

SAR Compliance Test Report

Test report no.:	FCC_RM-860_01	Date of report:	2013-02-22
Template version:	19.3	Number of pages:	173
Testing laboratory:	TCC Nokia San Diego Laboratory 16620 West Bernardo Drive SAN DIEGO CA. 92127 USA Tel. +1 858 831 5000 Fax. +1 858 831 6500 TCC Nokia Salo Laboratory	Client:	Nokia Corporation 16620 West Bernardo Drive SAN DIEGO CA. 92127 USA Tel. +1 858 831 5000 Fax. +1 858 831 6500
Responsible test engineer:	Virpi Tuominen	Product contact person:	Mary Thomas
Measurements made by:	Jose Gomez, Angelina Belden, Ray Ventura, Guy Abadilla, Jani Tuomela, Juha-Matti Varjonen, Teuvo Miettinen, Nina Koskinen, Anni Manninen		
Tested device:	RM-860		
FCC ID:	QMNRM-860	IC:	661X-RM860
Supplement reports:			
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:			

CONTENTS

1. SUMMARY OF SAR TEST REPORT	4
1.1 TEST DETAILS.....	4
1.2 MAXIMUM RESULTS.....	4
1.2.1 Head Configuration.....	5
1.2.2 Body Worn Configuration.....	6
1.2.3 Wireless Router Configuration.....	7
1.2.4 Simultaneous Voice LTE (SVLTE) Configuration	8
1.2.5 Summary SAR data.....	12
1.2.6 Maximum Drift.....	13
1.2.7 Measurement Uncertainty.....	13
2. DESCRIPTION OF THE DEVICE UNDER TEST.....	14
2.1 POWER REDUCTIONS IN WIRELESS ROUTER AND SVLTE CONFIGURATIONS	17
2.2 DESCRIPTION OF THE ANTENNA	19
3. TEST CONDITIONS	20
3.1 TEMPERATURE AND HUMIDITY	20
3.2 TEST SIGNAL, FREQUENCIES AND OUTPUT POWER	20
3.3 TEST CASES AND TEST MINIMISATION	22
4. DESCRIPTION OF THE TEST EQUIPMENT	23
4.1 MEASUREMENT SYSTEM AND COMPONENTS	23
4.1.1 Isotropic E-field Probe Type ES3DV3.....	26
4.1.2 Isotropic E-field Probe Type EX3DV4.....	27
4.2 PHANTOMS	27
4.3 TISSUE SIMULANTS	27
4.3.1 Tissue Simulant Recipes.....	28
4.4 SYSTEM VALIDATION AND SYSTEM CHECKING.....	30
4.4.1 System validation status.....	30
4.4.2 System Checking.....	31
4.4.3 Tissue Simulants used in the Measurements.....	39
5. DESCRIPTION OF THE TEST PROCEDURE	44
5.1 DEVICE HOLDER.....	44
5.2 TEST POSITIONS.....	45
5.2.1 Against Phantom Head.....	45
5.2.2 Body Worn Configuration.....	45
5.2.3 Wireless Router Configuration.....	45
5.3 SCAN PROCEDURES.....	45
5.4 SAR AVERAGING METHODS.....	46
6. MEASUREMENT UNCERTAINTY	47
7. RESULTS	48
7.1 THE MEASURED HEAD SAR VALUES FOR THE TEST DEVICE	48
7.1.1 Simultaneous Transmission SAR Test Exclusion Considerations for Head Measurements.....	74

7.2	THE MEASURED BODY SAR VALUES FOR THE TEST DEVICE	78
7.3	BODY SAR ASSESSMENT OF WIRELESS ROUTER MODE AT 10.0MM SEPARATION DISTANCE.....	99
7.4	HEAD AND BODY SAR ASSESSMENT OF SVLTE MODE.....	119
7.4.1	Head SAR results of SVLTE mode	119
7.4.2	Body SAR results of SVLTE mode.....	153

APPENDIX A: SYSTEM CHECK SCANS

APPENDIX B.1: HEAD, BODY AND WIRELESS ROUTER MEASUREMENT SCANS

APPENDIX B.2: SVLTE MODE MEASUREMENT SCANS

APPENDIX C: DIELECTRIC PARAMETERS OF THE TISSUE SIMULANTS

APPENDIX D: CONDUCTED AVERAGE POWER MEASUREMENTS FOR WCDMA AND HSUPA

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

APPENDIX F: RELEVANT PAGES FROM DIPOLE VALIDATION REPORT(S)

APPENDIX G: CONDUCTED POWER MEASUREMENTS FOR SUPPORTED LTE TRANSMISSION MODES

APPENDIX H: CONDUCTED POWER MEASUREMENTS FOR SUPPORTED CDMA TRANSMISSION MODES

APPENDIX I: CONDUCTED POWER MEASUREMENTS FOR SUPPORTED GSM/GPRS/EGPRS TRANSMISSION MODES

APPENDIX J: CONDUCTED POWER MEASUREMENTS FOR SUPPORTED WCDMA TRANSMISSION MODES

APPENDIX K: CONDUCTED POWER MEASUREMENTS FOR SUPPORTED WLAN TRANSMISSION MODES

1. SUMMARY OF SAR TEST REPORT

1.1 Test Details

Period of test	2012-12-17 to 2013-02-19
SN, HW and SW numbers of tested device	SN:354106/05/000822/3, HW:0103 , SW:1532.5701.9200.10205.56, DUT: 31297 SN:354106/05/000818/1, HW:0103 , SW:1532.5701.9200.10205.56, DUT: 31300 SN:354106/05/000833/0, HW:0103 , SW:1532.5951.1250.0000, DUT: 31299 SN:354106/05/000821/5, HW:0103 , SW:1532.5701.9200.10205.56, DUT: 30688 SN:354106/05/000899/1, HW:0103 , SW:1532.5701.9200.10205.56, DUT: 31296 SN:354106/05/000820/7, HW:0103 , SW:1532.5951.1250.0000, DUT: 30691 SN:354106/05/000840/5, HW:0103 , SW:1532.5951.1250.0002, DUT: 31298 SN:354106/05/000836/3, HW:0103 , SW:1532.5701.9200.10205.56, DUT: 30690 SN:354106/05/000902/3, HW:0103 , SW:1532.5951.1250.0000, DUT: 31301 SN:354106/05/000891/8, HW:0103 , SW: 1532.5701.9200.10205.56, DUT: 17071 SN:354106/05/000819/9, HW:0103 , SW: 1532.5701.9200.10205.56, DUT: 17228 SN:354106/05/000737/1, HW:0103 , SW: 1532.5701.9200.10205.56, DUT: 17229
Batteries used in testing	-
Headsets used in testing	WH-902, DUT:30648
Other accessories used in testing	
State of sample	Prototype unit
Notes	-

1.2 Maximum Results

The maximum measured SAR values for Head configuration, Body Worn configuration, Wireless Router configuration and Simultaneous Voice LTE (SVLTE) configuration are given in sections 1.2.1, 1.2.2, 1.2.3 and 1.2.4 respectively. The device conforms to the requirements of the standard(s) when the maximum reported 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)	Reported* SAR value (1g avg)	SAR limit (1g avg)	Result	Plot#
LTE750	23230 / 782.0	22.71dBm	Right, Cheek	0.592W/kg	0.770W/kg	1.6 W/kg	PASSED	79
CDMA800	384 / 836.5	23.80dBm	Right, Cheek	0.782W/kg	0.877W/kg	1.6 W/kg	PASSED	85
2-slot GPRS850	251 / 848.8	29.90dBm	Right, Cheek	0.494W/kg	0.554W/kg	1.6 W/kg	PASSED	3
WCDMA850	4175 / 835.0	23.31dBm	Right, Cheek	0.554W/kg	0.622W/kg	1.6 W/kg	PASSED	4
LTE1700/2100	20050 / 1720.0	23.26dBm	Right, Cheek	1.01W/kg	1.13W/kg	1.6 W/kg	PASSED	89
CDMA1900	1175 / 1908.75	22.19dBm	Left, Cheek	1.07W/kg	1.20W/kg	1.6 W/kg	PASSED	95
2-slot EGPRS1900	661 / 1880.0	26.35dBm	Left, Cheek	0.135W/kg	0.151W/kg	1.6 W/kg	PASSED	7
WCDMA1900	9262 / 1852.4	20.91dBm	Left, Cheek	0.134W/kg	0.150W/kg	1.6 W/kg	PASSED	8
WLAN2450	6 / 2437.0	13.28dBm	Left, Cheek	0.683W/kg	0.969W/kg	1.6 W/kg	PASSED	101
WLAN5000	161 / 5805.0	12.92dBm	Left, Tilt	0.818W/kg	1.05W/kg	1.6 W/kg	PASSED	10
LTE750 + WLAN2450	-	-	Left, Cheek	0.683W/kg	0.969W/kg	1.6 W/kg	PASSED	101
CDMA800 + WLAN2450	-	-	Left, Cheek	0.683W/kg	0.969W/kg	1.6 W/kg	PASSED	101
2-slot GPRS850 + WLAN2450	-	-	Left, Cheek	0.683W/kg	0.969W/kg	1.6 W/kg	PASSED	101
WCDMA850 + WLAN2450	-	-	Left, Cheek	0.683W/kg	0.969W/kg	1.6 W/kg	PASSED	101
LTE1700/2100 + WLAN2450	-	-	Right, Cheek	1.01W/kg	1.13W/kg	1.6 W/kg	PASSED	89
CDMA1900 + WLAN2450	-	-	Left, Cheek	1.07W/kg	1.20W/kg	1.6 W/kg	PASSED	95
2-slot EGPRS1900 + WLAN2450	-	-	Left, Cheek	0.683W/kg	0.969W/kg	1.6 W/kg	PASSED	101
WCDMA1900 + WLAN2450	-	-	Left, Cheek	0.683W/kg	0.969W/kg	1.6 W/kg	PASSED	101
LTE750 + WLAN5000	-	-	Left, Tilt	0.818W/kg	1.05W/kg	1.6 W/kg	PASSED	10
CDMA800 + WLAN5000	-	-	Left, Tilt	0.969W/kg	1.21W/kg	1.6 W/kg	PASSED	29
2-slot GPRS850 + WLAN5000	-	-	Left, Tilt	0.818W/kg	1.05W/kg	1.6 W/kg	PASSED	10
WCDMA850 + WLAN5000	-	-	Left, Tilt	0.818W/kg	1.05W/kg	1.6 W/kg	PASSED	10
LTE1700/2100 + WLAN5000	-	-	Right, Cheek	1.01W/kg	1.13W/kg	1.6 W/kg	PASSED	89
CDMA1900 + WLAN5000	-	-	Left, Cheek	1.07W/kg	1.20W/kg	1.6 W/kg	PASSED	95
2-slot EGPRS1900 + WLAN5000	-	-	Left, Tilt	0.818W/kg	1.05W/kg	1.6 W/kg	PASSED	10
WCDMA1900 + WLAN5000	-	-	Left, Tilt	0.818W/kg	1.05W/kg	1.6 W/kg	PASSED	10

1.2.2 Body Worn Configuration

Mode	Ch / f(MHz)	Conducted power	Separation distance	Measured SAR value (1g avg)	Reported* SAR value (1g avg)	SAR limit (1g avg)	Result	Plot#
LTE750	23230 / 782.0	23.41 dBm	1.5 cm	0.660W/kg	0.741W/kg	1.6 W/kg	PASSED	30
CDMA800	1013 / 824.7	23.94dBm	1.5 cm	0.668W/kg	0.750W/kg	1.6 W/kg	PASSED	31
2-slot GPRS850	128 / 824.2	29.65dBm	1.5 cm	0.433W/kg	0.486W/kg	1.6 W/kg	PASSED	32
WCDMA850	4132 / 826.4	23.45dBm	1.5 cm	0.540W/kg	0.606W/kg	1.6 W/kg	PASSED	33
LTE1700/2100	20300 / 1745.0	23.39dBm	1.5 cm	1.20W/kg	1.35W/kg	1.6 W/kg	PASSED	169
CDMA1900	600 / 1880.0	22.26dBm	1.5 cm	0.580W/kg	0.651W/kg	1.6 W/kg	PASSED	35
2-slot EGPRS1900	810 / 1909.8	26.35dBm	1.5 cm	1.04W/kg	1.17W/kg	1.6 W/kg	PASSED	36
WCDMA1900	9262 / 1852.4	20.91dBm	1.5 cm	1.05W/kg	1.18W/kg	1.6 W/kg	PASSED	37
WLAN2450	11 / 2462.0	13.80dBm	1.5 cm	0.069W/kg	0.087W/kg	1.6 W/kg	PASSED	38
WLAN5000	120 / 5600.0	12.73dBm	1.5 cm	0.150W/kg	0.201W/kg	1.6 W/kg	PASSED	39
LTE750 + WLAN2450	-	-	1.5 cm	0.688W/kg	0.773W/kg	1.6 W/kg	PASSED	40
CDMA800 + WLAN2450	-	-	1.5 cm	0.703W/kg	0.791W/kg	1.6 W/kg	PASSED	41
2-slot GPRS850 + WLAN2450	-	-	1.5 cm	0.454W/kg	0.512W/kg	1.6 W/kg	PASSED	42
WCDMA850 + WLAN2450	-	-	1.5 cm	0.574W/kg	0.648W/kg	1.6 W/kg	PASSED	43
LTE1700/2100 + WLAN2450	-	-	1.5 cm	1.20W/kg	1.35W/kg	1.6 W/kg	PASSED	169
CDMA1900 + WLAN2450	-	-	1.5 cm	0.600W/kg	0.674W/kg	1.6 W/kg	PASSED	45
2-slot EGPRS1900 + WLAN2450	-	-	1.5 cm	1.06W/kg	1.18W/kg	1.6 W/kg	PASSED	46
WCDMA1900 + WLAN2450	-	-	1.5 cm	1.07W/kg	1.20W/kg	1.6 W/kg	PASSED	47
LTE750 + WLAN5000	-	-	1.5 cm	0.660W/kg	0.741W/kg	1.6 W/kg	PASSED	30
CDMA800 + WLAN5000	-	-	1.5 cm	0.676W/kg	0.757W/kg	1.6 W/kg	PASSED	49
2-slot GPRS850 + WLAN5000	-	-	1.5 cm	0.433W/kg	0.486W/kg	1.6 W/kg	PASSED	32
WCDMA850 + WLAN5000	-	-	1.5 cm	0.534W/kg	0.607W/kg	1.6 W/kg	PASSED	51
LTE1700/2100 + WLAN5000	-	-	1.5 cm	1.20W/kg	1.35W/kg	1.6 W/kg	PASSED	169
CDMA1900 + WLAN5000	-	-	1.5 cm	0.599W/kg	0.671W/kg	1.6 W/kg	PASSED	53
2-slot EGPRS1900 + WLAN5000	-	-	1.5 cm	1.05W/kg	1.19W/kg	1.6 W/kg	PASSED	54
WCDMA1900 + WLAN5000	-	-	1.5 cm	1.10W/kg	1.24W/kg	1.6 W/kg	PASSED	55

1.2.3 Wireless Router Configuration

Summary of Maximum Results for Wireless Router mode at 10.0mm

Mode	Ch / f(MHz)	Conducted power	Separation distance	Measured SAR value (1g avg)	Reported* SAR value (1g avg)	SAR limit (1g avg)	Result	Plot#
LTE750	23230 / 782.0	22.60 dBm	1.0 cm	0.600W/kg	0.800W/kg	1.6 W/kg	PASSED	56
CDMA800	384 / 836.5	23.80dBm	1.0 cm	0.707W/kg	0.793W/kg	1.6 W/kg	PASSED	57
2-slot GPRS850	128 / 824.2	29.65dBm	1.0 cm	0.598W/kg	0.671W/kg	1.6 W/kg	PASSED	58
WCDMA850	4175 / 835.0	23.31dBm	1.0 cm	0.626W/kg	0.702W/kg	1.6 W/kg	PASSED	59
LTE1700/2100	20300 / 1745.0	17.18dBm	1.0 cm	0.792W/kg	1.14W/kg	1.6 W/kg	PASSED	60
CDMA1900	25 / 1851.25	20.87dBm	1.0 cm	0.800W/kg	0.898W/kg	1.6 W/kg	PASSED	61
1-slot EGPRS1900	810 / 1909.8	23.20dBm	1.0 cm	1.17W/kg	1.31W/kg	1.6 W/kg	PASSED	62
WCDMA1900	512 / 1850.2	16.88dBm	1.0 cm	1.17W/kg	1.31W/kg	1.6 W/kg	PASSED	63
WLAN2450	6 / 2437.0	13.28dBm	1.0 cm	0.119W/kg	0.169W/kg	1.6 W/kg	PASSED	64
LTE750 + WLAN2450	-	-	1.0 cm	0.624W/kg	0.833W/kg	1.6 W/kg	PASSED	65
CDMA800 + WLAN2450	-	-	1.0 cm	0.753W/kg	0.855W/kg	1.6 W/kg	PASSED	66
2-slot GPRS850 + WLAN2450	-	-	1.0 cm	0.641W/kg	0.729W/kg	1.6 W/kg	PASSED	67
WCDMA850 + WLAN2450	-	-	1.0 cm	0.670W/kg	0.762W/kg	1.6 W/kg	PASSED	68
LTE1700/2100 + WLAN2450	-	-	1.0 cm	0.798W/kg	1.15W/kg	1.6 W/kg	PASSED	69
CDMA1900 + WLAN2450	-	-	1.0 cm	0.846W/kg	0.950W/kg	1.6 W/kg	PASSED	70
1-slot EGPRS1900+ WLAN2450	-	-	1.0 cm	1.18W/kg	1.32W/kg	1.6 W/kg	PASSED	71
WCDMA1900 + WLAN2450	-	-	1.0 cm	1.17W/kg	1.31W/kg	1.6 W/kg	PASSED	72

1.2.4 Simultaneous Voice LTE (SVLTE) Configuration

1.2.4.1 Head Configuration

Mode	Ch / f(MHz)	Conducted power	Position	Measured SAR value (1g avg)	Reported* SAR value (1g avg)	SAR limit (1g avg)	Result	Plot#
SVLTE750**	23230 / 782.0	19.19 dBm	Left, Cheek	0.262W/kg	0.294W/kg	1.6 W/kg	PASSED	73
CDMA800**	384 / 836.5	18.89dBm	Right, Cheek	0.266W/kg	0.298W/kg	1.6 W/kg	PASSED	88
SVLTE1700/2100**	20175 / 1732.5	18.43dBm	Right, Cheek	0.384W/kg	0.520W/kg	1.6 W/kg	PASSED	75
CDMA1900**	1175 / 1908.75	18.87dBm	Left, Cheek	0.531W/kg	0.596W/kg	1.6 W/kg	PASSED	98
LTE750 + CDMA800**	-	-	Right, Cheek	0.831W/kg	1.04W/kg	1.6 W/kg	PASSED	106
LTE750 + CDMA1900**	-	-	Left, Cheek	0.942W/kg	1.14W/kg	1.6 W/kg	PASSED	107
SVLTE750** + CDMA800	-	-	Right, Cheek	1.02W/kg	1.14W/kg	1.6 W/kg	PASSED	108
SVLTE750** + CDMA1900	-	-	Left, Cheek	1.23W/kg	1.38W/kg	1.6 W/kg	PASSED	109
LTE1700/2100 + CDMA800**	-	-	Right, Cheek	1.17W/kg	1.31W/kg	1.6 W/kg	PASSED	110
LTE1700/2100 + CDMA1900**	-	-	Right, Cheek	1.18W/kg	1.32W/kg	1.6 W/kg	PASSED	111
SVLTE1700/2100** + CDMA800	-	-	Right, Cheek	1.10W/kg	1.32W/kg	1.6 W/kg	PASSED	112
SVLTE1700/2100** + CDMA1900	-	-	Left, Cheek	1.15W/kg	1.29W/kg	1.6 W/kg	PASSED	113
LTE750 + CDMA800** + WLAN2450	-	-	Left, Cheek	0.846W/kg	1.06W/kg	1.6 W/kg	PASSED	130
LTE750 + CDMA1900** + WLAN2450	-	-	Left, Cheek	1.02W/kg	1.24W/kg	1.6 W/kg	PASSED	131
SVLTE750** + CDMA800 + WLAN2450	-	-	Right, Cheek	1.08W/kg	1.23W/kg	1.6 W/kg	PASSED	133
SVLTE750** + CDMA1900 + WLAN2450	-	-	Left, Cheek	1.28W/kg	1.44W/kg	1.6 W/kg	PASSED	134
LTE1700/2100 + CDMA800** + WLAN2450	-	-	Right, Cheek	1.26W/kg	1.43W/kg	1.6 W/kg	PASSED	147
LTE1700/2100 + CDMA1900** + WLAN2450	-	-	Right, Cheek	1.26W/kg	1.42W/kg	1.6 W/kg	PASSED	149

(Head Configuration Table continues)

(Head Configuration Table continues)

SVLTE1700/2100** + CDMA800 + WLAN2450	-	-	Right, Cheek	1.14W/kg	1.37W/kg	1.6 W/kg	PASSED	151
SVLTE1700/2100** + CDMA1900 + WLAN2450	-	-	Left, Cheek	1.17W/kg	1.32W/kg	1.6 W/kg	PASSED	121
LTE750 + CDMA800** + WLAN5000	-	-	Left, Tilt	0.969W/kg	1.23W/kg	1.6 W/kg	PASSED	136
LTE750 + CDMA1900** + WLAN5000	-	-	Left, Tilt	0.990W/kg	1.26W/kg	1.6 W/kg	PASSED	139
SVLTE750** + CDMA800 + WLAN5000	-	-	Left, Tilt	1.03W/kg	1.28W/kg	1.6 W/kg	PASSED	142
SVLTE750** + CDMA1900 + WLAN5000	-	-	Left, Cheek	1.28W/kg	1.43W/kg	1.6 W/kg	PASSED	144
LTE1700/2100 + CDMA800** + WLAN5000	-	-	Right, Cheek	1.25W/kg	1.40W/kg	1.6 W/kg	PASSED	155
LTE1700/2100 + CDMA1900** + WLAN5000	-	-	Right, Cheek	1.24W/kg	1.40W/kg	1.6 W/kg	PASSED	158
SVLTE1700/2100** + CDMA800 + WLAN5000	-	-	Left, Tilt	1.08W/kg	1.36W/kg	1.6 W/kg	PASSED	160
SVLTE1700/2100** + CDMA1900 + WLAN5000	-	-	Left, Tilt	1.16W/kg	1.30W/kg	1.6 W/kg	PASSED	129

1.2.4.2 Body Worn Configuration

Mode	Ch / f(MHz)	Conducted power	Separation Distance	Measured SAR value (1g avg)	Reported* SAR value (1g avg)	SAR limit (1g avg)	Result	Plot#
SVLTE750**	23230 / 782.0	19.19dBm	1.5 cm	0.250W/kg	0.281W/kg	1.6 W/kg	PASSED	165
CDMA800**	1013 / 824.7	18.79dBm	1.5 cm	0.247W/kg	0.277W/kg	1.6 W/kg	PASSED	166
SVLTE1700/2100**	20300 / 1745.0	18.43dBm	1.5 cm	0.341W/kg	0.462W/kg	1.6 W/kg	PASSED	167
CDMA1900**	25 / 1851.25	18.78dBm	1.5 cm	0.279W/kg	0.313W/kg	1.6 W/kg	PASSED	168
LTE750 + CDMA800**	-	-	1.5 cm	0.907W/kg	1.02W/kg	1.6 W/kg	PASSED	176
LTE750 + CDMA1900**	-	-	1.5 cm	0.851W/kg	0.953W/kg	1.6 W/kg	PASSED	177
SVLTE750** + CDMA800	-	-	1.5 cm	0.920W/kg	1.03W/kg	1.6 W/kg	PASSED	178
SVLTE750** + CDMA1900	-	-	1.5 cm	0.757W/kg	0.848W/kg	1.6 W/kg	PASSED	179
LTE1700/2100 + CDMA800**	-	-	1.5 cm	1.20W/kg	1.35W/kg	1.6 W/kg	PASSED	169
LTE1700/2100 + CDMA1900**	-	-	1.5 cm	1.20W/kg	1.35W/kg	1.6 W/kg	PASSED	169
SVLTE1700/2100** + CDMA800	-	-	1.5 cm	0.727W/kg	0.829W/kg	1.6 W/kg	PASSED	182
SVLTE1700/2100** + CDMA1900	-	-	1.5 cm	0.699W/kg	0.809W/kg	1.6 W/kg	PASSED	183
LTE750 + CDMA800** + WLAN2450	-	-	1.5 cm	0.930W/kg	1.04W/kg	1.6 W/kg	PASSED	184
LTE750 + CDMA1900** + WLAN2450	-	-	1.5 cm	0.862W/kg	0.967W/kg	1.6 W/kg	PASSED	185
SVLTE750** + CDMA800 + WLAN2450	-	-	1.5 cm	0.949W/kg	1.07W/kg	1.6 W/kg	PASSED	186
SVLTE750** + CDMA1900 + WLAN2450	-	-	1.5 cm	0.766W/kg	0.859W/kg	1.6 W/kg	PASSED	187
LTE1700/2100 + CDMA800** + WLAN2450	-	-	1.5 cm	1.20W/kg	1.35W/kg	1.6 W/kg	PASSED	169
LTE1700/2100 + CDMA1900** + WLAN2450	-	-	1.5 cm	1.22W/kg	1.37W/kg	1.6 W/kg	PASSED	200

(Body Worm Configuration Table continues)

(Body Worm Configuration Table continues)

SVLTE1700/2100** + CDMA800 + WLAN2450	-	-	1.5 cm	0.752W/kg	0.859W/kg	1.6 W/kg	PASSED	190
SVLTE1700/2100** + CDMA1900 + WLAN2450	-	-	1.5 cm	0.705W/kg	0.820W/kg	1.6 W/kg	PASSED	191
LTE750 + CDMA800** + WLAN5000	-	-	1.5 cm	0.908W/kg	1.02W/kg	1.6 W/kg	PASSED	192
LTE750 + CDMA1900** + WLAN5000	-	-	1.5 cm	0.854W/kg	0.956W/kg	1.6 W/kg	PASSED	193
SVLTE750** + CDMA800 + WLAN5000	-	-	1.5 cm	0.922W/kg	1.03W/kg	1.6 W/kg	PASSED	194
SVLTE750** + CDMA1900 + WLAN5000	-	-	1.5 cm	0.765W/kg	0.856W/kg	1.6 W/kg	PASSED	195
LTE1700/2100 + CDMA800** + WLAN5000	-	-	1.5 cm	1.20W/kg	1.35W/kg	1.6 W/kg	PASSED	169
LTE1700/2100 + CDMA1900** + WLAN5000	-	-	1.5 cm	1.23W/kg	1.38W/kg	1.6 W/kg	PASSED	197
SVLTE1700/2100** + CDMA800 + WLAN5000	-	-	1.5 cm	0.727W/kg	0.829W/kg	1.6 W/kg	PASSED	182
SVLTE1700/2100** + CDMA1900 + WLAN5000	-	-	1.5 cm	0.699W/kg	0.809W/kg	1.6 W/kg	PASSED	183

Note:

* Reported SAR values are scaled to, or measured at, upper limit of power tuning tolerance. In addition, SAR values are scaled up by 12% to cover measurement drift. As a consequence of this upward drift correction, the contribution of measurement drift to the overall measurement uncertainty (Section 6) is reduced to zero.

** indicates reduced power for SVLTE. Full details of power reductions active in SVLTE mode are given in Section 2.1

1.2.5 Summary SAR data

	FCC-defined SAR values for the Grants of Equipment Authorization		
	PCE	DTS	NII
Maximum Head SAR values	1.20W/kg	1.05W/kg	0.946W/Kg
{Max + Max + Max} Simultaneous Head SAR value	1.59 W/kg †		
Maximum Body SAR values	1.35W/kg	0.112W/kg	0.201W/Kg
{Max + Max + Max} Simultaneous Body SAR value	1.59 W/kg ††		
Maximum Product Specific (Wireless Router) SAR values	1.31 W/kg	0.169W/kg	N/A
{Max + Max} Simultaneous Product Specific SAR value	1.32W/kg †††		
Maximum Simultaneous SAR value	1.59W/kg		
Head SAR: SVLTE1700/2100** + WCDMA1900 + WLAN2450			

PCE contains the highest results between all cellular modes (cellular, AWS and PCS bands)

DTS contains the highest results between WLAN 2.4GHz + RLAN 5725-5850MHz

NII contains the highest results between RLAN 5150-5250, 5250-5350 and 5470-5725

† From Section 7: The highest {max + max + max} Reported Head SAR value is 1.59 (SVLTE1700/2100**+CDMA1900+WLAN2450 right cheek)

†† From Section 7: The highest {max + max + max} Reported Body SAR value is 1.59 (LTE1700/2100+CDMA1900**+WLAN2450 back facing phantom, with headset)

††† From Section 7: The highest {max + max} Reported WR Body SAR value is 1.32 (WCDMA1900+WLAN2450 bottom edge facing phantom).

1.2.6 Maximum Drift

Maximum drift covered by 12% scaling up of the SAR values	Maximum drift during measurements
0.5dB	0.50dB

1.2.7 Measurement Uncertainty

Expanded Uncertainty (k=2) 95%	$\pm 26.4\%$
--------------------------------	--------------

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)	Power Tuning Target (dBm)				Upper Limit of Power Tuning Tolerance (dBm)			
					1-slot	2-slot	3-slot	4-slot	1-slot	2-slot	3-slot	4-slot
GSM / GPRS	850	GMSK	1/8 to 4/8	824 – 849	31.80	29.30	27.50	26.40	32.15	29.65	27.85	26.75
	1900			1850 – 1910	29.00	25.90	24.00	22.80	29.35	26.25	24.35	23.15
EGPRS	850	GMSK/8PSK	1/8 to 4/8	824 – 849	26.90	26.90	24.80	23.80	27.25	27.25	25.15	24.15
	1900			1850 – 1910	26.00	25.90	23.90	22.90	26.35	26.25	24.25	23.25
CDMA	800		1	824 – 849	23.30				23.65			
	1900			1850 – 1910	21.80				22.15			
WCDMA	850 (Band V)		1	826 – 847	22.90				23.25			
	1900 (Band II)			1852 – 1908	20.40				20.75			
HSUPA	850 (Band V) 1900 (Band II)		1	826 – 847 1852 – 1908	See Appendix D for details							
LTE	750 (Band 13)	QPSK / 16QAM		777 - 787	23.00				23.35			
	1700/2100 (Band 4)			1710 – 1755	22.90				22.25			
BT	2450	GFSK	1	2402 – 2480	6.00				7.5			
					Ch 1	Ch 6	Ch 11		Ch 1	Ch 6	Ch 11	
WLAN b-mode	2450	DSSS	1	2412 – 2472	12.8	12.8	12.8		14.3	14.3	14.3	
WLAN g-mode	2450	OFDM	1	2412 – 2472	12.8	12.8	12.8		14.3	14.3	14.3	
WLAN n-mode	2450	OFDM	1	2412 – 2462 2412 – 2472	12.8	12.8	12.8		14.3	14.3	14.3	
					Ch 36	Ch 36-165	Ch 165		Ch 36	Ch 36-165	Ch 165	
WLAN a-mode	5000	OFDM	1	5150 – 5825	12.0	12.0	12.0		13.5	13.5	13.5	
WLAN n-mode 20MHz	5000	OFDM	1	5150 – 5825	12.0	12.0	12.0		13.5	13.5	13.5	
					Ch 38	Ch 38-163	Ch 163		Ch 38	Ch 38-163	Ch 163	
WLAN n-mode 40MHz	5000	OFDM	1	5150 – 5825	10.0	10.0	10.0		11.5	11.5	11.5	

This device has also HSUPA capabilities in all WCDMA bands listed above. HSUPA target powers are always lower than or equal to the corresponding WCDMA target power listed above, details of the HSUPA MPR scheme, power targets and power results can be found in Appendix D.

This is a 1 x RTT Ev-Do RevA device.

Outside of USA and Canada, the transmitter of the device is capable of operating also in GSM/GPRS/EGPRS900, GSM/GPRS/EGPRS1800, WCDMA900 (Band 8) and WCDMA2100 (Band 1) bands which are not part of this filing.

This device has 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 an LTE Category 3 device; it contains two LTE bands, namely LTE750 (band 13) and LTE1700/2100 (band 4). In LTE750 (band 13), 5MHz and 10MHz Channel Bandwidths are supported and in LTE1700/2100 (band 4), 5MHz, 10MHz 15MHz and 20MHz are supported.

This is a BT Class 1 device; its power tuning target is 6dBm (4mW). Since this device has WLAN2450 functionality sharing the same antenna and RF path, but with much higher power, SAR testing for BT was deemed unnecessary.

This device has SVLTE mode capability.

This device uses a single Tx antenna for transmission of all cellular protocols, except CDMA1900 has separate Tx antenna. Third separate antenna is used for WLAN/RLAN.

Simultaneous transmission capabilities in Head and Body-worn use		
	WLAN2450	WLAN5000
LTE750	✓	✓
CDMA800	✓	✓
GSM/GPRS/EGPRS850	✓	✓
WCDMA850	✓	✓
LTE1700/2100	✓	✓
CDMA1900	✓	✓
GSM/GPRS/EGPRS1900	✓	✓
WCDMA1900	✓	✓
SVLTE: LTE750 + CDMA800	✓	✓
SVLTE: LTE750 + CDMA1900	✓	✓
SVLTE: LTE1700/2100 + CDMA800	✓	✓
SVLTE: LTE1700/2100 + CDMA1900	✓	✓

This device has Wireless Router “Hotspot” mode capability. Simultaneous transmission of any cellular, AWS and PCS band is possible with WLAN2450 in Wireless Router mode. Wireless Router mode capability is not available with WLAN5000.

Simultaneous transmission capabilities in Wireless Router use		
	WLAN2450	WLAN5000
LTE750	✓	x
CDMA800	✓	x
GPRS/EGPRS850	✓	x
WCDMA850	✓	x
LTE1700/2100	✓	x
CDMA1900	✓	x
GPRS/EGPRS1900	✓	x
WCDMA1900	✓	x

2.1 Power reductions in Wireless Router and SVLTE configurations

The following table details the power reductions active in Wireless Router mode:

Band	Power reduction in WR mode	Target tuning power in WR mode
LTE750	0 dB	23.0 dBm
CDMA800	0 dB	23.3 dBm
GPRS/EGPRS850	1-slot GPRS 0 dBm 2-slot GPRS 0 dBm 3-slot GPRS 0 dBm 4-slot GPRS 0 dBm 1-slot EGPRS 0 dBm 2-slot EGPRS 0 dBm 3-slot EGPRS 0 dBm 4-slot EGPRS 0 dBm	1-slot GPRS 31.8 dBm 2-slot GPRS 29.3 dBm 3-slot GPRS 27.5 dBm 4-slot GPRS 26.4 dBm 1-slot EGPRS 26.9 dBm 2-slot EGPRS 26.9 dBm 3-slot EGPRS 24.8 dBm 4-slot EGPRS 23.8 dBm
WCDMA850	0 dB	22.9 dBm
LTE1700	5 dB	17.9 dBm
CDMA 1xRTT and 1xEVDO 1900	1.4 dB	20.4 dBm
GPRS/EGPRS1900	1-slot GPRS 3.5 dBm 2-slot GPRS 3.4 dBm 3-slot GPRS 3.3 dBm 4-slot GPRS 3.3 dBm 1-slot EGPRS 0.5 dBm 2-slot EGPRS 3.4 dBm 3-slot EGPRS 3.2 dBm 4-slot EGPRS 3.4 dBm	1-slot GPRS 25.5 dBm 2-slot GPRS 22.5 dBm 3-slot GPRS 20.7 dBm 4-slot GPRS 19.5 dBm 1-slot EGPRS 25.5 dBm 2-slot EGPRS 22.5 dBm 3-slot EGPRS 20.7 dBm 4-slot EGPRS 19.5 dBm
WCDMA1900	4 dB	16.4 dBm
SVLTE: LTE750 + CDMA800	‡	‡
SVLTE: LTE750 + CDMA1900	‡	‡
SVLTE: LTE1700 + CDMA800	‡	‡
SVLTE: LTE1700 + CDMA1900	‡	‡
WLAN2450 b-mode (DSSS 1 Mbps)	0 dB	12.8 dBm
WLAN2450 g-mode (OFDM 6 Mbps)	0 dB	12.8 dBm
WLAN2450 n-mode (MCS 0 – OFDM 6.5 Mbps)	0 dB	12.8 dBm

‡ Wireless Router 'Hotspot' mode use is not restricted during Voice calls; hence SAR compliance has been addressed for the simultaneous Voice and Hotspot data configurations in Head and Body-worn accessory use conditions (KDB 941225 D06 Hot Spot SAR v01)

The following table details the power reductions active in SVLTE mode:

Band	Power reduction in SVLTE mode				Target Tuning Power in SVLTE mode			
LTE750	When active with CDMA 800 powers ≥ 18.4 dBm: 4.2 dB	When active with CDMA 800 powers ≤ 18.4 dBm: 0 dB	When active with CDMA 1900 powers ≥ 18.4 dBm: 4.2 dB	When active with CDMA 1900 powers ≤ 18.4 dBm: 0 dB	When active with CDMA 800 powers ≥ 18.4 dBm: 18.8 dBm	When active with CDMA 800 powers ≤ 18.4 dBm: 23 dBm	When active with CDMA 1900 powers ≥ 18.4 dBm: 18.8 dBm	When active with CDMA 1900 powers ≤ 18.4 dBm: 23 dBm
LTE1700/2100	When active with CDMA 800 powers ≥ 18.4 dBm: 4.0 dB	When active with CDMA 800 powers ≤ 18.4 dBm: 0 dB	When active with CDMA 1900 powers ≥ 18.4 dBm: 4.0 dB	When active with CDMA 1900 powers ≤ 18.4 dBm: 0 dB	When active with CDMA 800 powers ≥ 18.4 dBm: 18.9 dBm	When active with CDMA 800 powers ≤ 18.4 dBm: 22.9 dBm	When active with CDMA 1900 powers ≥ 18.4 dBm: 18.9 dBm	When active with CDMA 1900 powers ≤ 18.4 dBm: 22.9 dBm
CDMA800	4.9 dB / 0 dB				18.4 dBm / 23.3 dBm			
CDMA1900	3.4 dB / 0 dB				18.4 dBm / 21.8 dBm			

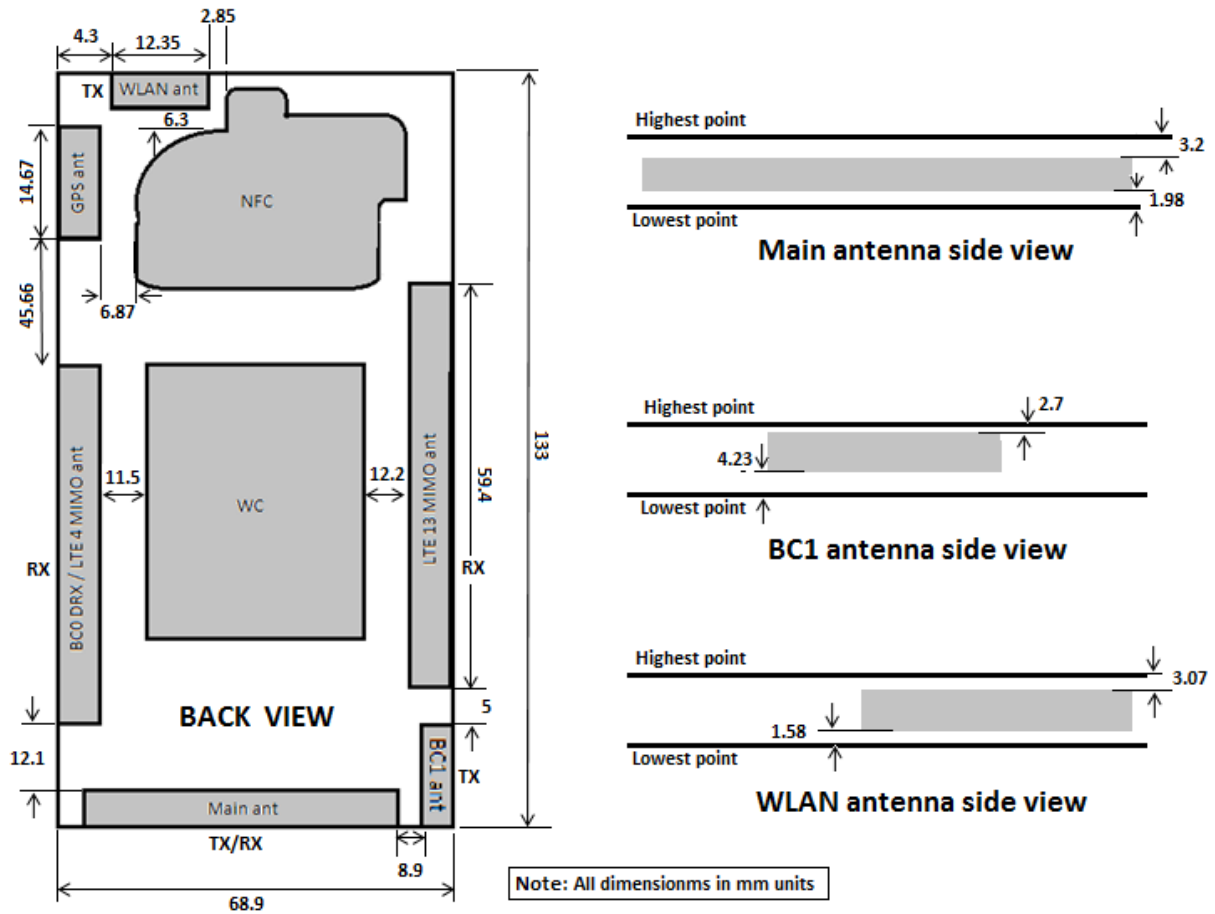
Note: Following SVLTE operation modes are available:

- CDMA800 transmitted power level ≥ 18.4 dBm, LTE750 power is reduced by 4.2dB
- CDMA800 transmitted power level < 18.4 dBm, LTE750 power is full power
- CDMA1900 transmitted power level ≥ 18.4 dBm, LTE750 power is reduced by 4.2dB
- CDMA1900 transmitted power level < 18.4 dBm, LTE750 power is full power
- CDMA800 transmitted power level ≥ 18.4 dBm, LTE1700/2100 power is reduced by 4.0dB
- CDMA800 transmitted power level < 18.4 dBm, LTE1700/2100 power is full power
- CDMA1900 transmitted power level ≥ 18.4 dBm, LTE1700/2100 power is reduced by 4.0dB
- CDMA1900 transmitted power level < 18.4 dBm, LTE1700/2100 power is full power

The power tuning target for reduced-power CDMA800 and CDMA1900 is 18.4dBm. To evaluate SAR for the combination of full power SVLTE with reduced-power CDMA800 or CDMA1900, the actual power level of CDMA800 and CDMA1900 was set slightly higher than 18.4dBm to allow for production tuning tolerances.

2.2 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. BC1 = CDMA1900 antenna.



3. TEST CONDITIONS

3.1 Temperature and Humidity

Ambient temperature (°C):	20.3 – 22.5
Ambient humidity (RH %):	28 - 55

3.2 Test Signal, Frequencies and Output Power

The device was put into operation by using a call tester except for testing WLAN2450/WLAN5000 where control software was used. Communication between the device and the call tester was established by air link.

A CMW500 call tester was used to configure the test device for transmitting all the LTE bands; in each band, the Uplink Power Control was set to 'Max Power'. Additional Spectrum Emission was set to 'NS_01' to disable A-MPR.

A CMU200 call tester was used for all the GSM/GPRS/EGPRS and WCDMA bands; in the case of GSM/GPRS/EGPRS the MS signal was always set to maximum power, whereas for WCDMA the UE uplink signal was configured to 12.2kbps RMC with all TPC bit set to 1.

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

In all operating bands the measurements were performed on lowest, middle and highest channels, except for testing LTE750 band for which, fully in accordance with KDB941225 D05 SAR for LTE Devices v02, only the maximum Channel Bandwidth of 10MHz was tested; as the available bandwidth (777-787MHz) exactly matched the 10MHz Channel Bandwidth all LTE750 testing was carried out on the middle channel (Channel 23230, 782.0MHz). WLAN5000 test channels were selected according to procedures in KDB 248227.

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

This device was tested in all the available multi-slot GMSK GPRS modes; Dual Transfer Mode was not specifically tested as the average power in multi-slot GMSK GPRS mode is always greater than, or equal to, the average power in Dual Transfer Mode in Nokia devices.

All WCDMA testing has been carried out in accordance with FCC KDB 941225: SAR Measurement Procedures for 3G Devices.

LTE band has been tested according to the guidance given in KDB941225 D05 SAR for LTE Devices v02. MPR values as stipulated in Table 6.2.3_1 of 3GPP TS 36.101 (presented below) have been incorporated into the device; these MPR values are dependent on the modulation, Channel Bandwidth and Resource Block allocations as shown:

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3

Modulation	Channel bandwidth / Transmission bandwidth (RB)						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2

Although A-MPR will be supported by the final production device, for all the reported testing A-MPR was deactivated in the test samples.

LTE SAR testing has been carried out in accordance with KDB941225 D05 SAR for LTE Devices v02. SAR results for 50% and 100% RB allocations were voluntarily scaled to upper limit of production tuning tolerance of nominal 1RB allocation power even if there is MPR in place for 50% and 100% RB allocations, as described above. This was done to simplify scaling process and to give conservative SAR results.

