ε_r = 51.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.41, 4.41, 4.41); Calibrated: 2009-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2009-07-21
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - WH-102 - Back Facing Phantom - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.381 mW/g

Body - Middle - WH-102 - Back Facing Phantom - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.01 V/m
Peak SAR (extrapolated) = 0.522 W/kg
SAR(1 g) = 0.344 mW/g
SAR(10 g) = 0.208 mW/g
Power Drift = 0.055 dB
Maximum value of SAR (measured) = 0.375 mW/g



Date/Time: 2010-07-01 11:01:21 PM

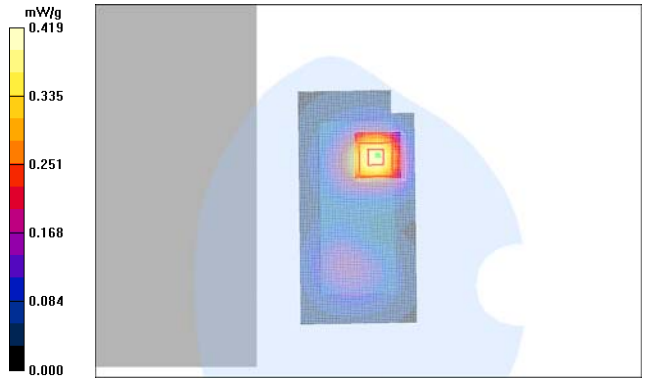
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

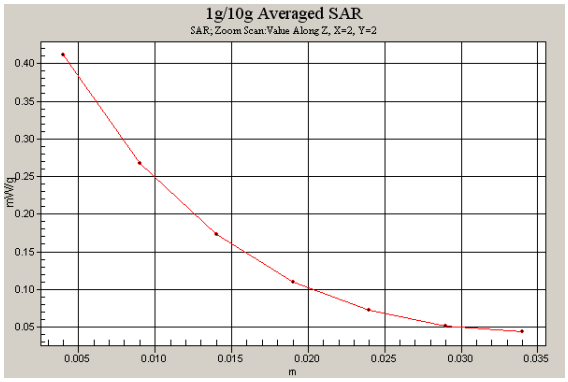
Communication System: 2-slot GPRS1900
Frequency: 1909.8 MHz; Duty Cycle: 1:4.2
Medium: Body 1900; Medium Notes: Medium Temperature: 22.5 C
Medium parameters used: f = 1910 MHz; σ = 1.54 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.41, 4.41, 4.41); Calibrated: 2009-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn682; Calibrated: 2009-07-21
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1037
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - High - No Accessory - Back Facing Phantom - BL-5CT Panasonic/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.419 mW/g

Body - High - No Accessory - Back Facing Phantom - BL-5CT Panasonic/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.86 V/m
Peak SAR (extrapolated) = 0.573 W/kg
SAR(1 g) = 0.377 mW/g
SAR(10 g) = 0.230 mW/g
Power Drift = -0.052 dB
Maximum value of SAR (measured) = 0.411 mW/g





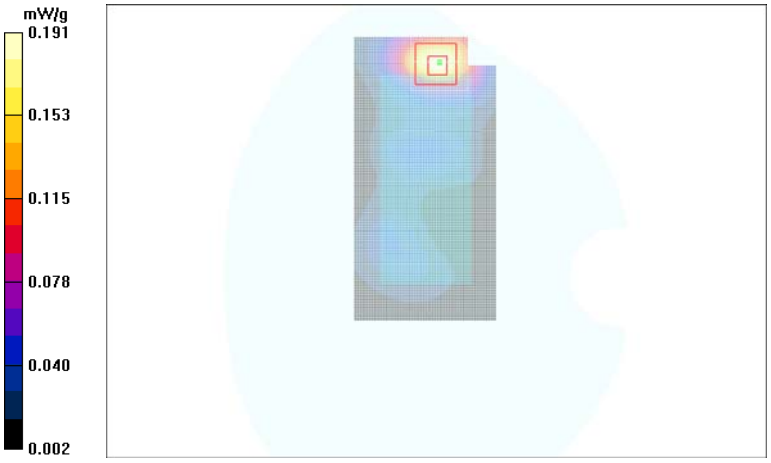
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: WLAN2450 b-mode
Frequency: 2442.0 MHz; Duty Cycle: 1:1
Medium: Body 2450; Medium Notes: Medium Temperature: 22.2 C
Medium parameters used: f = 2442 MHz; σ = 1.98 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(4.12, 4.12, 4.12); Calibrated: 2010-02-24
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2009-09-18
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - No Accessory - Display Facing Phantom - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.192 mW/g

Body - Middle - No Accessory - Display Facing Phantom - BL-5CT Sanyo/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.64 V/m
Peak SAR (extrapolated) = 0.326 W/kg
SAR(1 g) = 0.178 mW/g
SAR(10 g) = 0.095 mW/g
Power Drift = 0.093 dB
Maximum value of SAR (measured) = 0.191 mW/g



Date/Time: 2010-07-02 11:37:57

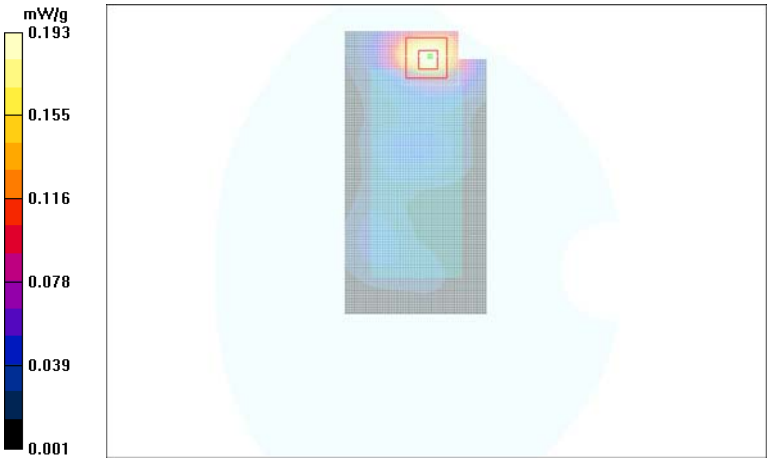
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: WLAN2450 b-mode
Frequency: 2442.0 MHz; Duty Cycle: 1:1
Medium: Body 2450; Medium Notes: Medium Temperature: 22.2 C
Medium parameters used: f = 2442 MHz; σ = 1.98 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(4.12, 4.12, 4.12); Calibrated: 2010-02-24
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2009-09-18
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - WH-102 - Display Facing Phantom - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.196 mW/g

Body - Middle - WH-102 - Display Facing Phantom - BL-5CT Sanyo/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.35 V/m
Peak SAR (extrapolated) = 0.329 W/kg
SAR(1 g) = 0.180 mW/g
SAR(10 g) = 0.097 mW/g
Power Drift = 0.379 dB
Maximum value of SAR (measured) = 0.193 mW/g



