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

SAR Compliance Test Report

Test report no.:	FCC_RM-596_01	**Date of report:**	2010-04-14
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Tested device:	RM-596		
FCC ID:	PDNRM-596	**IC:**	661R-RM596
Supplement reports:	SAR_Photo_RM-596_02		

Testing has been carried out in accordance with:

47CFR §2.1093
Radiofrequency Radiation Exposure Evaluation: Portable Devices

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

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

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

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

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

Date and signatures:

For the contents:

Digitally signed by Virpi Tuominen
Date: 2010.04.15 11:20:08 +03'00'

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1. SUMMARY OF SAR TEST REPORT

1.1 Test Details

Period of test	2010-03-23 to 2010-04-08
SN, HW and SW numbers of tested device	SN: 004402/13/047561/3, HW: 3630, SW: 010.008, DUT: 14518 SN: 004402/13/047550/6, HW: 3630, SW: 010.008, DUT: 14517
Batteries used in testing	-
Headsets used in testing	WH-701, DUT: 14519
Other accessories used in testing	-
State of sample	Prototype unit
Notes	-

1.2 Maximum Results

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

1.2.1 Head Configuration

Mode	Ch / *f* (MHz)	Conducted power	Position	Measured SAR value (1g avg)	Scaled* SAR value (1g avg)	SAR limit (1g avg)	Result
2-slot GPRS850	251 / 848.8	30.8 dBm	Right, Cheek	0.795 W/kg	**0.89 W/kg**	1.6 W/kg	PASSED
WCDMA850	4233 / 846.6	23.5 dBm	Right, Cheek	0.711 W/kg	**0.80 W/kg**	1.6 W/kg	PASSED
WCDMA1700/2100	1412 / 1732.4	22.5 dBm	Left, Cheek	0.777 W/kg	**0.87 W/kg**	1.6 W/kg	PASSED
GSM1900	661 / 1880.0	30.5 dBm	Left, Cheek	0.916 W/kg	**1.03 W/kg**	1.6 W/kg	PASSED
WCDMA1900	9262 / 1852.4	21.0 dBm	Left, Cheek	0.907 W/kg	**1.02 W/kg**	1.6 W/kg	PASSED
WLAN2450	7 / 2442.0	18.0 dBm	Left, Cheek	0.695 W/kg	**0.78 W/kg**	1.6 W/kg	PASSED
2-slot GPRS850 + WLAN2450	-	-	Right, Cheek	0.970 W/kg	**1.09 W/kg**	1.6 W/kg	PASSED
WCDMA850 + WLAN2450	-	-	Right, Cheek	0.905 W/kg	**1.01 W/kg**	1.6 W/kg	PASSED
WCDMA1700/2100 + WLAN2450	-	-	Left, Cheek	0.804 W/kg	**0.90 W/kg**	1.6 W/kg	PASSED
GSM1900 + WLAN2450	-	-	Left, Cheek	0.972 W/kg	**1.09 W/kg**	1.6 W/kg	PASSED
WCDMA1900 + WLAN2450	-	-	Left, Cheek	0.956 W/kg	**1.07 W/kg**	1.6 W/kg	PASSED

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1.2.2 Body Worn Configuration

Mode	Ch / *f* (MHz)	Conducted power	Separation distance	Measured SAR value (1g avg)	Scaled* SAR value (1g avg)	SAR limit (1g avg)	Result
2-slot GPRS850	251 / 848.8	30.8 dBm	1.5 cm	0.741 W/kg	**0.83 W/kg**	1.6 W/kg	PASSED
WCDMA850	4233 / 846.6	23.5 dBm	1.5 cm	0.558 W/kg	**0.62 W/kg**	1.6 W/kg	PASSED
WCDMA1700/2100	1513 / 1752.6	22.5 dBm	1.5 cm	0.673 W/kg	**0.75 W/kg**	1.6 W/kg	PASSED
GSM1900	512 / 1850.2	30.5 dBm	1.5 cm	0.638 W/kg	**0.71 W/kg**	1.6 W/kg	PASSED
WCDMA1900	9262 / 1852.4	21.0 dBm	1.5 cm	0.629 W/kg	**0.70 W/kg**	1.6 W/kg	PASSED
WLAN2450	7 / 2442.0	18.0 dBm	1.5 cm	0.106 W/kg	**0.12 W/kg**	1.6 W/kg	PASSED
2-slot GPRS850 + WLAN2450	-	-	1.5 cm	0.758 W/kg	**0.85 W/kg**	1.6 W/kg	PASSED
WCDMA850 + WLAN2450	-	-	1.5 cm	0.566 W/kg	**0.63 W/kg**	1.6 W/kg	PASSED
WCDMA1700/2100 + WLAN2450	-	-	1.5 cm	0.697 W/kg	**0.78 W/kg**	1.6 W/kg	PASSED
GSM1900 + WLAN2450	-	-	1.5 cm	0.670 W/kg	**0.75 W/kg**	1.6 W/kg	PASSED
WCDMA1900 + WLAN2450	-	-	1.5 cm	0.664 W/kg	**0.74 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	0.44 dB

1.2.4 Measurement Uncertainty

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

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2. DESCRIPTION OF THE DEVICE UNDER TEST

Device category	Portable
Exposure environment	General population / uncontrolled

Modes of Operation	Bands	Modulation Mode	Duty Cycle	Transmitter Frequency Range (MHz)
GSM	850 1900	GMSK	1/8	824 – 849 1850 – 1910
GPRS	850 1900	GMSK	1/8 to 4/8	824 – 849 1850 – 1910
EGPRS	850 1900	GMSK / 8PSK	1/8 to 4/8	824 – 849 1850 – 1910
WCDMA	850 (Band V) 1700/2100 (Band IV) 1900 (Band II)		1	826 – 847 1712 – 1753 1852 – 1908
HSUPA	850 (Band V) 1700/2100 (Band IV) 1900 (Band II)		1	826 – 847 1712 – 1753 1852 – 1908
BT	2450	GFSK	1	2402 – 2480
WLAN b/g-modes	2450	11Mbps QPSK	1	2412 – 2462
WLAN n-mode 20MHz	2450	BPSK	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 Push to Talk/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 I device, but as the power tuning target is 7dBm, SAR testing was deemed unnecessary.

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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):	21.0 to 23.3
Ambient humidity (RH %):	35 to 48

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/g mode tests was DSSS QPSK 11Mbps. This mode has the highest (or equal highest) time-averaged output power of all the WLAN modulation modes in Nokia devices. In WLAN n-mode testing 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.

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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

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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:

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Test Equipment	Serial Number	Calibration interval	Calibration expiry
DAE 4	1213	12 months	2010-11
DAE 4	793	12 months	2010-05
DAE 4	555	12 months	2010-10
E-field Probe ES3DV3	3131	12 months	2010-10
E-field Probe ES3DV3	3194	12 months	2010-11
E-field Probe EX3DV4	3573	12 months	2010-11
Dipole Validation Kit, D835V2	480	24 months	2011-10
Dipole Validation Kit, D1800V2	256	24 months	2011-10
Dipole Validation Kit, D1900V2	511	24 months	2010-11
Dipole Validation Kit, D2450V2	749	24 months	2011-10
DASY4 software	Version 4.7	-	-

Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration interval	Calibration expiry
Signal Generator	SML03	101265	12 months	2010-09
Amplifier	ZHL-42 (SMA)	N072095-5	12 months	2010-09
Power Meter	NRVS	838624/032	12 months	2010-09
Power Sensor	NRV-Z32	839176/020	12 months	2010-09
Signal Generator	E4436B	US39260114	12 months	2010-12
Amplifier	AS0825-20L	1009777	12 months	2010-12
Power Meter	NRVS	849305/028	12 months	2010-09
Power Sensor	NRV-Z32	825600/004	12 months	2010-09
Call Tester	CMU 200	101111	-	-
Call Tester	CMU 200	104983	-	-
Vector Network Analyzer	8753E	US38432928	12 months	2010-09
Dielectric Probe Kit	85070B	US33020420	-	-

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4.1.1 Isotropic E-field Probe Type ES3DV3

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

4.1.2 Isotropic E-field Probe Type EX3DV4

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

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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 15.0 ± 0.5 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	51.50	69.25
Tween 20	47.35	30.00
Salt	1.15	0.75

1800MHz band

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

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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.

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System checking, head tissue simulant

f [MHz]	Description	SAR [W/kg], 1g	Dielectric Parameters		Temp [°C]
			εr	σ [S/m]	
835	Reference result	2.36	40.5	0.88	
	± 10% window	2.12 – 2.60			
	2010-03-24	2.44	40.3	0.89	21.0
	2010-03-25	2.46	40.4	0.91	21.0
1800	Reference result	9.90	40.0	1.40	
	± 10% window	8.91 – 10.89			
	2010-03-30	9.31	38.4	1.40	21.0
	2010-03-31	9.83	38.5	1.40	21.0
1900	Reference result	10.4	39.0	1.47	
	± 10% window	9.4 – 11.4			
	2010-03-23	10.1	38.4	1.42	21.0
	2010-03-24	10.1	38.3	1.47	21.0
2450	Reference result	13.2	39.1	1.78	
	± 10% window	11.9 – 14.5			
	2010-04-08	14.0	38.8	1.83	21.0

System checking, body tissue simulant

f [MHz]	Description	SAR [W/kg], 1g	Dielectric Parameters		Temp [°C]
			εr	σ [S/m]	
835	Reference result	2.52	53.2	1.01	
	± 10% window	2.27 – 2.77			
	2010-03-26	2.47	54.7	1.01	21.0
	2010-03-29	2.49	54.5	1.00	21.0
1900	Reference result	10.0	55.2	1.55	
	± 10% window	9.0 – 11.0			
	2010-03-26	10.3	53.5	1.52	21.0
2450	Reference result	12.5	52.7	1.98	
	± 10% window	11.2 – 13.8			
	2010-04-07	13.4	51.1	2.00	21.0

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

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4.3.3 Tissue Simulants used in the Measurements

Head tissue simulant measurements

f [MHz]	Description	Dielectric Parameters		Temp [°C]
		ε_r	σ [S/m]	
	Recommended value	41.5	0.90	
	± 5% window	39.4 – 43.6	0.86 – 0.95	
835	2010-03-25	40.4	0.91	21.0
	Recommended value	41.5	0.90	
	± 5% window	39.4 – 43.6	0.86 – 0.95	
836	2010-03-24	40.3	0.89	21.0
	Recommended value	40.1	1.36	
	± 5% window	38.1 – 42.1	1.29 – 1.43	
1732	2010-03-30	38.8	1.33	21.0
	Recommended value	40.0	1.40	
	± 5% window	38.0 – 42.0	1.33 – 1.47	
1880	2010-03-23	38.5	1.40	21.0
	2010-03-24	38.4	1.45	21.0
	Recommended value	39.2	1.79	
	± 5% window	37.3 – 41.2	1.70 – 1.88	
2442	2010-04-08	38.8	1.82	21.0

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Body tissue simulant measurements

f [MHz]	Description	Dielectric Parameters		Temp [°C]
		ε_r	σ [S/m]	
835	Recommended value	55.2	0.97	
	± 5% window	52.4 – 58.0	0.92 – 1.02	
	2010-03-26	54.7	1.01	21.0
	2010-03-29	54.5	1.00	21.0
836	Recommended value	55.2	0.97	
	± 5% window	52.4 – 58.0	0.92 – 1.02	
	2010-03-26	54.7	1.01	21.0
1732	Recommended value	53.5	1.48	
	± 5% window	50.8 – 56.2	1.40 – 1.55	
	2010-03-31	51.6	1.45	21.0
1880	Recommended value	53.3	1.52	
	± 5% window	50.6 – 56.0	1.44 – 1.60	
	2010-03-24	52.9	1.53	21.0
	2010-03-26	53.6	1.49	21.0
2442	Recommended value	52.7	1.94	
	± 5% window	50.1 – 55.3	1.85 – 2.04	
	2010-04-07	51.1	1.99	21.0

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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".

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5.2.2 Body Worn Configuration

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

5.3 Scan Procedures

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

5.4 SAR Averaging Methods

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

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

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

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

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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**	

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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**	**-**
	Left	Cheek	-	0.329	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
2-slot GPRS	**Conducted Power**		**30.8 dBm**	**30.8 dBm**	**30.8 dBm**
	Left	Cheek	-	0.423	-
		Tilt	-	0.328	-
	Right	Cheek	0.387	0.635	**0.795**
		Tilt	-	0.310	-
3-slot GPRS	**Conducted Power**		**-**	**29.0 dBm**	**-**
	Left	Cheek	-	0.416	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
4-slot GPRS	**Conducted Power**		**-**	**27.7 dBm**	**-**
	Left	Cheek	-	0.417	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
2-slot 8PSK EGPRS	**Conducted Power**		**-**	**-**	**27.0 dBm**
	Left	Cheek	-	-	-
		Tilt	-	-	-
	Right	Cheek	-	-	0.246
		Tilt	-	-	-

(850MHz Table continues)

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(850MHz Table continues)

Mode	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 4132 826.4 MHz	Ch 4175 835.0 MHz	Ch 4233 846.6 MHz
WCDMA	Conducted Power		23.5 dBm	23.5 dBm	23.5 dBm
	Left	Cheek	-	0.360	-
		Tilt	-	0.258	-
	Right	Cheek	0.341	0.491	**0.711**
		Tilt	-	0.270	-

1700/2100MHz Head SAR results

Mode	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 1312 1712.4 MHz	Ch 1412 1732.4 MHz	Ch 1513 1752.6 MHz
WCDMA	Conducted Power		22.5 dBm	22.5 dBm	22.5 dBm
	Left	Cheek	0.595	**0.777**	0.672
		Tilt	-	0.361	-
	Right	Cheek	-	0.644	-
		Tilt	-	0.291	-

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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	0.797	**0.916**	0.843
		Tilt	-	0.407	-
	Right	Cheek	-	0.641	-
		Tilt	-	0.427	-
2-slot GPRS	Conducted Power		-	27.5 dBm	-
	Left	Cheek	-	0.900	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
3-slot GPRS	Conducted Power		-	25.7 dBm	-
	Left	Cheek	-	0.857	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
4-slot GPRS	Conducted Power		-	24.5 dBm	-
	Left	Cheek	-	0.864	-
		Tilt	-	-	-
	Right	Cheek	-	-	-
		Tilt	-	-	-
1-slot 8PSK EGPRS	Conducted Power		-	26.0 dBm	-
	Left	Cheek	-	0.222	-
		Tilt	-	-	-
	Right	Cheek	-	-	
		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		21.0 dBm	21.0 dBm	21.0 dBm
	Left	Cheek	**0.907**	0.785	0.788
		Tilt	-	0.358	-
	Right	Cheek	-	0.395	-
		Tilt	-	0.356	-

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2450MHz Head SAR results

Mode	Test configuration		SAR, averaged over 1g (W/kg)		
			Ch 1 2412.0 MHz	Ch 7 2442.0 MHz	Ch 11 2462.0 MHz
WLAN b-mode	Conducted Power		18.0 dBm	18.0 dBm	18.0 dBm
	Left	Cheek	0.290	**0.695**	0.323
		Tilt	-	0.599	-
	Right	Cheek	-	0.494	-
		Tilt	-	0.671	-
WLAN n-mode 20MHz	Conducted Power		17.5 dBm	17.5 dBm	17.5 dBm
	Left	Cheek	0.245	0.649	0.272
		Tilt	-	-	-
	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
2-slot GPRS		Conducted Power	30.8 dBm	30.8 dBm	30.8 dBm
	Display facing phantom	Without headset	-	0.504	-
		Headset WH-701	-	0.370	-
	Back facing phantom	Without headset	0.399	0.647	**0.741**
		Headset WH-701	-	0.427	-

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	-	0.354	-
		Headset WH-701	-	0.253	-
	Back facing phantom	Without headset	0.356	0.474	**0.558**
		Headset WH-701	-	0.359	-

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1700/2100MHz Body SAR results

Mode	Device orientation	Test configuration	SAR, averaged over 1g (W/kg)		
			Ch 1312 1712.4 MHz	Ch 1412 1732.4 MHz	Ch 1513 1752.6 MHz
WCDMA		Conducted Power	22.5 dBm	22.5 dBm	22.5 dBm
	Display facing phantom	Without headset	-	0.454	-
		Headset WH-701	-	0.444	-
	Back facing phantom	Without headset	-	0.568	-
		Headset WH-701	0.504	0.613	**0.673**

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	-	0.544	-
		Headset WH-701	-	0.524	-
	Back facing phantom	Without headset	-	0.593	-
		Headset WH-701	**0.638**	0.596	0.554

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	21.0 dBm	21.0 dBm	21.0 dBm
	Display facing phantom	Without headset	-	0.506	-
		Headset WH-701	-	0.496	-
	Back facing phantom	Without headset	**0.629**	0.599	0.507
		Headset WH-701	-	0.583	-

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2450MHz Body SAR results

Mode	Device orientation	Test configuration	SAR, averaged over 1g (W/kg)		
			Ch 1 2412.0 MHz	Ch 7 2442.0 MHz	Ch 11 2462.0 MHz
WLAN b-mode		**Conducted Power**	**18.0 dBm**	**18.0 dBm**	**18.0 dBm**
	Display facing phantom	Without headset	-	0.095	-
		Headset WH-701	-	0.097	-
	Back facing phantom	Without headset	-	0.100	-
		Headset WH-701	0.084	**0.106**	0.053
WLAN n-mode 20MHz		**Conducted Power**	**17.5 dBm**	**17.5 dBm**	**17.5 dBm**
	Display facing phantom	Without headset	-	-	-
		Headset WH-701	-	-	-
	Back facing phantom	Without headset	-	-	-
		Headset WH-701	0.031	0.097	0.044

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Simultaneous transmissions: Combined SAR results – Individual band Max results

Test configuration	Max. 1g SAR results					
	WLAN	2-slot GPRS850	WCDMA 850	WCDMA 1700/2100	GSM1900	WCDMA 1900
Head: Left, Cheek	0.695	0.423	0.360	0.777	0.916	0.907
Head: Left, Tilt	0.599	0.328	0.258	0.361	0.407	0.358
Head: Right, Cheek	0.494	0.795	0.711	0.644	0.641	0.395
Head: Right, Tilt	0.671	0.310	0.270	0.291	0.427	0.356
Body: Without Headset	0.100	0.741	0.558	0.568	0.593	0.629
Body: Headset WH-701	0.106	0.427	0.359	0.673	0.638	0.583

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

Test configuration	Combined 1g SAR values				
	WLAN + 2-slot GPRS850	WLAN + WCDMA850	WLAN + WCDMA 1700/2100	WLAN + GSM1900	WLAN + WCDMA 1900
Head: Left, Cheek	1.118	1.055	**1.472**	**1.611**	**1.602**
Head: Left, Tilt	0.927	0.857	0.960	1.006	0.957
Head: Right, Cheek	**1.289**	**1.205**	1.138	1.135	0.889
Head: Right, Tilt	0.981	0.941	0.962	1.098	1.027
Body: Without Headset	**0.841**	**0.658**	0.668	0.693	**0.729**
Body: Headset WH-701	0.533	0.465	**0.779**	**0.744**	0.689

In the table above, the largest WLAN+GSM1900 and WLAN+WCDMA1900 Max + Max Head SAR values are both > 1.6.

For the WLAN+GSM1900 case, the x, y coordinates (cm) of the locations of the SAR hot spots are WLAN: (2.787, 32.00); GSM1900: (6.71, 25.39). Hence the separation distance is: 7.686mm.
The "Antenna Pair SAR to Peak Location Separation Ratio" is 1.611 / 7.686 = 0.2096 i.e. < 0.3.
Therefore, according to KDB648474 D01 SAR Handsets Multi Xmiter and Ant, v01r05, Simultaneous Transmission Procedures are not required.

For the WLAN+WCDMA1900 case, the x, y coordinates (cm) of the locations of the SAR hot spots are WLAN: (2.787, 32.00); WCDMA1900: (6.706, 25.40). Hence the separation distance is: 7.676mm.
The "Antenna Pair SAR to Peak Location Separation Ratio" is 1.602 / 7.676 = 0.2087 i.e. < 0.3.
Therefore, according to KDB648474 D01 SAR Handsets Multi Xmiter and Ant, v01r05, Simultaneous Transmission Procedures are not required.

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

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

Test configuration	Combined 1g SAR values				
	WLAN + 2-slot GPRS850	WLAN + WCDMA850	WLAN + WCDMA 1700/2100	WLAN + GSM1900	WLAN + WCDMA 1900
Head: Left, Cheek	-	-	0.804	0.972	0.956
Head: Left, Tilt	-	-	-	-	-
Head: Right, Cheek	0.970	0.905	-	-	-
Head: Right, Tilt	-	-	-	-	-
Body: Without Headset	0.758	0.566	-	-	0.664
Body: Headset WH-701	-	-	0.697	0.670	-

Plots of the Measurement scans are given in Appendix B.

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APPENDIX A: SYSTEM CHECKING SCANS

Date/Time: 2010-03-24 08:52:23

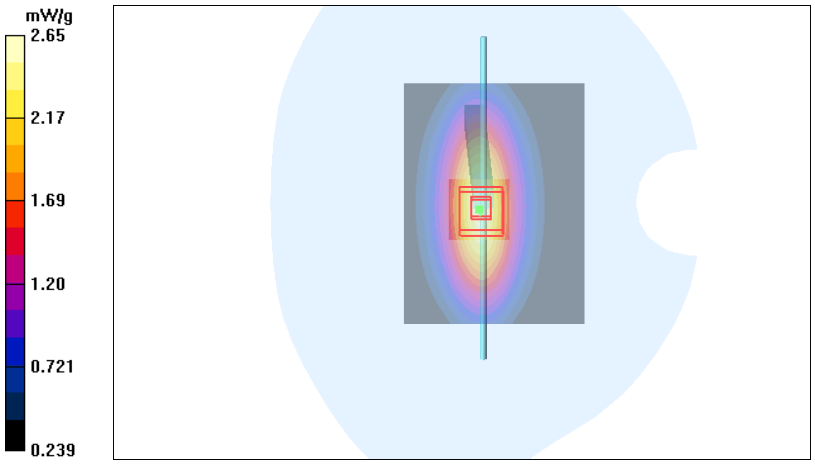
Test Laboratory: TCC Nokia
Type: D835V2; Serial: D835V2 - SN:480

Communication System: CW835
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: HSL850; Medium Notes: t=20.3 C
Medium parameters used: f = 835 MHz; σ = 0.888 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.59 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.1 V/m
Peak SAR (extrapolated) = 3.58 W/kg
SAR(1 g) = 2.44 mW/g
SAR(10 g) = 1.6 mW/g
Power Drift = 0.029 dB
Maximum value of SAR (measured) = 2.65 mW/g



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Date/Time: 2010-03-25 08:02:25

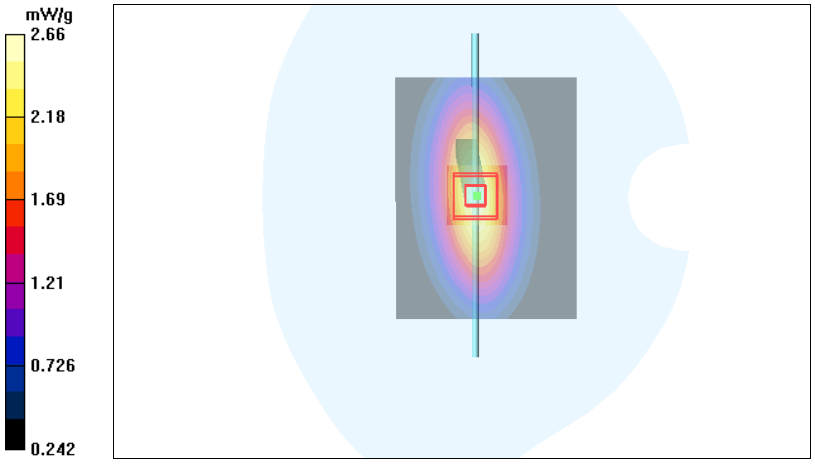
Test Laboratory: TCC Nokia
Type: D835V2; Serial: D835V2 - SN:480

Communication System: CW835
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: HSL850; Medium Notes: T= 20.0 C
Medium parameters used: f = 835 MHz; σ = 0.909 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.63 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.0 V/m
Peak SAR (extrapolated) = 3.59 W/kg
SAR(1 g) = 2.46 mW/g
SAR(10 g) = 1.61 mW/g
Power Drift = 0.028 dB
Maximum value of SAR (measured) = 2.66 mW/g



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Date/Time: 2010-03-30 09:10:11

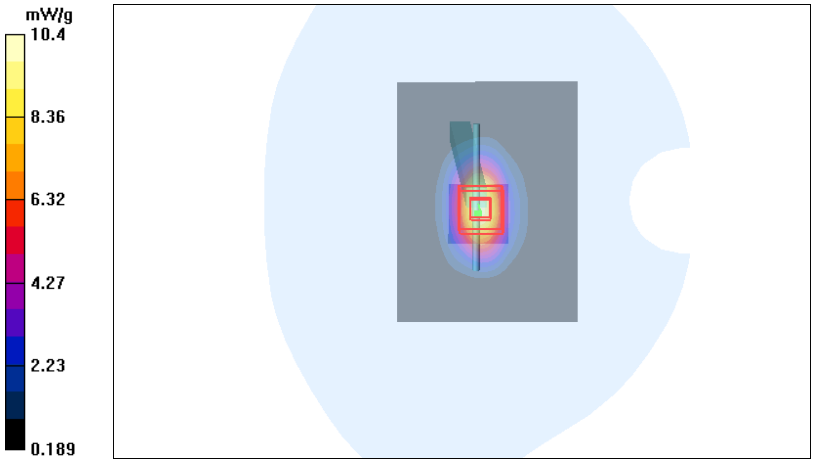
Test Laboratory: TCC Nokia
Type: D1800V2; Serial: D1800V2 - SN:256