The standard transmission mode of the device in all WLAN b-mode tests was DSSS QPSK 1 Mbps; DSSS QPSK 2 Mbps and DSSS QPSK 5.5 Mbps were additionally used for checking. The standard transmission mode of the device in all WLAN a-mode tests was OFDM 6 Mbps; OFDM 12 Mbps, OFDM 36 Mbps and OFDM 48 Mbps were additionally used for checking. The standard transmission modes used have maximum time-averaged output powers within 0.25dB of the highest time-averaged output power of all the WLAN a, b, g and n modulation modes in this device as illustrated by the tables in Appendix I. All WLAN testing has been carried out in accordance with FCC KDB 248227: SAR Measurement Procedures for 802.11 a/b/g Transmitters.

Here is a summary list of the KDB documents used in the reported testing:

KDB941225 D05 SAR for LTE Devices v02
KDB 941225 D01 SAR Measurement Procedures for 3G Devices
KDB 248227: SAR Measurement Procedures for 802.11 a/b/g Transmitters
KDB 648474 D01 SAR Handsets Multi Xmitter and Ant v01r05
KDB 941225 D06 v01 Hot Spot SAR
KDB 447498 D01 General RF Exposure Guidance v05
KDB 690783 D01 SAR Listings on Grants
KDB 865664 D01 SAR Measurements 100MHz to 6GHz v01
KDB 865664 D02 SAR Reporting v01

3.3 Test Cases and Test Minimisation

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

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

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

Multi-slot SAR testing against the Head is always performed whenever such a device offers Push to Talk over cellular with the internal earpiece active, Dual Transfer Mode (i.e. the ability to transmit voice and data simultaneously using the same transmitter) or has WLAN (which enables a Voice over IP call to take place whilst the device can simultaneously transmit data on

a cellular band). Whenever a device has an intended multi-slot use against the head, it is also Head SAR tested in EGPRS mode. It should be noted that EGPRS transmit modes can have either GMSK or 8PSK modulation but, when tested, only 8PSK EGPRS will appear explicitly in the results tables, as GMSK EGPRS mode has identical time-averaged power to the reported GPRS mode.

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

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

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

4. DESCRIPTION OF THE TEST EQUIPMENT

4.1 Measurement System and Components

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

The following table lists calibration dates of SPEAG components:

Test Equipment	Serial Number	Calibration date	Calibration expiry
DAE4	538	2012-08	2013-08
DAE4	1316	2012-02	2013-02
DAE4	728	2012-08	2013-08
DAE 4	701	2012-08	2013-08
DAE 4	1332	2012-04	2013-04
DAE 4	604	2012-07	2013-07
E-field Probe ES3DV3	3194	2012-08	2013-08
E-field Probe ES3DV3	3131	2012-08	2013-08
E-field Probe EX3DV4	3835	2012-02	2013-02
E-field Probe ES3DV3	3112	2012-02	2013-02
E-field Probe EX3DV4	3852	2012-03	2013-03
E-field Probe ES3DV3	3275	2013-01	2014-01
Dipole Validation Kit, D835V2	462	2011-09	2013-09
Dipole Validation Kit, D1900V2	5d030	2012-02	2014-02
Dipole Validation Kit, D2450V2	729	2011-09	2013-09
Dipole Validation Kit, D5GHzV2	1032	2012-02	2014-02
Dipole Validation Kit, D750V3	1057	2012-05	2014-05
Dipole Validation Kit, D750V3	1010	2012-02	2014-02
Dipole Validation Kit, D835V2	4d040	2012-09	2014-09
Dipole Validation Kit, D835V2	487	2012-02	2014-02
Dipole Validation Kit, D1750V2	1080	2012-12	2014-12
Dipole Validation Kit, D1750V2	1081	2012-12	2014-12
Dipole Validation Kit, 1900V2	534	2012-09	2014-09
Dipole Validation Kit, 1900V2	5d099	2011-09	2013-09
DASY4 software	Version 4.7	-	-
DASY5 software	Version 52.8	-	-

Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration date	Calibration expiry
Signal Generator	E4438C	MY42080610	2012-08	2013-08
Signal Generator	SML03	101264	2012-08	2013-08
Signal Generator	SMB100A	105735	2012-08	2013-08
Signal Generator	E4436B	US39260114	2012-08	2013-08
Amplifier	5S1G4M3	302338	-	-
Amplifier	ZHL-42-SMA	N072095-5	-	-
Amplifier	5S4G11	312661	-	-
Amplifier	5S1G4	25583	-	-
Power Meter	NRVS	838624/032	2012-08	2013-08
Power Meter	NRVD	840023/028	2012-08	2013-08
Power Meter	NRP	100714	2012-08	2013-08
Power Meter	NRVZ	849305/029	2012-08	2013-08
Power Sensor	NRV-Z32	100067	2012-08	2013-08
Power Sensor	NRV-Z32	849745/018	2012-08	2013-08
Power Sensor	NRP-Z92	100085	2012-08	2013-08
Power Sensor	NRV-Z32	825600/002	2012-08	2013-08
Call Tester	CMU 200	103293	-	-
Call Tester	CMU 200	104983	-	-
Call Tester	MT8820C	6200883095	-	-
Network Analyzer	ENA E5071C	MY46213166	2012-08	2013-08
Dielectric Probe Kit	DAK-3.5	1042	-	-
Signal generator	E8247C	MY43321016	2012-07	2014-07
Signal generator	N5181B	MY51350034	2012-07	2013-07
Amplifier	KM0822	991253	-	-
Amplifier	5S1G4	0330638	-	-
Power Meter	E4419B	GB40202156	2012-08	2013-08
Power Meter	E4419B	GB3920697	2012-08	2013-08
Power Meter	EPM441A	GB37170673	2012-05	2013-05

(Equipment List Table Continues)

(Equipment List Table Continues)

Test Equipment	Model	Serial Number	Calibration date	Calibration expiry
Power Sensor	8482H	2704A04612	2012-07	2013-07
Power Sensor	E4412A	US38484674	2012-07	2013-07
Power Sensor	8482H	3318A06406	2012-08	2013-08
Power Sensor	8481H	MY41090586	2012-10	2013-10
Call Tester	CMW500	5000-0032/2012	2012-01	2013-01
Call Tester	CMW500	5000-309007820	2012-10	2013-10
Call Tester	E5515C	GB42452440	2010-12	2012-12
Call Tester	E5515C	GB42230195	2011-04	2013-04
Network Analyzer	HP8753E	US38161692	2012-03	2014-03
Spectrum Analyzer	E4404B	MY41440516	2012-05	2013-05
Dielectric Probe Kit	HP 8120-6192	01148176	-	-

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 E
Frequency	10 MHz to 4 GHz (dosimetry); Linearity: ± 0.2 dB (30 MHz to 4 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.3 dB in HSL (rotation normal to probe axis)
Dynamic Range	5 μ W/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 330 mm Tip length: 20 mm Body diameter: 12 mm Tip diameter: 3.9 mm Distance from probe tip to dipole centers: 2.0 mm
Application	General dosimetry up to 4 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms

4.1.2 Isotropic E-field Probe Type EX3DV4

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

4.2 Phantoms

The phantom used for all Head SAR tests i.e. for both system checks and device testing, was the twin-headed "SAM Phantom", manufactured by SPEAG; the SAM phantom conforms to the requirements of IEEE 1528-2003. The phantom used for all Body SAR tests i.e. for both system checks and device testing, was a flat phantom also manufactured by SPEAG; this phantom conform to the requirements of OET Bulletin 65, Supplement C.

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

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

4.3 Tissue Simulants

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

The depth of the tissue simulant was at least 15.0 cm for all system check and device tests, measured from the ear reference point in the case of the SAM phantom and from the inner surface of the flat phantom.

4.3.1 Tissue Simulant Recipes

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

700MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Deionised Water	52.13	69.23
Tween 20	46.59	29.56
Salt	1.28	1.21

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

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

5000MHz band †

Ingredient	Head (% by weight)	Body (% by weight)
Water	50-65	60-80
Oil	10-30	-
Emulsifiers, Esters, Inhibitors	8-25	20-40
Sodium salt	0-1.5	0-1.5

† Recipe is proprietary to SPEAG. The proportions of the constituents have not been disclosed.

4.4 System validation and System checking

4.4.1 System validation status

Probe Calibration Point f / MHz	Test System	DASY SW	Dipole Type / SN	Probe Type / SN	DAE unit Type / SN	Validation done	
						Head tissue simulant	Body tissue simulant
1750	TCC San Diego/SR01	V52.8	D1750 / 1080	EX3DV4 / 3852	DAE4 / 1332	-	2013-01
1750	TCC San Diego/SR02	V52.8	D1750 / 1080	ES3DV3 / 3112	DAE4 / 701	2012-12	-
1750	TCC San Diego/SR02	V52.8	D1750V2 / 1080	ES3DV3 / 3112	DAE4 / 604	2013-02	
750	TCC San Diego/SR02	V52.8	D750V3 / 1057	ES3DV3 / 3112	DAE4 / 701	2012-12	-
1900	TCC San Diego/SR02	V52.8	D1900V2 / 5d099	ES3DV3 / 3112	DAE4 / 701	2012-11	-
1900	TCC San Diego/SR01	V52.8	D1900V2 / 534	EX3DV4 / 3852	DAE4 / 1332	-	2012-11
835	TCC San Diego/SR01	V52.8	D835V2 / 4d040	EX3DV4 / 3852	DAE4 / 1332	-	2012-11
835	TCC San Diego/SR02	V52.8	D835V2 / 487	ES3DV3 / 3112	DAE4 / 701	2012-11	-
835	TCC San Diego/SR02	V52.8	D835V2 / 4d40	ES3DV3 / 3275	DAE4 / 604	2013-02	
750	TCC San Diego/SR01	V52.8	D750V3 / 1010	EX3DV4 / 3852	DAE4 / 1332	2013-02	2012-11
750	TCC San Diego/SR02	V52.8	D750V3 / 1010	ES3DV3 / 3112	DAE4 / 604	-	2013-02
750	TCC San Diego/SR02	V52.8	D750V3 / 1010	ES3DV3 / 3275	DAE4 / 604	2013-02	-
1900	TCC Salo / SAR-1	V4.7	D1900V2 / 5d030	ESDV3 / 3194	DAE4 / 538	2012-11	2012-11
2450	TCC Salo / SAR-4	V52.8	D2450V2 / 729	EX3DV4 / 3131	DAE4 / 728	2013-01	2013-01
5200	TCC Salo / SAR-2	V52.6	D5GHzV2 / 1032	EX3DV4 / 3835	DAE4 / 1316	2012-11	2012-11
5300	TCC Salo / SAR-2	V52.6	D5GHzV2 / 1032	EX3DV4 / 3835	DAE4 / 1316	2012-11	2012-11
5500	TCC Salo / SAR-2	V52.6	D5GHzV2 / 1032	EX3DV4 / 3835	DAE4 / 1316	2012-11	2012-11
5600	TCC Salo / SAR-2	V52.6	D5GHzV2 / 1032	EX3DV4 / 3835	DAE4 / 1316	2012-11	2012-11
5800	TCC Salo / SAR-2	V52.6	D5GHzV2 / 1032	EX3DV4 / 3835	DAE4 / 1316	2012-11	2012-11

4.4.2 System Checking

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

System checking, head tissue simulant

Dipole frequency [MHz]	Description	SAR 1g [W/kg]	Dielectric Parameters		SAR 1g Deviation	Dielectric Parameters Deviation		Temp [°C]	Plot #
			ϵ_r	1g		d ϵ_r [%]	d σ [%]		
	Tolerances				±10 %	±5 %	±5 %		
750	IEEE1528 / IEC62209*		41.9	0.89					
	Reference result SN:1057	2.16	42.3	0.92	TCC San Diego/SR02 ES3DV3 SN:3112 Head 750MHz				
	2012-12-17	2.15	41.0	0.90	-0.46	-3.07	-2.17	21.9	1
	2012-12-18	2.15	41.0	0.90	-0.46	-3.07	-2.17	21.7	-
	Reference result SN:1010	2.18	42.3	0.92	TCC San Diego/SR02 ES3DV3 SN:3112 Head 750MHz				
	2013-01-10	2.02	40.3	0.89	-7.34	-4.73	-3.26	22.0	2
	2013-02-06	2.06	42.8	0.88	-5.50	1.18	-4.35	22.5	-
	2013-02-07	2.05	43.0	0.89	-5.96	1.65	-3.26	22.0	-
	2012-02-13	2.03	41.3	0.89	-6.88	-2.36	-3.26	21.7	-
	2012-02-14	2.02	41.8	0.89	-7.34	-1.18	-3.26	21.8	-
	2012-02-17	2.09	41.9	0.91	-4.13	-0.95	-1.09	22.2	-
	2012-02-18	2.10	41.2	0.90	-3.67	-2.60	-2.17	21.7	-

(System checking, head table continues)

(System checking, head table continues)

Dipole frequency [MHz]	Description	SAR 1g [W/kg]	Dielectric Parameters		SAR 1g Deviation	Dielectric Parameters Deviation		Temp [°C]	Plot #
			ϵ_r	1g		d ϵ_r [%]	d σ [%]		
	Tolerances				±10 %	±5 %	±5 %		
835	IEEE1528 / IEC62209*		41.5	0.90					
	Reference result SN:487	2.31	41.0	0.89	TCC San Diego/SR02 ES3DV3 SN:3112 Head 750MHz				
	2012-12-20	2.29	40.8	0.89	-0.87	-0.49	0.00	22.4	-
	2012-12-21	2.37	40.7	0.89	2.60	-0.73	0.00	22.3	-
	2012-12-27	2.32	41.7	0.90	0.43	1.71	1.12	22.5	-
	2013-01-05	2.26	40.9	0.88	-2.16	-0.24	-1.12	21.9	-
	2013-01-06	2.31	41.6	0.90	0.00	1.46	1.12	22.2	-
	2013-01-11	2.33	41.7	0.91	0.87	1.71	2.25	22.3	-
	2013-01-23	2.37	42.3	0.91	2.60	3.17	2.25	22.1	3
	2013-01-24	2.31	42.1	0.88	0.00	2.68	-1.12	22.1	-
	2013-01-25	2.36	42.1	0.90	2.16	2.68	1.12	21.5	-
	2013-01-29	2.28	42.2	0.89	-1.30	2.93	0.00	22.3	-
	2013-02-16	2.27	42.9	0.91	-1.73	4.63	2.25	21.6	-
	Tolerances				±10 %	±5 %	±5 %		
1750	IEEE1528 / IEC62209*		40.1	1.37					
	Reference result SN:1080	9.02	39.3	1.34	TCC San Diego/SR02 ES3DV3 SN:3112 Head 1750MHz				
	2012-12-21	8.76	38.6	1.33	-2.88	-1.78	-0.75	22.5	-
	2012-12-22	8.75	39.7	1.32	-2.99	1.02	-1.49	22.5	-
	2013-01-03	9.11	40.1	1.36	1.00	2.04	1.49	22.3	-
	2013-01-04	8.95	40.4	1.34	-0.78	2.80	0.00	21.4	-
	2013-01-07	9.46	39.2	1.34	4.88	-0.25	0.00	21.1	4
	2013-01-14	8.83	39.7	1.32	-2.11	1.02	-1.49	22.2	-
	2013-01-17	8.69	38.9	1.34	-3.66	-1.02	0.00	21.4	-
	2013-01-18	8.94	38.5	1.36	-0.89	-2.04	1.49	20.5	-
	2013-02-06	9.20	39.0	1.38	2.00	-0.76	2.99	21.4	-
	2013-02-07	9.04	39.2	1.37	0.22	-0.25	2.24	20.6	-
	2013-02-08	8.86	39.3	1.32	-1.77	-0.25	-1.49	20.4	-
	2013-02-10	8.72	38.7	1.33	-3.33	-1.53	-0.75	21.7	-
	2013-02-13	9.03	39.0	1.35	0.11	-0.76	0.75	21.8	-
	2013-02-17	9.34	38.6	1.35	3.55	-1.78	0.75	22.0	-

(System checking, head table continues)

(System checking, head table continues)

Dipole frequency [MHz]	Description	SAR 1g [W/kg]	Dielectric Parameters		SAR 1g Deviation	Dielectric Parameters Deviation		Temp [°C]	Plot #
			ϵ_r	1g		$d\epsilon_r$ [%]	$d\sigma$ [%]		
1750	Reference result SN:1081	9.04	39.3	1.34	TCC San Diego/SR02 ES3DV3 SN:3112 Head 1750MHz				
	2012-12-23	8.65	39.6	1.32	-4.31	0.76	-1.49	22.5	5
	2012-12-29	9.04	39.8	1.34	0.00	1.27	0.00	22.3	-
	Tolerances				±10 %	±5 %	±5 %		
1900	IEEE1528 / IEC62209*		40.0	1.40					
	Reference result SN:5d099	10.1	39.6	1.43	TCC San Diego/SR02 ES3DV3 SN:3112 Head 1900MHz				
	2012-12-26	10.4	39.6	1.45	2.97	0.00	1.40	22.5	-
	2013-01-03	9.52	39.7	1.41	-5.74	0.25	-1.40	22.5	6
	2013-01-17	9.75	39.0	1.39	-3.47	-1.52	-2.80	21.1	-
	2013-01-18	10.3	38.8	1.44	1.98	-2.02	0.70	20.5	-
	2013-01-28	9.74	39.6	1.43	-3.56	0.00	0.00	21.9	-
	2013-01-29	9.62	39.6	1.41	-4.75	0.00	-1.40	21.9	-
1900	Reference result SN:5d030	9.79	40.4	1.40	TCC Salo/SAR-1 ES3DV3 SN:3184 Head 1900MHz				
	2013-01-09	10.2	38.5	1.39	4.19	-4.70	-0.71	21.5	-
	2013-01-10	10.4	39.2	1.42	6.23	-2.97	1.43	21.0	-
	2013-01-11	10.1	39.1	1.41	3.17	-3.22	0.71	21.3	-
	2013-02-19	10.4	39.1	1.42	6.23	-3.22	1.43	6.23	7
	Tolerances				±10 %	±5 %	±5 %		
2450	IEEE1528 / IEC62209*		39.2	1.80					
	Reference result SN:729	13.9	38.3	1.85	TCC Salo/SAR-4 ES3DV4 SN:3131 Head 2450MHz				
	2013-01-31	13.3	37.7	1.77	-4.32	-1.57	-4.32	21.0	-
	2013-02-01	13.0	37.6	1.78	-6.47	-1.83	-3.78	21.0	8
	2013-02-05	13.7	38.7	1.83	-1.44	1.04	-1.08	21.0	-
	Tolerances				±10 %	±5 %	±5 %		
5200	IEEE1528 / IEC62209*		36.0	4.66					
	Reference result SN:1032	7.98	35.3	4.60	TCC Salo/SAR-2 EX3DV4 SN:3835 Head 5200MHz				
	2013-02-03	7.85	35.2	4.54	-1.63	-0.28	-1.30	21.0	9
	2013-02-05	7.98	35.4	4.53	0	0.28	-1.52	21.0	-

(System checking, head table continues)

(System checking, head table continues)

Dipole frequency [MHz]	Description	SAR 1g [W/kg]	Dielectric Parameters		SAR 1g Deviation	Dielectric Parameters Deviation		Temp [°C]	Plot #
			ϵ_r	1g		d ϵ_r [%]	d σ [%]		
	Tolerances				±10 %	±5 %	±5 %		
5300	IEEE1528 / IEC62209*		35.9	4.76					
	Reference result SN:1032	8.19	35.1	4.61	TCC Salo/SAR-2 EX3DV4 SN:3835 Head 5300MHz				
	2013-02-03	8.37	35.0	4.64	2.20	-0.28	0.65	21.0	10
	2013-02-05	8.35	35.3	4.63	1.95	0.57	0.43	21.0	-
	Tolerances				±10 %	±5 %	±5 %		
5500	IEEE1528 / IEC62209*		35.6	4.96					
	Reference result SN:1032	8.65	34.9	4.89	TCC Salo/SAR-2 EX3DV4 SN:3835 Head 5500MHz				
	2013-02-04	8.43	34.1	4.89	-2.54	-2.29	0.00	21.0	-
	2013-02-05	7.91	35.0	4.83	-8.55	0.29	-1.23	21.0	11
	Tolerances				±10 %	±5 %	±5 %		
5600	IEEE1528 / IEC62209*		35.5	5.07					
	Reference result SN:1032	9.05	34.7	4.92	TCC Salo/SAR-2 EX3DV4 SN:3835 Head 5600MHz				
	2013-02-04	8.84	33.9	5.01	-2.32	-2.31	1.83	21.0	-
	2013-02-05	8.74	34.9	4.95	-3.43	0.58	0.61	21.0	12
	Tolerances				±10 %	±5 %	±5 %		
5800	IEEE1528 / IEC62209*		35.3	5.27					
	Reference result SN:1032	7.92	34.4	5.19	TCC Salo/SAR-2 EX3DV4 SN:3835 Head 5800MHz				
	2013-02-04	8.14	33.6	5.23	2.78	-2.33	0.77	21.0	13
	2013-02-05	8.10	34.5	5.15	2.27	0.29	-0.77	21.0	-
	2013-02-12	8.02	34.7	5.14	1.26	0.87	-0.96	21.0	-
	2013-02-13	7.94	34.6	5.09	0.25	0.58	-1.93	21.0	-

* Dielectric parameter data taken from IEC62209-2.

System checking, body tissue simulant

Dipole frequency [MHz]	Description	SAR 1g [W/kg]	Dielectric Parameters		SAR 1g Deviation	Dielectric Parameters Deviation		Temp [°C]	Plot #
			ϵ_r	1g		d ϵ_r [%]	d σ [%]		
	Tolerances				±10 %	±5 %	±5 %		
750	IEEE1528 / IEC62209		55.5	0.96					
	Reference result SN:1010	2.22	55.6	0.96	TCC San Diego/SR02 ES3DV3 SN:3112 Head 750MHz				
	2012-12-26	2.13	54.1	0.94	-4.05	-2.70	-2.08	21.3	-
	2012-12-27	2.20	54.9	0.94	-0.90	-1.26	-2.08	21.9	-
	2012-12-28	2.20	54.1	0.95	-0.90	-2.70	-1.04	21.8	-
	2013-01-09	2.17	55.7	0.94	-2.25	0.18	-2.08	22.2	-
	2013-01-10	2.24	55.9	0.94	0.90	0.54	-2.08	21.3	-
	2013-02-11	2.14	55.6	0.94	-3.60	0.00	-2.08	22.0	
	2013-02-12	2.11	54.8	0.93	-4.95	-1.44	-3.12	21.9	14
	Tolerances				±10 %	±5 %	±5 %		
835	IEEE1528 / IEC62209		55.2	0.97					
	Reference result SN:487	2.44	55.7	1.01	TCC San Diego/SR02 ES3DV3 SN:3112 Head 835MHz				
	2012-12-18	2.48	55.5	0.98	1.64	-0.36	-2.97	21.0	15
	2013-01-16	2.44	55.5	1.00	0.00	-0.36	-0.99	21.4	-
	Reference result SN:4d040	2.45	53.3	1.00	TCC San Diego/SR02 ES3DV3 SN:3112 Head 835MHz				
	2012-12-21	2.41	55.3	0.97	-1.63	3.75	-3.00	21.3	-
	2012-12-26	2.51	53.9	0.99	2.45	1.13	-1.00	21.3	-
	2012-12-27	2.56	54.6	1.00	4.49	2.44	0.00	21.0	16

(System checking, body table continues)

(System checking, body table continues)

Dipole frequency [MHz]	Description	SAR 1g [W/kg]	Dielectric Parameters		SAR 1g Deviation	Dielectric Parameters Deviation		Temp [°C]	Plot #
			ϵ_r	1g		d ϵ_r [%]	d σ [%]		
	Tolerances				±10 %	±5 %	±5 %		
1750	IEEE1528 / IEC62209		53.4	1.34					
	Reference result SN:1080	9.45	51.8	1.47	TCC San Diego/SR02 ES3DV3 SN:3112 Head 1750MHz				
	2013-01-07	9.16	51.2	1.45	-3.07	-1.16	-1.36	20.9	-
	2013-01-09	9.57	51.9	1.47	1.27	0.19	0.00	21.0	-
	2013-01-10	9.24	51.4	1.47	-2.22	-0.77	0.00	21.2	-
	2013-01-11	9.00	52.3	1.43	-4.76	0.97	-2.72	22.0	17
	2013-01-14	9.27	51.4	1.46	-1.90	-0.77	-0.68	20.8	-
	2013-01-15	9.21	51.2	1.46	-2.54	-1.16	-0.68	21.2	-
	2013-01-16	9.19	51.1	1.45	-2.75	-1.35	-1.36	21.4	-
	2013-01-24	9.06	51.4	1.48	-4.13	-0.77	0.68	21.9	-
	2013-01-28	9.40	51.3	1.47	-0.53	-0.97	0.00	21.5	-
	2013-01-29	9.68	52.0	1.48	2.43	0.39	0.68	21.5	-
	2013-02-11	9.18	51.7	1.46	-2.86	-0.19	-0.68	22.3	-
	2013-02-12	9.41	50.9	1.48	-0.42	-1.74	0.68	21.4	-
	Tolerances				±10 %	±5 %	±5 %		
	IEEE1528 / IEC62209		53.3	1.52					
1900	Reference result SN:534	10.1	52.5	1.54	TCC San Diego/SR02 ES3DV3 SN:3112 Head 1900MHz				
	2012-12-19	10.4	51.7	1.56	2.97	-1.52	1.30	21.3	-
	2012-12-20	9.88	51.0	1.54	-2.18	-2.86	0.00	21.2	-
	2012-12-21	9.79	51.2	1.53	-3.07	-2.48	-0.65	21.1	-
	2012-12-28	10.3	52.0	1.56	1.98	-0.95	1.30	21.9	-
	2013-01-04	10.4	51.9	1.56	2.97	-1.14	1.30	21.6	-
	2013-01-08	9.80	51.6	1.52	-2.97	-1.71	-1.30	21.6	-
	2013-01-15	10.0	51.7	1.53	-0.99	-1.52	-0.65	22.1	-
	2013-01-18	9.94	51.4	1.49	-1.58	-2.10	-3.25	22.0	-
	2013-01-21	10.2	50.9	1.58	0.99	-3.05	2.60	21.6	-
	2013-01-31	10.9	51.2	1.50	7.92	-2.48	-2.60	22.2	18
	2013-02-19	10.7	51.1	1.54	5.94	-2.67	0.00	22.5	-
1900	Reference result SN:5d030	9.87	53.0	1.56	TCC Salo/SAR-1 ES3DV3 SN:3184 Head 1900MHz				
	2013-01-14	10.1	52.0	1.54	2.33	-1.89	-1.28	20.2	19
	2013-02-19	9.93	51.5	1.53	0.61	-2.83	-1.92	21.0	-

(System checking, body table continues)

(System checking, body table continues)

Dipole frequency [MHz]	Description	SAR 1g [W/kg]	Dielectric Parameters		SAR 1g Deviation	Dielectric Parameters Deviation		Temp [°C]	Plot #
			ϵ_r	1g		d ϵ_r [%]	d σ [%]		
	Tolerances				±10 %	±5 %	±5 %		
2450	IEEE1528 / IEC62209		52.7	1.95					
	Reference result SN:729	13.3	51.7	2.04	TCC Salo/SAR-4 ES3DV4 SN:3131 Head 2450MHz				
	2013-02-03	13.3	51.2	1.97	0.00	-0.97	-3.43	21.0	-
	2013-02-08	13.3	50.6	1.98	0.00	-2.13	-2.94	21.0	20
	Tolerances				±10 %	±5 %	±5 %		
5200	FCC OET65 Supplement C targets		49.0	5.30					
	Reference result SN:1032	7.23	48.6	5.48	TCC Salo/SAR-2 EX3DV4 SN:3835 Head 5200MHz				
	2013-02-06	7.86	47.6	5.46	8.71	-2.06	-0.36	21.0	21
	Tolerances				±10 %	±5 %	±5 %		
	FCC OET65 Supplement C targets		48.9	5.42					
5300	Reference result SN:1032	8.04	47.3	5.52	TCC Salo/SAR-2 EX3DV4 SN:3835 Head 5300MHz				
	2013-02-06	8.25	47.4	5.59	2.61	0.21	1.27	21.0	22
	Tolerances				±10 %	±5 %	±5 %		
	FCC OET65 Supplement C targets		48.6	5.65					
5500	Reference result SN:1032	7.78	48.1	5.87	TCC Salo/SAR-2 EX3DV4 SN:3835 Head 5500MHz				
	2013-02-07	8.06	46.6	5.82	3.60	-3.12	-0.85	21.0	23
	Tolerances				±10 %	±5 %	±5 %		
	FCC OET65 Supplement C targets		48.5	5.77					
5600	Reference result SN:1032	8.86	46.7	5.91	TCC Salo/SAR-2 EX3DV4 SN:3835 Head 5600MHz				
	2013-02-07	8.29	46.4	5.97	-6.43	-0.64	1.02	21.0	24
	2013-02-13	8.68	46.9	5.98	-2.03	0.43	1.18	21.0	-

(System checking, body table continues)

(System checking, body table continues)

Dipole frequency [MHz]	Description	SAR 1g [W/kg]	Dielectric Parameters		SAR 1g Deviation	Dielectric Parameters Deviation		Temp [°C]	Plot #
			ϵ_r	1g		d ϵ_r [%]	d σ [%]		
	Tolerances				±10 %	±5 %	±5 %		
	FCC OET65 Supplement C targets		48.2	6.00					
5800	Reference result SN:1032	7.21	48.2	6.28					
	2013-02-07	6.97	46.1	6.24	-3.33	-4.36	-0.64	21.0	25
	2013-02-08	7.29	46.1	6.26	1.11	-4.36	-0.32	21.0	-

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

4.4.3 Tissue Simulants used in the Measurements

Head tissue simulant measurements

f [MHz]	Description	Dielectric Parameters		Dielectric Parameters Deviation from Standard target		Temp [°C]
		ϵ_r	σ [S/m]	$d\epsilon_r$ [%]	$d\sigma$ [%]	
782	Tolerances			±5 %	±5 %	
	Recommended value	41.9	0.92			
	2012-12-17	40.8	0.92	-2.63	0.00	21.9
	2012-12-18	40.7	0.92	-2.86	0.00	21.7
	2013-01-10	40.1	0.91	-4.30	-1.09	22.0
	2013-02-06	42.6	0.90	1.67	-2.17	22.5
	2013-02-07	42.9	0.92	2.39	0.00	22.0
	2012-02-13	41.0	0.92	-2.15	0.00	21.7
	2012-02-14	41.6	0.91	-0.72	-1.09	21.8
	2012-02-17	41.6	0.93	-0.72	1.09	22.2
	2012-02-18	40.9	0.92	-2.39	0.00	21.7
835	Tolerances			±5 %	±5 %	
	Recommended value	41.5	0.90			
	2012-12-21	40.7	0.89	-1.93	-1.11	22.3
836	Tolerances			±5 %	±5 %	
	Recommended value	41.5	0.90			
	2012-12-20	40.8	0.89	-1.69	-1.11	22.4
	2012-12-21	40.7	0.89	-1.93	-1.11	22.3
	2012-12-27	41.7	0.90	0.48	0.00	22.5
	2013-01-05	40.9	0.88	-1.45	-2.22	21.9
	2013-01-06	41.6	0.90	0.24	0.00	22.2
	2013-01-11	41.7	0.91	0.48	1.11	22.3
	2013-01-23	42.2	0.91	1.69	1.11	22.1
	2013-01-24	42.0	0.89	1.45	-1.11	22.1
	2013-01-25	42.1	0.90	1.45	0.00	21.5
	2013-01-29	42.2	0.90	1.69	0.00	22.3
	2013-02-16	42.9	0.91	3.37	1.11	21.6

(Head tissue simulant table continues)

(Head tissue simulant table continues)

f [MHz]	Description	Dielectric Parameters		Dielectric Parameters Deviation from Standard target		Temp [°C]
		ϵ_r	σ [S/m]	$d\epsilon_r$ [%]	$d\sigma$ [%]	
1732	Tolerances			±5 %	±5 %	
	Recommended value	40.1	1.36			
	2012-12-21	38.7	1.31	-3.49	-3.68	22.5
	2012-12-22	39.8	1.31	-0.75	-3.68	22.5
	2012-12-23	39.7	1.30	-1.00	-4.41	22.5
	2012-12-29	39.9	1.32	-0.50	-2.94	22.3
	2013-01-03	40.2	1.32	0.25	-2.94	22.3
	2013-01-04	40.4	1.32	0.75	-2.94	21.4
	2013-01-07	39.3	1.33	-2.00	-2.21	22.1
	2013-01-14	39.8	1.30	-0.75	-4.41	22.2
	2013-01-17	39.0	1.32	-2.74	-2.94	21.4
	2013-01-18	38.6	1.34	-3.74	-1.47	20.5
	2013-02-06	39.2	1.36	-2.24	0.00	21.4
	2013-02-07	39.3	1.35	-2.00	-0.74	20.6
	2013-02-08	39.4	1.31	-1.75	-3.68	20.4
	2013-02-10	38.8	1.31	-3.24	-3.68	21.7
	2013-02-13	39.1	1.33	-2.49	-2.21	21.8
	2013-02-17	38.7	1.33	-3.49	-2.21	22.0
1880	Tolerances			±5 %	±5 %	
	Recommended value	40.0	1.40			
	2012-12-26 (27)	39.7	1.42	-0.75	1.43	22.5
	2013-01-03 (4)	39.8	1.39	-0.50	-0.71	22.5
	2013-01-09	38.6	1.37	-3.50	-2.14	21.5
	2013-01-10	39.3	1.40	-1.75	0.00	21.0
	2013-01-11	39.2	1.39	-2.00	-0.71	21.0
	2013-01-17	39.1	1.38	-1.26	-3.50	21.1
	2013-01-18	38.9	1.43	-2.75	2.14	20.5
	2013-01-28	39.8	1.40	0.51	-2.10	21.9
	2013-01-29	39.9	1.38	0.76	-3.50	21.9
	2013-02-19	39.2	1.40	-2.00	0.00	21.0
2437	Tolerances			±5 %	±5 %	
	Recommended value	39.2	1.79			
	2013-01-31	37.8	1.76	-3.57	-1.68	21.0
	2013-02-01	37.6	1.77	-4.08	-1.12	21.0
	2013-02-05 (6)	38.7	1.81	-1.28	1.12	21.0

(Head tissue simulant table continues)

(Head tissue simulant table continues)

f [MHz]	Description	Dielectric Parameters		Dielectric Parameters Deviation from Standard target		Temp [°C]
		ϵ_r	σ [S/m]	d ϵ_r [%]	d σ [%]	
5210	Tolerances			±5 %	±5 %	
	Recommended value	36.0	4.67			
	2013-02-03	35.2	4.54	-2.22	-2.78	21.0
	2013-02-05	35.4	4.54	-1.67	-2.78	21.0
5290	Tolerances			±5 %	±5 %	
	Recommended value	35.9	4.75			
	2013-02-03	35.0	4.62	-2.51	-2.74	21.0
	2013-02-05	35.3	4.62	-1.67	-2.74	21.0
5520	Tolerances			±5 %	±5 %	
	Tolerances	35.6	4.99			
	2013-02-04	34.0	4.92	-4.49	-1.40	21.0
	2013-02-05	35.0	4.85	-1.69	-2.81	21.0
5620	Tolerances			±5 %	±5 %	
	Recommended value	35.5	5.09			
	2013-02-04	33.9	5.02	-4.51	-1.38	21.0
	2013-02-05	34.8	4.95	-1.97	-2.75	21.0
5760	Tolerances			±5 %	±5 %	
	Recommended value	35.3	5.23			
	2013-02-04	33.6	5.18	-4.82	-0.96	21.0
	2013-02-05	34.6	5.10	-1.98	-2.49	21.0
	2013-02-12	34.8	5.10	-1.42	-2.49	21.0
	2013-02-13	34.7	5.06	-1.70	-3.25	21.0

Body tissue simulant measurements

f [MHz]	Description	Dielectric Parameters		Dielectric Parameters Deviation from Standard target		Temp [°C]
		ϵ_r	σ [S/m]	$d\epsilon_r$ [%]	$d\sigma$ [%]	
	Tolerances			±5 %	±5 %	
782	Recommended value	55.4	0.99			
	2012-12-26	54.0	0.96	-2.53	-3.03	21.3
	2012-12-27	54.7	0.97	-1.26	-2.02	21.9
	2012-12-28	53.9	0.97	-2.71	-2.02	21.8
	2013-01-09	55.6	0.96	0.36	-3.03	22.2
	2013-01-10	55.8	0.96	0.72	-3.03	21.3
	2013-02-11	55.5	0.96	0.18	-3.03	22.0
	2013-02-12	54.7	0.96	-1.26	-3.03	21.9
	Tolerances			±5 %	±5 %	
835	Recommended value	55.2	0.97			
	2012-12-18	55.5	0.98	0.54	1.03	21.0
	2012-12-21	55.3	0.97	0.18	0.00	21.4
	Tolerances			±5 %	±5 %	
836	Recommended value	55.2	0.97			
	2012-12-21	55.3	0.98	0.18	1.03	21.4
	2012-12-26	53.8	1.00	-2.54	3.09	21.3
	2012-12-27	54.5	1.00	-1.27	3.09	21.9
	2013-01-16	55.5	0.99	0.54	2.06	21.4
	Tolerances			±5 %	±5 %	
1732	Recommended value	53.5	1.48			
	2013-01-07	51.2	1.43	-4.30	-3.38	20.9
	2013-01-09	51.9	1.45	-2.99	-2.03	21.0
	2013-01-10	51.5	1.45	-3.74	-2.03	21.2
	2013-01-11	52.4	1.42	-2.06	-4.05	21.9
	2013-01-14	51.5	1.45	-3.74	-2.03	20.8
	2013-01-15	51.2	1.43	-4.30	-3.38	21.2
	2013-01-16	51.2	1.43	-4.30	-3.38	21.4
	2013-01-24	51.4	1.46	-3.93	-1.35	21.9
	2013-01-28	51.4	1.45	-3.93	-2.03	21.5
	2013-01-29	52.0	1.46	-2.80	-1.35	21.5
	2013-02-11	51.7	1.44	-3.36	-2.70	22.3
	2013-02-12	51.0	1.45	-4.67	-2.03	21.4

(Body tissue simulant Table continues)

(Body tissue simulant Table continues)

f [MHz]	Description	Dielectric Parameters		Dielectric Parameters Deviation from Standard target		Temp [°C]
		ϵ_r	σ [S/m]	d ϵ_r [%]	d σ [%]	
	Tolerances			±5 %	±5 %	
1880	Recommended value	53.3	1.52			
	2012-12-19	51.8	1.53	-2.81	0.66	21.3
	2012-12-20	51.1	1.51	-4.13	-0.66	21.2
	2012-12-21	51.3	1.52	-3.75	0.00	21.1
	2012-12-28	52.0	1.54	-2.44	1.32	21.9
	2013-01-04	52.0	1.53	-2.44	0.66	21.6
	2013-01-08	51.6	1.49	-3.19	-1.97	21.6
	2013-01-14	52.1	1.52	-2.25	0.00	20.2
	2013-01-15	51.8	1.51	-2.81	-0.66	22.1
	2013-01-18	51.5	1.48	-3.38	-2.63	22.0
	2013-01-21	51.0	1.56	-4.32	2.63	21.6
	2013-01-31	51.3	1.48	-3.75	-2.63	22.2
	2013-02-19	51.6	1.52	-3.19	0.00	21.0
	2013-02-19	51.2	1.52	-3.94	0.00	22.3
2437	Tolerances			±5 %	±5 %	
	Recommended value	52.7	1.94			
	2013-02-03	51.3	1.96	-2.66	1.03	21.0
	2013-02-08	50.6	1.96	-3.98	1.03	21.0
5210	Tolerances			±5 %	±5 %	
	Recommended value	49.0	5.31			
	2013-02-06	47.6	5.47	-2.86	3.01	21.0
5290	Tolerances			±5 %	±5 %	
	Recommended value	48.9	5.40			
	2013-02-06	47.4	5.57	-3.07	3.15	21.0
5520	Tolerances			±5 %	±5 %	
	Recommended value	48.6	5.67			
	2013-02-07	46.5	5.84	-4.32	3.00	21.0
5620	Tolerances			±5 %	±5 %	
	Recommended value	48.4	5.79			
	2013-02-07	46.4	5.98	-4.13	3.28	21.0
	2013-02-13	46.8	6.01	-3.31	3.80	21.0

(Body tissue simulant Table continues)

(Body tissue simulant Table continues)

f [MHz]	Description	Dielectric Parameters		Dielectric Parameters Deviation from Standard target		Temp [°C]
		ϵ_r	σ [S/m]	d ϵ_r [%]	d σ [%]	
5760	Tolerances			±5 %	±5 %	
	Recommended value	48.3	5.95			
	2013-02-07	46.1	6.18	-4.55	3.87	21.0
	2013-02-08	46.2	6.20	-4.35	4.20	21.0

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

5. DESCRIPTION OF THE TEST PROCEDURE

5.1 Device Holder

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



Device holder supplied by SPEAG

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



Nokia spacer

5.2 Test Positions

5.2.1 Against Phantom Head

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

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

5.2.2 Body Worn Configuration

The device was placed in the SPEAG holder using the Nokia spacer and placed below the flat section of the phantom. The distance between the device and the phantom was kept at the separation distance indicated in Section 1.2.2 using a separate flat spacer that was removed before the start of the measurements.

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

5.2.3 Wireless Router Configuration

The device was placed in the SPEAG holder using the Nokia spacer and positioned 10.0mm away from the flat phantom. The spacer was removed before the start of the measurements.

5.3 Scan Procedures

First, area scans were used for determination of the field distribution. Next, a zoom scan, a minimum of 5x5x7 points covering a volume of at least 30x30x30mm in cellular bands and a minimum of 8x8x12 points covering a volume of at least 28x28x22mm in WLAN5000, was performed around the highest E-field value to determine the averaged SAR value. Drift was determined by measuring the same point at the start of the area scan and again at the end of the zoom scan.

5.4 SAR Averaging Methods

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

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

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

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

6. MEASUREMENT UNCERTAINTY

Table 6.1 – Measurement uncertainty evaluation

Uncertainty Component	Section in IEEE 1528	Tol. (%)	Prob Dist	Div	C_i	$C_i \cdot U_i$ (%)	V_i
Measurement System							
Probe Calibration	E2.1	±6.55	N	1	1	±6.55	∞
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			±13.2	116
Coverage Factor for 95%			k=2				
Expanded Uncertainty						±26.4	

7. RESULTS

7.1 The measured Head SAR values for the test device

LTE750 (Band 13) Head SAR results

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			-	Ch 23230	-	-	Ch 23230	-	
			-	782.0 MHz	-	-	782.0 MHz	-	
QPSK 10MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*			
	Conducted Power [dBm]		-	23.41	-	-	0.50	-	dB
	Time-averaged Power [dBm]		-	23.41	-	-	1.12	-	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.606	-	-	0.680	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.420	-	-	0.471	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.664	-	-	0.745	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.428	-	-	0.480	-	
QPSK 10MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*			
	Conducted Power [dBm]		-	23.42	-	-	0.50	-	dB
	Time-averaged Power [dBm]		-	23.42	-	-	1.12	-	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.593	-	-	0.665	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.412	-	-	0.462	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.613	-	-	0.688	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.418	-	-	0.469	-	

(LTE750 (Band 13) Head SAR Table continues)

(LTE750 (Band 13) Head SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			-	Ch 23230 782.0 MHz	-	-	Ch 23230 782.0 MHz	-	
			-	-	-	-	-	-	
QPSK QPSK 20MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*			
	Conducted Power [dBm]		-	23.40	-	-	0.50	-	dB
	Time-averaged Power [dBm]		-	23.40	-	-	1.12	-	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.613	-	-	0.688	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.453	-	-	0.508	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.626	-	-	0.702	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.437	-	-	0.490	-	
QPSK 10MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*			
	Conducted Power [dBm]		-	22.69	-	-	1.16	-	dB
	Time-averaged power [dBm]		-	22.69	-	-	1.31	-	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.529	-	-	0.691	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.385	-	-	0.503	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.563	-	-	0.735	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.377	-	-	0.492	-	

(LTE750 (Band 13) Head SAR Table continues)

(LTE750 (Band 13) Head SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			-	Ch 23230	-	-	Ch 23230	-	
			-	782.0 MHz	-	-	782.0 MHz	-	
QPSK 10MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*			
	Conducted Power [dBm]		-	22.72	-	-	1.13	-	dB
	Time-averaged power [dBm]		-	22.72	-	-	1.30	-	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.519	-	-	0.673	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.361	-	-	0.468	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.535	-	-	0.694	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.364	-	-	0.472	-		
QPSK 10MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*			
	Conducted Power [dBm]		-	22.71	-	-	1.14	-	dB
	Time-averaged power [dBm]		-	22.71	-	-	1.30	-	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.537	-	-	0.698	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.396	-	-	0.515	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	1
		Full SAR	-	0.590	-	-	0.767	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.424	-	-	0.551	-		

(LTE750 (Band 13) Head SAR Table continues)

(LTE750 (Band 13) Head SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			-	Ch 23230 782.0 MHz	-	-	Ch 23230 782.0 MHz	-	
			-	-	-	-	-	-	
QPSK 10MHz Ch BW 100% RB	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*			
	Conducted Power [dBm]		-	22.60	-	-	1.25	-	dB
	Time-averaged power [dBm]		-	22.60	-	-	1.33	-	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.521	-	-	0.695	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.354	-	-	0.472	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.536	-	-	0.715	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.362	-	-	0.483	-	

Each of the other available Channel Bandwidths (5 MHz) has no maximum time-averaged output power >0.5dB above the same configuration in 10MHz Channel Bandwidth. Each of the available higher order modulations (16QAM) has no maximum time-averaged output power >0.5dB above the same configuration in QPSK modulation. Also, no reported SAR value was >1.45 W/kg for the 10MHz Channel Bandwidth and QPSK modulation. Therefore, according to KDB 941225 D05 SAR for LTE Devices v02, no SAR testing was required in any of the smaller Channel Bandwidths or higher order modulations.

