TCC
Nokia

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

SAR Compliance Test Report

Test report no.:	FCC_RM-813_04	**Date of report:**	2011-10-18
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Tested device:	RM-813		
FCC ID:	PPIRM-813	**IC:**	661U-RM813
Supplement reports:	SAR_Photo_RM-813_05		

Testing has been carried out in accordance with:

47CFR §2.1093
Radiofrequency Radiation Exposure Evaluation: Portable Devices

FCC OET Bulletin 65 (Edition 97-01), Supplement C (Edition 01-01)
Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields

RSS-102
Evaluation Procedure for Mobile and Portable Radio Transmitters with Respect to Health Canada's Safety Code 6 for Exposure of Humans to Radio Frequency Fields

IEEE 1528 - 2003
IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Technique

Documentation: The documentation of the testing performed on the tested devices is archived for 15 years at TCC Nokia.

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

Date and signatures:

For the contents:

Leif Funch Klysner
Test System Manager

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1. SUMMARY OF SAR TEST REPORT

1.1 Test Details

Period of test	2011-09-26 to 2011-10-06
SN, HW and SW numbers of tested device	SN: 004402/13/662848/8, HW: 0150, SW: jc13.32, DUT: 70038
Batteries used in testing	BL-5J, DUT: 70041, 70042, 70043
Headsets used in testing	WH-102, DUT: 70000
Other accessories used in testing	
State of sample	Prototype unit
Notes	-

1.2 Maximum Results

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

1.2.1 Head Configuration

Mode	Ch / *f* (MHz)	Conducted power	Position	Measured SAR value (1g avg)	Scaled* SAR value (1g avg)	SAR limit (1g avg)	Result
GSM850	251 / 848.8	32.5 dBm	Left, Cheek	0.549 W/kg	**0.61 W/kg**	1.6 W/kg	PASSED
WCDMA850	4233 / 846.6	23.5 dBm	Left, Cheek	0.870 W/kg	**0.97 W/kg**	1.6 W/kg	PASSED
GSM1900	512 / 1850.2	30.5 dBm	Right, Cheek	0.891 W/kg	**1.00 W/kg**	1.6 W/kg	PASSED
WCDMA1900	9538 / 1907.6	22.5 dBm	Right, Cheek	1.13 W/kg	**1.27 W/kg**	1.6 W/kg	PASSED
WLAN2450	1 / 2412.0	13.0 dBm	Left, Tilt	0.457 W/kg	**0.51 W/kg**	1.6 W/kg	PASSED
GSM850 + WLAN2450	-	-	Left, Cheek	0.561 W/kg	**0.63 W/kg**	1.6 W/kg	PASSED
WCDMA850 + WLAN2450	-	-	Left, Cheek	0.872 W/kg	**0.98 W/kg**	1.6 W/kg	PASSED
GSM1900 + WLAN2450	-	-	Left, Cheek	0.891 W/kg	**1.00 W/kg**	1.6 W/kg	PASSED
WCDMA1900 + WLAN2450	-	-	Left, Cheek	1.13 W/kg	**1.27 W/kg**	1.6 W/kg	PASSED

1.2.2 Body Worn Configuration

Mode	Ch / *f* (MHz)	Conducted power	Separation distance	Measured SAR value (1g avg)	Scaled* SAR value (1g avg)	SAR limit (1g avg)	Result
GSM850	251 / 848.8	32.5 dBm	1.5 cm	0.622 W/kg	**0.70 W/kg**	1.6 W/kg	**PASSED**
WCDMA850	4233 / 846.6	23.5 dBm	1.5 cm	0.875 W/kg	**0.98 W/kg**	1.6 W/kg	**PASSED**
GSM1900	512 / 1850.2	30.5 dBm	1.5 cm	0.392 W/kg	**0.44 W/kg**	1.6 W/kg	**PASSED**
WCDMA1900	9400 / 1880.0	22.5 dBm	1.5 cm	0.461 W/kg	**0.52 W/kg**	1.6 W/kg	**PASSED**
WLAN2450	7 / 2442.0	17.0 dBm	1.5 cm	0.148 W/kg	**0.17 W/kg**	1.6 W/kg	**PASSED**
GSM850 + WLAN2450	-	-	1.5 cm	0.657 W/kg	**0.74 W/kg**	1.6 W/kg	**PASSED**
WCDMA850 + WLAN2450	-	-	1.5 cm	0.904 W/kg	**1.01 W/kg**	1.6 W/kg	**PASSED**
GSM1900 + WLAN2450	-	-	1.5 cm	0.429 W/kg	**0.48 W/kg**	1.6 W/kg	**PASSED**
WCDMA1900 + WLAN2450	-	-	1.5 cm	0.495 W/kg	**0.55 W/kg**	1.6 W/kg	**PASSED**

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

1.2.3 Maximum Drift

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

1.2.4 Measurement Uncertainty

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

2. DESCRIPTION OF THE DEVICE UNDER TEST

Device category	Portable
Exposure environment	General population / uncontrolled

Modes of Operation	Bands	Modulation Mode	Duty Cycle	Transmitter Frequency Range (MHz)
GSM	850 1900	GMSK	1/8	824 – 849 1850 – 1910
GPRS	850 1900	GMSK	1/8 to 4/8	824 – 849 1850 – 1910
EGPRS	850 1900	GMSK / 8PSK	1/8 to 4/8	824 – 849 1850 – 1910
WCDMA	850 (Band V) 1900 (Band II)		1	826 – 847 1852 – 1908
HSUPA	850 (Band V) 1900 (Band II)		1	826 – 847 1852 – 1908
BT	2450	GFSK	1	2402 – 2480
WLAN b-mode	2450	Up to 11Mbps QPSK	1	2412 – 2462
WLAN g-mode	2450	Up to 54Mbps 64QAM	1	2412 – 2462
WLAN n-mode 20MHz	2450	Up to 72.2Mbps 64QAM	1	2412 – 2462

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

This device has 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. Dual Transfer Mode is a feature that utilises the multi-slot GPRS capability in this device; it allows simultaneous transmission of voice and data during the same call, using the same transmitter and antenna.

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

This is a BT Class 1 device; as its power tuning target is 8dBm (6.3mW), SAR testing was deemed unnecessary.

2.1 Description of the Antenna

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

3. TEST CONDITIONS

3.1 Temperature and Humidity

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

3.2 Test Signal, Frequencies and Output Power

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

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

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

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

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

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

3.3 Test Cases and Test Minimisation

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

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

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

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

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

In the results tables in Section 7, the maximum SAR value for the 'basic' tests (i.e. left cheek, left tilt, right cheek and right tilt in Head SAR testing; with and without headset with the back &/or

display side facing the flat phantom in Body SAR testing) is bolded for each band. In some cases, after full testing of the basic SAR test configurations has been completed, additional checking SAR tests are made. These checking tests are always based on the bolded result from the 'basic' testing. When the SAR value of a checking test exceeds the maximum value from the basic tests, it is also bolded and used as the basis for any further checking tests that might be needed.

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

4. DESCRIPTION OF THE TEST EQUIPMENT

4.1 Measurement System and Components

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

The following table lists calibration dates of SPEAG components:

Test Equipment	Serial Number	Calibration interval	Calibration expiry
DAE3	504	12 months	2012-04
E-field Probe ET3DV6	1676	12 months	2012-07
Dipole Validation Kit, D835V2	474	24 months	2013-06
Dipole Validation Kit, D1900V2	5d007	24 months	2013-06
Dipole Validation Kit, D2450V2	792	24 months	2013-04
DASY4 software	Version 4.7	-	-

Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration interval	Calibration expiry
Signal Generator	SMIQ03B	100391	36 months	2012-10
Amplifier	ZHL-42W	D050802-1	-	-
Power Meter	E4417A	GB40320113	24 months	2012-03
Power Sensor	E9325A	US40420308	12 months	2012-03
Power Sensor	E9325A	US40420291	12 months	2012-03
Call Tester	CMU200	117027	-	-
Vector Network Analyzer	8714B	GB36050238	12 months	2012-03
Dielectric Probe Kit	HP85070B	US01440027	-	-

4.1.1 Isotropic E-field Probe Type ET3DV6

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

4.2 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	54.50	70.25
Tween 20	45.23	29.41
Salt	0.27	0.34

2450MHz band

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

4.3.2 System Checking

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

System checking, head tissue simulant

f[MHz]	Description	SAR [W/kg], 1g	Dielectric Parameters		Temp [°C]
			ε_r	σ [S/m]	
	Reference result	2.33	40.8	0.89	
	± 10% window	2.10 – 2.56			
835	2011-09-29	2.46	42.1	0.88	21.0
	Reference result	9.95	39.0	1.40	
	± 10% window	8.95 – 10.95			
1900	2011-09-26	10.3	38.0	1.44	20.5
	2011-09-28	10.1	38.2	1.41	21.5
	Reference result	13.2	38.6	1.74	
	± 10% window	11.9 - 14.5			
2450	2011-09-27	13.9	38.4	1.83	20.5

System checking, body tissue simulant

f[MHz]	Description	SAR [W/kg], 1g	Dielectric Parameters		Temp [°C]
			ε_r	σ [S/m]	
	Reference result	2.46	53.1	0.99	
	± 10% window	2.21 - 2.71			
835	2011-10-04	2.47	55.1	0.95	20.5
	Reference result	10.1	52.3	1.53	
	± 10% window	9.1 – 11.1			
1900	2011-10-06	9.14	52.9	1.47	20.5

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

4.3.3 Tissue Simulants used in the Measurements

Head tissue simulant measurements

f [MHz]	Description	Dielectric Parameters ε_r	Dielectric Parameters σ [S/m]	Temp [°C]
835	Recommended value	41.5	0.90	
	± 5% window	39.4 – 43.6	0.86 – 0.95	
	2011-09-29	42.1	0.88	21.0
836	Recommended value	41.5	0.90	
	± 5% window	39.4 – 43.6	0.86 – 0.95	
	2011-09-29	42.1	0.88	21.0
1880	Recommended value	40.0	1.40	
	± 5% window	38.0 – 42.0	1.33 – 1.47	
	2011-09-26	38.1	1.42	20.5
	2011-09-28	38.2	1.39	21.5
2442	Recommended value	39.2	1.79	
	± 5% window	37.3 – 41.2	1.70 – 1.88	
	2011-09-27	38.5	1.82	20.5

Body tissue simulant measurements

f [MHz]	Description	Dielectric Parameters ε_r	Dielectric Parameters σ [S/m]	Temp [°C]
835	Recommended value	55.2	0.97	
	± 5% window	52.4 – 58.0	0.92 – 1.02	
	2011-10-04	55.1	0.95	20.5
836	Recommended value	55.2	0.97	
	± 5% window	52.4 – 58.0	0.92 – 1.02	
	2011-10-04	55.1	0.95	20.5
1880	Recommended value	53.3	1.52	
	± 5% window	50.6 – 56.0	1.44 – 1.60	
	2011-10-06	53.0	1.45	20.5
2442	Recommended value	52.7	1.94	
	± 5% window	50.1 – 55.3	1.85 – 2.04	
	2011-09-27	51.3	1.95	20.5

5. DESCRIPTION OF THE TEST PROCEDURE

5.1 Device Holder

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

Device holder supplied by SPEAG

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

Nokia spacer

5.2 Test Positions

5.2.1 Against Phantom Head

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

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

5.2.2 Body Worn Configuration

The device was placed in the SPEAG holder using the Nokia spacer and placed below the flat section of the phantom. The distance between the device and the phantom was kept at the

separation distance indicated in Section 1.2.2 using a separate flat spacer that was removed before the start of the measurements. The device was oriented with both sides facing the phantom to find the highest results.

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

5.3 Scan Procedures

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

5.4 SAR Averaging Methods

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

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

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

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

6. MEASUREMENT UNCERTAINTY

Table 6.1 – Measurement uncertainty evaluation

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

7. RESULTS

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

850MHz Head SAR results

Mode	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 128 824.2 MHz	Ch 190 836.6 MHz	Ch 251 848.8 MHz
GSM	**Conducted Power**		**32.5 dBm**	**32.5 dBm**	**32.5 dBm**
	Left	Cheek	0.465	0.527	**0.549**
		Tilt	-	0.284	-
	Right	Cheek	-	0.441	-
		Tilt	-	0.279	-
2-slot GPRS	**Conducted Power**		**-**	**29.5 dBm**	**-**
	Left	Cheek	-	0.515	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
3-slot GPRS	**Conducted Power**		**-**	**27.7 dBm**	**-**
	Left	Cheek	-	0.509	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
4-slot GPRS	**Conducted Power**		**-**	**26.5 dBm**	**-**
	Left	Cheek	-	0.514	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-

(850MHz Table continues)

(850MHz Table continues)

Mode	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 128 824.2 MHz	Ch 190 836.6 MHz	Ch 251 848.8 MHz
1-slot 8PSK EGPRS	Conducted Power		-	-	27.0 dBm
	Left	Cheek	-	-	0.150
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
Mode	**Test configuration**		**SAR, averaged over 1g (W/kg)**		
			Ch 4132 826.4 MHz	**Ch 4175 835.0 MHz**	**Ch 4233 846.6 MHz**
WCDMA	Conducted Power		23.5 dBm	23.5 dBm	23.5 dBm
	Left	Cheek	0.826	0.751	**0.870**
		Tilt	-	0.378	-
	Right	Cheek	-	0.645	-
		Tilt	-	0.380	-

1900MHz Head SAR results

Mode	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz
GSM	**Conducted Power**		**30.5 dBm**	**30.5 dBm**	**30.5 dBm**
	Left	Cheek		0.795	
		Tilt		0.245	
	Right	Cheek	**0.891**	0.829	0.883
		Tilt		0.287	
2-slot GPRS	**Conducted Power**		**-**	**27.5 dBm**	**-**
	Left	Cheek	-	0.357	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
3-slot GPRS	**Conducted Power**		**-**	**25.7 dBm**	**-**
	Left	Cheek	-	0.531	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
4-slot GPRS	**Conducted Power**		**-**	**24.5 dBm**	**-**
	Left	Cheek	-	0.707	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
1-slot 8PSK EGPRS	**Conducted Power**		**26.0 dBm**	**-**	**-**
	Left	Cheek	-	-	-
		Tilt	-	-	-
	Right	Cheek	0.201	-	-
		Tilt	-	-	-
Mode	**Test configuration**		**SAR, averaged over 1g (W/kg)**		
			Ch 9262 1852.4 MHz	**Ch 9400 1880.0 MHz**	**Ch 9538 1907.6 MHz**
WCDMA	**Conducted Power**		**22.5 dBm**	**22.5 dBm**	**22.5 dBm**
	Left	Cheek	0.973	1.03	0.936
		Tilt		0.315	
	Right	Cheek	1.01	0.960	**1.13**
		Tilt		0.383	

2450MHz Head SAR results

Mode	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 1 2412.0 MHz	Ch 7 2442.0 MHz	Ch 11 2462.0 MHz
WLAN b-mode	**Conducted Power**		**13.0 dBm**	**17.0 dBm**	**13.0 dBm**
	Left	Cheek	-	0.419	-
		Tilt	**0.457**	0.450	0.395
	Right	Cheek	-	0.238	-
		Tilt	-	0.324	-
WLAN n-mode 20MHz	**Conducted Power**		**13.0 dBm**	**14.0 dBm**	**13.0 dBm**
	Left	Cheek	-	-	-
		Tilt	0.177	0.229	0.163
	Right	Cheek	-	-	-
		Tilt	-	-	-

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

850MHz Body SAR results

Mode	Device orientation	Test configuration	SAR, averaged over 1g (W/kg)		
			Ch 128 824.2 MHz	Ch 190 836.6 MHz	Ch 251 848.8 MHz
GSM		**Conducted Power**	**32.5 dBm**	**32.5 dBm**	**32.5 dBm**
	Display facing phantom	Without headset	-	0.413	-
		Headset WH-102	-	0.285	-
	Back facing phantom	Without headset	0.489	0.524	**0.622**
		Headset WH-102	-	0.450	-
Mode	**Device orientation**	**Test configuration**	**SAR, averaged over 1g (W/kg)**		
			Ch 4132 826.4 MHz	**Ch 4175 835.0 MHz**	**Ch 4233 846.6 MHz**
WCDMA		**Conducted Power**	**23.5 dBm**	**23.5 dBm**	**23.5 dBm**
	Display facing phantom	Without headset	-	0.655	-
		Headset WH-102	-	0.437	-
	Back facing phantom	Without headset	0.786	0.856	**0.875**
		Headset WH-102	-	0.637	-

1900MHz Body SAR results

Mode	Device orientation	Test configuration	SAR, averaged over 1g (W/kg)		
			Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz
GSM		**Conducted Power**	**30.5 dBm**	**30.5 dBm**	**30.5 dBm**
	Display facing phantom	Without headset	-	0.308	-
		Headset WH-102	-	0.261	-
	Back facing phantom	Without headset	**0.392**	0.347	0.370
		Headset WH-102	-	0.344	-
Mode	**Device orientation**	**Test configuration**	**SAR, averaged over 1g (W/kg)**		
			Ch 9262 1852.4 MHz	**Ch 9400 1880.0 MHz**	**Ch 9538 1907.6 MHz**
WCDMA		**Conducted Power**	**22.5 dBm**	**22.5 dBm**	**22.5 dBm**
	Display facing phantom	Without headset	-	0.411	-
		Headset WH-102	-	0.385	-
	Back facing phantom	Without headset	0.429	**0.461**	0.439
		Headset WH-102	-	0.430	-

2450MHz Body SAR results

Mode	Device orientation	Test configuration	SAR, averaged over 1g (W/kg)		
			Ch 1 2412.0 MHz	Ch 7 2442.0 MHz	Ch 11 2462.0 MHz
WLAN b-mode		**Conducted Power**	**13.0 dBm**	**17.0 dBm**	**13.0 dBm**
	Display facing phantom	Without headset	-	0.088	-
		Headset WH-102	-	0.087	-
	Back facing Phantom	Without headset	0.131	**0.148**	0.123
		Headset WH-102	-	0.141	-
WLAN n-mode 20MHz		**Conducted Power**	**13.0 dBm**	**14.0 dBm**	**13.0 dBm**
	Display facing phantom	Without headset	-	-	-
		Headset WH-102	-	-	-
	Back facing phantom	Without headset	0.050	0.073	0.049
		Headset WH-102	-	-	-

Simultaneous transmissions: Combined SAR results – Individual band Max results

Test configuration	Max. 1g SAR results				
	WLAN	GSM 850	WCDMA 850	GSM 1900	WCDMA 1900
Head: Left, Cheek	0.419	0.549	0.870	0.795	1.03
Head: Left, Tilt	0.457	0.284	0.378	0.245	0.315
Head: Right, Cheek	0.238	0.441	0.645	0.891	1.13
Head: Right, Tilt	0.324	0.279	0.380	0.287	0.383
Body: Display facing phantom, Without Headset	0.084	0.413	0.655	0.308	0.411
Body: Display facing phantom, Headset WH-102	0.087	0.285	0.437	0.261	0.385
Body: Back facing phantom, Without Headset	0.148	0.622	0.875	0.392	0.461
Body: Back facing phantom, Headset WH-102	0.141	0.450	0.637	0.344	0.430

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

Test configuration	Max. 1g SAR results			
	GSM 850 + WLAN	WCDMA 850 + WLAN	GSM 1900 + WLAN	WCDMA 1900 + WLAN
Head: Left, Cheek	**0.968**	**1.289**	**1.214**	**1.449**
Head: Left, Tilt	0.741	0.835	0.702	0.772
Head: Right, Cheek	0.679	0.883	1.129	1.368
Head: Right, Tilt	0.603	0.704	0.611	0.707
Body: Display facing phantom, Without Headset	0.497	0.739	0.392	0.495
Body: Display facing phantom, Headset WH-102	0.372	0.524	0.348	0.472
Body: Back facing phantom, Without Headset	**0.770**	**1.023**	**0.540**	**0.609**
Body: Back facing phantom, Headset WH-102	0.591	0.778	0.485	0.571

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

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

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

Test configuration	Max. 1g SAR results			
	GSM 850 + WLAN	WCDMA 850 + WLAN	GSM 1900 + WLAN	WCDMA 1900 + WLAN
Head: Left, Cheek	**0.561**	**0.872**	**0.779**	**1.04**
Head: Left, Tilt	-	-	-	-
Head: Right, Cheek	-	-	-	-
Head: Right, Tilt	-	-	-	-
Body: Display facing phantom, Without Headset	-	-	-	-
Body: Display facing phantom, Headset WH-102	-	-	-	-
Body: Back facing phantom, Without Headset	**0.657**	**0.904**	**0.429**	**0.495**
Body: Back facing phantom, Headset WH-102	-	-	-	-

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

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

Plots of the Measurement scans are given in Appendix B.