Communication System: CW1800
Frequency: 1800 MHz; Duty Cycle: 1:1
Medium: HSL1800; Medium Notes: t=20.5 C
Medium parameters used: f = 1800 MHz; σ = 1.4 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.25, 5.25, 5.25); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 4; Type: Twin SAM 040 CA; Serial: TP-1018
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 10.8 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 86.0 V/m
Peak SAR (extrapolated) = 17.0 W/kg
SAR(1 g) = 9.31 mW/g
SAR(10 g) = 4.87 mW/g
Power Drift = 0.148 dB
Maximum value of SAR (measured) = 10.4 mW/g



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Date/Time: 2010-03-31 09:31:26

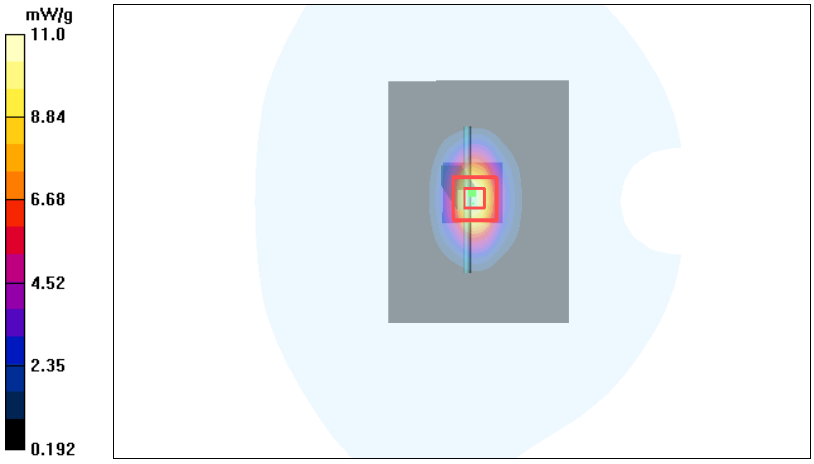
Test Laboratory: TCC Nokia
Type: D1800V2; Serial: D1800V2 - SN:256

Communication System: CW1800
Frequency: 1800 MHz; Duty Cycle: 1:1
Medium: HSL1800; Medium Notes: t=20.5
Medium parameters used: f = 1800 MHz; σ = 1.4 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.25, 5.25, 5.25); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 4; Type: Twin SAM 040 CA; Serial: TP-1018
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.3 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 87.4 V/m
Peak SAR (extrapolated) = 18.0 W/kg
SAR(1 g) = 9.83 mW/g
SAR(10 g) = 5.14 mW/g
Power Drift = 0.066 dB
Maximum value of SAR (measured) = 11.0 mW/g



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Date/Time: 2010-03-23 08:22:48

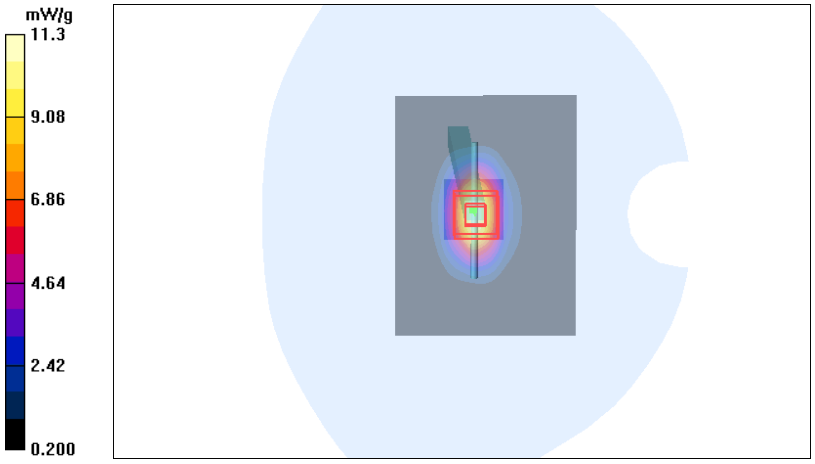
Test Laboratory: TCC Nokia
Type: D1900V2; Serial: D1900V2 - SN:511

Communication System: CW1900
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HSL1900; Medium Notes: t=20.9 C
Medium parameters used: f = 1900 MHz; σ = 1.42 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.06, 5.06, 5.06); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.7 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.4 V/m
Peak SAR (extrapolated) = 17.7 W/kg
SAR(1 g) = 10.1 mW/g
SAR(10 g) = 5.3 mW/g
Power Drift = 0.144 dB
Maximum value of SAR (measured) = 11.3 mW/g



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Date/Time: 2010-03-24 09:18:07

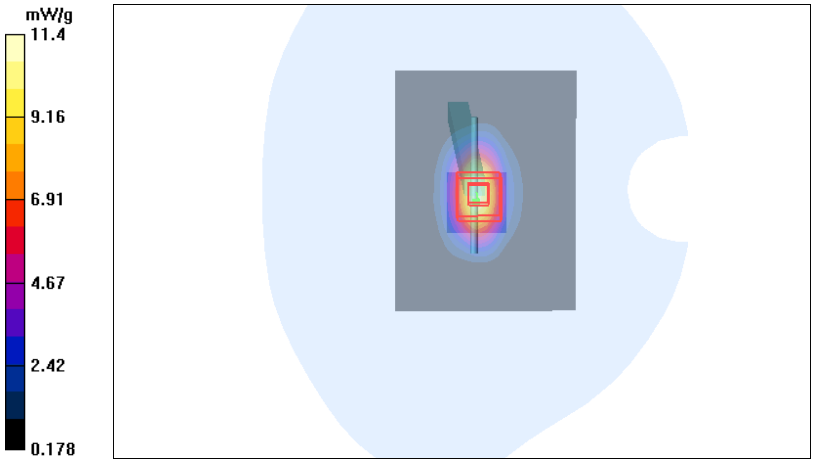
Test Laboratory: TCC Nokia
Type: D1900V2; Serial: D1900V2 - SN:511

Communication System: CW1900
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HSL1900; Medium Notes: t=20.9 C
Medium parameters used: f = 1900 MHz; σ = 1.47 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.06, 5.06, 5.06); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.6 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 90.1 V/m
Peak SAR (extrapolated) = 17.8 W/kg
SAR(1 g) = 10.1 mW/g
SAR(10 g) = 5.26 mW/g
Power Drift = -0.003 dB
Maximum value of SAR (measured) = 11.4 mW/g



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Date/Time: 2010-04-08 10:17:30

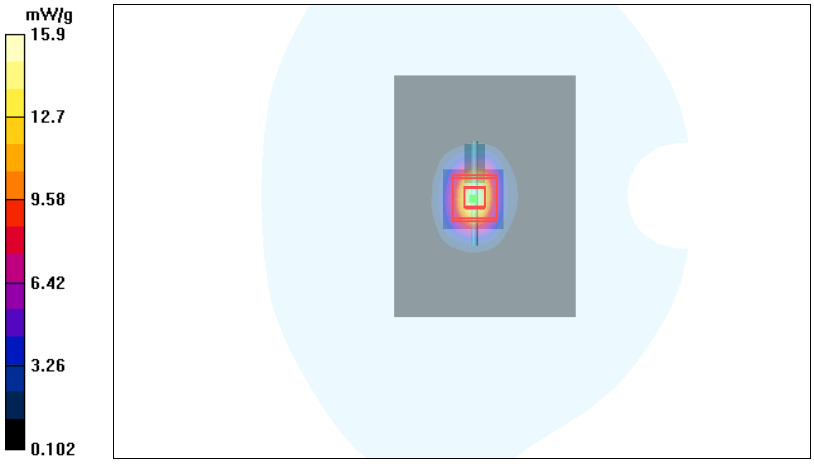
Test Laboratory: TCC Nokia
Type: D2450V2; Serial: D2450V2 - SN:749

Communication System: CW2450
Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: HSL2450; Medium Notes: 20.7C
Medium parameters used: f = 2450 MHz; σ = 1.83 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3573
- ConvF(6.56, 6.56, 6.56); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2009-10-15
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 16.6 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 93.9 V/m
Peak SAR (extrapolated) = 29.4 W/kg
SAR(1 g) = 14 mW/g
SAR(10 g) = 6.48 mW/g
Power Drift = 0.022 dB
Maximum value of SAR (measured) = 15.9 mW/g



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Date/Time: 2010-03-26 09:32:33

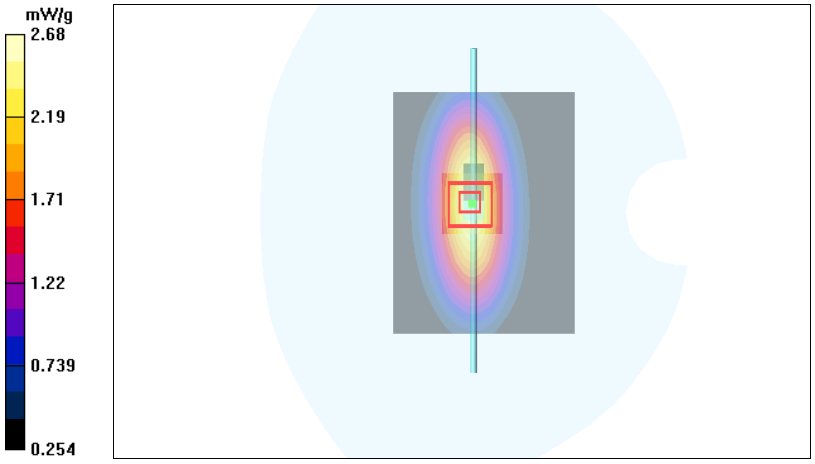
Test Laboratory: TCC Nokia
Type: D835V2; Serial: D835V2 - SN:480

Communication System: CW835
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: BSL850; Medium Notes: t=20.5 C
Medium parameters used: f = 835 MHz; σ = 1.01 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.69, 5.69, 5.69); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.63 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.1 V/m
Peak SAR (extrapolated) = 3.59 W/kg
SAR(1 g) = 2.47 mW/g
SAR(10 g) = 1.63 mW/g
Power Drift = 0.057 dB
Maximum value of SAR (measured) = 2.68 mW/g



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Date/Time: 2010-03-29 09:21:29

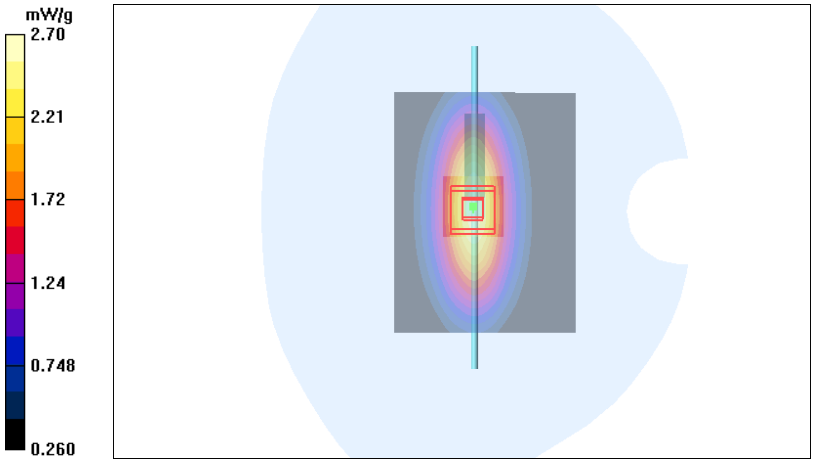
Test Laboratory: TCC Nokia
Type: D835V2; Serial: D835V2 - SN:480

Communication System: CW835
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: BSL850; Medium Notes: t=20.7 C
Medium parameters used: f = 835 MHz; σ = 0.997 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.69, 5.69, 5.69); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.65 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.5 V/m
Peak SAR (extrapolated) = 3.61 W/kg
SAR(1 g) = 2.49 mW/g
SAR(10 g) = 1.64 mW/g
Power Drift = 0.078 dB
Maximum value of SAR (measured) = 2.70 mW/g



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Date/Time: 2010-03-26 09:06:38

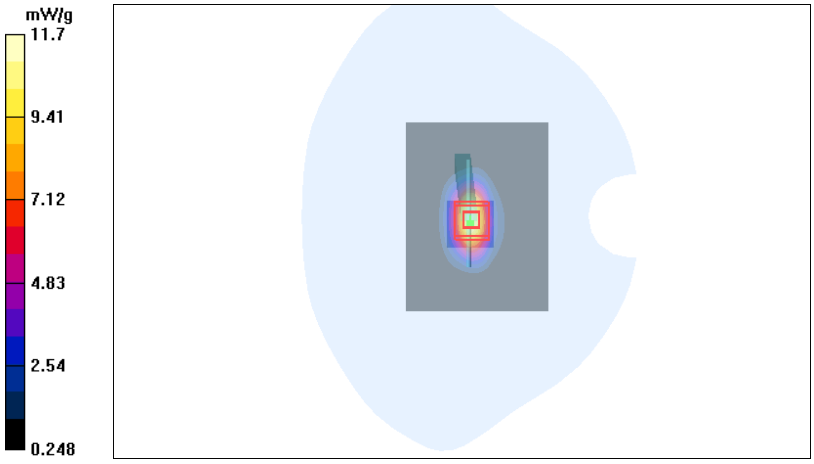
Test Laboratory: TCC Nokia
Type: D1900V2; Serial: D1900V2 - SN:511

Communication System: CW1900
Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: BSL1900; Medium Notes: t=20.9 C
Medium parameters used: f = 1900 MHz; σ = 1.52 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(4.67, 4.67, 4.67); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 12.3 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 89.9 V/m
Peak SAR (extrapolated) = 17.7 W/kg
SAR(1 g) = 10.3 mW/g
SAR(10 g) = 5.47 mW/g
Power Drift = 0.015 dB
Maximum value of SAR (measured) = 11.7 mW/g



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Date/Time: 2010-04-07 10:12:13

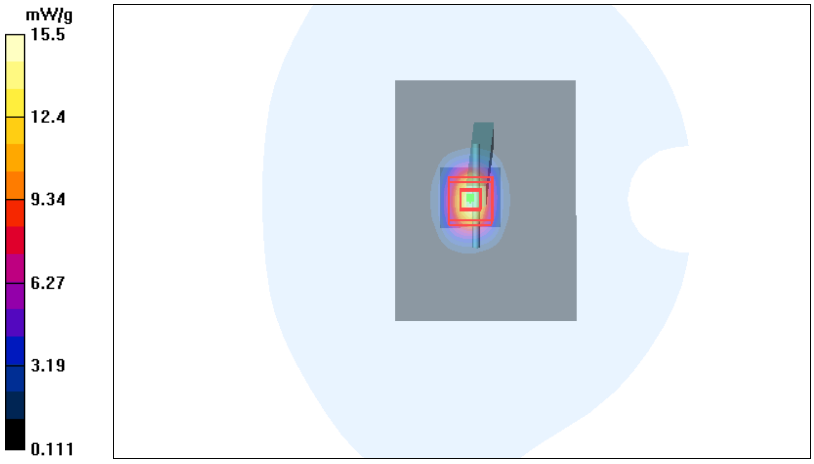
Test Laboratory: TCC Nokia
Type: D2450V2; Serial: D2450V2 - SN:749

Communication System: CW2450
Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: 20.7C
Medium parameters used: f = 2450 MHz; σ = 2 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3573
- ConvF(6.63, 6.63, 6.63); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2009-10-15
- Phantom: SAM2; Type: SAM; Serial:TP-1035
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

d=15mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 15.8 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 85.6 V/m
Peak SAR (extrapolated) = 27.3 W/kg
SAR(1 g) = 13.4 mW/g
SAR(10 g) = 6.21 mW/g
Power Drift = 0.022 dB
Maximum value of SAR (measured) = 15.5 mW/g



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APPENDIX B: MEASUREMENT SCANS

Date/Time: 2010-03-24 09:23:28

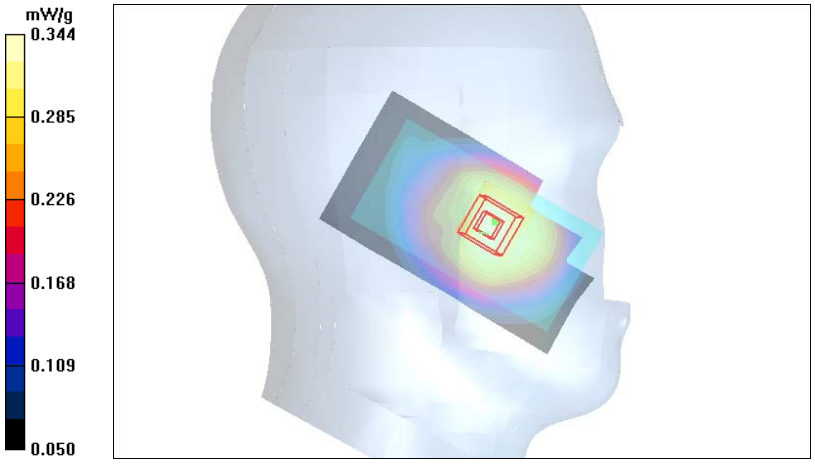
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

Communication System: GSM850
Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: HSL850; Medium Notes: t=20.3 C
Medium parameters used: f = 837 MHz; σ = 0.89 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.347 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.9 V/m
Peak SAR (extrapolated) = 0.404 W/kg
SAR(1 g) = 0.329 mW/g
SAR(10 g) = 0.253 mW/g
Power Drift = -0.396 dB
Maximum value of SAR (measured) = 0.344 mW/g



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Date/Time: 2010-03-24 09:38:19

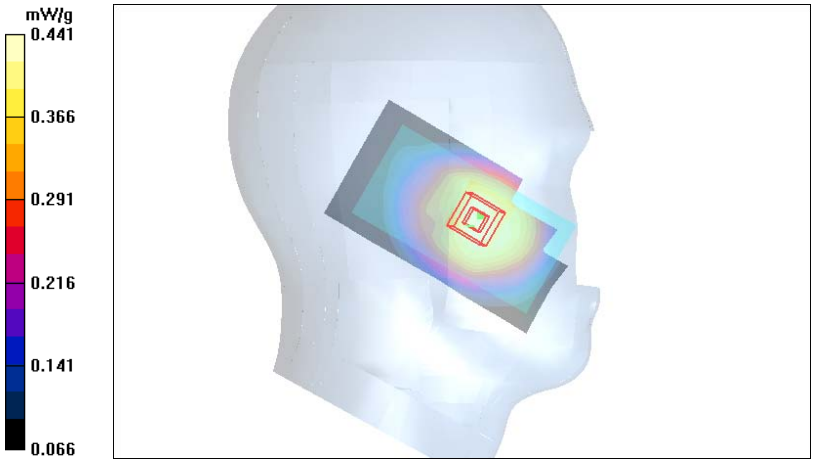
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

Communication System: 2-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium: HSL850; Medium Notes: t=20.3 C
Medium parameters used: f = 837 MHz; σ = 0.89 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.448 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 12.1 V/m
Peak SAR (extrapolated) = 0.516 W/kg
SAR(1 g) = 0.423 mW/g
SAR(10 g) = 0.327 mW/g
Power Drift = -0.106 dB
Maximum value of SAR (measured) = 0.441 mW/g



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Date/Time: 2010-03-24 11:21:36

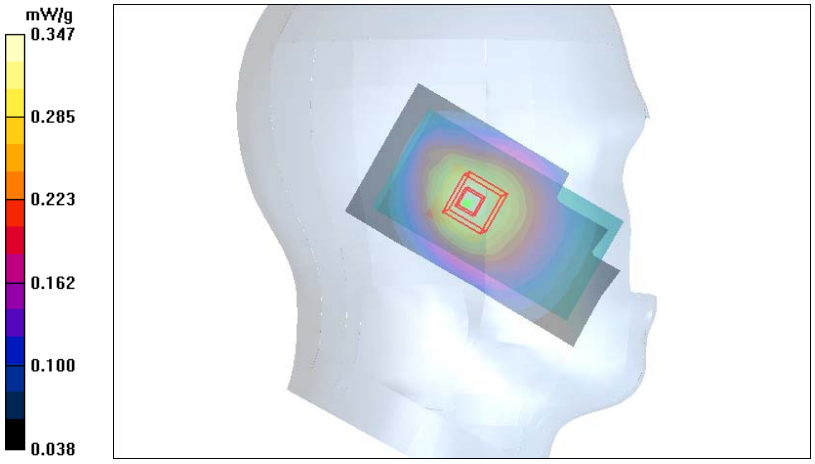
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

Communication System: 2-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium: HSL850; Medium Notes: t=20.3 C
Medium parameters used: f = 837 MHz; σ = 0.89 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.343 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 15.1 V/m
Peak SAR (extrapolated) = 0.415 W/kg
SAR(1 g) = 0.328 mW/g
SAR(10 g) = 0.245 mW/g
Power Drift = -0.061 dB
Maximum value of SAR (measured) = 0.347 mW/g



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Date/Time: 2010-03-24 12:21:02

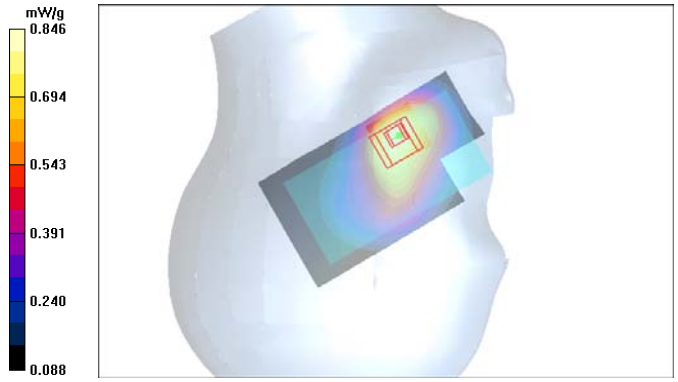
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

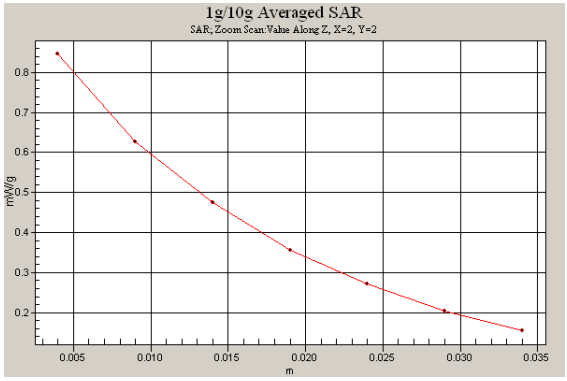
Communication System: 2-slot GPRS850
Frequency: 848.8 MHz; Duty Cycle: 1:4.2
Medium: HSL850; Medium Notes: t=20.3 C
Medium parameters used: f = 849 MHz; σ = 0.897 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.883 mW/g

Cheek - High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 12.6 V/m
Peak SAR (extrapolated) = 1.08 W/kg
SAR(1 g) = 0.795 mW/g
SAR(10 g) = 0.570 mW/g
Power Drift = -0.004 dB
Maximum value of SAR (measured) = 0.846 mW/g





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Date/Time: 2010-03-24 11:56:12

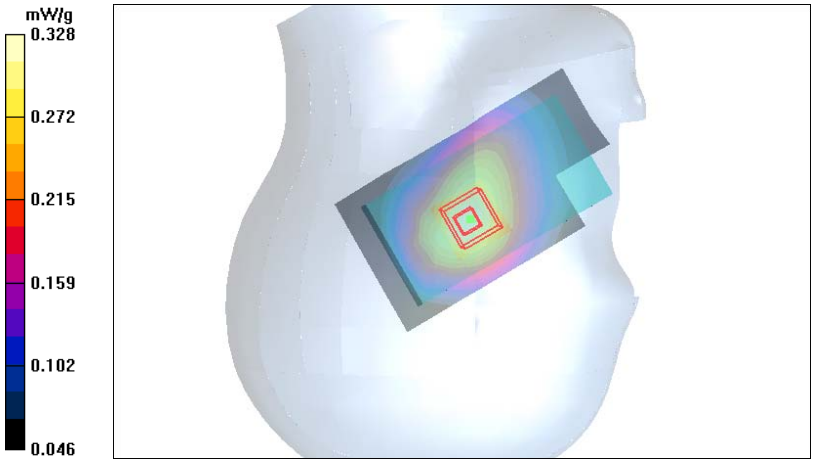
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

Communication System: 2-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium: HSL850; Medium Notes: t=20.3 C
Medium parameters used: f = 837 MHz; σ = 0.89 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.320 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 14.4 V/m
Peak SAR (extrapolated) = 0.385 W/kg
SAR(1 g) = 0.310 mW/g
SAR(10 g) = 0.232 mW/g
Power Drift = 0.065 dB
Maximum value of SAR (measured) = 0.328 mW/g



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Date/Time: 2010-03-24 09:52:11

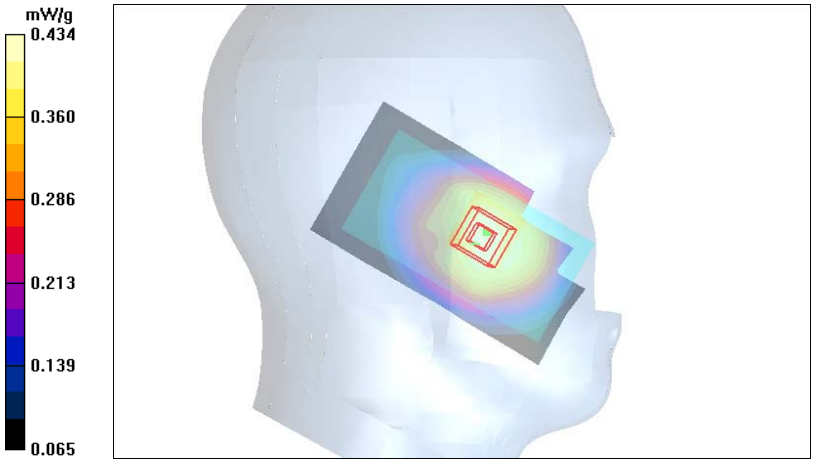
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