CDMA800 Band Head SAR results

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 1013	Ch 384	Ch 777	Ch 1013	Ch 384	Ch 777	
			824.7 MHz	836.5 MHz	848.3 MHz	824.7 MHz	836.5 MHz	848.3 MHz	
RC3/ S055	Tuning Target + Tolerance [dBm]		23.65			Scaling factor*			
	Conducted Power [dBm]		23.94	23.80	23.72	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		23.94	23.80	23.72	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.691	0.723	0.618	0.775	0.811	0.693	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.556	-	-	0.624	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	2
		Full SAR	0.721	0.766	0.672	0.809	0.859	0.754	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.575	-	-	0.645	-	
	RC3/ S055	Right Cheek, Repeated	Estimated SAR	-	-	-	-	-	-
Full SAR			-	0.757	-	-	0.848	-	

850MHz Band Head SAR results

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 128	Ch 190	Ch 251	Ch 128	Ch 190	Ch 251	
			824.2 MHz	836.6 MHz	848.8 MHz	824.2 MHz	836.6 MHz	848.8 MHz	
GSM	Tuning Target + Tolerance [dBm]		32.15			Scaling factor*			
	Conducted Slot Average Power [dBm]		32.20	32.28	32.40	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		23.17	23.25	23.37	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.411	-	-	0.461	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
2-slot GPRS	Tuning Target + Tolerance [dBm]		29.65			Scaling factor*			
	Conducted Slot Average Power [dBm]		29.65	29.90	29.90	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		23.63	23.88	23.88	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.426	-	-	0.478	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.352	-	-	0.395	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	3
		Full SAR	0.486	0.478	0.494	0.545	0.536	0.554	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.400	-	-	0.449	-	
3-slot GPRS	Tuning Target + Tolerance [dBm]		27.85			Scaling factor*			
	Conducted Slot Average Power [dBm]		27.87	27.95	27.98	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		23.61	23.69	23.72	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.420	-	-	0.471	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	

(850MHz Head SAR Table continues)

(850MHz Head SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 128	Ch 190	Ch 251	Ch 128	Ch 190	Ch 251	
			824.2 MHz	836.6 MHz	848.8 MHz	824.2 MHz	836.6 MHz	848.8 MHz	
4-slot GPRS	Tuning Target + Tolerance [dBm]		26.75			Scaling factor*			
	Conducted Slot Average Power [dBm]		26.75	26.80	26.80	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		23.74	23.79	23.79	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.420	-	-	0.471	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	-	-	-	-	-		
2-slot 8PSK EGPRS	Tuning Target + Tolerance [dBm]		27.25			Scaling factor*			
	Conducted Slot Average Power [dBm]		27.25	27.32	27.35	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		21.23	21.30	21.33	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	0.299	-	-	0.335	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	-	-	-	-	-		

(850MHz Head SAR Table continues)

(850MHz Head SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 4132	Ch 4175	Ch 4233	Ch 4132	Ch 4175	Ch 4233	
			826.4 MHz	835.0 MHz	846.6 MHz	826.4 MHz	835.0 MHz	846.6 MHz	
WCDMA	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*			
	Conducted Power [dBm]		23.45	23.31	23.35	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		23.45	23.31	23.35	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.544	-	-	0.610	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.436	-	-	0.489	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	4
		Full SAR	0.541	0.554	0.416	0.607	0.622	0.467	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.465	-	-	0.522	-	

LTE1700/2100 (Band 4) Head SAR results

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 20050	Ch 20175	Ch 20300	Ch 20050	Ch 20175	Ch 20300	
			1720.0 MHz	1732.5 MHz	1745.0 MHz	1720.0 MHz	1732.5 MHz	1745.0 MHz	
QPSK 20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*			
	Conducted Power [dBm]		23.26	23.27	23.25	0.50	0.50	0.50	dB
	Time-averaged Power [dBm]		23.26	23.27	23.25	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.650	-	-	0.729	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.298	-	-	0.334	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	5
		Full SAR	0.965	0.876	0.908	1.08	0.983	1.02	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.218	-	-	0.245	-		
QPSK 20MHz Ch BW 1RB 0% offset	Right Cheek, Repeated	Estimated SAR	-	-	-	-	-	-	
		Full SAR	0.949	-	-	1.07	-		-
QPSK 20MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*			
	Conducted Power [dBm]		23.19	23.34	23.39	0.56	0.50	0.50	dB
	Time-averaged Power [dBm]		23.19	23.34	23.39	1.14	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.643	0.630	0.607	0.731	0.707	0.681	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.277	0.285	-	0.311	0.319	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.891	0.867	0.831	1.01	0.973	0.932	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.200	0.262	-	0.224	0.294		

(LTE1700/2100 (Band 4) Head SAR Table continues)

(LTE1700/2100 (Band 4) Head SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	
QPSK 20MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*			
	Conducted Power [dBm]		23.21	23.29	23.22	0.54	0.50	0.53	dB
	Time-averaged Power [dBm]		23.21	23.29	23.22	1.13	1.12	1.13	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.594	-	-	0.666	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.290	-	-	0.325	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.901	0.832	0.695	1.02	0.934	0.785	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.211	-	-	0.237	-		
QPSK 20MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*			
	Conducted Power [dBm]		22.08	22.28	22.11	1.67	1.47	1.64	dB
	Time-averaged power [dBm]		22.08	22.28	22.11	1.47	1.40	1.46	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.522	-	-	0.732	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.284	-	-	0.398	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.718	0.699	0.707	1.06	0.981	1.03	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.206	-	-	0.289	-		

(LTE1700/2100 (Band 4) Head SAR Table continues)

(LTE1700/2100 (Band 4) Head SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	
QPSK 20MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*			
	Conducted Power [dBm]		22.21	22.27	22.36	1.54	1.48	1.39	dB
	Time-averaged power [dBm]		22.21	22.27	22.36	1.43	1.41	1.38	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.510	0.464	-	0.717	0.639	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.226	0.208	-	0.318	0.286	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.697	0.705	0.626	0.994	0.991	0.862	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.162	0.196	-	0.228	0.270		
QPSK 20MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*			
	Conducted Power [dBm]		22.17	22.11	22.19	1.58	1.64	1.56	dB
	Time-averaged power [dBm]		22.17	22.11	22.19	1.44	1.46	1.43	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.479	0.380	-	0.699	0.544	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.270	0.262	-	0.394	0.375	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.716	0.681	0.585	1.03	0.993	0.838	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.217	0.229	-	0.317	0.328		

(LTE1700/2100 (Band 4) Head SAR Table continues)

(LTE1700/2100 (Band 4) Head SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	
QPSK 20MHz Ch BW 100% RB	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*			
	Conducted Power [dBm]		22.17	22.15	22.22	1.58	1.60	1.53	dB
	Time-averaged power [dBm]		22.17	22.15	22.22	1.44	1.45	1.42	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.499	0.430	-	0.721	0.612	-
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.226	0.209	-	0.327	0.297	-
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.714	0.683	0.653	1.03	0.987	0.929	-
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.161	0.192	-	0.233	0.273	-

Each of the other available Channel Bandwidths (5, 10 and 15MHz) has no maximum time-averaged output power >0.5dB above the same configuration in 20MHz Channel Bandwidth. Each of the available higher order modulations (16QAM) has no maximum time-averaged output power >0.5dB above the same configuration in QPSK modulation. Also, no reported SAR value was >1.45 W/kg for the 20MHz Channel Bandwidth and QPSK modulation. Therefore, according to KDB 941225 D05 SAR for LTE Devices v02, no SAR testing was required in any of the smaller Channel Bandwidths or higher order modulations.

CDMA1900 Band Head SAR results

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 25	Ch 600	Ch 1175	Ch 25	Ch 600	Ch 1175	
			1851.25 MHz	1880.0 MHz	1908.75 MHz	1851.25 MHz	1880.0 MHz	1908.75 MHz	
RC3/ S055	Tuning Target + Tolerance [dBm]		22.15			Scaling factor*			
	Conducted Power [dBm]		22.18	22.26	22.19	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		22.18	22.26	22.19	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	6
		Full SAR	1.05	0.961	1.06	1.18	1.08	1.19	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.391	-	-	0.439	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.524	-	-	0.588	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.288	-	-	0.323	-	
RC3/ S055	Left Cheek, Repeated	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	1.04	-	-	1.17	

1900MHz Band Head SAR results

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz	Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz	
GSM	Tuning Target + Tolerance [dBm]		29.35			Scaling factor*			
	Conducted Slot Average Power [dBm]		29.35	29.35	29.40	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		20.32	20.32	20.37	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.117	0.115	0.110	0.131	0.129	0.123	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.032	-	-	0.036	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.107	-	-	0.120	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.033	-	-	0.037	-		
2-slot GPRS	Tuning Target + Tolerance [dBm]		26.25			Scaling factor*			
	Conducted Slot Average Power [dBm]		26.30	26.32	26.50	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		20.28	20.30	20.48	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.109	-	-	0.122	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	-	-	-	-	-		
3-slot GPRS	Tuning Target + Tolerance [dBm]		24.35			Scaling factor*			
	Conducted Slot Average Power [dBm]		24.40	24.40	24.65	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		20.14	20.14	20.39	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.105	-	-	0.118	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	-	-	-	-	-		

(1900MHz Head SAR Table continues)

(1900MHz Head SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 512	Ch 661	Ch 810	Ch 512	Ch 661	Ch 810	
			1850.2 MHz	1880.0 MHz	1909.8 MHz	1850.2 MHz	1880.0 MHz	1909.8 MHz	
4-slot GPRS	Tuning Target + Tolerance [dBm]		23.15			Scaling factor*			
	Conducted Slot Average Power [dBm]		23.20	23.35	23.45	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		20.19	20.34	20.44	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.105	-	-	0.118	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	-	-	-	-	-		
1-slot 8PSK EGPRS	Tuning Target + Tolerance [dBm]		26.35			Scaling factor*			
	Conducted Slot Average Power [dBm]		26.35	26.40	26.45	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		17.32	17.37	17.42	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.069	-	-	0.077	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	-	-	-	-	-		
2-slot 8PSK EGPRS	Tuning Target + Tolerance [dBm]		26.25			Scaling factor*			
	Conducted Slot Average Power [dBm]		26.30	26.35	26.45	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		20.28	20.33	20.43	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR							7
		Full SAR	0.113	0.135	0.125	0.127	0.151	0.140	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.034	-	-	0.038	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.117	-	-	0.131	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.035	-	-	0.039	-		

(1900MHz Head SAR Table continues)

(1900MHz Head SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 512	Ch 661	Ch 810	Ch 512	Ch 661	Ch 810	
			1850.2 MHz	1880.0 MHz	1909.8 MHz	1850.2 MHz	1880.0 MHz	1909.8 MHz	
3-slot 8PSK EGPRS	Tuning Target + Tolerance [dBm]		24.25			Scaling factor*			
	Conducted Slot Average Power [dBm]		24.30	24.35	24.40	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		20.04	20.09	20.14	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.123	-	-	0.138	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	-	-	-	-	-		
4-slot 8PSK EGPRS	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*			
	Conducted Slot Average Power [dBm]		23.25	23.35	24.40	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		20.24	20.34	21.39	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.133	-	-	0.149	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	-	-	-	-	-		

(1900MHz Head SAR Table continues)

(1900MHz Head SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 9262	Ch 9400	Ch 9538	Ch 9262	Ch 9400	Ch 9538	
			1852.4 MHz	1880.0 MHz	1907.6 MHz	1852.4 MHz	1880.0 MHz	1907.6 MHz	
WCDMA	Tuning Target + Tolerance [dBm]		20.75			Scaling factor*			
	Conducted Power [dBm]		20.91	20.84	20.82	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		20.91	20.84	20.82	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	8
		Full SAR	0.134	0.119	0.127	0.150	0.134	0.142	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.028	-	-	0.031	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.108	-	-	0.121	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.030	-	-	0.034	-	

2450MHz Head SAR results

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 1	Ch 6	Ch 11	Ch 1	Ch 6	Ch 11	
			2412.0 MHz	2437.0 MHz	2462.0 MHz	2412.0 MHz	2437.0 MHz	2462.0 MHz	
WLAN b-mode DSSS 1Mbps	Tuning Target + Tolerance [dBm]		14.3			Scaling factor*			
	Conducted Power [dBm]		13.21	13.28	13.80	1.59	1.52	1.00	dB
	Time-averaged power [dBm]		13.21	13.28	13.80	1.44	1.42	1.26	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	9
		Full SAR	0.529	0.657	0.677	0.763	0.932	0.852	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.495	-	-	0.702	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.342	-	-	0.485	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.424	-	-	0.602	-		
WLAN b-mode DSSS 11Mbps	Tuning Target + Tolerance [dBm]		14.3			Scaling factor*			
	Conducted Power [dBm]		-	14.06	-	-	0.74	-	dB
	Time-averaged power [dBm]		-	14.06	-	-	1.19	-	Lin
	Left Cheek, Worst case check	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.722	-	-	0.856	-	
WLAN n-mode MCS 5 OFDM 52.0/57.8 Mbps	Tuning Target + Tolerance [dBm]		14.3			Scaling factor*			
	Conducted Power [dBm]		13.83	-	-	0.97	-	-	dB
	Time-averaged power [dBm]		13.83	-	-	1.25	-	-	Lin
	Left Cheek, Worst case check	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.387	-	-	0.484	-	-	

5000MHz Head SAR results
5150–5250 MHz and 5250–5350 MHz

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Plot #
			Ch 40	Ch 44	Ch 56	Ch 60	Ch 40	Ch 44	Ch 56	Ch 60	
			5200.0 MHz	5240.0 MHz	5280.0 MHz	5320.0 MHz	5200.0 MHz	5240.0 MHz	5280.0 MHz	5320.0 MHz	
WLAN a-mode OFDM 6 Mbps	Tuning Target + Tolerance [dBm]		13.50				Scaling factor*				
	Conducted Slot Average Power [dBm]		12.68	12.33	13.10	12.93	1.32	1.67	0.90	1.07	dB
	Time-averaged power [dBm]		12.68	12.33	13.10	12.93	1.36	1.47	1.23	1.28	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-	-	-
		Full SAR	0.413	0.416	0.545	0.503	0.560	0.611	0.670	0.644	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-	-	-
		Full SAR		0.440	0.561	-	-	0.646	0.690	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-	-	-
		Full SAR		0.241	0.347	-	-	0.354	0.427	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-	-	-
		Full SAR		0.250	0.330	-	-	0.367	0.406	-	
Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Plot #
			-	Ch 44	-	-	-	Ch 44	-	-	
			-	5240.0 MHz	-	-	-	5240.0 MHz	-	-	
	Tuning Target + Tolerance [dBm]		13.50				Scaling factor*				
	Conducted Slot Average Power [dBm]		-	12.81	-	-	0.50	1.19	-	-	dB
	Time-averaged power [dBm]		-	12.81	-	-	1.12	1.32	-	-	Lin
WLAN a-mode OFDM 26.0/28.9 Mbps	Left Tilt, Worst case check	Estimated SAR	-	-	-	-	-	-	-	-	-
		Full SAR	-	0.507	-	-	-	0.667	-	-	

(5150–5250 MHz and 5250–5350 MHz Head SAR Table Continues)

(5150–5250 MHz and 5250–5350 MHz Head SAR Table Continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Plot #
			-	-	Ch 56	Ch 64	-	-	Ch 56	Ch 64	
			-	-	5280.0 MHz	5320.0 MHz	-	-	5280.0 MHz	5320.0 MHz	
	Tuning Target + Tolerance [dBm]		13.50				Scaling factor*				
	Conducted Slot Average Power [dBm]		-	-	13.31	13.33	-	-	0.69	0.67	dB
	Time-averaged power [dBm]		-	-	13.31	13.33	-	-	1.17	1.17	Lin
WLAN a-mode OFDM 19.5 / 21.7 Mbps	Left Tilt, Worst case check	Estimated SAR	-	-	-	-	-	-	-	-	-
		Full SAR	-	-	0.555	0.620	-	-	0.651	0.723	

5000MHz Head SAR results
5470–5725 MHz

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Plot #
			Ch 100	Ch 120	Ch 124	Ch 136	Ch 100	Ch 120	Ch 124	Ch 136	
			5500.0 MHz	5600.0 MHz	5620.0 MHz	5680.0 MHz	5500.0 MHz	5600.0 MHz	5620.0 MHz	5680.0 MHz	
WLAN a-mode OFDM 6 Mbps	Tuning Target + Tolerance [dBm]		13.5				Scaling factor*				
	Conducted Slot Average Power [dBm]		12.71	12.73	13.21	13.11	1.29	1.27	0.79	0.89	dB
	Time-averaged power [dBm]		12.71	12.73	13.21	13.11	1.35	1.34	1.20	1.23	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-	-	-
		Full SAR	0.591	0.598	0.697	0.655	0.795	0.801	0.836	0.804	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-	-	-
		Full SAR	-	-	0.721	0.771	-	-	0.865	0.946	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-	-	-
		Full SAR	-	-	0.378	0.391	-	-	0.453	0.480	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-	-	-
		Full SAR	-	-	0.431	0.446	-	-	0.517	0.547	
Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Plot #
			Ch 100	Ch 116			Ch 100	Ch 116			
			5500.0 MHz	5580.0 MHz			5500.0 MHz	5580.0 MHz			
WLAN a-mode OFDM 9 Mbps	Tuning Target + Tolerance [dBm]		13.5				Scaling factor*				
	Conducted Slot Average Power [dBm]		13.15	13.20	-	-	0.85	0.80	-	-	dB
	Time-averaged power [dBm]		13.15	13.20	-	-	1.22	1.20	-	-	Lin
	Left Tilt, Worst case check	Estimated SAR	-	-	-	-	-	-	-	-	-
Full SAR		0.627	0.679	-	-	0.763	0.816	-	-		

**5000MHz Head SAR results
5725–5850 MHz**

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 149	Ch 157	Ch 161	Ch 149	Ch 157	Ch 161	
			5745.0 MHz	5785.0 MHz	5805.0 MHz	5745.0 MHz	5785.0 MHz	5805.0 MHz	
WLAN a-mode OFDM 6 Mbps	Tuning Target + Tolerance [dBm]		13.5			Scaling factor*			
	Conducted Power [dBm]		13.08	13.10	12.92	0.92	0.90	1.08	dB
	Time-averaged power [dBm]		13.08	13.10	12.92	1.24	1.23	1.28	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.725	0.733	0.739	0.896	0.902	0.948	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	10
		Full SAR	-	-	0.818	-	-	1.05	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	0.480	-	-	0.616	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	0.541	-	-	0.694	

(5725–5850 MHz Head SAR Table Continues)

(5725–5850 MHz Head SAR Table Continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 149	-	-	Ch 149	-	-	
			5745.0 MHz	-	-	5745.0 MHz	-	-	
WLAN a-mode OFDM 52.0 / 57.8 Mbps	Tuning Target + Tolerance [dBm]		13.50			Scaling factor*			
	Conducted Slot Average Power [dBm]		13.38	-	-	0.62	-	-	dB
	Time-averaged power [dBm]		13.38	-	-	1.15	-	-	Lin
	Left Tilt, Worst case check	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.832	-	-	0.960	-	-	
Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			-	Ch 157	-	-	Ch 157	-	
			-	5785.0 MHz	-	-	5785.0 MHz	-	
WLAN a-mode OFDM 26.0 / 28.9 Mbps	Tuning Target + Tolerance [dBm]		13.50			Scaling factor*			
	Conducted Slot Average Power [dBm]		-	13.45	-	-	0.55	-	dB
	Time-averaged power [dBm]		-	13.45	-	-	1.14	-	Lin
	Left Tilt, Worst case check	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.857	-	-	0.973	-	
	Left Tilt, Repeated	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.784	-	-	0.894	-		

(5725–5850 MHz Head SAR Table Continues)

(5725–5850 MHz Head SAR Table Continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			-	-	Ch 161	-	-	Ch 161	
			-	-	5805.0 MHz	-	-	5805.0 MHz	
WLAN a-mode OFDM 6.5 / 7.25 Mbps	Tuning Target + Tolerance [dBm]		13.50			Scaling factor*			
	Conducted Slot Average Power [dBm]		-	-	13.12	-	-	0.88	dB
	Time-averaged power [dBm]		-	-	13.12	-	-	1.22	Lin
	Worst case	Estimated SAR	-	-	-	-	-	-	-
	checking	Full SAR	-	-	0.851	-	-	1.04	

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

Test configuration	Max. 1g SAR results									
	WLAN 2450	WLAN 5000	LTE 750	CDMA 800	2-slot GPRS 850	WCDMA 850	LTE 1700/2100	CDMA 1900	GSM / (E)GPRS 1900	WCDMA 1900
Head: Left, Cheek	0.932	0.948	0.698	0.811	0.478	0.610	0.732	1.19	0.151	0.150
Head: Left, Tilt	0.702	1.05	0.515	0.624	0.395	0.489	0.398	0.439	0.038	0.031
Head: Right, Cheek	0.485	0.616	0.767	0.859	0.554	0.622	1.08	0.588	0.131	0.121
Head: Right, Tilt	0.602	0.694	0.551	0.645	0.449	0.522	0.328	0.323	0.039	0.034

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

Test configuration	Max. 1g SAR results							
	LTE 750 + WLAN 2450	CDMA 800 + WLAN 2450	2-slot GPRS 850 + WLAN 2450	WCDMA 850 + WLAN 2450	LTE 1700/2100 + WLAN 2450	CDMA 1900 + WLAN 2450	GSM / (E)GPRS 1900+ WLAN 2450	WCDMA 1900 + WLAN 2450
Head: Left, Cheek	1.63	1.74	1.41	1.54	1.66	2.12	1.08	1.08
Head: Left, Tilt	1.22	1.33	1.10	1.19	1.10	1.14	0.740	0.733
Head: Right, Cheek	1.25	1.34	1.04	1.11	1.57	1.07	0.616	0.606
Head: Right, Tilt	1.15	1.25	1.05	1.12	0.930	0.93	0.641	0.636

Test configuration	Max. 1g SAR results							
	LTE 750 + WLAN 5000	CDMA 800 + WLAN 5000	2-slot GPRS 850 + WLAN 5000	WCDMA 850 + WLAN 5000	LTE 1700/2100 + WLAN 5000	CDMA 1900 + WLAN 5000	GSM / (E)GPRS 1900+ WLAN 5000	WCDMA 1900 + WLAN 5000
Head: Left, Cheek	1.65	1.76	1.43	1.56	1.68	2.14	1.10	1.10
Head: Left, Tilt	1.57	1.67	1.45	1.54	1.44	1.49	1.09	1.08
Head: Right, Cheek	1.38	1.48	1.17	1.24	1.70	1.20	0.747	0.737
Head: Right, Tilt	1.25	1.34	1.14	1.22	1.02	1.02	0.733	0.728

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

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

Test configuration	Max. 1g SAR results							
	LTE 750 + WLAN 2450	CDMA 800 + WLAN 2450	2-slot GPRS 850 + WLAN 2450	WCDMA 850 + WLAN 2450	LTE 1700/ 2100 + WLAN 2450	CDMA 1900 + WLAN 2450	GSM / (E)GPRS 1900+ WLAN 2450	WCDMA 1900 + WLAN 2450
Head: Left, Cheek	0.942	0.954	0.930	0.928	0.919	1.19	0.870	0.870
Head: Left, Tilt	-	-	-	-	-	-	-	-
Head: Right, Cheek	-	-	-	-	-	-	-	-
Head: Right, Tilt	-	-	-	-	-	-	-	-
Test configuration	Max. 1g SAR results							
	LTE 750 + WLAN 5000	CDMA 800 + WLAN 5000	2-slot GPRS 850 + WLAN 5000	WCDMA 850 + WLAN 5000	LTE 1700/ 2100 + WLAN 5000	CDMA 1900 + WLAN 5000	GSM / (E)GPRS 1900+ WLAN 5000	WCDMA 1900 + WLAN 5000
Head: Left, Cheek	0.802	0.805	-	0.797	-	1.16	0.768	0.768
Head: Left, Tilt	-	-	0.987	-	-	-	-	-
Head: Right, Cheek	-	-	-	-	1.10	-	-	-
Head: Right, Tilt	-	-	-	-	-	-	-	-

Note: Plots #13-28

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

7.1.1 Simultaneous Transmission SAR Test Exclusion Considerations for Head Measurements

Simultaneous transmission SAR test exclusion procedures as described in KDB 447498 D01 v05.

Following table gives antenna pair SAR to peak location separation ratios for the transmitter combinations for which the sum of simultaneously transmitting 1g SAR was above limit (See “Max+Max Combined results” table in previous section).

Antenna Pair SAR to Peak Location Separation Ratio

	WLAN 2450, Left Cheek	LTE750, Left Cheek	WLAN 2450, Left Cheek	CDMA800, Left Cheek	WLAN 2450, Left Cheek	LTE 1700/2100, Left Cheek
X [mm]	28.9	67.1	28.9	63.4	28.9	75.7
Y [mm]	330.8	278.7	330.8	277.5	330.8	287.5
Z [mm]	-172.7	-173.8	-172.7	-176.3	-172.7	-172.0
DISTANCE [mm]	64.6		63.6		63.7	
MAX + MAX (Reported SAR)	1.63		1.74		1.66	
SAR to peak location separation ratio	0.03		0.04		0.03	
	WLAN 2450, Left Cheek	CDMA 1900, Left Cheek	WLAN 5000, Left Cheek	LTE750, Left Cheek	WLAN 5000, Left Cheek	CDMA800, Left Cheek
X [mm]	28.9	61.4	21.3	67.1	21.3	63.4
Y [mm]	330.8	259.7	331.8	278.7	331.8	277.5
Z [mm]	-172.7	-172.7	-173.4	-173.8	-173.4	-176.3
DISTANCE [mm]	78.2		70.1		68.7	
MAX + MAX (Reported SAR)	2.12		1.65		1.76	
SAR to peak location separation ratio	0.04		0.03		0.03	

(Antenna Pair SAR to Peak Separation Ratio Table Continues)

(Antenna Pair SAR to Peak Separation Ratio Table Continues)

	WLAN 5000, Left Tilt	CDMA800, Left Tilt	WLAN 5000, Left Cheek	LTE 1700/2100, Left Cheek	WLAN 5000, Right Cheek	LTE 1700/2100, Right Cheek
X [mm]	21.3	42.7	21.3	75.7	-2.5	64.3
Y [mm]	331.8	292.9	331.8	287.5	-288.8	-256.4
Z [mm]	-173.4	-176.1	-173.4	-172.0	-167.4	-170.6
DISTANCE [mm]	44.5		70.1		74.3	
MAX + MAX (Reported SAR)	1.67		1.68		1.70	
SAR to peak location separation ratio	0.05		0.03		0.03	
	WLAN 5000, Left Cheek	CDMA 1900, Left Cheek				
X [mm]	21.3	61.4				
Y [mm]	331.8	259.7				
Z [mm]	-173.4	-172.7				
DISTANCE [mm]	82.5					
MAX + MAX (Reported SAR)	2.14					
SAR to peak location separation ratio	0.04					

All simultaneous transmitter configurations where all antenna pairs' SPLSR is equal to or below 0.04 are excluded from expanded zoom scan testing.

For all transmitters where SPLSR is >0.04, the following tables give individual and combined expanded zoom scan results.

CDMA800 Band Head SAR Expanded Volume Scan results

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 1013	Ch 384	Ch 777	Ch 1013	Ch 384	Ch 777	
			824.7 MHz	836.5 MHz	848.3 MHz	824.7 MHz	836.5 MHz	848.3 MHz	
RC3/ S055	Tuning Target + Tolerance [dBm]		23.65			Scaling factor*			
	Conducted Power [dBm]		23.94	23.80	23.72	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		23.94	23.80	23.72	1.12	1.12	1.12	Lin
	Left Cheek	Full SAR	-	-	-	-	-	-	-
	Left Tilt	Full SAR	-	0.565	-	-	0.634	-	11
	Right Cheek	Full SAR	-	-	-	-	-	-	-
	Right Tilt	Full SAR	-	-	-	-	-	-	-

5000MHz Head SAR Expanded Volume Scan results 5725–5850 MHz

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 149	Ch 157	Ch 161	Ch 149	Ch 157	Ch 161	
			5745.0 MHz	5785.0 MHz	5805.0 MHz	5745.0 MHz	5785.0 MHz	5805.0 MHz	
WLAN a-mode OFDM 6 Mbps	Tuning Target + Tolerance [dBm]		13.5			Scaling factor*			
	Conducted Power [dBm]		13.08	13.10	12.92	0.92	0.90	1.08	dB
	Time-averaged power [dBm]		13.08	13.10	12.92	1.24	1.23	1.28	Lin
	Left Cheek	Full SAR	-	-	-	-	-	-	-
	Left Tilt	Full SAR	-	-	0.793	-	-	1.02	12
	Right Cheek	Full SAR	-	-	-	-	-	-	-
	Right Tilt	Full SAR	-	-	-	-	-	-	-

**Simultaneous transmissions: Combined Head SAR results –
SPEAG Combined Expanded Zoom scans results**

Test configuration	+ CDMA800 + WLAN5000
Head: Left, Cheek	-
Head: Left, Tilt	Scaled: 1.21
Head: Right, Cheek	-
Head: Right, Tilt	-

Highest result within individual zoom scan or individual expanded zoom scan results is given in Section 1.2 for each transmitter. Highest result within contributing individual zoom scan, individual expanded zoom scan, Speag combined algorithm or combined expanded zoom scan results are given in Section for each simultaneous transmitter combination.

7.2 The measured Body SAR values for the test device

LTE750 (Band 13) Body SAR results

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				-	Ch 23230	-	-	Ch 23230	-	
				-	782.0 MHz	-	-	782.0 MHz	-	
QPSK 10MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]			23.35			Scaling factor*			
	Conducted Slot Average Power [dBm]			-	23.41	-	-	0.50	-	dB
	Time-averaged power [dBm]			-	23.41	-	-	1.12	-	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.544	-	-	0.610	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.452	-	-	0.507	-	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	30
			Full SAR	-	0.660	-	-	0.741	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.469	-	-	0.526	-	
QPSK 10MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]			23.35			Scaling factor*			
	Conducted Slot Average Power [dBm]			-	23.42	-	-	0.50	-	dB
	Time-averaged power [dBm]			-	23.42	-	-	1.12	-	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.561	-	-	0.629	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.477	-	-	0.535	-	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.629	-	-	0.706	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.424	-	-	0.476	-	

(LTE750 (Band 13) Body SAR Table continues)

(LTE750 (Band 13) Body SAR Table continues)

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				-	Ch 23230	-	-	Ch 23230	-	
				-	782.0 MHz	-	-	782.0 MHz	-	
QPSK 10MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]			23.35			Scaling factor*			
	Conducted Slot Average Power [dBm]			-	23.40	-	-	0.50	-	dB
	Time-averaged power [dBm]			-	23.40	-	-	1.12	-	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.516	-	-	0.579	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.441	-	-	0.495	-	-
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.616	-	-	0.691	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
Full SAR			-	0.456	-	-	0.512	-	-	
QPSK 10MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]			23.35			Scaling factor*			
	Conducted Slot Average Power [dBm]			-	22.69	-	-	1.16	-	dB
	Time-averaged power [dBm]			-	22.69	-	-	1.31	-	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.418	-	-	0.546	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.335	-	-	0.438	-	-
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.512	-	-	0.669	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
Full SAR			-	0.451	-	-	0.589	-	-	

(LTE750 (Band 13) Body SAR Table continues)

(LTE750 (Band 13) Body SAR Table continues)

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				-	Ch 23230	-	-	Ch 23230	-	
				-	782.0 MHz	-	-	782.0 MHz	-	
QPSK 10MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]			23.35			Scaling factor*			
	Conducted Slot Average Power [dBm]			-	22.72	-	-	1.13	-	dB
	Time-averaged power [dBm]			-	22.72	-	-	1.30	-	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.491	-	-	0.637	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.408	-	-	0.529	-	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.538	-	-	0.698	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.362	-	-	0.470	-	
QPSK 10MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]			23.35			Scaling factor*			
	Conducted Slot Average Power [dBm]			-	22.71	-	-	1.14	-	dB
	Time-averaged power [dBm]			-	22.71	-	-	1.30	-	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.407	-	-	0.529	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.328	-	-	0.426	-	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.515	-	-	0.670	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.454	-	-	0.590	-	

(LTE750 (Band 13) Body SAR Table continues)

(LTE750 (Band 13) Body SAR Table continues)

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				-	Ch 23230 782.0 MHz	-	-	Ch 23230 782.0 MHz	-	
QPSK 10MHz Ch BW 100% RB	Tuning Target + Tolerance [dBm]			23.35			Scaling factor*			
	Conducted Slot Average Power [dBm]			-	22.60	-	-	1.25	-	dB
	Time-averaged power [dBm]			-	22.60	-	-	1.33	-	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.509	-	-	0.679	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.456	-	-	0.608	-	-
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.523	-	-	0.697	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.362	-	-	0.483	-	-

Each of the other available Channel Bandwidths (5 MHz) has no maximum time-averaged output power >0.5dB above the same configuration in 10MHz Channel Bandwidth. Each of the available higher order modulations (16QAM) has no maximum time-averaged output power >0.5dB above the same configuration in QPSK modulation. Also, no reported SAR value was >1.45 W/kg for the 10MHz Channel Bandwidth and QPSK modulation. Therefore, according to KDB 941225 D05 SAR for LTE Devices v02, no SAR testing was required in any of the smaller Channel Bandwidths or higher order modulations.

CDMA800 Body SAR results

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				Ch 1013 824.7 MHz	Ch 384 836.5 MHz	Ch 777 848.3 MHz	Ch 1013 824.7 MHz	Ch 384 836.5 MHz	Ch 777 848.3 MHz	
RC3/ S055	Tuning Target + Tolerance [dBm]			23.65			Scaling factor*			
	Conducted Slot Average Power [dBm]			23.94	23.80	23.72	0.50	0.50	0.50	dB
	Time-averaged power [dBm]			23.94	23.80	23.72	1.12	1.12	1.12	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.521	-	-	0.585	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.336	-	-	0.377	-	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	31
			Full SAR	0.668	0.580	0.461	0.750	0.651	0.517	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.359	-	-	0.403	-	

850MHz Body SAR results

Mode	Device orientation		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				Ch 128	Ch 190	Ch 251	Ch 128	Ch 190	Ch 251	
				824.2 MHz	836.6 MHz	848.8 MHz	824.2 MHz	836.6 MHz	848.8 MHz	
2-slot GPRS	Tuning Target + Tolerance [dBm]			29.65			Scaling factor*			
	Conducted Slot Average Power [dBm]			29.65	29.90	29.90	0.50	0.50	0.50	dB
	Time-averaged power [dBm]			23.63	23.88	23.88	1.12	1.12	1.12	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.357	-	-	0.401	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.240	-	-	0.269	-	-
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	32
			Full SAR	0.433	0.388	0.374	0.486	0.435	0.420	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.265	-	-	0.297	-	-
Mode	Device orientation		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				Ch 4132	Ch 4175	Ch 4233	Ch 4132	Ch 4175	Ch 4233	
				826.4 MHz	835.0 MHz	846.6 MHz	826.4 MHz	835.0 MHz	846.6 MHz	
WCDMA	Tuning Target + Tolerance [dBm]			23.25			Scaling factor*			
	Conducted Slot Average Power [dBm]			23.45	23.31	23.35	0.50	0.50	0.50	dB
	Time-averaged power [dBm]			23.45	23.31	23.35	1.12	1.12	1.12	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.514	-	-	0.577	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.348	-	-	0.390	-	-
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	33
			Full SAR	0.540	0.533	0.428	0.606	0.598	0.480	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.472	-	-	0.530	-	-

LTE1700/2100 (Band 4) Body SAR results

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	
QPSK 20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]			23.25			Scaling factor*			
	Conducted Slot Average Power [dBm]			23.26	23.27	23.25	0.50	0.50	0.50	dB
	Time-averaged power [dBm]			23.26	23.27	23.25	1.12	1.12	1.12	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.740	0.768	0.966	0.830	0.862	1.08	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.764	0.782	0.976	0.857	0.877	1.10	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.600	-	-	0.673	-	
Headset WH-902		Estimated SAR	-	-	-	-	-	-	-	
		Full SAR	-	0.672	-	-	0.754	-		
QPSK 20MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]			23.25			Scaling factor*			
	Conducted Slot Average Power [dBm]			23.19	23.34	23.39	0.56	0.50	0.50	dB
	Time-averaged power [dBm]			23.19	23.34	23.39	1.14	1.12	1.12	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	34
			Full SAR	0.709	0.892	1.16	0.807	1.00	1.30	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.737	0.916	1.15	0.838	1.03	1.29	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.675	0.834	-	0.757	0.936	
Headset WH-902		Estimated SAR	-	-	-	-	-	-	-	
		Full SAR	0.625	0.767	0.913	0.524	0.861	1.02		
QPSK 20MHz Ch BW 1RB 50% offset	Back facing phantom, Without headset, Repeated	Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	-	1.00	-	-	1.12	

(LTE1700/2100 (Band 4) Body SAR Table continues)

(LTE1700/2100 (Band 4) Body SAR Table continues)

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				Ch 20050	Ch 20175	Ch 20300	Ch 20050	Ch 20175	Ch 20300	
				1720.0 MHz	1732.5 MHz	1745.0 MHz	1720.0 MHz	1732.5 MHz	1745.0 MHz	
QPSK 20MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*				
	Conducted Slot Average Power [dBm]		23.21	23.29	23.22	0.54	0.50	0.53	dB	
	Time-averaged power [dBm]		23.21	23.29	23.22	1.13	1.12	1.13	Lin	
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.840	1.02	1.14	0.951	1.14	1.29	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.836	1.03	0.858	0.947	1.16	0.969	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.636	0.760	0.789	0.720	0.853	0.891	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.670	0.840	0.823	0.759	0.942	0.930	
QPSK 20MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.08	22.28	22.11	1.67	1.47	1.64	dB	
	Time-averaged power [dBm]		22.08	22.28	22.11	1.47	1.40	1.46	Lin	
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.513	0.602	0.756	0.754	0.844	1.10	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.515	0.631	0.705	0.756	0.885	1.03	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.532	-	-	0.764	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.550	-	-	0.772	-	

(LTE1700/2100 (Band 4) Body SAR Table continues)

(LTE1700/2100 (Band 4) Body SAR Table continues)

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				Ch 20050	Ch 20175	Ch 20300	Ch 20050	Ch 20175	Ch 20300	
				1720.0 MHz	1732.5 MHz	1745.0 MHz	1720.0 MHz	1732.5 MHz	1745.0 MHz	
QPSK 20MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.21	22.27	22.36	1.54	1.48	1.39	dB	
	Time-averaged power [dBm]		22.21	22.27	22.36	1.43	1.41	1.38	Lin	
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.573	0.694	0.821	0.817	0.976	1.13	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.605	0.719	0.873	0.862	1.01	1.20	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.537	0.619	-	0.755	0.852	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.481	0.584	0.672	0.688	0.821	0.925	
QPSK 20MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.17	22.11	22.19	1.58	1.64	1.56	dB	
	Time-averaged power [dBm]		22.17	22.11	22.19	1.44	1.46	1.43	Lin	
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.536	0.692	0.817	0.771	1.01	1.17	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.546	0.708	0.833	0.786	1.03	1.19	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.437	0.581	0.674	0.629	0.848	0.965	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.474	0.612	0.712	0.682	0.893	1.02	

(LTE1700/2100 (Band 4) Body SAR Table continues)

(LTE1700/2100 (Band 4) Body SAR Table continues)

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				Ch 20050	Ch 20175	Ch 20300	Ch 20050	Ch 20175	Ch 20300	
				1720.0 MHz	1732.5 MHz	1745.0 MHz	1720.0 MHz	1732.5 MHz	1745.0 MHz	
QPSK 20MHz Ch BW 100%RB	Tuning Target + Tolerance [dBm]			23.25			Scaling factor*			
	Conducted Slot Average Power [dBm]			22.17	22.15	22.22	1.58	1.60	1.53	dB
	Time-averaged power [dBm]			22.17	22.15	22.22	1.44	1.45	1.42	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.571	0.680	0.816	0.822	0.983	1.16	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.597	0.708	0.867	0.859	1.02	1.23	-
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.532	0.612	-	0.769	0.870	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.485	0.593	0.669	0.698	0.857	0.952	-

Each of the other available Channel Bandwidths (5, 10 and 15MHz) has no maximum time-averaged output power >0.5dB above the same configuration in 20MHz Channel Bandwidth. Each of the available higher order modulations (16QAM) has no maximum time-averaged output power >0.5dB above the same configuration in QPSK modulation. Also, no reported SAR value was >1.45 W/kg for the 20MHz Channel Bandwidth and QPSK modulation. Therefore, according to KDB 941225 D05 SAR for LTE Devices v02, no SAR testing was required in any of the smaller Channel Bandwidths or higher order modulations.