APPENDIX A: SYSTEM CHECKING SCANS

See the following pages.

Date/Time: 2011-09-29 11:29:04

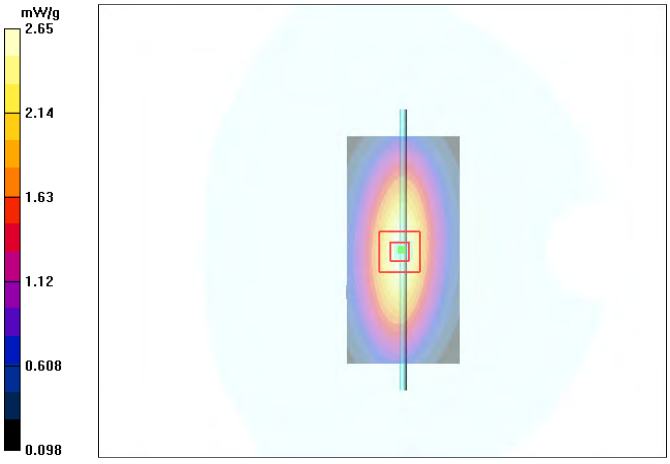
Test Laboratory: TCC Nokia
Type: D835V2; Serial: 474

Communication System: CW 835
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Head 835; Medium Notes: Liquid Temperature: 21.0 C
Medium parameters used: f = 835 MHz; σ = 0.88 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.66, 6.66, 6.66); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1188
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, Pin=250mW/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 2.65 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57.3 V/m
Peak SAR (extrapolated) = 3.50 W/kg
SAR(1 g) = 2.46 mW/g
SAR(10 g) = 1.63 mW/g
Power Drift = -0.042 dB
Maximum value of SAR (measured) = 2.66 mW/g



Date/Time: 2011-09-26 07:29:32

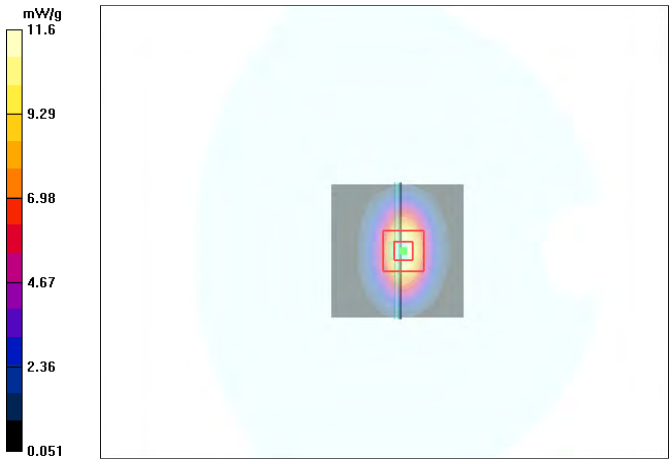
Test Laboratory: TCC Nokia
Type: D1900V2; Serial: 5d007

Communication System: CW 1900
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 1900 MHz; σ = 1.44 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.93, 4.93, 4.93); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1421
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 11.6 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 92.4 V/m
Peak SAR (extrapolated) = 18.0 W/kg
SAR(1 g) = 10.3 mW/g
SAR(10 g) = 5.38 mW/g
Power Drift = -0.042 dB
Maximum value of SAR (measured) = 11.7 mW/g



Date/Time: 2011-09-28 11:35:58

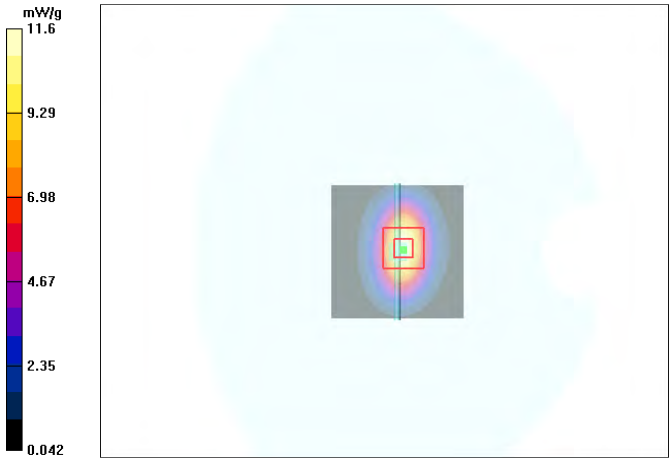
Test Laboratory: TCC Nokia
Type: D1900V2; Serial: 5d007

Communication System: CW 1900
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Liquid Temperature: 21.5 C
Medium parameters used: f = 1900 MHz; σ = 1.41 mho/m; ε_r = 38.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.93, 4.93, 4.93); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1421
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 11.6 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 92.9 V/m
Peak SAR (extrapolated) = 17.5 W/kg
SAR(1 g) = 10.1 mW/g
SAR(10 g) = 5.34 mW/g
Power Drift = -0.113 dB
Maximum value of SAR (measured) = 11.4 mW/g



Date/Time: 2011-09-27 11:45:22

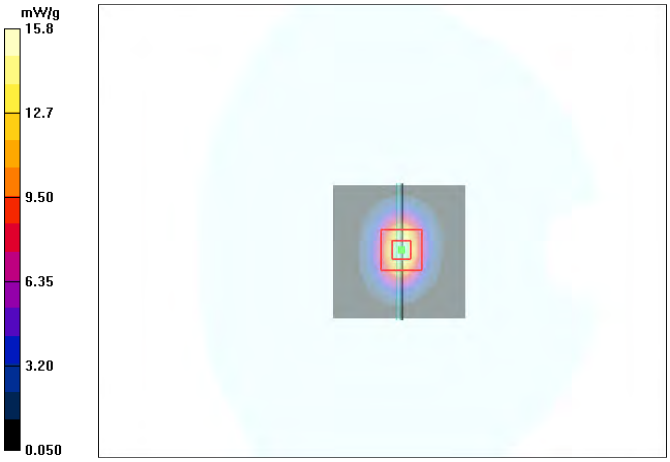
Test Laboratory: TCC Nokia
Type: D2450V2; Serial: 792

Communication System: CW 2450
Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: Head 2450; Medium Notes: Liquid Temperature: 20.5 ·C
Medium parameters used: f = 2450 MHz; σ = 1.83 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.38, 4.38, 4.38); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 15.8 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.0 V/m
Peak SAR (extrapolated) = 30.4 W/kg
SAR(1 g) = 13.9 mW/g
SAR(10 g) = 6.45 mW/g
Power Drift = 0.010 dB
Maximum value of SAR (measured) = 15.7 mW/g



Date/Time: 2011-10-04 06:48:28

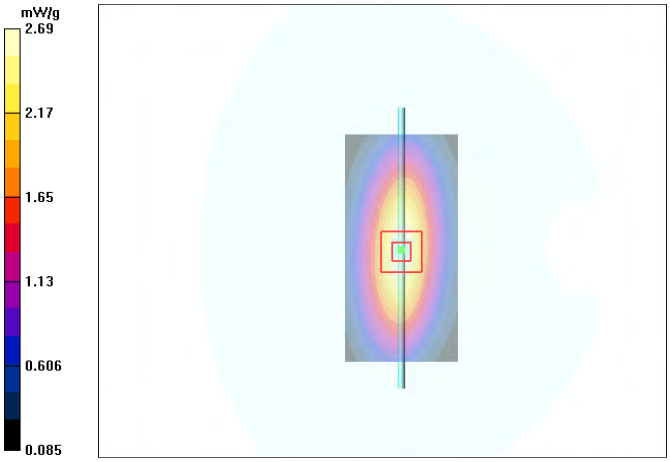
Test Laboratory: TCC Nokia
Type: D835V2; Serial: 474

Communication System: CW 835
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Body 835; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 835 MHz; σ = 0.951 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.42, 6.42, 6.42); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, Pin=250mW/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 2.69 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.5 V/m
Peak SAR (extrapolated) = 3.45 W/kg
SAR(1 g) = 2.47 mW/g
SAR(10 g) = 1.65 mW/g
Power Drift = -0.086 dB
Maximum value of SAR (measured) = 2.67 mW/g



Date/Time: 2011-10-06 08:32:10

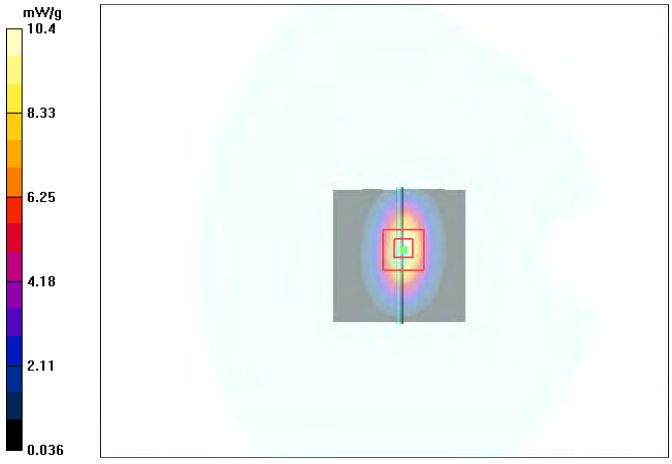
Test Laboratory: TCC Nokia
Type: D1900V2; Serial: 5d007

Communication System: CW 1900
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: Body 1900; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 1900 MHz; σ = 1.47 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.7, 4.7, 4.7); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 10.4 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 86.7 V/m
Peak SAR (extrapolated) = 15.3 W/kg
SAR(1 g) = 9.14 mW/g
SAR(10 g) = 4.95 mW/g
Power Drift = 0.061 dB
Maximum value of SAR (measured) = 10.4 mW/g



APPENDIX B: MEASUREMENT SCANS

See the following pages.

Date/Time: 2011-09-29 17:08:51

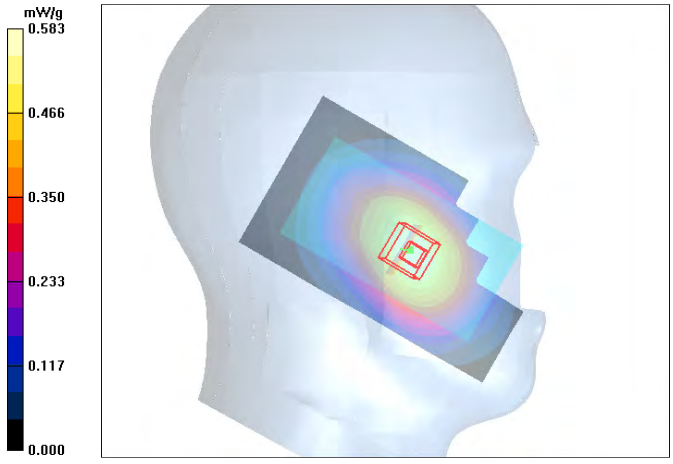
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: GSM850
Frequency: 848.8 MHz; Duty Cycle: 1:8.3
Medium: Head 835; Medium Notes: Liquid Temperature: 21.0 C
Medium parameters used: f = 849 MHz; σ = 0.895 mho/m; ε_r = 41.9; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.66, 6.66, 6.66); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1188
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - High/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.583 mW/g

Cheek - High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.4 V/m
Peak SAR (extrapolated) = 0.661 W/kg
SAR(1 g) = 0.549 mW/g
SAR(10 g) = 0.414 mW/g
Power Drift = 0.029 dB
Maximum value of SAR (measured) = 0.579 mW/g



Date/Time: 2011-09-29 15:09:34

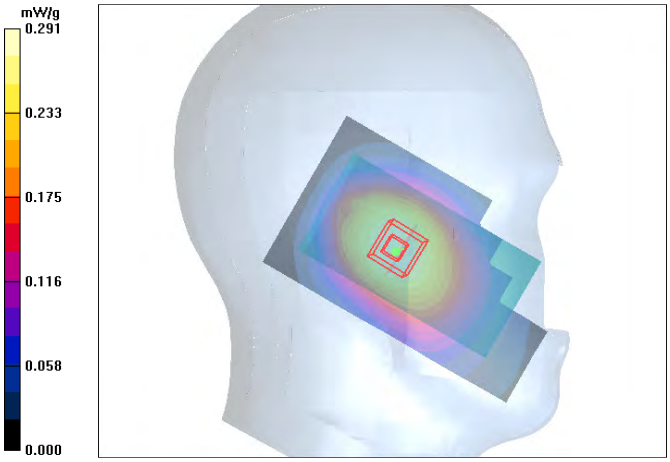
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 835; Medium Notes: Liquid Temperature: 21.0 C
Medium parameters used: f = 837 MHz; σ = 0.881 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.66, 6.66, 6.66); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1188
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.291 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 14.7 V/m
Peak SAR (extrapolated) = 0.335 W/kg
SAR(1 g) = 0.284 mW/g
SAR(10 g) = 0.216 mW/g
Power Drift = -0.111 dB
Maximum value of SAR (measured) = 0.298 mW/g



Date/Time: 2011-09-29 16:36:05

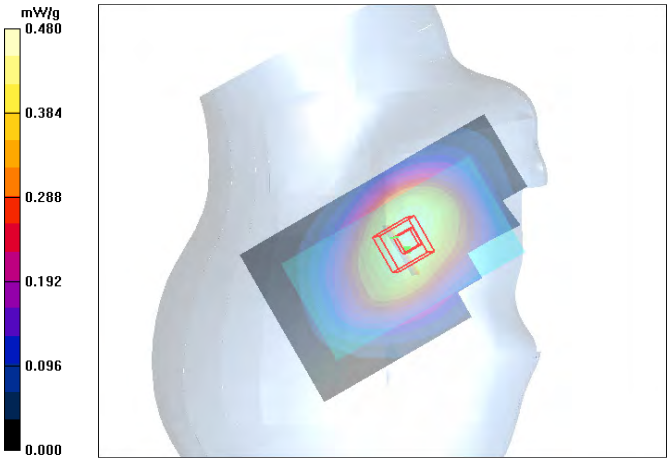
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 835; Medium Notes: Liquid Temperature: 21.0 C
Medium parameters used: f = 837 MHz; σ = 0.881 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.66, 6.66, 6.66); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1188
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.480 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.8 V/m
Peak SAR (extrapolated) = 0.549 W/kg
SAR(1 g) = 0.441 mW/g
SAR(10 g) = 0.335 mW/g
Power Drift = 0.013 dB
Maximum value of SAR (measured) = 0.460 mW/g



Date/Time: 2011-09-29 16:05:29

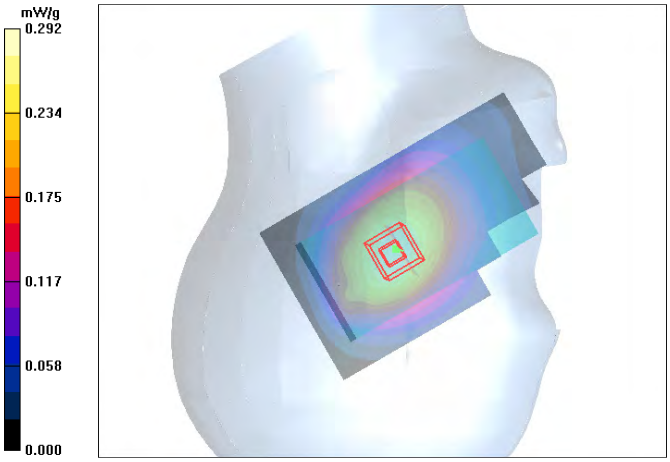
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 835; Medium Notes: Liquid Temperature: 21.0 C
Medium parameters used: f = 837 MHz; σ = 0.881 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.66, 6.66, 6.66); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1188
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.292 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 14.8 V/m
Peak SAR (extrapolated) = 0.333 W/kg
SAR(1 g) = 0.279 mW/g
SAR(10 g) = 0.212 mW/g
Power Drift = -0.101 dB
Maximum value of SAR (measured) = 0.293 mW/g