Date/Time: 2010-07-02 12:12:44

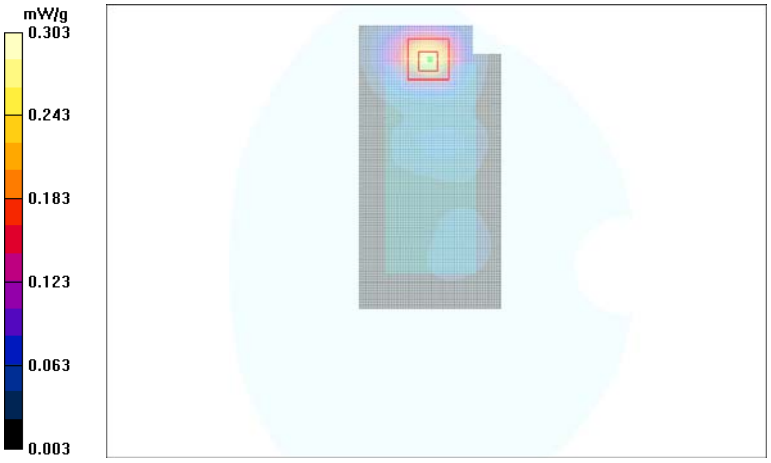
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: WLAN2450 b-mode
Frequency: 2442.0 MHz; Duty Cycle: 1:1
Medium: Body 2450; Medium Notes: Medium Temperature: 22.2 C
Medium parameters used: f = 2442 MHz; σ = 1.98 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(4.12, 4.12, 4.12); Calibrated: 2010-02-24
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2009-09-18
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - No Accessory - Back Facing Phantom - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.272 mW/g

Body - Middle - No Accessory - Back Facing Phantom - BL-5CT Sanyo/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.82 V/m
Peak SAR (extrapolated) = 0.503 W/kg
SAR(1 g) = 0.272 mW/g
SAR(10 g) = 0.138 mW/g
Power Drift = 0.122 dB
Maximum value of SAR (measured) = 0.303 mW/g



Date/Time: 2010-07-02 12:29:36

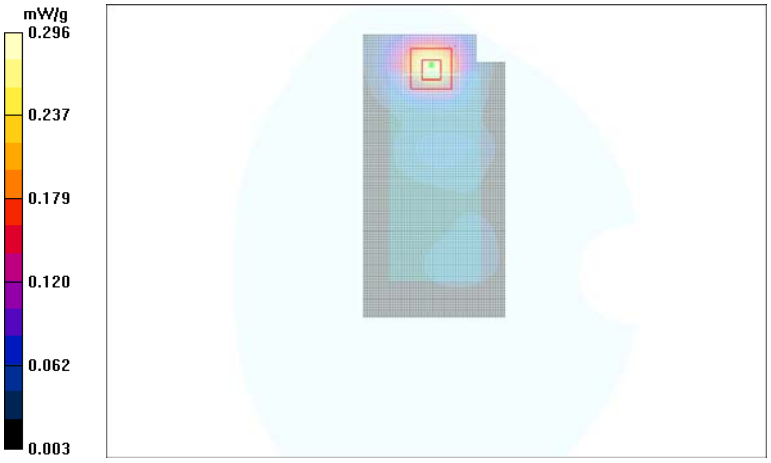
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: WLAN2450 b-mode
Frequency: 2442.0 MHz; Duty Cycle: 1:1
Medium: Body 2450; Medium Notes: Medium Temperature: 22.2 C
Medium parameters used: f = 2442 MHz; σ = 1.98 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(4.12, 4.12, 4.12); Calibrated: 2010-02-24
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2009-09-18
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - WH-102 - Back Facing Phantom - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.280 mW/g

Body - Middle - WH-102 - Back Facing Phantom - BL-5CT Sanyo/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.83 V/m
Peak SAR (extrapolated) = 0.509 W/kg
SAR(1 g) = 0.272 mW/g
SAR(10 g) = 0.138 mW/g
Power Drift = 0.004 dB
Maximum value of SAR (measured) = 0.296 mW/g



Date/Time: 2010-07-05 20:57:40

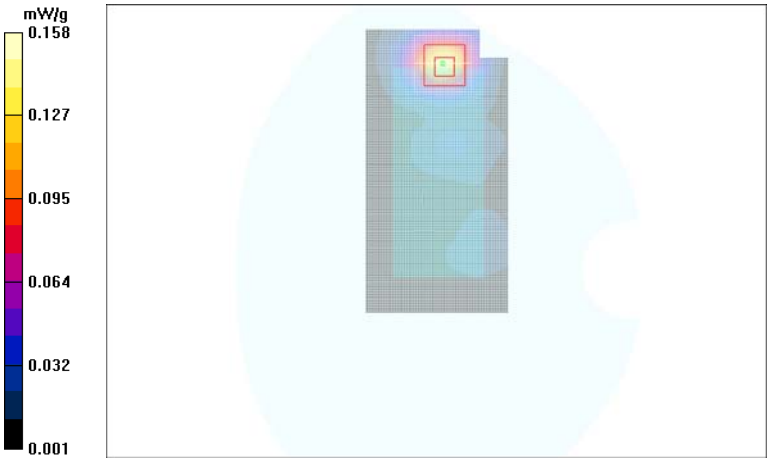
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: WLAN2450 n-mode
Frequency: 2442.0 MHz; Duty Cycle: 1:1
Medium: Body 2450; Medium Notes: Medium Temperature: 22.5 C
Medium parameters used: f = 2442 MHz; σ = 1.97 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(4.12, 4.12, 4.12); Calibrated: 2010-02-24
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2009-09-18
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - WH-102 - Back Facing Phantom - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.144 mW/g

Body - Middle - WH-102 - Back Facing Phantom - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 2.32 V/m
Peak SAR (extrapolated) = 0.274 W/kg
SAR(1 g) = 0.145 mW/g
SAR(10 g) = 0.073 mW/g
Power Drift = 0.157 dB
Maximum value of SAR (measured) = 0.158 mW/g



Date/Time: 2010-07-02 15:22:43

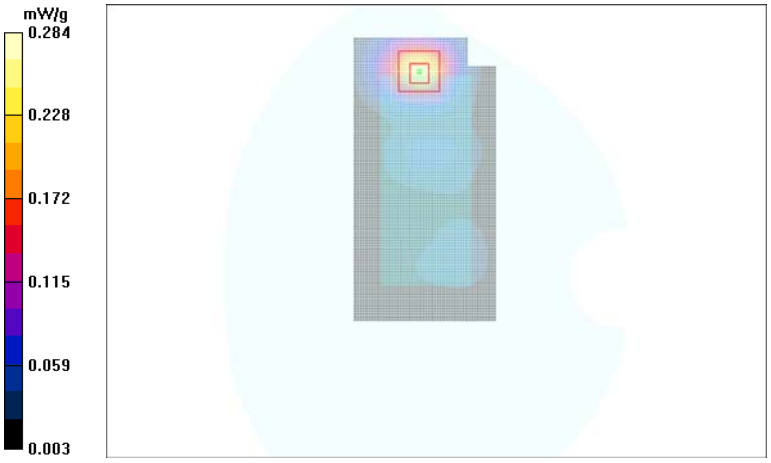
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: WLAN2450 b-mode
Frequency: 2442.0 MHz; Duty Cycle: 1:1
Medium: Body 2450; Medium Notes: Medium Temperature: 22.2 C
Medium parameters used: f = 2442 MHz; σ = 1.98 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(4.12, 4.12, 4.12); Calibrated: 2010-02-24
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2009-09-18
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - Middle - WH-102 - Back Facing Phantom - BL-5CT Panasonic/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.259 mW/g

Body - Middle - WH-102 - Back Facing Phantom - BL-5CT Panasonic/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 3.56 V/m
Peak SAR (extrapolated) = 0.479 W/kg
SAR(1 g) = 0.255 mW/g
SAR(10 g) = 0.130 mW/g
Power Drift = 0.334 dB
Maximum value of SAR (measured) = 0.284 mW/g