CDMA1900 Body SAR results

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				Ch 25 1851.25 MHz	Ch 600 1880.0 MHz	Ch 1175 1908.75 MHz	Ch 25 1851.2 5 MHz	Ch 600 1880.0 MHz	Ch 1175 1908.75 MHz	
RC3/ S055	Tuning Target + Tolerance [dBm]			22.15			Scaling factor*			
	Conducted Slot Average Power [dBm]			22.18	22.26	22.19	0.50	0.50	0.50	dB
	Time-averaged power [dBm]			22.18	22.26	22.19	1.12	1.12	1.12	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.430	-	-	0.482	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.434	-	-	0.487	-	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	35
			Full SAR	0.448	0.580	0.503	0.503	0.651	0.564	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.571	-	-	0.641	-	

1900MHz Body SAR results

Mode	Device orientation		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #	
				Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz	Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz		
GSM	Tuning Target + Tolerance [dBm]			29.35			Scaling factor*				
	Conducted Slot Average Power [dBm]			29.35	29.35	29.40	0.50	0.50	0.50	dB	
	Time-averaged power [dBm]			20.32	20.32	20.37	1.12	1.12	1.12	Lin	
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-	
			Full SAR	0.724	0.800	0.912	0.812	0.898	1.02	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-	-
			Full SAR	0.717	0.791	0.900	0.804	0.888	1.01	-	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-	
			Full SAR	-	0.578	-	-	0.649	-	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-	-
			Full SAR	-	0.622	-	-	0.698	-	-	
GSM	Back facing phantom, Without headset, Repeated		Estimated SAR	-	-	-	-	-	-	-	
			Full SAR	-	-	0.865	-	-	0.971	-	

(1900MHz Body SAR Table continues)

(1900MHz Body SAR Table continues)

Mode	Device orientation		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				Ch 512	Ch 661	Ch 810	Ch 512	Ch 661	Ch 810	
				1850.2 MHz	1880.0 MHz	1909.8 MHz	1850.2 MHz	1880.0 MHz	1909.8 MHz	
2-slot 8PSK EGPRS	Tuning Target + Tolerance [dBm]			26.25			Scaling factor*			
	Conducted Slot Average Power [dBm]			26.30	26.35	26.45	0.50	0.50	0.50	dB
	Time-averaged power [dBm]			20.28	20.33	20.43	1.12	1.12	1.12	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.799	0.885	1.00	0.896	0.993	1.12	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.792	0.899	1.02	0.889	1.01	1.14	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.641	-	-	0.719	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.644	-	-	0.723	-	
2-slot 8PSK EGPRS	Back facing phantom, Headset WH-902, Repeated		Estimated SAR	-	-	-	-	-	-	36
			Full SAR	-	-	1.04	-	-	1.17	
Mode	Device orientation		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				Ch 9262	Ch 9400	Ch 9538	Ch 9262	Ch 9400	Ch 9538	
				1852.4 MHz	1880.0 MHz	1907.6 MHz	1852.4 MHz	1880.0 MHz	1907.6 MHz	
WCDMA	Tuning Target + Tolerance [dBm]			20.75			Scaling factor*			
	Conducted Slot Average Power [dBm]			20.91	20.84	20.82	0.50	0.50	0.50	dB
	Time-averaged power [dBm]			20.91	20.84	20.82	1.12	1.12	1.12	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	37
			Full SAR	1.05	0.924	0.966	1.18	1.04	1.08	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.928	0.907	0.891	1.04	1.02	1.00	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.630	-	-	0.707	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.620	-	-	0.696	-	
	Back facing phantom, Without headset, Repeated			Estimated SAR	-	-	-	-	-	-
				Full SAR	0.927	-	-	1.04	-	

2450MHz Body SAR results

Mode	Device orientation		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				Ch 1	Ch 6	Ch 11	Ch 1	Ch 6	Ch 11	
				2412.0 MHz	2437.0 MHz	2462.0 MHz	2412.0 MHz	2437.0 MHz	2462.0 MHz	
WLAN b-mode DSSS 1 Mbps	Tuning Target + Tolerance [dBm]			14.3			Scaling factor*			
	Conducted Slot Average Power [dBm]			13.21	13.28	13.80	1.59	1.52	1.00	dB
	Time-averaged power [dBm]			13.21	13.28	13.80	1.44	1.42	1.26	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.042	-	-	0.059	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.036	-	-	0.051	-	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	38
			Full SAR	0.053	0.060	0.069	0.076	0.085	0.087	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
Full SAR			-	0.058	-	-	0.082	-		
WLAN b-mode DSSS 11 Mbps	Tuning Target + Tolerance [dBm]			14.3			Scaling factor*			
	Conducted Slot Average Power [dBm]			-	14.06	-	-	0.74	-	dB
	Time-averaged power [dBm]			-	14.06	-	-	1.19	-	Lin
	Display facing phantom, Without headset, Worst case check		Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.065	-	-	0.077	-	
WLAN n-mode MCS 5 OFDM 52.0/57.8 Mbps	Tuning Target + Tolerance [dBm]			14.3			Scaling factor*			
	Conducted Slot Average Power [dBm]			13.83	-	-	0.97	-	-	dB
	Time-averaged power [dBm]			13.83	-	-	1.25	-	-	Lin
	Display facing phantom, Without headset, Worst case check		Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.058	-	-	0.073	-	-	

5000MHz Body SAR results
5150–5250 MHz and 5250–5350 MHz

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Plot #
				Ch 40	Ch 44	Ch 56	Ch 64	Ch 40	Ch 44	Ch 56	Ch 64	
				5200.0 MHz	5220.0 MHz	5280.0 MHz	5320.0 MHz	5200.0 MHz	5220.0 MHz	5280.0 MHz	5320.0 MHz	
WLAN a-mode OFDM 6 Mbps	Tuning Target + Tolerance [dBm]			13.50				Scaling factor*				
	Conducted Slot Average Power [dBm]			12.68	12.33	13.10	12.93	1.32	1.67	0.90	1.07	dB
	Time-averaged power [dBm]			12.68	12.33	13.10	12.93	1.36	1.47	1.23	1.28	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-	-	-
			Full SAR	0.081	0.071	0.085	0.078	0.110	0.104	0.105	0.102	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-	-	-
			Full SAR	0.069	-	0.100	-	0.093	-	0.123	-	-
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-	-	-
			Full SAR	0.035	-	0.063	-	0.047	-	0.077	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-	-	-
			Full SAR	0.053	-	0.058	-	0.072	-	0.071	-	-
Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Plot #
				-	Ch 44	-	-	-	Ch 44	-	-	
				-	5220.0 MHz	-	-	-	5220.0 MHz	-	-	
WLAN a-mode OFDM 26.0 / 28.9 Mbps	Tuning Target + Tolerance [dBm]			13.50				Scaling factor*				
	Conducted Slot Average Power [dBm]			-	12.81	-	-	-	1.19	-	-	dB
	Time-averaged power [dBm]			-	12.81	-	-	-	1.32	-	-	Lin
	Back facing phantom, Headset WH-902, Worst case check	Estimated SAR	-	-	-	-	-	-	-	-	-	
		Full SAR	-	0.070	-	-	-	0.092	-	-	-	

(5150–5250 MHz and 5250–5350 MHz Body SAR Table continues)

(5150–5250 MHz and 5250–5350 MHz Body SAR Table continues)

Mode	Test configuration	SAR measure ment	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Plot #
			-	-	Ch 56 5280.0 MHz	Ch 64 5320.0 MHz	-	-	Ch 56 5280.0 MHz	Ch 64 5320.0 MHz	
WLAN a- mode OFDM 19.5 / 21.7 Mbps	Tuning Target + Tolerance [dBm]		13.50				Scaling factor*				
	Conducted Slot Average Power [dBm]		-	-	13.31	13.33	-	-	0.69	0.67	dB
	Time-averaged power [dBm]		-	-	13.31	13.33	-	-	1.17	1.17	Lin
	Back facing phantom, Headset WH-902, Worst case check	Estimated SAR	-	-	-	-	-	-	-	-	-
		Full SAR	-	-	0.086	0.098	-	-	0.101	0.115	

5000MHz Body SAR results
5470–5725 MHz

Mode	Test configurtion		SAR measure ment	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Plot #
				Ch 100	Ch 120	Ch 124	Ch 136	Ch 100	Ch 120	Ch 124	Ch 136	
				5500.0 MHz	5600.0 MHz	5620.0 MHz	5680.0 MHz	5500.0 MHz	5600.0 MHz	5620.0 MHz	5680.0 MHz	
WLAN a-mode OFDM 6 Mbps	Tuning Target + Tolerance [dBm]			13.50				Scaling factor*				
	Conducted Slot Average Power [dBm]			12.71	12.73	13.21	13.11	1.29	1.27	0.79	0.89	dB
	Time-averaged power [dBm]			12.71	12.73	13.21	13.11	1.35	1.34	1.20	1.23	Lin
	Back facing phanto m	Without headset	Estimated SAR	-	-	-	-	-	-	-	-	39
			Full SAR	0.129	0.150	0.112	0.067	0.174	0.201	0.134	0.083	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-	-	-
			Full SAR	-	0.102	-	-	-	0.137	-	-	
	Display facing phanto m	Without headset	Estimated SAR	-	-	-	-	-	-	-	-	-
			Full SAR	-	0.057	-	-	-	0.076	-	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-	-	-
			Full SAR	-	0.075	-	-	-	0.101	-	-	
Mode	Test configurtion		SAR measure ment	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Plot #
				Ch 100	Ch 116	-	-	Ch 100	Ch 116	-	-	
				5500.0 MHz	5580.0 MHz	-	-	5500.0 MHz	5580.0 MHz	-	-	
WLAN a-mode OFDM 6 Mbps	Tuning Target + Tolerance [dBm]			13.50				Scaling factor*				
	Conducted Slot Average Power [dBm]			13.15	13.20	-	-	0.85	0.80	-	-	dB
	Time-averaged power [dBm]			13.15	13.20	-	-	1.22	1.20	-	-	Lin
	Back facing phantom Without headset, Worst case check	Estimated SAR	-	-	-	-	-	-	-	-	-	
		Full SAR	0.106	0.104	-	-	0.129	0.125	-	-		

5000MHz Body SAR results
5725–5850 MHz

Mode	Device orientation		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #	
				Ch 149	Ch 157	Ch 161	Ch 149	Ch 157	Ch 161		
				5745.0 MHz	5785.0 MHz	5805.0 MHz	5745.0 MHz	5785.0 MHz	5805.0 MHz		
WLAN a-mode OFDM 6 Mbps	Tuning Target + Tolerance [dBm]			13.50			Scaling factor*				
	Conducted Power [dBm]			13.08	13.10	12.92	0.92	0.90	1.08	dB	
	Time-averaged power [dBm]			13.08	13.10	12.92	1.24	1.23	1.28	Lin	
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-	
			Full SAR	0.054	0.057	0.080	0.067	0.070	0.102	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-	-
			Full SAR	-	-	0.071	-	-	0.090	-	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-	
			Full SAR	-	-	0.087	-	-	0.112	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-	-
			Full SAR	-	-	0.079	-	-	0.101	-	
Mode	Device orientation		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #	
				Ch 149 5745.0 MHz	- -	- -	Ch 149 5745.0 MHz	- -	- -		
WLAN a-mode OFDM 52.0 / 27.8 Mbps	Tuning Target + Tolerance [dBm]			13.50			Scaling factor*				
	Conducted Power [dBm]			13.38	-	-	0.62	-	-	dB	
	Time-averaged power [dBm]			13.38	-	-	1.15	-	-	Lin	
	Display facing phantom Without headset, Worst case check		Estimated SAR	-	-	-	-	-	-	-	
			Full SAR	0.097	-	-	0.112	-	-		

(5725–5850 MHz Body SAR Table continues)

(5725–5850 MHz Body SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			- -	Ch 157 5785.0 MHz	- -	- -	Ch 157 5785.0 MHz	- -	
WLAN a-mode OFDM 26.0 / 28.9 Mbps	Tuning Target + Tolerance [dBm]		13.50			Scaling factor*			
	Conducted Power [dBm]		-	13.45	-	-	0.55	-	dB
	Time-averaged power [dBm]		-	13.45	-	-	1.14	-	Lin
	Display facing phantom Without headset, Worst case check	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.088	-	-	0.100	-	
Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			- -	- -	Ch 161 5805.0 MHz	- -	- -	Ch 161 5805.0 MHz	
WLAN a-mode OFDM 6.5 / 7.25 Mbps	Tuning Target + Tolerance [dBm]		13.50			Scaling factor*			
	Conducted Power [dBm]		-	-	13.12	-	-	0.88	dB
	Time-averaged power [dBm]		-	-	13.12	-	-	1.22	Lin
	Display facing phantom Without headset, Worst case check	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	0.091	-	-	0.111	

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

Test configuration	Max. 1g SAR results									
	WLAN 2450	WLAN 5000	LTE 750	CDMA 800	2-slot GPRS 850	WCDMA 850	LTE 1700/2100	CDMA 1900	GSM / (E)GPRS 1900	WCDMA 1900
Body: Back facing phantom, Without Headset	0.059	0.201	0.679	0.585	0.401	0.577	1.30	0.482	1.12	1.18
Body: Back facing phantom, Headset WH-902	0.051	0.137	0.608	0.377	0.269	0.390	1.29	0.487	1.17	1.04
Body: Display facing phantom, Without Headset	0.087	0.112	0.741	0.750	0.486	0.606	0.965	0.651	0.719	0.707
Body: Display facing phantom, Headset WH-902	0.082	0.101	0.590	0.403	0.297	0.530	1.02	0.641	0.723	0.696

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

Test configuration	Max. 1g SAR results							
	LTE 750 + WLAN 2450	CDMA 800 + WLAN 2450	2-slot GPRS 850 + WLAN 2450	WCDMA 850 + WLAN 2450	LTE 1700/ 2100 + WLAN 2450	CDMA 1900 + WLAN 2450	GSM / (E)GPRS 1900 + WLAN 2450	WCDMA 1900 + WLAN 2450
Body: Back facing phantom, Without Headset	0.738	0.644	0.460	0.636	1.36	0.541	1.18	1.24
Body: Back facing phantom, Headset WH-902	0.659	0.428	0.320	0.441	1.34	0.538	1.22	1.09
Body: Display facing phantom, Without Headset	0.828	0.837	0.573	0.693	1.05	0.738	0.806	0.794
Body: Display facing phantom, Headset WH-902	0.672	0.485	0.379	0.612	1.10	0.723	0.805	0.778
Test configuration	Max. 1g SAR results							
	LTE 750 + WLAN 5000	CDMA 800 + WLAN 5000	2-slot GPRS 850 + WLAN 5000	WCDMA 850 + WLAN 5000	LTE 1700/ 2100 + WLAN 5000	CDMA 1900 + WLAN 5000	GSM / (E)GPRS 1900+ WLAN 5000	WCDMA 1900 + WLAN 5000
Body: Back facing phantom, Without Headset	0.880	0.786	0.602	0.778	1.50	0.683	1.32	1.38
Body: Back facing phantom, Headset WH-902	0.745	0.514	0.406	0.527	1.43	0.624	1.31	1.18
Body: Display facing phantom, Without Headset	0.853	0.862	0.598	0.718	1.08	0.763	0.831	0.819
Body: Display facing phantom, Headset WH-902	0.691	0.504	0.398	0.631	1.12	0.742	0.824	0.797

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

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

Test configuration	Max. 1g SAR results							
	LTE 750 + WLAN 2450	CDMA 800 + WLAN 2450	2-slot GPRS 850 + WLAN 2450	WCDMA 850 + WLAN 2450	LTE 1700/ 2100 + WLAN 2450	CDMA 1900 + WLAN 2450	GSM / (E)GPRS 1900+ WLAN 2450	WCDMA 1900 + WLAN 2450
Body: Back facing phantom, Without Headset	-	-	-	-	1.23	-	1.18	1.20
Body: Back facing phantom, Headset WH-902	-	-	-	-	-	-	-	-
Body: Display facing phantom, Without Headset	0.773	0.791	0.512	0.648	-	0.674	-	-
Body: Display facing phantom, Headset WH-902	-	-	-	-	-	-	-	-
Test configuration	Max. 1g SAR results							
	LTE 750 + WLAN 5000	CDMA 800 + WLAN 5000	2-slot GPRS 850 + WLAN 5000	WCDMA 850 + WLAN 5000	LTE 1700/ 2100 + WLAN 5000	CDMA 1900 + WLAN 5000	GSM / (E)GPRS 1900+ WLAN 5000	WCDMA 1900 + WLAN 5000
Body: Back facing phantom, Without Headset	0.724	-	0.452	0.607	1.25	-	1.19	1.24
Body: Back facing phantom, Headset WH-902	-	-	-	-	-	-	-	-
Body: Display facing phantom, Without Headset	-	0.757	-	-	-	0.671	-	-
Body: Display facing phantom, Headset WH-902	-	-	-	-	-	-	-	-

Note: Plots #40-55

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

7.3 Body SAR assessment of Wireless Router mode at 10.0mm separation distance

LTE750 (Band 13) Wireless Router SAR results

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			-	Ch 23230 782.0 MHz	-	-	Ch 23230 782.0 MHz	-	
			-		-	-		-	
QPSK 10MHz Ch BW 1RB 0 % offset	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*			
	Conducted Slot Average Power [dBm]		-	23.41	-	-	0.50	-	dB
	Time-averaged power [dBm]		-	23.41	-	-	1.12	-	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.652	-	-	0.732	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.711	-	-	0.798	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.025	-	-	0.028	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.126	-	-	0.141	-	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.566	-	-	0.635	-	
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.534	-	-	0.599	-	

(LTE750 (Band 13) WR SAR Table continues)

(LTE750 (Band 13) WR SAR Table continues)

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			-	Ch 23230 782.0 MHz	-	-	Ch 23230 782.0 MHz	-	
			-		-	-		-	
QPSK 10MHz Ch BW 1RB 50 % offset	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*			
	Conducted Slot Average Power [dBm]		-	23.42	-	-	0.50	-	dB
	Time-averaged power [dBm]		-	23.42	-	-	1.12	-	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.638	-	-	0.716	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.711	-	-	0.798	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.024	-	-	0.027	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.111	-	-	0.125	-	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.640	-	-	0.718	-	
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.528	-	-	0.592	-	
QPSK 10MHz Ch BW 1RB 100 % offset	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*			
	Conducted Slot Average Power [dBm]		-	23.40	-	-	0.50	-	dB
	Time-averaged power [dBm]		-	23.40	-	-	1.12	-	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.596	-	-	0.669	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.702	-	-	0.788	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.024	-	-	0.027	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.107	-	-	0.120	-	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.628	-	-	0.705	-	
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.517	-	-	0.580	-	

(LTE750 (Band 13) WR SAR Table continues)

(LTE750 (Band 13) WR SAR Table continues)

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			-	Ch 23230 782.0 MHz	-	-	Ch 23230 782.0 MHz	-	
			-		-	-		-	
QPSK 10MHz Ch BW 50% RB 0 % offset	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*			
	Conducted Slot Average Power [dBm]		-	22.69	-	-	1.16	-	dB
	Time-averaged power [dBm]		-	22.69	-	-	1.31	-	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.516	-	-	0.674	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	
		Full SAR	-	0.594	-	-	0.776	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.022	-	-	0.029	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.089	-	-	0.116	-	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.582	-	-	0.760	-	
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.405	-	-	0.529	-	
QPSK 10MHz Ch BW 50% RB 50 % offset	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*			
	Conducted Slot Average Power [dBm]		-	22.72	-	-	1.13	-	dB
	Time-averaged power [dBm]		-	22.72	-	-	1.30	-	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.546	-	-	0.708	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.612	-	-	0.794	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.020	-	-	0.026	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.095	-	-	0.123	-	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.545	-	-	0.707	-	
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.462	-	-	0.599	-	

(LTE750 (Band 13) WR SAR Table continues)

(LTE750 (Band 13) WR SAR Table continues)

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			-	Ch 23230	-	-	Ch 23230	-	
			-	782.0 MHz	-	-	782.0 MHz	-	
QPSK 10MHz Ch BW 50% RB 100 % offset	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*			
	Conducted Slot Average Power [dBm]		-	22.71	-	-	1.14	-	dB
	Time-averaged power [dBm]		-	22.71	-	-	1.30	-	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.490	-	-	0.637	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.603	-	-	0.784	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.021	-	-	0.027	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.079	-	-	0.103	-	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.439	-	-	0.571	-	
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.381	-	-	0.495	-	
QPSK 10MHz Ch BW 100% RB	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*			
	Conducted Slot Average Power [dBm]		-	22.60	-	-	1.25	-	dB
	Time-averaged power [dBm]		-	22.60	-	-	1.33	-	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.537	-	-	0.716	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	56
		Full SAR	-	0.600	-	-	0.800	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.020	-	-	0.027	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.095	-	-	0.127	-	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.528	-	-	0.704	-	
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.499	-	-	0.665	-	

Each of the other available Channel Bandwidths (5 MHz) has no maximum time-averaged output power >0.5dB above the same configuration in 10MHz Channel Bandwidth. Each of the available higher order modulations (16QAM) has no maximum time-averaged output power >0.5dB above

the same configuration in QPSK modulation. Also, no reported SAR value was >1.45 W/kg for the 10MHz Channel Bandwidth and QPSK modulation. Therefore, according to KDB 941225 D05 SAR for LTE Devices v02, no SAR testing was required in any of the smaller Channel Bandwidths or higher order modulations.

CDMA800 Wireless Router SAR results

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 1013	Ch 384	Ch 777	Ch 1013	Ch 384	Ch 777	
			824.7 MHz	836.5 MHz	848.3 MHz	824.7 MHz	836.5 MHz	848.3 MHz	
RC3/ S055	Tuning Target + Tolerance [dBm]		23.65			Scaling factor*			
	Conducted Slot Average Power [dBm]		23.94	23.80	23.72	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		23.94	23.80	23.72	1.12	1.12	1.12	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.615	-	-	0.690	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	57
		Full SAR	0.685	0.707	0.539	0.769	0.793	0.605	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.032	-	-	0.036	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.088	-	-	0.099	-	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.519	-	-	0.582	-	
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.389	-	-	0.436	-	

850MHz Band Wireless Router SAR results

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 128	Ch 190	Ch 251	Ch 128	Ch 190	Ch 251	
			824.2 MHz	836.6 MHz	848.8 MHz	824.2 MHz	836.6 MHz	848.8 MHz	
2-slot GPRS	Tuning Target + Tolerance [dBm]		29.65			Scaling factor*			
	Conducted Slot Average Power [dBm]		29.65	29.90	29.90	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		23.63	23.88	23.88	1.12	1.12	1.12	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.426	-	-	0.478	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	58
		Full SAR	0.598	0.476	0.574	0.671	0.534	0.644	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.017	-	-	0.019	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.050	-	-	0.056	-	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.348	-	-	0.390	-	
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.340	-	-	0.381	-	

(850MHz WR SAR Table continues)

(850MHz WR SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 4132	Ch 4175	Ch 4233	Ch 4132	Ch 4175	Ch 4233	
			826.4 MHz	835.0 MHz	846.6 MHz	826.4 MHz	835.0 MHz	846.6 MHz	
WCDMA	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*			
	Conducted Slot Average Power [dBm]		23.45	23.31	23.35	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		23.45	23.31	23.35	1.12	1.12	1.12	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.524	-	-	0.588	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	59
		Full SAR	0.496	0.626	0.374	0.557	0.702	0.420	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.020	-	-	0.022	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.078	-	-	0.088	-	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.475	-	-	0.533	-	
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.428	-	-	0.480	-	

LTE1700/2100 (Band 4) Wireless Router SAR results

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 20050	Ch 20175	Ch 20300	Ch 20050	Ch 20175	Ch 20300	
			1720.0 MHz	1732.5 MHz	1745.0 MHz	1720.0 MHz	1732.5 MHz	1745.0 MHz	
QPSK 20MHz Ch BW 1RB 0 % offset	Tuning Target + Tolerance [dBm]		18.25			Scaling factor*			
	Conducted Slot Average Power [dBm]		18.25	18.34	18.41	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		18.25	18.34	18.41	1.12	1.12	1.12	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.339	0.308	0.348	0.380	0.346	0.390	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.396	0.259	-	0.444	0.291	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.005	0.006	-	0.006	0.007	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.384	0.532	-	0.431	0.597	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.010	0.016	-	0.011	0.018		
Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-	
	Full SAR	-	0.097	0.104	-	0.109	0.117		
QPSK 20MHz Ch BW 1RB 50 % offset	Tuning Target + Tolerance [dBm]		18.25			Scaling factor*			
	Conducted Slot Average Power [dBm]		18.39	18.36	18.32	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		18.39	18.36	18.32	1.12	1.12	1.12	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.364	0.388	-	0.408	0.435	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.252	0.440	-	0.283	0.494	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.004	0.006	-	0.004	0.007	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.478	0.534	-	0.536	0.599	-	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
Full SAR		0.011	0.017	-	0.012	0.019	-		
Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-	
	Full SAR	0.078	0.100	-	0.088	0.112	-		

(LTE1700/2100 (Band 4) WR SAR Table continues)

(LTE1700/2100 (Band 4) WR SAR Table continues)

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	
QPSK 20MHz Ch BW 1RB 100 % offset	Tuning Target + Tolerance [dBm]		18.25			Scaling factor*			
	Conducted Slot Average Power [dBm]		18.36	18.34	-	0.50	0.50	-	dB
	Time-averaged power [dBm]		18.36	18.34	-	1.12	1.12	-	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.301	0.478	-	0.338	0.536	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.203	0.500	-	0.228	0.561	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.005	0.005	-	0.006	0.006	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.407	0.665	-	0.457	0.746	-	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
Full SAR		0.010	0.019	-	0.011	0.021	-		
Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-	
	Full SAR	0.061	0.101	-	0.068	0.113	-		
QPSK 20MHz Ch BW 50% RB 0 % offset	Tuning Target + Tolerance [dBm]		18.25			Scaling factor*			
	Conducted Slot Average Power [dBm]		17.42	17.31	-	1.33	1.44	-	dB
	Time-averaged power [dBm]		17.42	17.31	-	1.36	1.39	-	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.276	0.232	-	0.375	0.323	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.136	0.112	-	0.185	0.156	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.005	0.006	-	0.007	0.008	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.474	0.475	-	0.644	0.662	-	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
Full SAR		0.012	0.015	-	0.016	0.021	-		
Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-	
	Full SAR	0.068	0.057	-	0.092	0.079	-		

(LTE1700/2100 (Band 4) WR SAR Table continues)

(LTE1700/2100 (Band 4) WR SAR Table continues)

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	
QPSK 20MHz Ch BW 50% RB 50 % offset	Tuning Target + Tolerance [dBm]		18.25			Scaling factor*			
	Conducted Slot Average Power [dBm]		17.44	17.42	17.31	1.31	1.33	1.44	dB
	Time-averaged power [dBm]		17.44	17.42	17.31	1.35	1.36	1.39	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.318	0.334	0.541	0.430	0.454	0.754	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.206	0.327	-	0.279	0.444	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.004	0.005	-	0.005	0.007	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.421	0.428	-	0.569	0.581	-	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
Full SAR		0.009	0.013	-	0.012	0.018	-		
Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-	
	Full SAR	0.059	0.076	-	0.080	0.103	-		
QPSK 20MHz Ch BW 50% RB 100 % offset	Tuning Target + Tolerance [dBm]		18.25			Scaling factor*			
	Conducted Slot Average Power [dBm]		17.36	17.46	17.18	1.39	1.29	1.57	dB
	Time-averaged power [dBm]		17.36	17.46	17.18	1.38	1.35	1.44	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.318	-	-	0.428	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.136	-	-	0.183	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.007	-	-	0.009	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	60
		Full SAR	0.326	0.570	0.792	0.449	0.767	1.14	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.026	-	-	0.035	-		
Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-	
	Full SAR	-	0.083	-	-	0.112	-		

(LTE1700/2100 (Band 4) WR SAR Table continues)

(LTE1700/2100 (Band 4) WR SAR Table continues)

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 20050	Ch 20175	Ch 20300	Ch 20050	Ch 20175	Ch 20300	
			1720.0 MHz	1732.5 MHz	1745.0 MHz	1720.0 MHz	1732.5 MHz	1745.0 MHz	
QPSK 20MHz Ch BW 100% RB	Tuning Target + Tolerance [dBm]		18.25			Scaling factor*			
	Conducted Slot Average Power [dBm]		17.33	17.29	17.16	1.42	1.46	1.59	dB
	Time-averaged power [dBm]		17.33	17.29	17.16	1.39	1.40	1.44	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.314	0.335	-	0.435	0.469	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.204	0.326	-	0.283	0.456	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.004	0.005	-	0.006	0.007	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.423	0.436	-	0.587	0.610	-	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.009	0.013	-	0.012	0.018	-	
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.064	0.070	-	0.089	0.098	-	

Each of the other available Channel Bandwidths (5, 10 and 15MHz) has no maximum time-averaged output power >0.5dB above the same configuration in 20MHz Channel Bandwidth. Each of the available higher order modulations (16QAM) has no maximum time-averaged output power >0.5dB above the same configuration in QPSK modulation. Also, no reported SAR value was >1.45 W/kg for the 20MHz Channel Bandwidth and QPSK modulation. Therefore, according to KDB 941225 D05 SAR for LTE Devices v02, no SAR testing was required in any of the smaller Channel Bandwidths or higher order modulations.

CDMA1900 Wireless Router SAR results

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 25 1851.25 MHz	Ch 600 1880.0 MHz	Ch 1175 1908.75 MHz	Ch 25 1851.25 MHz	Ch 600 1880.0 MHz	Ch 1175 1908.75 MHz	
RC3/ S055	Tuning Target + Tolerance [dBm]		20.75			Scaling factor*			
	Conducted Slot Average Power [dBm]		20.87	20.83	20.78	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		20.87	20.83	20.78	1.12	1.12	1.12	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.595	-	-	0.668	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	61
		Full SAR	0.800	0.685	0.652	0.898	0.769	0.732	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.093	-	-	0.104	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.131	-	-	0.147	-	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.516	-	-	0.579	-	
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.069	-	-	0.077	-	
	Display facing phantom, Repeated SAR	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.668	-	-	0.750	-	-	

1900MHz Band Wireless Router SAR results

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 512	Ch 661	Ch 810	Ch 512	Ch 661	Ch 810	
	1850.2 MHz	1880.0 MHz	1909.8 MHz	1850.2 MHz	1880.0 MHz	1909.8 MHz			
GSM1900	Tuning Target + Tolerance [dBm]		25.85			Scaling factor*			
	Conducted Slot Average Power [dBm]		25.90	26.00	26.10	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		16.87	16.97	17.07	1.12	1.12	1.12	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.594	0.683	0.809	0.666	0.766	0.908	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.479	-	-	0.537	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.005	-	-	0.006	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.778	0.879	1.04	0.873	0.986	1.167	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.020	-	-	0.022	-	
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.030	-	-	0.034	-	
2-slot GPRS	Tuning Target + Tolerance [dBm]		22.85			Scaling factor*			
	Conducted Slot Average Power [dBm]		22.90	22.90	23.20	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		16.88	16.88	17.18	1.12	1.12	1.12	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.605	0.718	0.845	0.679	0.806	0.948	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.490	-	-	0.550	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.007	-	-	0.008	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.880	0.925	0.938	0.987	1.04	1.05	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.018	-	-	0.020	-	
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.030	-	-	0.034	-	
Bottom edge facing phantom, Repeated	Estimated SAR	-	-	-	-	-	-	-	
	Full SAR	-	-	0.944	-	-	1.06		

(1900MHz WR SAR Table continues)

(1900MHz WR SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 512	Ch 661	Ch 810	Ch 512	Ch 661	Ch 810	
			1850.2 MHz	1880.0 MHz	1909.8 MHz	1850.2 MHz	1880.0 MHz	1909.8 MHz	
3-slot GPRS	Tuning Target + Tolerance [dBm]		21.05			Scaling factor*			
	Conducted Slot Average Power [dBm]		21.10	21.20	21.30	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		16.84	16.94	17.04	1.12	1.12	1.12	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.684	-	-	0.767	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.776	0.860	1.02	0.871	0.965	1.14	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-	
	Full SAR	-	-	-	-	-	-		
4-slot GPRS	Tuning Target + Tolerance [dBm]		19.85			Scaling factor*			
	Conducted Slot Average Power [dBm]		19.90	20.00	20.20	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		16.89	16.99	17.19	1.12	1.12	1.12	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.681	-	-	0.764	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.782	0.875	1.04	0.877	0.982	1.17	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-	
	Full SAR	-	-	-	-	-	-		

(1900MHz WR SAR Table continues)

(1900MHz WR SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 512	Ch 661	Ch 810	Ch 512	Ch 661	Ch 810	
			1850.2 MHz	1880.0 MHz	1909.8 MHz	1850.2 MHz	1880.0 MHz	1909.8 MHz	
1-slot 8PSK EGPRS	Tuning Target + Tolerance [dBm]		25.85			Scaling factor*			
	Conducted Slot Average Power [dBm]		26.20	26.30	26.50	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		17.17	17.27	17.47	1.12	1.12	1.12	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.678	-	-	0.761	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.491	-	-	0.551	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.008	-	-	0.009	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	62
		Full SAR	0.887	0.989	1.17	0.995	1.110	1.31	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.020	-	-	0.022	-	
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.031	-	-	0.035	-	
Bottom edge facing phantom, Repeated	Estimated SAR	-	-	-	-	-	-	-	
	Full SAR	-	-	1.08	-	-	1.21		
2-slot 8PSK EGPRS	Tuning Target + Tolerance [dBm]		22.85			Scaling factor*			
	Conducted Slot Average Power [dBm]		22.90	23.00	23.20	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		16.88	16.98	17.18	1.12	1.12	1.12	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-					-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.827	0.919	1.10	0.928	1.03	1.23	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	

(1900MHz WR SAR Table continues)

(1900MHz WR SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 512	Ch 661	Ch 810	Ch 512	Ch 661	Ch 810	
			1850.2 MHz	1880.0 MHz	1909.8 MHz	1850.2 MHz	1880.0 MHz	1909.8 MHz	
3-slot 8PSK EGPRS	Tuning Target + Tolerance [dBm]		21.05			Scaling factor*			
	Conducted Slot Average Power [dBm]		21.10	21.20	21.30	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		16.84	16.94	17.04	1.12	1.12	1.12	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.857	0.890	0.876	0.962	0.999	0.983	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
4-slot 8PSK EGPRS	Tuning Target + Tolerance [dBm]		19.85			Scaling factor*			
	Conducted Slot Average Power [dBm]		20.00	20.20	20.40	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		16.99	17.19	17.39	1.12	1.12	1.12	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.913	0.776	1.13	1.02	0.871	1.27	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	

(1900MHz WR SAR Table continues)

(1900MHz WR SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 512	Ch 661	Ch 810	Ch 512	Ch 661	Ch 810	
			1850.2 MHz	1880.0 MHz	1909.8 MHz	1850.2 MHz	1880.0 MHz	1909.8 MHz	
WCDMA	Tuning Target + Tolerance [dBm]		16.75			Scaling factor*			
	Conducted Slot Average Power [dBm]		16.88	16.84	16.85	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		16.88	16.84	16.85	1.12	1.12	1.12	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.573	-	-	0.643	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.437	-	-	0.490	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.009	-	-	0.010	-	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	1.14	0.992	1.06	1.28	1.11	1.19	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.020	-	-	0.022	-	
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.014	-	-	0.016	-	
WCDMA	Bottom edge facing phantom, Repeated	Estimated SAR	-	-	-	-	-	-	63
		Full SAR	1.17	-	-	1.31	-	-	

2450MHz Wireless Router SAR results

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 1	Ch 6	Ch 11	Ch 1	Ch 6	Ch 11	
			2412.0 MHz	2437.0 MHz	2462.0 MHz	2412.0 MHz	2437.0 MHz	2462.0 MHz	
WLAN b-mode DSSS 1 Mbps	Tuning Target + Tolerance [dBm]		14.3			Scaling factor*			
	Conducted Slot Average Power [dBm]		13.21	13.28	13.80	1.59	1.52	1.00	dB
	Time-averaged power [dBm]		13.21	13.28	13.80	1.44	1.42	1.26	Lin
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.066	-	-	0.094	-	
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.107	-	-	0.152	-	
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	64
		Full SAR	0.110	0.119	0.132	0.159	0.169	0.166	
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.004	-	-	0.006	-	
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.014	-	-	0.020	-	
Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-	
	Full SAR	-	0.067	-	-	0.095	-		
WLAN b-mode DSSS 11 Mbps	Tuning Target + Tolerance [dBm]		14.3			Scaling factor*			
	Conducted Slot Average Power [dBm]		-	14.06	-	-	0.74	-	dB
	Time-averaged power [dBm]		-	14.06	-	-	1.19	-	Lin
	Top edge facing phantom, Worst case check	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.131	-	-	0.155	-	
WLAN n-mode MCS 5 OFDM 52.0/57.8 Mbps	Tuning Target + Tolerance [dBm]		14.3			Scaling factor*			
	Conducted Slot Average Power [dBm]		13.83	-	-	0.97	-	-	dB
	Time-averaged power [dBm]		13.83	-	-	1.25	-	-	Lin
	Top edge facing phantom, Worst case check	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.118	-	-	0.148	-	-	

Simultaneous transmissions: Combined SAR results – Individual band Max results

Test configuration	Max. 1g SAR results								
	WLAN 2450	LTE 750	CDMA 800	2-slot GPRS 850	WCDMA 850	LTE 1700/2100	CDMA 1900	GSM / (E)GPRS 1900	WCDMA 1900
Back facing phantom	0.094	0.732	0.690	0.478	0.588	0.754	0.668	0.948	0.643
Display facing phantom	0.152	0.800	0.793	0.671	0.702	0.561	0.898	0.551	0.490
Top edge facing phantom	0.169	0.029	0.036	0.019	0.022	0.009	0.104	0.009	0.010
Bottom edge facing phantom	0.006	0.141	0.099	0.056	0.088	1.14	0.147	1.31	1.31
Left edge facing phantom	0.020	0.760	0.582	0.390	0.533	0.035	0.579	0.022	0.022
Right edge facing phantom	0.095	0.665	0.436	0.381	0.480	0.113	0.077	0.035	0.016

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

Test configuration	Max. 1g SAR results							
	LTE 750 + WLAN 2450	CDMA 800 + WLAN 2450	2-slot GPRS 850 + WLAN 2450	WCDMA 850 + WLAN 2450	LTE 1700/2100 + WLAN 2450	CDMA 1900 + WLAN 2450	GSM / (E)GPRS 1900 + WLAN 2450	WCDMA 1900 + WLAN 2450
Back facing phantom	0.826	0.784	0.572	0.682	0.848	0.762	1.04	0.737
Display facing phantom	0.952	0.945	0.823	0.854	0.713	1.05	0.703	0.642
Top edge facing phantom	0.198	0.205	0.188	0.191	0.178	0.273	0.178	0.179
Bottom edge facing phantom	0.147	0.105	0.062	0.094	1.15	0.153	1.32	1.32
Left edge facing phantom	0.780	0.602	0.410	0.553	0.055	0.599	0.042	0.042
Right edge facing phantom	0.760	0.531	0.476	0.575	0.208	0.172	0.130	0.111

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

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

Test configuration	Max. 1g SAR results							
	LTE 750 + WLAN 2450	CDMA 800 + WLAN 2450	2-slot GPRS 850 + WLAN 2450	WCDMA 850 + WLAN 2450	LTE 1700/ 2100 + WLAN 2450	CDMA 1900 + WLAN 2450	GSM / (E)GPRS 1900+ WLAN 2450	WCDMA 1900 + WLAN 2450
Back facing phantom	-	-	-	-	-	-	-	-
Display facing phantom	0.833	0.855	0.729	0.762	-	0.950	-	-
Top edge facing phantom	-	-	-	-	-	-	-	-
Bottom edge facing phantom	-	-	-	-	1.15	-	1.32	1.31
Left edge facing phantom	-	-	-	-	-	-	-	-
Right edge facing phantom	-	-	-	-	-	-	-	-

Note: Plots #65-72

Note: Simultaneous Transmission Procedures as described in KDB 447498 D01 V05 are not required for this product. The Combined SAR data given in the tables above has been voluntarily calculated.

Plots of the Measurement scans are given in Appendix B.

7.4 Head and Body SAR assessment of SVLTE mode

7.4.1 Head SAR results of SVLTE mode

LTE750** (Band 13) Head SAR results

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			-	Ch 23230	-	-	Ch 23230	-	
			-	782.0 MHz	-	-	782.0 MHz	-	
10MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		19.15			Scaling factor*			
	Conducted Power [dBm]		-	19.19	-	-	0.50	-	dB
	Time-averaged Power [dBm]		-	19.19	-	-	1.12	-	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.237	-	-	0.266	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.160	-	-	0.180	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	73
		Full SAR	-	0.262	-	-	0.294	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.172	-	-	0.193	-	
QPSK 10MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		19.15			Scaling factor*			
	Conducted Power [dBm]		-	19.21	-	-	0.50	-	dB
	Time-averaged Power [dBm]		-	19.21	-	-	1.12	-	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.228	-	-	0.256	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.166	-	-	0.186	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.245	-	-	0.275	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.167	-	-	0.187	-	

(LTE750 (Band 13) Head SAR Table continues)

(LTE750 (Band 13) Head SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			-	Ch 23230 782.0 MHz	-	-	Ch 23230 782.0 MHz	-	
			-	-	-	-	-	-	
QPSK 10MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		19.15			Scaling factor*			
	Conducted Power [dBm]		-	19.17	-	-	0.50	-	dB
	Time-averaged Power [dBm]		-	19.17	-	-	1.12	-	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.229	-	-	0.257	-	-
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.173	-	-	0.194	-	-
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.260	-	-	0.292	-	-
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.180	-	-	0.202	-	-	
QPSK 10MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		19.15			Scaling factor*			
	Conducted Power [dBm]		-	18.58	-	-	1.07	-	dB
	Time-averaged Power [dBm]		-	18.58	-	-	1.28	-	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.201	-	-	0.257	-	-
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.141	-	-	0.180	-	-
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.219	-	-	0.280	-	-
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.148	-	-	0.189	-	-	

(LTE750 (Band 13) Head SAR Table continues)

(LTE750 (Band 13) Head SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			-	Ch 23230 782.0 MHz	-	-	Ch 23230 782.0 MHz	-	
			-		-	-		-	
QPSK 10MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		19.15			Scaling factor*			
	Conducted Power [dBm]		-	18.69	-	-	0.96	-	dB
	Time-averaged power [dBm]		-	18.69	-	-	1.25	-	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.203	-	-	0.256	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.150	-	-	0.187	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.221	-	-	0.276	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.150	-	-	0.187	-		
QPSK 10MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		19.15			Scaling factor*			
	Conducted Power [dBm]		-	18.61	-	-	1.04	-	dB
	Time-averaged Power [dBm]		-	18.61	-	-	1.27	-	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.204	-	-	0.259	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.144	-	-	0.183	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.224	-	-	0.285	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.063	-	-	0.080	-		

(LTE750 (Band 13) Head SAR Table continues)

(LTE750 (Band 13) Head SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			-	Ch 23230 782.0 MHz	-	-	Ch 23230 782.0 MHz	-	
			-	-	-	-	-	-	
QPSK 10MHz Ch BW 100% RB	Tuning Target + Tolerance [dBm]		19.15			Scaling factor*			
	Conducted Power [dBm]		-	18.54	-	-	1.11	-	dB
	Time-averaged power [dBm]		-	18.54	-	-	1.29	-	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.200	-	-	0.258	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.144	-	-	0.186	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.218	-	-	0.281	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.148	-	-	0.191	-		

Each of the other available Channel Bandwidths (5 MHz) has no maximum time-averaged output power >0.5dB above the same configuration in 10MHz Channel Bandwidth. Each of the available higher order modulations (16QAM) has no maximum time-averaged output power >0.5dB above the same configuration in QPSK modulation. Also, no reported SAR value was >1.45 W/kg for the 10MHz Channel Bandwidth and QPSK modulation. Therefore, according to KDB 941225 D05 SAR for LTE Devices v02, no SAR testing was required in any of the smaller Channel Bandwidths or higher order modulations.

CDMA800 Band Head SAR results**

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 1013	Ch 384	Ch 777	Ch 1013	Ch 384	Ch 777	
			824.7 MHz	836.5 MHz	848.3 MHz	824.7 MHz	836.5 MHz	848.3 MHz	
RC3/ S055	Tuning Target + Tolerance [dBm]		18.75			Scaling factor*			
	Conducted Power [dBm]		18.79	18.89	18.75	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		18.79	18.89	18.75	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.238	-	-	0.267	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.169	-	-	0.190	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	74
		Full SAR	0.228	0.245	0.204	0.256	0.275	0.229	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.186	-	-	0.209	-	

LTE1700/2100 (Band 4) Head SAR results**

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	
QPSK 20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		19.25			Scaling factor*			
	Conducted Power [dBm]		19.37	19.39	19.34	0.50	0.50	0.50	dB
	Time-averaged Power [dBm]		19.37	19.39	19.34	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.338	-	-	0.379	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.153	-	-	0.172	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.463	-	-	0.519	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.115	-	-	0.129	-		
QPSK 20MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		19.25			Scaling factor*			
	Conducted Power [dBm]		19.41	19.38	19.36	0.50	0.50	0.50	dB
	Time-averaged Power [dBm]		19.41	19.38	19.36	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.318	0.327	0.285	0.357	0.367	0.320	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.154	0.158	-	0.173	0.177	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.438	0.458	-	0.491	0.514	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		0.107	0.116	-	0.120	0.130	-		

(LTE1700/2100** (Band 4) Head SAR Table continues)

(LTE1700/2100** (Band 4) Head SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	
QPSK 20MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		19.25			Scaling factor*			
	Conducted Power [dBm]		19.39	19.33	19.27	0.50	0.50	0.50	dB
	Time-averaged Power [dBm]		19.39	19.33	19.27	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.331	0.298	-	0.371	0.334	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.149	0.146	-	0.167	0.164	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.453	0.419	-	0.508	0.470	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		0.117	0.123	-	0.131	0.138	-		
QPSK 20MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		19.25			Scaling factor*			
	Conducted Power [dBm]		18.40	18.41	18.44	1.35	1.34	1.31	dB
	Time-averaged power [dBm]		18.40	18.41	18.44	1.36	1.36	1.35	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.260	0.251	-	0.354	0.339	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.137	0.133	-	0.187	0.180	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.376	0.376	-	0.512	0.508	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		-	0.100	0.115	-	0.136	0.155		

(LTE1700/2100** (Band 4) Head SAR Table continues)

(LTE1700/2100** (Band 4) Head SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	
QPSK 20MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		19.25			Scaling factor*			
	Conducted Power [dBm]		18.49	18.37	18.47	1.26	1.38	1.28	dB
	Time-averaged power [dBm]		18.49	18.37	18.47	1.34	1.37	1.34	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.248	0.250	-	0.331	0.344	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.118	0.122	-	0.158	0.168	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.341	0.350	-	0.456	0.481	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		0.083	0.090	-	0.111	0.124	-		
QPSK 20MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		19.25			Scaling factor*			
	Conducted Power [dBm]		18.51	18.43	18.43	1.24	1.32	1.32	dB
	Time-averaged Power [dBm]		18.51	18.43	18.43	1.33	1.36	1.36	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.256	0.255	0.240	0.341	0.346	0.325	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	0.140	0.133	-	0.186	0.180	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	75
		Full SAR	0.359	0.384	-	0.478	0.520	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
Full SAR		0.097	0.110	-	0.129	0.149	-		

(LTE1700/2100** (Band 4) Head SAR Table continues)

(LTE1700/2100** (Band 4) Head SAR Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	
QPSK 20MHz Ch BW 100% RB	Tuning Target + Tolerance [dBm]		19.25			Scaling factor*			
	Conducted Power [dBm]		18.53	18.49	18.47	1.22	1.26	1.28	dB
	Time-averaged power [dBm]		18.53	18.49	18.47	1.32	1.34	1.34	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.211	-	-	0.282	-	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.122	-	-	0.163	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.355	-	-	0.474	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.090	-	-	0.120	-	

Each of the other available Channel Bandwidths (5, 10 and 15MHz) has no maximum time-averaged output power >0.5dB above the same configuration in 20MHz Channel Bandwidth. Each of the available higher order modulations (16QAM) has no maximum time-averaged output power >0.5dB above the same configuration in QPSK modulation. Also, no reported SAR value was >1.45 W/kg for the 20MHz Channel Bandwidth and QPSK modulation. Therefore, according to KDB 941225 D05 SAR for LTE Devices v02, no SAR testing was required in any of the smaller Channel Bandwidths or higher order modulations.