Communication System: 3-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:2.8
Medium: HSL850; Medium Notes: t=20.3 C
Medium parameters used: f = 837 MHz; σ = 0.89 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.435 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.8 V/m
Peak SAR (extrapolated) = 0.517 W/kg
SAR(1 g) = 0.416 mW/g
SAR(10 g) = 0.321 mW/g
Power Drift = -0.093 dB
Maximum value of SAR (measured) = 0.434 mW/g



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Date/Time: 2010-03-24 10:06:08

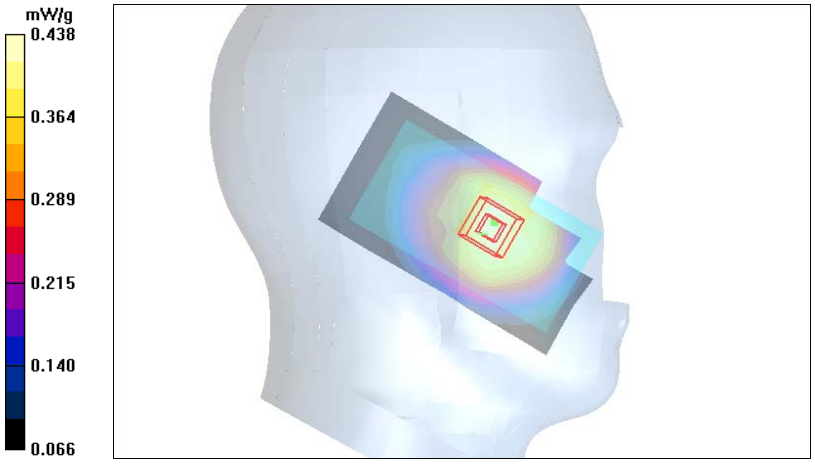
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

Communication System: 4-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:2.1
Medium: HSL850; Medium Notes: t=20.3 C
Medium parameters used: f = 837 MHz; σ = 0.89 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.440 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.7 V/m
Peak SAR (extrapolated) = 0.513 W/kg
SAR(1 g) = 0.417 mW/g
SAR(10 g) = 0.321 mW/g
Power Drift = -0.058 dB
Maximum value of SAR (measured) = 0.438 mW/g



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Date/Time: 2010-03-24 12:35:12

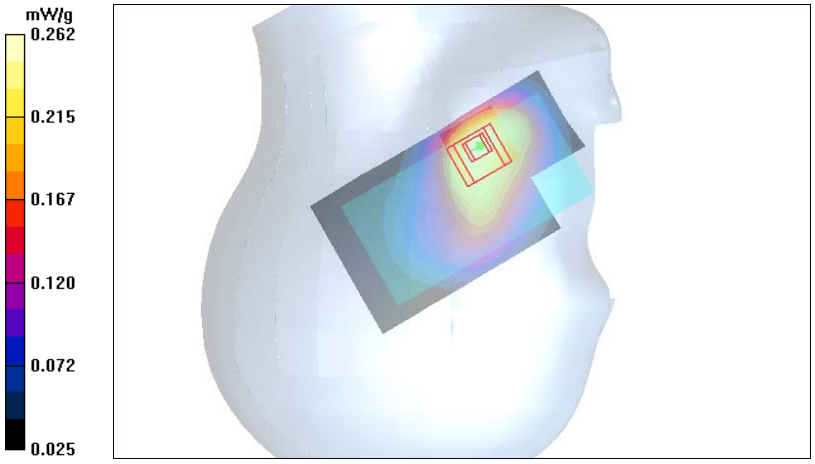
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

Communication System: 2-slot 8PSK EGPRS850
Frequency: 848.8 MHz; Duty Cycle: 1:4.2
Medium: HSL850; Medium Notes: t=20.3 C
Medium parameters used: f = 849 MHz; σ = 0.897 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.272 mW/g

Cheek - High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.04 V/m
Peak SAR (extrapolated) = 0.328 W/kg
SAR(1 g) = 0.246 mW/g
SAR(10 g) = 0.176 mW/g
Power Drift = -0.005 dB
Maximum value of SAR (measured) = 0.262 mW/g



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Date/Time: 2010-03-25 09:27:58

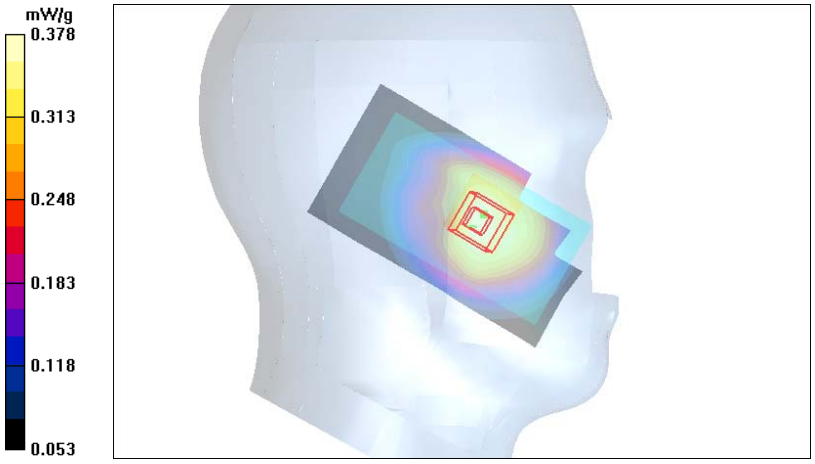
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

Communication System: WCDMA850
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: HSL850; Medium Notes: T= 20.0 C
Medium parameters used: f = 835 MHz; σ = 0.909 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.384 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.67 V/m
Peak SAR (extrapolated) = 0.455 W/kg
SAR(1 g) = 0.360 mW/g
SAR(10 g) = 0.272 mW/g
Power Drift = -0.201 dB
Maximum value of SAR (measured) = 0.378 mW/g



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Date/Time: 2010-03-25 09:41:20

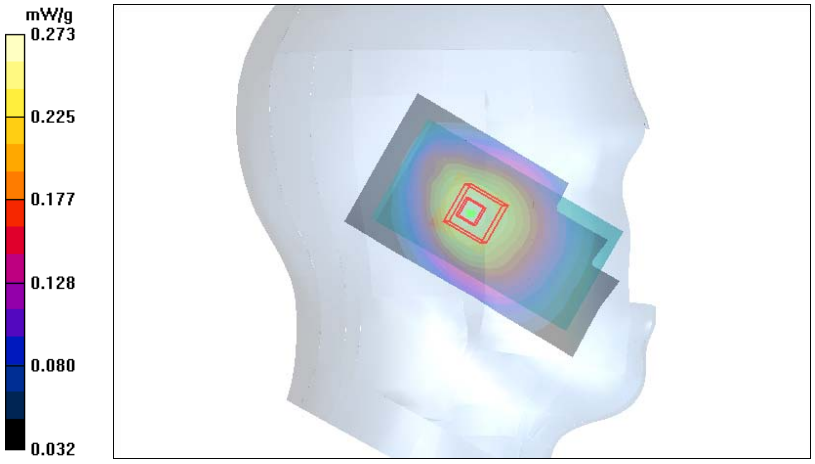
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

Communication System: WCDMA850
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: HSL850; Medium Notes: T= 20.0 C
Medium parameters used: f = 835 MHz; σ = 0.909 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.266 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 12.7 V/m
Peak SAR (extrapolated) = 0.325 W/kg
SAR(1 g) = 0.258 mW/g
SAR(10 g) = 0.193 mW/g
Power Drift = 0.043 dB
Maximum value of SAR (measured) = 0.273 mW/g



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Date/Time: 2010-03-25 12:38:58

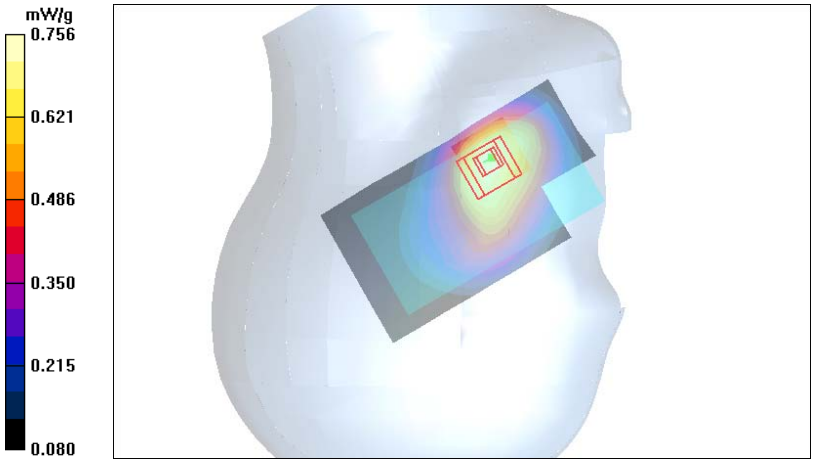
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

Communication System: WCDMA850
Frequency: 846.6 MHz; Duty Cycle: 1:1
Medium: HSL850; Medium Notes: T= 20.0 C
Medium parameters used: f = 847 MHz; σ = 0.917 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.775 mW/g

Cheek - High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.3 V/m
Peak SAR (extrapolated) = 0.944 W/kg
SAR(1 g) = 0.711 mW/g
SAR(10 g) = 0.516 mW/g
Power Drift = 0.073 dB
Maximum value of SAR (measured) = 0.756 mW/g



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Date/Time: 2010-03-25 10:09:02

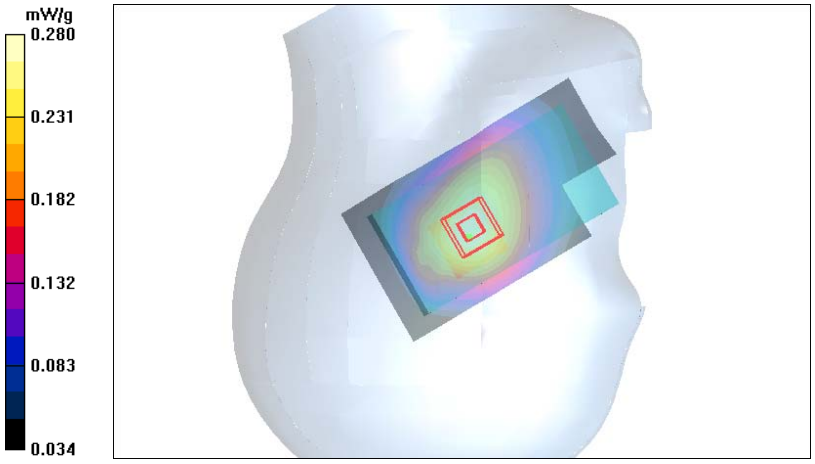
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

Communication System: WCDMA850
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: HSL850; Medium Notes: T= 20.0 C
Medium parameters used: f = 835 MHz; σ = 0.909 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.85, 5.85, 5.85); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.275 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 14.2 V/m
Peak SAR (extrapolated) = 0.338 W/kg
SAR(1 g) = 0.270 mW/g
SAR(10 g) = 0.203 mW/g
Power Drift = 0.029 dB
Maximum value of SAR (measured) = 0.280 mW/g



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Date/Time: 2010-03-30 10:01:54

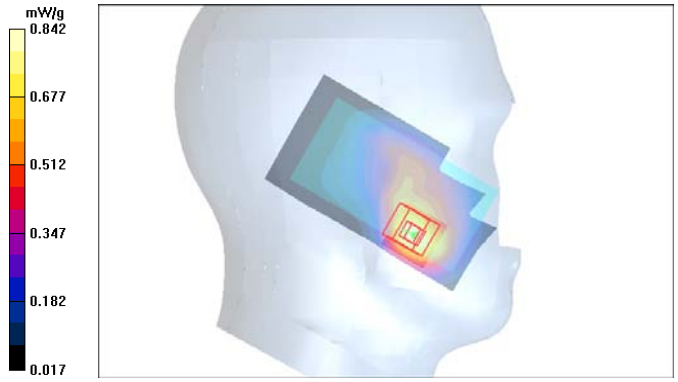
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

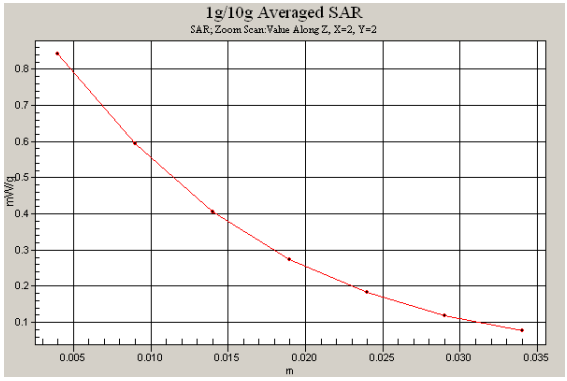
Communication System: WCDMA1700/2100
Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: HSL1800; Medium Notes: t=20.5 C
Medium parameters used (interpolated): f = 1732.4 MHz; σ = 1.33 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.25, 5.25, 5.25); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 4; Type: Twin SAM 040 CA; Serial: TP-1018
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.854 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 5.88 V/m
Peak SAR (extrapolated) = 1.14 W/kg
SAR(1 g) = 0.777 mW/g
SAR(10 g) = 0.491 mW/g
Power Drift = 0.103 dB
Maximum value of SAR (measured) = 0.842 mW/g





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Date/Time: 2010-03-30 10:27:17

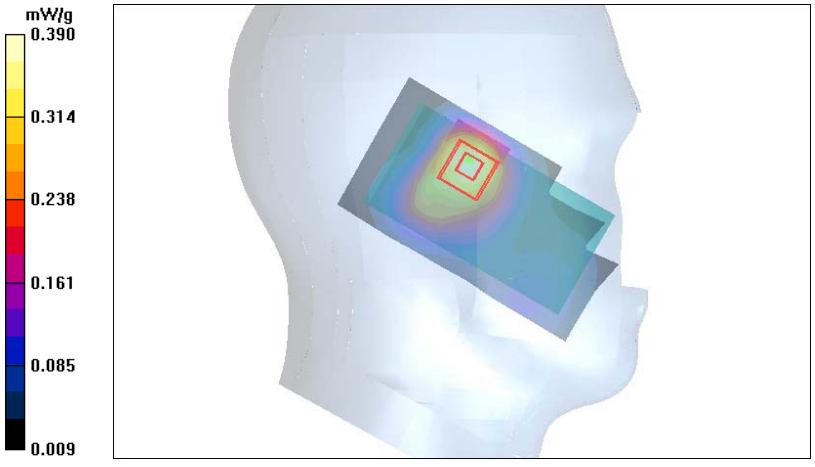
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WCDMA1700/2100
Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: HSL1800; Medium Notes: t=20.5 C
Medium parameters used (interpolated): f = 1732.4 MHz; σ = 1.33 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.25, 5.25, 5.25); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 4; Type: Twin SAM 040 CA; Serial: TP-1018
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.428 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.31 V/m
Peak SAR (extrapolated) = 0.528 W/kg
SAR(1 g) = 0.361 mW/g
SAR(10 g) = 0.235 mW/g
Power Drift = 0.092 dB
Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.
Maximum value of SAR (measured) = 0.390 mW/g



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Date/Time: 2010-03-30 11:30:52

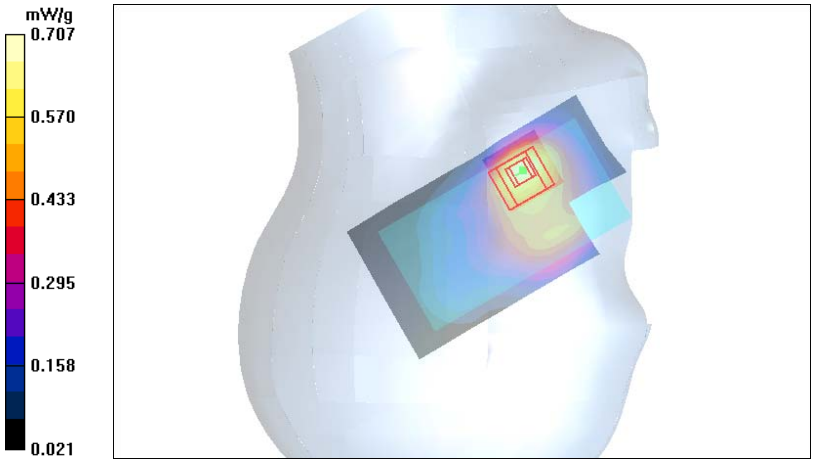
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WCDMA1700/2100
Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: HSL1800; Medium Notes: t=20.5 C
Medium parameters used (interpolated): f = 1732.4 MHz; σ = 1.33 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.25, 5.25, 5.25); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 4; Type: Twin SAM 040 CA; Serial: TP-1018
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.722 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.82 V/m
Peak SAR (extrapolated) = 0.997 W/kg
SAR(1 g) = 0.644 mW/g
SAR(10 g) = 0.406 mW/g
Power Drift = 0.065 dB
Maximum value of SAR (measured) = 0.707 mW/g



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Date/Time: 2010-03-30 11:45:18

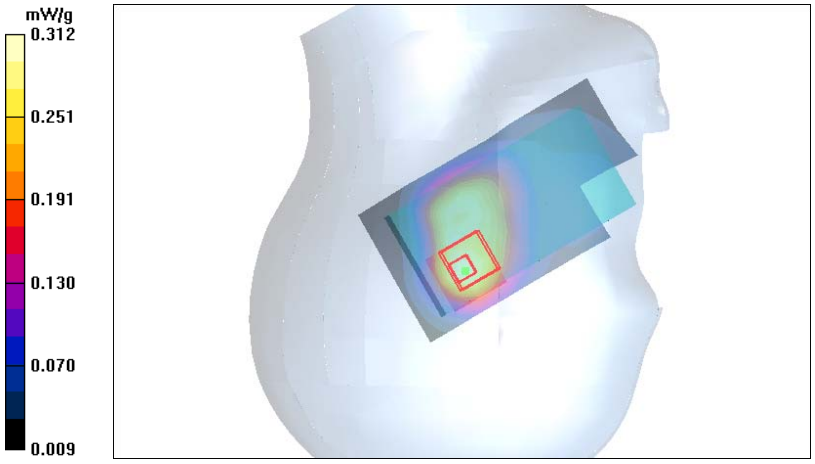
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WCDMA1700/2100
Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: HSL1800; Medium Notes: t=20.5 C
Medium parameters used (interpolated): f = 1732.4 MHz; σ = 1.33 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.25, 5.25, 5.25); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 4; Type: Twin SAM 040 CA; Serial: TP-1018
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.342 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.4 V/m
Peak SAR (extrapolated) = 0.447 W/kg
SAR(1 g) = 0.291 mW/g
SAR(10 g) = 0.190 mW/g
Power Drift = -0.340 dB
Maximum value of SAR (measured) = 0.312 mW/g



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Date/Time: 2010-03-24 12:12:46

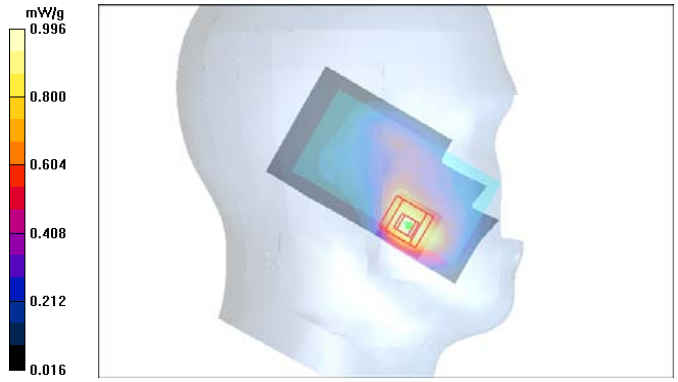
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

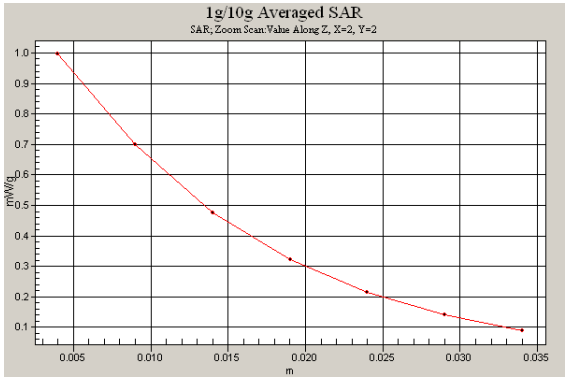
Communication System: GSM1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: HSL1900; Medium Notes: t=20.9 C
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.06, 5.06, 5.06); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.04 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.63 V/m
Peak SAR (extrapolated) = 1.37 W/kg
SAR(1 g) = 0.916 mW/g
SAR(10 g) = 0.564 mW/g
Power Drift = -0.048 dB
Maximum value of SAR (measured) = 0.996 mW/g





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Date/Time: 2010-03-24 14:07:24

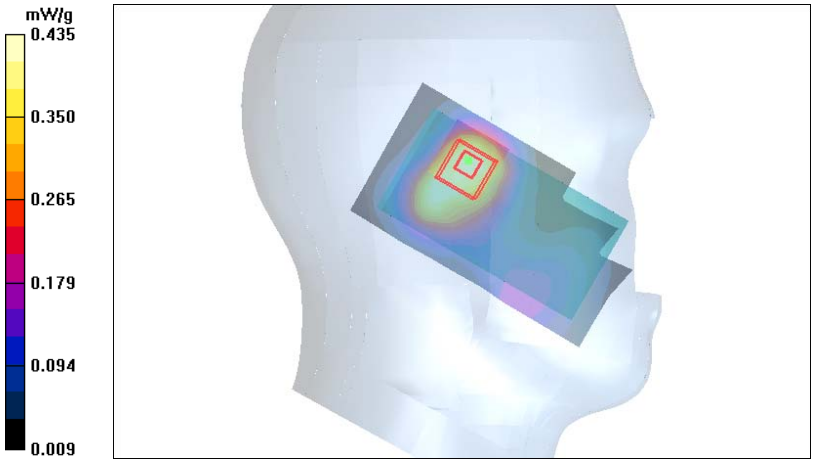
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: GSM1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: HSL1900; Medium Notes: t=20.9 C
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.06, 5.06, 5.06); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.502 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 12.6 V/m
Peak SAR (extrapolated) = 0.572 W/kg
SAR(1 g) = 0.407 mW/g
SAR(10 g) = 0.268 mW/g
Power Drift = -0.006 dB
Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.
Maximum value of SAR (measured) = 0.435 mW/g



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Date/Time: 2010-03-24 14:23:26

Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

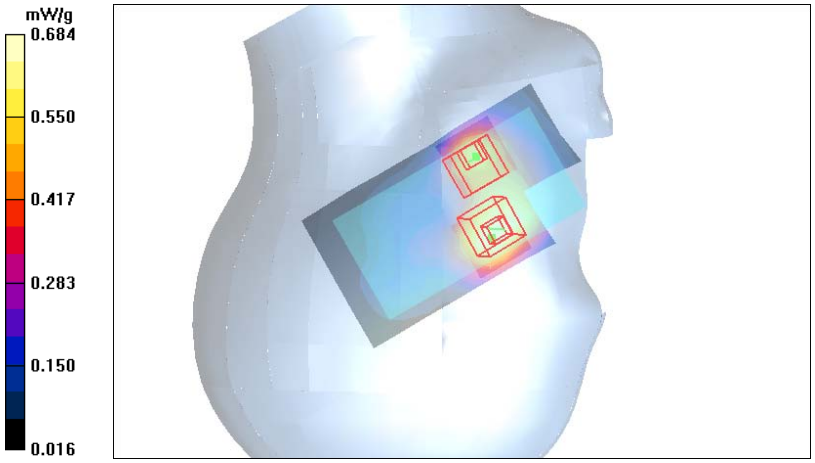
Communication System: GSM1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: HSL1900; Medium Notes: t=20.9 C
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.06, 5.06, 5.06); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.733 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.51 V/m
Peak SAR (extrapolated) = 0.950 W/kg
SAR(1 g) = 0.641 mW/g
SAR(10 g) = 0.424 mW/g
Power Drift = 0.389 dB
Maximum value of SAR (measured) = 0.684 mW/g

Cheek - Middle/Zoom Scan 2 (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.51 V/m
Peak SAR (extrapolated) = 0.778 W/kg
SAR(1 g) = 0.527 mW/g
SAR(10 g) = 0.338 mW/g
Power Drift = 0.389 dB
Maximum value of SAR (measured) = 0.568 mW/g



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Date/Time: 2010-03-24 14:44:34

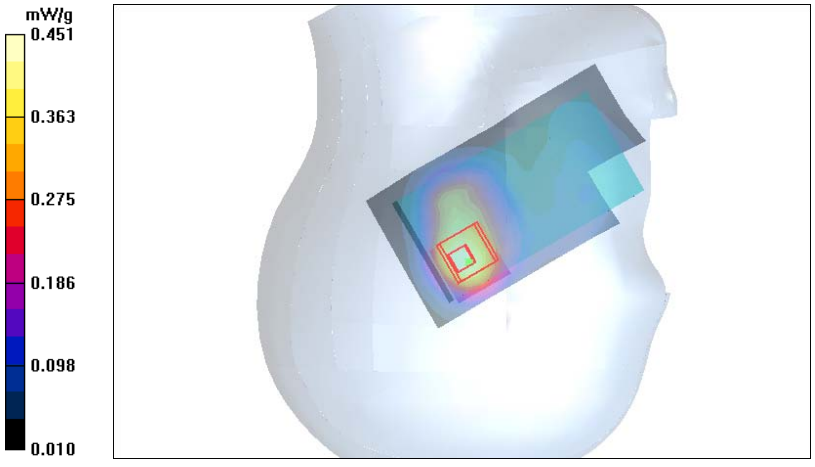
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: GSM1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: HSL1900; Medium Notes: t=20.9 C
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.06, 5.06, 5.06); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.479 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 15.4 V/m
Peak SAR (extrapolated) = 0.652 W/kg
SAR(1 g) = 0.427 mW/g
SAR(10 g) = 0.259 mW/g
Power Drift = -0.188 dB
Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.
Maximum value of SAR (measured) = 0.451 mW/g