Date/Time: 2010-07-05 22:07:42

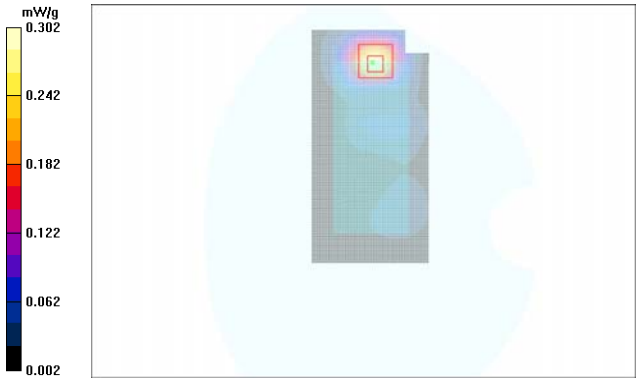
Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036324/9

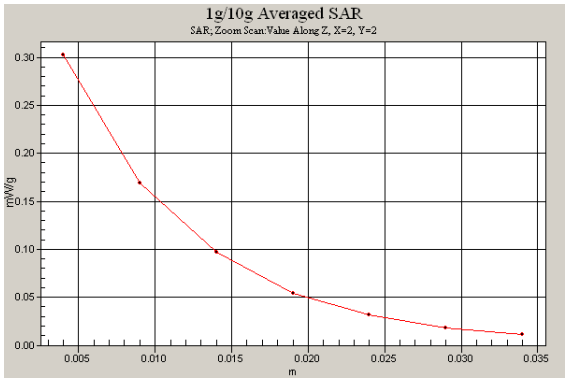
Communication System: WLAN2450 b-mode
Frequency: 2462.0 MHz; Duty Cycle: 1:1
Medium: Body 2450; Medium Notes: Medium Temperature: 22.5 C
Medium parameters used: f = 2462 MHz; σ = 1.99 mho/m; ε_r = 51.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3116; Probe Notes:
- ConvF(4.12, 4.12, 4.12); Calibrated: 2010-02-24
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn710; Calibrated: 2009-09-18
- Phantom: SAM 4.5; Type: Twin Phantom; Serial: TP-1215
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Body - High - WH-102 – HW0211 - Back Facing Phantom - BL-5CT Sanyo/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.295 mW/g

Body - High - WH-102 – HW0211 - Back Facing Phantom - BL-5CT Sanyo/Zoom Scan (5x5x7)/Cube 0:
Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 3.32 V/m
Peak SAR (extrapolated) = 0.524 W/kg
SAR(1 g) = 0.277 mW/g
SAR(10 g) = 0.140 mW/g
Power Drift = 0.266 dB
Maximum value of SAR (measured) = 0.302 mW/g





Date/Time: 2010-06-30 19:00:59, Date/Time: 2010-06-07 20:23:01

Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: WLAN2450 b-mode, Communication System: 2-slot GPRS850
Frequency: 2462.0 MHz, Frequency: 824.2 MHz; Duty Cycle: 1:1, Duty Cycle: 1:4.2
Medium: Head 2450, Medium: Head 835; Medium Notes: Medium Temperature: 22.4 C, Medium Notes: Medium Temperature: 22.2 C
Medium parameters used: f = 2462 MHz; σ = 1.9 mho/m; ε_r = 38.9; ρ = 1000 kg/m^3 , Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.88 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Left Section

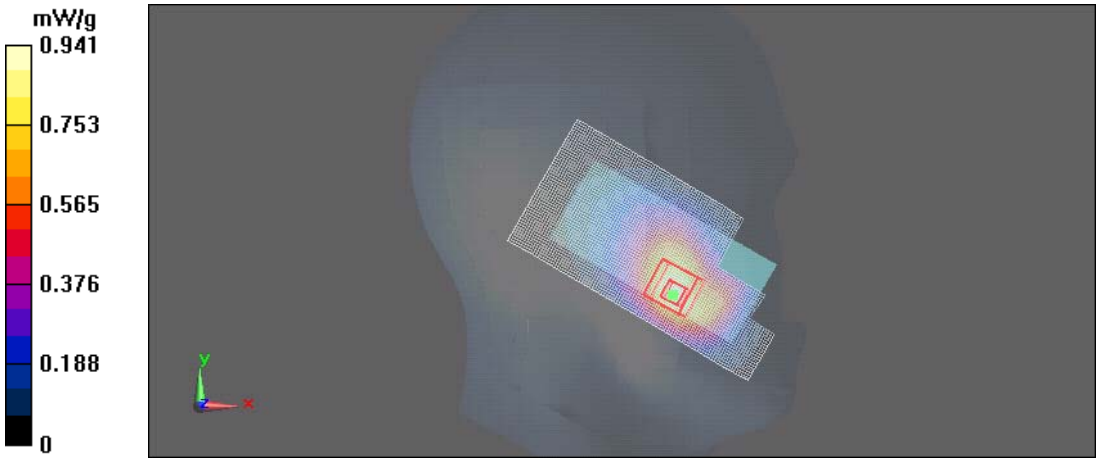
DASY4 Configuration:
- Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.21, 4.21, 4.21), ConvF(5.85, 5.85, 5.85); Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE3 Sn573; Calibrated: 2009-07-21
- Phantom: SAM 8, Phantom: SAM 4; Type: SAM Twin Phantom, Type: Twin Phantom; Serial: TP-1408, Serial: TP-1410
- ; SEMCAD X Version 14.0 Build 61

Configuration/Cheek - High - BL-5CT Sanyo/Area Scan (6x11x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Cheek - Low - BL-5CT Sanyo/Area Scan (6x11x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.849 mW/g
SAR(10 g) = 0.536 mW/g

Maximum value of SAR (measured) = 0.941 mW/g



Date/Time: 2010-06-30 19:00:59, Date/Time: 2010-06-17 20:19:36

Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: WLAN2450 b-mode, Communication System: 2-slot GPRS1900
Frequency: 2462.0 MHz, Frequency: 1880.0 MHz; Duty Cycle: 1:1, Duty Cycle: 1:4.2
Medium: Head 2450, Medium: Head 1900; Medium Notes: Medium Temperature: 22.4 C, Medium Notes: Medium Temperature: 22.5 C
Medium parameters used: f = 2462 MHz; σ = 1.9 mho/m; ε_r = 38.9; ρ = 1000 kg/m^3 , Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section

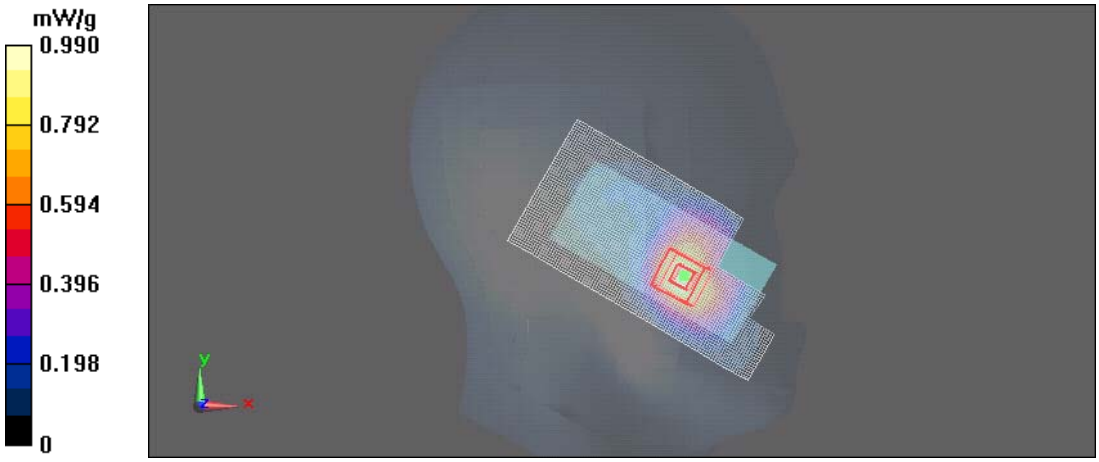
DASY4 Configuration:
- Probe: ES3DV3 - SN3118, Probe: ES3DV3 - SN3117; Probe Notes:
- ConvF(4.21, 4.21, 4.21), ConvF(4.9, 4.9, 4.9); Calibrated: 2009-09-22, Calibrated: 2009-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn573, Electronics: DAE4 Sn682; Calibrated: 2009-07-21
- Phantom: SAM 8, Phantom: SAM 3; Type: SAM Twin Phantom, Type: Twin Phantom; Serial: TP-1408, Serial: TP-1302
- ; SEMCAD X Version 14.0 Build 61