Date/Time: 2011-09-29 13:42:41

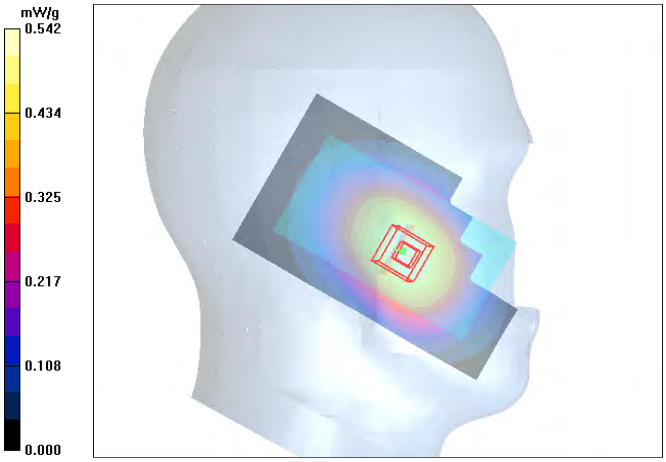
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: 2-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium: Head 835; Medium Notes: Liquid Temperature: 21.0 C
Medium parameters used: f = 837 MHz; σ = 0.881 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.66, 6.66, 6.66); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1188
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.542 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.1 V/m
Peak SAR (extrapolated) = 0.621 W/kg
SAR(1 g) = 0.515 mW/g
SAR(10 g) = 0.391 mW/g
Power Drift = -0.008 dB
Maximum value of SAR (measured) = 0.544 mW/g



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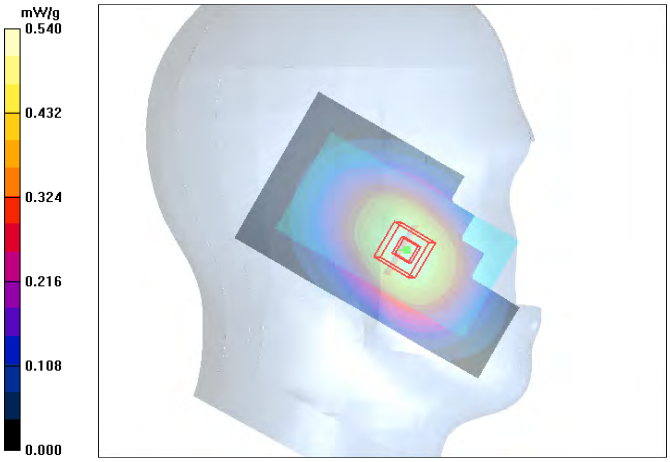
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: 3-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:2.8
Medium: Head 835; Medium Notes: Liquid Temperature: 21.0 C
Medium parameters used: f = 837 MHz; σ = 0.881 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.66, 6.66, 6.66); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1188
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.540 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.1 V/m
Peak SAR (extrapolated) = 0.612 W/kg
SAR(1 g) = 0.509 mW/g
SAR(10 g) = 0.386 mW/g
Power Drift = -0.073 dB
Maximum value of SAR (measured) = 0.540 mW/g



Date/Time: 2011-09-29 14:12:31

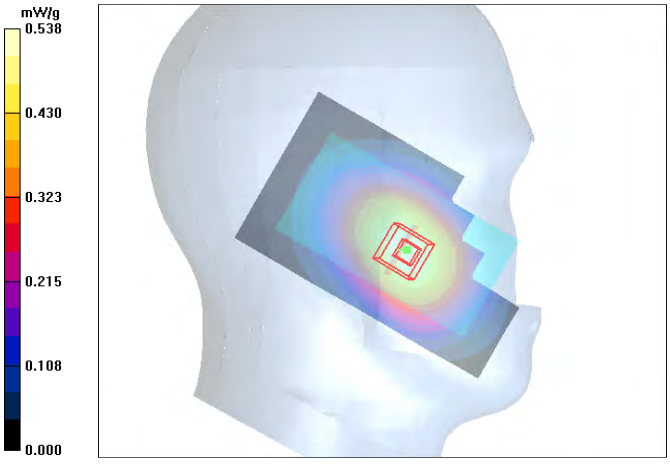
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: 4-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:2.1
Medium: Head 835; Medium Notes: Liquid Temperature: 21.0 C
Medium parameters used: f = 837 MHz; σ = 0.881 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.66, 6.66, 6.66); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1188
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.538 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.0 V/m
Peak SAR (extrapolated) = 0.620 W/kg
SAR(1 g) = 0.514 mW/g
SAR(10 g) = 0.389 mW/g
Power Drift = 0.059 dB
Maximum value of SAR (measured) = 0.546 mW/g



Date/Time: 2011-09-29 18:15:21

Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

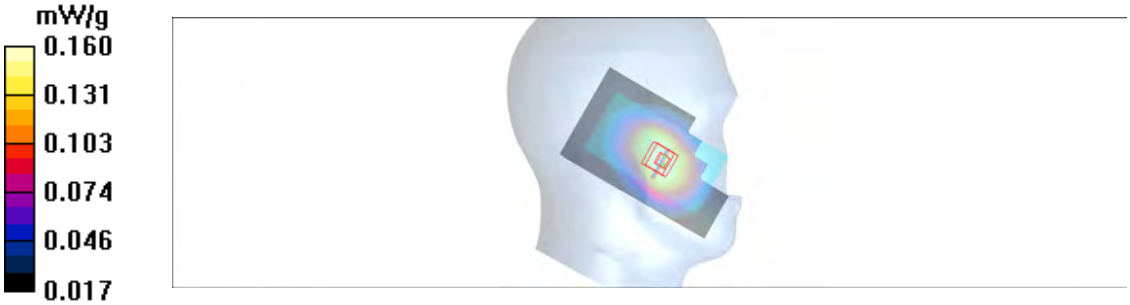
Communication System: 1-slot 8PSK EGPRS850
Frequency: 848.8 MHz; Duty Cycle: 1:8.3
Medium: Head 835; Medium Notes: Liquid Temperature: 21.0 C
Medium parameters used: f = 849 MHz; σ = 0.895 mho/m; ε_r = 41.9; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.66, 6.66, 6.66); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1188
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - High/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.168 mW/g

Cheek - High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 6.38 V/m
Peak SAR (extrapolated) = 0.177 W/kg
SAR(1 g) = 0.150 mW/g
SAR(10 g) = 0.115 mW/g
Power Drift = -0.492 dB

Maximum value of SAR (measured) = 0.160 mW/g



Date/Time: 2011-09-30 10:25:04

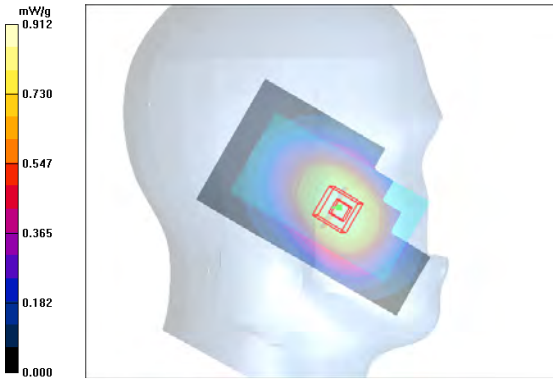
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

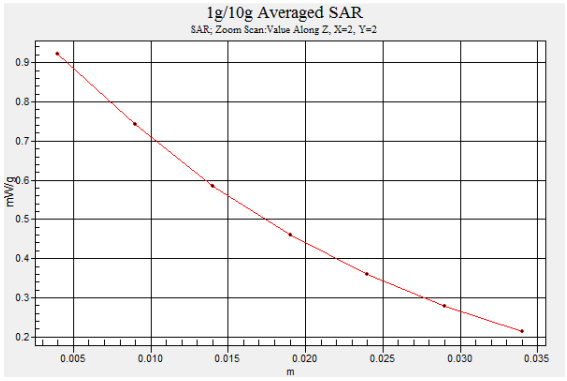
Communication System: WCDMA850
Frequency: 846.6 MHz; Duty Cycle: 1:1
Medium: Head 835; Medium Notes: Liquid Temperature: 21.0 C
Medium parameters used: f = 847 MHz; σ = 0.894 mho/m; ε_r = 41.9; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.66, 6.66, 6.66); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1188
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - High/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.912 mW/g

Cheek - High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 13.6 V/m
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.870 mW/g
SAR(10 g) = 0.652 mW/g
Power Drift = -0.023 dB
Maximum value of SAR (measured) = 0.921 mW/g





Date/Time: 2011-09-30 07:07:58

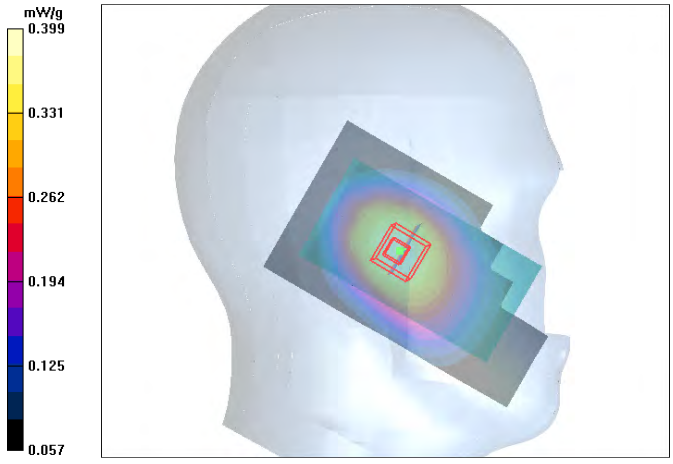
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WCDMA850
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Head 835; Medium Notes: Liquid Temperature: 21.0 C
Medium parameters used: f = 835 MHz; σ = 0.88 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.66, 6.66, 6.66); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1188
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.402 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 16.5 V/m
Peak SAR (extrapolated) = 0.454 W/kg
SAR(1 g) = 0.378 mW/g
SAR(10 g) = 0.288 mW/g
Power Drift = -0.226 dB
Maximum value of SAR (measured) = 0.399 mW/g



Date/Time: 2011-09-30 09:41:16

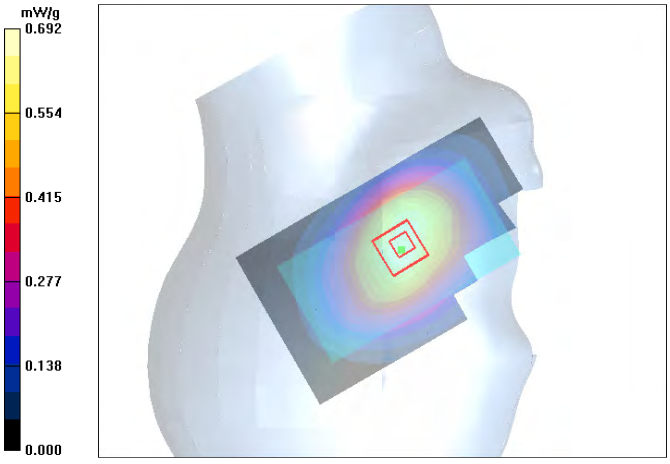
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WCDMA850
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Head 835; Medium Notes: Liquid Temperature: 21.0 C
Medium parameters used: f = 835 MHz; σ = 0.88 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.66, 6.66, 6.66); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1188
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.692 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 12.9 V/m
Peak SAR (extrapolated) = 0.785 W/kg
SAR(1 g) = 0.645 mW/g
SAR(10 g) = 0.482 mW/g
Power Drift = -0.081 dB
Maximum value of SAR (measured) = 0.690 mW/g



Date/Time: 2011-09-30 09:56:15

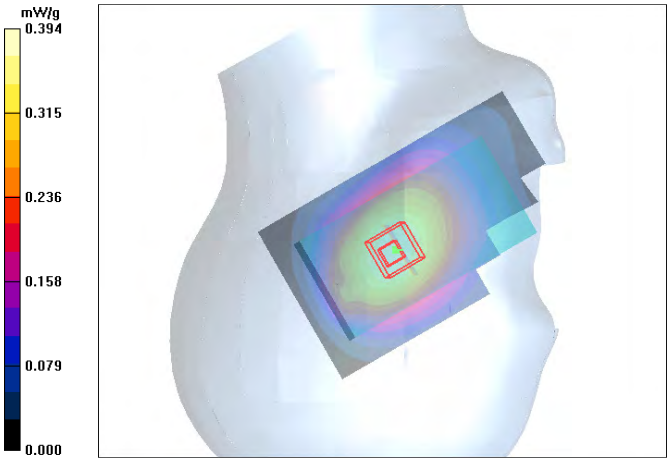
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WCDMA850
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Head 835; Medium Notes: Liquid Temperature: 21.0 C
Medium parameters used: f = 835 MHz; σ = 0.88 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.66, 6.66, 6.66); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 2; Type: Twin Phantom; Serial: TP-1188
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.394 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 17.3 V/m
Peak SAR (extrapolated) = 0.455 W/kg
SAR(1 g) = 0.380 mW/g
SAR(10 g) = 0.289 mW/g
Power Drift = 0.055 dB
Maximum value of SAR (measured) = 0.398 mW/g



Date/Time: 2011-09-28 16:51:17

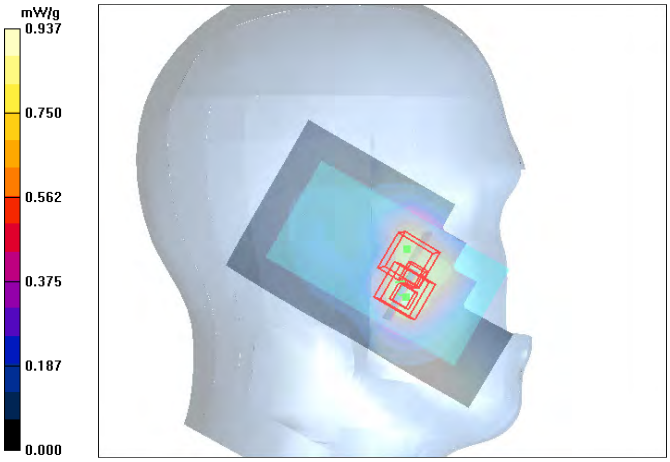
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: GSM1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Liquid Temperature: 21.5 C
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 38.2; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.93, 4.93, 4.93); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1421
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.937 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.41 V/m
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.795 mW/g
SAR(10 g) = 0.478 mW/g
Power Drift = -0.068 dB
Maximum value of SAR (measured) = 0.883 mW/g



Date/Time: 2011-09-29 06:51:57

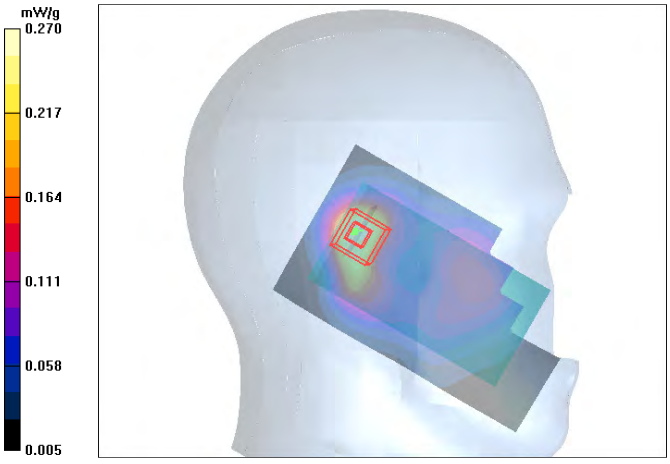
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: GSM1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Liquid Temperature: 21.5 C
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 38.2; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.93, 4.93, 4.93); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1421
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.280 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 14.5 V/m
Peak SAR (extrapolated) = 0.375 W/kg
SAR(1 g) = 0.245 mW/g
SAR(10 g) = 0.145 mW/g
Power Drift = 0.002 dB
Maximum value of SAR (measured) = 0.270 mW/g



Date/Time: 2011-09-29 08:03:16

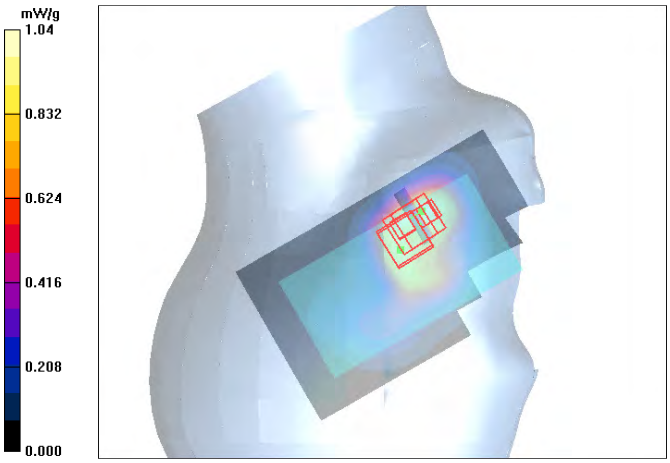
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: GSM1900
Frequency: 1850.2 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Liquid Temperature: 21.5 C
Medium parameters used: f = 1850 MHz; σ = 1.36 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.93, 4.93, 4.93); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1421
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Low/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.04 mW/g

Cheek - Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.71 V/m
Peak SAR (extrapolated) = 1.50 W/kg
SAR(1 g) = 0.891 mW/g
SAR(10 g) = 0.550 mW/g
Power Drift = 0.146 dB
Maximum value of SAR (measured) = 0.960 mW/g



Date/Time: 2011-09-29 07:47:37

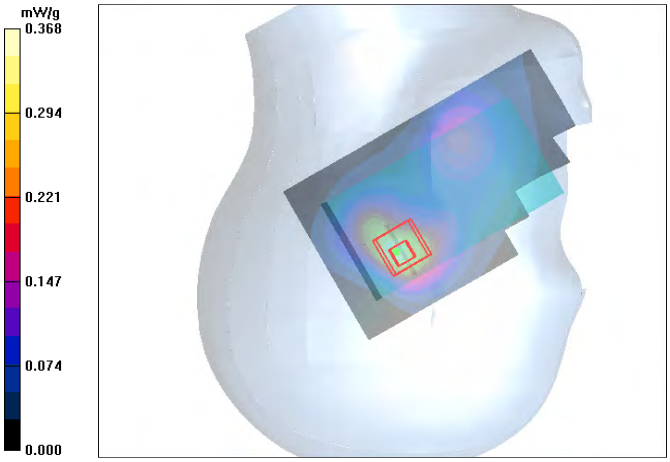
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: GSM1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Liquid Temperature: 21.5 C
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 38.2; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.93, 4.93, 4.93); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1421
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.368 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 13.5 V/m
Peak SAR (extrapolated) = 0.437 W/kg
SAR(1 g) = 0.287 mW/g
SAR(10 g) = 0.179 mW/g
Power Drift = -0.246 dB
Maximum value of SAR (measured) = 0.307 mW/g