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Date/Time: 2010-03-24 13:09:32

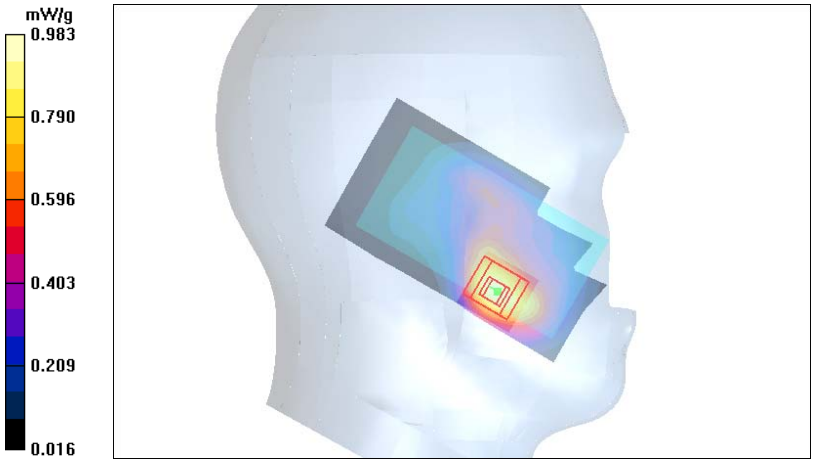
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: 2-slot GPRS1900
Frequency: 1880 MHz; Duty Cycle: 1:4.2
Medium: HSL1900; Medium Notes: t=20.9 C
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.06, 5.06, 5.06); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.03 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.05 V/m
Peak SAR (extrapolated) = 1.35 W/kg
SAR(1 g) = 0.900 mW/g
SAR(10 g) = 0.555 mW/g
Power Drift = 0.432 dB
Maximum value of SAR (measured) = 0.983 mW/g



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Date/Time: 2010-03-24 13:24:26

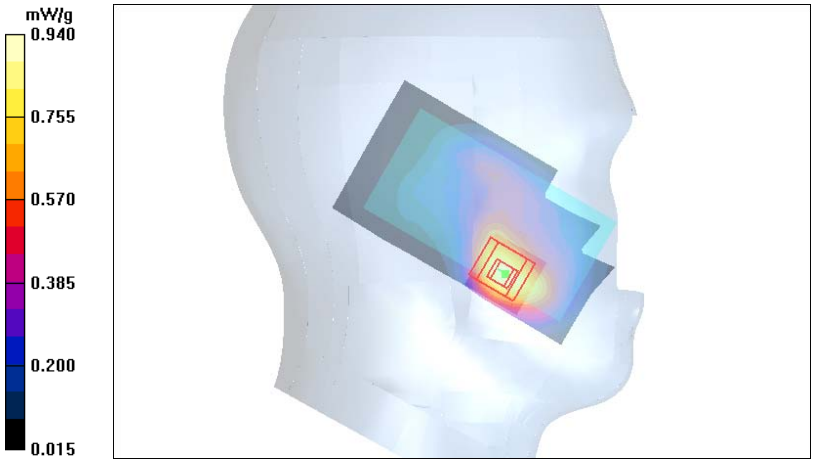
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: 3-slot GPRS1900
Frequency: 1880 MHz; Duty Cycle: 1:2.8
Medium: HSL1900; Medium Notes: t=20.9 C
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.06, 5.06, 5.06); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.977 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.19 V/m
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 0.857 mW/g
SAR(10 g) = 0.527 mW/g
Power Drift = 0.168 dB
Maximum value of SAR (measured) = 0.940 mW/g



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Date/Time: 2010-03-24 13:38:42

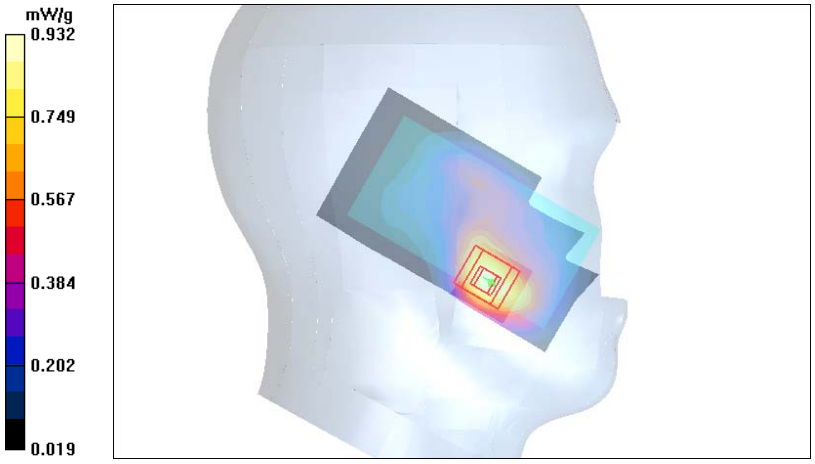
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: 4-slot GPRS1900
Frequency: 1880 MHz; Duty Cycle: 1:2.1
Medium: HSL1900; Medium Notes: t=20.9 C
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.06, 5.06, 5.06); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.983 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.29 V/m
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 0.864 mW/g
SAR(10 g) = 0.534 mW/g
Power Drift = -0.036 dB
Maximum value of SAR (measured) = 0.932 mW/g



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Date/Time: 2010-03-24 15:32:10

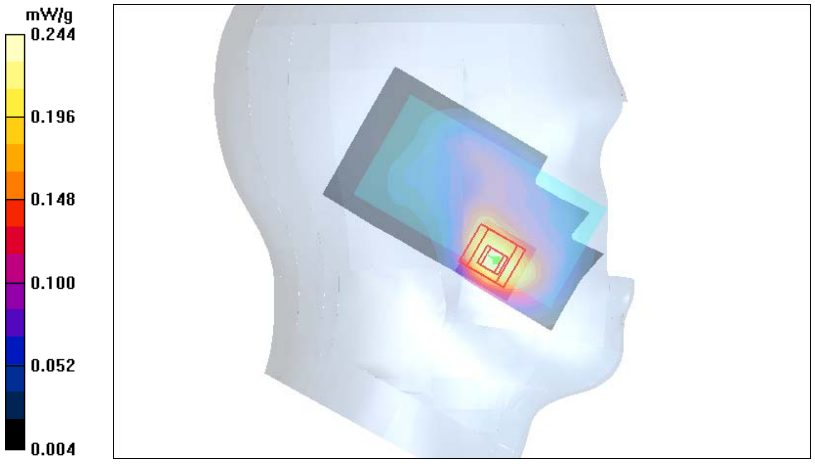
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: 1-slot 8PSK EGPRS1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: HSL1900; Medium Notes: t=20.9 C
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.06, 5.06, 5.06); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.254 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 3.84 V/m
Peak SAR (extrapolated) = 0.336 W/kg
SAR(1 g) = 0.222 mW/g
SAR(10 g) = 0.136 mW/g
Power Drift = -0.014 dB
Maximum value of SAR (measured) = 0.244 mW/g



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Date/Time: 2010-03-24 10:03:20

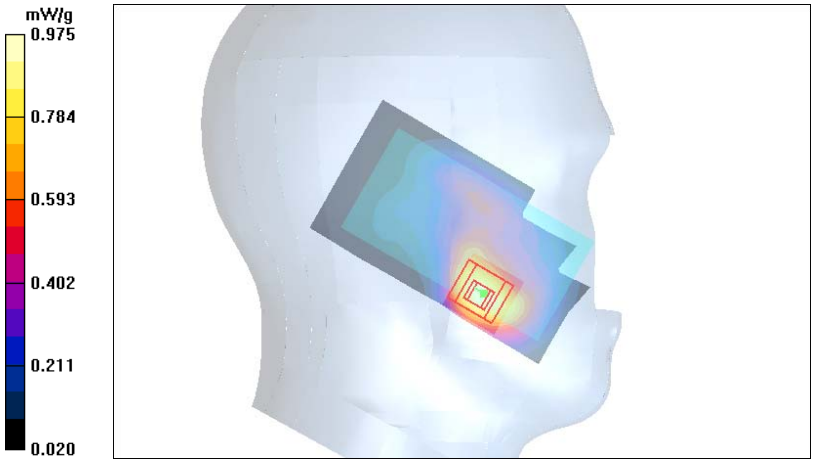
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WCDMA1900
Frequency: 1852.4 MHz; Duty Cycle: 1:1
Medium: HSL1900; Medium Notes: t=20.9 C
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.43 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.06, 5.06, 5.06); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.02 mW/g

Cheek - Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.87 V/m
Peak SAR (extrapolated) = 1.32 W/kg
SAR(1 g) = 0.907 mW/g
SAR(10 g) = 0.571 mW/g
Power Drift = -0.378 dB
Maximum value of SAR (measured) = 0.975 mW/g



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Date/Time: 2010-03-23 14:02:41

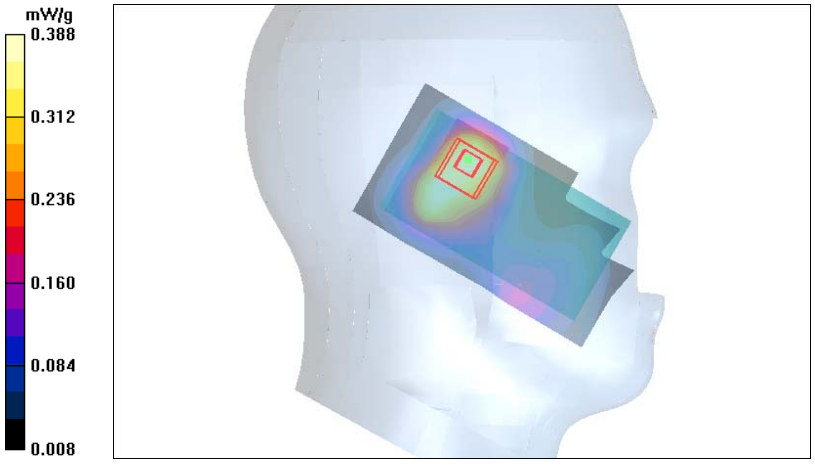
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: HSL1900; Medium Notes: t=20.9 C
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.06, 5.06, 5.06); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.444 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 13.1 V/m
Peak SAR (extrapolated) = 0.511 W/kg
SAR(1 g) = 0.358 mW/g
SAR(10 g) = 0.235 mW/g
Power Drift = -0.246 dB
Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.
Maximum value of SAR (measured) = 0.388 mW/g



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Date/Time: 2010-03-23 14:15:58

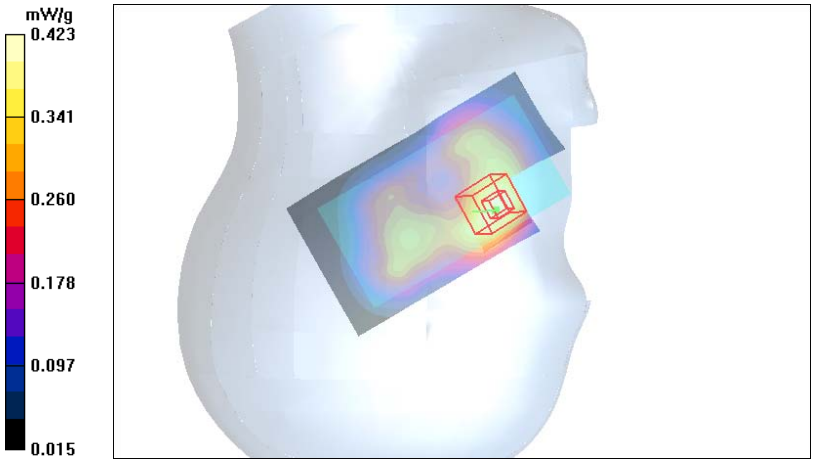
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: HSL1900; Medium Notes: t=20.9 C
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.06, 5.06, 5.06); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.433 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.4 V/m
Peak SAR (extrapolated) = 0.529 W/kg
SAR(1 g) = 0.395 mW/g
SAR(10 g) = 0.261 mW/g
Power Drift = 0.188 dB
Maximum value of SAR (measured) = 0.423 mW/g



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Date/Time: 2010-03-24 09:47:38

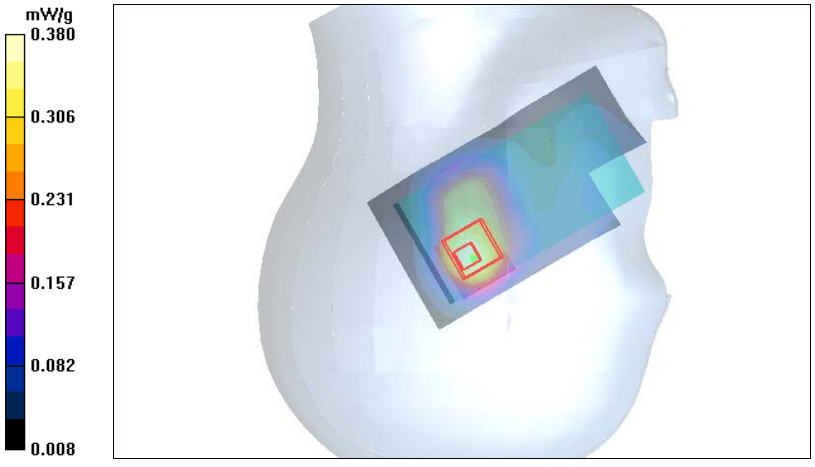
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: HSL1900; Medium Notes: t=20.9 C
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(5.06, 5.06, 5.06); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.425 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 13.4 V/m
Peak SAR (extrapolated) = 0.535 W/kg
SAR(1 g) = 0.356 mW/g
SAR(10 g) = 0.222 mW/g
Power Drift = -0.348 dB
Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.
Maximum value of SAR (measured) = 0.380 mW/g



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Date/Time: 2010-04-08 11:18:08

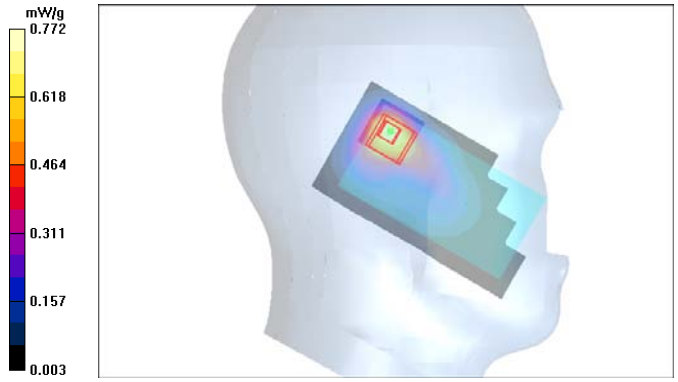
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

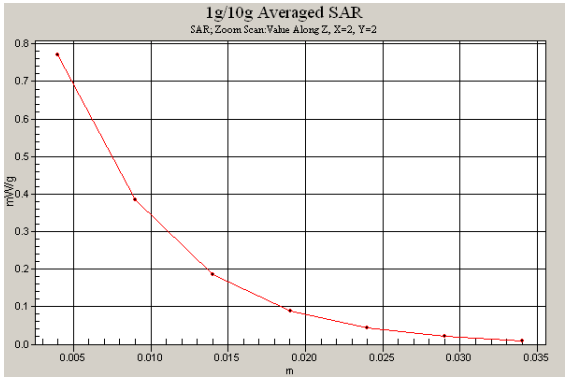
Communication System: WLAN2450 b-mode
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: HSL2450; Medium Notes: 20.7C
Medium parameters used: f = 2442 MHz; σ = 1.82 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3573
- ConvF(6.56, 6.56, 6.56); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2009-10-15
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.740 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 16.4 V/m
Peak SAR (extrapolated) = 1.49 W/kg
SAR(1 g) = 0.695 mW/g
SAR(10 g) = 0.351 mW/g
Power Drift = -0.022 dB
Maximum value of SAR (measured) = 0.772 mW/g





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Date/Time: 2010-04-08 11:30:58

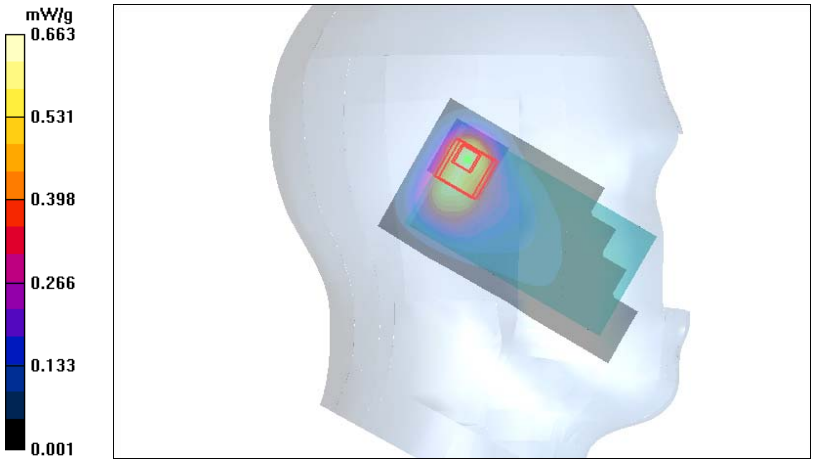
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WLAN2450 b-mode
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: HSL2450; Medium Notes: 20.7C
Medium parameters used: f = 2442 MHz; σ = 1.82 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3573
- ConvF(6.56, 6.56, 6.56); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2009-10-15
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.689 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 18.0 V/m
Peak SAR (extrapolated) = 1.37 W/kg
SAR(1 g) = 0.599 mW/g
SAR(10 g) = 0.300 mW/g
Power Drift = -0.014 dB
Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.
Maximum value of SAR (measured) = 0.663 mW/g



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Date/Time: 2010-04-08 11:49:55

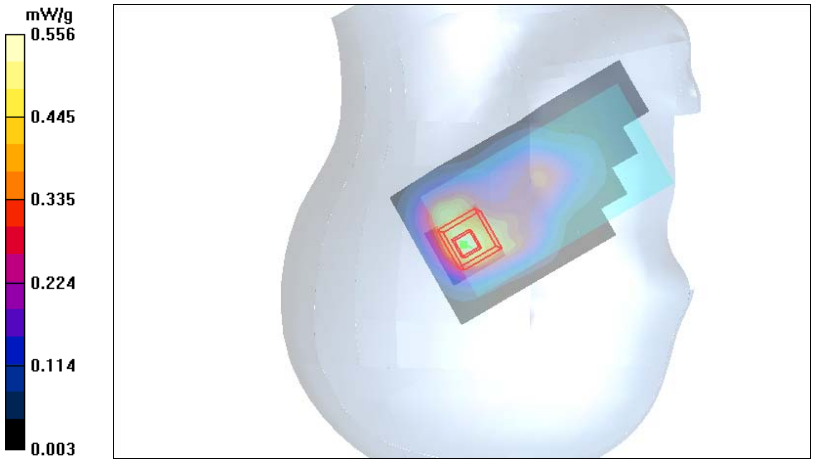
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WLAN2450 b-mode
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: HSL2450; Medium Notes: 20.7C
Medium parameters used: f = 2442 MHz; σ = 1.82 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3573
- ConvF(6.56, 6.56, 6.56); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2009-10-15
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.537 mW/g

Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 17.1 V/m
Peak SAR (extrapolated) = 0.885 W/kg
SAR(1 g) = 0.494 mW/g
SAR(10 g) = 0.267 mW/g
Power Drift = 0.065 dB
Maximum value of SAR (measured) = 0.556 mW/g



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Date/Time: 2010-04-08 12:04:00

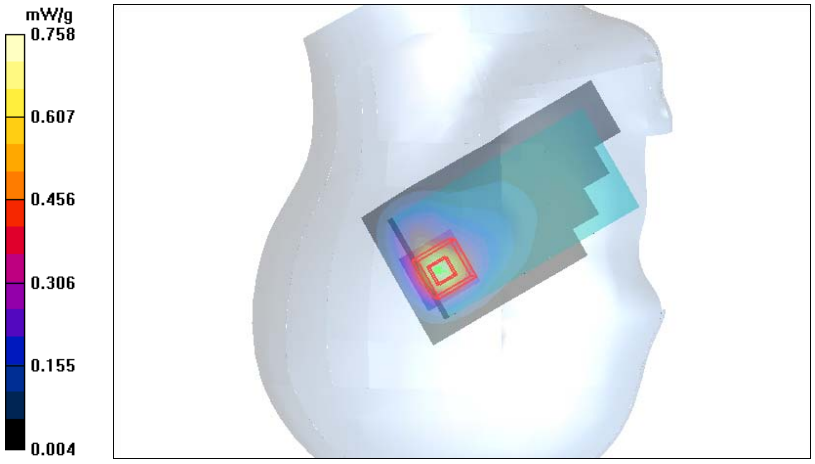
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WLAN2450 b-mode
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: HSL2450; Medium Notes: 20.7C
Medium parameters used: f = 2442 MHz; σ = 1.82 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3573
- ConvF(6.56, 6.56, 6.56); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2009-10-15
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.752 mW/g

Tilt - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 19.5 V/m
Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 0.671 mW/g
SAR(10 g) = 0.339 mW/g
Power Drift = 0.021 dB
Maximum value of SAR (measured) = 0.758 mW/g



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Date/Time: 2010-04-08 13:05:43

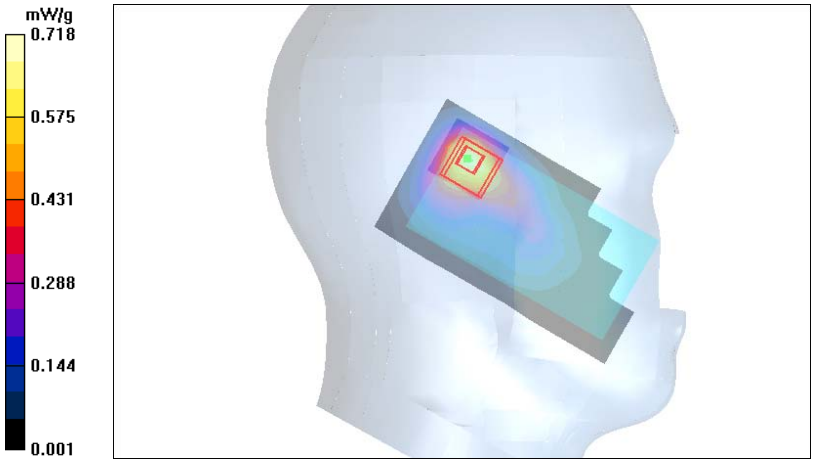
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WLAN2450 n-mode
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: HSL2450; Medium Notes: 20.7C
Medium parameters used: f = 2442 MHz; σ = 1.82 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3573
- ConvF(6.56, 6.56, 6.56); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2009-10-15
- Phantom: SAM1; Type: SAM; Serial: TP-1126
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Cheek - Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.709 mW/g

Cheek - 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) = 1.37 W/kg
SAR(1 g) = 0.649 mW/g
SAR(10 g) = 0.329 mW/g
Power Drift = -0.016 dB
Maximum value of SAR (measured) = 0.718 mW/g



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Date/Time: 2010-03-26 10:02:09

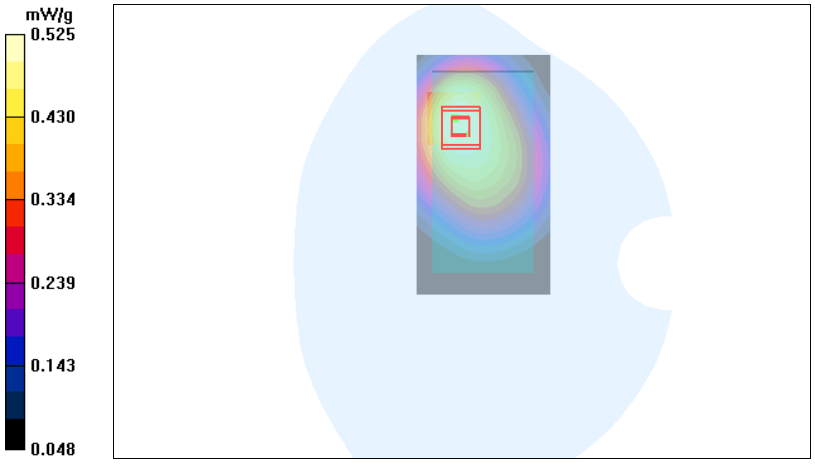
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

Communication System: 2-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium: BSL850; Medium Notes: t=20.5 C
Medium parameters used: f = 837 MHz; σ = 1.01 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.69, 5.69, 5.69); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - No Accessory - Display Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.538 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 = 8.67 V/m
Peak SAR (extrapolated) = 0.657 W/kg
SAR(1 g) = 0.504 mW/g
SAR(10 g) = 0.375 mW/g
Power Drift = 0.007 dB
Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.
Maximum value of SAR (measured) = 0.525 mW/g



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Date/Time: 2010-03-26 10:16:35

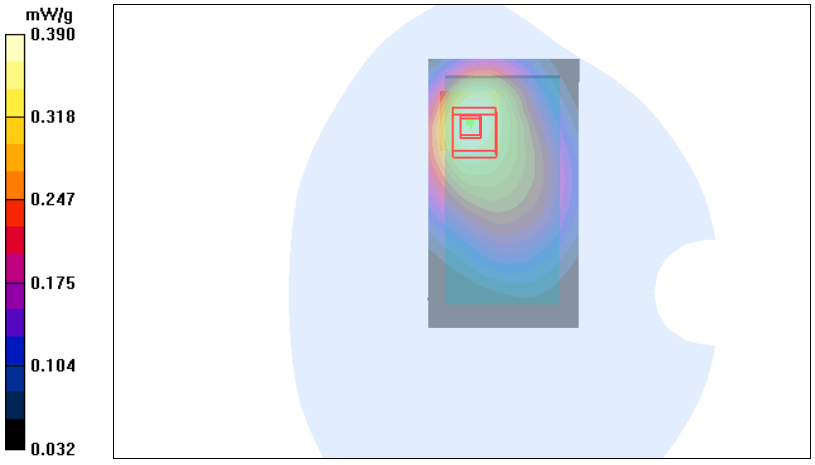
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