Configuration/Cheek - High - BL-5CT Sanyo/Area Scan (6x11x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Cheek - Middle - BL-5CT Sanyo/Area Scan (6x11x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.881 mW/g
SAR(10 g) = 0.488 mW/g

Maximum value of SAR (measured) = 0.990 mW/g



Date/Time: 2010-07-02 12:12:44, Date/Time: 2010-06-17 12:09:04

Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: WLAN2450 b-mode, Communication System: 2-slot GPRS850
Frequency: 2442.0 MHz, Frequency: 824.2 MHz; Duty Cycle: 1:1, Duty Cycle: 1:4.2
Medium: Body 2450, Medium: Body 835; Medium Notes: Medium Temperature: 22.2 C, Medium Notes: Medium Temperature: 21.9 C
Medium parameters used: f = 2442 MHz; σ = 1.98 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3 , Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.964 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Phantom section: Flat Section

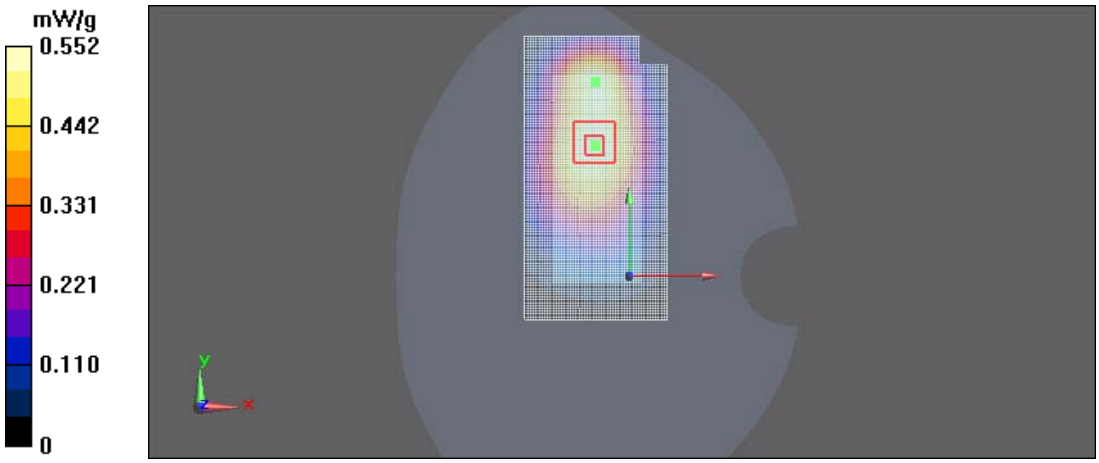
DASY4 Configuration:
- Probe: ES3DV3 - SN3116, Probe: ES3DV3 - SN3118; Probe Notes:
- ConvF(4.12, 4.12, 4.12), ConvF(5.65, 5.65, 5.65); Calibrated: 2010-02-24, Calibrated: 2009-09-22
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn710, Electronics: DAE3 Sn573; Calibrated: 2009-09-18, Calibrated: 2009-07-21
- Phantom: SAM 4.5, Phantom: SAM 5; Type: Twin Phantom; Serial: TP-1215, Serial: TP-1302
- ; SEMCAD X Version 14.0 Build 61

Configuration/Body - Middle - No Accessory - Back Facing Phantom - BL-5CT Sanyo/Area Scan (6x11x1):
Measurement grid: dx=15mm, dy=15mm

Configuration/Body - Low -No Accessory - Back Facing Phantom - BL-5CT Sanyo/Area Scan (6x11x1):
Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.519 mW/g
SAR(10 g) = 0.357 mW/g

Maximum value of SAR (measured) = 0.552 mW/g



Date/Time: 2010-07-02 12:12:44, Date/Time: 2010-07-01 23:01:21

Test Laboratory: TCC Nokia
Type: RM-640; Serial: 004402/13/036904/8

Communication System: WLAN2450, Communication System: 2-slot GPRS1900
Frequency: 2442 MHz, Frequency: 1909.8 MHz; Duty Cycle: 1:1, Duty Cycle: 1:4.2
Medium: Body 2450, Medium: Body 1900; Medium Notes: Medium Temperature: 22.2 C, Medium Notes: Medium Temperature: 22.5 C
Medium parameters used: f = 2442 MHz; σ = 1.98 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3 , Medium parameters used: f = 1910 MHz; σ = 1.54 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

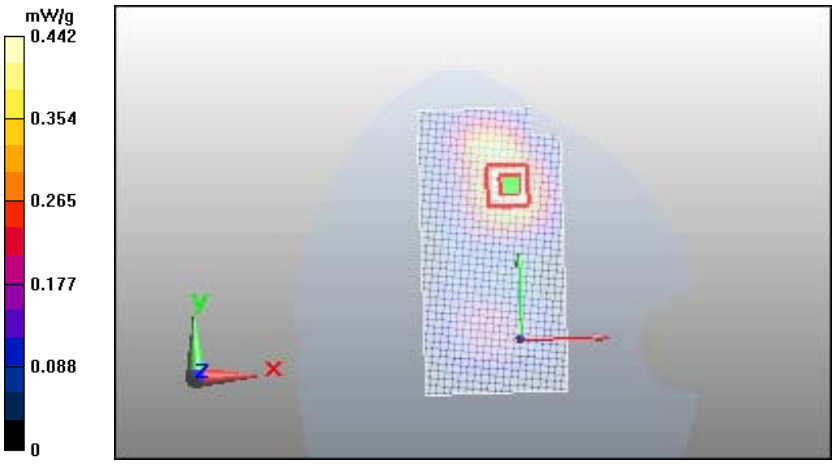
DASY4 Configuration:
- Probe: ES3DV3 - SN3116, Probe: ES3DV3 - SN3117
- ConvF(4.12, 4.12, 4.12), ConvF(4.41, 4.41, 4.41); Calibrated: 2010-02-24, Calibrated: 2009-07-21
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn710, Electronics: DAE4 Sn682; Calibrated: 2009-09-18, Calibrated: 2009-07-21
- Phantom: SAM 4.5, Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1215, Serial: TP-1037
- ; SEMCAD X Version 14.0 Build 61

Configuration/Body - Middle - No Accessory - Back Facing Phantom - BL-5CT Sanyo /Area Scan (6x11x1):
Measurement grid: dx=15mm, dy=15mm

Configuration/Body - High - No Accessory - Back Facing Phantom - BL-5CT Panasonic/Area Scan (6x11x1):
Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.413 mW/g
SAR(10 g) = 0.245 mW/g

Maximum value of SAR (measured) = 0.442 mW/g



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

See the following pages

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

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

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

Accreditation No.: **SCS 108**

Client **Nokia Denmark A/S**

Certificate No: **ES3-3116_Feb10**

CALIBRATION CERTIFICATE

Object	ES3DV3 - SN:3116
Calibration procedure(s)	QA CAL-01.v6, QA CAL-23.v3 and QA CAL-25.v2 Calibration procedure for dosimetric E-field probes
Calibration date	February 24, 2010