Date/Time: 2011-09-28 19:05:27

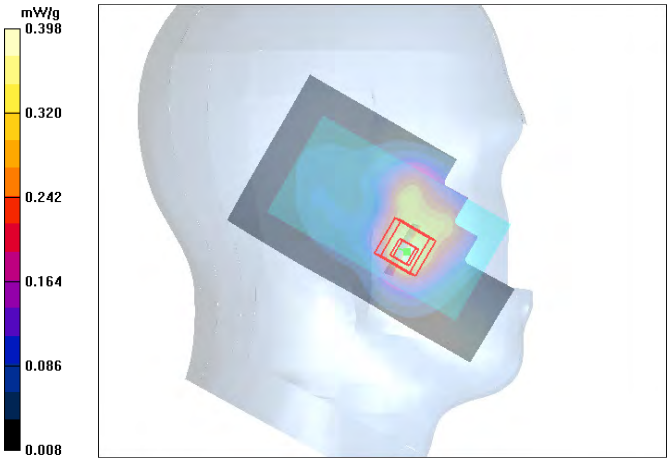
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: 2-slot GPRS1900
Frequency: 1880 MHz; Duty Cycle: 1:4.2
Medium: Head 1900; Medium Notes: Liquid Temperature: 21.5 C
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 38.2; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.93, 4.93, 4.93); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1421
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.420 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 6.22 V/m
Peak SAR (extrapolated) = 0.530 W/kg
SAR(1 g) = 0.357 mW/g
SAR(10 g) = 0.213 mW/g
Power Drift = -0.020 dB
Maximum value of SAR (measured) = 0.398 mW/g



Date/Time: 2011-09-28 19:20:45

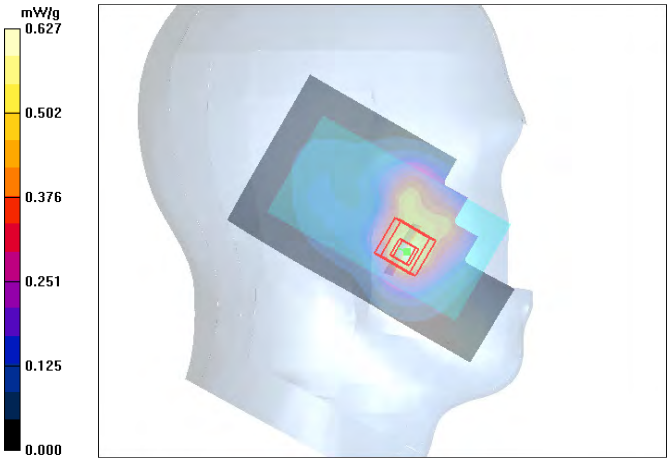
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: 3-slot GPRS1900
Frequency: 1880 MHz; Duty Cycle: 1:2.8
Medium: Head 1900; Medium Notes: Liquid Temperature: 21.5 C
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 38.2; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.93, 4.93, 4.93); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1421
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.627 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.61 V/m
Peak SAR (extrapolated) = 0.777 W/kg
SAR(1 g) = 0.531 mW/g
SAR(10 g) = 0.319 mW/g
Power Drift = -0.044 dB
Maximum value of SAR (measured) = 0.585 mW/g



Date/Time: 2011-09-28 19:35:47

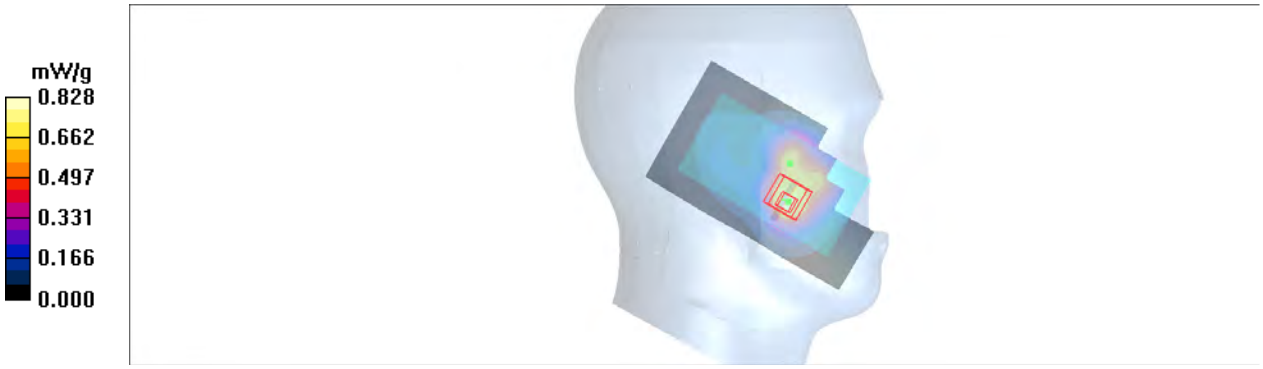
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: 4-slot GPRS1900
Frequency: 1880 MHz; Duty Cycle: 1:2.1
Medium: Head 1900; Medium Notes: Liquid Temperature: 21.5 C
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 38.2; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.93, 4.93, 4.93); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1421
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.828 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.74 V/m
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.707 mW/g
SAR(10 g) = 0.422 mW/g
Power Drift = 0.080 dB
Maximum value of SAR (measured) = 0.787 mW/g



Date/Time: 2011-09-29 08:51:46

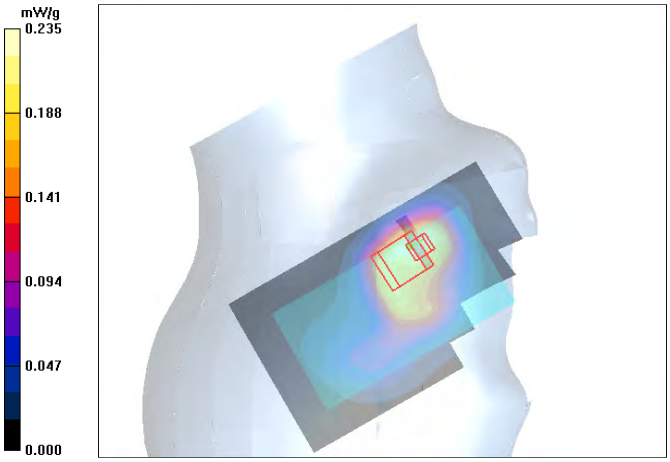
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: 1-slot 8PSK EGPRS1900
Frequency: 1850.2 MHz; Duty Cycle: 1:8.3
Medium: Head 1900; Medium Notes: Liquid Temperature: 21.5 C
Medium parameters used: f = 1850 MHz; σ = 1.36 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.93, 4.93, 4.93); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1421
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.235 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 4.22 V/m
Peak SAR (extrapolated) = 0.336 W/kg
SAR(1 g) = 0.201 mW/g
SAR(10 g) = 0.125 mW/g
Power Drift = -0.298 dB
Maximum value of SAR (measured) = 0.216 mW/g



Date/Time: 2011-09-26 12:59:51

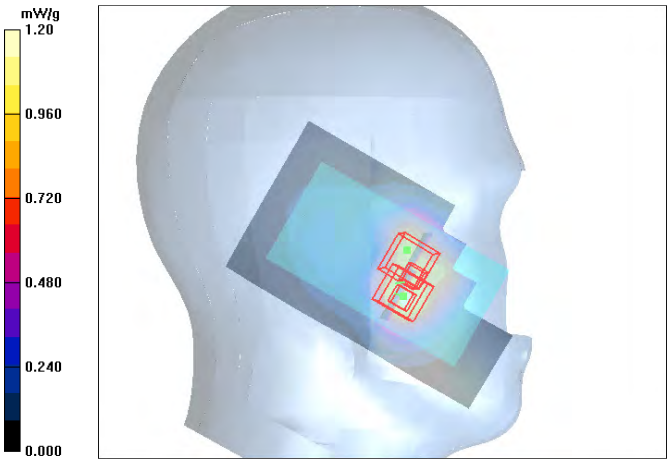
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; ε_r = 38.1; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.93, 4.93, 4.93); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1421
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.20 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.0 V/m
Peak SAR (extrapolated) = 1.53 W/kg
SAR(1 g) = 1.03 mW/g
SAR(10 g) = 0.607 mW/g
Power Drift = -0.079 dB
Maximum value of SAR (measured) = 1.15 mW/g



Date/Time: 2011-09-26 13:23:12

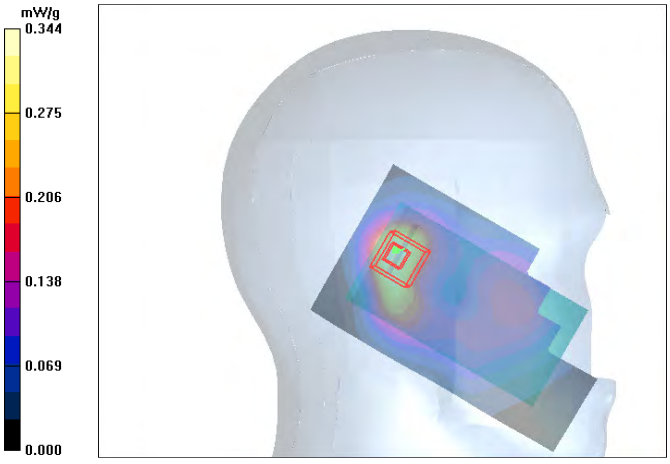
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; ε_r = 38.1; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.93, 4.93, 4.93); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1421
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.344 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 16.0 V/m
Peak SAR (extrapolated) = 0.482 W/kg
SAR(1 g) = 0.315 mW/g
SAR(10 g) = 0.187 mW/g
Power Drift = 0.019 dB
Maximum value of SAR (measured) = 0.345 mW/g



Date/Time: 2011-09-29 09:37:27

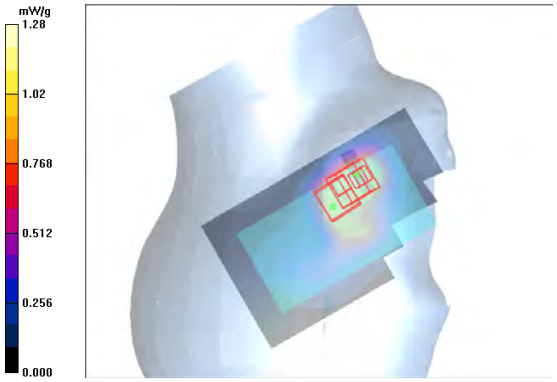
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

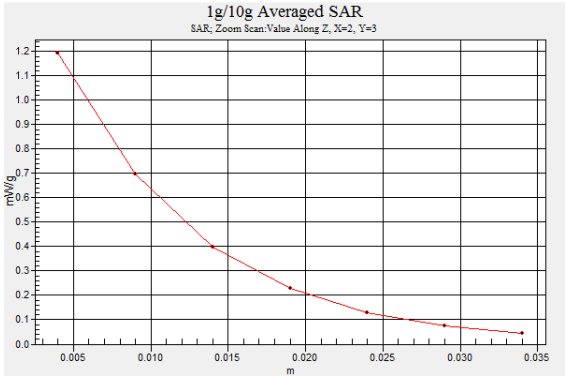
Communication System: WCDMA1900
Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Liquid Temperature: 21.5 C
Medium parameters used: f = 1908 MHz; σ = 1.41 mho/m; ε_r = 38.1; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.93, 4.93, 4.93); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1421
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - High/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.28 mW/g

Cheek - High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.8 V/m
Peak SAR (extrapolated) = 1.93 W/kg
SAR(1 g) = 1.13 mW/g
SAR(10 g) = 0.647 mW/g
Power Drift = 0.007 dB
Maximum value of SAR (measured) = 1.19 mW/g





Date/Time: 2011-09-26 14:02:38

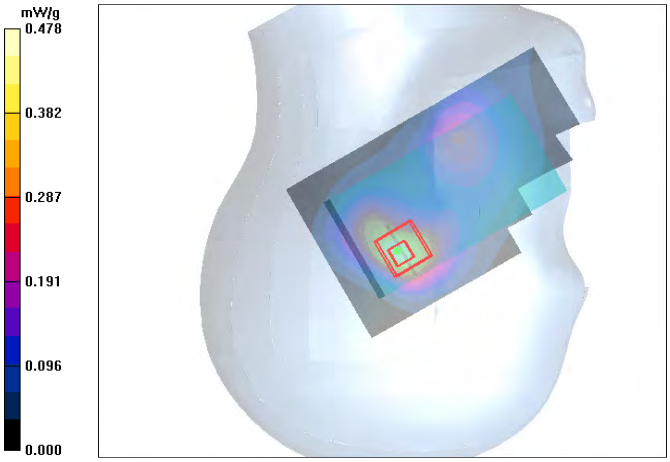
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: Head 1900; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; ε_r = 38.1; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.93, 4.93, 4.93); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 1; Type: Twin Phantom; Serial: TP-1421
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.478 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 15.6 V/m
Peak SAR (extrapolated) = 0.587 W/kg
SAR(1 g) = 0.383 mW/g
SAR(10 g) = 0.233 mW/g
Power Drift = -0.284 dB
Maximum value of SAR (measured) = 0.412 mW/g



Date/Time: 2011-09-27 12:37:03

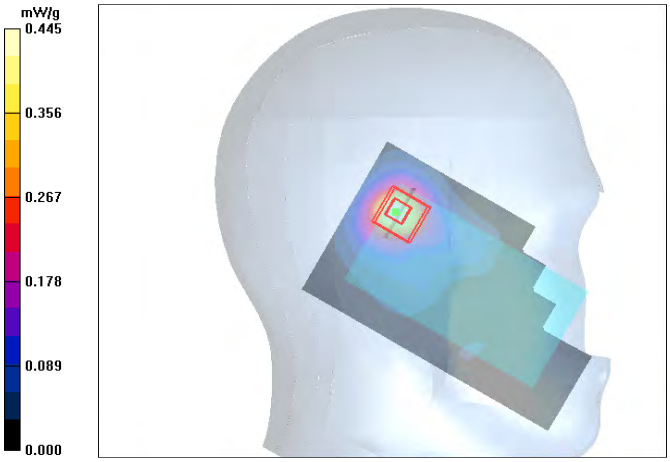
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WLAN2450 b-mode
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: Head 2450; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 2442 MHz; σ = 1.82 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.38, 4.38, 4.38); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.445 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 12.0 V/m
Peak SAR (extrapolated) = 0.962 W/kg
SAR(1 g) = 0.419 mW/g
SAR(10 g) = 0.202 mW/g
Power Drift = 0.017 dB
Maximum value of SAR (measured) = 0.466 mW/g



Date/Time: 2011-09-27 13:43:13

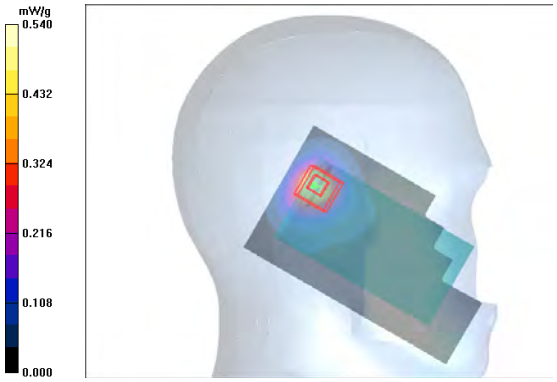
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

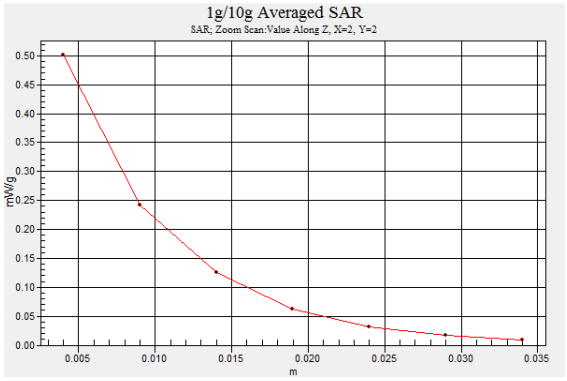
Communication System: WLAN2450 b-mode
Frequency: 2412 MHz; Duty Cycle: 1:1
Medium: Head 2450; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 2412 MHz; σ = 1.8 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.38, 4.38, 4.38); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt - Low/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.540 mW/g

Tilt - Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 14.0 V/m
Peak SAR (extrapolated) = 1.08 W/kg
SAR(1 g) = 0.457 mW/g
SAR(10 g) = 0.218 mW/g
Power Drift = -0.125 dB
Maximum value of SAR (measured) = 0.502 mW/g





Date/Time: 2011-09-27 13:06:46

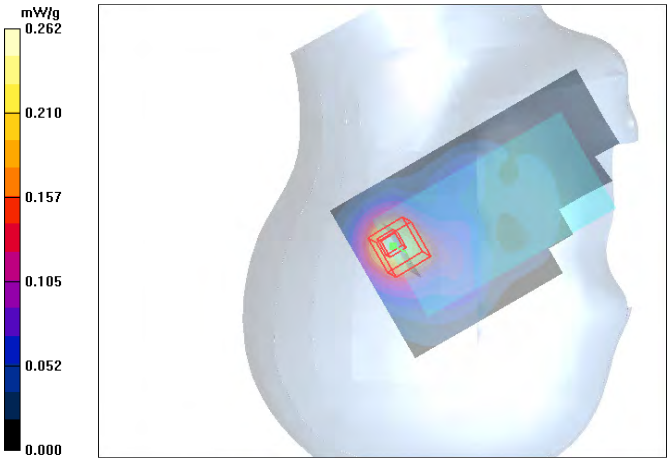
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WLAN2450 b-mode
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: Head 2450; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 2442 MHz; σ = 1.82 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.38, 4.38, 4.38); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.262 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.7 V/m
Peak SAR (extrapolated) = 0.498 W/kg
SAR(1 g) = 0.238 mW/g
SAR(10 g) = 0.127 mW/g
Power Drift = 0.031 dB
Maximum value of SAR (measured) = 0.250 mW/g