Communication System: 2-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium: BSL850; Medium Notes: t=20.5 C
Medium parameters used: f = 837 MHz; σ = 1.01 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- Conv F(5.69, 5.69, 5.69); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - WH-701 - Display Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.406 mW/g

Body - Middle - WH-701 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.78 V/m
Peak SAR (extrapolated) = 0.495 W/kg
SAR(1 g) = 0.370 mW/g
SAR(10 g) = 0.270 mW/g
Power Drift = -0.021 dB
Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.
Maximum value of SAR (measured) = 0.390 mW/g



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Date/Time: 2010-03-26 12:02:13

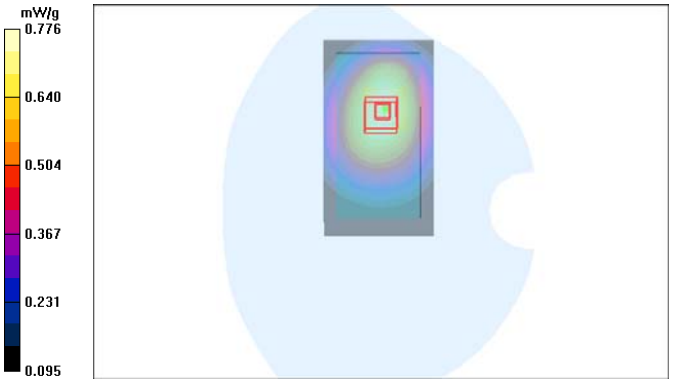
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

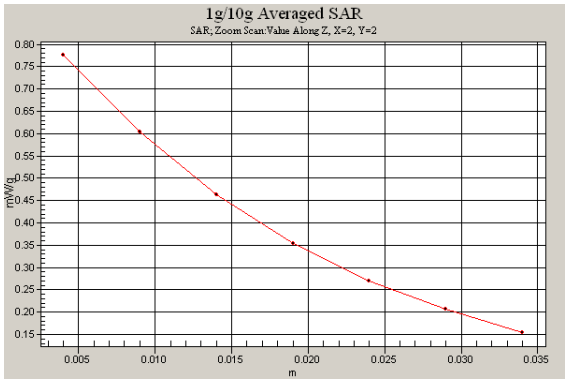
Communication System: 2-slot GPRS850
Frequency: 848.8 MHz; Duty Cycle: 1:4.2
Medium: BSL850; Medium Notes: t=20.5 C
Medium parameters used: f = 849 MHz; σ = 1.02 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- Conv F(5.69, 5.69, 5.69); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - High - No Accessory - Back Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.789 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 = 11.1 V/m
Peak SAR (extrapolated) = 0.939 W/kg
SAR(1 g) = 0.741 mW/g
SAR(10 g) = 0.557 mW/g
Power Drift = -0.012 dB
Maximum value of SAR (measured) = 0.776 mW/g





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Date/Time: 2010-03-26 11:22:19

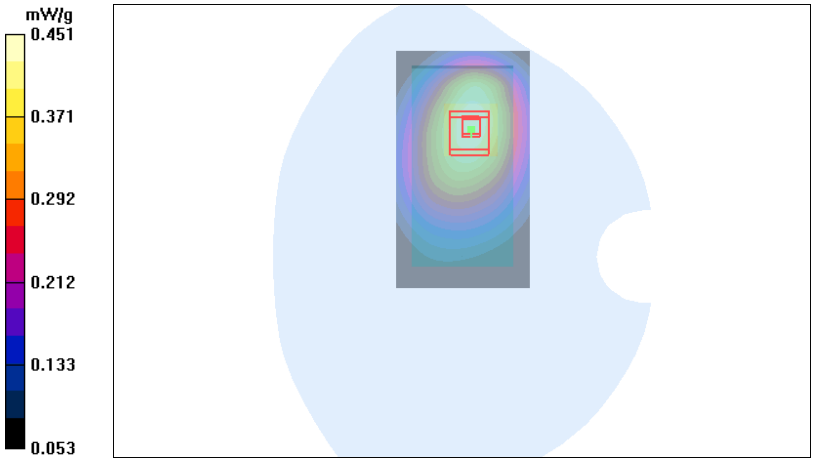
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

Communication System: 2-slot GPRS850
Frequency: 836.6 MHz; Duty Cycle: 1:4.2
Medium: BSL850; Medium Notes: t=20.5 C
Medium parameters used: f = 837 MHz; σ = 1.01 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- Conv F(5.69, 5.69, 5.69); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - WH-701 -Back Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.453 mW/g

Body - Middle - WH-701 -Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 9.33 V/m
Peak SAR (extrapolated) = 0.556 W/kg
SAR(1 g) = 0.427 mW/g
SAR(10 g) = 0.318 mW/g
Power Drift = -0.021 dB
Maximum value of SAR (measured) = 0.451 mW/g



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Date/Time: 2010-03-26 12:47:46

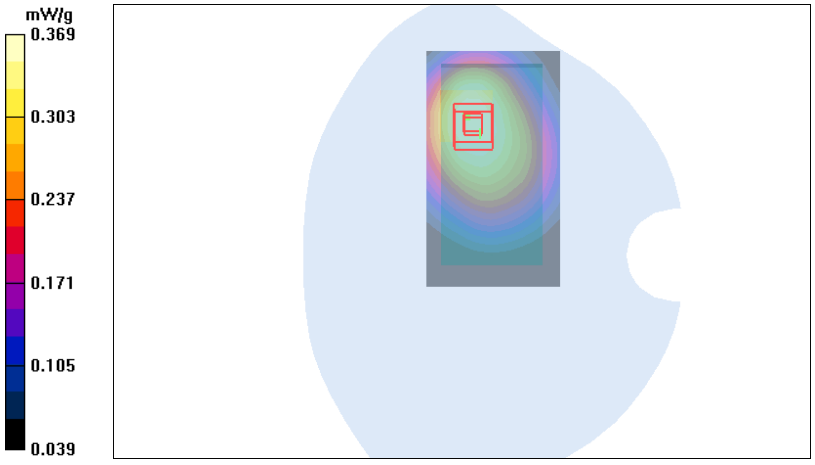
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

Communication System: WCDMA850
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: BSL850; Medium Notes: t=20.5 C
Medium parameters used: f = 835 MHz; σ = 1.01 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- Conv F(5.69, 5.69, 5.69); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - No Accessory - Display Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.378 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 = 7.29 V/m
Peak SAR (extrapolated) = 0.457 W/kg
SAR(1 g) = 0.354 mW/g
SAR(10 g) = 0.264 mW/g
Power Drift = 0.046 dB
Warning: Maximum averaged SAR over 10 g is located on the boundary of the measurement cube. This cube might not incorporate the absolute averaged SAR. Please consider a refinement of the Area Scan measurement.
Maximum value of SAR (measured) = 0.369 mW/g



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Date/Time: 2010-03-26 13:00:37

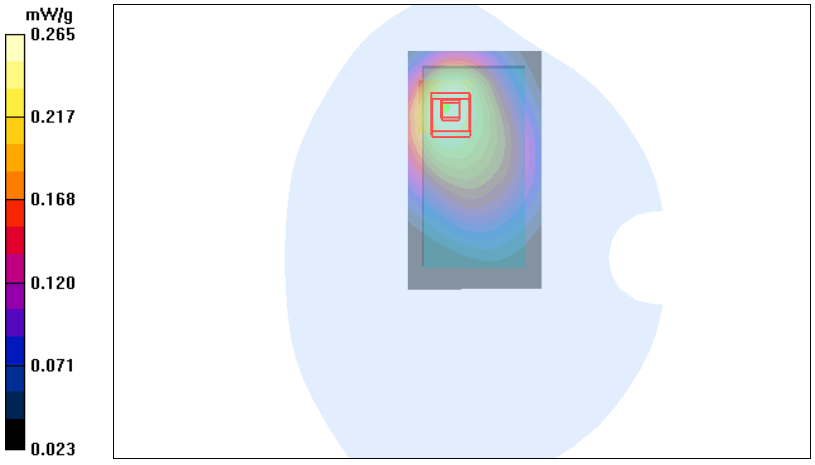
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

Communication System: WCDMA850
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: BSL850; Medium Notes: t=20.5 C
Medium parameters used: f = 835 MHz; σ = 1.01 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- Conv F(5.69, 5.69, 5.69); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - WH-701 - Display Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.271 mW/g

Body - Middle - WH-701 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 6.36 V/m
Peak SAR (extrapolated) = 0.334 W/kg
SAR(1 g) = 0.253 mW/g
SAR(10 g) = 0.185 mW/g
Power Drift = 0.078 dB
Maximum value of SAR (measured) = 0.265 mW/g



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Date/Time: 2010-03-29 10:43:49

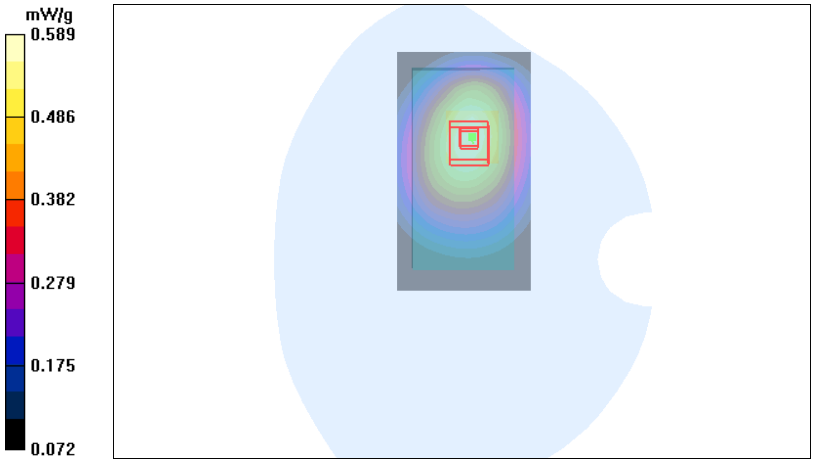
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

Communication System: WCDMA850
Frequency: 846.6 MHz; Duty Cycle: 1:1
Medium: BSL850; Medium Notes: t=20.7 C
Medium parameters used: f = 847 MHz; σ = 1.01 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- Conv F(5.69, 5.69, 5.69); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - High - No Accessory - Back Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.587 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 = 10.1 V/m
Peak SAR (extrapolated) = 0.698 W/kg
SAR(1 g) = 0.558 mW/g
SAR(10 g) = 0.418 mW/g
Power Drift = -0.023 dB
Maximum value of SAR (measured) = 0.589 mW/g



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Date/Time: 2010-03-29 10:19:47

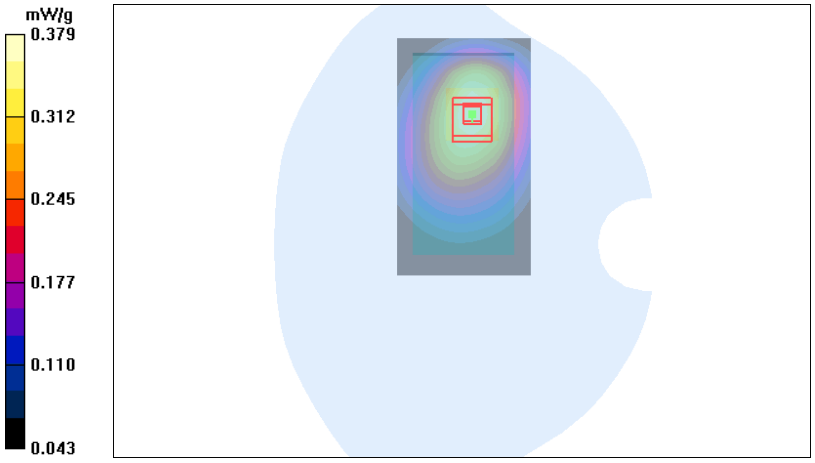
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6

Communication System: WCDMA850
Frequency: 835 MHz; Duty Cycle: 1:1
Medium: BSL850; Medium Notes: t=20.7 C
Medium parameters used: f = 835 MHz; σ = 0.997 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3131
- ConvF(5.69, 5.69, 5.69); Calibrated: 2009-10-27
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213; Calibrated: 2009-11-16
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - WH-701 - Back Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.379 mW/g

Body - Middle - WH-701 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 7.95 V/m
Peak SAR (extrapolated) = 0.454 W/kg
SAR(1 g) = 0.359 mW/g
SAR(10 g) = 0.266 mW/g
Power Drift = -0.041 dB
Maximum value of SAR (measured) = 0.379 mW/g



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Date/Time: 2010-03-31 12:14:50

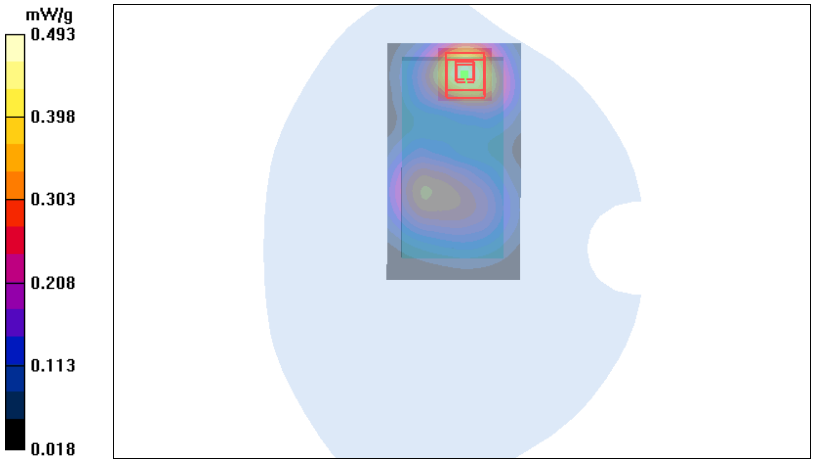
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WCDMA1700/2100
Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: BSL1800; Medium Notes: t=20.2 C
Medium parameters used (interpolated): f = 1732.4 MHz; σ = 1.45 mho/m; ε_r = 51.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(4.92, 4.92, 4.92); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - No Accessory - Display Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.518 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 = 8.92 V/m
Peak SAR (extrapolated) = 0.729 W/kg
SAR(1 g) = 0.454 mW/g
SAR(10 g) = 0.271 mW/g
Power Drift = -0.246 dB
Maximum value of SAR (measured) = 0.493 mW/g



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Date/Time: 2010-03-31 12:28:02

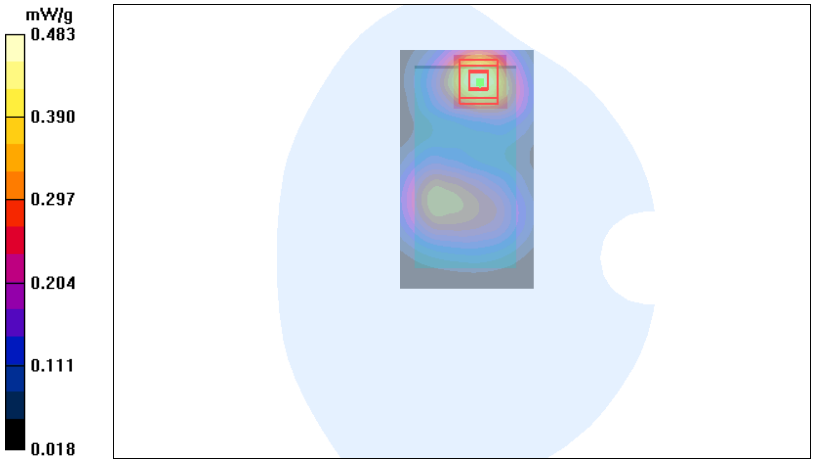
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WCDMA1700/2100
Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: BSL1800; Medium Notes: t=20.2 C
Medium parameters used (interpolated): f = 1732.4 MHz; σ = 1.45 mho/m; ε_r = 51.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(4.92, 4.92, 4.92); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - WH-701 - Display Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.486 mW/g

Body - Middle - WH-701 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 8.26 V/m
Peak SAR (extrapolated) = 0.707 W/kg
SAR(1 g) = 0.444 mW/g
SAR(10 g) = 0.266 mW/g
Power Drift = 0.080 dB
Maximum value of SAR (measured) = 0.483 mW/g



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Date/Time: 2010-03-31 12:52:39

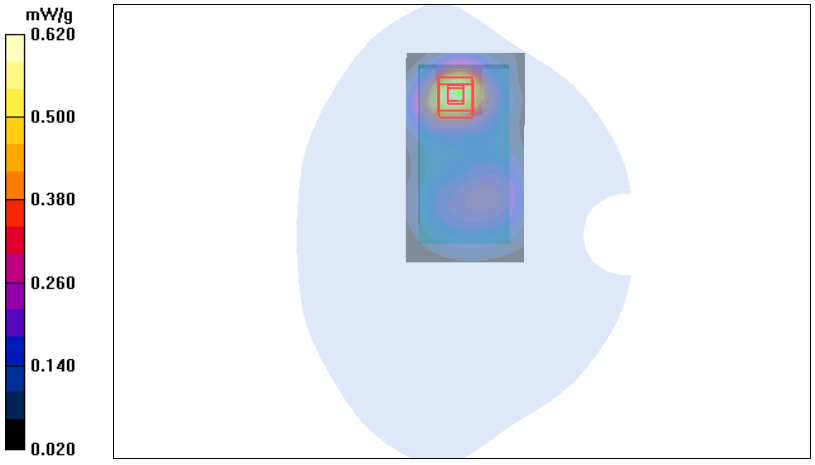
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WCDMA1700/2100
Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: BSL1800; Medium Notes: t=20.2 C
Medium parameters used (interpolated): f = 1732.4 MHz; σ = 1.45 mho/m; ε_r = 51.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(4.92, 4.92, 4.92); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - No Accessory - Back Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.630 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 = 10.6 V/m
Peak SAR (extrapolated) = 0.905 W/kg
SAR(1 g) = 0.568 mW/g
SAR(10 g) = 0.340 mW/g
Power Drift = -0.023 dB
Maximum value of SAR (measured) = 0.620 mW/g



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Date/Time: 2010-03-31 13:14:26

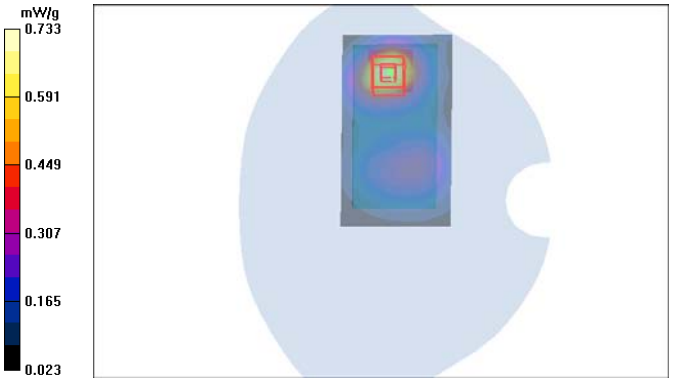
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

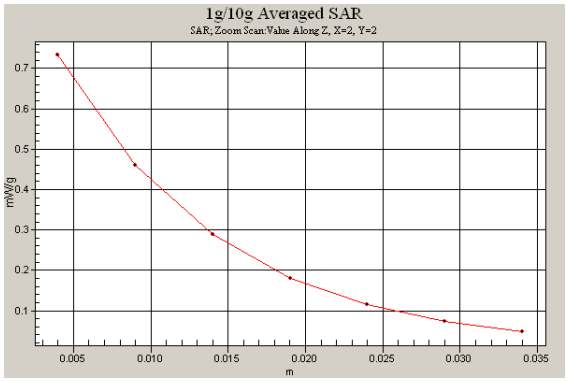
Communication System: WCDMA1700/2100
Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: BSL1800; Medium Notes: t=20.2 C
Medium parameters used: f = 1753 MHz; σ = 1.48 mho/m; ε_r = 51.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(4.92, 4.92, 4.92); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 3; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - High - WH-701 - Back Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.738 mW/g

Body - High - WH-701 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.8 V/m
Peak SAR (extrapolated) = 1.07 W/kg
SAR(1 g) = 0.673 mW/g
SAR(10 g) = 0.402 mW/g
Power Drift = 0.061 dB
Maximum value of SAR (measured) = 0.733 mW/g





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Date/Time: 2010-03-26 11:55:47

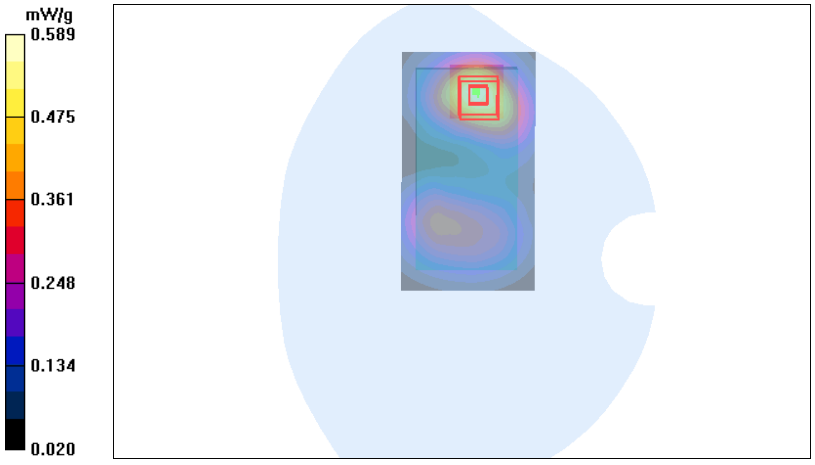
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: GSM1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: BSL1900; Medium Notes: t=20.9 C
Medium parameters used: f = 1880 MHz; σ = 1.49 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(4.67, 4.67, 4.67); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - No Accessory - Display Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.608 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 = 12.5 V/m
Peak SAR (extrapolated) = 0.851 W/kg
SAR(1 g) = 0.544 mW/g
SAR(10 g) = 0.336 mW/g
Power Drift = -0.149 dB
Maximum value of SAR (measured) = 0.589 mW/g



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Date/Time: 2010-03-26 12:09:56

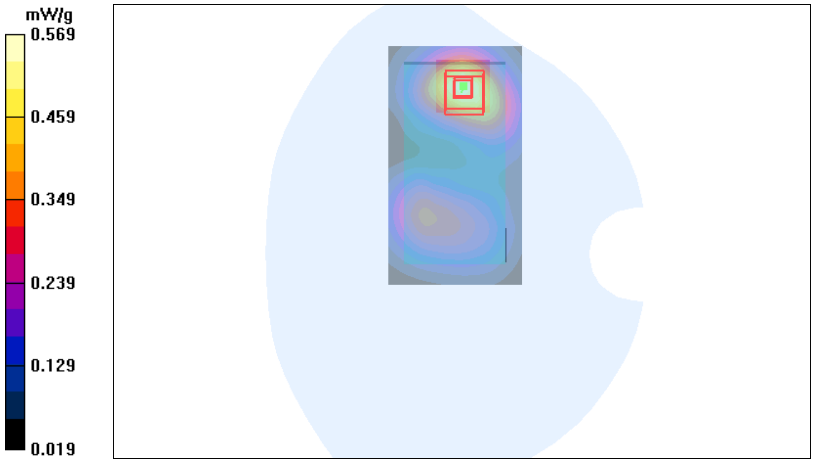
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: GSM1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: BSL1900; Medium Notes: t=20.9 C
Medium parameters used: f = 1880 MHz; σ = 1.49 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(4.67, 4.67, 4.67); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - WH-701 - Display Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.585 mW/g

Body - Middle - WH-701 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.9 V/m
Peak SAR (extrapolated) = 0.817 W/kg
SAR(1 g) = 0.524 mW/g
SAR(10 g) = 0.322 mW/g
Power Drift = -0.062 dB
Maximum value of SAR (measured) = 0.569 mW/g



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Date/Time: 2010-03-26 12:40:54

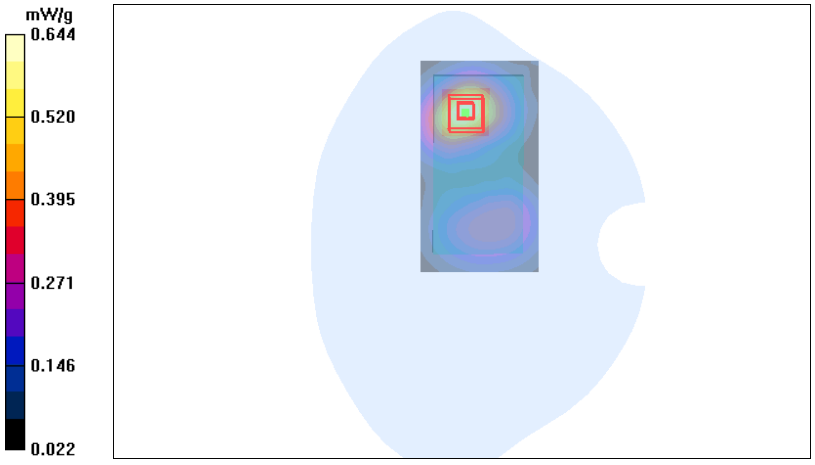
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: GSM1900
Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: BSL1900; Medium Notes: t=20.9 C
Medium parameters used: f = 1880 MHz; σ = 1.49 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(4.67, 4.67, 4.67); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - No Accessory - Back Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.664 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 = 13.4 V/m
Peak SAR (extrapolated) = 0.905 W/kg
SAR(1 g) = 0.593 mW/g
SAR(10 g) = 0.367 mW/g
Power Drift = -0.058 dB
Maximum value of SAR (measured) = 0.644 mW/g



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Date/Time: 2010-03-26 12:53:04