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41495277	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41498087	1-Apr-09 (No. 217-01030)	Apr-10
Reference 3 dB Attenuator	SN S5054 (3c)	31-Mar-09 (No. 217-01026)	Mar-10
Reference 20 dB Attenuator	SN S5086 (20b)	31-Mar-09 (No. 217-01028)	Mar-10
Reference 30 dB Attenuator	SN: S5129 (30b)	31-Mar-09 (No 217-01027)	Mar-10
Reference Probe ES3DV2	SN: 3013	30-Dec-09 (No. ES3-3013_Dec09)	Dec-10
DAE4	SN: 660	29-Sep-09 (No. DAE4-660_Sep09)	Sep-10

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check. Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-09)	In house check Oct10

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

Issued: February 24, 2010

DASY - Parameters of Probe: ES3DV3 SN:3116

Calibration Parameter Determined in Head Tissue Simulating Media

f [MHz]	Validity [MHz][C]	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
835	± 50 / ± 100	41.5 ± 5%	0.90 ± 5%	5.94	5.94	5.94	0.83	1.07 ± 11.0%
1750	± 50 / ± 100	40.1 ± 5%	1.37 ± 5%	5.05	5.05	5.05	0.45	1.55 ± 11.0%
1900	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	4.90	4.90	4.90	0.33	1.91 ± 11.0%
2450	± 50 / ± 100	39.2 ± 5%	1.80 ± 5%	4.36	4.36	4.36	0.41	1.86 ± 11.0%

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

DASY - Parameters of Probe: ES3DV3 SN:3116

Calibration Parameter Determined in Body Tissue Simulating Media

f [MHz]	Validity [MHz][C]	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth	Unc (k=2)
835	± 50 / ± 100	55.2 ± 5%	0.97 ± 5%	5.84	5.84	5.84	0.72	1.23	± 11.0%
1750	± 50 / ± 100	53.4 ± 5%	1.49 ± 5%	4.82	4.82	4.82	0.45	1.75	± 11.0%
1900	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	4.58	4.58	4.58	0.33	2.40	± 11.0%
2450	± 50 / ± 100	52.7 ± 5%	1.95 ± 5%	4.12	4.12	4.12	0.82	1.17	± 11.0%

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

20177

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Accreditation No.: SCS 108

Client **Nokia Denmark A/S**

Certificate No: ES3-3117_Jul09

CALIBRATION CERTIFICATE

Object	ES3DV3x - SN:3117
Calibration procedure(s)	QA CAL-01.v6, QA CAL-23.v3 and QA CAL-25.v2 Calibration procedure for dosimetric E-field probes
Calibration date:	July 21, 2009
Condition of the calibrated item	In Tolerance

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

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

Calibration Equipment used (M&TE critical for calibration)

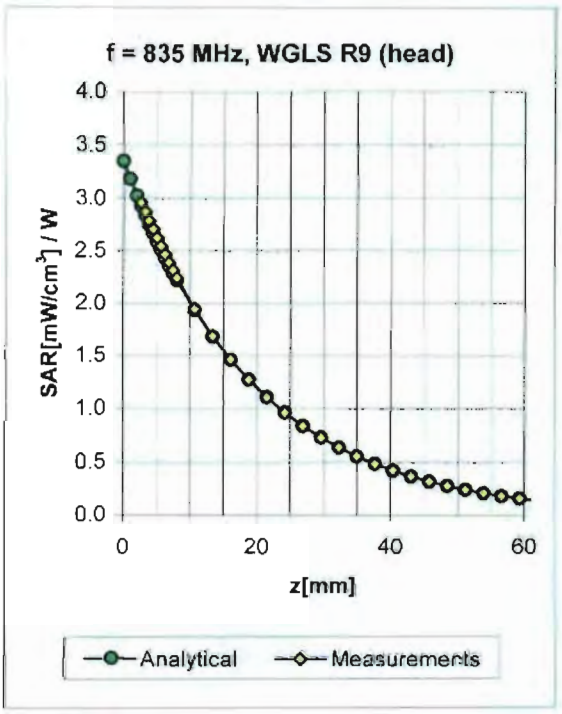
Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41495277	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41498087	1-Apr-09 (No. 217-01030)	Apr-10
Reference 3 dB Attenuator	SN: S5054 (3c)	31-Mar-09 (No. 217-01026)	Mar-10
Reference 20 dB Attenuator	SN: S5086 (20b)	31-Mar-09 (No. 217-01028)	Mar-10
Reference 30 dB Attenuator	SN: S5129 (30b)	31-Mar-09 (No. 217-01027)	Mar-10
Reference Probe ES3DV2	SN: 3013	2-Jan-09 (No. ES3-3013_Jan09)	Jan-10
DAE4	SN: 660	9-Sep-08 (No. DAE4-660_Sep08)	Sep-09

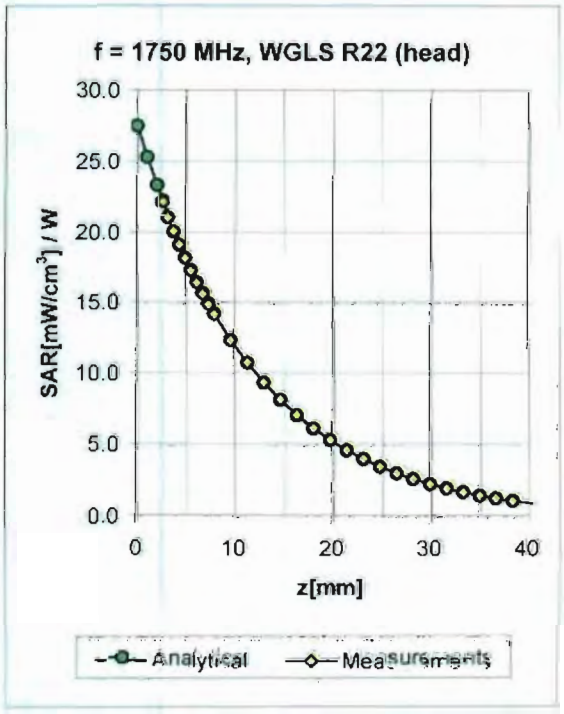
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-08)	In house check: Oct-09

	Name	Function	Signature
Calibrated by:	Claudio Leubler	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: July 21, 2009

Conversion Factor Assessment





f [MHz]	Validity [MHz][C]	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
835	± 50 / ± 100	Head	41.5 ± 5%	0.90 ± 5%	0.88	1.11	5.85 ± 11.0% (k=2)
1750	± 50 / ± 100	Head	40.1 ± 5%	1.37 ± 5%	0.53	1.48	5.04 ± 11.0% (k=2)
1900	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.50	1.50	4.90 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.41	1.79	4.36 ± 11.0% (k=2)
835	± 50 / ± 100	Body	55.2 ± 5%	0.97 ± 5%	0.90	1.11	5.76 ± 11.0% (k=2)
1750	± 50 / ± 100	Body	53.4 ± 5%	1.49 ± 5%	0.37	2.02	4.63 ± 11.0% (k=2)
1900	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.31	2.84	4.41 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.81	1.21	4.12 ± 11.0% (k=2)

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

Calibration Laboratory of
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Engineering AG
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Accreditation No.: SCS 108

Client **Nokia Denmark A/S**

Certificate No: **ES3-3118_Sep09**

CALIBRATION CERTIFICATE

Object	ES3DV3 - SN:3118
Calibration procedure(s)	QA CAL-01.v6, QA CAL-23.v3 and QA CAL-25.v2 Calibration procedure for dosimetric E-field probes
Calibration date:	September 22, 2009
Condition of the calibrated item	In Tolerance