CDMA1900 Band Head SAR results**

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 25	Ch 600	Ch 1175	Ch 25	Ch 600	Ch 1175	
			1851.25 MHz	1880.0 MHz	1908.75 MHz	1851.25 MHz	1880.0 MHz	1908.75 MHz	
RC3/ S055	Tuning Target + Tolerance [dBm]		18.75			Scaling factor*			
	Conducted Power [dBm]		18.78	18.93	18.87	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		18.78	18.93	18.87	1.12	1.12	1.12	Lin
	Left Cheek	Estimated SAR	-	-	-	-	-	-	76
		Full SAR	0.502	0.499	0.522	0.563	0.560	0.586	
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.164	-	-	0.184	-	
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.283	-	-	0.318	-	
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-
		Full SAR	-	0.152	-	-	0.171	-	

Simultaneous transmissions: Combined SAR results – Individual band Max results

Test configuration	Max. 1g SAR results									
	WLAN 2450	WLAN 5000	LTE 750	SVLTE 750**	CDMA 800	CDMA 800**	LTE 1700/ 2100	SVLTE 1700/ 2100**	CDMA 1900	CDMA 1900**
Head: Left, Cheek	0.932	0.948	0.698	0.266	0.811	0.267	0.732	0.379	1.19	0.586
Head: Left, Tilt	0.702	1.05	0.515	0.194	0.624	0.190	0.398	0.187	0.439	0.184
Head: Right, Cheek	0.485	0.616	0.767	0.294	0.859	0.275	1.08	0.520	0.588	0.318
Head: Right, Tilt	0.602	0.694	0.551	0.202	0.645	0.209	0.328	0.155	0.323	0.171

**Simultaneous transmissions: Combined head SAR results –
Max + Max combined results for SVLTE mode**

Test configuration	LTE750 + CDMA800**	LTE750 + CDMA1900**	SVLTE750** + CDMA800	SVLTE750** + CDMA1900
Head: Left, Cheek	0.965	1.28	1.08	1.46
Head: Left, Tilt	0.705	0.699	0.818	0.633
Head: Right, Cheek	1.04	1.09	1.15	0.882
Head: Right, Tilt	0.760	0.722	0.847	0.525
Test configuration	LTE750 + CDMA800** + WLAN2450	LTE750 + CDMA1900** + WLAN2450	SVLTE750** + CDMA800 + WLAN2450	SVLTE750** + CDMA1900 + WLAN2450
Head: Left, Cheek	1.90	2.22	2.01	2.39
Head: Left, Tilt	1.41	1.40	1.52	1.34
Head: Right, Cheek	1.53	1.57	1.64	1.37
Head: Right, Tilt	1.36	1.32	1.45	1.13
Test configuration	LTE750 + CDMA800** + WLAN5000	LTE750 + CDMA1900** + WLAN5000	SVLTE750** + CDMA800 + WLAN5000	SVLTE750** + CDMA1900 + WLAN5000
Head: Left, Cheek	1.91	2.23	2.03	2.40
Head: Left, Tilt	1.76	1.75	1.87	1.68
Head: Right, Cheek	1.66	1.70	1.77	1.50
Head: Right, Tilt	1.45	1.42	1.54	1.22

(Table continues)

(Table continues)

Test configuration	LTE1700/2100 + CDMA800**	LTE1700/2100 + CDMA1900**	SVLTE1700/2100** + CDMA800	SVLTE1700/2100** + CDMA1900
Head: Left, Cheek	1.00	1.32	1.19	1.57
Head: Left, Tilt	0.588	0.582	0.811	0.626
Head: Right, Cheek	1.36	1.40	1.38	1.11
Head: Right, Tilt	0.537	0.499	0.800	0.478
Test configuration	LTE1700/2100+ CDMA800** + WLAN2450	LTE1700/2100+ CDMA1900** + WLAN2450	SVLTE1700/2100** + CDMA800 + WLAN2450	SVLTE1700/2100** + CDMA1900 + WLAN2450
Head: Left, Cheek	1.93	2.25	2.12	2.50
Head: Left, Tilt	1.29	1.28	1.51	1.33
Head: Right, Cheek	1.84	1.88	1.86	1.59
Head: Right, Tilt	1.14	1.10	1.40	1.08
Test configuration	LTE1700/2100+ CDMA800** + WLAN5000	LTE1700/2100 + CDMA1900** + WLAN5000	SVLTE1700/2100** + CDMA800 + WLAN5000	SVLTE1700/2100** + CDMA1900 + WLAN5000
Head: Left, Cheek	1.95	2.27	2.14	2.52
Head: Left, Tilt	1.64	1.63	1.86	1.68
Head: Right, Cheek	1.97	2.01	2.00	1.72
Head: Right, Tilt	1.23	1.19	1.49	1.17

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

**Simultaneous transmissions: Combined head SAR results –
SPEAG Combined Multiband algorithm results for SVLTE mode**

Test configuration	LTE750 + CDMA800**	LTE750 + CDMA1900**	SVLTE750** + CDMA800	SVLTE750** + CDMA1900
Head: Left, Cheek	-	1.14	-	1.38
Head: Left, Tilt	-	-	-	-
Head: Right, Cheek	1.04	-	1.14	-
Head: Right, Tilt	-	-	-	-
Test configuration	LTE750 + CDMA800** + WLAN2450	LTE750 + CDMA1900** + WLAN2450	SVLTE750** + CDMA800 + WLAN2450	SVLTE750** + CDMA1900 + WLAN2450
Head: Left, Cheek	1.00	1.16	1.10	1.41
Head: Left, Tilt	-	-	-	-
Head: Right, Cheek	-	-	-	-
Head: Right, Tilt	-	-	-	-
Test configuration	LTE750 + CDMA800** + WLAN5000	LTE750 + CDMA1900** + WLAN5000	SVLTE750** + CDMA800 + WLAN5000	SVLTE750** + CDMA1900 + WLAN5000
Head: Left, Cheek	0.953	1.13	1.05	1.38
Head: Left, Tilt	-	-	-	-
Head: Right, Cheek	-	-	-	-
Head: Right, Tilt	-	-	-	-

(Table continues)

(Table continues)

Test configuration	LTE1700/2100 + CDMA800**	LTE1700/2100 + CDMA1900**	SVLTE1700/2100** + CDMA800	SVLTE1700/2100** + CDMA1900
Head: Left, Cheek	-	-	-	1.29
Head: Left, Tilt	-	-	-	-
Head: Right, Cheek	1.31	1.32	1.32	-
Head: Right, Tilt	-	-	-	-
Test configuration	LTE1700/2100+ CDMA800** + WLAN2450	LTE1700/2100+ CDMA1900** + WLAN2450	SVLTE1700/2100** + CDMA800 + WLAN2450	SVLTE1700/2100** + CDMA1900 + WLAN2450
Head: Left, Cheek	0.985	0.959	1.11	1.32
Head: Left, Tilt	-	-	-	-
Head: Right, Cheek	-	-	-	-
Head: Right, Tilt	-	-	-	-
Test configuration	LTE1700/2100+ CDMA800** + WLAN5000	LTE1700/2100 + CDMA1900** + WLAN5000	SVLTE1700/2100** + CDMA800 + WLAN5000	SVLTE1700/2100** + CDMA1900 + WLAN5000
Head: Left, Cheek	-	0.935	1.07	1.29
Head: Left, Tilt	-	-	-	-
Head: Right, Cheek	1.33	-	-	-
Head: Right, Tilt	-	-	-	-

Note: Plots #106-129

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

7.4.1.1 Simultaneous Transmission SAR Test Exclusion Considerations for SVLTE Head Measurements

Simultaneous transmission SAR test exclusion procedures as described in KDB 447498 D01 v05.

Following table gives antenna pair SAR to peak location separation ratios for the transmitter combinations for which the sum of simultaneously transmitting 1g SAR was above limit (See “Max+Max Combined results” table in previous section).

Antenna Pair SAR to Peak Location Separation Ratio

LTE750 + CDMA800** + WLAN2450	LTE750, Left Cheek	CDMA800**, Left Cheek	LTE750, Left Cheek	WLAN 2450, Left Cheek	CDMA800**, Left Cheek	WLAN 2450, Left Cheek
X [mm]	67.1	65.4	67.1	28.9	65.4	28.9
Y [mm]	278.7	278.1	278.7	330.8	278.1	330.8
Z [mm]	-173.8	-176.2	-173.8	-172.7	-176.2	-172.7
DISTANCE [mm]	3.0		64.6		64.2	
MAX + MAX (Reported SAR)	0.965		1.63		1.20	
SAR to peak location separation ratio	0.32		0.03		0.02	
LTE750 + CDMA1900** + WLAN2450	LTE750, Left Cheek	CDMA1900**, Left Cheek	LTE750, Left Cheek	WLAN 2450, Left Cheek	CDMA1900**, Left Cheek	WLAN 2450, Left Cheek
X [mm]	67.1	61.7	67.1	28.9	61.7	28.9
Y [mm]	278.7	254.4	278.7	330.8	254.4	330.8
Z [mm]	-173.8	-172.0	-173.8	-172.7	-172.0	-172.7
DISTANCE [mm]	25.0		64.6		83.1	
MAX + MAX (Reported SAR)	1.28		1.63		1.52	
SAR to peak location separation ratio	0.06		0.03		0.02	
SVLTE750** + CDMA800 + WLAN2450	SVLTE750**, Left Cheek	CDMA800, Left Cheek	SVLTE750**, Left Cheek	WLAN 2450, Left Cheek	CDMA800, Left Cheek	WLAN 2450, Left Cheek
X [mm]	67.1	63.4	67.1	28.9	63.4	28.9
Y [mm]	278.7	277.5	278.7	330.8	277.5	330.8
Z [mm]	-173.8	-176.3	-173.8	-172.7	-176.3	-172.7
DISTANCE [mm]	4.7		64.6		63.6	
MAX + MAX (Reported SAR)	1.08		1.20		1.74	
SAR to peak location separation ratio	0.24		0.02		0.04	

(Antenna Pair SAR to Peak Separation Ratio Table continues)

(Antenna Pair SAR to Peak Separation RatioTable continues)

SVLTE750** + CDMA800 + WLAN2450	SVLTE750**, Right Cheek	CDMA800, Right Cheek	SVLTE750**, Right Cheek	WLAN 2450, Right Cheek	CDMA800, Right Cheek	WLAN 2450, Right Cheek
X [mm]	61.3	64.1	61.3	18.5	64.1	18.5
Y [mm]	-268.3	-270.1	-268.3	-312.8	-270.1	-312.8
Z [mm]	-174.5	-174.6	-174.5	-172.2	-174.6	-172.2
DISTANCE [mm]	3.3		61.8		62.5	
MAX + MAX (Reported SAR)	1.15		0.779		1.34	
SAR to peak location separation ratio	0.37		0.01		0.02	
SVLTE750** + CDMA1900 + WLAN2450	SVLTE750**, Left Cheek	CDMA1900, Left Cheek	SVLTE750**, Left Cheek	WLAN 2450, Left Cheek	CDMA1900, Left Cheek	WLAN 2450, Left Cheek
X [mm]	67.1	61.4	67.1	28.9	61.4	28.9
Y [mm]	278.7	259.7	278.7	330.8	259.7	330.8
Z [mm]	-173.8	-172.7	-173.8	-172.7	-172.7	-172.7
DISTANCE [mm]	19.9		64.6		78.2	
MAX + MAX (Reported SAR)	1.46		1.20		2.12	
SAR to peak location separation ratio	0.09		0.02		0.04	
LTE750 + CDMA800** + WLAN5000	LTE750, Left Cheek	CDMA800**, Left Cheek	LTE750, Left Cheek	WLAN 5000, Left Cheek	CDMA800**, Left Cheek	WLAN 5000, Left Cheek
X [mm]	67.1	65.4	67.1	21.3	65.4	21.3
Y [mm]	278.7	278.1	278.7	331.8	278.1	331.8
Z [mm]	-173.8	-176.2	-173.8	-173.4	-176.2	-173.4
DISTANCE [mm]	3.0		70.1		69.6	
MAX + MAX (Reported SAR)	0.965		1.65		1.22	
SAR to peak location separation ratio	0.32		0.03		0.02	

(Antenna Pair SAR to Peak Separation RatioTable continues)

(Antenna Pair SAR to Peak Separation RatioTable continues)

LTE750 + CDMA800** + WLAN5000	LTE750, Left Tilt	CDMA800**, Left Tilt	LTE750, Left Tilt	WLAN 5000, Left Tilt	CDMA800**, Left Tilt	WLAN 5000, Left Tilt
X [mm]	44.9	44.7	44.9	21.3	44.7	21.3
Y [mm]	293.5	293.4	293.5	331.8	293.4	331.8
Z [mm]	-174.5	-176.3	-174.5	-173.4	-176.3	-173.4
DISTANCE [mm]	1.8		45.0		45.1	
MAX + MAX (Reported SAR)	0.705		1.57		1.24	
SAR to peak location separation ratio	0.33		0.04		0.03	
LTE750 + CDMA800** + WLAN5000	LTE750, Right Cheek	CDMA800**, Right Cheek	LTE750, Right Cheek	WLAN 5000, Right Cheek	CDMA800**, Right Cheek	WLAN 5000, Right Cheek
X [mm]	63.4	64.1	63.4	-2.5	64.1	-2.5
Y [mm]	-268.8	-270.1	-268.8	-288.8	-270.1	-288.8
Z [mm]	-174.8	-174.6	-174.8	-167.4	-174.6	-167.4
DISTANCE [mm]	1.5		69.2		69.5	
MAX + MAX (Reported SAR)	1.04		1.38		0.89	
SAR to peak location separation ratio	0.70		0.02		0.01	
LTE750 + CDMA1900** + WLAN5000	LTE750, Left Cheek	CDMA1900**, Left Cheek	LTE750, Left Cheek	WLAN 5000, Left Cheek	CDMA1900**, Left Cheek	WLAN 5000, Left Cheek
X [mm]	67.1	61.7	67.1	21.3	61.7	21.3
Y [mm]	278.7	254.4	278.7	331.8	254.4	331.8
Z [mm]	-173.8	-172.0	-173.8	-173.4	-172.0	-173.4
DISTANCE [mm]	25.0		70.1		87.3	
MAX + MAX (Reported SAR)	1.28		1.65		1.53	
SAR to peak location separation ratio	0.06		0.03		0.02	

(Antenna Pair SAR to Peak Separation RatioTable continues)

(Antenna Pair SAR to Peak Separation RatioTable continues)

LTE750 + CDMA1900** + WLAN5000	LTE750, Left Tilt	CDMA1900**, Left Tilt	LTE750, Left Tilt	WLAN 5000, Left Tilt	CDMA1900**, Left Tilt	WLAN 5000, Left Tilt
X [mm]	44.9	28.3	44.9	21.3	28.3	21.3
Y [mm]	293.5	318.6	293.5	331.8	318.6	331.8
Z [mm]	-174.5	-172.4	-174.5	-173.4	-172.4	-173.4
DISTANCE [mm]	30.2		45.0		15.0	
MAX + MAX (Reported SAR)	0.699		1.57		1.23	
SAR to peak location separation ratio	0.02		0.04		0.09	
LTE750 + CDMA1900** + WLAN5000	LTE750, Right Cheek	CDMA1900**, Right Cheek	LTE750, Right Cheek	WLAN 5000, Right Cheek	CDMA1900**, Right Cheek	WLAN 5000, Right Cheek
X [mm]	63.4	75.0	63.4	-2.5	75.0	-2.5
Y [mm]	-268.8	-289.6	-268.8	-288.8	-289.6	-288.8
Z [mm]	-174.8	-171.9	-174.8	-167.4	-171.9	-167.4
DISTANCE [mm]	24.0		69.2		77.7	
MAX + MAX (Reported SAR)	1.09		1.38		0.934	
SAR to peak location separation ratio	0.05		0.02		0.01	
SVLTE750** + CDMA800 + WLAN5000	SVLTE750**, Left Cheek	CDMA800, Left Cheek	SVLTE750**, Left Cheek	WLAN 5000, Left Cheek	CDMA800, Left Cheek	WLAN 5000, Left Cheek
X [mm]	67.1	63.4	67.1	21.3	63.4	21.3
Y [mm]	278.7	277.5	278.7	331.8	277.5	331.8
Z [mm]	-173.8	-176.3	-173.8	-173.4	-176.3	-173.4
DISTANCE [mm]	4.7		70.1		68.7	
MAX + MAX (Reported SAR)	1.08		1.21		1.76	
SAR to peak location separation ratio	0.24		0.02		0.03	

(Antenna Pair SAR to Peak Separation RatioTable continues)

(Antenna Pair SAR to Peak Separation RatioTable continues)

SVLTE750** + CDMA800 + WLAN5000	SVLTE750**, Left Tilt	CDMA800, Left Tilt	SVLTE750**, Left Tilt	WLAN 5000, Left Tilt	CDMA800, Left Tilt	WLAN 5000, Left Tilt
X [mm]	44.9	42.7	44.9	21.3	42.7	21.3
Y [mm]	293.5	292.9	293.5	331.8	292.9	331.8
Z [mm]	-174.4	-176.1	-174.4	-173.4	-176.1	-173.4
DISTANCE [mm]	2.8		45.0		44.5	
MAX + MAX (Reported SAR)	0.818		1.24		1.67	
SAR to peak location separation ratio	0.26		0.03		0.05	
SVLTE750** + CDMA800 + WLAN5000	SVLTE750**, Right Cheek	CDMA800, Right Cheek	SVLTE750**, Right Cheek	WLAN 5000, Right Cheek	CDMA800, Right Cheek	WLAN 5000, Right Cheek
X [mm]	61.3	64.1	61.3	-2.5	64.1	-2.5
Y [mm]	-268.3	-270.1	-268.3	-288.8	-270.1	-288.8
Z [mm]	-174.5	-174.6	-174.5	-167.4	-174.6	-167.4
DISTANCE [mm]	3.3		67.4		69.5	
MAX + MAX (Reported SAR)	1.15		0.910		1.48	
SAR to peak location separation ratio	0.37		0.01		0.03	
SVLTE750** + CDMA1900 + WLAN5000	SVLTE750**, Left Cheek	CDMA1900, Left Cheek	SVLTE750**, Left Cheek	WLAN 5000, Left Cheek	CDMA1900, Left Cheek	WLAN 5000, Left Cheek
X [mm]	67.1	61.4	67.1	21.3	61.4	21.3
Y [mm]	278.7	259.7	278.7	331.8	259.7	331.8
Z [mm]	-173.8	-172.7	-173.8	-173.4	-172.7	-173.4
DISTANCE [mm]	19.9		70.1		82.5	
MAX + MAX (Reported SAR)	1.46		1.21		2.14	
SAR to peak location separation ratio	0.09		0.02		0.04	

(Antenna Pair SAR to Peak Separation RatioTable continues)

(Antenna Pair SAR to Peak Separation RatioTable continues)

SVLTE750** + CDMA1900 + WLAN5000	SVLTE750**, Left Tilt	CDMA1900, Left Tilt	SVLTE750**, Left Tilt	WLAN 5000, Left Tilt	CDMA1900, Left Tilt	WLAN 5000, Left Tilt
X [mm]	44.9	26.8	44.9	21.3	26.8	21.3
Y [mm]	293.5	316.1	293.5	331.8	316.1	331.8
Z [mm]	-174.4	-172.2	-174.4	-173.4	-172.2	-173.4
DISTANCE [mm]	29.0		45.0		16.7	
MAX + MAX (Reported SAR)	0.633		1.24		1.49	
SAR to peak location separation ratio	0.02		0.03		0.11	
LTE1700/2100+ CDMA800** + WLAN2450	LTE 1700/2100, Left Cheek	CDMA800**, Left Cheek	LTE 1700/2100, Left Cheek	WLAN 2450, Left Cheek	CDMA800**, Left Cheek	WLAN 2450, Left Cheek
X [mm]	75.7	65.4	75.7	28.9	65.4	28.9
Y [mm]	287.5	278.1	287.5	330.8	278.1	330.8
Z [mm]	-172.0	-176.2	-172.0	-172.7	-176.2	-172.7
DISTANCE [mm]	14.5		63.7		64.2	
MAX + MAX (Reported SAR)	1.00		1.66		1.20	
SAR to peak location separation ratio	0.07		0.03		0.02	
LTE1700/2100+ CDMA800** + WLAN2450	LTE 1700/2100, Right Cheek	CDMA800**, Right Cheek	LTE 1700/2100, Right Cheek	WLAN 2450, Right Cheek	CDMA800**, Right Cheek	WLAN 2450, Right Cheek
X [mm]	64.3	64.1	64.3	18.5	64.1	18.5
Y [mm]	-256.4	-270.1	-256.4	-312.8	-270.1	-312.8
Z [mm]	-170.6	-174.6	-170.6	-172.2	-174.6	-172.2
DISTANCE [mm]	14.3		72.7		62.5	
MAX + MAX (Reported SAR)	1.36		1.57		0.760	
SAR to peak location separation ratio	0.11		0.03		0.01	

(Antenna Pair SAR to Peak Separation RatioTable continues)

(Antenna Pair SAR to Peak Separation RatioTable continues)

LTE1700/2100+ CDMA1900** + WLAN2450	LTE 1700/2100, Left Cheek	CDMA1900**, Left Cheek	LTE 1700/2100, Left Cheek	WLAN 2450, Left Cheek	CDMA1900**, Left Cheek	WLAN 2450, Left Cheek
X [mm]	75.7	61.7	75.7	28.9	61.7	28.9
Y [mm]	287.5	254.4	287.5	330.8	254.4	330.8
Z [mm]	-172.0	-172.0	-172.0	-172.7	-172.0	-172.7
DISTANCE [mm]	35.9		63.7		83.1	
MAX + MAX (Reported SAR)	1.32		1.66		1.52	
SAR to peak location separation ratio	0.04		0.03		0.02	
LTE1700/2100+ CDMA1900** + WLAN2450	LTE 1700/2100, Right Cheek	CDMA1900**, Right Cheek	LTE 1700/2100, Right Cheek	WLAN 2450, Right Cheek	CDMA1900**, Right Cheek	WLAN 2450, Right Cheek
X [mm]	64.3	75.0	64.3	18.5	75.0	18.5
Y [mm]	-256.4	-289.6	-256.4	-312.8	-289.6	-312.8
Z [mm]	-170.6	-171.9	-170.6	-172.2	-171.9	-172.2
DISTANCE [mm]	34.9		72.7		61.1	
MAX + MAX (Reported SAR)	1.40		1.57		0.803	
SAR to peak location separation ratio	0.05		0.03		0.01	
SVLTE1700/2100** + CDMA800 + WLAN2450	SVLTE 1700/2100**, Left Cheek	CDMA800, Left Cheek	SVLTE 1700/2100**, Left Cheek	WLAN 2450, Left Cheek	CDMA800, Left Cheek	WLAN 2450, Left Cheek
X [mm]	77.3	63.4	77.3	28.9	63.4	28.9
Y [mm]	288.1	277.5	288.1	330.8	277.5	330.8
Z [mm]	-170.2	-176.3	-170.2	-172.7	-176.3	-172.7
DISTANCE [mm]	18.6		64.6		63.6	
MAX + MAX (Reported SAR)	1.19		1.31		1.74	
SAR to peak location separation ratio	0.07		0.02		0.04	

(Antenna Pair SAR to Peak Separation RatioTable continues)

(Antenna Pair SAR to Peak Separation RatioTable continues)

SVLTE1700/2100** + CDMA800 + WLAN2450	SVLTE 1700/2100**, Right Cheek	CDMA800, Right Cheek	SVLTE 1700/2100**, Right Cheek	WLAN 2450, Right Cheek	CDMA800, Right Cheek	WLAN 2450, Right Cheek
X [mm]	62.7	64.1	62.7	18.5	64.1	18.5
Y [mm]	-258.9	-270.1	-258.9	-312.8	-270.1	-312.8
Z [mm]	-172.7	-174.6	-172.7	-172.2	-174.6	-172.2
DISTANCE [mm]	11.4		69.7		62.5	
MAX + MAX (Reported SAR)	1.38		1.01		1.34	
SAR to peak location separation ratio	0.14		0.01		0.02	
SVLTE1700/2100** + CDMA1900 + WLAN2450	SVLTE 1700/2100**, Left Cheek	CDMA1900, Left Cheek	SVLTE 1700/2100**, Left Cheek	WLAN 2450, Left Cheek	CDMA1900, Left Cheek	WLAN 2450, Left Cheek
X [mm]	77.3	61.4	77.3	28.9	61.4	28.9
Y [mm]	288.1	259.7	288.1	330.8	259.7	330.8
Z [mm]	-170.2	-172.7	-170.2	-172.7	-172.7	-172.7
DISTANCE [mm]	32.7		64.6		78.2	
MAX + MAX (Reported SAR)	1.57		1.31		2.12	
SAR to peak location separation ratio	0.06		0.02		0.04	
LTE1700/2100+ CDMA800** + WLAN5000	LTE 1700/2100, Left Cheek	CDMA800**, Left Cheek	LTE 1700/2100, Left Cheek	WLAN 5000, Left Cheek	CDMA800**, Left Cheek	WLAN 5000, Left Cheek
X [mm]	75.7	65.4	75.7	21.3	65.4	21.3
Y [mm]	287.5	278.1	287.5	331.8	278.1	331.8
Z [mm]	-172.0	-176.2	-172.0	-173.4	-176.2	-173.4
DISTANCE [mm]	14.5		70.1		69.6	
MAX + MAX (Reported SAR)	1.00		1.68		1.22	
SAR to peak location separation ratio	0.07		0.03		0.02	

(Antenna Pair SAR to Peak Separation RatioTable continues)

(Antenna Pair SAR to Peak Separation RatioTable continues)

LTE1700/2100+ CDMA800** + WLAN5000	LTE 1700/2100, Left Tilt	CDMA800**, Left Tilt	LTE 1700/2100, Left Tilt	WLAN 5000, Left Tilt	CDMA800**, Left Tilt	WLAN 5000, Left Tilt
X [mm]	31.2	44.7	31.2	21.3	44.7	21.3
Y [mm]	311.8	293.4	311.8	331.8	293.4	331.8
Z [mm]	-173.3	-176.3	-173.3	-173.4	-176.3	-173.4
DISTANCE [mm]	23.0		22.3		45.1	
MAX + MAX (Reported SAR)	0.59		1.45		1.24	
SAR to peak location separation ratio	0.02		0.08		0.03	
LTE1700/2100+ CDMA800** + WLAN5000	LTE 1700/2100, Right Cheek	CDMA800**, Right Cheek	LTE 1700/2100, Right Cheek	WLAN 5000, Right Cheek	CDMA800**, Right Cheek	WLAN 5000, Right Cheek
X [mm]	64.3	64.1	64.3	-2.5	64.1	-2.5
Y [mm]	-256.4	-270.1	-256.4	-288.8	-270.1	-288.8
Z [mm]	-170.6	-174.6	-170.6	-167.4	-174.6	-167.4
DISTANCE [mm]	14.3		74.3		69.5	
MAX + MAX (Reported SAR)	1.36		1.70		0.891	
SAR to peak location separation ratio	0.11		0.03		0.01	
LTE1700/2100 + CDMA1900** + WLAN5000	LTE 1700/2100, Left Cheek	CDMA1900**, Left Cheek	LTE 1700/2100, Left Cheek	WLAN 5000, Left Cheek	CDMA1900**, Left Cheek	WLAN 5000, Left Cheek
X [mm]	75.7	61.7	75.7	21.3	61.7	21.3
Y [mm]	287.5	254.4	287.5	331.8	254.4	331.8
Z [mm]	-172.0	-172.0	-172.0	-173.4	-172.0	-173.4
DISTANCE [mm]	35.9		70.1		87.3	
MAX + MAX (Reported SAR)	1.32		1.68		1.53	
SAR to peak location separation ratio	0.04		0.03		0.02	

(Antenna Pair SAR to Peak Separation RatioTable continues)

(Antenna Pair SAR to Peak Separation RatioTable continues)

LTE1700/2100 + CDMA1900** + WLAN5000	LTE 1700/2100, Left Tilt	CDMA1900**, Left Tilt	LTE 1700/2100, Left Tilt	WLAN 5000, Left Tilt	CDMA1900**, Left Tilt	WLAN 5000, Left Tilt
X [mm]	31.2	28.3	31.2	21.3	28.3	21.3
Y [mm]	311.8	318.6	311.8	331.8	318.6	331.8
Z [mm]	-173.3	-172.4	-173.3	-173.4	-172.4	-173.4
DISTANCE [mm]	7.5		22.3		15.0	
MAX + MAX (Reported SAR)	0.58		1.45		1.23	
SAR to peak location separation ratio	0.06		0.08		0.09	
LTE1700/2100 + CDMA1900** + WLAN5000	LTE 1700/2100, Right Cheek	CDMA1900**, Right Cheek	LTE 1700/2100, Right Cheek	WLAN 5000, Right Cheek	CDMA1900**, Right Cheek	WLAN 5000, Right Cheek
X [mm]	64.3	75.0	64.3	-2.5	75.0	-2.5
Y [mm]	-256.4	-289.6	-256.4	-288.8	-289.6	-288.8
Z [mm]	-170.6	-171.9	-170.6	-167.4	-171.9	-167.4
DISTANCE [mm]	34.9		74.3		77.7	
MAX + MAX (Reported SAR)	1.40		1.70		0.934	
SAR to peak location separation ratio	0.05		0.03		0.01	
SVLTE1700/2100** + CDMA800 + WLAN5000	SVLTE 1700/2100**, Left Cheek	CDMA800, Left Cheek	SVLTE 1700/2100**, Left Cheek	WLAN 5000, Left Cheek	CDMA800, Left Cheek	WLAN 5000, Left Cheek
X [mm]	77.3	63.4	77.3	21.3	63.4	21.3
Y [mm]	288.1	277.5	288.1	331.8	277.5	331.8
Z [mm]	-170.2	-176.3	-170.2	-173.4	-176.3	-173.4
DISTANCE [mm]	18.6		71.1		68.7	
MAX + MAX (Reported SAR)	1.19		1.33		1.76	
SAR to peak location separation ratio	0.07		0.02		0.03	

(Antenna Pair SAR to Peak Separation RatioTable continues)

(Antenna Pair SAR to Peak Separation RatioTable continues)

SVLTE1700/2100** + CDMA800 + WLAN5000	SVLTE 1700/2100**, Left Tilt	CDMA800, Left Tilt	SVLTE 1700/2100**, Left Tilt	WLAN 5000, Left Tilt	CDMA800, Left Tilt	WLAN 5000, Left Tilt
X [mm]	35.3	42.7	35.3	21.3	42.7	21.3
Y [mm]	312.9	292.9	312.9	331.8	292.9	331.8
Z [mm]	-173.8	-176.1	-173.8	-173.4	-176.1	-173.4
DISTANCE [mm]	21.4		23.5		44.5	
MAX + MAX (Reported SAR)	0.811		1.24		1.67	
SAR to peak location separation ratio	0.03		0.06		0.05	
SVLTE1700/2100** + CDMA800 + WLAN5000	SVLTE 1700/2100**, Right Cheek	CDMA800, Right Cheek	SVLTE 1700/2100**, Right Cheek	WLAN 5000, Right Cheek	CDMA800, Right Cheek	WLAN 5000, Right Cheek
X [mm]	62.7	64.1	62.7	-2.5	64.1	-2.5
Y [mm]	-258.9	-270.1	-258.9	-288.8	-270.1	-288.8
Z [mm]	-172.7	-174.6	-172.7	-167.4	-174.6	-167.4
DISTANCE [mm]	11.4		71.9		69.5	
MAX + MAX (Reported SAR)	1.38		1.14		1.48	
SAR to peak location separation ratio	0.14		0.02		0.03	
SVLTE1700/2100** + CDMA1900 + WLAN5000	SVLTE 1700/2100**, Left Cheek	CDMA1900, Left Cheek	SVLTE 1700/2100**, Left Cheek	WLAN 5000, Left Cheek	CDMA1900, Left Cheek	WLAN 5000, Left Cheek
X [mm]	77.3	61.4	77.3	21.3	61.4	21.3
Y [mm]	288.1	259.7	288.1	331.8	259.7	331.8
Z [mm]	-170.2	-172.7	-170.2	-173.4	-172.7	-173.4
DISTANCE [mm]	32.7		71.1		82.5	
MAX + MAX (Reported SAR)	1.57		1.33		2.14	
SAR to peak location separation ratio	0.06		0.02		0.04	

(Antenna Pair SAR to Peak Separation RatioTable continues)

(Antenna Pair SAR to Peak Separation Ratio Table continues)

SVLTE1700/2100** + CDMA1900 + WLAN5000	SVLTE 1700/2100**, Left Tilt	CDMA1900, Left Tilt	SVLTE 1700/2100**, Left Tilt	WLAN 5000, Left Tilt	CDMA1900, Left Tilt	WLAN 5000, Left Tilt
X [mm]	35.3	26.8	35.3	21.3	26.8	21.3
Y [mm]	312.9	316.1	312.9	331.8	316.1	331.8
Z [mm]	-173.8	-172.2	-173.8	-173.4	-172.2	-173.4
DISTANCE [mm]	9.2		23.5		16.7	
MAX + MAX (Reported SAR)	0.626		1.24		1.49	
SAR to peak location separation ratio	0.05		0.06		0.11	
SVLTE1700/2100** + CDMA1900 + WLAN5000	SVLTE 1700/2100**, Right Cheek	CDMA1900, Right Cheek	SVLTE 1700/2100**, Right Cheek	WLAN 5000, Right Cheek	CDMA1900, Right Cheek	WLAN 5000, Right Cheek
X [mm]	62.7	75.9	62.7	-2.5	75.9	-2.5
Y [mm]	-258.9	-290.9	-258.9	-288.8	-290.9	-288.8
Z [mm]	-172.7	-172.0	-172.7	-167.4	-172.0	-167.4
DISTANCE [mm]	34.6		71.9		78.5	
MAX + MAX (Reported SAR)	1.11		1.14		1.20	
SAR to peak location separation ratio	0.03		0.02		0.02	

All simultaneous transmitter configurations where all antenna pairs' SPLSR is equal to or below 0.04 are excluded from expanded zoom scan testing.

For all transmitters where SPLSR is >0.04, the following tables give individual and combined expanded zoom scan results.

LTE750 (Band 13) Head SAR Expanded Volume Scan results

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			-	Ch 23230	-	-	Ch 23230	-	
			-	782.0 MHz	-	-	782.0 MHz	-	
QPSK 10MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*			
	Conducted Power [dBm]		-	22.71	-	-	1.14	-	dB
	Time-averaged power [dBm]		-	22.71	-	-	1.30	-	Lin
	Left Cheek	Full SAR	-	0.570	-	-	0.741	-	77
	Left Tilt	Full SAR	-	0.413	-	-	0.537	-	78
	Right Cheek	Full SAR	-	0.592	-	-	0.770	-	79
	Right Tilt	Full SAR	-	-	-	-	-	-	-

LTE750 (Band 13) Head SAR Expanded Volume Scan results**

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			-	Ch 23230	-	-	Ch 23230	-	
			-	782.0 MHz	-	-	782.0 MHz	-	
QPSK 10MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		19.15			Scaling factor*			
	Conducted Power [dBm]		-	19.19	-	-	0.50	-	dB
	Time-averaged power [dBm]		-	19.19	-	-	1.12	-	Lin
	Left Cheek	Full SAR	-	0.237	-	-	0.266	-	80
	Left Tilt	Full SAR	-	-	-	-	-	-	-
	Right Cheek	Full SAR	-	0.257	-	-	0.288	-	81
	Right Tilt	Full SAR	-	-	-	-	-	-	-
Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			-	Ch 23230	-	-	Ch 23230	-	
			-	782.0 MHz	-	-	782.0 MHz	-	
QPSK 10MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		19.15			Scaling factor*			
	Conducted Power [dBm]		-	19.17	-	-	0.50	-	dB
	Time-averaged Power [dBm]		-	19.17	-	-	1.12	-	Lin
	Left Cheek	Full SAR	-	-	-	-	-	-	-
	Left Tilt	Full SAR	-	0.196	-	-	0.220	-	82
	Right Cheek	Full SAR	-	-	-	-	-	-	-
	Right Tilt	Full SAR	-	-	-	-	-	-	-

CDMA800 Band Head SAR Expanded Volume Scan results

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 1013	Ch 384	Ch 777	Ch 1013	Ch 384	Ch 777	
			824.7 MHz	836.5 MHz	848.3 MHz	824.7 MHz	836.5 MHz	848.3 MHz	
RC3/ S055	Tuning Target + Tolerance [dBm]		23.65			Scaling factor*			
	Conducted Power [dBm]		23.94	23.80	23.72	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		23.94	23.80	23.72	1.12	1.12	1.12	Lin
	Left Cheek	Full SAR	-	0.763	-	-	0.856	-	83
	Left Tilt	Full SAR	-	0.565	-	-	0.634	-	84
	Right Cheek	Full SAR	-	0.782	-	-	0.877	-	85
	Right Tilt	Full SAR	-	-	-	-	-	-	-

CDMA800 Band Head SAR Expanded Volume Scan results**

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 1013	Ch 384	Ch 777	Ch 1013	Ch 384	Ch 777	
			824.7 MHz	836.5 MHz	848.3 MHz	824.7 MHz	836.5 MHz	848.3 MHz	
RC3/ S055	Tuning Target + Tolerance [dBm]		18.75			Scaling factor*			
	Conducted Power [dBm]		18.79	18.89	18.75	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		18.79	18.89	18.75	1.12	1.12	1.12	Lin
	Left Cheek	Full SAR	-	0.251	-	-	0.282	-	86
	Left Tilt	Full SAR	-	0.187	-	-	0.210	-	87
	Right Cheek	Full SAR	-	0.266			0.298	-	88
	Right Tilt	Full SAR	-	-	-	-	-	-	-

LTE1700/2100 (Band 4) Head SAR Expanded Volume Scan results

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 20050	Ch 23175	Ch 20300	Ch 20050	Ch 23175	Ch 20300	
			1720.0 MHz	1732.5 MHz	1745.0 MHz	1720.0 MHz	1732.5 MHz	1745.0 MHz	
QPSK 20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*			
	Conducted Power [dBm]		23.26	23.27	23.25	0.50	0.50	0.50	dB
	Time-averaged Power [dBm]		23.26	23.27	23.25	1.12	1.12	1.12	Lin
	Left Cheek	Full SAR	-	-	-	-	-	-	
	Left Tilt	Full SAR	-	-	-	-	-	-	
	Right Cheek	Full SAR	1.01	-	-	1.13	-	-	89
	Right Tilt	Full SAR	-	-	-	-	-	-	
QPSK 20MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*			
	Conducted Power [dBm]		22.08	22.28	22.11	1.67	1.47	1.64	dB
	Time-averaged power [dBm]		22.08	22.28	22.11	1.47	1.40	1.46	Lin
	Left Cheek	Full SAR	-	0.496		-	0.696	-	90
	Left Tilt	Full SAR	-	0.288	-	-	0.404	-	91
	Right Cheek	Full SAR	-	-	-	-	-	-	
	Right Tilt	Full SAR	-	-	-	-	-	-	

LTE1700/2100 (Band 4) Head SAR results**

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 20050	Ch 23175	Ch 20300	Ch 20050	Ch 23175	Ch 20300	
			1720.0 MHz	1732.5 MHz	1745.0 MHz	1720.0 MHz	1732.5 MHz	1745.0 MHz	
QPSK 20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		19.25			Scaling factor*			
	Conducted Power [dBm]		19.37	19.39	19.34	0.50	0.50	0.50	dB
	Time-averaged Power [dBm]		19.37	19.39	19.34	1.12	1.12	1.12	Lin
	Left Cheek	Full SAR	-	0.347	-	-	0.389	-	92
	Left Tilt	Full SAR	-	-	-	-	-	-	-
	Right Cheek	Full SAR	-	-	-	-	-	-	-
	Right Tilt	Full SAR	-	-	-	-	-	-	-
QPSK 20MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		19.25			Scaling factor*			
	Conducted Power [dBm]		18.40	18.41	18.44	1.35	1.34	1.31	dB
	Time-averaged power [dBm]		18.40	18.41	18.44	1.36	1.36	1.35	Lin
	Left Cheek	Full SAR	-	-	-	-	-	-	-
	Left Tilt	Full SAR	-	0.129	-	-	0.176	-	93
	Right Cheek	Full SAR	-	-	-	-	-	-	-
	Right Tilt	Full SAR	-	-	-	-	-	-	-
QPSK 20MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		19.25			Scaling factor*			
	Conducted Power [dBm]		18.51	18.43	18.43	1.24	1.32	1.32	dB
	Time-averaged Power [dBm]		18.51	18.43	18.43	1.33	1.36	1.36	Lin
	Left Cheek	Full SAR	-	-	-	-	-	-	-
	Left Tilt	Full SAR	-	-	-	-	-	-	-
	Right Cheek	Full SAR	-	0.367	-	-	0.497	-	94
	Right Tilt	Full SAR	-	-	-	-	-	-	-

CDMA1900 Band Head SAR Expanded Volume Scan results

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 25 1851.25 MHz	Ch 600 1880.0 MHz	Ch 1175 1908.75 MHz	Ch 25 1851.25 MHz	Ch 600 1880.0 MHz	Ch 1175 1908.75 MHz	
RC3/ S055	Tuning Target + Tolerance [dBm]		22.15			Scaling factor*			
	Conducted Power [dBm]		22.18	22.26	22.19	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		22.18	22.26	22.19	1.12	1.12	1.12	Lin
	Left Cheek	Full SAR	-	-	1.07	-	-	1.20	95
	Left Tilt	Full SAR	-	0.297	-	-	0.333	-	96
	Right Cheek	Full SAR	-	0.431	-	-	0.484	-	97
	Right Tilt	Full SAR	-	-	-	-	-	-	-

CDMA1900 Band Head SAR Expanded Volume Scan results**

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 25	Ch 600	Ch 1175	Ch 25	Ch 600	Ch 1175	
			1851.25 MHz	1880.0 MHz	1908.75 MHz	1851.25 MHz	1880.0 MHz	1908.75 MHz	
RC3/ S055	Tuning Target + Tolerance [dBm]		18.75			Scaling factor*			
	Conducted Power [dBm]		18.78	18.93	18.87	0.50	0.50	0.50	dB
	Time-averaged power [dBm]		18.78	18.93	18.87	1.12	1.12	1.12	Lin
	Left Cheek	Full SAR	-	-	0.531	-	-	0.596	98
	Left Tilt	Full SAR	-	0.165	-	-	0.185	-	99
	Right Cheek	Full SAR	-	0.272	-	-	0.305	-	100
	Right Tilt	Full SAR	-	-	-	-	-	-	-

2450MHz Head SAR Expanded Volume Scan results

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 1	Ch 6	Ch 11	Ch 1	Ch 6	Ch 11	
			2412.0 MHz	2437.0 MHz	2462.0 MHz	2412.0 MHz	2437.0 MHz	2462.0 MHz	
WLAN b-mode DSSS 1Mbps	Tuning Target + Tolerance [dBm]		14.3			Scaling factor*			
	Conducted Power [dBm]		13.21	13.28	13.80	1.59	1.52	1.00	dB
	Time-averaged power [dBm]		13.21	13.28	13.80	1.44	1.42	1.26	Lin
	Left Cheek	Full SAR	-	0.683	-	-	0.969	-	101
	Left Tilt	Full SAR	-	-	-	-	-	-	-
	Right Cheek	Full SAR	-	0.369	-	-	0.524	-	102
	Right Tilt	Full SAR	-	-	-	-	-	-	-

5000MHz Head SAR Expanded Volume Scan results 5725–5850 MHz

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
			Ch 149	Ch 157	Ch 161	Ch 149	Ch 157	Ch 161	
			5745.0 MHz	5785.0 MHz	5805.0 MHz	5745.0 MHz	5785.0 MHz	5805.0 MHz	
WLAN a-mode OFDM 6 Mbps	Tuning Target + Tolerance [dBm]		13.5			Scaling factor*			
	Conducted Power [dBm]		13.08	13.10	12.92	0.92	0.90	1.08	dB
	Time-averaged power [dBm]		13.08	13.10	12.92	1.24	1.23	1.28	Lin
	Left Cheek	Full SAR	-	-	0.743	-	-	0.953	103
	Left Tilt	Full SAR	-	-	0.793	-	-	1.02	104
	Right Cheek	Full SAR	-	-	0.473	-	-	0.607	105
	Right Tilt	Full SAR	-	-	-	-	-	-	-

**Simultaneous transmissions: Combined Head SAR results –
SPEAG Combined Expanded Zoom scans results for SVLTE mode**

Test configuration	LTE750 + CDMA800** + WLAN2450	LTE750 + CDMA1900** + WLAN2450	SVLTE750** + CDMA800 + WLAN2450	SVLTE750** + CDMA1900 + WLAN2450
Head: Left, Cheek	1.06	1.24	1.17	1.44
Head: Left, Tilt	-	-	-	-
Head: Right, Cheek	-	-	1.23	-
Head: Right, Tilt	-	-	-	-
Test configuration	LTE750 + CDMA800** + WLAN5000	LTE750 + CDMA1900** + WLAN5000	SVLTE750** + CDMA800 + WLAN5000	SVLTE750** + CDMA1900 + WLAN5000
Head: Left, Cheek	1.07	1.20	1.10	1.43
Head: Left, Tilt	1.23	1.26	1.28	1.21
Head: Right, Cheek	1.08	1.00	1.18	-
Head: Right, Tilt	-	-	-	-
Test configuration	LTE1700/2100+ CDMA800** + WLAN2450	LTE1700/2100+ CDMA1900** + WLAN2450	SVLTE1700/2100** + CDMA800 + WLAN2450	SVLTE1700/2100** + CDMA1900 + WLAN2450
Head: Left, Cheek	0.992	0.997	1.19	1.30
Head: Left, Tilt	-	-	-	-
Head: Right, Cheek	1.43	1.42	1.37	-
Head: Right, Tilt	-	-	-	-
Test configuration	LTE1700/2100+ CDMA800** + WLAN5000	LTE1700/2100 + CDMA1900** + WLAN5000	SVLTE1700/2100** + CDMA800 + WLAN5000	SVLTE1700/2100** + CDMA1900 + WLAN5000
Head: Left, Cheek	1.05	1.05	1.18	1.27
Head: Left, Tilt	1.30	1.32	1.36	1.30
Head: Right, Cheek	1.40	1.40	1.33	0.944
Head: Right, Tilt	-	-	-	-

Note: Plots #130-164

Highest result within individual zoom scan or individual expanded zoom scan results is given in Section 1.2 for each transmitter. Highest result within contributing individual zoom scan, individual expanded zoom scan, Speag combined algorithm or combined expanded zoom scan results are given in Section for each simultaneous transmitter combination.

Note:

* Reported SAR values are scaled to, or measured at, upper limit of power tuning tolerance. In addition, SAR values are scaled up by 12% to cover measurement drift. As a consequence of this upward drift correction, the contribution of measurement drift to the overall measurement uncertainty (Section 6) is reduced to zero.