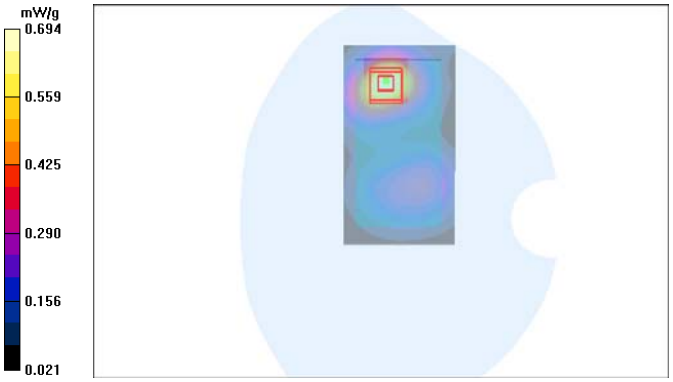
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

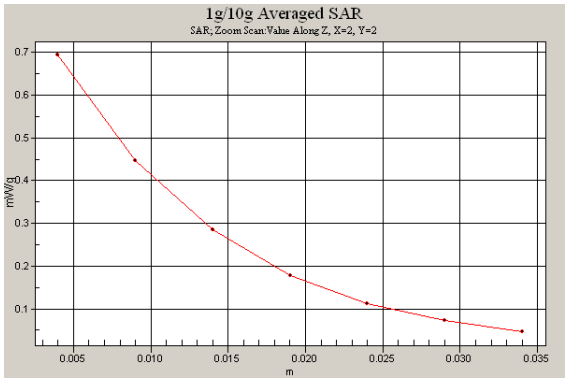
Communication System: GSM1900
Frequency: 1850.2 MHz; Duty Cycle: 1:8.3
Medium: BSL1900; Medium Notes: t=20.9 C
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.45 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(4.67, 4.67, 4.67); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Low - WH-701 - Back Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.702 mW/g

Body - Low - WH-701 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.0 V/m
Peak SAR (extrapolated) = 0.982 W/kg
SAR(1 g) = 0.638 mW/g
SAR(10 g) = 0.388 mW/g
Power Drift = -0.034 dB
Maximum value of SAR (measured) = 0.694 mW/g





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Date/Time: 2010-03-24 18:10:01

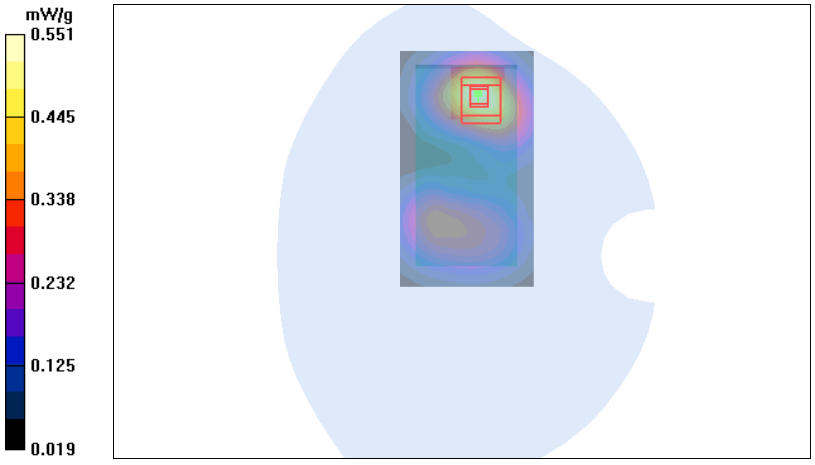
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: BSL1900; Medium Notes: t=20.4 C
Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(4.67, 4.67, 4.67); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - No Accessory - Display Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.556 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 = 12.5 V/m
Peak SAR (extrapolated) = 0.780 W/kg
SAR(1 g) = 0.506 mW/g
SAR(10 g) = 0.314 mW/g
Power Drift = -0.033 dB
Maximum value of SAR (measured) = 0.551 mW/g



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Date/Time: 2010-03-24 18:23:34

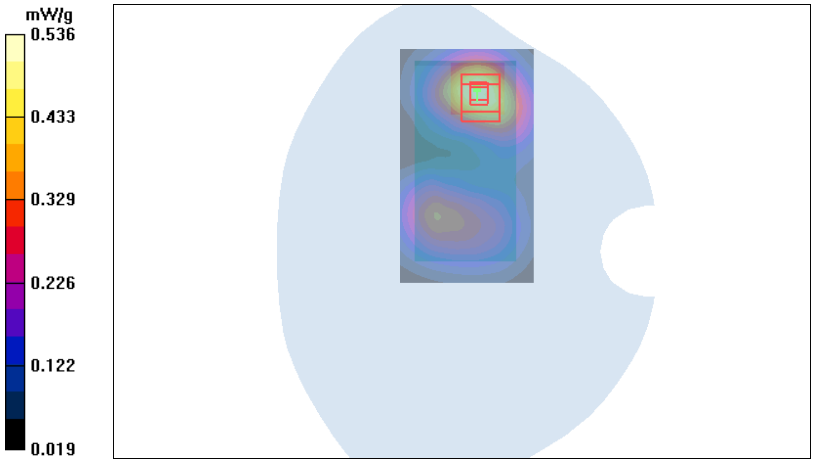
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: BSL1900; Medium Notes: t=20.4 C
Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(4.67, 4.67, 4.67); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - WH-701 - Display Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.556 mW/g

Body - Middle - WH-701 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 11.9 V/m
Peak SAR (extrapolated) = 0.766 W/kg
SAR(1 g) = 0.496 mW/g
SAR(10 g) = 0.307 mW/g
Power Drift = -0.075 dB
Maximum value of SAR (measured) = 0.536 mW/g



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Date/Time: 2010-03-24 19:11:22

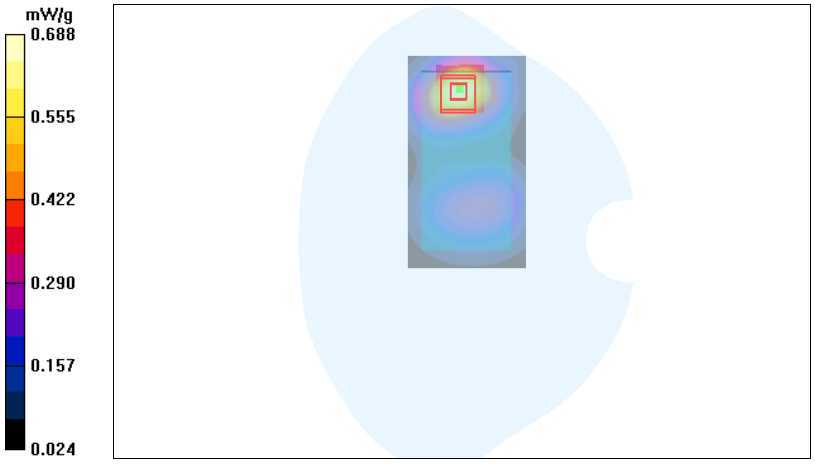
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WCDMA1900
Frequency: 1852.4 MHz; Duty Cycle: 1:1
Medium: BSL1900; Medium Notes: t=20.4 C
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.51 mho/m; ε_r = 53; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(4.67, 4.67, 4.67); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Low - No Accessory - Back Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.710 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 = 11.0 V/m
Peak SAR (extrapolated) = 0.964 W/kg
SAR(1 g) = 0.629 mW/g
SAR(10 g) = 0.387 mW/g
Power Drift = 0.014 dB
Maximum value of SAR (measured) = 0.688 mW/g



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Date/Time: 2010-03-24 18:55:56

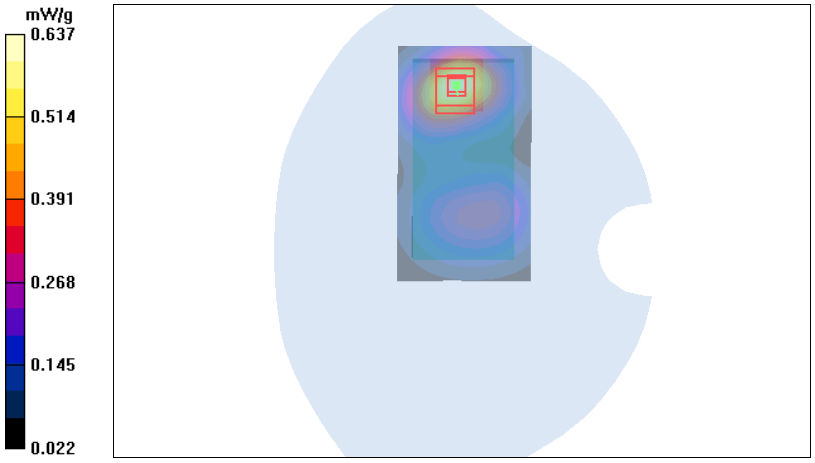
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WCDMA1900
Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: BSL1900; Medium Notes: t=20.4 C
Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194
- ConvF(4.67, 4.67, 4.67); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2009-05-15
- Phantom: SAM 2; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - WH-701 - Back Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.659 mW/g

Body - Middle - WH-701 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 10.9 V/m
Peak SAR (extrapolated) = 0.898 W/kg
SAR(1 g) = 0.583 mW/g
SAR(10 g) = 0.359 mW/g
Power Drift = -0.041 dB
Maximum value of SAR (measured) = 0.637 mW/g



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Date/Time: 2010-04-07 12:36:44

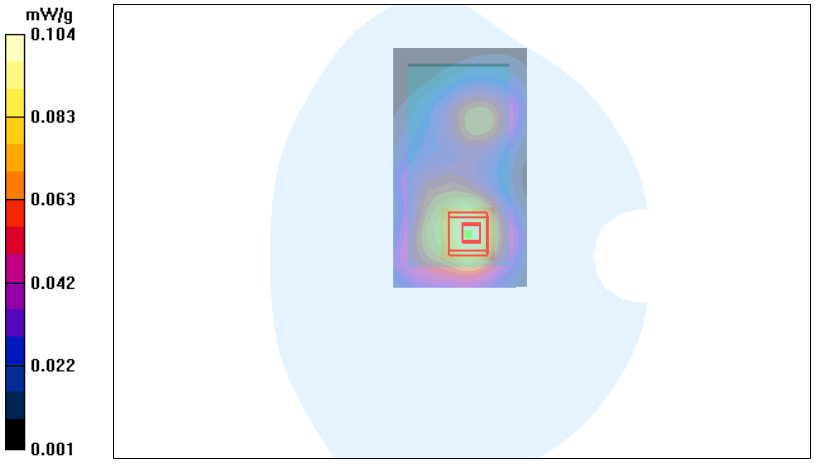
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WLAN2450 b-mode
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: 20.7C
Medium parameters used: f = 2442 MHz; σ = 1.99 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3573
- ConvF(6.63, 6.63, 6.63); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2009-10-15
- Phantom: SAM2; Type: SAM; Serial: TP-1035
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - No Accessory - Display Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.108 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 = 6.55 V/m
Peak SAR (extrapolated) = 0.161 W/kg
SAR(1 g) = 0.095 mW/g
SAR(10 g) = 0.056 mW/g
Power Drift = -0.089 dB
Maximum value of SAR (measured) = 0.104 mW/g



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Date/Time: 2010-04-07 12:52:00

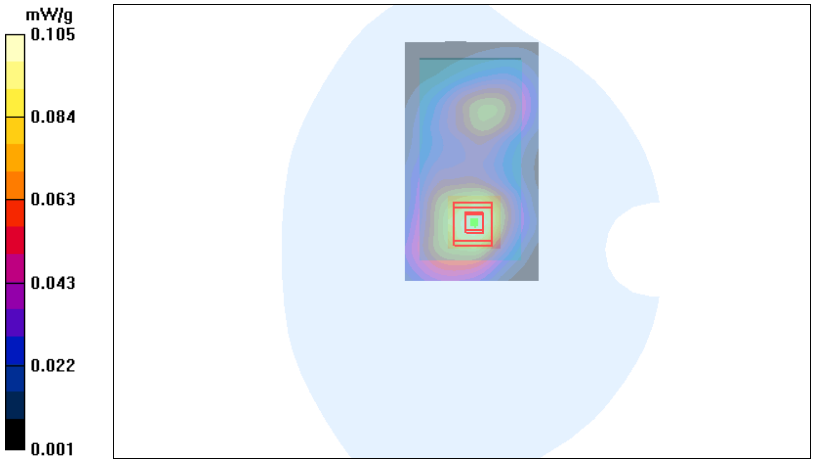
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WLAN2450 b-mode
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: 20.7C
Medium parameters used: f = 2442 MHz; σ = 1.99 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3573
- ConvF(6.63, 6.63, 6.63); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2009-10-15
- Phantom: SAM2; Type: Type: SAM; Serial: TP-1035
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - WH-701 - Display Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.106 mW/g

Body - Middle - WH-701 - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 6.57 V/m
Peak SAR (extrapolated) = 0.167 W/kg
SAR(1 g) = 0.097 mW/g
SAR(10 g) = 0.058 mW/g
Power Drift = -0.441 dB
Maximum value of SAR (measured) = 0.105 mW/g



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Date/Time: 2010-04-07 13:07:08

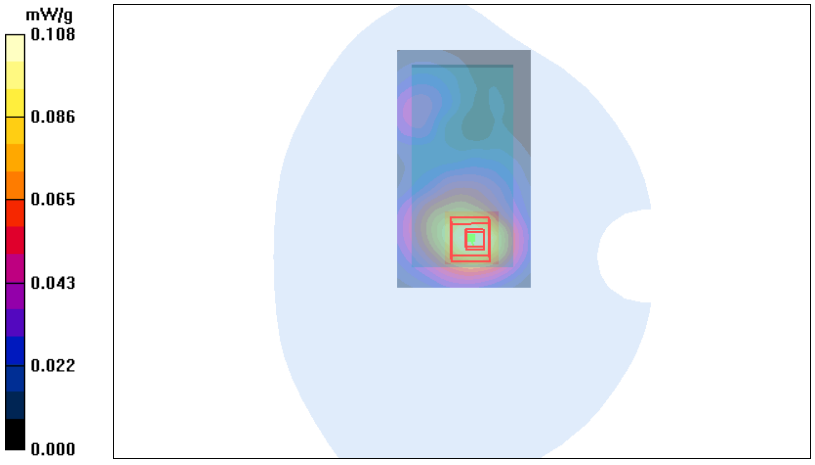
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WLAN2450 b-mode
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: 20.7C
Medium parameters used: f = 2442 MHz; σ = 1.99 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3573
- ConvF(6.63, 6.63, 6.63); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2009-10-15
- Phantom: SAM2; Type: Type: SAM; Serial: TP-1035
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - No Accessory - Back Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.114 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 = 6.58 V/m
Peak SAR (extrapolated) = 0.180 W/kg
SAR(1 g) = 0.100 mW/g
SAR(10 g) = 0.057 mW/g
Power Drift = 0.062 dB
Maximum value of SAR (measured) = 0.108 mW/g



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Date/Time: 2010-04-07 13:18:23

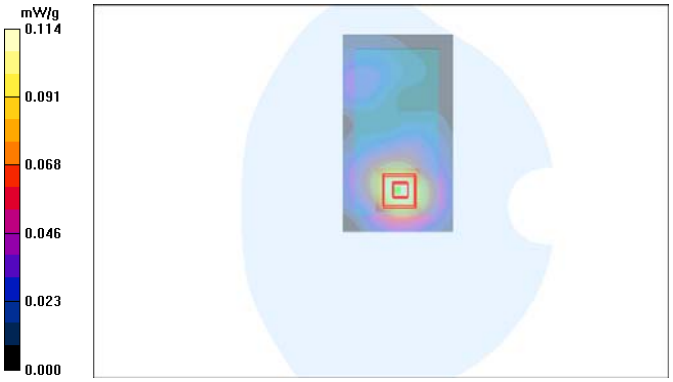
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

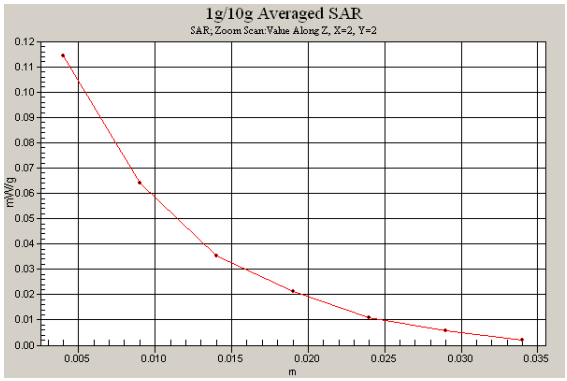
Communication System: WLAN2450 b-mode
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: 20.7C
Medium parameters used: f = 2442 MHz; σ = 1.99 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3573
- ConvF(6.63, 6.63, 6.63); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2009-10-15
- Phantom: SAM2; Type: Type: SAM; Serial: TP-1035
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - WH-701 - Back Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.115 mW/g

Body - Middle - WH-701 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 6.71 V/m
Peak SAR (extrapolated) = 0.187 W/kg
SAR(1 g) = 0.106 mW/g
SAR(10 g) = 0.061 mW/g
Power Drift = 0.035 dB
Maximum value of SAR (measured) = 0.114 mW/g





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Date/Time: 2010-04-07 14:35:18

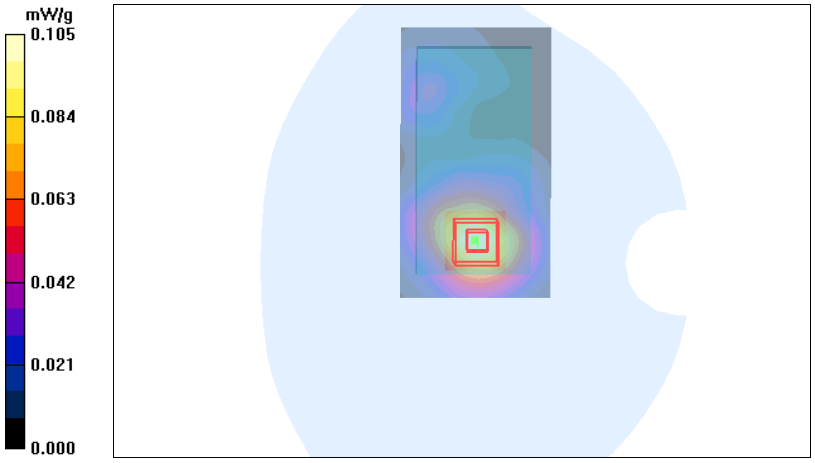
Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WLAN2450 n-mode
Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: BSL2450; Medium Notes: 20.7C
Medium parameters used: f = 2442 MHz; σ = 1.99 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3573
- ConvF(6.63, 6.63, 6.63); Calibrated: 2009-11-20
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2009-10-15
- Phantom: SAM2; Type: Type: SAM; Serial: TP-1035
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Body - Middle - WH-701 - Back Facing Phantom/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.105 mW/g

Body - Middle - WH-701 - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm
Reference Value = 6.55 V/m
Peak SAR (extrapolated) = 0.171 W/kg
SAR(1 g) = 0.097 mW/g
SAR(10 g) = 0.056 mW/g
Power Drift = 0.071 dB
Maximum value of SAR (measured) = 0.104 mW/g



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Date/Time: 2010-03-24 12:21:02, Date/Time: 2010-04-08 11:49:55

Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6, Serial: 004402/13/047561/3

Communication System: 2-slot GPRS850, Communication System: WLAN2450
Frequency: 848.8 MHz, Frequency: 2442 MHz; Duty Cycle: 1:4.2, Duty Cycle: 1:1
Medium: HSL850, Medium: HSL2450; Medium Notes: t=20.3 C, Medium Notes: 20.7C
Medium parameters used: f = 849 MHz; σ = 0.897 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3 , Medium parameters used: f = 2442 MHz; σ = 1.82 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Right Section

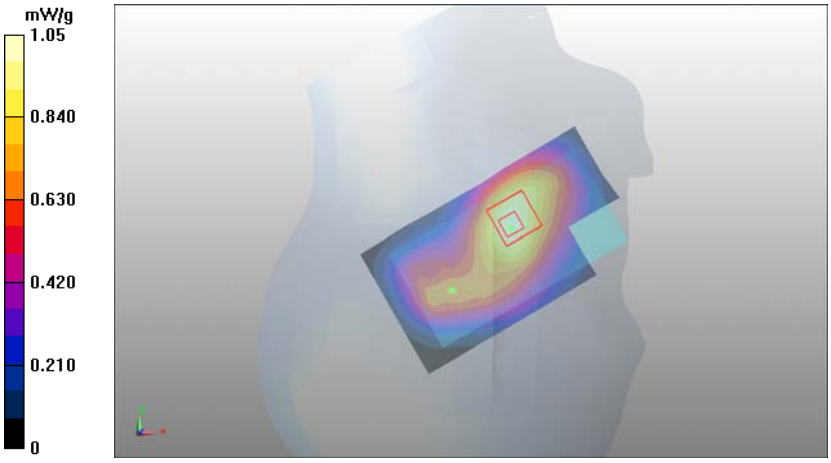
DASY4 Configuration:
- Probe: ES3DV3 - SN3131, Probe: EX3DV4 - SN3573
- ConvF(5.85, 5.85, 5.85), ConvF(6.56, 6.56, 6.56); Calibrated: 10/27/2009, Calibrated: 11/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213, Electronics: DAE4 Sn555; Calibrated: 11/16/2009, Calibrated: 10/15/2009
- Phantom: SAM 3, Phantom: SAM1; Type: Twin SAM 040 CA, Type: SAM; Serial: TP-1179, Serial: TP-1126
- ; SEMCAD X Version 14.0 Build 60

Configuration/Cheek - High/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Cheek - Middle/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.970 mW/g
SAR(10 g) = 0.638 mW/g

Maximum value of SAR (measured) = 1.05 mW/g



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Date/Time: 2010-03-25 12:38:58, Date/Time: 2010-04-08 11:49:55

Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6, Serial: 004402/13/047561/3

Communication System: WCDMA850, Communication System: WLAN2450
Frequency: 846.6 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: HSL850, Medium: HSL2450; Medium Notes: T= 20.0 C, Medium Notes: 20.7C
Medium parameters used: f = 847 MHz; σ = 0.917 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3 , Medium parameters used: f = 2442 MHz; σ = 1.82 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Right Section

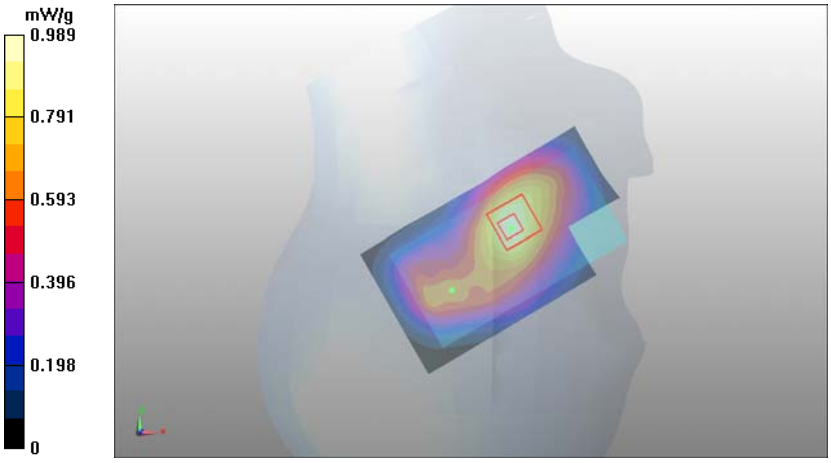
DASY4 Configuration:
- Probe: ES3DV3 - SN3131, Probe: EX3DV4 - SN3573
- ConvF(5.85, 5.85, 5.85), ConvF(6.56, 6.56, 6.56); Calibrated: 10/27/2009, Calibrated: 11/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1213, Electronics: DAE4 Sn555; Calibrated: 11/16/2009, Calibrated: 10/15/2009
- Phantom: SAM 3, Phantom: SAM1; Type: Twin SAM 040 CA, Type: SAM; Serial: TP-1179, Serial: TP-1126
- ; SEMCAD X Version 14.0 Build 60

Configuration/Cheek - High/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Cheek - Middle/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.905 mW/g
SAR(10 g) = 0.586 mW/g

Maximum value of SAR (measured) = 0.989 mW/g



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Date/Time: 2010-03-30 10:01:54, Date/Time: 2010-04-08 11:18:08

Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

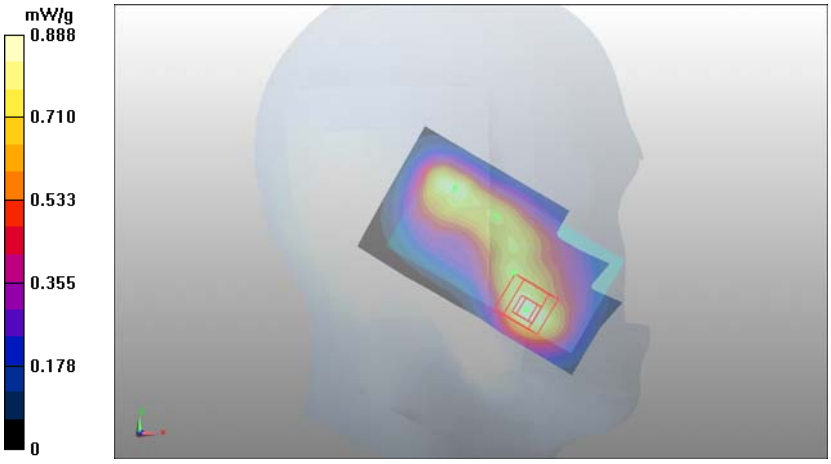
Communication System: WCDMA1700/2100, Communication System: WLAN2450
Frequency: 1732.4 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: HSL1800, Medium: HSL2450; Medium Notes: t=20.5 C, Medium Notes: 20.7C
Medium parameters used (interpolated): f = 1732.4 MHz; σ = 1.33 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3 , Medium parameters used: f = 2442 MHz; σ = 1.82 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194, Probe: EX3DV4 - SN3573
- ConvF(5.25, 5.25, 5.25), ConvF(6.56, 6.56, 6.56); Calibrated: 11/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793, Electronics: DAE4 Sn555; Calibrated: 5/15/2009, Calibrated: 10/15/2009
- Phantom: SAM 4, Phantom: SAM1; Type: Twin SAM 040 CA, Type: SAM; Serial: TP-1018, Serial: TP-1126
- ; SEMCAD X Version 14.0 Build 60