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

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

Calibration Equipment used (M&TE critical for calibration)

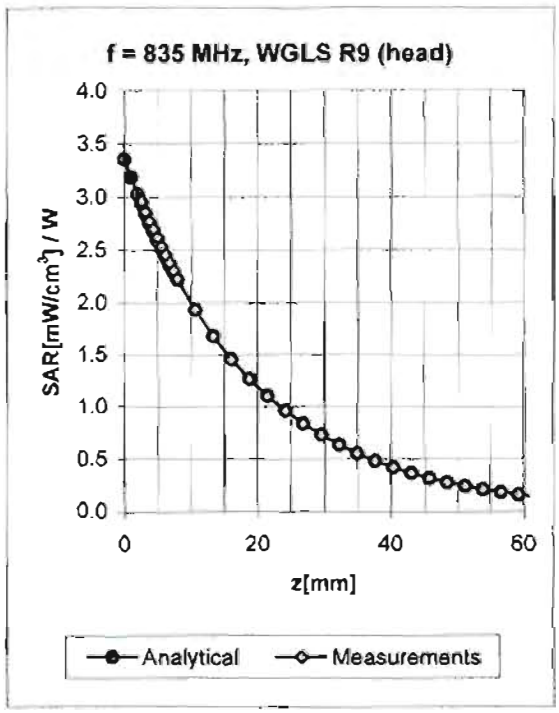
Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41495277	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41498087	1-Apr-09 (No. 217-01030)	Apr-10
Reference 3 dB Attenuator	SN: S5054 (3c)	31-Mar-09 (No. 217-01026)	Mar-10
Reference 20 dB Attenuator	SN: S5086 (20b)	31-Mar-09 (No. 217-01028)	Mar-10
Reference 30 dB Attenuator	SN: S5129 (30b)	31-Mar-09 (No. 217-01027)	Mar-10
Reference Probe ES3DV2	SN: 3013	2-Jan-09 (No. ES3-3013_Jan09)	Jan-10
DAE4	SN: 660	9-Sep-08 (No. DAE4-660_Sep08)	Sep-09

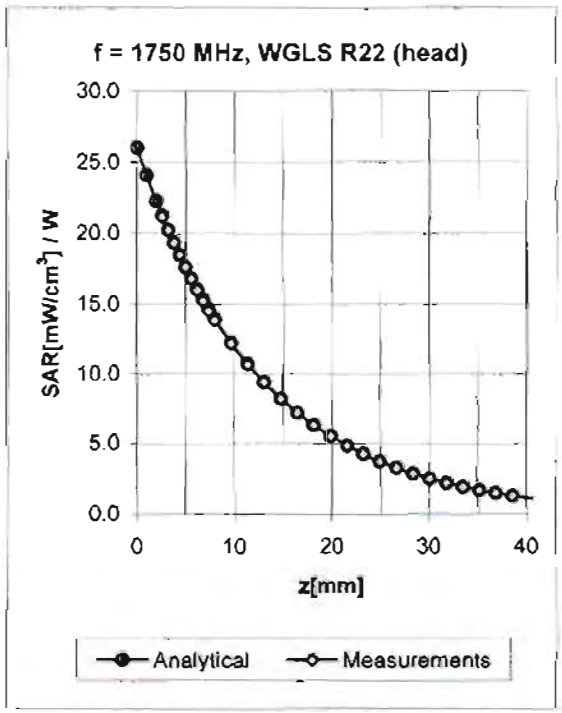
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-08)	In house check: Oct-09

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

Issued: September 22, 2009

Conversion Factor Assessment





f [MHz]	Validity [MHz][c]	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
835	± 50 / ± 100	Head	41.5 ± 5%	0.90 ± 5%	0.97	1.07	5.85 ± 11.0% (k=2)
1750	± 50 / ± 100	Head	40.1 ± 5%	1.37 ± 5%	0.61	1.40	4.97 ± 11.0% (k=2)
1900	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.50	1.53	4.74 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.46	1.69	4.21 ± 11.0% (k=2)
835	± 50 / ± 100	Body	55.2 ± 5%	0.97 ± 5%	0.95	1.13	5.65 ± 11.0% (k=2)
1750	± 50 / ± 100	Body	53.4 ± 5%	1.49 ± 5%	0.41	1.92	4.60 ± 11.0% (k=2)
1900	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.41	2.14	4.37 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.99	1.05	4.05 ± 11.0% (k=2)

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

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

See the following pages

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

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Accreditation No.: **SCS 108**

Client **Nokia Denmark A/S**

Certificate No: **D835V2-4d042_Sep08**

CALIBRATION CERTIFICATE

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

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	04-Oct-07 (No. 217-00736)	Oct-08
Power sensor HP 8481A	US37292783	04-Oct-07 (No. 217-00736)	Oct-08
Reference 20 dB Attenuator	SN: 5086 (20g)	01-Jul-08 (No. 217-00864)	Jul-09
Type-N mismatch combination	SN: 5047.2 / 06327	01-Jul-08 (No. 217-00867)	Jul-09
Reference Probe ES3DV2	SN: 3025	28-Apr-08 (No. ES3-3025_Apr08)	Apr-09
DAE4	SN: 601	14-Mar-08 (No. DAE4-601_Mar08)	Mar-09

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-07)	In house check: Oct-09
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-07)	In house check: Oct-08

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

Issued: September 22, 2008

DASY5 Validation Report for Head TSL

Date/Time: 22.09.2008 10:40:16

Test Laboratory: SPEAG, Zurich, Switzerland

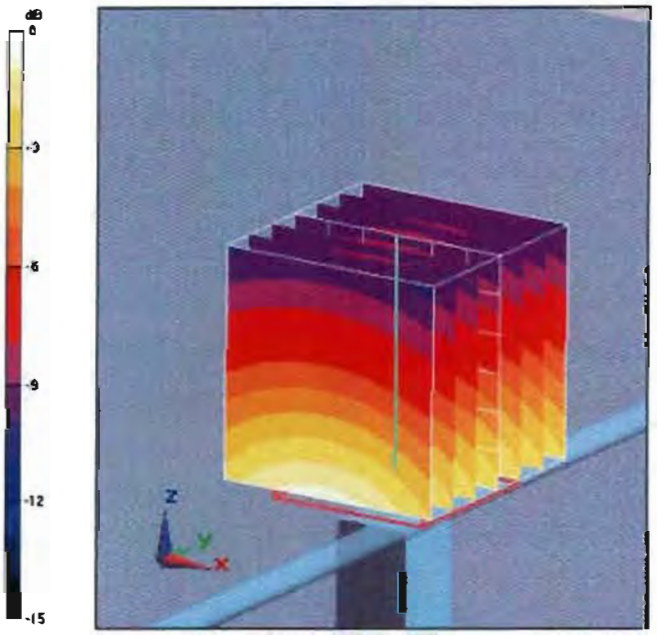
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d042

Communication System: CW-835; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: HSL 900 MHz
Medium parameters used: f = 835 MHz; σ = 0.901 mho/m; ε_r = 41.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(5.97, 5.97, 5.97); Calibrated: 28.04.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Pin=250mW; dip=15mm; dist=3.4mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.9 V/m; Power Drift = 0.013 dB
Peak SAR (extrapolated) = 3.48 W/kg
SAR(1 g) = 2.38 mW/g; SAR(10 g) = 1.57 mW/g
Maximum value of SAR (measured) = 2.69 mW/g