Date/Time: 2011-09-27 13:24:29

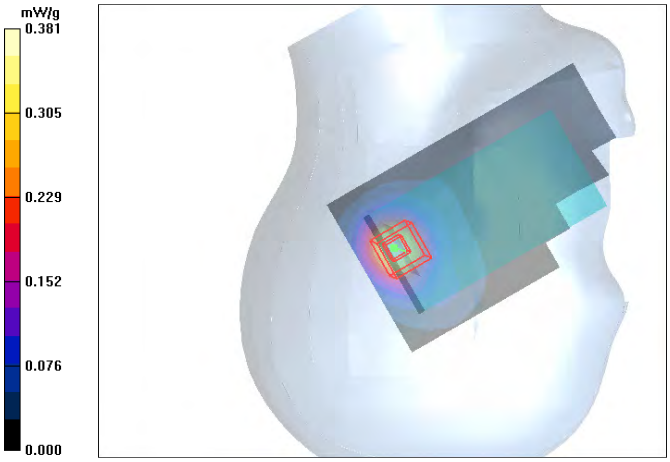
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WLAN2450 b-mode
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: Head 2450; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 2442 MHz; σ = 1.82 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.38, 4.38, 4.38); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.381 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 14.0 V/m
Peak SAR (extrapolated) = 0.680 W/kg
SAR(1 g) = 0.324 mW/g
SAR(10 g) = 0.167 mW/g
Power Drift = -0.241 dB
Maximum value of SAR (measured) = 0.350 mW/g



Date/Time: 2011-09-27 14:44:54

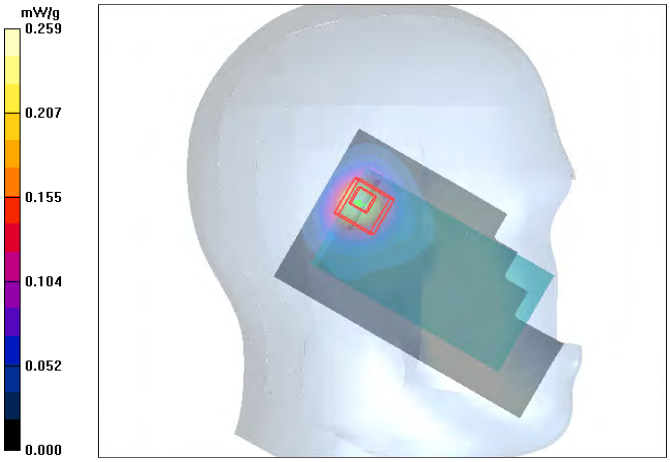
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WLAN2450 n-mode
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: Head 2450; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 2442 MHz; σ = 1.82 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.38, 4.38, 4.38); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt - Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.259 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.98 V/m
Peak SAR (extrapolated) = 0.541 W/kg
SAR(1 g) = 0.229 mW/g
SAR(10 g) = 0.109 mW/g
Power Drift = 0.009 dB
Maximum value of SAR (measured) = 0.246 mW/g



Date/Time: 2011-10-04 08:01:58

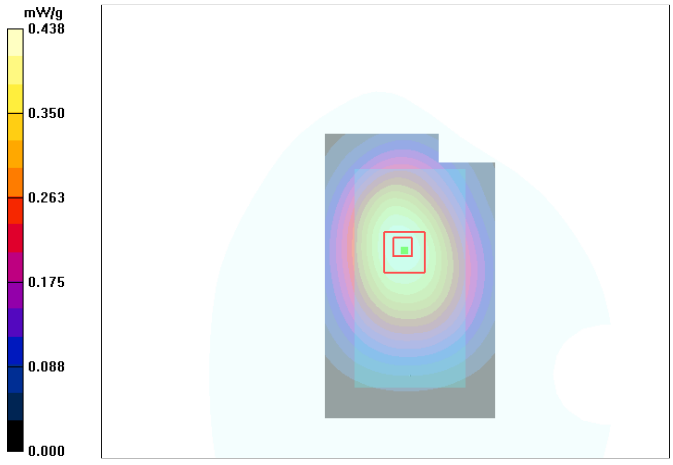
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Body 835; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 837 MHz; σ = 0.954 mho/m; ε_r = 55; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.42, 6.42, 6.42); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Display Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.438 mW/g

Body - Middle - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.55 V/m
Peak SAR (extrapolated) = 0.499 W/kg
SAR(1 g) = 0.413 mW/g
SAR(10 g) = 0.309 mW/g
Power Drift = -0.014 dB
Maximum value of SAR (measured) = 0.436 mW/g



Date/Time: 2011-10-04 08:18:41

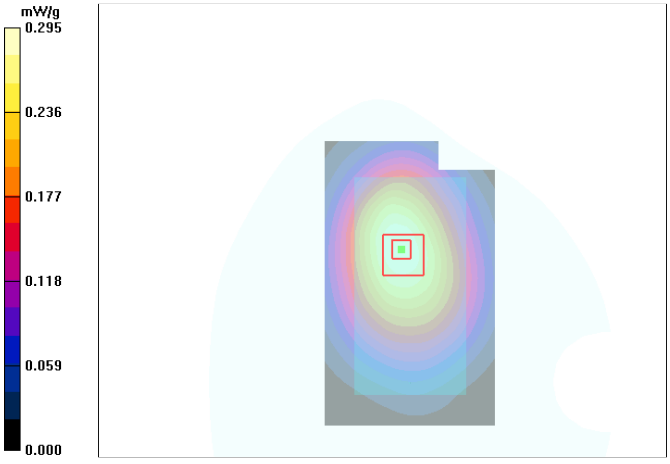
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Body 835; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 837 MHz; σ = 0.954 mho/m; ε_r = 55; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.42, 6.42, 6.42); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - WH-102 - Display Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.295 mW/g

Body - Middle - WH-102 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.61 V/m
Peak SAR (extrapolated) = 0.358 W/kg
SAR(1 g) = 0.285 mW/g
SAR(10 g) = 0.211 mW/g
Power Drift = 0.193 dB
Maximum value of SAR (measured) = 0.301 mW/g



Date/Time: 2011-10-04 14:07:35

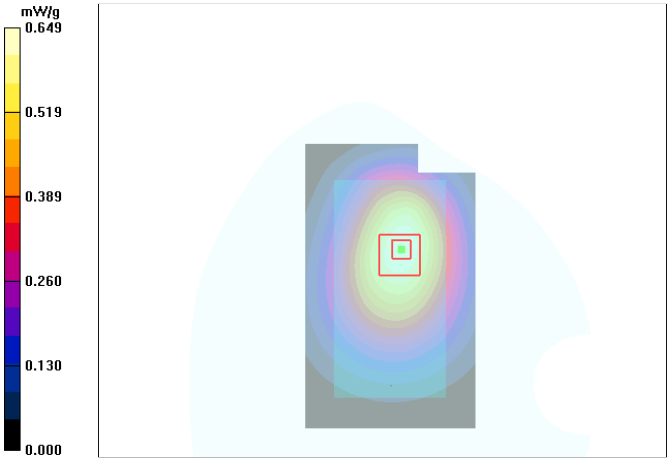
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: GSM850
Frequency: 848.8 MHz; Duty Cycle: 1:8.3
Medium: Body 835; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 849 MHz; σ = 0.963 mho/m; ε_r = 55; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.42, 6.42, 6.42); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - High - No Accessory - Back Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.649 mW/g

Body - High - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.86 V/m
Peak SAR (extrapolated) = 0.775 W/kg
SAR(1 g) = 0.622 mW/g
SAR(10 g) = 0.457 mW/g
Power Drift = 0.066 dB
Maximum value of SAR (measured) = 0.660 mW/g



Date/Time: 2011-10-04 10:11:04

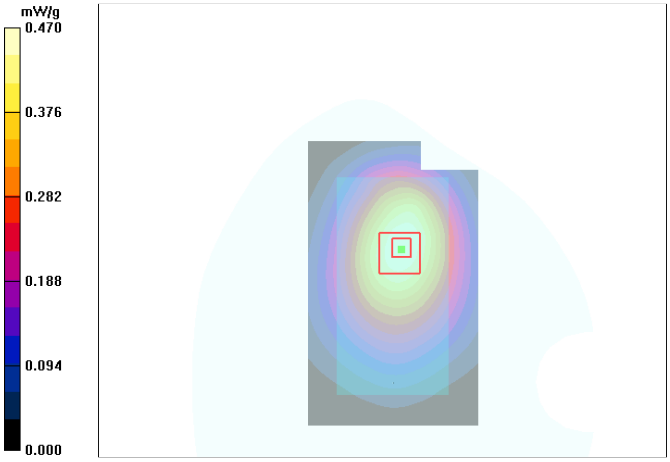
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Body 835; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 837 MHz; σ = 0.954 mho/m; ε_r = 55; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.42, 6.42, 6.42); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - WH-102 - Back Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.470 mW/g

Body - Middle - WH-102 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.47 V/m
Peak SAR (extrapolated) = 0.562 W/kg
SAR(1 g) = 0.450 mW/g
SAR(10 g) = 0.332 mW/g
Power Drift = -0.060 dB
Maximum value of SAR (measured) = 0.477 mW/g



Date/Time: 2011-10-04 11:07:14

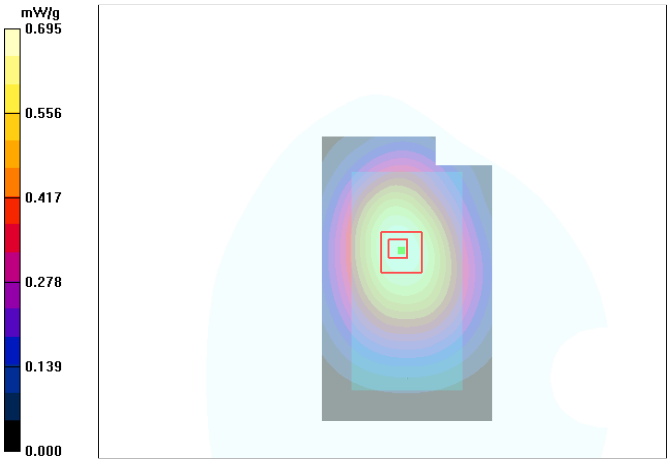
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WCDMA850
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Body 835; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 835 MHz; σ = 0.951 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.42, 6.42, 6.42); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Display Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.695 mW/g

Body - Middle - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.6 V/m
Peak SAR (extrapolated) = 0.810 W/kg
SAR(1 g) = 0.655 mW/g
SAR(10 g) = 0.488 mW/g
Power Drift = -0.117 dB
Maximum value of SAR (measured) = 0.689 mW/g



Date/Time: 2011-10-04 11:23:03

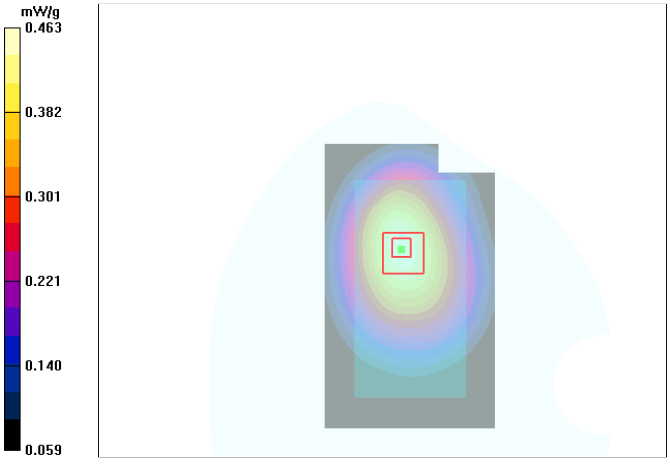
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WCDMA850
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Body 835; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 835 MHz; σ = 0.951 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.42, 6.42, 6.42); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - WH-102 - Display Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.453 mW/g

Body - Middle - WH-102 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.77 V/m
Peak SAR (extrapolated) = 0.555 W/kg
SAR(1 g) = 0.437 mW/g
SAR(10 g) = 0.321 mW/g
Power Drift = 0.017 dB
Maximum value of SAR (measured) = 0.463 mW/g



Date/Time: 2011-10-04 13:24:39

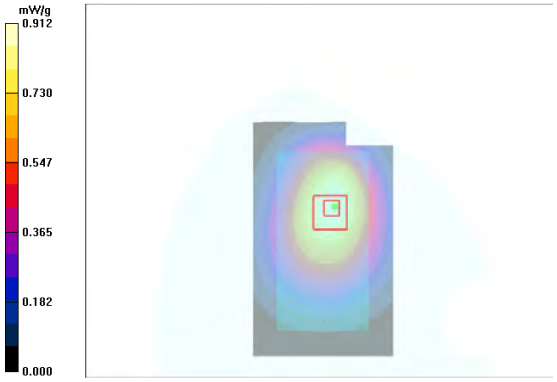
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

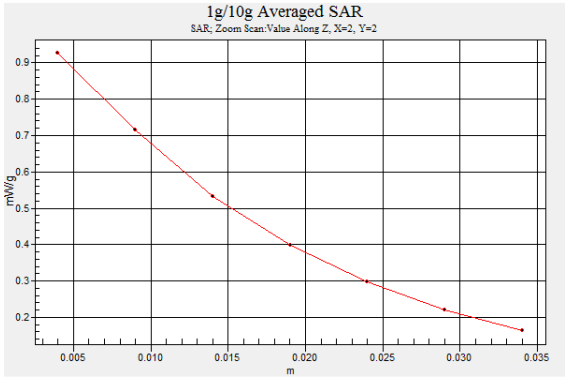
Communication System: WCDMA850
Frequency: 846.6 MHz; Duty Cycle: 1:1
Medium: Body 835; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 847 MHz; σ = 0.964 mho/m; ε_r = 55; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.42, 6.42, 6.42); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - High - No Accessory - Back Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.912 mW/g

Body - High - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.3 V/m
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.875 mW/g
SAR(10 g) = 0.640 mW/g
Power Drift = -0.017 dB
Maximum value of SAR (measured) = 0.926 mW/g





Date/Time: 2011-10-04 12:07:03

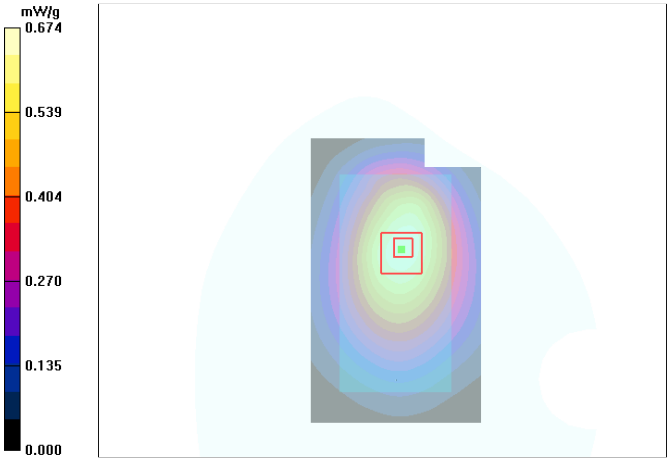
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WCDMA850
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: Body 835; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 835 MHz; σ = 0.951 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.42, 6.42, 6.42); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - WH-102 - Back Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.674 mW/g

Body - Middle - WH-102 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 12.9 V/m
Peak SAR (extrapolated) = 0.788 W/kg
SAR(1 g) = 0.637 mW/g
SAR(10 g) = 0.473 mW/g
Power Drift = 0.083 dB
Maximum value of SAR (measured) = 0.671 mW/g



Date/Time: 2011-10-06 11:58:28

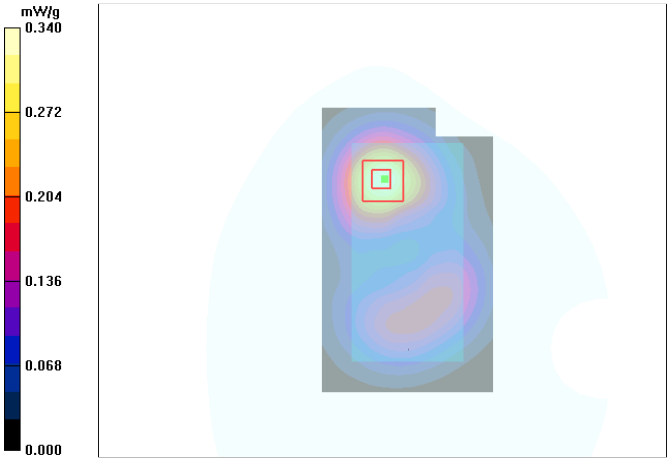
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: GSM1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Body 1900; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 53; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.7, 4.7, 4.7); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Display Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.340 mW/g

Body - Middle - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.75 V/m
Peak SAR (extrapolated) = 0.467 W/kg
SAR(1 g) = 0.308 mW/g
SAR(10 g) = 0.192 mW/g
Power Drift = -0.002 dB
Maximum value of SAR (measured) = 0.333 mW/g



Date/Time: 2011-10-06 12:14:13

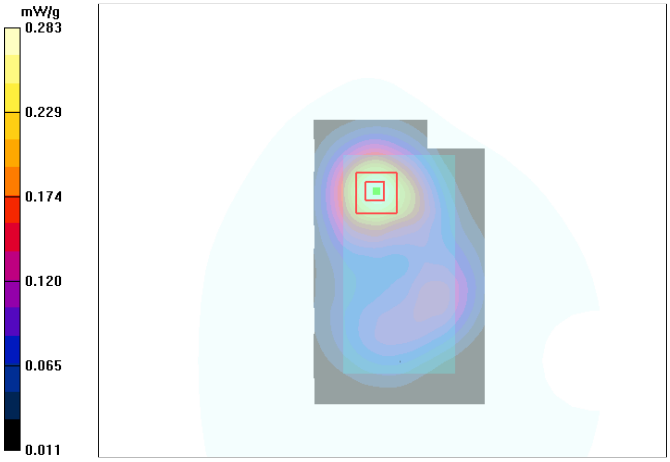
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: GSM1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Body 1900; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 53; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.7, 4.7, 4.7); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - WH-102 - Display Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.288 mW/g