** indicates reduced power for SVLTE

Full details of power reductions active in SVLTE mode are given in Section 2.1

7.4.2 Body SAR results of SVLTE mode

LTE750** (Band 13) Body SAR results

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				-	Ch 23230	-	-	Ch 23230	-	
				-	782.0 MHz	-	-	782.0 MHz	-	
QPSK 10MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]			19.15			Scaling factor*			
	Conducted Slot Average Power [dBm]			-	19.19	-	-	0.50	-	dB
	Time-averaged power [dBm]			-	19.19	-	-	1.12	-	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.217	-	-	0.243	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.184	-	-	0.206	-	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	165
			Full SAR	-	0.250	-	-	0.281	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.211	-	-	0.237	-	
QPSK 10MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]			19.15			Scaling factor*			
	Conducted Slot Average Power [dBm]				19.21	-	-	0.50	-	dB
	Time-averaged power [dBm]				19.21	-	-	1.12	-	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.214	-	-	0.240	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.179	-	-	0.201	-	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.249	-	-	0.279	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.184	-	-	0.206	-	

(LTE750 (Band 13) Body SAR Table continues)

(LTE750 (Band 13) Body SAR Table continues)

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				-	Ch 23230	-	-	Ch 23230	-	
				-	782.0 MHz	-	-	782.0 MHz	-	
QPSK 10MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]			19.15			Scaling factor*			
	Conducted Slot Average Power [dBm]			-	19.17	-	-	0.50	-	dB
	Time-averaged power [dBm]			-	19.17	-	-	1.12	-	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.209	-	-	0.235	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.180	-	-	0.202	-	-
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.247	-	-	0.277	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
Full SAR			-	0.191	-	-	0.214	-	-	
QPSK 10MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]			19.15			Scaling factor*			
	Conducted Slot Average Power [dBm]			-	18.58	-	-	1.07	-	dB
	Time-averaged power [dBm]			-	18.58	-	-	1.28	-	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.170	-	-	0.217	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.143	-	-	0.183	-	-
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.207	-	-	0.265	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
Full SAR			-	0.177	-	-	0.226	-	-	

(LTE750 (Band 13) Body SAR Table continues)

(LTE750 (Band 13) Body SAR Table continues)

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				-	Ch 23230	-	-	Ch 23230	-	
				-	782.0 MHz	-	-	782.0 MHz	-	
QPSK 10MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]			19.15			Scaling factor*			
	Conducted Slot Average Power [dBm]			-	18.69	-	-	0.96	-	dB
	Time-averaged power [dBm]			-	18.69	-	-	1.25	-	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.188	-	-	0.235	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.159	-	-	0.198	-	-
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.220	-	-	0.274	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.163	-	-	0.203	-	-
QPSK 10MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]			19.15			Scaling factor*			
	Conducted Slot Average Power [dBm]			-	18.61	-	-	1.04	-	dB
	Time-averaged power [dBm]			-	18.61	-	-	1.27	-	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.166	-	-	0.211	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.144	-	-	0.183	-	-
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.204	-	-	0.259	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.176	-	-	0.224	-	-

(LTE750 (Band 13) Body SAR Table continues)

(LTE750 (Band 13) Body SAR Table continues)

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				-	Ch 23230	-	-	Ch 23230	-	
				-	782.0 MHz	-	-	782.0 MHz	-	
QPSK 10MHz Ch BW 100% RB	Tuning Target + Tolerance [dBm]			19.15			Scaling factor*			
	Conducted Slot Average Power [dBm]			-	18.54	-	-	1.11	-	dB
	Time-averaged power [dBm]			-	18.54	-	-	1.29	-	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.184	-	-	0.238	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.151	-	-	0.195	-	-
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.211	-	-	0.272	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.160	-	-	0.207	-	-

Each of the other available Channel Bandwidths (5 MHz) has no maximum time-averaged output power >0.5dB above the same configuration in 10MHz Channel Bandwidth. Each of the available higher order modulations (16QAM) has no maximum time-averaged output power >0.5dB above the same configuration in QPSK modulation. Also, no reported SAR value was >1.45 W/kg for the 10MHz Channel Bandwidth and QPSK modulation. Therefore, according to KDB 941225 D05 SAR for LTE Devices v02, no SAR testing was required in any of the smaller Channel Bandwidths or higher order modulations.

CDMA800 Body SAR results**

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				Ch 1013 824.7 MHz	Ch 384 836.5 MHz	Ch 777 848.3 MHz	Ch 1013 824.7 MHz	Ch 384 836.5 MHz	Ch 777 848.3 MHz	
RC3/ S055	Tuning Target + Tolerance [dBm]			18.75			Scaling factor*			
	Conducted Slot Average Power [dBm]			18.79	18.89	18.75	0.50	0.50	0.50	dB
	Time-averaged power [dBm]			18.79	18.89	18.75	1.12	1.12	1.12	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.199	-	-	0.223	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.180	-	-	0.202	-	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	166
			Full SAR	0.247	0.233	0.197	0.277	0.261	0.221	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.215	-	-	0.241	-	

LTE1700/2100 (Band 4) Body SAR results**

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	
QPSK 20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		19.25			Scaling factor*				
	Conducted Slot Average Power [dBm]		19.37	19.39	19.34	0.50	0.50	0.50	dB	
	Time-averaged power [dBm]		19.37	19.39	19.34	1.12	1.12	1.12	Lin	
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.282	-	-	0.316	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.242	-	-	0.272	-	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.173	-	-	0.194	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
Full SAR			-	0.270	-	-	0.303	-		
QPSK 20MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		19.25			Scaling factor*				
	Conducted Slot Average Power [dBm]		19.41	19.38	19.36	0.50	0.50	0.50	dB	
	Time-averaged power [dBm]		19.41	19.38	19.36	1.12	1.12	1.12	Lin	
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.275	0.328	0.393	0.309	0.368	0.441	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.232	0.271	-	0.260	0.304	-	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.179	0.196	0.218	0.201	0.220	0.245	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
Full SAR			0.253	0.297	-	0.284	0.333	-		

(LTE1700/2100 (Band 4) Body SAR Table continues)

(LTE1700/2100 (Band 4) Body SAR Table continues)

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				Ch 20050	Ch 20175	Ch 20300	Ch 20050	Ch 20175	Ch 20300	
				1720.0 MHz	1732.5 MHz	1745.0 MHz	1720.0 MHz	1732.5 MHz	1745.0 MHz	
QPSK 20MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		19.25			Scaling factor*				
	Conducted Slot Average Power [dBm]		19.39	19.33	19.27	0.50	0.50	0.50	dB	
	Time-averaged power [dBm]		19.39	19.33	19.27	1.12	1.12	1.12	Lin	
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.298	0.367	-	0.334	0.412	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.245	0.310	-	0.275	0.348	-	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.178	0.214	-	0.200	0.240	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
Full SAR			0.275	0.334	-	0.309	0.375	-		
QPSK 20MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		19.25			Scaling factor*				
	Conducted Slot Average Power [dBm]		18.40	18.41	18.44	1.35	1.34	1.31	dB	
	Time-averaged power [dBm]		18.40	18.41	18.44	1.36	1.36	1.35	Lin	
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.254	0.308	-	0.346	0.416	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.259	0.314	-	0.353	0.425	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.210	0.266	-	0.286	0.360	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
Full SAR			-	0.227	0.280	-	0.309	0.379		

(LTE1700/2100 (Band 4) Body SAR Table continues)

(LTE1700/2100 (Band 4) Body SAR Table continues)

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				Ch 20050	Ch 20175	Ch 20300	Ch 20050	Ch 20175	Ch 20300	
				1720.0 MHz	1732.5 MHz	1745.0 MHz	1720.0 MHz	1732.5 MHz	1745.0 MHz	
QPSK 20MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		19.25			Scaling factor*				
	Conducted Slot Average Power [dBm]		18.49	18.37	18.47	1.26	1.38	1.28	dB	
	Time-averaged power [dBm]		18.49	18.37	18.47	1.34	1.37	1.34	Lin	
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.210	0.254	-	0.281	0.349	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.186	0.230	-	0.249	0.316	-	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.141	0.164	-	0.188	0.225	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
Full SAR			0.194	0.228	-	0.259	0.313	-		
QPSK 20MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		19.25			Scaling factor*				
	Conducted Slot Average Power [dBm]		18.51	18.43	18.43	1.24	1.32	1.32	dB	
	Time-averaged power [dBm]		18.51	18.43	18.43	1.33	1.36	1.36	Lin	
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	167
			Full SAR	0.233	0.287	0.341	0.310	0.389	0.462	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.239	0.297	-	0.318	0.402	-	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	0.201	0.242	-	0.267	0.328	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
Full SAR			0.213	0.253	-	0.283	0.343	-		

(LTE1700/2100 (Band 4) Body SAR Table continues)

(LTE1700/2100 (Band 4) Body SAR Table continues)

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	
QPSK 20MHz Ch BW 100%RB	Tuning Target + Tolerance [dBm]			19.25			Scaling factor*			
	Conducted Slot Average Power [dBm]			18.53	18.49	18.47	1.22	1.26	1.28	dB
	Time-averaged power [dBm]			18.53	18.49	18.47	1.32	1.34	1.34	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.260	-	-	0.348	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.211	-	-	0.282	-	-
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.163	-	-	0.218	-	-
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.229	-	-	0.306	-	-

Each of the other available Channel Bandwidths (5, 10 and 15MHz) has no maximum time-averaged output power >0.5dB above the same configuration in 20MHz Channel Bandwidth. Each of the available higher order modulations (16QAM) has no maximum time-averaged output power >0.5dB above the same configuration in QPSK modulation. Also, no reported SAR value was >1.45 W/kg for the 20MHz Channel Bandwidth and QPSK modulation. Therefore, according to KDB 941225 D05 SAR for LTE Devices v02, no SAR testing was required in any of the smaller Channel Bandwidths or higher order modulations.

CDMA1900 Body SAR results**

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				Ch 25 1851.25 MHz	Ch 600 1880.0 MHz	Ch 1175 1908.75 MHz	Ch 25 1851.25 MHz	Ch 600 1880.0 MHz	Ch 1175 1908.75 MHz	
RC3/ S055	Tuning Target + Tolerance [dBm]			18.75			Scaling factor*			
	Conducted Slot Average Power [dBm]			18.78	18.93	18.87	0.50	0.50	0.50	dB
	Time-averaged power [dBm]			18.78	18.93	18.87	1.12	1.12	1.12	Lin
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.220	-	-	0.247	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.219	-	-	0.246	-	
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-
			Full SAR	-	0.253	-	-	0.284	-	
		Headset WH-902	Estimated SAR	-	-	-	-	-	-	168
			Full SAR	0.279	0.259	0.263	0.313	0.291	0.295	

Simultaneous transmissions: Combined SAR results – Individual band Max results

Test configuration	Max. 1g SAR results									
	WLAN 2450	WLAN 5000	LTE 750	SVLTE 750**	CDMA 800	CDMA 800**	LTE 1700/ 2100	SVLTE 1700/ 2100**	CDMA 1900	CDMA 1900**
Body: Back facing phantom, Without Headset	0.059	0.201	0.679	0.243	0.585	0.223	1.30	0.462	0.482	0.247
Body: Back facing phantom, Headset WH-902	0.051	0.137	0.608	0.206	0.377	0.202	1.29	0.425	0.487	0.246
Body: Display facing phantom, Without Headset	0.087	0.112	0.741	0.281	0.750	0.277	0.965	0.360	0.651	0.284
Body: Display facing phantom, Headset WH-902	0.082	0.101	0.590	0.237	0.403	0.241	1.02	0.379	0.641	0.313

**Simultaneous transmissions: Combined head SAR results –
Max + Max combined results for SVLTE mode**

Test configuration	LTE750 + CDMA800**	LTE750 + CDMA1900**	SVLTE750** + CDMA800	SVLTE750** + CDMA1900
Body: Back facing phantom, Without Headset	0.902	0.926	0.828	0.725
Body: Back facing phantom, Headset WH-902	0.810	0.854	0.583	0.693
Body: Display facing phantom, Without Headset	1.02	1.03	1.03	0.932
Body: Display facing phantom, Headset WH-902	0.831	0.903	0.640	0.878

(Table continues)

(Table continues)

Test configuration	LTE750 + CDMA800** + WLAN2450	LTE750 + CDMA1900** + WLAN2450	SVLTE750** + CDMA800 + WLAN2450	SVLTE750** + CDMA1900 + WLAN2450
Body: Back facing phantom, Without Headset	0.961	0.985	0.887	0.784
Body: Back facing phantom, Headset WH-902	0.861	0.905	0.634	0.744
Body: Display facing phantom, Without Headset	1.11	1.11	1.12	1.02
Body: Display facing phantom, Headset WH-902	0.913	0.985	0.722	0.960
Test configuration	LTE750 + CDMA800** + WLAN5000	LTE750 + CDMA1900** + WLAN5000	SVLTE750** + CDMA800 + WLAN5000	SVLTE750** + CDMA1900 + WLAN5000
Body: Back facing phantom, Without Headset	1.10	1.13	1.03	0.926
Body: Back facing phantom, Headset WH-902	0.947	0.991	0.720	0.830
Body: Display facing phantom, Without Headset	1.13	1.14	1.14	1.04
Body: Display facing phantom, Headset WH-902	0.932	1.00	0.741	0.979
Test configuration	LTE1700/2100 + CDMA800**	LTE1700/2100 + CDMA1900**	SVLTE1700/2100** + CDMA800	SVLTE1700/2100** + CDMA1900
Body: Back facing phantom, Without Headset	1.52	1.55	1.05	0.944
Body: Back facing phantom, Headset WH-902	1.49	1.54	0.802	0.912
Body: Display facing phantom, Without Headset	1.24	1.25	1.11	1.01
Body: Display facing phantom, Headset WH-902	1.26	1.33	0.782	1.02

(Table continues)

(Table continues)

Test configuration	LTE1700/2100+ CDMA800** + WLAN2450	LTE1700/2100+ CDMA1900** + WLAN2450	SVLTE1700/2100** + CDMA800 + WLAN2450	SVLTE1700/2100** + CDMA1900 + WLAN2450
Body: Back facing phantom, Without Headset	1.58	1.61	1.11	1.00
Body: Back facing phantom, Headset WH-902	1.54	1.59	0.853	0.963
Body: Display facing phantom, Without Headset	1.33	1.34	1.20	1.10
Body: Display facing phantom, Headset WH-902	1.34	1.42	0.864	1.10
Test configuration	LTE1700/2100+ CDMA800** + WLAN5000	LTE1700/2100 + CDMA1900** + WLAN5000	SVLTE1700/2100** + CDMA800 + WLAN5000	SVLTE1700/2100** + CDMA1900 + WLAN5000
Body: Back facing phantom, Without Headset	1.72	1.75	1.25	1.15
Body: Back facing phantom, Headset WH-902	1.63	1.67	0.939	1.05
Body: Display facing phantom, Without Headset	1.35	1.36	1.22	1.12
Body: Display facing phantom, Headset WH-902	1.36	1.43	0.883	1.12

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

**Simultaneous transmissions: Combined head SAR results –
SPEAG Combined Multiband algorithm results for SVLTE mode**

Test configuration	LTE750 + CDMA800**	LTE750 + CDMA1900**	SVLTE750** + CDMA800	SVLTE750** + CDMA1900
Body: Back facing phantom, Without Headset	-	-	-	-
Body: Back facing phantom, Headset WH-902	-	-	-	-
Body: Display facing phantom, Without Headset	1.02	0.953	1.03	0.848
Body: Display facing phantom, Headset WH-902	-	-	-	-
Test configuration	LTE750 + CDMA800** + WLAN2450	LTE750 + CDMA1900** + WLAN2450	SVLTE750** + CDMA800 + WLAN2450	SVLTE750** + CDMA1900 + WLAN2450
Body: Back facing phantom, Without Headset	-	-	-	-
Body: Back facing phantom, Headset WH-902	-	-	-	-
Body: Display facing phantom, Without Headset	1.04	0.967	1.07	0.859
Body: Display facing phantom, Headset WH-902	-	-	-	-

(Table continues)

(Table continues)

Test configuration	LTE750 + CDMA800** + WLAN5000	LTE750 + CDMA1900** + WLAN5000	SVLTE750** + CDMA800 + WLAN5000	SVLTE750** + CDMA1900 + WLAN5000
Body: Back facing phantom, Without Headset	-	-	-	-
Body: Back facing phantom, Headset WH-902	-	-	-	-
Body: Display facing phantom, Without Headset	1.02	0.956	1.03	0.856
Body: Display facing phantom, Headset WH-902	-	-	-	-
Test configuration	LTE1700/2100 + CDMA800**	LTE1700/2100 + CDMA1900**	SVLTE1700/2100** + CDMA800	SVLTE1700/2100** + CDMA1900
Body: Back facing phantom, Without Headset	1.30	1.25	-	-
Body: Back facing phantom, Headset WH-902	-	-	-	-
Body: Display facing phantom, Without Headset	-	-	0.829	-
Body: Display facing phantom, Headset WH-902	-	-	-	0.809
Test configuration	LTE1700/2100+ CDMA800** + WLAN2450	LTE1700/2100+ CDMA1900** + WLAN2450	SVLTE1700/2100** + CDMA800 + WLAN2450	SVLTE1700/2100** + CDMA1900 + WLAN2450
Body: Back facing phantom, Without Headset	1.31	1.26	-	-
Body: Back facing phantom, Headset WH-902	-	-	-	-
Body: Display facing phantom, Without Headset	-	-	0.859	-
Body: Display facing phantom, Headset WH-902	-	-	-	0.820

(Table continues)

(Table continues)

Test configuration	LTE1700/2100+ CDMA800** + WLAN5000	LTE1700/2100 + CDMA1900** + WLAN5000	SVLTE1700/2100** + CDMA800 + WLAN5000	SVLTE1700/2100** + CDMA1900 + WLAN5000
Body: Back facing phantom, Without Headset	1.32	1.27	0.722	0.643
Body: Back facing phantom, Headset WH-902	-	-	-	-
Body: Display facing phantom, Without Headset	-	-	-	-
Body: Display facing phantom, Headset WH-902	-	-	-	-

Note: Plots #176-199

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

7.4.2.1 Expanded Volume Scans for Body SAR SVLTE mode

Simultaneous transmission SAR test exclusion procedures as described in KDB 447498 D01 v05.

Following table gives antenna pair SAR to peak location separation ratios for the transmitter combinations for which the sum of simultaneously transmitting 1g SAR was above limit (See “Max+Max Combined results” table in previous section).

Antenna Pair SAR to Peak Separation Ratio

LTE1700/2100+ CDMA1900** + WLAN2450	LTE1700/2100, Back facing phantom, without headset	CDMA1900**, Back facing phantom, without headset	LTE1700/2100, Back facing phantom, without headset	WLAN 2450, Back facing phantom, without headset	CDMA1900**, Back facing phantom, without headset	WLAN 2450, Back facing phantom, without headset
+ WLAN2450	-70.5	-37.5	-70.5	46.0	-37.5	46.0
Y [mm]	6.0	-7.5	6.0	-13.0	-7.5	-13.0
Z [mm]	-171.7	-173.0	-171.7	-171.5	-173.0	-171.5
DISTANCE [mm]	35.7		118.0		83.7	
MAX + MAX (Reported SAR)	1.55		1.36		0.306	
SAR to peak location separation ratio	0.05		0.01		0.00	
LTE1700/2100+ CDMA800** + WLAN5000	LTE1700/2100, Back facing phantom, without headset	CDMA800**, Back facing phantom, without headset	LTE1700/2100, Back facing phantom, without headset	WLAN 5000, Back facing phantom, without headset	CDMA800**, Back facing phantom, without headset	WLAN 5000, Back facing phantom, without headset
X [mm]	-70.5	-10.5	-70.5	49.0	-10.5	49.0
Y [mm]	6.0	-1.5	6.0	9.0	-1.5	9.0
Z [mm]	-171.7	-171.1	-171.7	-172.4	-171.1	-172.4
DISTANCE [mm]	60.5		119.5		60.5	
MAX + MAX (Reported SAR)	1.52		1.50		0.424	
SAR to peak location separation ratio	0.03		0.02		0.00	
LTE1700/2100+ CDMA800** + WLAN5000	LTE1700/2100, Back facing phantom, Headset WH-902	CDMA800**, Back facing phantom, Headset WH-902	LTE1700/2100, Back facing phantom, Headset WH-902	WLAN 5000, Back facing phantom, Headset WH-902	CDMA800**, Back facing phantom, Headset WH-902	WLAN 5000, Back facing phantom, Headset WH-902
X [mm]	-72.0	-18.0	-72.0	45.0	-18.0	45.0
Y [mm]	6.0	-1.5	6.0	4.0	-1.5	4.0
Z [mm]	-172.3	-171.0	-172.3	-172.3	-171.0	-172.3
DISTANCE [mm]	54.6		117.0		63.3	
MAX + MAX (Reported SAR)	1.49		1.43		0.339	
SAR to peak location separation ratio	0.03		0.01		0.00	

(Antenna Pair SAR to Peak Separation Ratio Table Continues)

(Antenna Pair SAR to Peak Separation Ratio Table Continues)

LTE1700/2100 + CDMA1900** + WLAN5000	LTE1700/2100, Back facing phantom, without headset	CDMA1900**, Back facing phantom, without headset	LTE1700/2100, Back facing phantom, without headset	WLAN 5000, Back facing phantom, without headset	CDMA1900**, Back facing phantom, without headset	WLAN 5000, Back facing phantom, without headset
X [mm]	-70.5	-37.5	-70.5	49.0	-37.5	49.0
Y [mm]	6.0	-7.5	6.0	9.0	-7.5	9.0
Z [mm]	-171.7	-173.0	-171.7	-172.4	-173.0	-172.4
DISTANCE [mm]	35.7		119.5		88.1	
MAX + MAX (Reported SAR)	1.55		1.50		0.448	
SAR to peak location separation ratio	0.05		0.02		0.00	
LTE1700/2100 + CDMA1900** + WLAN5000	LTE1700/2100, Back facing phantom, Headset WH- 902	CDMA1900**, Back facing phantom, Headset WH- 902	LTE1700/2100, Back facing phantom, Headset WH- 902	WLAN 5000, Back facing phantom, Headset WH- 902	CDMA1900**, Back facing phantom, Headset WH- 902	WLAN 5000, Back facing phantom, Headset WH- 902
X [mm]	-72.0	-39.0	-72.0	45.0	-39.0	45.0
Y [mm]	6.0	-6.0	6.0	4.0	-6.0	4.0
Z [mm]	-172.3	-173.0	-172.3	-172.3	-173.0	-172.3
DISTANCE [mm]	35.2		117.0		84.6	
MAX + MAX (Reported SAR)	1.54		1.43		0.383	
SAR to peak location separation ratio	0.05		0.01		0.00	

All simultaneous transmitter configurations where all antenna pairs' SPLSR is equal to or below 0.04 are excluded from expanded zoom scan testing.

For all transmitters where SPLSR is >0.04, the following tables give individual and combined expanded zoom scan results.

LTE1700/2100 (Band 4) Body SAR Expanded Volume Scan results

QPSK 20MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]			23.25			Scaling factor*			
	Conducted Slot Average Power [dBm]			23.19	23.34	23.39	0.56	0.50	0.50	dB
	Time-averaged power [dBm]			23.19	23.34	23.39	1.14	1.12	1.12	Lin
	Back facing phantom	Without headset	Full SAR	-	-	1.20	-	-	1.35	169
		Headset WH-902	Full SAR	-	-	1.06	-	-	1.19	170
	Display facing phantom	Without headset	Full SAR	-	-	-	-	-	-	-
		Headset WH-902	Full SAR	-	-	-	-	-	-	-

CDMA1900 Body SAR Expanded Volume Scan results**

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				Ch 25	Ch 600	Ch 1175	Ch 25	Ch 600	Ch 1175	
				1851.25 MHz	1880.0 MHz	1908.75 MHz	1851.25 MHz	1880.0 MHz	1908.75 MHz	
RC3/ S055	Tuning Target + Tolerance [dBm]			18.75			Scaling factor*			
	Conducted Slot Average Power [dBm]			18.78	18.93	18.87	0.50	0.50	0.50	dB
	Time-averaged power [dBm]			18.78	18.93	18.87	1.12	1.12	1.12	Lin
	Back facing phantom	Without headset	Full SAR	-	0.227	-		0.255	-	171
		Headset WH-902	Full SAR	-	0.228	-	-	0.256	-	172
	Display facing phantom	Without headset	Full SAR	-	-	-	-	-	-	-
		Headset WH-902	Full SAR	-	-	-	-	-	-	-

2450MHz Body SAR Expanded Volume Scan results

Mode	Device orientation		SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Plot #
				Ch 1	Ch 6	Ch 11	Ch 1	Ch 6	Ch 11	
				2412.0 MHz	2437.0 MHz	2462.0 MHz	2412.0 MHz	2437.0 MHz	2462.0 MHz	
WLAN b-mode DSSS 1 Mbps	Tuning Target + Tolerance [dBm]			14.3			Scaling factor*			
	Conducted Slot Average Power [dBm]			13.21	13.28	13.80	1.59	1.52	1.00	dB
	Time-averaged power [dBm]			13.21	13.28	13.80	1.44	1.42	1.26	Lin
	Back facing phantom	Without headset	Full SAR	-	0.045	-	-	0.064	-	173
		Headset WH-902	Full SAR	-	-	-	-	-	-	-
	Display facing phantom	Without headset	Full SAR	-	-	-	-	-	-	-
		Headset WH-902	Full SAR	-	-	-	-	-	-	-

5000MHz Body SAR Expanded Volume Scan results 5470–5725 MHz

Mode	Test configuration		SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Plot #
				Ch 100	Ch 120	Ch 124	Ch 136	Ch 100	Ch 120	Ch 124	Ch 136	
				5500.0 MHz	5600.0 MHz	5620.0 MHz	5680.0 MHz	5500.0 MHz	5600.0 MHz	5620.0 MHz	5680.0 MHz	
WLAN a-mode OFDM 6 Mbps	Tuning Target + Tolerance [dBm]			13.50				Scaling factor*				
	Conducted Slot Average Power [dBm]			12.71	12.73	13.21	13.11	1.29	1.27	0.79	0.89	dB
	Time-averaged power [dBm]			12.71	12.73	13.21	13.11	1.35	1.34	1.20	1.23	Lin
	Back facing phantom	Without headset	Full SAR	-	0.073	-	-	-	0.098	-	-	174
		Headset WH-902	Full SAR	-	0.069	-	-	-	0.092	-	-	175
	Display facing phantom	Without headset	Full SAR	-	-	-	-	-	-	-	-	-
		Headset WH-902	Full SAR	-	-	-	-	-	-	-	-	-

**Simultaneous transmissions: Combined Body SAR results –
SPEAG Combined Expanded Zoom scan results for SVLTE mode**

Test configuration	LTE1700/2100+ CDMA1900** + WLAN2450	LTE1700/2100+ CDMA1900** + WLAN5000
Body: Back facing phantom, Without Headset	1.37	1.38
Body: Back facing phantom, Headset WH-902	-	1.23
Body: Display facing phantom, Without Headset	-	-
Body: Display facing phantom, Headset WH-902	-	-

Note: Plots #200-203

Highest result within individual zoom scan or individual expanded zoom scan results is given in Section 1.2 for each transmitter. Highest result within contributing individual zoom scan, individual expanded zoom scan, Speag combined algorithm or combined expanded zoom scan results are given in Section for each simultaneous transmitter combination.

Note:

* Reported SAR values are scaled to, or measured at, upper limit of power tuning tolerance. In addition, SAR values are scaled up by 12% to cover measurement drift. As a consequence of this upward drift correction, the contribution of measurement drift to the overall measurement uncertainty (Section 6) is reduced to zero.

** indicates reduced power for SVLTE

Full details of power reductions active in SVLTE mode are given in Section 2.1

APPENDIX A: SYSTEM CHECKING SCANS

A.1 System checking, head tissue simulant

Plot #1

Date/Time: 2012-12-17 18:41:40

Test Laboratory: TCC Nokia

Type: D750V3; Serial: D750V3 - SN:1057

Communication System: CW750

Frequency: 750 MHz; Duty Cycle: 1:1

Medium: HSL750; Medium Notes: T=21.9C

Medium parameters used: $f = 750$ MHz; $\sigma = 0.902$ mho/m; $\epsilon_r = 41.007$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3112
- ConvF(6.5, 6.5, 6.5); Calibrated: 2012-02-13;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn701; Calibrated: 2012-08-15
- Phantom: SAM1 12/03/2012; Type: QD000P40CC; Serial: TP:1279
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

d=15mm, Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.30 W/kg

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

Reference Value = 51.745 V/m

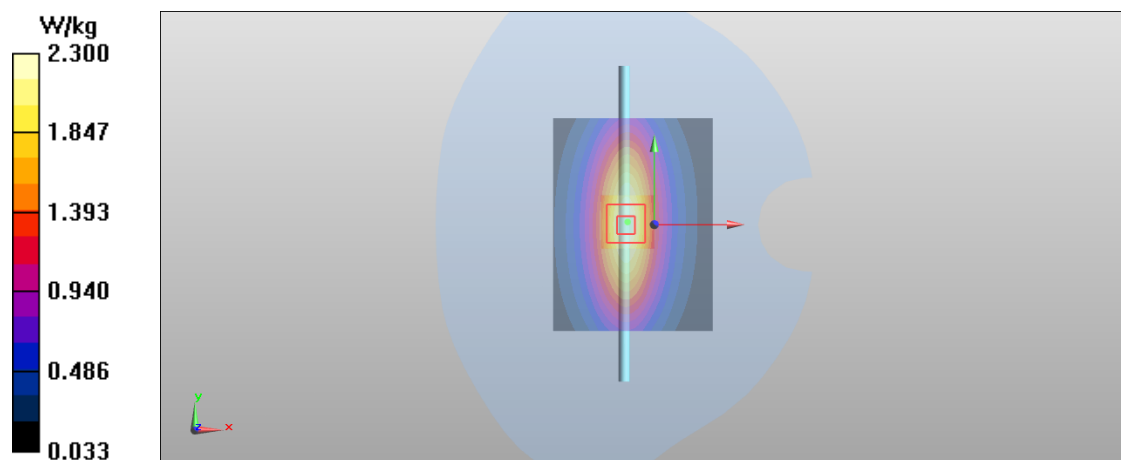
Peak SAR (extrapolated) = 3.167 mW/g

SAR(1 g) = 2.15 mW/g

SAR(10 g) = 1.41 mW/g

Power Drift = -0.04 dB

Maximum value of SAR (measured) = 2.32 W/kg



Plot #2

Date/Time: 2013-01-10 21:36:21

Test Laboratory: TCC Nokia

Type: D750V3; Serial: D750V3 - SN:1010

Communication System: CW750

Frequency: 750 MHz; Duty Cycle: 1:1

Medium: HSL750; Medium Notes: T=22.0C

Medium parameters used: $f = 750$ MHz; $\sigma = 0.887$ S/m; $\epsilon_r = 40.339$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3112
- ConvF(6.5, 6.5, 6.5); Calibrated: 2012-02-13;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn701; Calibrated: 2012-08-15
- Phantom: SAM3 11-19-2012; Type: QD000P40CD; Serial: TP: 1729
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.8 (7028)

d=15mm, Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.16 W/kg

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

Reference Value = 50.552 V/m

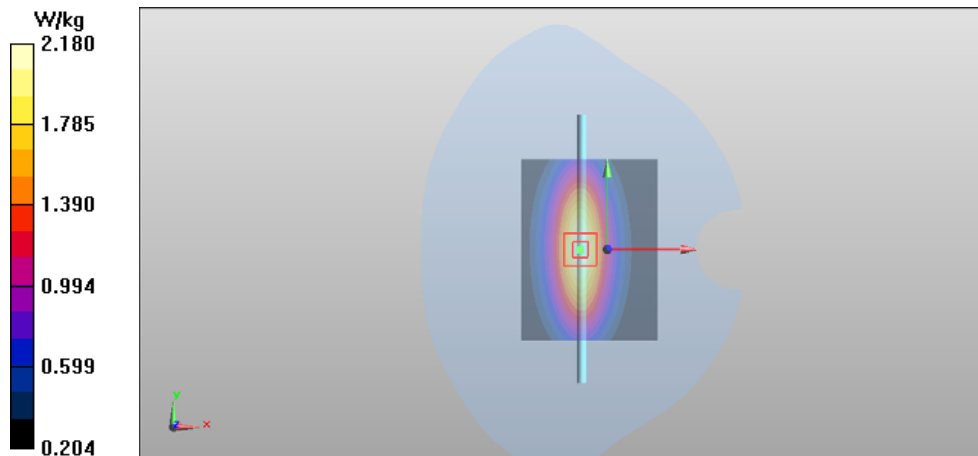
Peak SAR (extrapolated) = 2.96 W/kg

SAR(1 g) = 2.02 W/kg

SAR(10 g) = 1.32 W/kg

Power Drift = -0.02 dB

Maximum value of SAR (measured) = 2.18 W/kg



Plot #3

Date/Time: 2013-01-23 06:04:31

Test Laboratory: TCC Nokia

Type: D835V2; Serial: D835V2 - SN:487

Communication System: CW835

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL900; Medium Notes: T=22.1C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.911$ S/m; $\epsilon_r = 42.257$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3112
- ConvF(6.27, 6.27, 6.27); Calibrated: 2012-02-13;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn701; Calibrated: 2012-08-15
- Phantom: SAM 2 11/29/2012; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.8 (7028)

d=15mm, Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.54 W/kg

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

Reference Value = 53.895 V/m

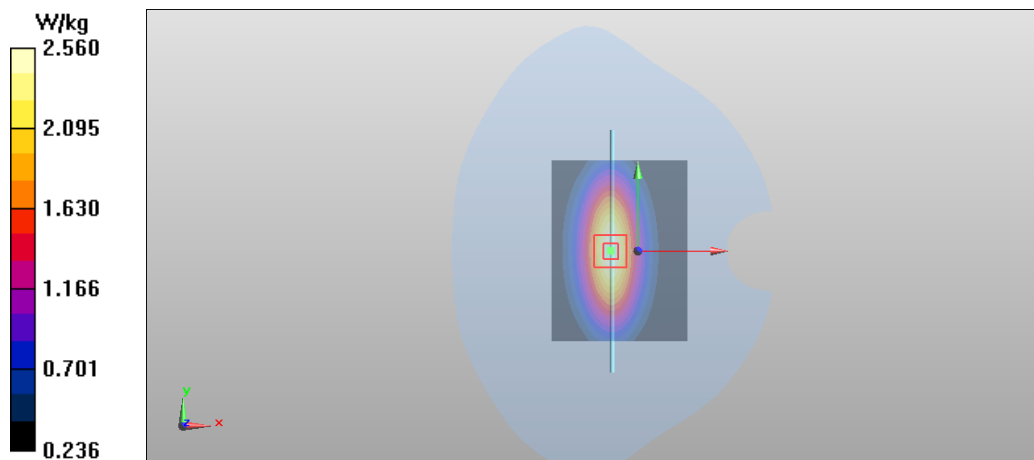
Peak SAR (extrapolated) = 3.49 W/kg

SAR(1 g) = 2.37 W/kg

SAR(10 g) = 1.55 W/kg

Power Drift = -0.01 dB

Maximum value of SAR (measured) = 2.56 W/kg



Plot #4

Date/Time: 2013-01-07 14:29:16

Test Laboratory: TCC Nokia

Type: D1750V2; Serial: D1750V2 - SN:1080

Communication System: CW1750

Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: HSL1750; Medium Notes: T = 22.1 C

Medium parameters used: $f = 1750$ MHz; $\sigma = 1.342$ mho/m; $\epsilon_r = 39.225$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3112
- ConvF(5.35, 5.35, 5.35); Calibrated: 2012-02-13;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn701; Calibrated: 2012-08-15
- Phantom: SAM1 12/03/2012; Type: QD000P40CC; Serial: TP:1279
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

d=10mm, Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 10.9 W/kg

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

Reference Value = 89.492 V/m

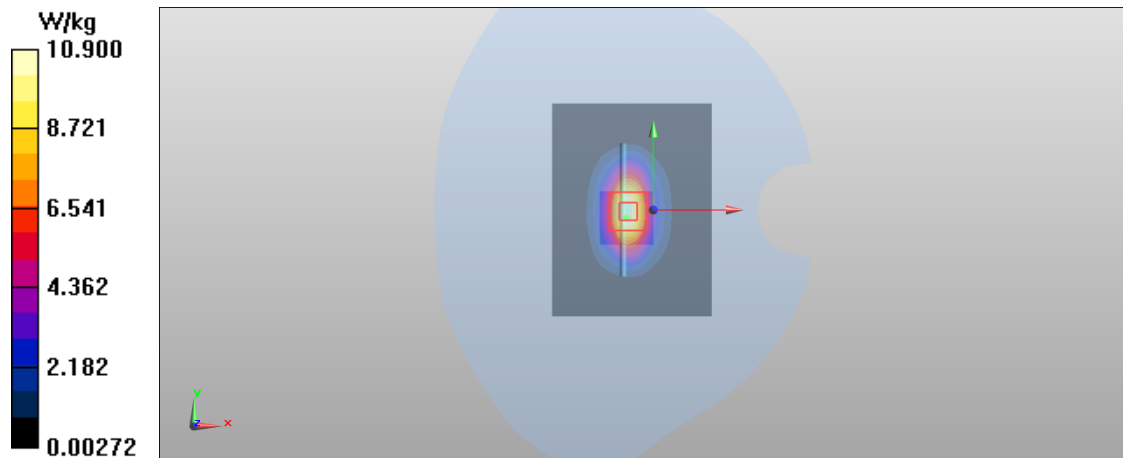
Peak SAR (extrapolated) = 16.852 mW/g

SAR(1 g) = 9.46 mW/g

SAR(10 g) = 5.07 mW/g

Power Drift = -0.13 dB

Maximum value of SAR (measured) = 10.6 W/kg



Plot #5

Date/Time: 2012-12-23 08:39:15

Test Laboratory: TCC Nokia
Type: D1750V2; Serial: 1081

Communication System: CW1750

Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: HSL1750; Medium Notes: T=22.5c

Medium parameters used: $f = 1750$ MHz; $\sigma = 1.317$ mho/m; $\epsilon_r = 39.586$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3112
- ConvF(5.35, 5.35, 5.35); Calibrated: 2012-02-13;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn701; Calibrated: 2012-08-15
- Phantom: SAM3 11-19-2012; Type: QD000P40CD; Serial: TP: 1729
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

d=10mm, Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 10.4 W/kg

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

Reference Value = 84.282 V/m

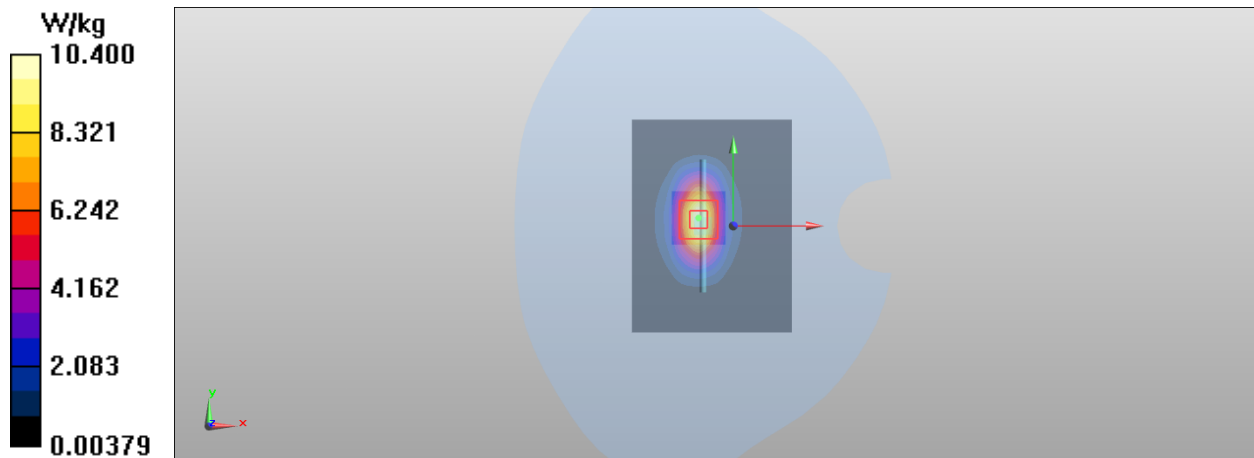
Peak SAR (extrapolated) = 15.316 mW/g

SAR(1 g) = 8.65 mW/g

SAR(10 g) = 4.66 mW/g

Power Drift = 0.09 dB

Maximum value of SAR (measured) = 9.72 W/kg



Plot #6

Date/Time: 2013-01-03 23:30:58

Test Laboratory: TCC Nokia

Type: D1900V2; Serial: D1900V2 - SN5d099

Communication System: CW1900

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL1900; Medium Notes: T=22.5C

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.405$ mho/m; $\epsilon_r = 39.673$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3112
- ConvF(5.35, 5.35, 5.35); Calibrated: 2012-02-13;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn701; Calibrated: 2012-08-15
- Phantom: SAM 4 03-12-2012; Type: QD000P40CD; Serial: TP1630
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

d=10mm, Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 11.4 W/kg

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

Reference Value = 86.592 V/m

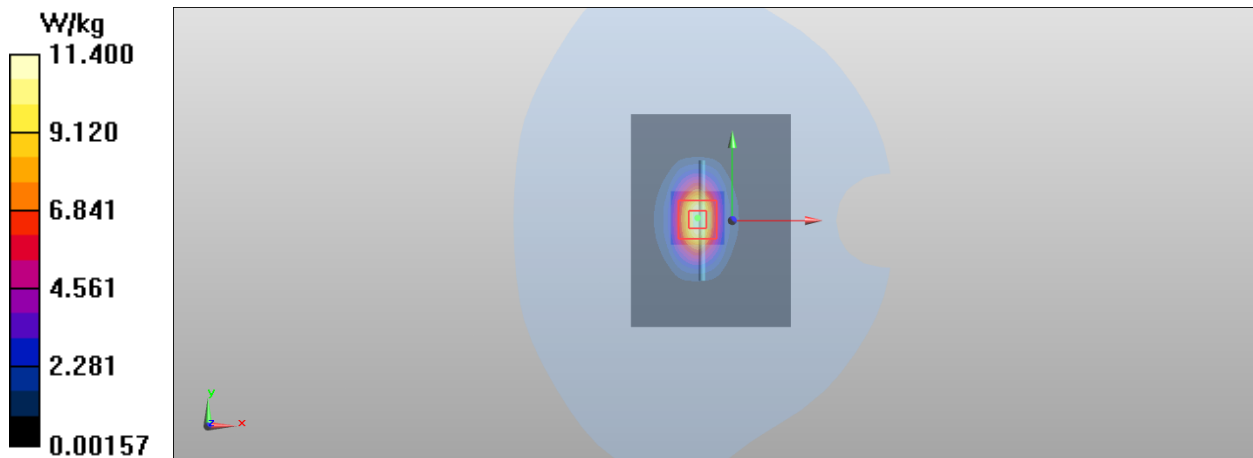
Peak SAR (extrapolated) = 17.175 mW/g

SAR(1 g) = 9.52 mW/g

SAR(10 g) = 5.02 mW/g

Power Drift = 0.03 dB

Maximum value of SAR (measured) = 10.7 W/kg



Plot #7

Date/Time: 2013-02-19 06:03:41

Test Laboratory: TCC Nokia

Type: D1900V2; Serial: D1900V2 - SN:5d030

Communication System: CW1900

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL1900; Medium Notes: $t = 20.9$ C

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.418$ S/m; $\epsilon_r = 39.119$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.97, 4.97, 4.97); Calibrated: 2012-08-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.8 (7028)

d=10mm, Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 12.4 W/kg

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

Reference Value = 89.705 V/m

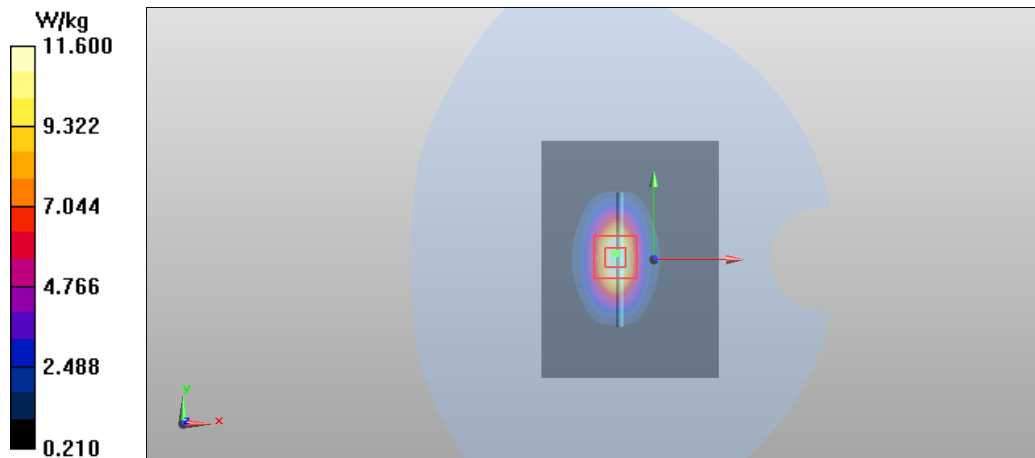
Peak SAR (extrapolated) = 19.4 W/kg

SAR(1 g) = 10.4 W/kg

SAR(10 g) = 5.4 W/kg

Power Drift = 0.04 dB

Maximum value of SAR (measured) = 11.6 W/kg



Plot #8

Date/Time: 2013-02-01 08:37:39

Test Laboratory: TCC Nokia

Type: D2450V2; Serial: D2450V2 - SN:729

Communication System: CW2450

Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: HSL2450; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.781$ mho/m; $\epsilon_r = 37.556$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(4.34, 4.34, 4.34); Calibrated: 2012-08-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2012-08-21
- Phantom: #4 SAM, SAR4 ; Type: QD000P40CD; Serial: TP:xxxx
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.5 (6469)

d=10mm, Pin=250mW/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 15.2 mW/g