0 dB = 2.69mW/g

DASY5 Validation Report for Body TSL

Date/Time: 16.09.2008 10:46:36

Test Laboratory: SPEAG, Zurich, Switzerland

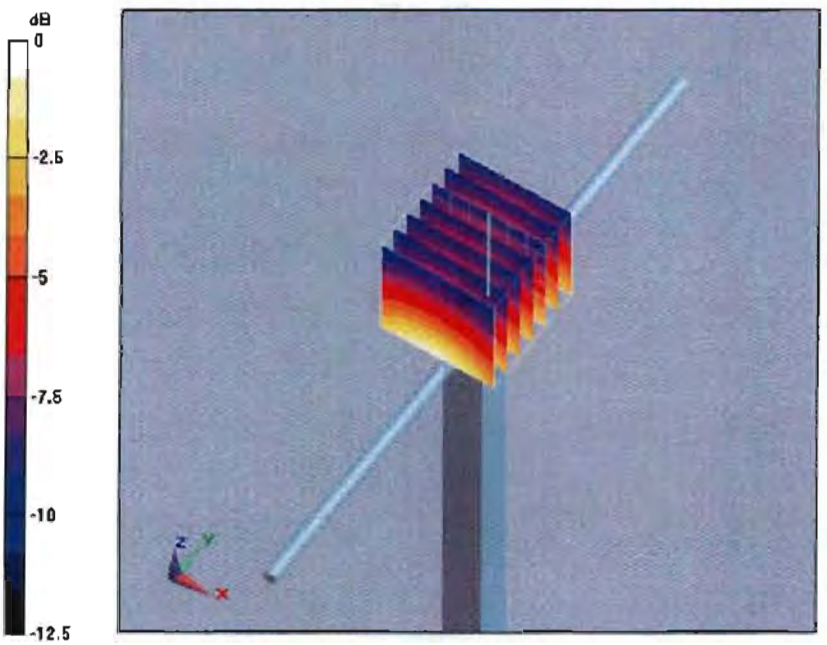
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d042

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: MSL900
Medium parameters used: f = 835 MHz; σ = 1.01 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(5.9, 5.9, 5.9); Calibrated: 28.04.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Pin = 250mW, d = 15mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 3.63 W/kg
SAR(1 g) = 2.51 mW/g; SAR(10 g) = 1.65 mW/g
Maximum value of SAR (measured) = 2.81 mW/g



0 dB = 2.81mW/g

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Zeughausstrasse 43, 8004 Zurich, Switzerland

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Accreditation No.: **SCS 108**

Client **Nokia Denmark A/S**

Certificate No: **D1900V2-5d063_Feb10**

CALIBRATION CERTIFICATE

Object	D1900V2 - SN: 5d063
Calibration procedure(s)	QA CAL-05.v7 Calibration procedure for dipole validation kits
Calibration date:	February 23, 2010

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-09 (No. 217-01086)	Oct-10
Power sensor HP 8481A	US37292783	06-Oct-09 (No. 217-01086)	Oct-10
Reference 20 dB Attenuator	SN: 5086 (20g)	31-Mar-09 (No. 217-01025)	Mar-10
Type-N mismatch combination	SN: 5047.2 / 06327	31-Mar-09 (No. 217-01029)	Mar-10
Reference Probe ES3DV3	SN: 3205	26-Jun-09 (No. ES3-3205_Jun09)	Jun-10
DAE4	SN: 601	07-Mar-09 (No. DAE4-601_Mar09)	Mar-10

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

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

Issued: February 25, 2010

DASY5 Validation Report for Head TSL

Date/Time: 23.02.2010 13:21:31

Test Laboratory: SPEAG, Zurich, Switzerland

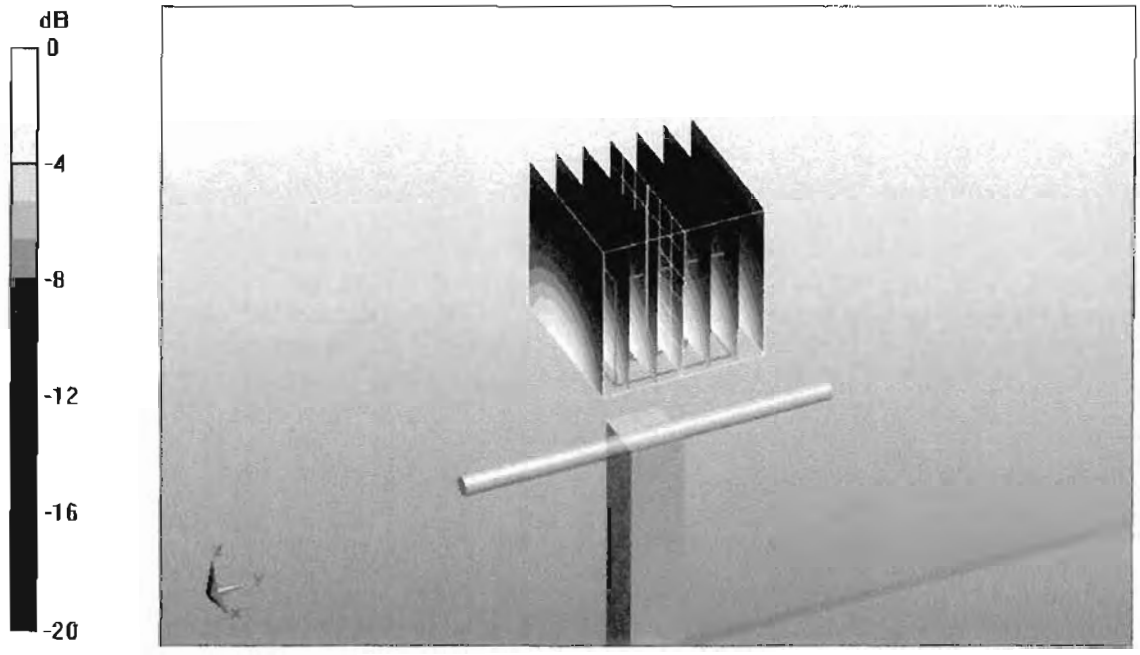
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d063

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HSL U11 BB
Medium parameters used: f = 1900 MHz; σ = 1.42 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.09, 5.09, 5.09); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.1 V/m; Power Drift = 0.041 dB
Peak SAR (extrapolated) = 18.3 W/kg
SAR(1 g) = 9.98 mW/g; SAR(10 g) = 5.2 mW/g
Maximum value of SAR (measured) = 12.4 mW/g



0 dB = 12.4mW/g

DASY5 Validation Report for Body

Date/Time: 16.02.2010 13:00:42

Test Laboratory: SPEAG, Zurich, Switzerland

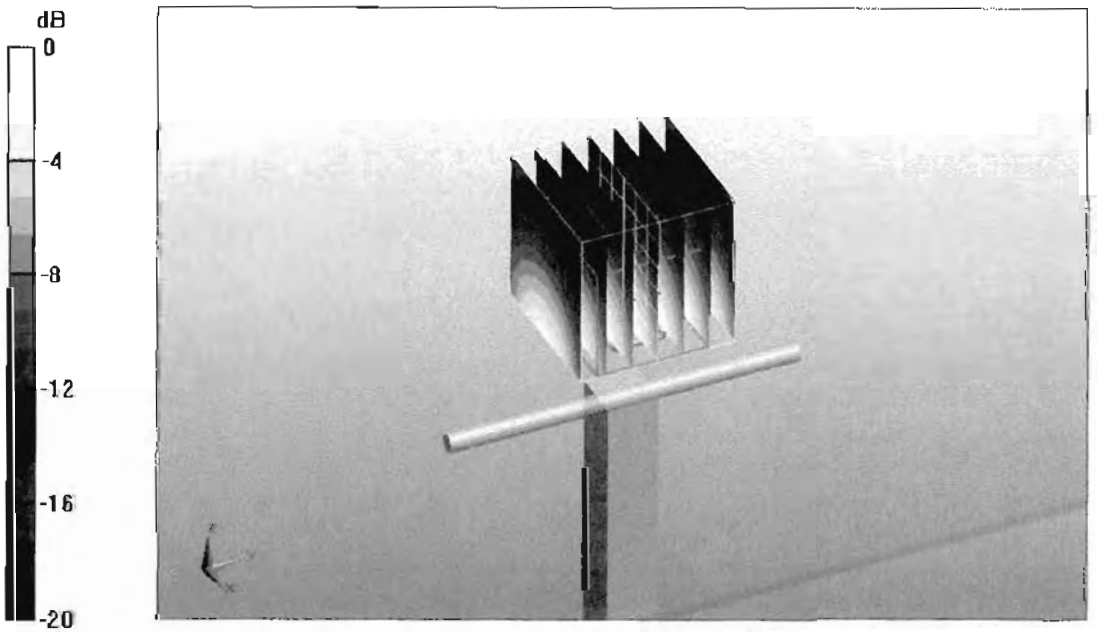
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d063