Configuration/Cheek - Middle/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.804 mW/g
SAR(10 g) = 0.475 mW/g

Maximum value of SAR (measured) = 0.888 mW/g



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Date/Time: 2010-03-24 12:12:46, Date/Time: 2010-04-08 11:18:08

Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

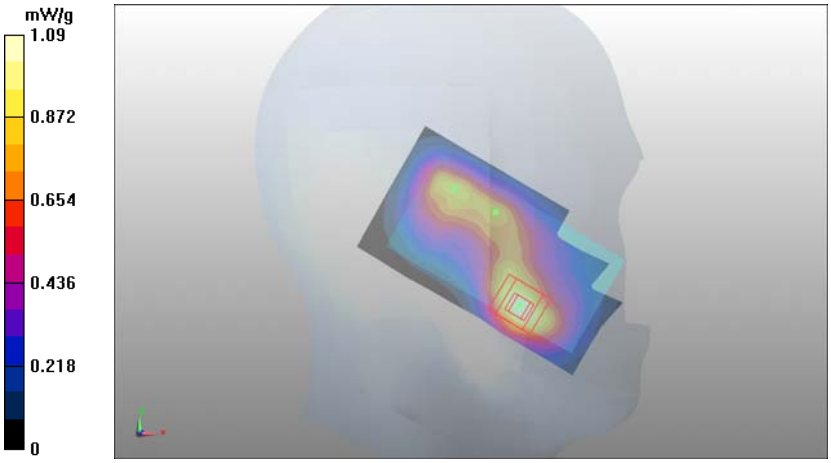
Communication System: GSM1900, Communication System: WLAN2450
Frequency: 1880 MHz, Frequency: 2442 MHz; Duty Cycle: 1:8.3, Duty Cycle: 1:1
Medium: HSL1900, Medium: HSL2450; Medium Notes: t=20.9 C, Medium Notes: 20.7C
Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3 , Medium parameters used: f = 2442 MHz; σ = 1.82 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3194, Probe: EX3DV4 - SN3573
- ConvF(5.06, 5.06, 5.06), ConvF(6.56, 6.56, 6.56); Calibrated: 11/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793, Electronics: DAE4 Sn555; Calibrated: 5/15/2009, Calibrated: 10/15/2009
- Phantom: SAM 1, Phantom: SAM1; Type: Twin SAM 040 CA, Type: SAM; Serial: TP-1449, Serial: TP-1126
- ; SEMCAD X Version 14.0 Build 60

Configuration/Cheek - Middle/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.972 mW/g
SAR(10 g) = 0.545 mW/g

Maximum value of SAR (measured) = 1.09 mW/g



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Date/Time: 2010-03-24 10:03:20, Date/Time: 2010-04-08 11:18:08

Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WCDMA1900, Communication System: WLAN2450
Frequency: 1852.4 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: HSL1900, Medium: HSL2450; Medium Notes: t=20.9 C, Medium Notes: 20.7C
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.43 mho/m; ε_r = 38.5; ρ = 1000 kg/m^3 , Medium parameters used: f = 2442 MHz; σ = 1.82 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Left Section

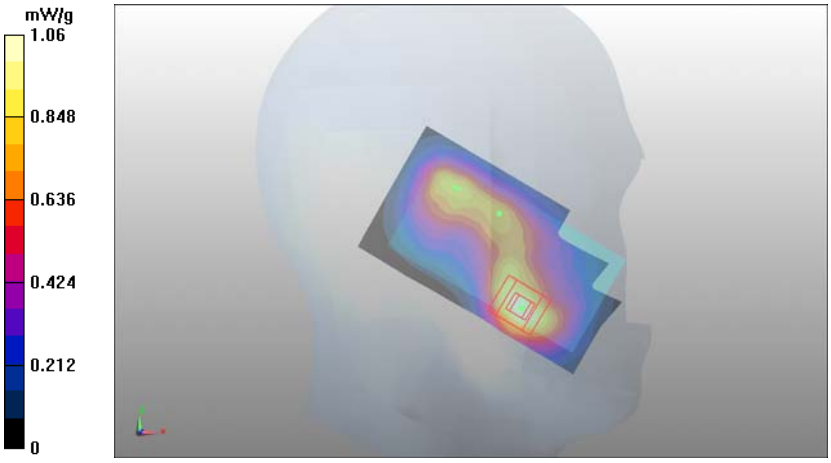
DASY4 Configuration:
- Probe: ES3DV3 - SN3194, Probe: EX3DV4 - SN3573
- ConvF(5.06, 5.06, 5.06), ConvF(6.56, 6.56, 6.56); Calibrated: 11/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793, Electronics: DAE4 Sn555; Calibrated: 5/15/2009, Calibrated: 10/15/2009
- Phantom: SAM 1, Phantom: SAM1; Type: Twin SAM 040 CA, Type: SAM; Serial: TP-1449, Serial: TP-1126
- ; SEMCAD X Version 14.0 Build 60

Configuration/Cheek - Low/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Cheek - Middle/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.956 mW/g
SAR(10 g) = 0.545 mW/g

Maximum value of SAR (measured) = 1.06 mW/g



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Date/Time: 2010-03-26 12:02:13, Date/Time: 2010-04-07 13:07:08

Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6, Serial: 004402/13/047561/3

Communication System: 2-slot GPRS850, Communication System: WLAN2450
Frequency: 848.8 MHz, Frequency: 2442 MHz; Duty Cycle: 1:4.2, Duty Cycle: 1:1
Medium: BSL850, Medium: BSL2450; Medium Notes: t=20.5 C, Medium Notes: 20.7C
Medium parameters used: f = 849 MHz; σ = 1.02 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3 , Medium parameters used: f = 2442 MHz; σ = 1.99 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

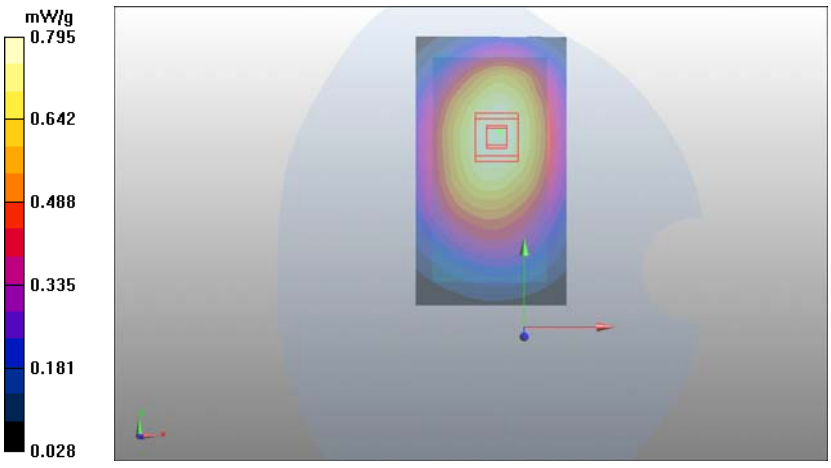
DASY4 Configuration:
- Probe: ES3DV3 - SN3131, Probe: EX3DV4 - SN3573
- ConvF(5.64, 5.64, 5.64), ConvF(6.63, 6.63, 6.63); Calibrated: 2/12/2009, Calibrated: 11/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn1213, Electronics: DAE4 Sn555; Calibrated: 11/16/2009, Calibrated: 10/15/2009
- Phantom: SAM 1, Phantom: SAM2; Type: Twin SAM 040 CA, Type: SAM; Serial: TP-1179, Serial: TP-1035
- ; SEMCAD X Version 14.0 Build 60

Configuration/Body - High - No Accessory - Back Facing Phantom/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Body - Middle - No Accessory - Back Facing Phantom/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.758 mW/g
SAR(10 g) = 0.538 mW/g

Maximum value of SAR (measured) = 0.795 mW/g



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Date/Time: 2010-03-29 10:43:49, Date/Time: 2010-04-07 13:07:08

Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047550/6, Serial: 004402/13/047561/3

Communication System: WCDMA850, Communication System: WLAN2450
Frequency: 846.6 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: BSL850, Medium: BSL2450; Medium Notes: t=20.7 C, Medium Notes: 20.7C
Medium parameters used: f = 847 MHz; σ = 1.01 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3 , Medium parameters used: f = 2442 MHz; σ = 1.99 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

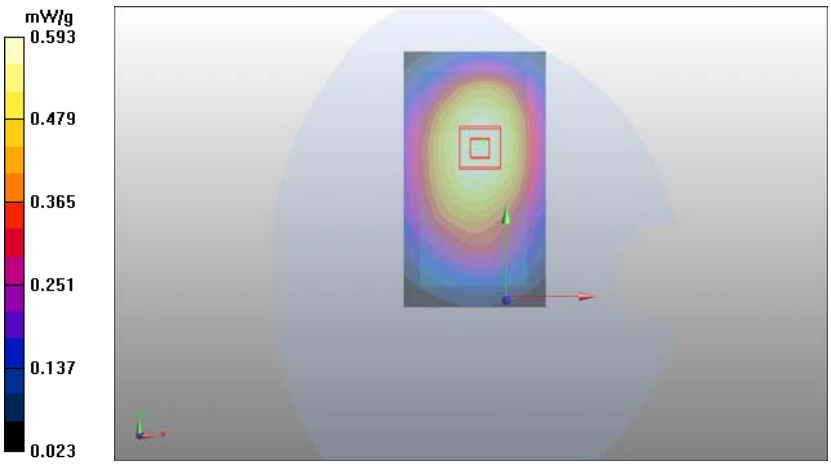
DASY4 Configuration:
- Probe: ES3DV3 - SN3131, Probe: EX3DV4 - SN3573
- ConvF(5.69, 5.69, 5.69), ConvF(6.63, 6.63, 6.63); Calibrated: 10/27/2009, Calibrated: 11/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn1213, Electronics: DAE4 Sn555; Calibrated: 11/16/2009, Calibrated: 10/15/2009
- Phantom: SAM 1, Phantom: SAM2; Type: Twin SAM 040 CA, Type: SAM; Serial: TP-1179, Serial: TP-1035
- ; SEMCAD X Version 14.0 Build 60

Configuration/Body - High - No accessory - Back Facing Phantom/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Body - Middle - No Accessory - Back Facing Phantom/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.566 mW/g
SAR(10 g) = 0.403 mW/g

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



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Date/Time: 2010-03-31 13:14:26, Date/Time: 2010-04-07 13:18:23

Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WCDMA1700/2100, Communication System: WLAN2450
Frequency: 1752.6 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: BSL1800, Medium: BSL2450; Medium Notes: t=20.2 C, Medium Notes: 20.7C
Medium parameters used: f = 1753 MHz; σ = 1.48 mho/m; ε_r = 51.5; ρ = 1000 kg/m^3 , Medium parameters used: f = 2442 MHz; σ = 1.99 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

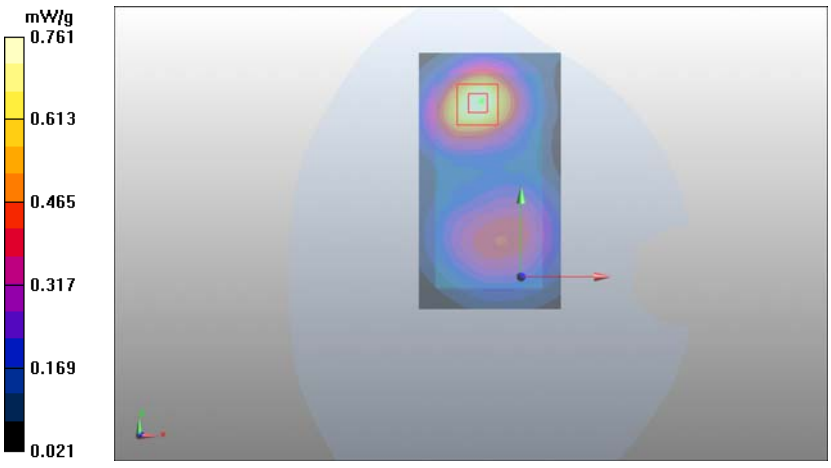
DASY4 Configuration:
- Probe: ES3DV3 - SN3194, Probe: EX3DV4 - SN3573
- ConvF(4.92, 4.92, 4.92), ConvF(6.63, 6.63, 6.63); Calibrated: 11/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn793, Electronics: DAE4 Sn555; Calibrated: 5/15/2009, Calibrated: 10/15/2009
- Phantom: SAM 3, Phantom: SAM2; Type: Twin SAM 040 CA, Type: SAM; Serial: TP-1179, Serial: TP-1035
- ; SEMCAD X Version 14.0 Build 60

Configuration/Body - High - WH-701 - Back Facing Phantom/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Body - Middle - WH-701 - Back Facing Phantom/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.697 mW/g
SAR(10 g) = 0.412 mW/g

Maximum value of SAR (measured) = 0.761 mW/g



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Date/Time: 2010-03-26 12:53:04, Date/Time: 2010-04-07 13:18:23

Test Laboratory: TCC Nokia

Type: RM-596; Serial: 004402/13/047546/4, Serial: 004402/13/047561/3

Communication System: GSM1900, Communication System: WLAN2450

Frequency: 1850.2 MHz, Frequency: 2442 MHz; Duty Cycle: 1:8.3, Duty Cycle: 1:1
Medium: BSL1900, Medium: BSL2450; Medium Notes: t=20.9 C, Medium Notes: 20.7C
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.45 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3 , Medium parameters used: f = 2442 MHz; σ = 1.99 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

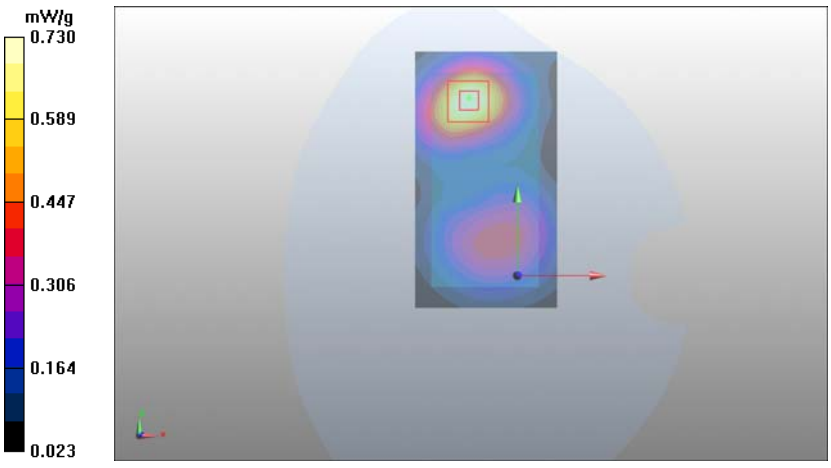
DASY4 Configuration:
- Probe: ES3DV3 - SN3194, Probe: EX3DV4 - SN3573
- ConvF(4.67, 4.67, 4.67), ConvF(6.63, 6.63, 6.63); Calibrated: 11/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn793, Electronics: DAE4 Sn555; Calibrated: 5/15/2009, Calibrated: 10/15/2009
- Phantom: SAM 2, Phantom: SAM2; Type: Twin SAM 040 CA, Type: SAM; Serial: TP - 1177, Serial: TP-1035
- ; SEMCAD X Version 14.0 Build 60

Configuration/Body - Low - WH-701 - Back Facing Phantom/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Body - Middle - WH-701 - Back Facing Phantom/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.670 mW/g
SAR(10 g) = 0.392 mW/g

Maximum value of SAR (measured) = 0.730 mW/g



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Date/Time: 2010-03-24 19:11:22, Date/Time: 2010-04-07 13:07:08

Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/13/047561/3

Communication System: WCDMA1900, Communication System: WLAN2450
Frequency: 1852.4 MHz, Frequency: 2442 MHz; Duty Cycle: 1:1
Medium: BSL1900, Medium: BSL2450; Medium Notes: t=20.4 C, Medium Notes: 20.7C
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.51 mho/m; ε_r = 53; ρ = 1000 kg/m^3 , Medium parameters used: f = 2442 MHz; σ = 1.99 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

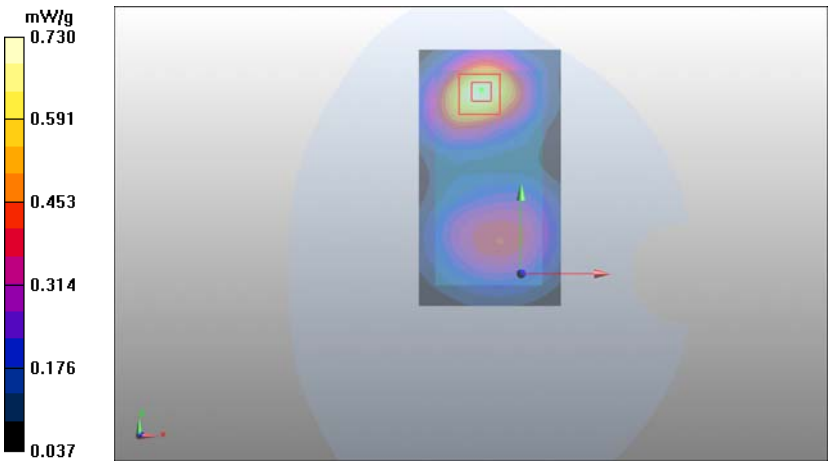
DASY4 Configuration:
- Probe: ES3DV3 - SN3194, Probe: EX3DV4 - SN3573
- ConvF(4.67, 4.67, 4.67), ConvF(6.63, 6.63, 6.63); Calibrated: 11/20/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
- Electronics: DAE4 Sn793, Electronics: DAE4 Sn555; Calibrated: 5/15/2009, Calibrated: 10/15/2009
- Phantom: SAM 2, Phantom: SAM2; Type: Twin SAM 040 CA, Type: SAM; Serial: TP - 1177, Serial: TP-1035
- ; SEMCAD X Version 14.0 Build 60

Configuration/Body - Low - No Accessory - Back Facing Phantom/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Configuration/Body - Middle - No Accessory - Back Facing Phantom/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Motorola Fast SAR of Combined Scans: SAR(1 g) = 0.664 mW/g
SAR(10 g) = 0.387 mW/g

Maximum value of SAR (measured) = 0.730 mW/g



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APPENDIX C: CONDUCTED AVERAGE POWER MEASUREMENTS FOR WCDMA AND HSUPA

Test Laboratory: TCC Nokia
Type: RM-596; Serial: 004402/3/047577/9, HW: 3630, SW: 010.012

C.1. WCDMA850 Test results

Average power

Ch / *f* (MHz)	P [dBm]
4133	22.82
4175	23.05
4232	22.95

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	18.99	19.55	19.26	19.63	18.90
4175	19.50	18.92	19.79	19.89	19.42
4232	18.81	19.41	19.40	19.51	18.74

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 2dB power reduction for all SubTest modes is implemented in this band. 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
3.5dB	4.0dB	3.0dB	4.0dB	3.5dB

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C.3. WCDMA1700/2100 Test results

Average power

Ch / *f* (MHz)	P [dBm]
1313	22.16
1450	22.14
1512	22.08

C.4. HSUPA1700/2100 Test results

Average power

Ch / *f* (MHz)	P [dBm]				
	Subtest mode 1	Subtest mode 2	Subtest mode 3	Subtest mode 4	Subtest mode 5
1313	18.90	19.08	19.10	19.11	18.82
1450	19.03	19.21	19.23	19.27	18.95
1512	18.81	19.01	19.88	17.99	18.76

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 in this band. 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	2.5dB

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C.5. WCDMA1900 Test results

Average power

Ch / *f* (MHz)	P [dBm]
9263	20.48
9400	20.68
9537	20.64

C.6. 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	18.67	18.90	19.74	18.09	18.56
9400	18.98	18.61	20.27	19.22	18.89
9537	18.69	18.91	18.93	18.71	18.64

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	1.5dB

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

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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 Salo TCC**

Certificate No: ES3-3131_Oct09

CALIBRATION CERTIFICATE

Object: ES3DV3 - SN:3131

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

Calibration date: October 27, 2009

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41495277	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41498087	1-Apr-09 (No. 217-01030)	Apr-10
Reference 3 dB Attenuator	SN: S5054 (3c)	31-Mar-09 (No. 217-01026)	Mar-10
Reference 20 dB Attenuator	SN: S5086 (20b)	31-Mar-09 (No. 217-01028)	Mar-10
Reference 30 dB Attenuator	SN: S5129 (30b)	31-Mar-09 (No. 217-01027)	Mar-10
Reference Probe ES3DV2	SN: 3013	2-Jan-09 (No. ES3-3013_Jan09)	Jan-10
DAE4	SN: 660	29-Sep-09 (No. DAE4-660_Sep09)	Sep-10

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

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

Issued: October 27, 2009

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

DASY - Parameters of Probe: ES3DV3 SN:3131

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	1.36	1.30	1.29	± 10.1%
DCP (mV)[B]	95.7	92.8	93.9	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dBuV	C	VR mV	Unc (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	300	± 1.5%
			Y	0.00	0.00	1.00	300	
			Z	0.00	0.00	1.00	300	

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

[A] The uncertainties of NormX,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).

[B] Numerical linearization parameter: uncertainty not required.

DASY - Parameters of Probe: ES3DV3 SN:3131

Calibration Parameter Determined in Head Tissue Simulating Media

f [MHz]	Validity [MHz][C]	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth	Unc (k=2)
835	± 50 / ± 100	41.5 ± 5%	0.90 ± 5%	5.85	5.85	5.85	0.26	2.01	± 11.0%
1750	± 50 / ± 100	40.1 ± 5%	1.37 ± 5%	5.08	5.08	5.08	0.45	1.56	± 11.0%
1900	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	4.88	4.88	4.88	0.38	1.72	± 11.0%
2450	± 50 / ± 100	39.2 ± 5%	1.80 ± 5%	4.31	4.31	4.31	0.44	1.66	± 11.0%

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

DASY - Parameters of Probe: ES3DV3 SN:3131

Calibration Parameter Determined in Body Tissue Simulating Media

f [MHz]	Validity [MHz][C]	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
835	± 50 / ± 100	55.2 ± 5%	0.97 ± 5%	5.69	5.69	5.69	0.32	1.93 ± 11.0%
1750	± 50 / ± 100	53.4 ± 5%	1.49 ± 5%	4.71	4.71	4.71	0.43	1.83 ± 11.0%
1900	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	4.48	4.48	4.48	0.34	2.34 ± 11.0%
2450	± 50 / ± 100	52.7 ± 5%	1.95 ± 5%	4.07	4.07	4.07	0.94	1.10 ± 11.0%

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

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Accreditation No.: SCS 108

Client Nokia Salo TCC

Certificate No: ES3-3194_Nov09

CALIBRATION CERTIFICATE

Object: ES3DV3 - SN:3194

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

Calibration date: November 20, 2009

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41495277	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41498087	1-Apr-09 (No. 217-01030)	Apr-10
Reference 3 dB Attenuator	SN: S5054 (3c)	31-Mar-09 (No. 217-01026)	Mar-10
Reference 20 dB Attenuator	SN: S5086 (20b)	31-Mar-09 (No. 217-01028)	Mar-10
Reference 30 dB Attenuator	SN: S5129 (30b)	31-Mar-09 (No. 217-01027)	Mar-10
Reference Probe ES3DV2	SN: 3013	2-Jan-09 (No. ES3-3013_Jan09)	Jan-10
DAE4	SN: 660	29-Sep-09 (No. DAE4-660_Sep09)	Sep-10

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

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

Issued: November 23, 2009

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DASY - Parameters of Probe: ES3DV3 SN:3194

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	1.39	1.27	1.37	± 10.1%
DCP (mV)[B]	92.8	95.8	92.4	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dBuV	C	VR mV	Unc[E] (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	300	± 1.5%
			Y	0.00	0.00	1.00	300	
			Z	0.00	0.00	1.00	300	

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

[A] The uncertainties of NormX,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).

[B] Numerical linearization parameter: uncertainty not required.

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

DASY - Parameters of Probe: ES3DV3 SN:3194

Calibration Parameter Determined in Head Tissue Simulating Media

f [MHz]	Validity [MHz][C]	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth	Unc (k=2)
835	± 50 / ± 100	41.5 ± 5%	0.90 ± 5%	6.14	6.14	6.14	0.16	3.23	± 11.0%
1750	± 50 / ± 100	40.1 ± 5%	1.37 ± 5%	5.25	5.25	5.25	0.81	1.31	± 11.0%
1900	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	5.06	5.06	5.06	0.35	2.32	± 11.0%
2450	± 50 / ± 100	39.2 ± 5%	1.80 ± 5%	4.47	4.47	4.47	0.56	1.72	± 11.0%

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

DASY - Parameters of Probe: ES3DV3 SN:3194

Calibration Parameter Determined in Body Tissue Simulating Media

f [MHz]	Validity [MHz][C]	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
835	± 50 / ± 100	55.2 ± 5%	0.97 ± 5%	5.90	5.90	5.90	0.47	1.74 ± 11.0%
1750	± 50 / ± 100	53.4 ± 5%	1.49 ± 5%	4.92	4.92	4.92	0.49	1.68 ± 11.0%
1900	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	4.67	4.67	4.67	0.37	2.21 ± 11.0%
2450	± 50 / ± 100	52.7 ± 5%	1.95 ± 5%	4.23	4.23	4.23	0.99	1.12 ± 11.0%

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

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Accreditation No.: SCS 108

Client Nokia Salo TCC

Certificate No: EX3-3573_Nov09

CALIBRATION CERTIFICATE

Object: EX3DV4 - SN:3573

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

Calibration date: November 20, 2009

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41495277	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41498087	1-Apr-09 (No. 217-01030)	Apr-10
Reference 3 dB Attenuator	SN: S5054 (3c)	31-Mar-09 (No. 217-01026)	Mar-10
Reference 20 dB Attenuator	SN: S5086 (20b)	31-Mar-09 (No. 217-01028)	Mar-10
Reference 30 dB Attenuator	SN: S5129 (30b)	31-Mar-09 (No. 217-01027)	Mar-10
Reference Probe ES3DV2	SN: 3013	2-Jan-09 (No. ES3-3013_Jan09)	Jan-10
DAE4	SN: 660	29-Sep-09 (No. DAE4-660_Sep09)	Sep-10

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

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

Issued: November 23, 2009

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DASY - Parameters of Probe: EX3DV4 SN:3573

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.47	0.43	0.54	± 10.1%
DCP (mV)[B]	92.9	93.4	92.6	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dBuV	C	VR mV	Unc[E] (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	300	± 1.5%
			Y	0.00	0.00	1.00	300	
			Z	0.00	0.00	1.00	300	

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

[A] The uncertainties of NormX,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).