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

Reference Value = 89.859 V/m

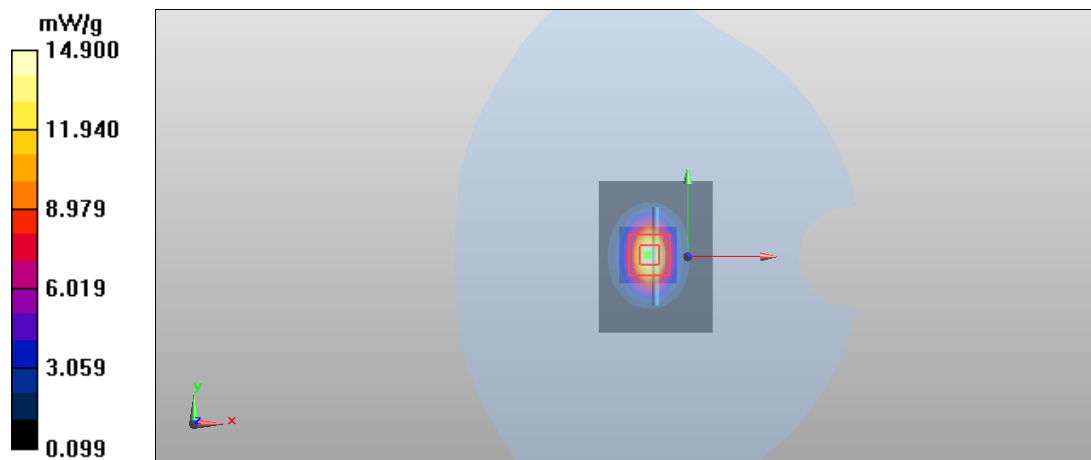
Peak SAR (extrapolated) = 27.252 mW/g

SAR(1 g) = 13 mW/g

SAR(10 g) = 6.01 mW/g

Power Drift = -0.02 dB

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



Plot #9

Date/Time: 2013-02-03 13:21:52

Test Laboratory: TCC Nokia

Type: D5GHzV2; Serial: D5GHzV2 - SN: 1032

Communication System: CW5200

Frequency: 5200 MHz; Duty Cycle: 1:1

Medium: HSL5000; Medium Notes: $t = 20.2$ C

Medium parameters used: $f = 5200$ MHz; $\sigma = 4.536$ S/m; $\epsilon_r = 35.183$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(4.67, 4.67, 4.67); Calibrated: 2012-02-07;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.8 (7028)

d=10mm, Pin=100mW /Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 16.4 W/kg

d=10mm, Pin=100mW Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 65.819 V/m

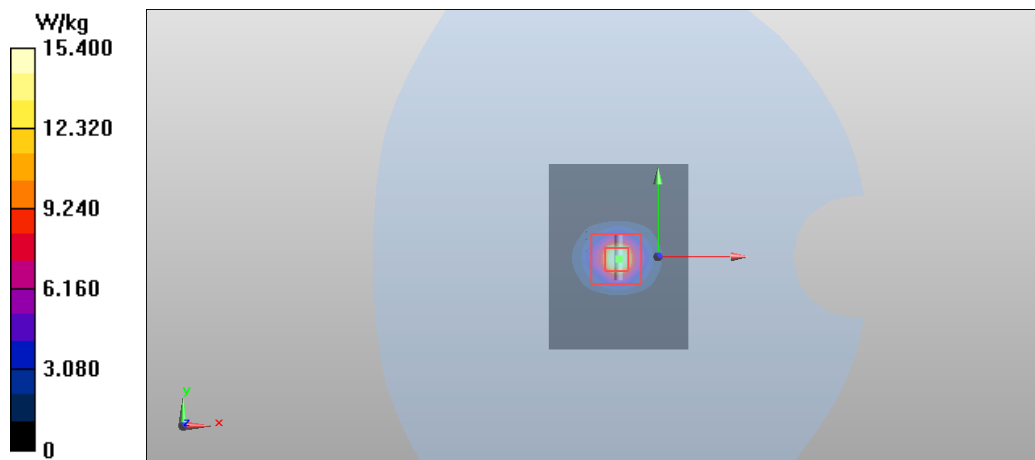
Peak SAR (extrapolated) = 29.9 W/kg

SAR(1 g) = 7.85 W/kg

SAR(10 g) = 2.25 W/kg

Power Drift = -0.21 dB

Maximum value of SAR (measured) = 15.4 W/kg



Plot #10

Date/Time: 2013-02-03 14:00:08

Test Laboratory: TCC Nokia

Type: D5GHzV2; Serial: D5GHzV2 - SN: 1032

Communication System: CW5300

Frequency: 5300 MHz; Duty Cycle: 1:1

Medium: HSL5000; Medium Notes: $t = 20.2$ C

Medium parameters used: $f = 5300$ MHz; $\sigma = 4.635$ S/m; $\epsilon_r = 35.035$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(4.6, 4.6, 4.6); Calibrated: 2012-02-07;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.8 (7028)

d=10mm, Pin=100mW /Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 17.5 W/kg

d=10mm, Pin=100mW /Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 66.018 V/m

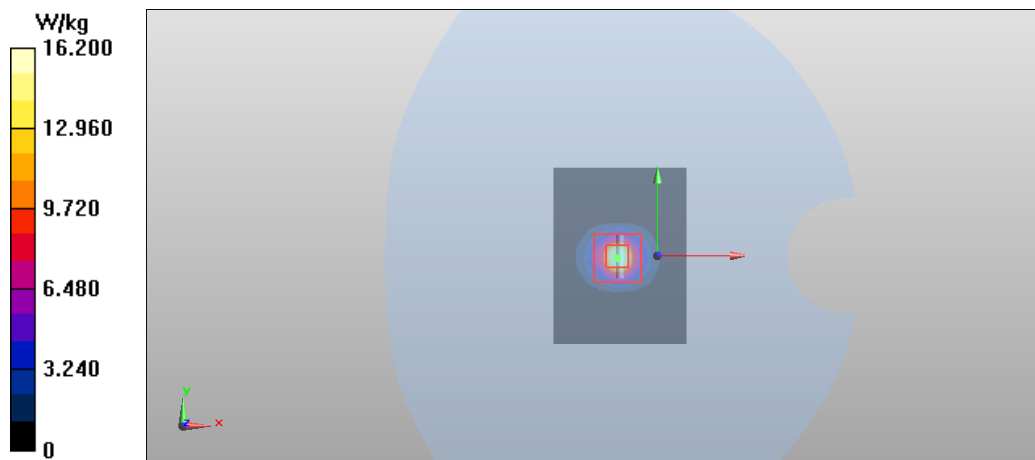
Peak SAR (extrapolated) = 33.7 W/kg

SAR(1 g) = 8.37 W/kg

SAR(10 g) = 2.35 W/kg

Power Drift = -0.06 dB

Maximum value of SAR (measured) = 16.2 W/kg



Plot #11

Date/Time: 2013-02-05 16:21:07

Test Laboratory: TCC Nokia

Type: D5GHzV2; Serial: D5GHzV2 - SN: 1032

Communication System: CW5500

Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: HSL5000; Medium Notes: $t = 20.5$ C

Medium parameters used: $f = 5500$ MHz; $\sigma = 4.833$ S/m; $\epsilon_r = 35.004$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(4.29, 4.29, 4.29); Calibrated: 2012-02-07;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.8 (7028)

d=10mm, Pin=100mW /Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 16.7 W/kg

d=10mm, Pin=100mW /Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 61.696 V/m

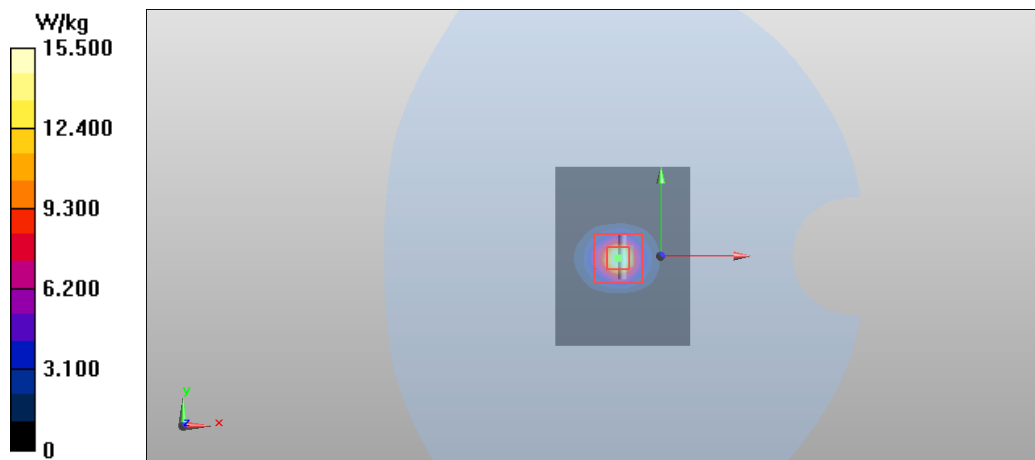
Peak SAR (extrapolated) = 32.0 W/kg

SAR(1 g) = 7.91 W/kg

SAR(10 g) = 2.22 W/kg

Power Drift = -0.05 dB

Maximum value of SAR (measured) = 15.5 W/kg



Plot #12

Date/Time: 2013-02-05 15:40:01

Test Laboratory: TCC Nokia

Type: D5GHzV2; Serial: D5GHzV2 - SN: 1032

Communication System: CW5600

Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: HSL5000; Medium Notes: $t = 20.5$ C

Medium parameters used: $f = 5600$ MHz; $\sigma = 4.946$ S/m; $\epsilon_r = 34.884$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(4.22, 4.22, 4.22); Calibrated: 2012-02-07;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.8 (7028)

d=10mm, Pin=100mW /Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 18.3 W/kg

d=10mm, Pin=100mW /Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 64.993 V/m

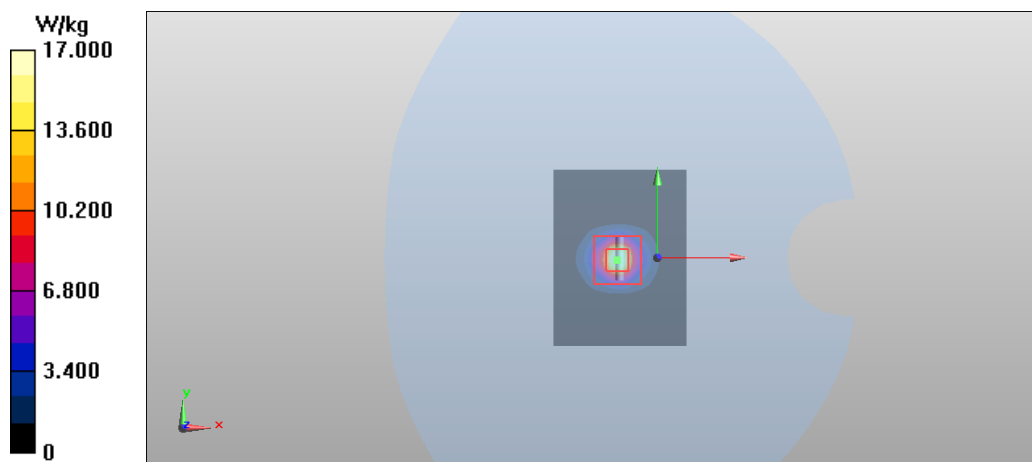
Peak SAR (extrapolated) = 38.2 W/kg

SAR(1 g) = 8.74 W/kg

SAR(10 g) = 2.41 W/kg

Power Drift = -0.06 dB

Maximum value of SAR (measured) = 17.0 W/kg



Plot #13

Date/Time: 2013-02-04 15:13:01

Test Laboratory: TCC Nokia

Type: D5GHzV2; Serial: D5GHzV2 - SN: 1032

Communication System: CW5800

Frequency: 5800 MHz; Duty Cycle: 1:1

Medium: HSL5000; Medium Notes: $t = 19.5$ C

Medium parameters used: $f = 5800$ MHz; $\sigma = 5.23$ S/m; $\epsilon_r = 33.567$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(4.07, 4.07, 4.07); Calibrated: 2012-02-07;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.8 (7028)

d=10mm, Pin=100mW/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 17.0 W/kg

d=10mm, Pin=100mW/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 60.630 V/m

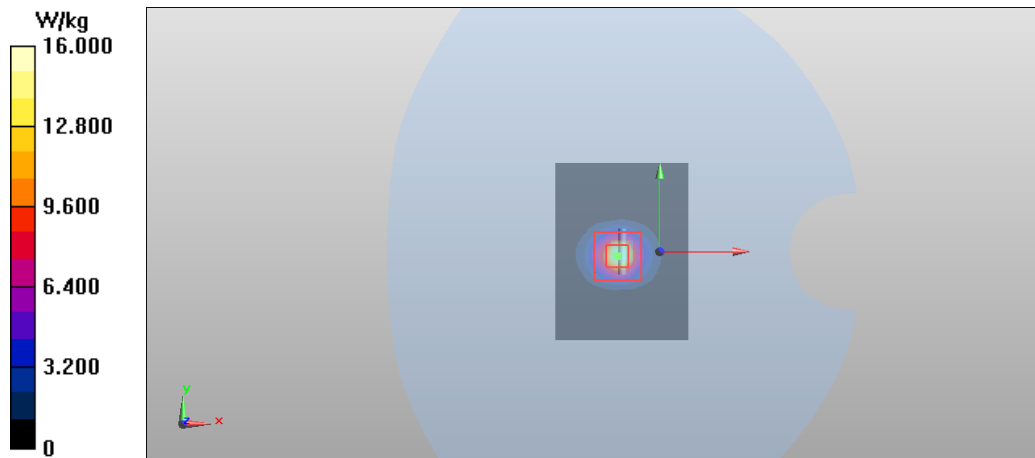
Peak SAR (extrapolated) = 33.7 W/kg

SAR(1 g) = 8.14 W/kg

SAR(10 g) = 2.3 W/kg

Power Drift = -0.07 dB

Maximum value of SAR (measured) = 16.0 W/kg



A.2 System checking, body tissue simulant

Plot #14

Date/Time: 2013-02-12 09:05:17

Test Laboratory: TCC Nokia

Type: D750V3; Serial: D750V3 - SN:1010

Communication System: CW750

Frequency: 750 MHz; Duty Cycle: 1:1

Medium: MSL750; Medium Notes: T=21.9C

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.933 \text{ S/m}$; $\epsilon_r = 54.759$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3112
- ConvF(6.39, 6.39, 6.39); Calibrated: 2012-02-13;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn604; Calibrated: 2012-07-31
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1129/2
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.8 (7028)

d=15mm, Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.29 W/kg

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

Reference Value = 50.271 V/m

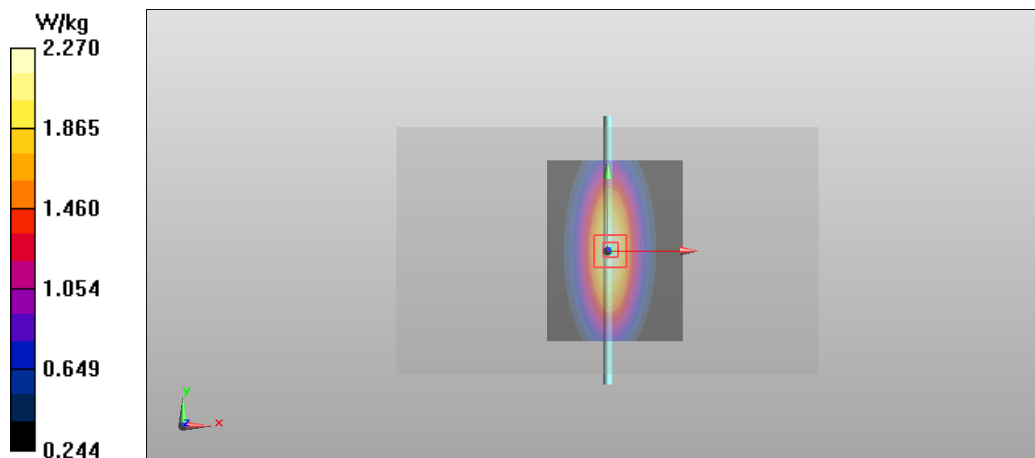
Peak SAR (extrapolated) = 3.03 W/kg

SAR(1 g) = 2.11 W/kg

SAR(10 g) = 1.41 W/kg

Power Drift = -0.04 dB

Maximum value of SAR (measured) = 2.27 W/kg



Plot #15

Date/Time: 2012-12-18 12:13:21

Test Laboratory: Nokia

Type: D835V2; Serial: D835V2 - SN:487

Communication System: CW835

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: MSL800; Medium Notes: T=21.0c

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.98 \text{ mho/m}$; $\epsilon_r = 55.545$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3852
- ConvF(9.14, 9.14, 9.14); Calibrated: 2012-03-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

d=15mm, Pin=250mW/Area Scan (61x81x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 2.67 W/kg

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

Reference Value = 52.692 V/m

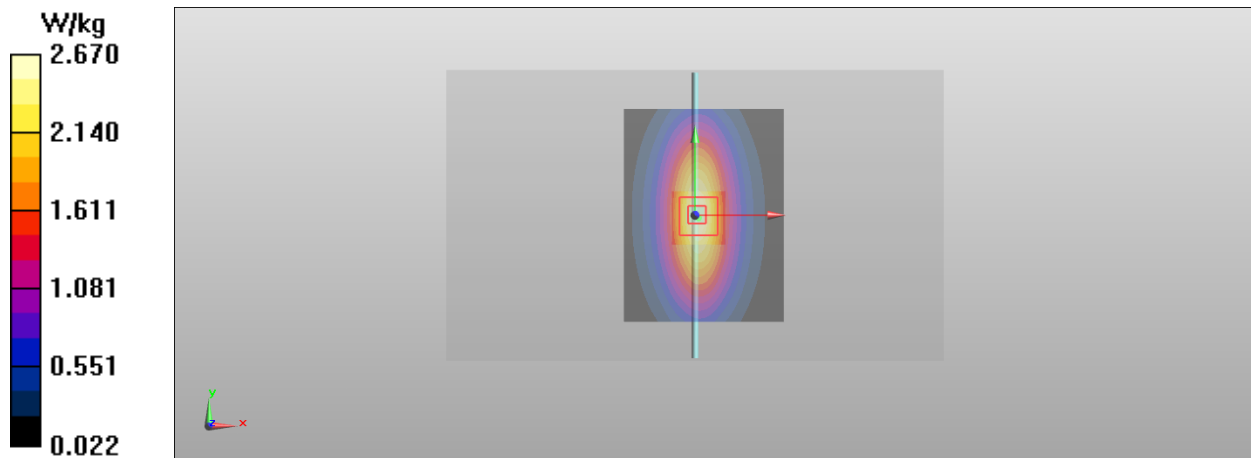
Peak SAR (extrapolated) = 3.684 mW/g

SAR(1 g) = 2.48 mW/g

SAR(10 g) = 1.64 mW/g

Power Drift = -0.12 dB

Maximum value of SAR (measured) = 2.67 W/kg



Plot #16

Date/Time: 2012-12-27 11:12:14

Test Laboratory: Nokia

Type: D835V2; Serial: D835V2 - SN:4d040

Communication System: CW835

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: MSL900; Medium Notes: T=21.9C

Medium parameters used: $f = 835$ MHz; $\sigma = 1.002$ mho/m; $\epsilon_r = 54.57$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3852
- ConvF(9.14, 9.14, 9.14); Calibrated: 2012-03-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

d=15mm, Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.71 W/kg

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

Reference Value = 51.997 V/m

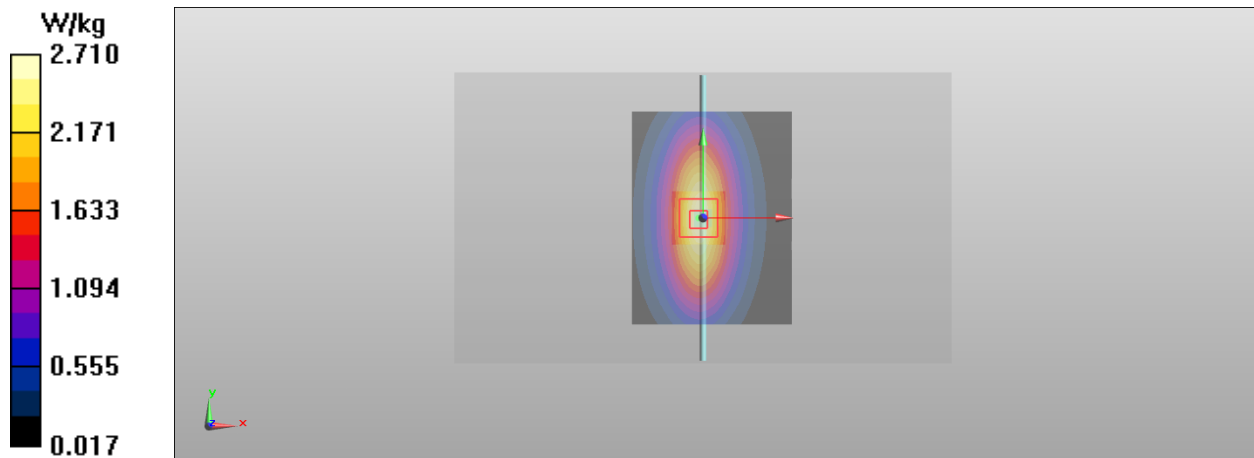
Peak SAR (extrapolated) = 3.851 mW/g

SAR(1 g) = 2.56 mW/g

SAR(10 g) = 1.68 mW/g

Power Drift = 0.02 dB

Maximum value of SAR (measured) = 2.78 W/kg



Plot #17

Date/Time: 2013-01-11 19:43:32

Test Laboratory: Nokia

Type: D1750V2; Serial: D1750V2 - SN:1080

Communication System: CW1750

Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: MSL1750; Medium Notes: T = 22.0 C

Medium parameters used: f = 1750 MHz; σ = 1.432 mho/m; ϵ_r = 52.286; ρ = 1000 kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3852
- ConvF(7.75, 7.75, 7.75); Calibrated: 2012-03-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

d=10mm, Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 10.8 W/kg

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

Reference Value = 85.023 V/m

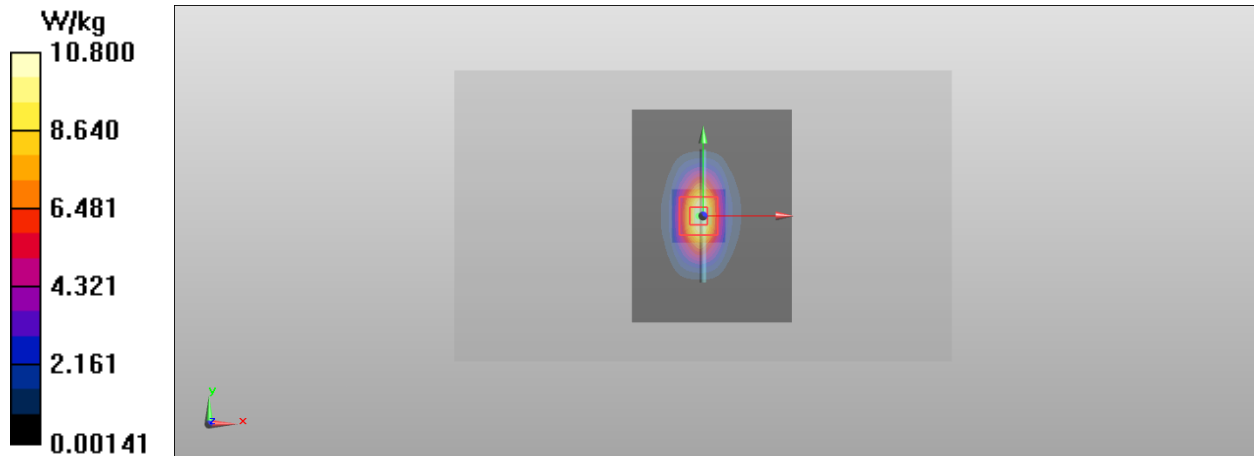
Peak SAR (extrapolated) = 15.848 mW/g

SAR(1 g) = 9 mW/g

SAR(10 g) = 4.85 mW/g

Power Drift = -0.19 dB

Maximum value of SAR (measured) = 10.1 W/kg



Plot #18

Date/Time: 2013-01-31 10:07:43

Test Laboratory: Nokia

Type: D1900V2; Serial: D1900V2 - SN:534

Communication System: CW1900

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: MSL1900; Medium Notes: T=22.2C

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.502$ S/m; $\epsilon_r = 51.226$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3852
- ConvF(7.24, 7.24, 7.24); Calibrated: 2012-03-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.8 (7028)

d=10mm, Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 12.7 W/kg

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

Reference Value = 91.719 V/m

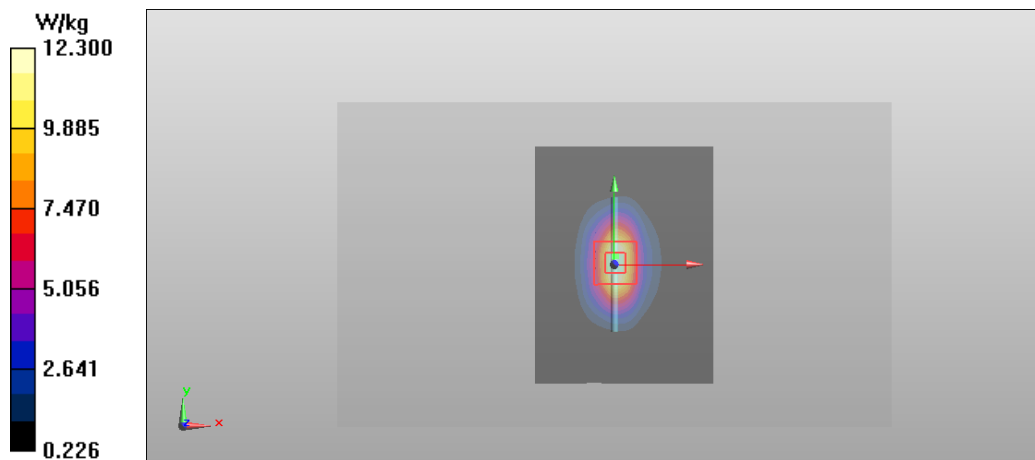
Peak SAR (extrapolated) = 19.8 W/kg

SAR(1 g) = 10.9 W/kg

SAR(10 g) = 5.75 W/kg

Power Drift = -0.18 dB

Maximum value of SAR (measured) = 12.3 W/kg



Plot #19

Date/Time: 2013-01-14 09:09:44

Test Laboratory: TCC Nokia

Type: D1900V2; Serial: D1900V2 - SN:5d030

Communication System: CW1900

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: t= 20.2 C

Medium parameters used: f = 1900 MHz; $\sigma = 1.538$ S/m; $\epsilon_r = 52.038$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.62, 4.62, 4.62); Calibrated: 2012-08-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial:
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.8 (7028)

d=10mm, Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 11.9 W/kg

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

Reference Value = 86.855 V/m

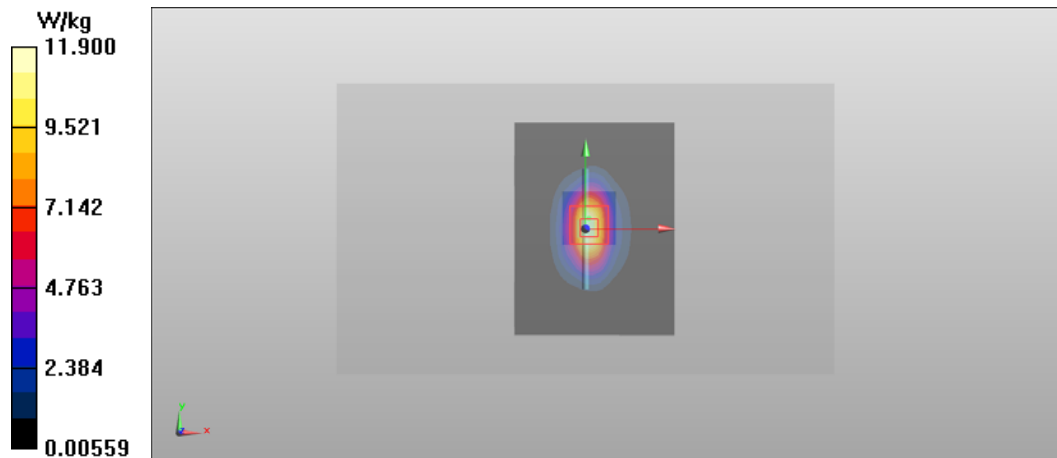
Peak SAR (extrapolated) = 18.4 W/kg

SAR(1 g) = 10.1 W/kg

SAR(10 g) = 5.25 W/kg

Power Drift = -0.02 dB

Maximum value of SAR (measured) = 11.5 W/kg



Plot #20

Date/Time: 2013-02-08 06:27:50

Test Laboratory: TCC Nokia

Type: D2450V2; Serial: D2450V2 - SN:729

Communication System: CW2450

Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 20.8$ C

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.975$ S/m; $\epsilon_r = 50.595$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(4.11, 4.11, 4.11); Calibrated: 2012-08-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2012-08-21
- Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial:
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.8 (7028)

d=10mm, Pin=250mW/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 15.6 W/kg

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

Reference Value = 88.261 V/m

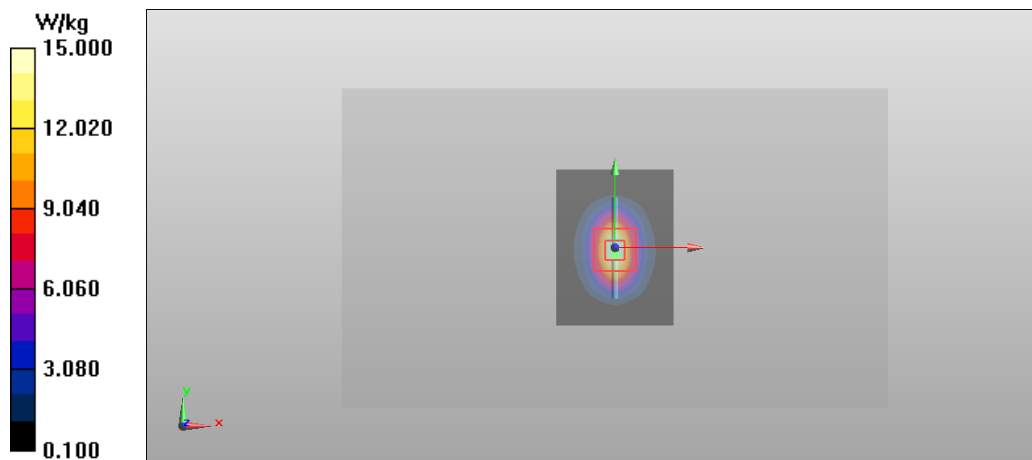
Peak SAR (extrapolated) = 28.2 W/kg

SAR(1 g) = 13.3 W/kg

SAR(10 g) = 6.19 W/kg

Power Drift = 0.01 dB

Maximum value of SAR (measured) = 15.0 W/kg



Plot #21

Date/Time: 2013-02-06 23:30:08

Test Laboratory: TCC Nokia

Type: D5GHzV2; Serial: D5GHzV2 - SN: 1032

Communication System: CW5200

Frequency: 5200 MHz; Duty Cycle: 1:1

Medium: BSL5000; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 5200$ MHz; $\sigma = 5.463$ S/m; $\epsilon_r = 47.567$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(3.96, 3.96, 3.96); Calibrated: 2012-02-07;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.8 (7028)

d=10mm, Pin=100mW/Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 16.9 W/kg

d=10mm, Pin=100mW/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 59.816 V/m

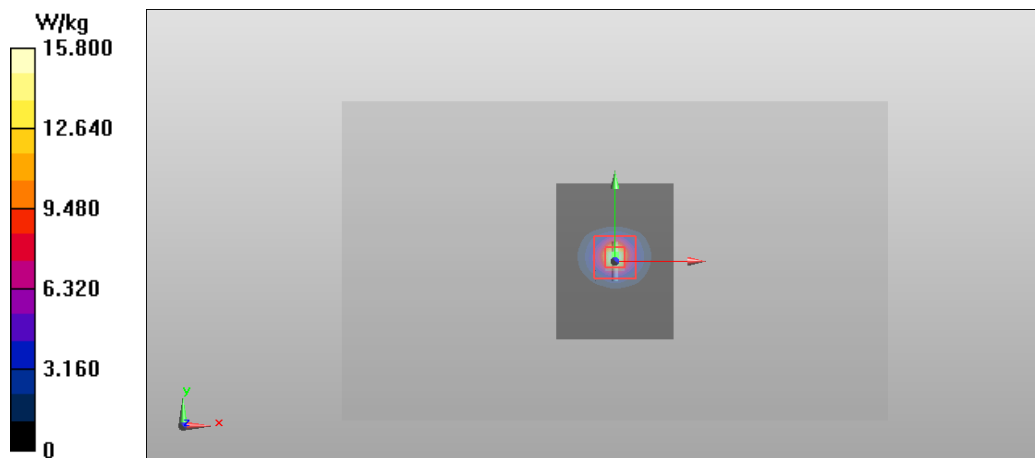
Peak SAR (extrapolated) = 30.5 W/kg

SAR(1 g) = 7.86 W/kg

SAR(10 g) = 2.2 W/kg

Power Drift = 0.14 dB

Maximum value of SAR (measured) = 15.8 W/kg



Plot #22

Date/Time: 2013-02-07 00:30:22

Test Laboratory: TCC Nokia

Type: D5GHzV2; Serial: D5GHzV2 - SN: 1032

Communication System: CW5300

Frequency: 5300 MHz; Duty Cycle: 1:1

Medium: BSL5000; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 5300$ MHz; $\sigma = 5.592$ S/m; $\epsilon_r = 47.385$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(3.86, 3.86, 3.86); Calibrated: 2012-02-07;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.8 (7028)

d=10mm, Pin=100mW /Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 17.7 W/kg

d=10mm, Pin=100mW /Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 60.029 V/m

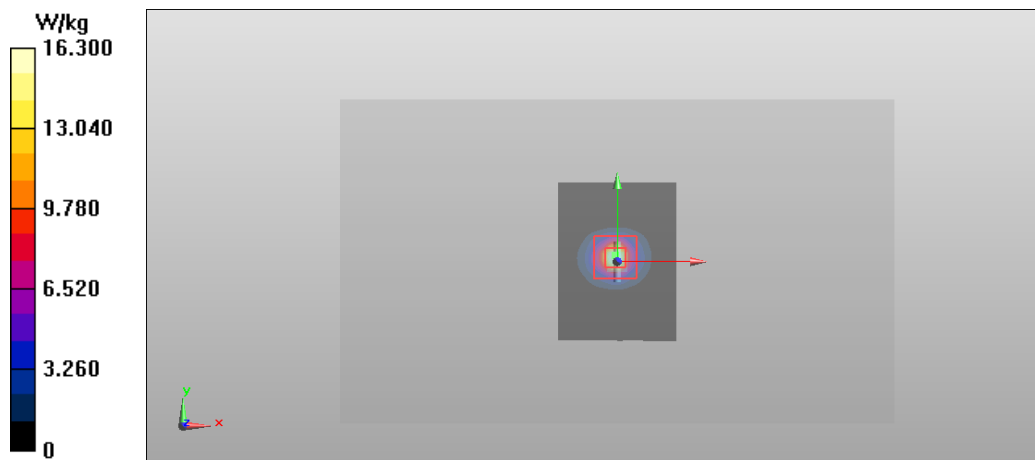
Peak SAR (extrapolated) = 33.2 W/kg

SAR(1 g) = 8.25 W/kg

SAR(10 g) = 2.3 W/kg

Power Drift = -0.04 dB

Maximum value of SAR (measured) = 16.3 W/kg



Plot #23

Date/Time: 2013-02-07 17:08:50

Test Laboratory: TCC Nokia

Type: D5GHzV2; Serial: D5GHzV2 - SN: 1032

Communication System: CW5500

Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: BSL5000; Medium Notes: $t = 19.9$ C

Medium parameters used: $f = 5500$ MHz; $\sigma = 5.821$ S/m; $\epsilon_r = 46.572$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(3.54, 3.54, 3.54); Calibrated: 2012-02-07;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.8 (7028)

d=10mm, Pin=100mW /Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 17.4 W/kg

d=10mm, Pin=100mW /Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 60.674 V/m

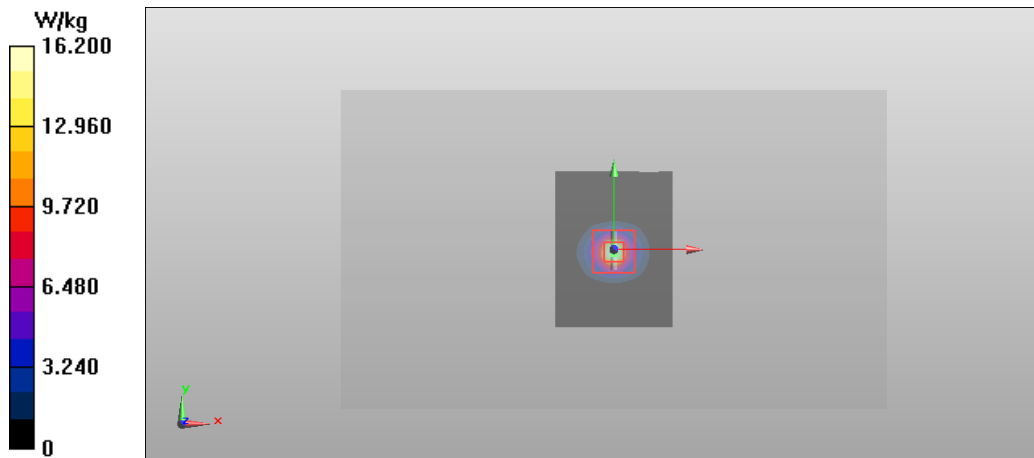
Peak SAR (extrapolated) = 33.1 W/kg

SAR(1 g) = 8.06 W/kg

SAR(10 g) = 2.22 W/kg

Power Drift = -0.10 dB

Maximum value of SAR (measured) = 16.2 W/kg



Plot #24

Date/Time: 2013-02-07 17:55:11

Test Laboratory: TCC Nokia

Type: D5GHzV2; Serial: D5GHzV2 - SN: 1032

Communication System: CW5600

Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: BSL5000; Medium Notes: t= 19.9 C

Medium parameters used: f = 5600 MHz; σ = 5.965 S/m; ϵ_r = 46.42; ρ = 1000 kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(3.34, 3.34, 3.34); Calibrated: 2012-02-07;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.8 (7028)

d=10mm, Pin=100mW /Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 18.9 W/kg

d=10mm, Pin=100mW /Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 61.094 V/m

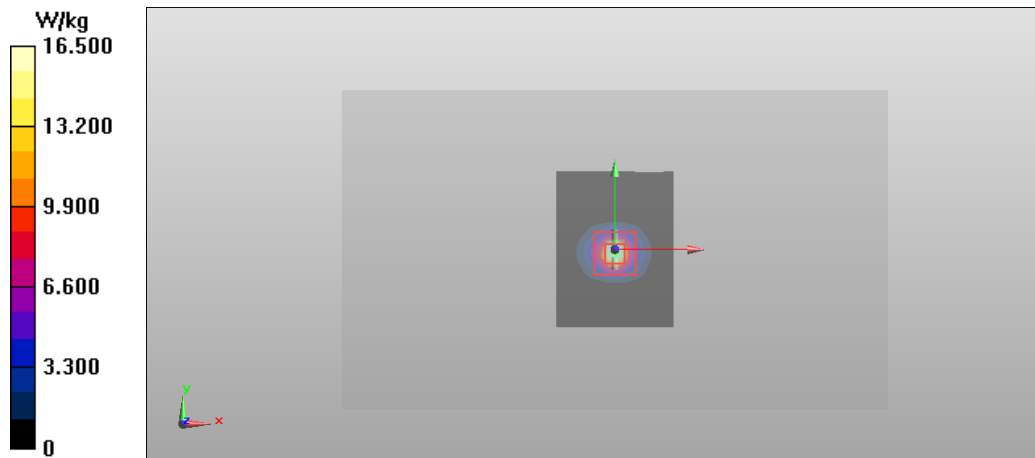
Peak SAR (extrapolated) = 33.4 W/kg

SAR(1 g) = 8.29 W/kg

SAR(10 g) = 2.29 W/kg

Power Drift = -0.07 dB

Maximum value of SAR (measured) = 16.5 W/kg



Plot #25

Date/Time: 2013-02-07 18:30:26

Test Laboratory: TCC Nokia

Type: D5GHzV2; Serial: D5GHzV2 - SN: 1032

Communication System: CW5800

Frequency: 5800 MHz; Duty Cycle: 1:1

Medium: BSL5000; Medium Notes: t= 19.9 C

Medium parameters used: f = 5800 MHz; $\sigma = 6.244 \text{ S/m}$; $\epsilon_r = 46.072$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(3.7, 3.7, 3.7); Calibrated: 2012-02-07;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.8 (7028)

d=10mm, Pin=100mW /Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 15.9 W/kg

d=10mm, Pin=100mW /Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 55.109 V/m

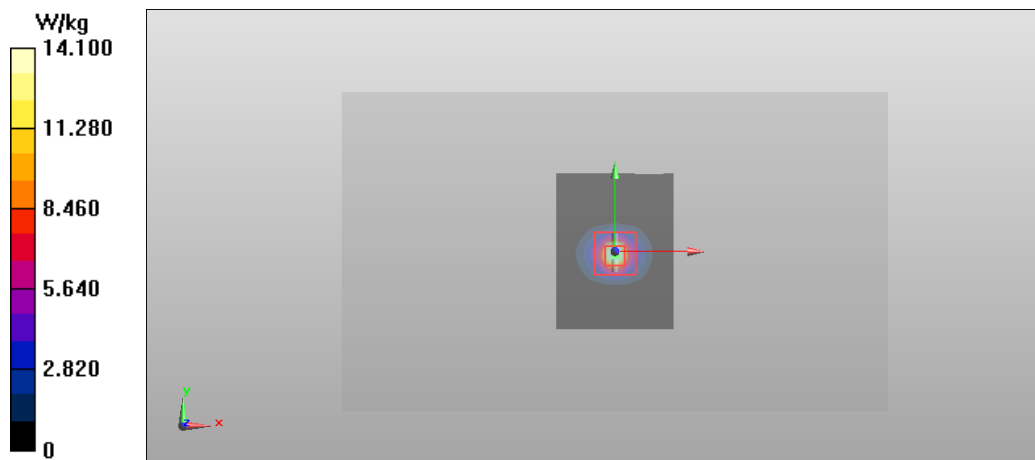
Peak SAR (extrapolated) = 28.8 W/kg

SAR(1 g) = 6.97 W/kg

SAR(10 g) = 1.93 W/kg

Power Drift = -0.06 dB

Maximum value of SAR (measured) = 14.1 W/kg



APPENDIX B.1: HEAD, BODY AND WIRELESS ROUTER MEASUREMENT SCANS

Plot #1

Date/Time: 2013-02-07 10:26:27

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000822/3

Communication System: LTE750 (Band 13)

Frequency: 782 MHz; Duty Cycle: 1:1

Medium: HSL750; Medium Notes: T=22.0C

Medium parameters used: $f = 782 \text{ MHz}$; $\sigma = 0.916 \text{ S/m}$; $\epsilon_r = 42.907$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY Configuration:

- Probe: ES3DV3 - SN3112
- ConvF(6.5, 6.5, 6.5); Calibrated: 13.02.2012;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn701; Calibrated: 15.08.2012
- Phantom: SAM3 11-19-2012; Type: QD000P40CD; Serial: TP: 1729
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.8 (7028)

LTE750 (Band 13) - Right/Cheek - Middle -QPSK - 10MHz - 50%RB - 100% offset/Area Scan (81x121x1):

Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.623 W/kg

LTE750 (Band 13) - Right/Cheek - Middle -QPSK - 10MHz - 50%RB - 100% offset/Zoom Scan (5x6x7)/Cube 0:

Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.791 V/m

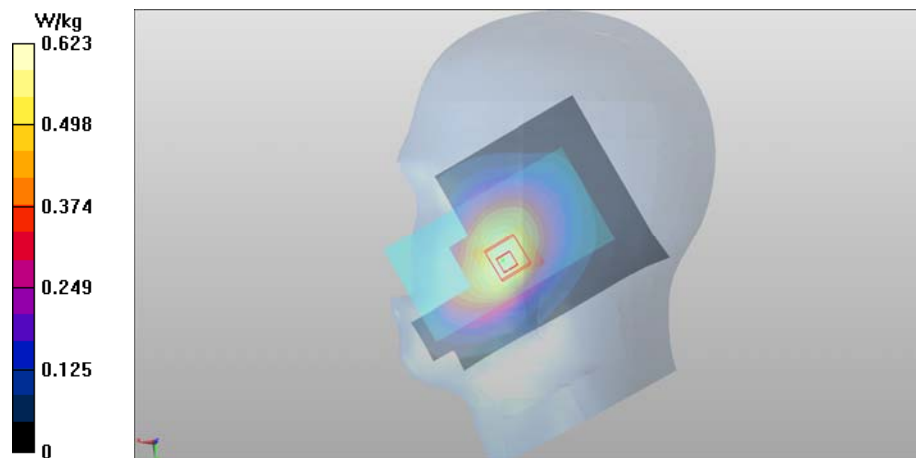
Peak SAR (extrapolated) = 0.735 W/kg

SAR(1 g) = 0.590 W/kg

SAR(10 g) = 0.449 W/kg

Power Drift = 0.03 dB

Maximum value of SAR (measured) = 0.613 W/kg



Plot #2

Date/Time: 2012-12-22 14:26:15

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000836/3

Communication System: CDMA800

Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: HSL835; Medium Notes: T = 22.3 C