Body - Middle - WH-102 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.69 V/m
Peak SAR (extrapolated) = 0.398 W/kg
SAR(1 g) = 0.261 mW/g
SAR(10 g) = 0.163 mW/g
Power Drift = -0.048 dB
Maximum value of SAR (measured) = 0.283 mW/g



Date/Time: 2011-10-06 14:36:49

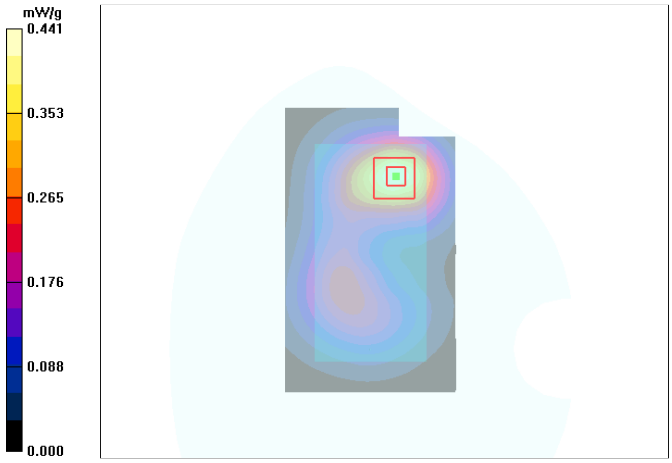
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: GSM1900
Frequency: 1850.2 MHz; Duty Cycle: 1:8.3
Medium: Body 1900; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 1850 MHz; σ = 1.42 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.7, 4.7, 4.7); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Low - No Accessory - Back Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.441 mW/g

Body - Low - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.08 V/m
Peak SAR (extrapolated) = 0.607 W/kg
SAR(1 g) = 0.392 mW/g
SAR(10 g) = 0.243 mW/g
Power Drift = 0.026 dB
Maximum value of SAR (measured) = 0.428 mW/g



Date/Time: 2011-10-06 14:04:33

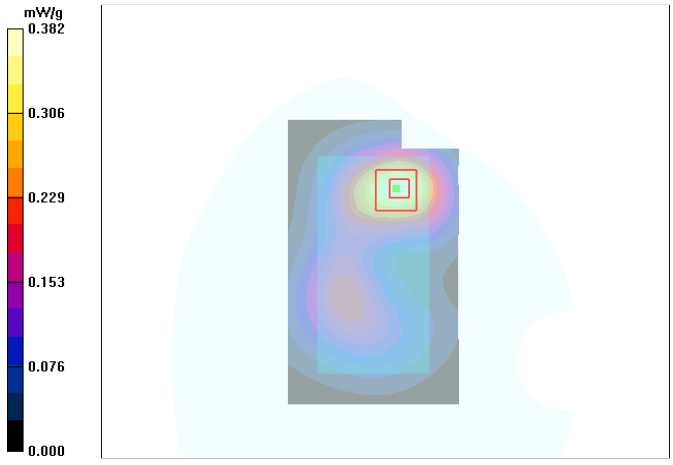
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: GSM1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Body 1900; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 53; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.7, 4.7, 4.7); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - WH-102 - Back Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.382 mW/g

Body - Middle - WH-102 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.43 V/m
Peak SAR (extrapolated) = 0.546 W/kg
SAR(1 g) = 0.344 mW/g
SAR(10 g) = 0.212 mW/g
Power Drift = -0.008 dB
Maximum value of SAR (measured) = 0.371 mW/g



Date/Time: 2011-10-06 10:11:24

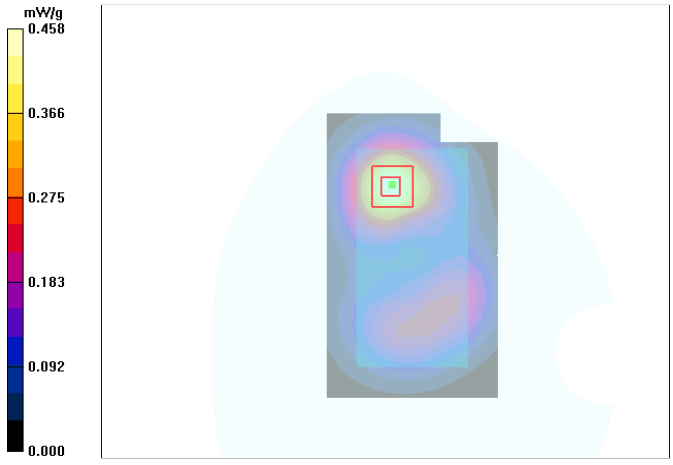
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: Body 1900; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 53; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.7, 4.7, 4.7); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Display Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.458 mW/g

Body - Middle - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.5 V/m
Peak SAR (extrapolated) = 0.615 W/kg
SAR(1 g) = 0.411 mW/g
SAR(10 g) = 0.258 mW/g
Power Drift = -0.135 dB
Maximum value of SAR (measured) = 0.443 mW/g



Date/Time: 2011-10-06 10:27:00

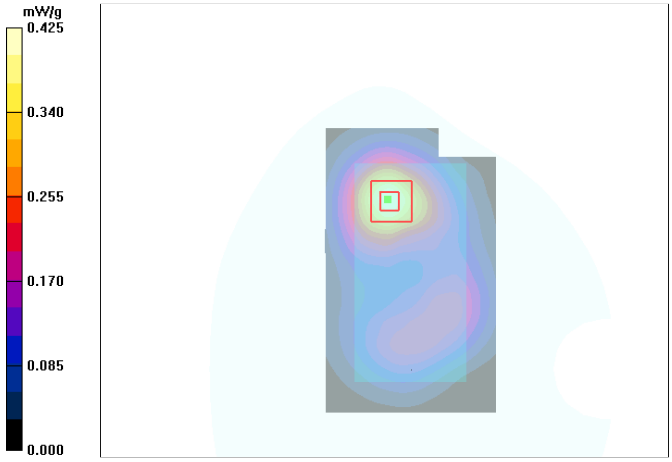
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: Body 1900; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 53; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.7, 4.7, 4.7); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - WH-102 - Display Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.425 mW/g

Body - Middle - WH-102 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.1 V/m
Peak SAR (extrapolated) = 0.584 W/kg
SAR(1 g) = 0.385 mW/g
SAR(10 g) = 0.240 mW/g
Power Drift = 0.044 dB
Maximum value of SAR (measured) = 0.418 mW/g



Date/Time: 2011-10-06 11:03:16

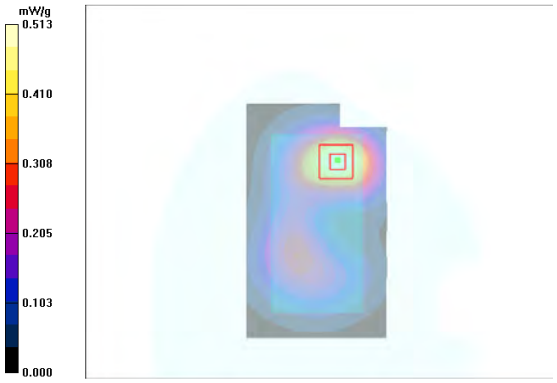
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

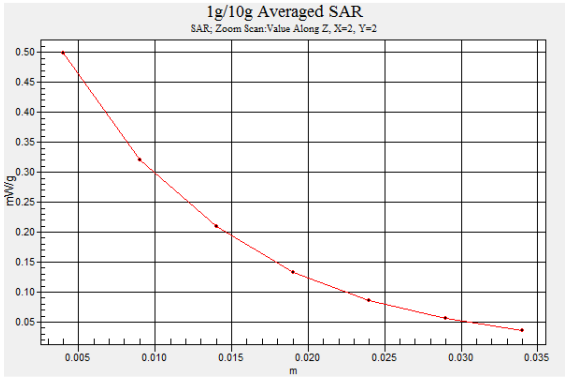
Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: Body 1900; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 53; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.7, 4.7, 4.7); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Back Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.513 mW/g

Body - Middle - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.1 V/m
Peak SAR (extrapolated) = 0.724 W/kg
SAR(1 g) = 0.461 mW/g
SAR(10 g) = 0.286 mW/g
Power Drift = -0.013 dB
Maximum value of SAR (measured) = 0.499 mW/g





Date/Time: 2011-10-06 10:47:42

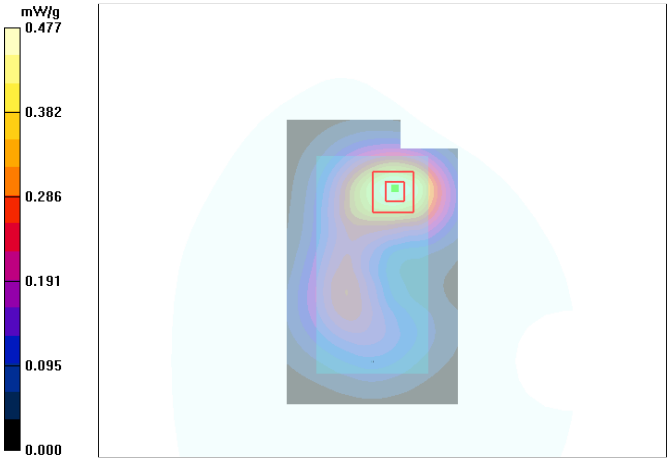
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: Body 1900; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 53; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.7, 4.7, 4.7); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - WH-102 - Back Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.477 mW/g

Body - Middle - WH-102 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.68 V/m
Peak SAR (extrapolated) = 0.672 W/kg
SAR(1 g) = 0.430 mW/g
SAR(10 g) = 0.269 mW/g
Power Drift = 0.002 dB
Maximum value of SAR (measured) = 0.463 mW/g



Date/Time: 2011-09-28 06:44:54

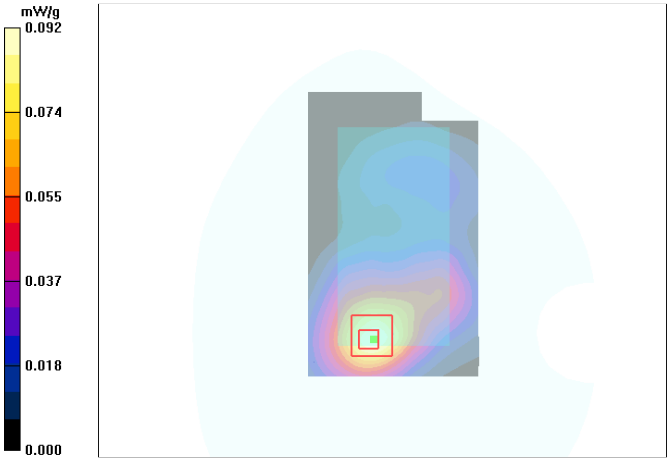
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WLAN2450 b-mode
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: Body 2450; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 2442 MHz; σ = 1.95 mho/m; ε_r = 51.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.09, 4.09, 4.09); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Display Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.092 mW/g

Body - Middle - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 6.47 V/m
Peak SAR (extrapolated) = 0.204 W/kg
SAR(1 g) = 0.088 mW/g
SAR(10 g) = 0.048 mW/g
Power Drift = 0.012 dB
Maximum value of SAR (measured) = 0.090 mW/g



Date/Time: 2011-09-28 07:00:11

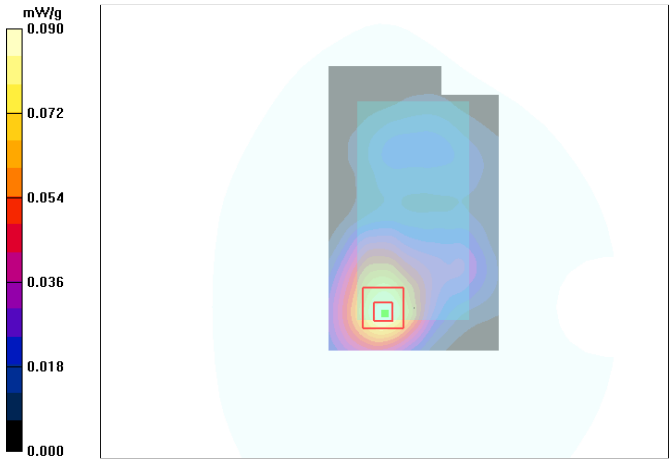
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WLAN2450 b-mode
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: Body 2450; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 2442 MHz; σ = 1.95 mho/m; ε_r = 51.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.09, 4.09, 4.09); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - WH-102 - Display Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.090 mW/g

Body - Middle - WH-102 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 5.60 V/m
Peak SAR (extrapolated) = 0.203 W/kg
SAR(1 g) = 0.087 mW/g
SAR(10 g) = 0.047 mW/g
Power Drift = 0.079 dB
Maximum value of SAR (measured) = 0.091 mW/g



Date/Time: 2011-09-28 07:12:06

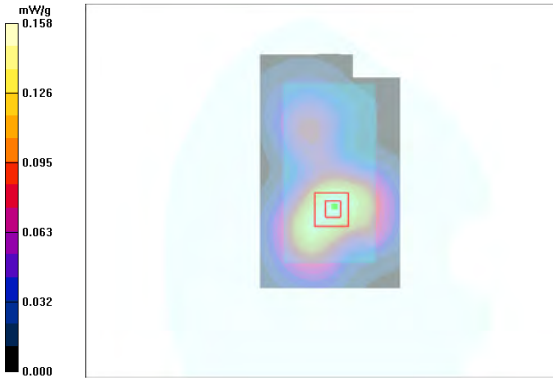
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

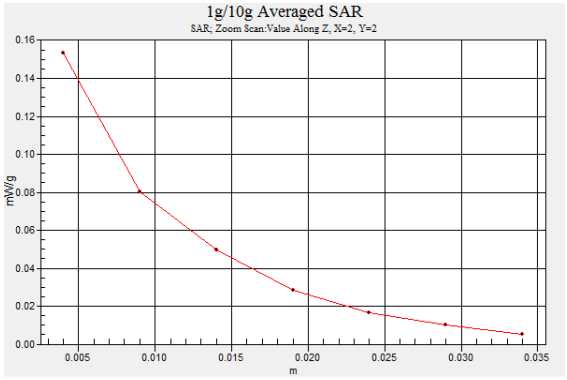
Communication System: WLAN2450 b-mode
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: Body 2450; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 2442 MHz; σ = 1.95 mho/m; ε_r = 51.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.09, 4.09, 4.09); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Back Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.158 mW/g

Body - Middle - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 6.48 V/m
Peak SAR (extrapolated) = 0.313 W/kg
SAR(1 g) = 0.148 mW/g
SAR(10 g) = 0.086 mW/g
Power Drift = -0.007 dB
Maximum value of SAR (measured) = 0.153 mW/g





Date/Time: 2011-09-28 07:23:16

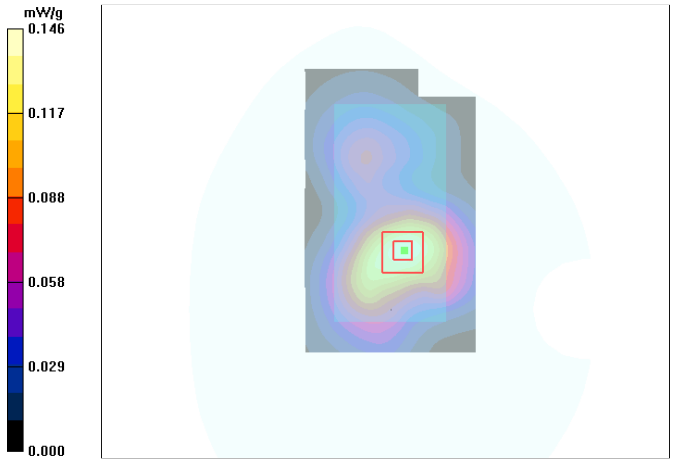
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WLAN2450 b-mode
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: Body 2450; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 2442 MHz; σ = 1.95 mho/m; ε_r = 51.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.09, 4.09, 4.09); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - WH-102 - Back Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.146 mW/g

Body - Middle - WH-102 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 5.99 V/m
Peak SAR (extrapolated) = 0.296 W/kg
SAR(1 g) = 0.141 mW/g
SAR(10 g) = 0.081 mW/g
Power Drift = 0.016 dB
Maximum value of SAR (measured) = 0.146 mW/g



Date/Time: 2011-09-28 08:45:48

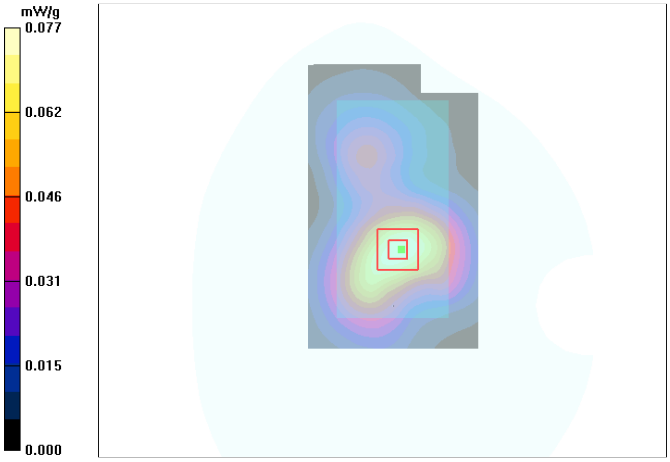
Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WLAN2450 n-mode
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: Body 2450; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 2442 MHz; σ = 1.95 mho/m; ε_r = 51.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.09, 4.09, 4.09); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body - Middle - No Accessory - Back Facing Phantom/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.077 mW/g

Body - Middle - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 4.25 V/m
Peak SAR (extrapolated) = 0.154 W/kg
SAR(1 g) = 0.073 mW/g
SAR(10 g) = 0.042 mW/g
Power Drift = 0.050 dB
Maximum value of SAR (measured) = 0.076 mW/g



Date/Time: 2011-09-29 17:08:51, Date/Time: 2011-09-27 12:37:03

Test Laboratory: TCC Nokia

Type: RM-813; Serial: 004402/13/662848/8

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

Frequency: 848.8 MHz, Frequency: 2442 MHz; Duty Cycle: 1:8.3, Duty Cycle: 1:1

Medium: Head 835, Medium: Head 2450; Medium Notes: Liquid Temperature: 21.0 C, Medium Notes: Liquid Temperature: 20.5 C