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: MSL U10 BB
Medium parameters used: f = 1900 MHz; σ = 1.56 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

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

Pin250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.1 V/m; Power Drift = 0.078 dB
Peak SAR (extrapolated) = 16.7 W/kg
SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.31 mW/g
Maximum value of SAR (measured) = 12.8 mW/g



0 dB = 12.8mW/g

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Accreditation No.: **SCS 108**

Client **Nokia Denmark A/S**

Certificate No: **D2450V2-790_Sep08**

CALIBRATION CERTIFICATE

Object	D2450V2 - SN: 790
Calibration procedure(s)	QA CAL-05.v7 Calibration procedure for dipole validation kits
Calibration date:	September 24, 2008
Condition of the calibrated item	In Tolerance

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	04-Oct-07 (No. 217-00736)	Oct-08
Power sensor HP 8481A	US37292783	04-Oct-07 (No. 217-00736)	Oct-08
Reference 20 dB Attenuator	SN: S5086 (20g)	01-Jul-08 (No. 217-00864)	Jul-09
Type-N mismatch combination	SN: 5047.2 / 06327	01-Jul-08 (No. 217-00867)	Jul-09
Reference Probe ES3DV2	SN: 3025	28-Apr-08 (No. ES3-3025_Apr08)	Apr-09
DAE4	SN: 601	14-Mar-08 (No. DAE4-601_Mar08)	Mar-09

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-07)	In house check: Oct-09
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-07)	In house check: Oct-08

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

Issued: September 25, 2008

DASY5 Validation Report for Head TSL

Date/Time: 24.09.2008 12:50:11

Test Laboratory: SPEAG, Zurich, Switzerland

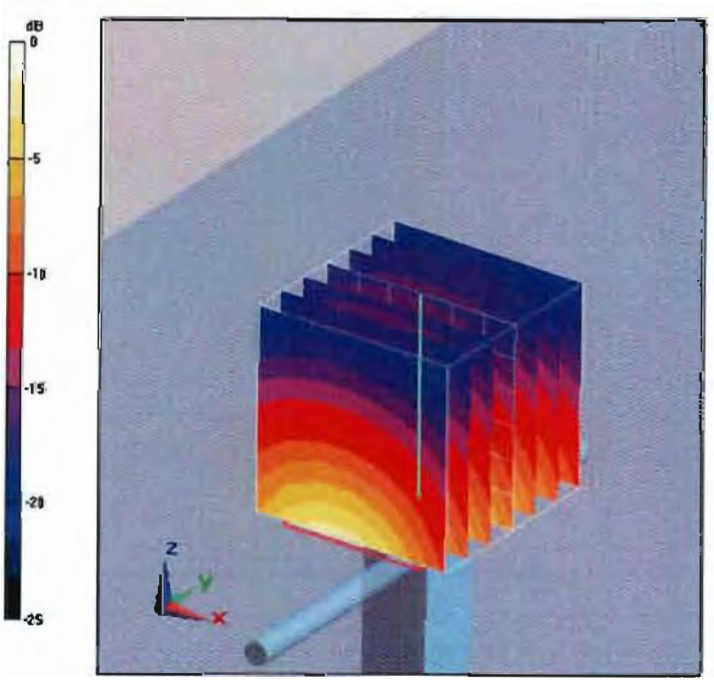
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN790

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: HSL U10 BB
Medium parameters used: f = 2450 MHz; σ = 1.8 mho/m; ε_r = 39.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.4, 4.4, 4.4); Calibrated: 28.04.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.9 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 27.6 W/kg
SAR(1 g) = 13.2 mW/g; SAR(10 g) = 6.15 mW/g
Maximum value of SAR (measured) = 15.8 mW/g



0 dB = 15.8mW/g

DASY5 Validation Report for Body TSL

Date/Time: 18.09.2008 13:52:58

Test Laboratory: SPEAG, Zurich, Switzerland

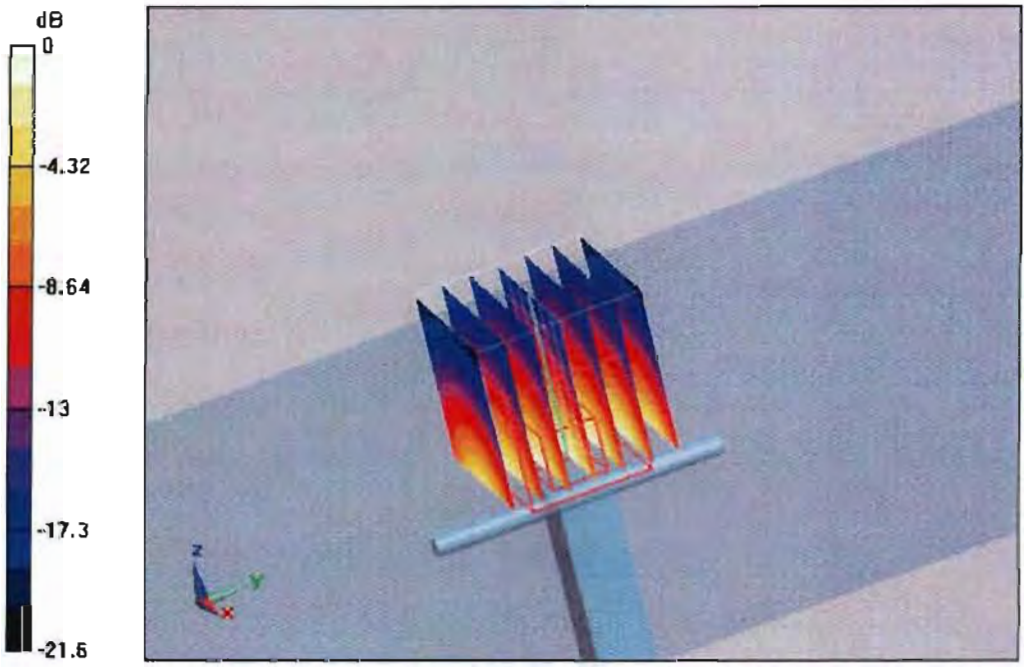
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:790

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: MSL U10 BB
Medium parameters used: f = 2450 MHz; σ = 1.97 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.07, 4.07, 4.07); Calibrated: 28.04.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.9 V/m; Power Drift = 0.030 dB
Peak SAR (extrapolated) = 26 W/kg
SAR(1 g) = 12.6 mW/g; SAR(10 g) = 5.81 mW/g
Maximum value of SAR (measured) = 15.7 mW/g



0 dB = 15.7mW/g