[B] Numerical linearization parameter: uncertainty not required.

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

DASY - Parameters of Probe: EX3DV4 SN:3573

Calibration Parameter Determined in Head Tissue Simulating Media

f [MHz]	Validity [MHz][C]	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
835	± 50 / ± 100	41.5 ± 5%	0.90 ± 5%	8.56	8.56	8.56	0.58	0.68 ± 11.0%
1750	± 50 / ± 100	40.1 ± 5%	1.37 ± 5%	7.41	7.41	7.41	0.69	0.63 ± 11.0%
1900	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	7.16	7.16	7.16	0.60	0.68 ± 11.0%
2450	± 50 / ± 100	39.2 ± 5%	1.80 ± 5%	6.56	6.56	6.56	0.37	0.84 ± 11.0%

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

DASY - Parameters of Probe: EX3DV4 SN:3573

Calibration Parameter Determined in Body Tissue Simulating Media

f [MHz]	Validity [MHz][C]	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
835	± 50 / ± 100	55.2 ± 5%	0.97 ± 5%	8.42	8.42	8.42	0.70	0.71 ± 11.0%
1750	± 50 / ± 100	53.4 ± 5%	1.49 ± 5%	7.20	7.20	7.20	0.75	0.64 ± 11.0%
1900	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	6.83	6.83	6.83	0.61	0.63 ± 11.0%
2450	± 50 / ± 100	52.7 ± 5%	1.95 ± 5%	6.63	6.63	6.63	0.40	0.85 ± 11.0%

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

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

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Accreditation No.: SCS 108

Client Nokia Salo TCC

Certificate No: D835V2-480_Oct09

CALIBRATION CERTIFICATE

Object: D835V2 - SN: 480

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

Calibration date: October 19, 2009

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

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

Calibration Equipment used (M&TE critical for calibration)

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

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

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

Issued: October 19, 2009

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DASY5 Validation Report for Head TSL

Date/Time: 19.10.2009 10:11:32

Test Laboratory: SPEAG, Zurich, Switzerland

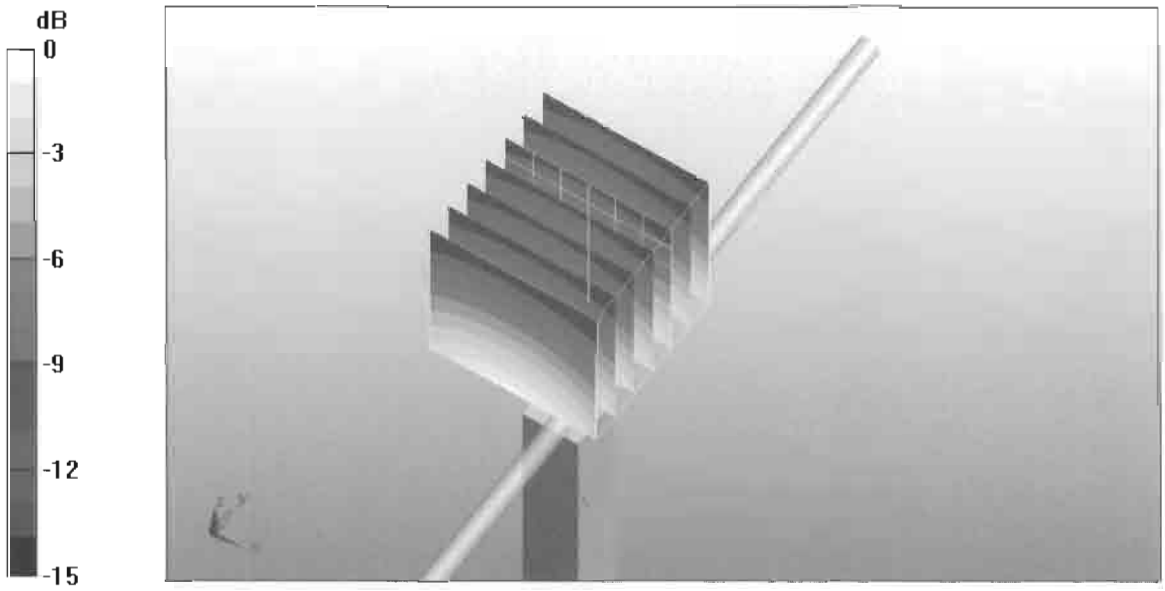
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:480

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: HSL900
Medium parameters used: f = 835 MHz; σ = 0.88 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.04, 6.04, 6.04); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Pin=250 mW /d=15mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57.6 V/m; Power Drift = 0.00856 dB
Peak SAR (extrapolated) = 3.53 W/kg
SAR(1 g) = 2.36 mW/g; SAR(10 g) = 1.55 mW/g
Maximum value of SAR (measured) = 2.76 mW/g



0 dB = 2.76mW/g

DASY5 Validation Report for Body

Date/Time: 19.10.2009 13:40:30

Test Laboratory: SPEAG, Zurich, Switzerland

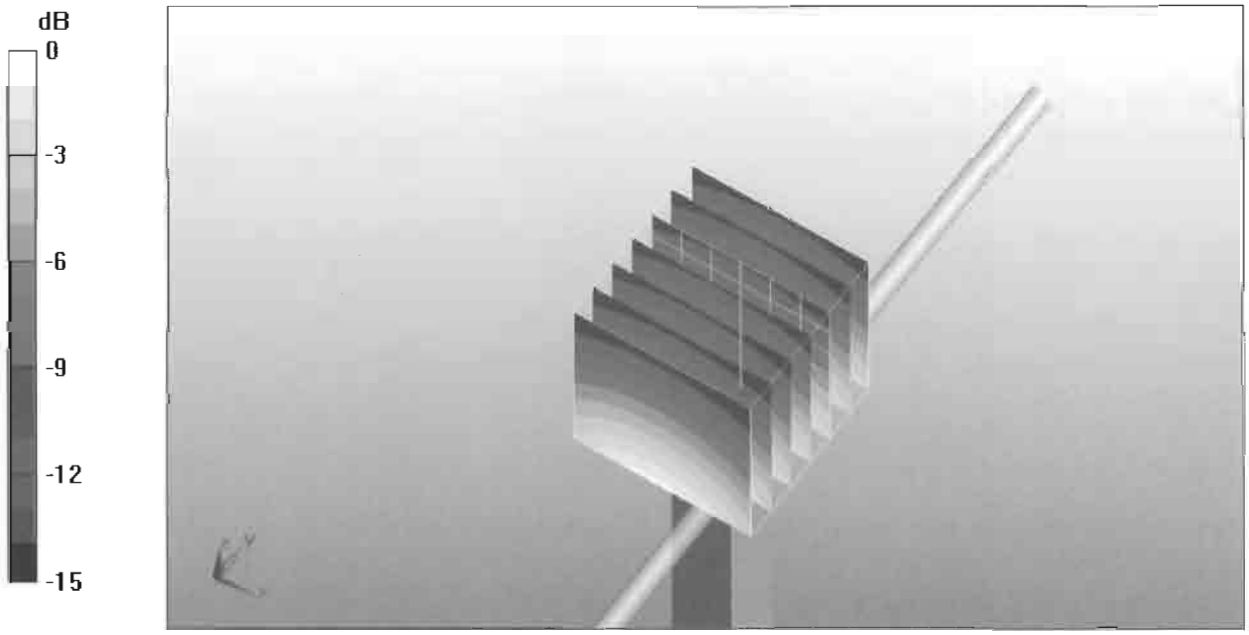
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:480

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: MSL900
Medium parameters used: f = 835 MHz; σ = 1.01 mho/m; ε_r = 53.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.97, 5.97, 5.97); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Pin250 mW /d=15mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.5 V/m; Power Drift = 0.014 dB
Peak SAR (extrapolated) = 3.74 W/kg
SAR(1 g) = 2.52 mW/g; SAR(10 g) = 1.65 mW/g
Maximum value of SAR (measured) = 2.94 mW/g



0 dB = 2.94mW/g

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Accreditation No.: SCS 108

Client Nokia Salo TCC

Certificate No: D1800V2-256_Oct09

CALIBRATION CERTIFICATE

Object	D1800V2 - SN: 256
Calibration procedure(s)	QA CAL-05.v7 Calibration procedure for dipole validation kits
Calibration date:	October 20, 2009

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

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

Calibration Equipment used (M&TE critical for calibration)

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

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

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

Issued: October 21, 2009

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DASY5 Validation Report for Head TSL

Date/Time: 20.10.2009 10:26:59

Test Laboratory: SPEAG, Zurich, Switzerland

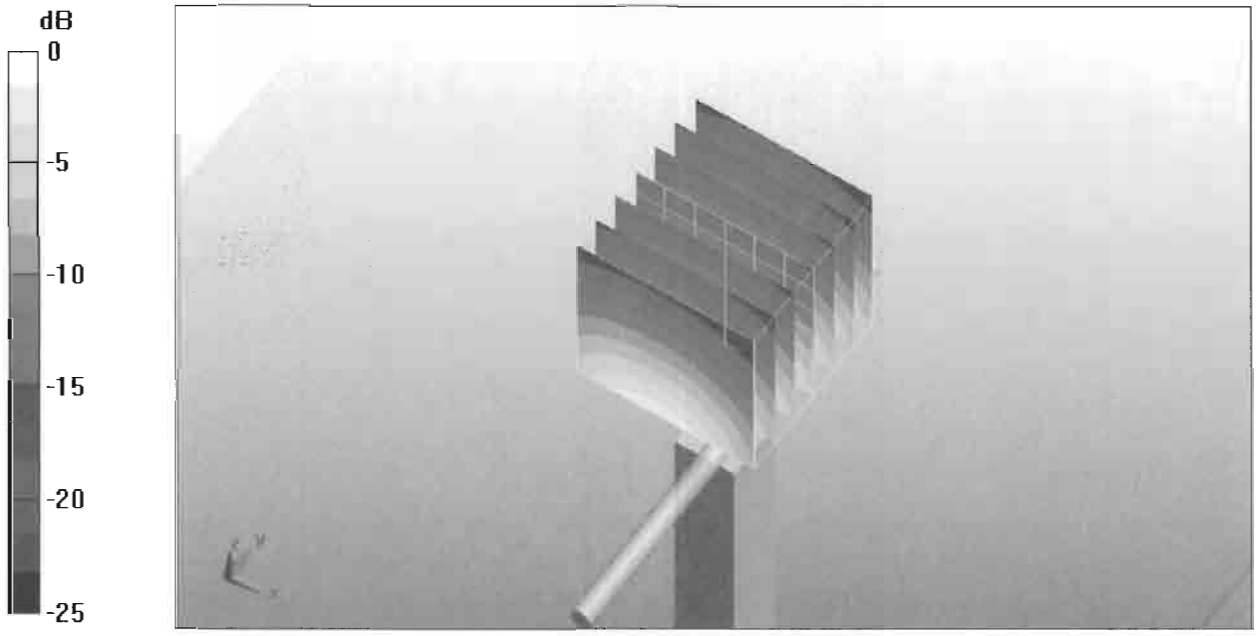
DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:256

Communication System: CW; Frequency: 1800 MHz; Duty Cycle: 1:1
Medium: HSL U11 BB
Medium parameters used: f = 1800 MHz; σ = 1.4 mho/m; ε_r = 40; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

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

Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.2 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 17.9 W/kg
SAR(1 g) = 9.9 mW/g; SAR(10 g) = 5.21 mW/g
Maximum value of SAR (measured) = 12.4 mW/g



0 dB = 12.4mW/g

DASY5 Validation Report for Body

Date/Time: 20.10.2009 14:52:33

Test Laboratory: SPEAG, Zurich, Switzerland

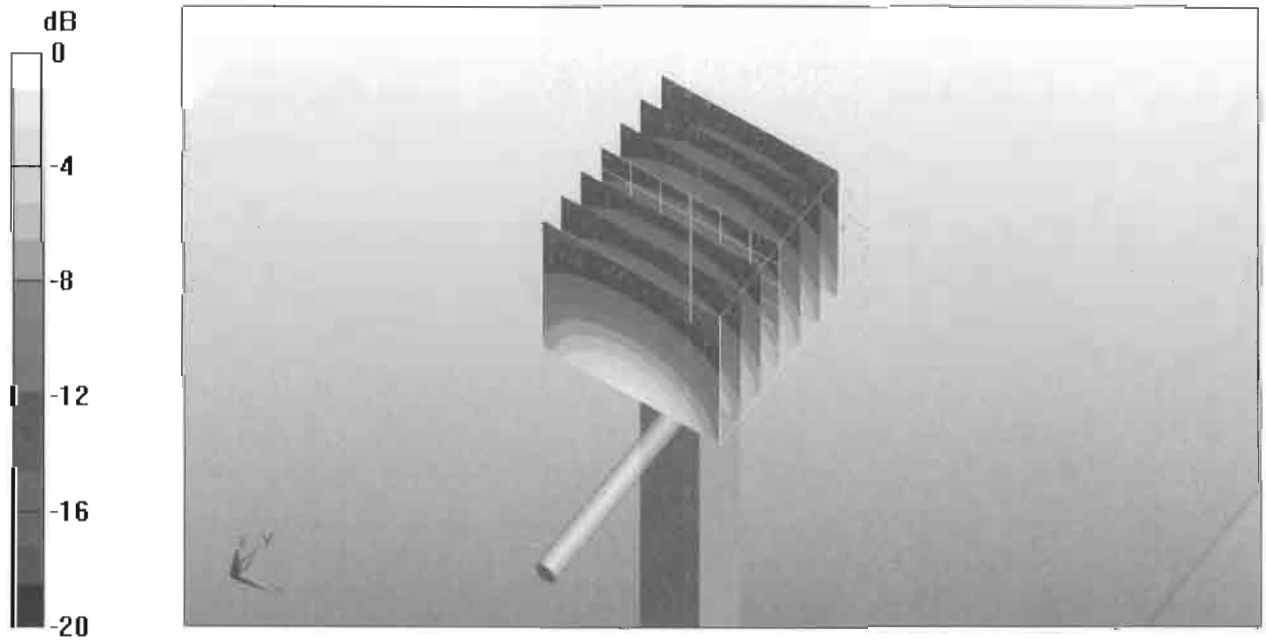
DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:256

Communication System: CW; Frequency: 1800 MHz; Duty Cycle: 1:1
Medium: MSL U10 BB
Medium parameters used: f = 1800 MHz; σ = 1.5 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

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

Pin250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 94.2 V/m; Power Drift = 0.020 dB
Peak SAR (extrapolated) = 16.8 W/kg
SAR(1 g) = 9.61 mW/g; SAR(10 g) = 5.07 mW/g
Maximum value of SAR (measured) = 12.2 mW/g



0 dB = 12.2mW/g

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Accreditation No.: SCS 108

Client Nokia Oulu TCC

Certificate No: D1900V2-511-Nov08

CALIBRATION CERTIFICATE

Object	D1900V2 - SN: 511
Calibration procedure(s)	QA CAL-05.v7 Calibration procedure for dipole validation kits
Calibration date:	November 14, 2008
Condition of the calibrated item	In Tolerance

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	08-Oct-08 (No. 217-00898)	Oct-09
Power sensor HP 8481A	US37292783	08-Oct-08 (No. 217-00898)	Oct-09
Reference 20 dB Attenuator	SN: 5086 (20g)	01-Jul-08 (No. 217-00864)	Jul-09
Type-N mismatch combination	SN: 5047.2 / 06327	01-Jul-08 (No. 217-00867)	Jul-09
Reference Probe ES3DV2	SN: 3025	28-Apr-08 (No. ES3-3025_Apr08)	Apr-09
DAE4	SN: 601	14-Mar-08 (No. DAE4-601_Mar08)	Mar-09

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

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

Issued: November 18, 2008

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

DASY5 Validation Report for Head TSL

Date/Time: 14.11.2008 15:30:30

Test Laboratory: SPEAG, Zurich, Switzerland

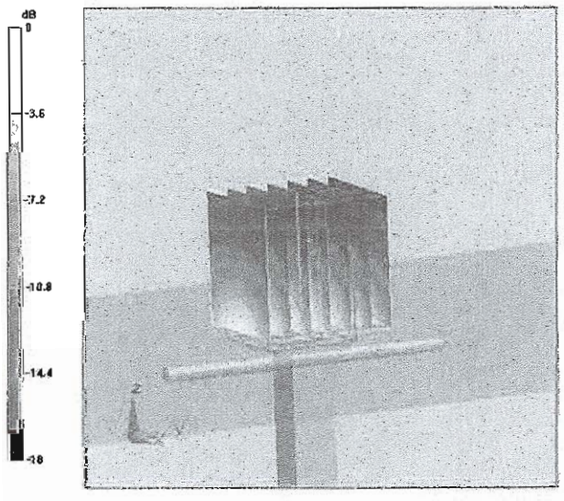
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:511

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HSL U10 BB
Medium parameters used: f = 1900 MHz; σ = 1.47 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.9, 4.9, 4.9); Calibrated: 28.04.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

Pin = 250 mW; dip = 10 mm, scan at 3.4mm/Zoom Scan (dist=3.4mm, probe 0deg) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 94.1 V/m; Power Drift = 0.044 dB
Peak SAR (extrapolated) = 19.5 W/kg
SAR(1 g) = 10.4 mW/g; SAR(10 g) = 5.39 mW/g
Maximum value of SAR (measured) = 12.5 mW/g



0 dB = 12.5mW/g

DASY5 Validation Report for Body TSL

Date/Time: 12.11.2008 16:55:42

Test Laboratory: SPEAG, Zurich, Switzerland

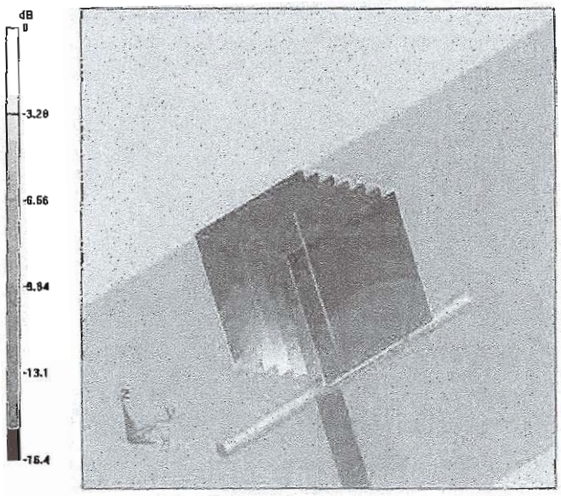
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:511

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: MSL U10 BB
Medium parameters used: f = 1900 MHz; σ = 1.55 mho/m; ε_r = 55.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.5, 4.5, 4.5); Calibrated: 28.04.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

Pin = 250 mW; dip = 10 mm, scan at 3.4mm/Zoom Scan (dist=3.4mm, probe 0deg) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.7 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 17.5 W/kg
SAR(1 g) = 10 mW/g; SAR(10 g) = 5.32 mW/g
Maximum value of SAR (measured) = 12.1 mW/g



0 dB = 12.1mW/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

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 Salo TCC**

Certificate No: D2450V2-749_Oct09

CALIBRATION CERTIFICATE

Object: D2450V2 - SN: 749

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

Calibration date: October 21, 2009

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

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

Calibration Equipment used (M&TE critical for calibration)

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

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

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

Issued: October 22, 2009

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

DASY5 Validation Report for Head TSL

Date/Time: 21.10.2009 11:01:04

Test Laboratory: SPEAG, Zurich, Switzerland

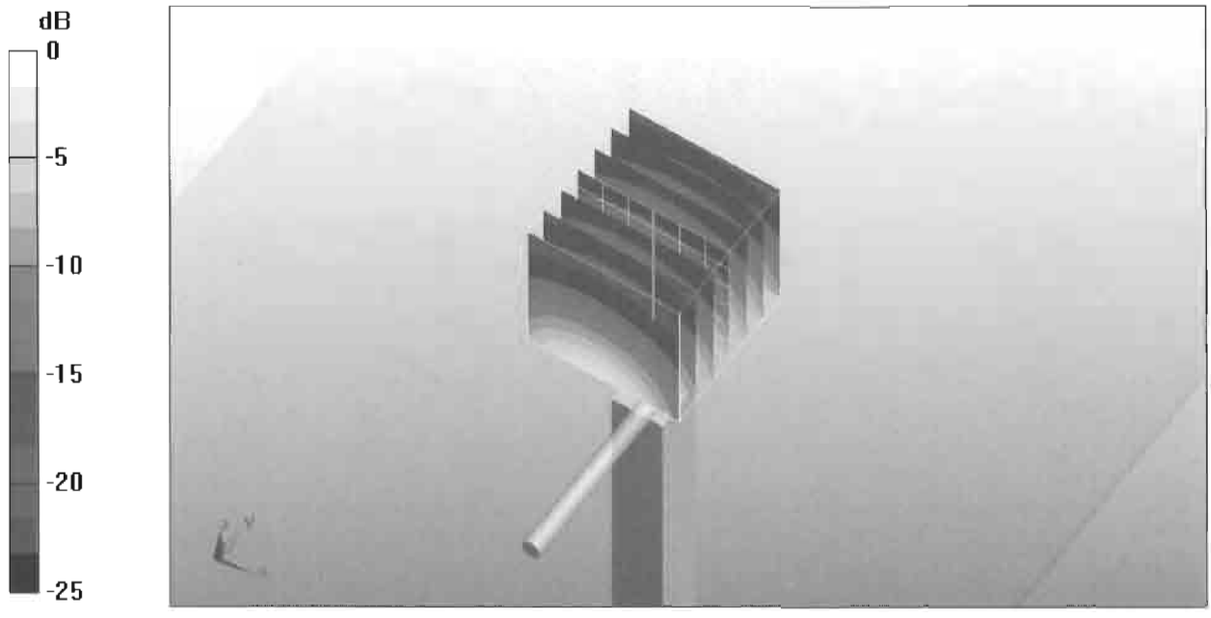
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:749

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: HSL U11 BB
Medium parameters used: f = 2450 MHz; σ = 1.78 mho/m; ε_r = 39.1; 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: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 100.7 V/m; Power Drift = 0.078 dB
Peak SAR (extrapolated) = 26.8 W/kg
SAR(1 g) = 13.2 mW/g; SAR(10 g) = 6.18 mW/g
Maximum value of SAR (measured) = 16.9 mW/g



0 dB = 16.9mW/g

DASY5 Validation Report for Body

Date/Time: 21.10.2009 12:07:58

Test Laboratory: SPEAG, Zurich, Switzerland

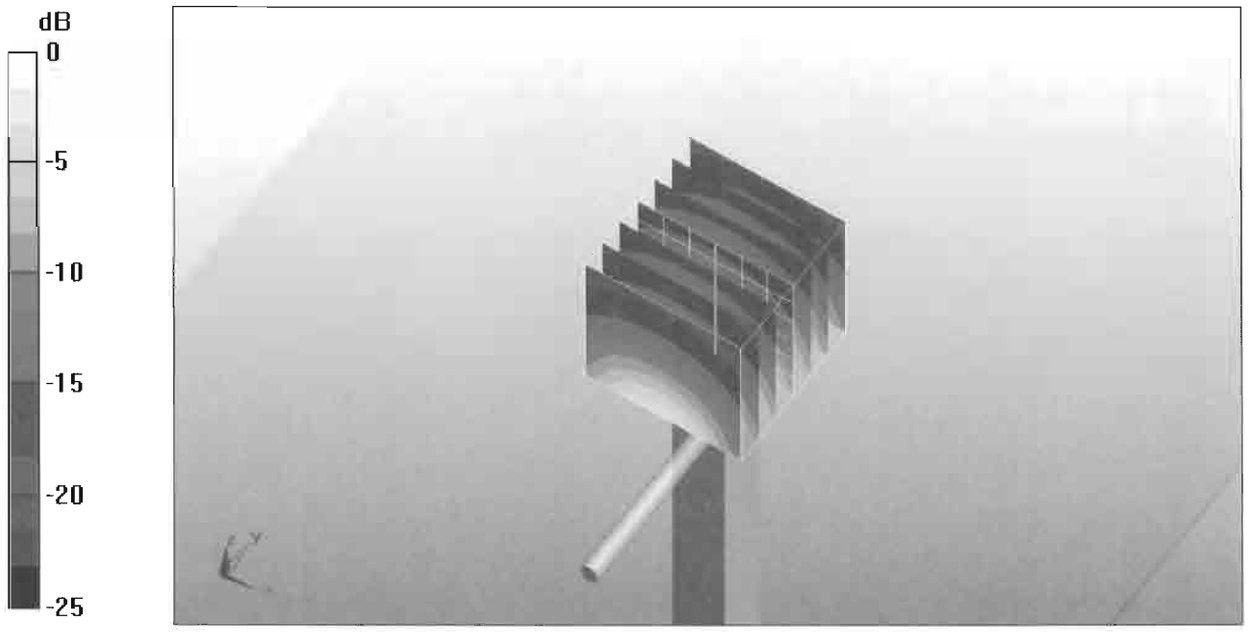
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:749

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: MSL U10 BB
Medium parameters used: f = 2450 MHz; σ = 1.98 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.31, 4.31, 4.31); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Pin250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 93.9 V/m; Power Drift = 0.046 dB
Peak SAR (extrapolated) = 25.8 W/kg
SAR(1 g) = 12.5 mW/g; SAR(10 g) = 5.81 mW/g
Maximum value of SAR (measured) = 16.4 mW/g



0 dB = 16.4mW/g