Medium parameters used: f = 849 MHz; σ = 0.895 mho/m; ε_r = 41.9; ρ = 1000 kg/m^3 , Medium parameters used: f = 2442 MHz; σ = 1.82 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3

Phantom section: Left Section

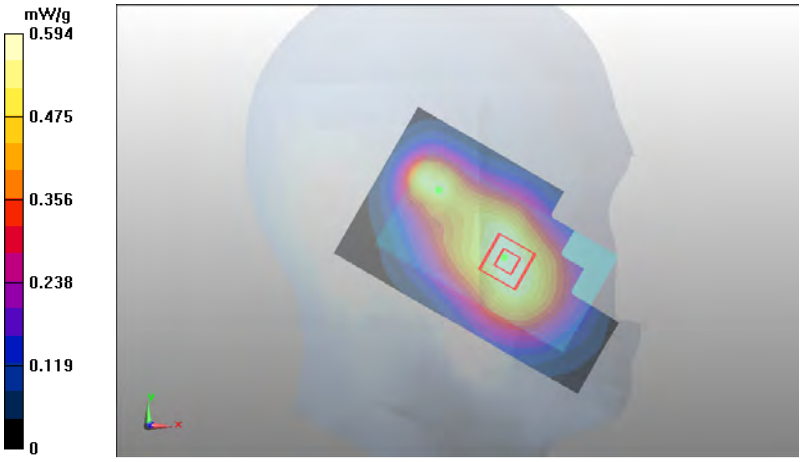
DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.66, 6.66, 6.66), ConvF(4.38, 4.38, 4.38); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 2, Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1188, Serial: TP-1420
- ; SEMCAD X Version 14.0 Build 61

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

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

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.561 mW/g
SAR(10 g) = 0.394 mW/g

Maximum value of SAR (measured) = 0.594 mW/g



Date/Time: 2011-09-30 10:25:04, Date/Time: 2011-09-27 12:37:03

Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WCDMA850, Communication System: WLAN2450 b-mode
Frequency: 846.6 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: Head 835, Medium: Head 2450; Medium Notes: Liquid Temperature: 21.0 C, Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 847 MHz; σ = 0.894 mho/m; ε_r = 41.9; ρ = 1000 kg/m^3 , Medium parameters used: f = 2442 MHz; σ = 1.82 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3
Phantom section: Left Section

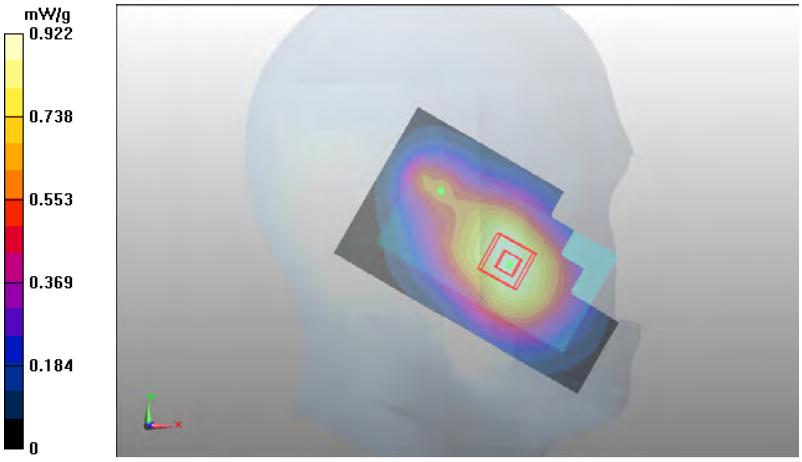
DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.66, 6.66, 6.66), ConvF(4.38, 4.38, 4.38); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 2, Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1188, Serial: TP-1420
- ; SEMCAD X Version 14.0 Build 61

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

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

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.872 mW/g
SAR(10 g) = 0.612 mW/g

Maximum value of SAR (measured) = 0.922 mW/g



Date/Time: 2011-09-28 16:51:17, Date/Time: 2011-09-27 12:37:03

Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

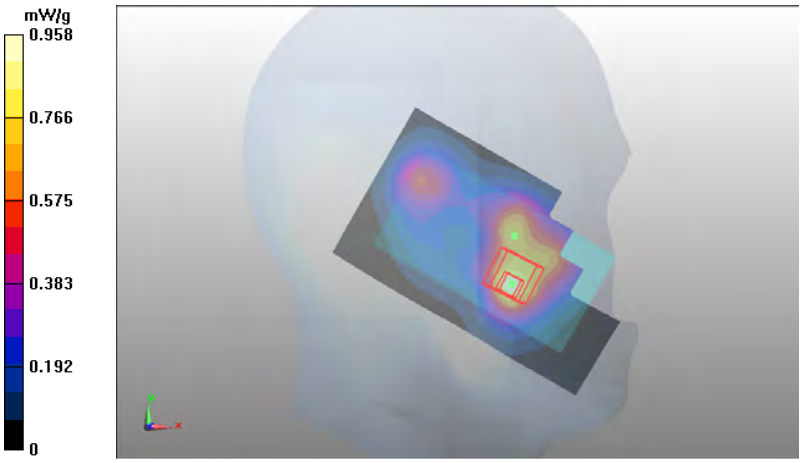
Communication System: GSM1900, Communication System: WLAN2450 b-mode
Frequency: 1880 MHz, Frequency: 2442 MHz; Duty Cycle: 1:8.3, Duty Cycle: 1:1
Medium: Head 1900, Medium: Head 2450; Medium Notes: Liquid Temperature: 21.5 C, Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 38.2; ρ = 1000 kg/m^3 , Medium parameters used: f = 2442 MHz; σ = 1.82 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.93, 4.93, 4.93), ConvF(4.38, 4.38, 4.38); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 1, Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1421, Serial: TP-1420
- ; SEMCAD X Version 14.0 Build 61

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

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.779 mW/g
SAR(10 g) = 0.448 mW/g

Maximum value of SAR (measured) = 0.958 mW/g



Date/Time: 2011-09-26 12:59:51, Date/Time: 2011-09-27 12:37:03

Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

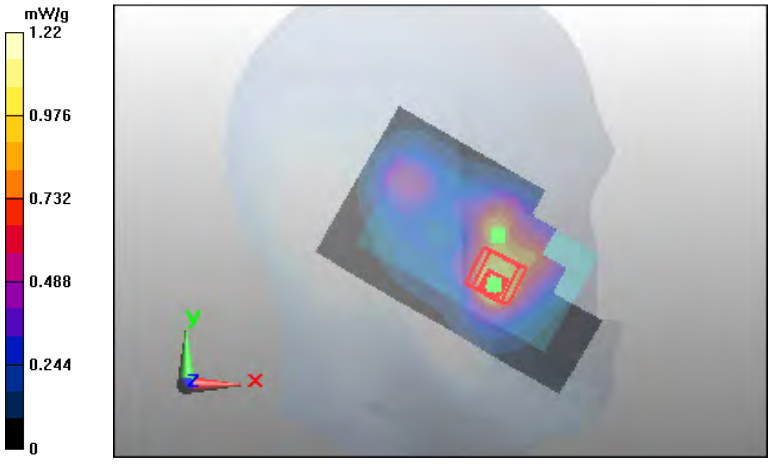
Communication System: WCDMA1900, Communication System: WLAN2450 b-mode
Frequency: 1880 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: Head 1900, Medium: Head 2450; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 1880 MHz; σ = 1.42 mho/m; ε_r = 38.1; ρ = 1000 kg/m^3 , Medium parameters used: f = 2442 MHz; σ = 1.82 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.93, 4.93, 4.93), ConvF(4.38, 4.38, 4.38); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 1, Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1421, Serial: TP-1420
- ; SEMCAD X Version 14.0 Build 61

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

Motorola Fast SAR of Combined Scans: SAR(1 g) = 1.04 mW/g
SAR(10 g) = 0.574 mW/g

Maximum value of SAR (measured) = 1.22 mW/g



Date/Time: 2011-10-04 14:07:35, Date/Time: 2011-09-28 07:12:06

Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: GSM850, Communication System: WLAN2450 b-mode
Frequency: 848.8 MHz, Frequency: 2442 MHz; Duty Cycle: 1:8.3, Duty Cycle: 1:1
Medium: Body 835, Medium: Body 2450; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 849 MHz; σ = 0.963 mho/m; ε_r = 55; ρ = 1000 kg/m^3 , Medium parameters used: f = 2442 MHz; σ = 1.95 mho/m; ε_r = 51.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

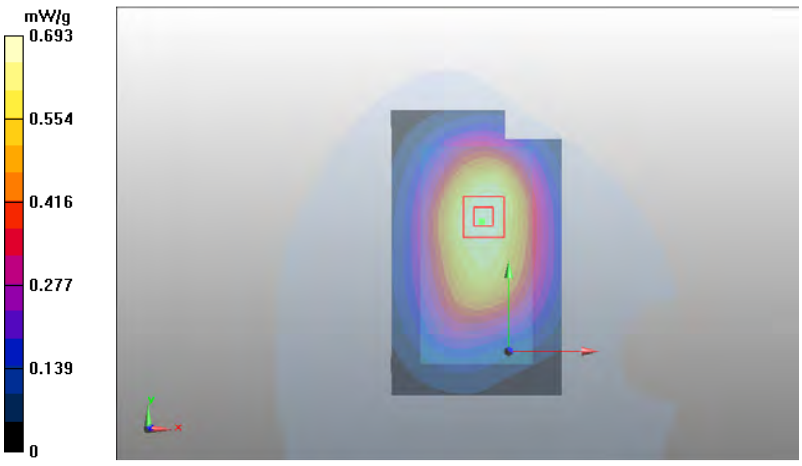
DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.42, 6.42, 6.42), ConvF(4.09, 4.09, 4.09); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- ; SEMCAD X Version 14.0 Build 61

Configuration/Body - High - No Accessory - Back Facing Phantom/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Body - Middle - No Accessory - Back Facing Phantom/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.657 mW/g
SAR(10 g) = 0.459 mW/g

Maximum value of SAR (measured) = 0.693 mW/g



Date/Time: 2011-10-04 13:24:39, Date/Time: 2011-09-28 07:12:06

Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: WCDMA850, Communication System: WLAN2450 b-mode
Frequency: 846.6 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: Body 835, Medium: Body 2450; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 847 MHz; σ = 0.964 mho/m; ε_r = 55; ρ = 1000 kg/m^3 , Medium parameters used: f = 2442 MHz; σ = 1.95 mho/m; ε_r = 51.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

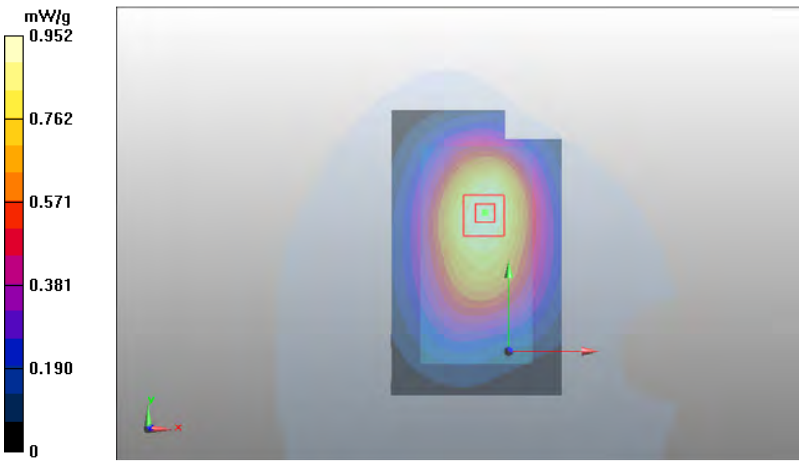
DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(6.42, 6.42, 6.42), ConvF(4.09, 4.09, 4.09); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- ; SEMCAD X Version 14.0 Build 61

Configuration/Body - High - No Accessory - Back Facing Phantom/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Body - Middle - No Accessory - Back Facing Phantom/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.904 mW/g
SAR(10 g) = 0.633 mW/g

Maximum value of SAR (measured) = 0.952 mW/g



Date/Time: 2011-10-06 14:36:49, Date/Time: 2011-09-28 07:12:06

Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

Communication System: GSM1900, Communication System: WLAN2450 b-mode
Frequency: 1850.2 MHz, Frequency: 2442 MHz; Duty Cycle: 1:8.3, Duty Cycle: 1:1
Medium: Body 1900, Medium: Body 2450; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 1850 MHz; σ = 1.42 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3 , Medium parameters used: f = 2442 MHz; σ = 1.95 mho/m; ε_r = 51.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

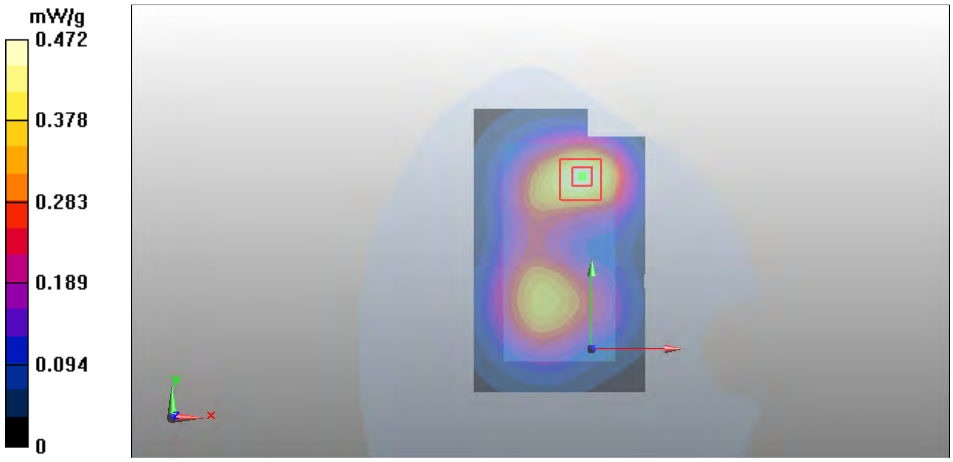
DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.7, 4.7, 4.7), ConvF(4.09, 4.09, 4.09); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- ; SEMCAD X Version 14.0 Build 61

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

Configuration/Body - Middle - No Accessory - Back Facing Phantom/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.429 mW/g
SAR(10 g) = 0.251 mW/g

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



Date/Time: 2011-10-06 11:03:16, Date/Time: 2011-09-28 07:12:06

Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662848/8

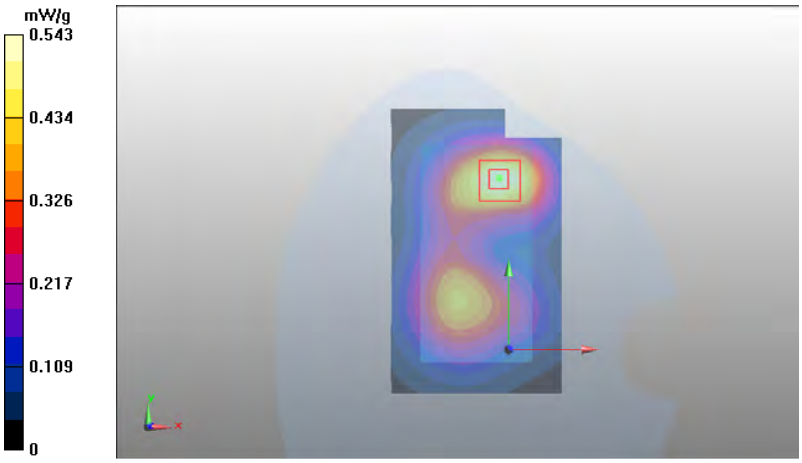
Communication System: WCDMA1900, Communication System: WLAN2450 b-mode
Frequency: 1880 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: Body 1900, Medium: Body 2450; Medium Notes: Liquid Temperature: 20.5 C
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 53; ρ = 1000 kg/m^3 , Medium parameters used: f = 2442 MHz; σ = 1.95 mho/m; ε_r = 51.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1676; Probe Notes:
- ConvF(4.7, 4.7, 4.7), ConvF(4.09, 4.09, 4.09); Calibrated: 2011-07-14
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection), Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE3 Sn504; Calibrated: 2011-04-08
- Phantom: SAM 3; Type: Twin Phantom; Serial: TP-1420
- ; SEMCAD X Version 14.0 Build 61

Configuration/Body - Middle - No Accessory - Back Facing Phantom/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.495 mW/g
SAR(10 g) = 0.291 mW/g

Maximum value of SAR (measured) = 0.543 mW/g



APPENDIX C: CONDUCTED AVERAGE POWER MEASUREMENTS FOR WCDMA AND HSUPA

Test Laboratory: TCC Nokia
Type: RM-813; Serial: 004402/13/662208/5, HW: 0150, SW: jc13.32

C.1. WCDMA850 Test results

Average power

Ch / *f*(MHz)	P [dBm]
4133 / 826.6	23.11
4175 / 835.0	23.12
4232 / 846.4	23.19

C.2. HSUPA850 Test results

Average power

Ch / *f*(MHz)	P [dBm]				
	Subtest mode 1	Subtest mode 2	Subtest mode 3	Subtest mode 4	Subtest mode 5
4133 / 826.6	19.35	19.61	20.69	19.59	21.41
4175 / 835.0	18.56	19.43	20.25	19.20	21.13
4232 / 846.4	19.61	19.61	20.43	19.64	21.35

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

Maximum Power Reduction (MPR)				
Subtest mode 1	Subtest mode 2	Subtest mode 3	Subtest mode 4	Subtest mode 5
2.5dB	3.0dB	2.0dB	3.0dB	1.0dB

C.3. WCDMA1900 Test results

Average power

Ch / *f*(MHz)	P [dBm]
9263	21.77
9400	21.93
9537	22.03

C.4. HSUPA1900 Test results

Average power

Ch / *f*(MHz)	P [dBm]				
	Subtest mode 1	Subtest mode 2	Subtest mode 3	Subtest mode 4	Subtest mode 5
9263 / 1852.6	18.91	19.60	20.64	19.57	21.32
9400 / 1880.0	19.15	19.57	20.64	19.30	21.44
9537 / 1907.4	18.78	19.41	20.42	19.44	21.34

Note: In HSUPA operation, the output power is reduced relative to the tuning target power for WCDMA. This device runs two separate HSUPA power control routines: MPR and E-TFC MPR. In each Subtest mode, the routine with the higher power reduction dominates. As a result, the MPR for each of the Subtest modes is as follows:

Maximum Power Reduction (MPR)				
Subtest mode 1	Subtest mode 2	Subtest mode 3	Subtest mode 4	Subtest mode 5
1.5dB	2.0dB	1.0dB	2.0dB	0.0dB

APPENDIX D: 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
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 GmbH (Ulm)

Certificate No: ET3-1676_Jul11

CALIBRATION CERTIFICATE

Object: ET3DV6 - SN:1676

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

Calibration date: July 14, 2011

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	31-Mar-11 (No. 217-01372)	Apr-12
Power sensor E4412A	MY41498087	31-Mar-11 (No. 217-01372)	Apr-12
Reference 3 dB Attenuator	SN: S5054 (3c)	29-Mar-11 (No. 217-01369)	Apr-12
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Reference 30 dB Attenuator	SN: S5129 (30b)	29-Mar-11 (No. 217-01370)	Apr-12
Reference Probe ES3DV2	SN: 3013	29-Dec-10 (No. ES3-3013_Dec10)	Dec-11
DAE4	SN: 654	3-May-11 (No. DAE4-654_May11)	May-12
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

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

Issued: July 15, 2011

DASY/EASY - Parameters of Probe: ET3DV6 - SN:1676

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
900	41.5	0.97	6.21	6.21	6.21	0.68	1.91	± 12.0 %
1750	40.1	1.37	5.31	5.31	5.31	0.56	2.33	± 12.0 %
1950	40.0	1.40	4.93	4.93	4.93	0.55	2.34	± 12.0 %
2450	39.2	1.80	4.38	4.38	4.38	0.78	1.75	± 12.0 %

[C] Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.
[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

DASY/EASY - Parameters of Probe: ET3DV6- SN:1676

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
900	55.0	1.05	6.19	6.19	6.19	0.76	1.83	± 12.0 %
1750	53.4	1.49	4.83	4.83	4.83	0.59	2.87	± 12.0 %
1950	53.3	1.52	4.70	4.70	4.70	0.62	2.54	± 12.0 %
2450	52.7	1.95	4.09	4.09	4.09	0.99	1.22	± 12.0 %

[C] Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.
[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

APPENDIX E: RELEVANT PAGES FROM DIPOLE VALIDATION KIT 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 GmbH (Ulm)

Certificate No: D835V2-474_Jun11

CALIBRATION CERTIFICATE

Object: D835V2 - SN: 474

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

Calibration date: June 14, 2011

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	29-Apr-11 (No. ES3-3205_Apr11)	Apr-12
DAE4	SN: 601	8-Jun-11 (No. DAE4-601_Jun11)	Jun-12

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

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

Issued: June 14, 2011

DASY5 Validation Report for Head TSL

Date: 14.06.2011

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 474

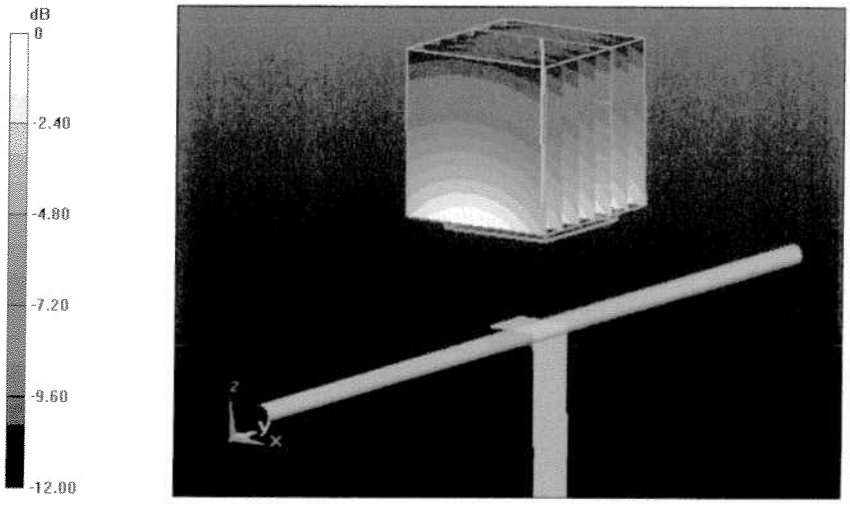
Communication System: CW; Frequency: 835 MHz
Medium: HSL900V2
Medium parameters used: f = 835 MHz; σ = 0.89 mho/m; ε_r = 40.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.07, 6.07, 6.07); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 08.06.2011
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

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

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57.048 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.439 W/kg
SAR(1 g) = 2.33 mW/g; SAR(10 g) = 1.53 mW/g
Maximum value of SAR (measured) = 2.718 mW/g



0 dB = 2.720mW/g

DASY5 Validation Report for Body TSL

Date: 14.06.2011

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 474

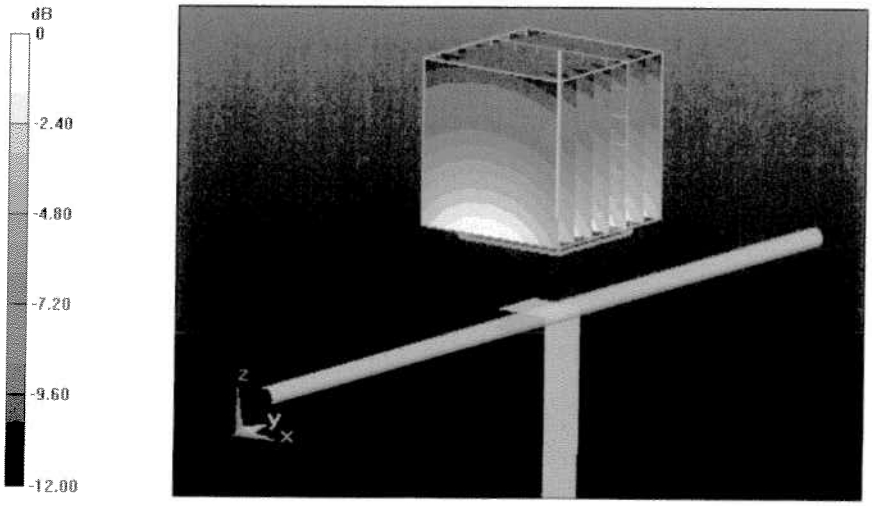
Communication System: CW; Frequency: 835 MHz
Medium: MSL900V2
Medium parameters used: f = 835 MHz; σ = 0.99 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.02, 6.02, 6.02); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 08.06.2011
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

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

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.624 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 3.578 W/kg
SAR(1 g) = 2.46 mW/g; SAR(10 g) = 1.61 mW/g
Maximum value of SAR (measured) = 2.859 mW/g



0 dB = 2.860mW/g

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

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Accreditation No.: SCS 108

Client **Nokia GmbH (Ulm)**

Certificate No: D1900V2-5d007_Jun11

CALIBRATION CERTIFICATE

Object	D1900V2 - SN: 5d007
Calibration procedure(s)	QA CAL-05.v8 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	June 16, 2011

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	29-Apr-11 (No. ES3-3205_Apr11)	Apr-12
DAE4	SN: 601	8-Jun-11 (No. DAE4-601_Jun11)	Jun-12

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

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

Issued: June 16, 2011

Date: 15.06.2011

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d007

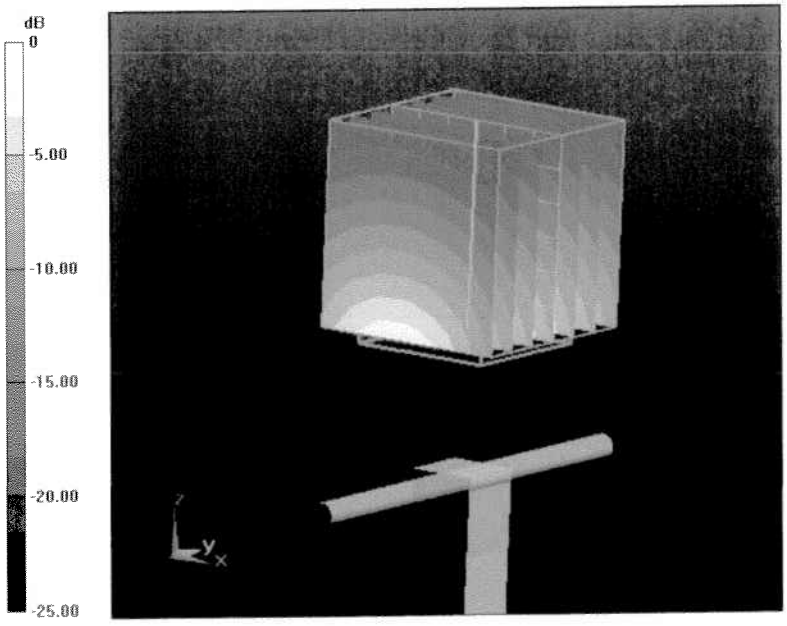
Communication System: CW; Frequency: 1900 MHz
Medium: HSL U12 BB
Medium parameters used: f = 1900 MHz; σ = 1.4 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.01, 5.01, 5.01); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 08.06.2011
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

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

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.068 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 18.126 W/kg
SAR(1 g) = 9.95 mW/g; SAR(10 g) = 5.19 mW/g
Maximum value of SAR (measured) = 12.246 mW/g



0 dB = 12.250mW/g

DASY5 Validation Report for Body TSL

Date: 16.06.2011

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d007

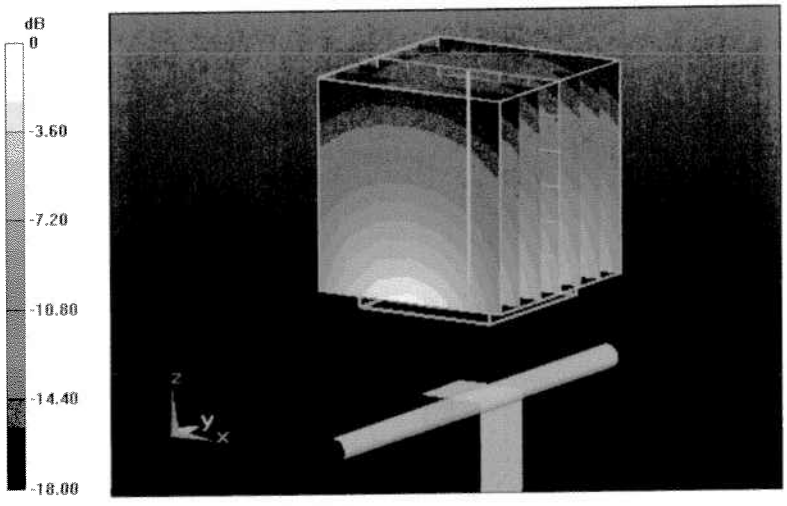
Communication System: CW; Frequency: 1900 MHz
Medium: MSL U12 BB
Medium parameters used: f = 1900 MHz; σ = 1.53 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.62, 4.62, 4.62); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 08.06.2011
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

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

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.029 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 18.022 W/kg
SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.3 mW/g
Maximum value of SAR (measured) = 12.863 mW/g



0 dB = 12.860mW/g

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
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 GmbH (Ulm)**

Certificate No: D2450V2- 792_Apr11

CALIBRATION CERTIFICATE

Object	D2450V2 - SN: 792
Calibration procedure(s)	QA CAL-05.v8 Calibration procedure for dipole validation kits
Calibration date:	April 6, 2011

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: 5086 (20g)	29-Mar-11 (No. 217-01368)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	30-Apr-10 (No. ES3-3205_Apr10)	Apr-11
DAE4	SN: 601	10-Jun-10 (No. DAE4-601_Jun10)	Jun-11

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

	Name	Function	Signature
Calibrated by:	Mike Meili	Laboratory Technician	M. Meili
Approved by:	Katja Pokovic	Technical Manager	

Issued: April 7, 2011

DASY5 Validation Report for Head TSL

Date/Time: 05.04.2011 15:23:00

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:792

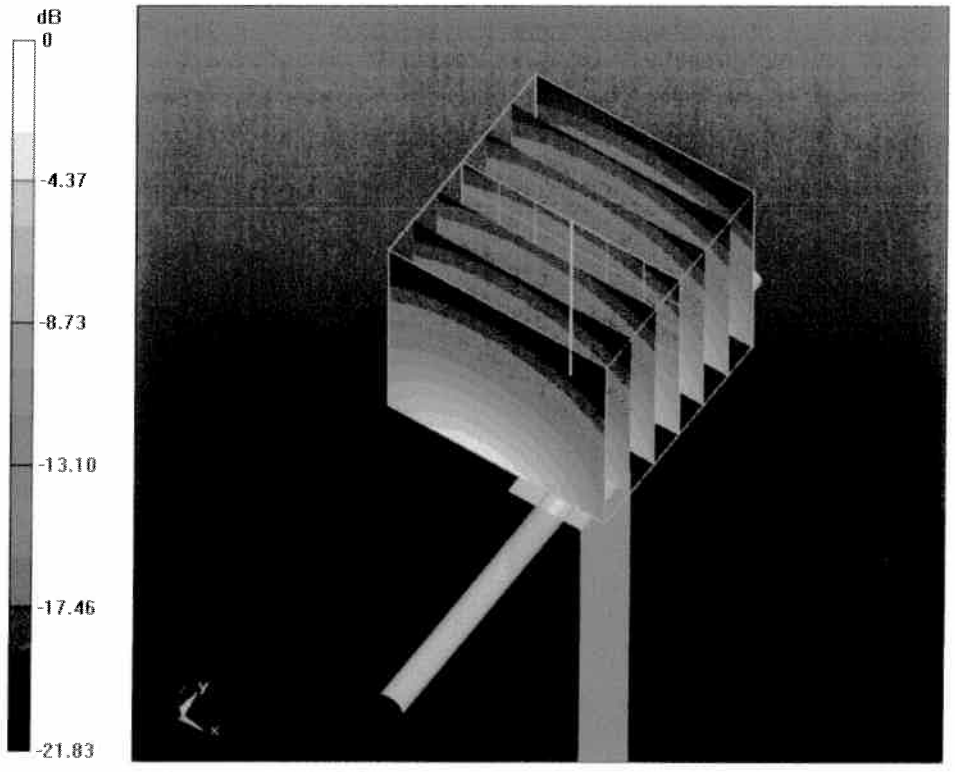
Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: HSL U12 BB
Medium parameters used: f = 2450 MHz; σ = 1.74 mho/m; ε_r = 38.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

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

Head / d=10mm, Pin=250 mW / Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 102.0 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 27.049 W/kg
SAR(1 g) = 13.2 mW/g; SAR(10 g) = 6.19 mW/g
Maximum value of SAR (measured) = 16.730 mW/g



0 dB = 16.730mW/g

DASY5 Validation Report for Body TSL

Date/Time: 06.04.2011 15:17:35

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:792

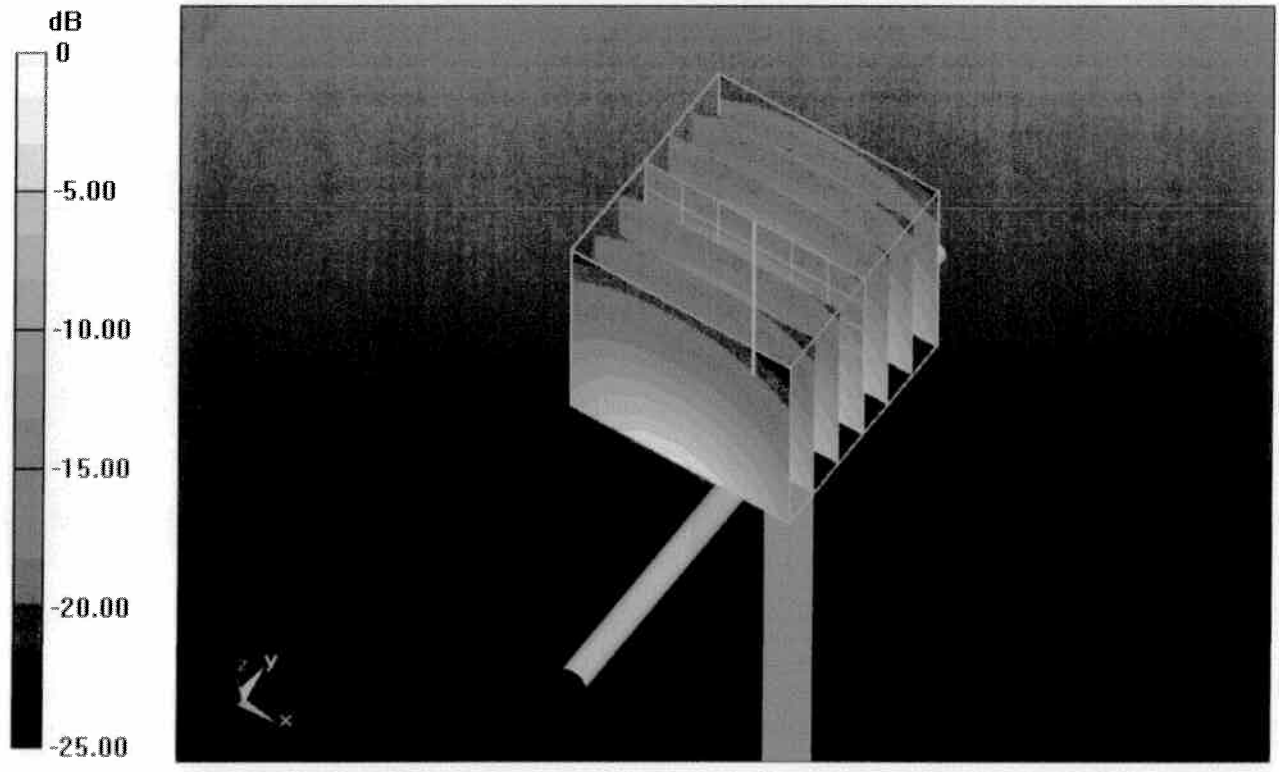
Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: MSL U12 BB
Medium parameters used: f = 2450 MHz; σ = 1.91 mho/m; ε_r = 50.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

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

Body / d=10mm, Pin=250 mW / Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.347 V/m; Power Drift = 0.0071 dB
Peak SAR (extrapolated) = 27.543 W/kg
SAR(1 g) = 13.1 mW/g; SAR(10 g) = 6.04 mW/g
Maximum value of SAR (measured) = 17.145 mW/g



0 dB = 17.150mW/g