Medium parameters used: $f = 837$ MHz; $\sigma = 0.891$ mho/m; $\epsilon_r = 40.709$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY Configuration:

- Probe: ES3DV3 - SN3112
- ConvF(6.27, 6.27, 6.27); Calibrated: 2012-02-13;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn701; Calibrated: 2012-08-15
- Phantom: SAM 2 11/29/2012; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

CDMA800 - Right/Cheek - Middle/Area Scan (81x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.815 W/kg

CDMA800 - Right/Cheek - Middle/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 11.437 V/m

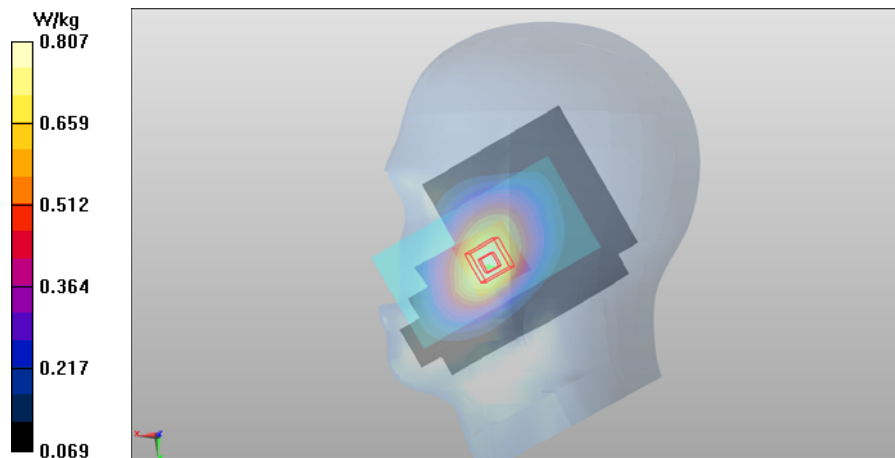
Peak SAR (extrapolated) = 0.967 mW/g

SAR(1 g) = 0.766 mW/g

SAR(10 g) = 0.576 mW/g

Power Drift = -0.03 dB

Maximum value of SAR (measured) = 0.807 W/kg



Plot #3

Date/Time: 2012-12-27 21:41:49

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000833/0

Communication System: 2-slot GPRS850

Frequency: 848.8 MHz; Duty Cycle: 1:4.19952

Medium: HSL900; Medium Notes: T = 22.5 C

Medium parameters used: $f = 849$ MHz; $\sigma = 0.912$ mho/m; $\epsilon_r = 41.635$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY Configuration:

- Probe: ES3DV3 - SN3112
- ConvF(6.27, 6.27, 6.27); Calibrated: 2012-02-13;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn701; Calibrated: 2012-08-15
- Phantom: SAM 2 11/29/2012; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

2-slot GPRS850 - Right/Cheek - High/Area Scan (81x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.542 W/kg

2-slot GPRS850 - Right/Cheek - High/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 9.316 V/m

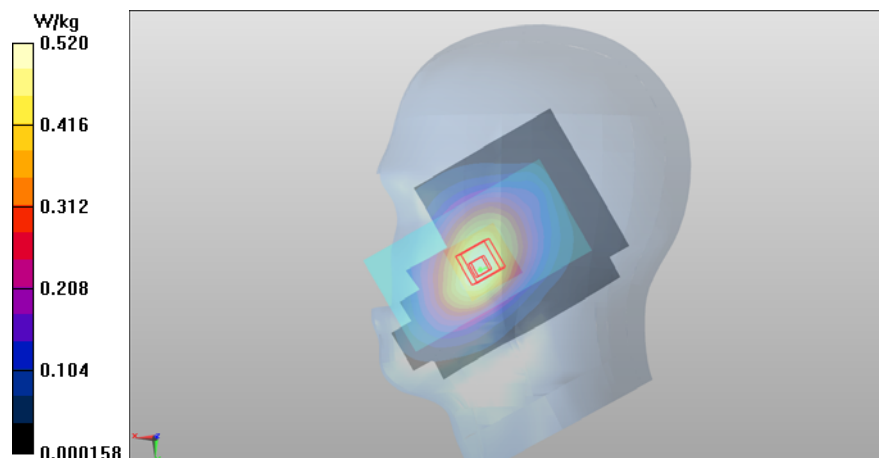
Peak SAR (extrapolated) = 0.627 mW/g

SAR(1 g) = 0.494 mW/g

SAR(10 g) = 0.372 mW/g

Power Drift = -0.04 dB

Maximum value of SAR (measured) = 0.520 W/kg



Plot #4

Date/Time: 2012-12-22 11:36:26

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000821/5

Communication System: WCDMA850 (Band 5)

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL835; Medium Notes: T = 22.3 C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.89$ mho/m; $\epsilon_r = 40.686$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY Configuration:

- Probe: ES3DV3 - SN3112
- ConvF(6.27, 6.27, 6.27); Calibrated: 2012-02-13;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn701; Calibrated: 2012-08-15
- Phantom: SAM 2 11/29/2012; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

WCDMA850 (Band 5) - Right/Cheek - Middle/Area Scan (81x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.594 W/kg

WCDMA850 (Band 5) - Right/Cheek - Middle/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 10.175 V/m

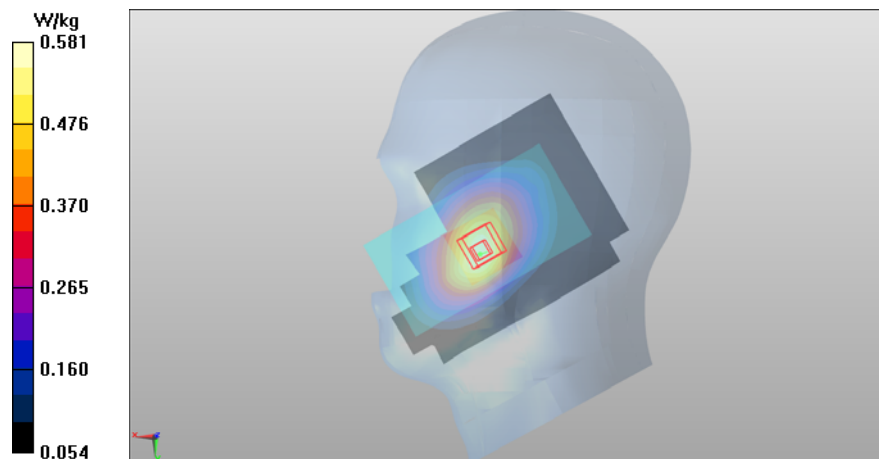
Peak SAR (extrapolated) = 0.693 mW/g

SAR(1 g) = 0.554 mW/g

SAR(10 g) = 0.419 mW/g

Power Drift = 0.02 dB

Maximum value of SAR (measured) = 0.581 W/kg



Plot #5

Date/Time: 2013-01-14 22:11:19

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000818/1

Communication System: LTE1700/2100 (Band 4)

Frequency: 1720 MHz; Duty Cycle: 1:1

Medium: HSL1750; Medium Notes: T=22.2c

Medium parameters used: $f = 1720$ MHz; $\sigma = 1.288$ mho/m; $\epsilon_r = 39.827$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY Configuration:

- Probe: ES3DV3 - SN3112
- ConvF(5.35, 5.35, 5.35); Calibrated: 2012-02-13;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn701; Calibrated: 2012-08-15
- Phantom: SAM1 12/03/2012; Type: QD000P40CC; Serial: TP:1279
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

LTE1700/2100 (Band 4) - Right/Cheek - Low -QPSK - 20MHz - 1RB - 0% offset/Area Scan (81x121x1):

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

Maximum value of SAR (interpolated) = 1.07 mW/g

LTE1700/2100 (Band 4) - Right/Cheek - Low -QPSK - 20MHz - 1RB - 0% offset/Zoom Scan (5x5x7)/Cube 0:

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

Reference Value = 7.323 V/m

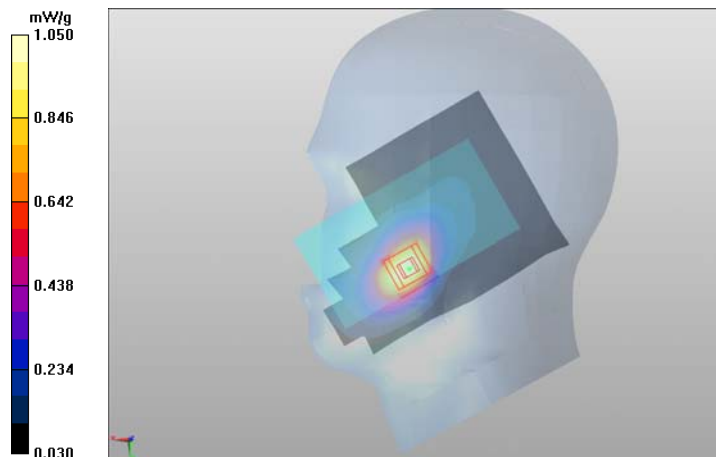
Peak SAR (extrapolated) = 1.363 mW/g

SAR(1 g) = 0.965 mW/g

SAR(10 g) = 0.622 mW/g

Power Drift = -0.10 dB

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



Plot #6

Date/Time: 2013-01-04 02:13:05

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000899/1

Communication System: CDMA1900

Frequency: 1908.75 MHz; Duty Cycle: 1:1

Medium: HSL1900; Medium Notes: T=22.9C

Medium parameters used: $f = 1909$ MHz; $\sigma = 1.412$ mho/m; $\epsilon_r = 39.63$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY Configuration:

- Probe: ES3DV3 - SN3112
- ConvF(5.35, 5.35, 5.35); Calibrated: 2012-02-13;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn701; Calibrated: 2012-08-15
- Phantom: SAM 4 03-12-2012; Type: QD000P40CD; Serial: TP1630
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

CDMA1900 - Left/Cheek - High/Area Scan (81x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.17 W/kg

CDMA1900 - Left/Cheek - High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 8.556 V/m

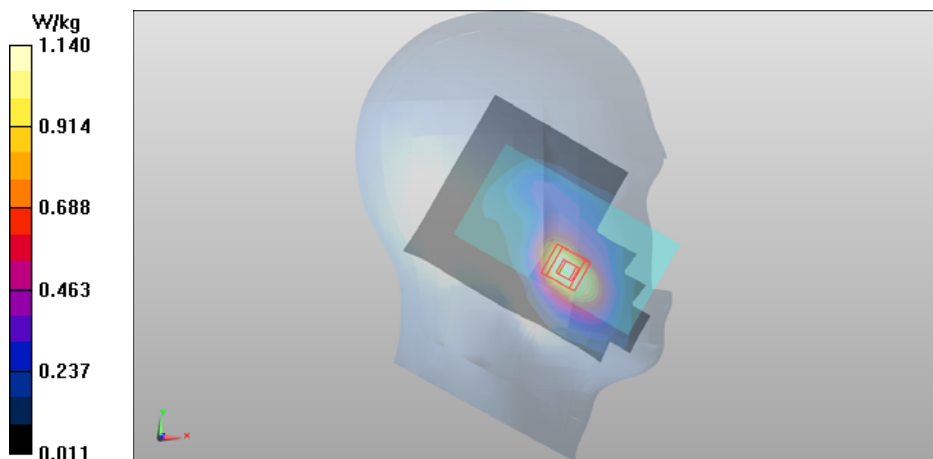
Peak SAR (extrapolated) = 1.594 mW/g

SAR(1 g) = 1.06 mW/g

SAR(10 g) = 0.660 mW/g

Power Drift = -0.09 dB

Maximum value of SAR (measured) = 1.14 W/kg



Plot #7

Date/Time: 2013-02-19 06:58:43

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000833/0

Communication System: 2-slot 8PSK EGPRS1900

Frequency: 1880 MHz; Duty Cycle: 1:4.2

Medium: HSL1900; Medium Notes: $t = 20.9$ C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.401$ S/m; $\epsilon_r = 39.196$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.97, 4.97, 4.97); Calibrated: 2012-08-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.8 (7028)

2-slot 8PSK EGPRS1900 - Left/Cheek - Middle/Area Scan (81x121x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.114 W/kg

2-slot 8PSK EGPRS1900 - Left/Cheek - Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 9.884 V/m

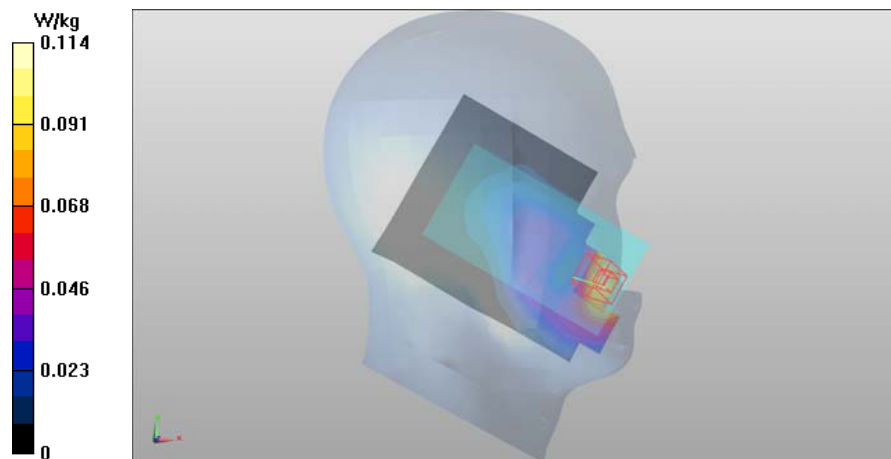
Peak SAR (extrapolated) = 0.236 W/kg

SAR(1 g) = 0.135 W/kg

SAR(10 g) = 0.080 W/kg

Power Drift = -0.08 dB

Maximum value of SAR (measured) = 0.143 W/kg



Plot #8

Date/Time: 2013-01-09 17:09:19

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000821/5

Communication System: WCDMA1900 (Band 2)

Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: HSL1900; Medium Notes: $t = 21.5$ C

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.342$ mho/m; $\epsilon_r = 38.687$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.97, 4.97, 4.97); Calibrated: 2012-08-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.6 (6824)

WCDMA1900 (Band 2) - Left/Cheek - Low/Area Scan (81x121x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.112 W/kg

WCDMA1900 (Band 2) - Left/Cheek - Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 9.910 V/m

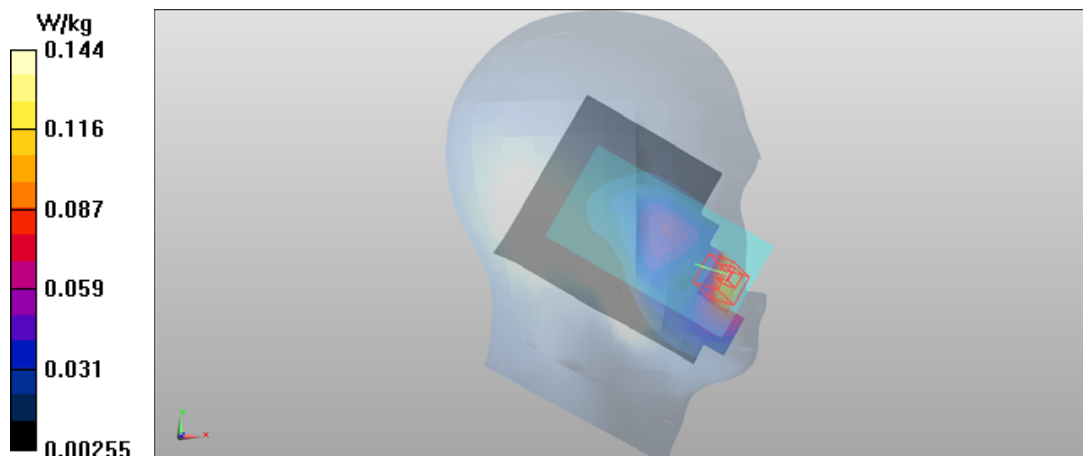
Peak SAR (extrapolated) = 0.242 mW/g

SAR(1 g) = 0.134 mW/g

SAR(10 g) = 0.079 mW/g

Power Drift = 0.00 dB

Maximum value of SAR (measured) = 0.144 W/kg



Plot #9

Date/Time: 2013-01-31 11:41:46

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode

Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: HSL2450; Medium Notes: $t = 21.0$ C

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.759$ mho/m; $\epsilon_r = 37.769$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(4.34, 4.34, 4.34); Calibrated: 2012-08-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2012-08-21
- Phantom: #4 SAM, SAR4 ; Type: QD000P40CD; Serial: TP:xxxx
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

WLAN2450 b-mode - Left/Cheek - Channel 6 - DSSS 1 Mbps/Area Scan (121x181x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.727 W/kg

WLAN2450 b-mode - Left/Cheek - Channel 6 - DSSS 1 Mbps/Zoom Scan (8x7x7)/Cube 0: Measurement grid:

$dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 12.566 V/m

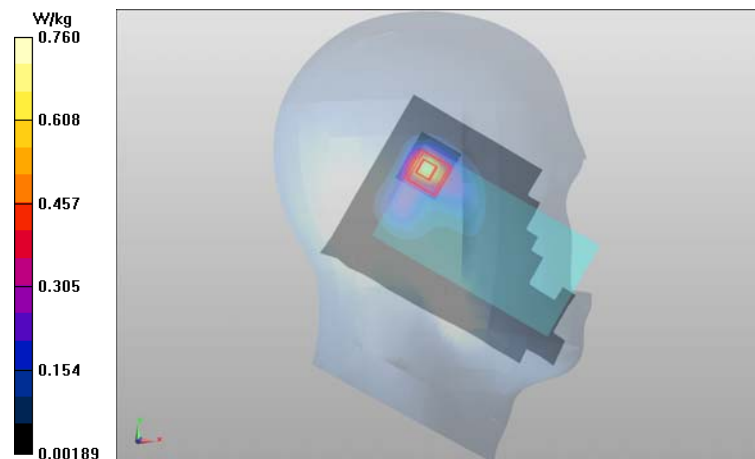
Peak SAR (extrapolated) = 1.556 mW/g

SAR(1 g) = 0.657 mW/g

SAR(10 g) = 0.284 mW/g

Power Drift = 0.11 dB

Maximum value of SAR (measured) = 0.760 W/kg



Plot #10

Date/Time: 2013-02-04 18:32:30

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000737/1

Communication System: WLAN5000 a-mode

Frequency: 5805 MHz; Duty Cycle: 1:1

Medium: HSL5000; Medium Notes: $t = 19.5$ C

Medium parameters used: $f = 5805$ MHz; $\sigma = 5.238$ mho/m; $\epsilon_r = 33.56$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(4.07, 4.07, 4.07); Calibrated: 2012-02-07;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.6 (6824)

WLAN5000 a-mode - Left/Tilt - Channel 161 - OFDM 6 Mbps/Area Scan (121x181x1): Interpolated grid:

$dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 1.56 W/kg

WLAN5000 a-mode - Left/Tilt - Channel 161 - OFDM 6 Mbps/Zoom Scan (8x8x12)/Cube 0: Measurement grid:

$dx=4$ mm, $dy=4$ mm, $dz=2$ mm

Reference Value = 15.990 V/m

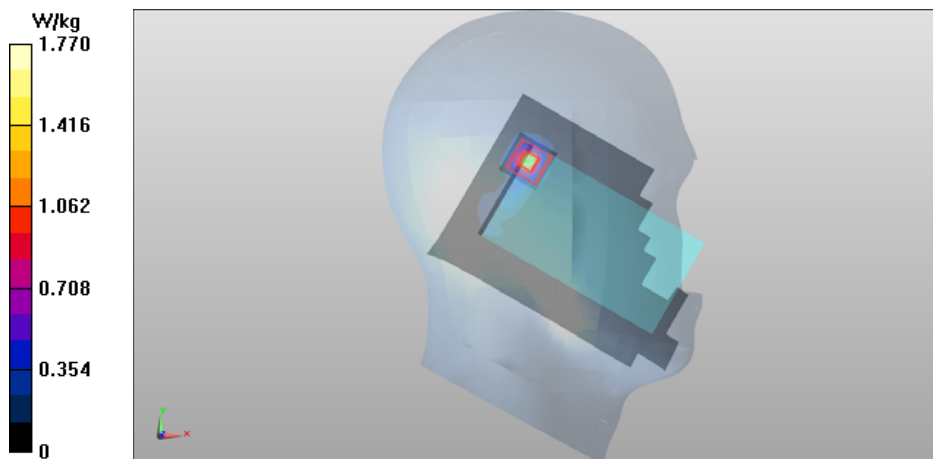
Peak SAR (extrapolated) = 7.626 mW/g

SAR(1 g) = 0.818 mW/g

SAR(10 g) = 0.198 mW/g

Power Drift = 0.17 dB

Maximum value of SAR (measured) = 1.77 W/kg



Plot #11

Date/Time: 2013-01-24 07:18:31

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000836/3

Communication System: CDMA800

Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: HSL900; Medium Notes: T=22.1 C

Medium parameters used: $f = 837 \text{ MHz}$; $\sigma = 0.888 \text{ S/m}$; $\epsilon_r = 42.032$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY Configuration:

- Probe: ES3DV3 - SN3112
- ConvF(6.27, 6.27, 6.27); Calibrated: 2012-02-13;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn701; Calibrated: 2012-08-15
- Phantom: SAM 2 11/29/2012; Type: Twin SAM 040 CA; Serial: TP - 1177
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.8 (7028)

CDMA 800 - Left/Tilt - Middle/Volume Scan (24x34x12): Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$

Reference Value = 24.927 V/m

Peak SAR (extrapolated) = 2.25 W/kg

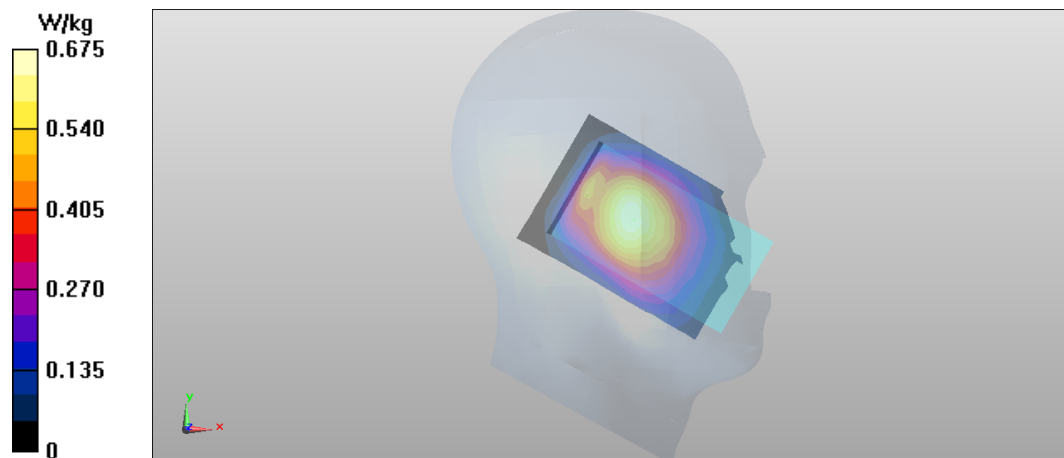
SAR(1 g) = 0.565 W/kg

SAR(10 g) = 0.419 W/kg

Power Drift = -0.04 dB

Total Absorbed Power = 0.0461 W

Maximum value of SAR (measured) = 0.675 W/kg



Plot #12

Date/Time: 2013-02-12 17:59:58

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000737/1

Communication System: WLAN5000 a-mode

Frequency: 5805 MHz; Duty Cycle: 1:1

Medium: HSL5000; Medium Notes: $t = 20.1$ C

Medium parameters used: $f = 5805$ MHz; $\sigma = 5.151$ S/m; $\epsilon_r = 34.739$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(4.07, 4.07, 4.07); Calibrated: 2012-02-07;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.8 (7028)

WLAN5000 a-mode - Left/Tilt - Channel 161 - OFDM 6 Mbps/Volume Scan (24x34x12): Measurement grid:

$dx=4$ mm, $dy=4$ mm, $dz=2$ mm

Reference Value = 7.253 V/m

Peak SAR (extrapolated) = 3.23 W/kg

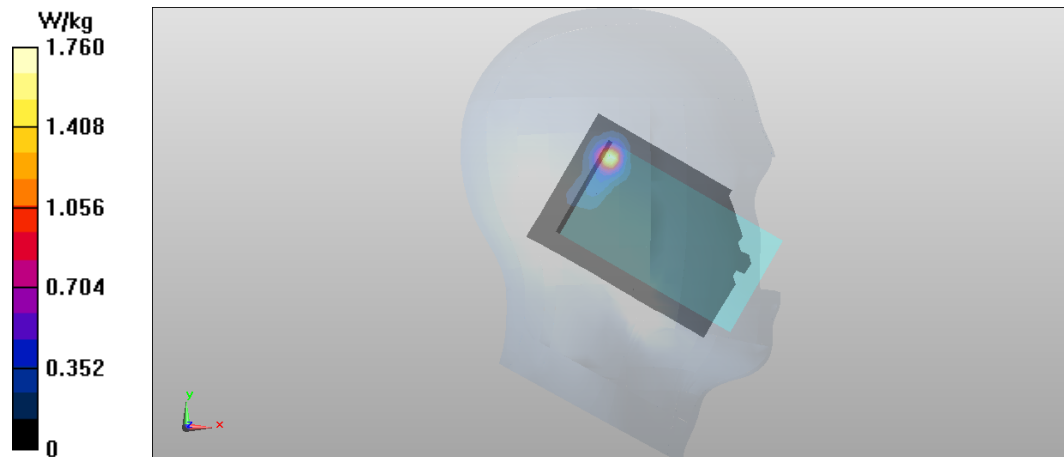
SAR(1 g) = 0.793 W/kg

SAR(10 g) = 0.197 W/kg

Power Drift = 0.02 dB

Total Absorbed Power = 0.00357 W

Maximum value of SAR (measured) = 1.76 W/kg



Plot #13

Date/Time: 2013-02-07 09:13:45

DASY Configuration for LTE750 (Band 13) - Left/Cheek - Middle -QPSK - 10MHz - 50%RB - 100% offset/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000822/3

Communication System: LTE750 (Band 13); Frequency: 782 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL750 Medium parameters used: $f = 782 \text{ MHz}$; $\sigma = 0.916 \text{ S/m}$; $\epsilon_r = 42.907$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Probe: ES3DV3 - SN3112; ConvF(6.5, 6.5, 6.5); Calibrated: 2012-02-13;

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn701; Calibrated: 2012-08-15

Phantom: SAM3 11-19-2012; Type: QD000P40CD; Serial: TP: 1729

Measurement SW: DASY52, Version 52.8 (1)

Date/Time: 2013-01-31 11:41:46

DASY Configuration for WLAN2450 b-mode - Left/Cheek - Channel 6 - DSSS 1 Mbps/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL2450 Medium parameters used: $f = 2437 \text{ MHz}$; $\sigma = 1.759 \text{ S/m}$; $\epsilon_r = 37.769$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Probe: ES3DV3 - SN3131; ConvF(4.34, 4.34, 4.34); Calibrated: 2012-08-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

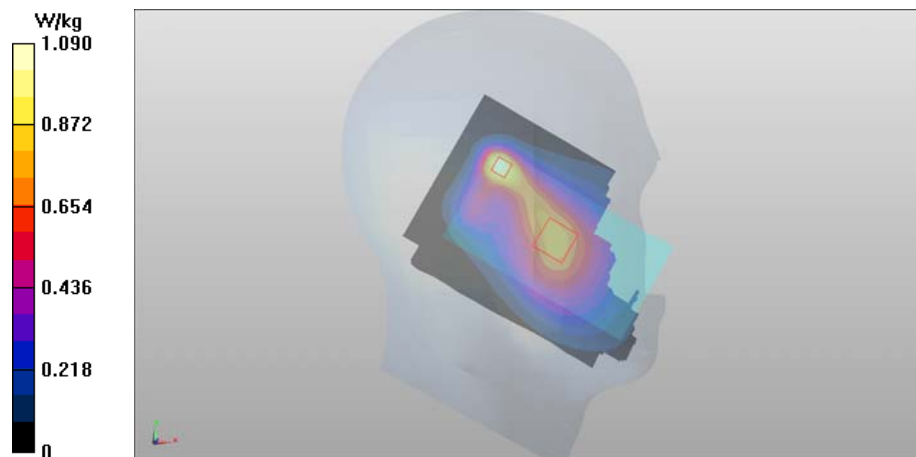
Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #4 SAM, SAR4 ; Type: QD000P40CD; Serial: TP:xxxx

Measurement SW: DASY52, Version 52.8 (2)

Fast SAR of Combined Scans: SAR(1 g) = 0.942 W/kg; SAR(10 g) = 0.512 W/kg

Maximum value of SAR (interpolated) = 1.09 W/kg



Note: LTE750 (Band 13) result was scaled by a factor of 1.30 and WLAN2450 result was scaled by a factor of 1.42 before combining.

SAR Report

Appendix B.1 for FCC_RM-860_01

Applicant: Nokia Corporation

Type: RM-860

Copyright © 2013 TCC Nokia

Plot #14

Date/Time: 2013-01-31 11:41:46

DASY Configuration for WLAN2450 b-mode - Left/Cheek - Channel 6 - DSSS 1 Mbps/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.759$ mho/m; $\epsilon_r = 37.769$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: ES3DV3 - SN3131; ConvF(4.34, 4.34, 4.34); Calibrated: 2012-08-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #4 SAM, SAR4 ; Type: QD000P40CD; Serial: TP:xxxx

Measurement SW: DASY52, Version 52.8 (2)

Date/Time: 2012-12-22 13:48:27

DASY Configuration for CDMA800 - Left/Cheek - Middle/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000836/3

Communication System: CDMA800; Frequency: 836.52 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL835 Medium parameters used: $f = 837$ MHz; $\sigma = 0.891$ mho/m; $\epsilon_r = 40.709$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: ES3DV3 - SN3112; ConvF(6.27, 6.27, 6.27); Calibrated: 2012-02-13;

Sensor-Surface: 4mm (Mechanical Surface Detection)

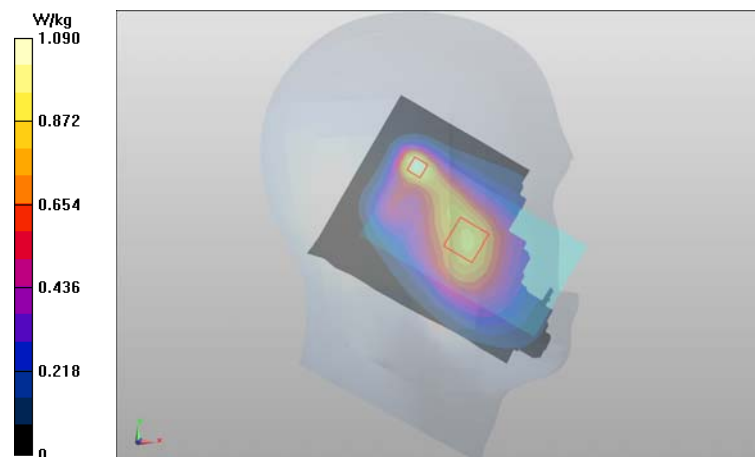
Electronics: DAE4 Sn701; Calibrated: 2012-08-15

Phantom: SAM 2 11/29/2012; Type: Twin SAM 040 CA; Serial: TP - 1177

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.945 mW/g; SAR(10 g) = 0.584 mW/g

Maximum value of SAR (interpolated) = 1.09 W/kg



Note: CDMA800 result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.42 before combining.

Plot #15

Date/Time: 2013-01-31 11:41:46

DASY Configuration for WLAN2450 b-mode - Left/Cheek - Channel 6 - DSSS 1 Mbps/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.759$ mho/m; $\epsilon_r = 37.769$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: ES3DV3 - SN3131; ConvF(4.34, 4.34, 4.34); Calibrated: 2012-08-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #4 SAM, SAR4 ; Type: QD000P40CD; Serial: TP:xxxx

Measurement SW: DASY52, Version 52.8 (2)

Date/Time: 2012-12-20 23:34:15

DASY Configuration for 2-slot GPRS850 - Left/Cheek - Middle/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000833/0

Communication System: 2-slot GPRS850; Frequency: 836.6 MHz; Duty Cycle: 1:4.19952; PMF: 2.04927

Medium: HSL900 Medium parameters used: $f = 837$ MHz; $\sigma = 0.89$ mho/m; $\epsilon_r = 40.853$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: ES3DV3 - SN3112; ConvF(6.27, 6.27, 6.27); Calibrated: 2012-02-13;

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

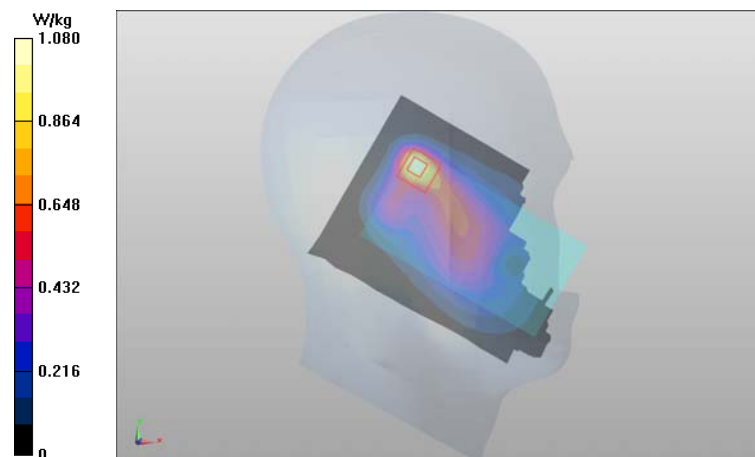
Electronics: DAE4 Sn701; Calibrated: 2012-08-15

Phantom: SAM 2 11/29/2012; Type: Twin SAM 040 CA; Serial: TP - 1177

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.930 mW/g; SAR(10 g) = 0.449 mW/g

Maximum value of SAR (interpolated) = 1.08 W/kg



Note: 2-slot GPRS850 result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.42 before combining.

Plot #16

Date/Time: 2013-01-31 11:41:46

DASY Configuration for WLAN2450 b-mode - Left/Cheek - Channel 6 - DSSS 1 Mbps/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL2450 Medium parameters used: $f = 2437 \text{ MHz}$; $\sigma = 1.759 \text{ mho/m}$; $\epsilon_r = 37.769$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Probe: ES3DV3 - SN3131; ConvF(4.34, 4.34, 4.34); Calibrated: 2012-08-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #4 SAM, SAR4 ; Type: QD000P40CD; Serial: TP:xxxx

Measurement SW: DASY52, Version 52.8 (2)

Date/Time: 2012-12-22 00:43:20

DASY Configuration for WCDMA850 (Band 5) - Left/Cheek - Middle/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000821/5

Communication System: WCDMA850 (Band 5); Frequency: 835 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL835 Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.89 \text{ mho/m}$; $\epsilon_r = 40.686$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Probe: ES3DV3 - SN3112; ConvF(6.27, 6.27, 6.27); Calibrated: 2012-02-13;

Sensor-Surface: 4mm (Mechanical Surface Detection)

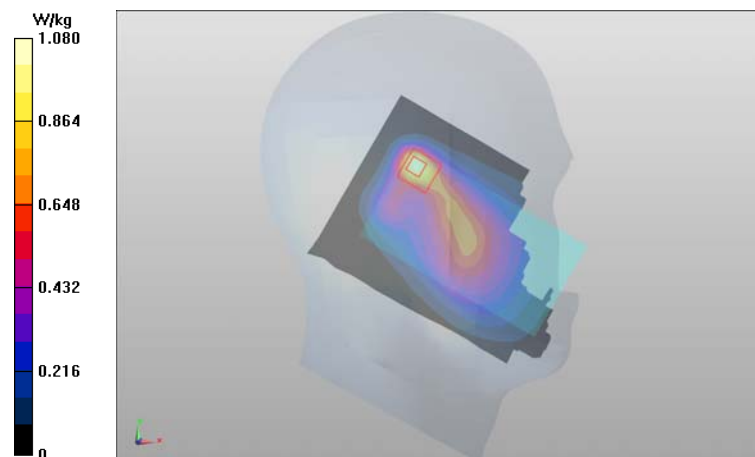
Electronics: DAE4 Sn701; Calibrated: 2012-08-15

Phantom: SAM 2 11/29/2012; Type: Twin SAM 040 CA; Serial: TP - 1177

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.928 mW/g; SAR(10 g) = 0.449 mW/g

Maximum value of SAR (interpolated) = 1.08 W/kg



Note: WCDMA850 (Band 5) result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.42 before combining.

Plot #17

Date/Time: 2013-02-06 20:02:36

DASY Configuration for LTE1700/2100 (Band 4) - Left/Cheek- Middle - QPSK - 20MHz - 50%RB - 0% offset/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000818/1

Communication System: LTE1700/2100(Band 4); Frequency: 1732.5 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL1750 Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.362$ S/m; $\epsilon_r = 39.205$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: EX3DV4 - SN3852; ConvF(7.95, 7.95, 7.95); Calibrated: 2012-03-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1332; Calibrated: 2012-07-26

Phantom: SAM 3 06.09.2012; Type: QD000P40CB; Serial: TP:1399

Measurement SW: DASY52, Version 52.8 (1)

Date/Time: 2013-01-31 11:41:46

DASY Configuration for WLAN2450 b-mode - Left/Cheek - Channel 6 - DSSS 1 Mbps/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.759$ S/m; $\epsilon_r = 37.769$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: ES3DV3 - SN3131; ConvF(4.34, 4.34, 4.34); Calibrated: 2012-08-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

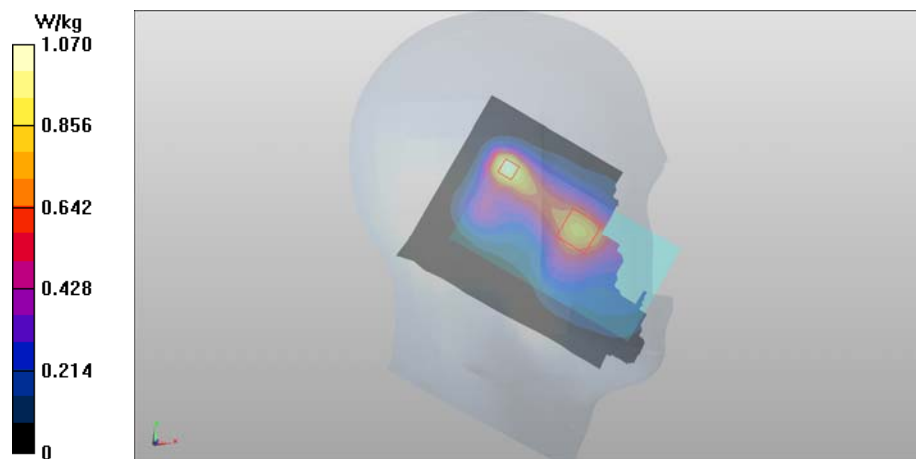
Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #4 SAM, SAR4 ; Type: QD000P40CD; Serial: TP:xxxx

Measurement SW: DASY52, Version 52.8 (2)

Fast SAR of Combined Scans: SAR(1 g) = 0.919 W/kg; SAR(10 g) = 0.453 W/kg

Maximum value of SAR (interpolated) = 1.07 W/kg



Note: LTE 1700/2100 (Band 4) result was scaled by a factor of 1.40 and WLAN2450 result was scaled by a factor of 1.42 before combining.

SAR Report

Appendix B.1 for FCC_RM-860_01

Applicant: Nokia Corporation

Type: RM-860

Copyright © 2013 TCC Nokia

Plot #18

Date/Time: 2013-01-31 11:41:46

DASY Configuration for WLAN2450 b-mode - Left/Cheek - Channel 6 - DSSS 1 Mbps/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.759$ mho/m; $\epsilon_r = 37.769$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: ES3DV3 - SN3131; ConvF(4.34, 4.34, 4.34); Calibrated: 2012-08-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #4 SAM, SAR4 ; Type: QD000P40CD; Serial: TP:xxxx

Measurement SW: DASY52, Version 52.8 (2)

Date/Time: 2013-01-04 02:13:05

DASY Configuration for CDMA1900 - Left/Cheek - High/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000899/1

Communication System: CDMA1900; Frequency: 1908.75 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL1900 Medium parameters used: $f = 1909$ MHz; $\sigma = 1.412$ mho/m; $\epsilon_r = 39.63$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: ES3DV3 - SN3112; ConvF(5.35, 5.35, 5.35); Calibrated: 2012-02-13;

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

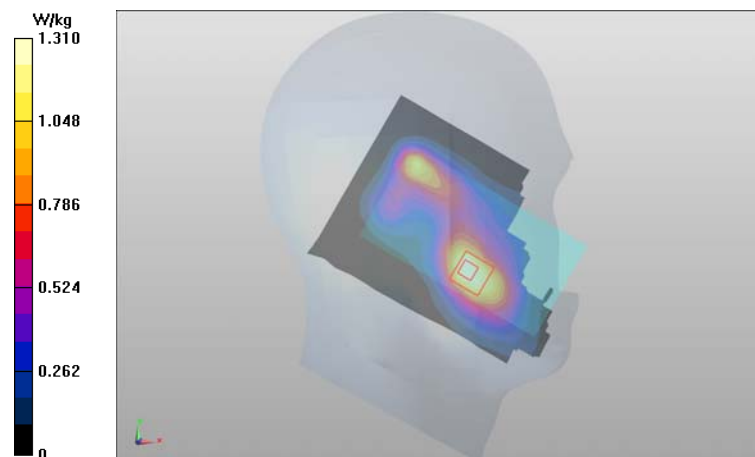
Electronics: DAE4 Sn701; Calibrated: 2012-08-15

Phantom: SAM 4 03-12-2012; Type: QD000P40CD; Serial: TP1630

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 1.19 mW/g; SAR(10 g) = 0.696 mW/g

Maximum value of SAR (interpolated) = 1.31 W/kg



Note: CDMA1900 result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.42 before combining.

Plot #19

Date/Time: 2013-02-19 06:58:43

DASY Configuration for 2-slot 8PSK EGPRS1900 - Left/Cheek - Middle/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000833/0

Communication System: 2-slot 8PSK EGPRS1900; Frequency: 1880 MHz; Duty Cycle: 1:4.2; PMF: 2.04939

Medium: HSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.401$ S/m; $\epsilon_r = 39.196$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: ES3DV3 - SN3194; ConvF(4.97, 4.97, 4.97); Calibrated: 2012-08-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn538; Calibrated: 2012-08-03

Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449

Measurement SW: DASY4, Version 4.7 (80)

Date/Time: 2013-01-31 11:41:46

DASY Configuration for WLAN2450 b-mode - Left/Cheek - Channel 6 - DSSS 1 Mbps/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.759$ S/m; $\epsilon_r = 37.769$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: ES3DV3 - SN3131; ConvF(4.34, 4.34, 4.34); Calibrated: 2012-08-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

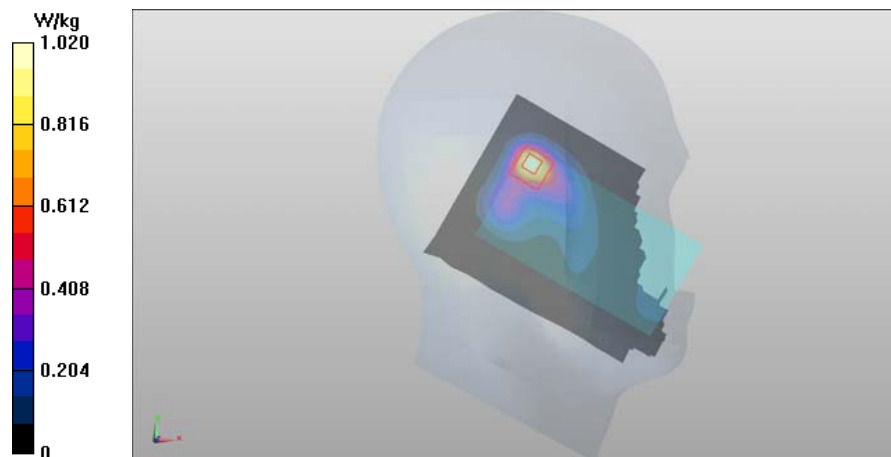
Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #4 SAM, SAR4 ; Type: QD000P40CD; Serial: TP:xxxx

Measurement SW: DASY52, Version 52.8 (2)

Fast SAR of Combined Scans: SAR(1 g) = 0.870 W/kg; SAR(10 g) = 0.394 W/kg

Maximum value of SAR (interpolated) = 1.02 W/kg



Note: 2-slot 8PSK EGPRS1900 result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.42 before combining.

Plot #20

Date/Time: 2013-01-31 11:41:46

DASY Configuration for WLAN2450 b-mode - Left/Cheek - Channel 6 - DSSS 1 Mbps/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL2450 Medium parameters used: $f = 2437 \text{ MHz}$; $\sigma = 1.759 \text{ mho/m}$; $\epsilon_r = 37.769$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Probe: ES3DV3 - SN3131; ConvF(4.34, 4.34, 4.34); Calibrated: 2012-08-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #4 SAM, SAR4 ; Type: QD000P40CD; Serial: TP:xxxx

Measurement SW: DASY52, Version 52.8 (2)

Date/Time: 2013-01-09 17:09:19

DASY Configuration for WCDMA1900 (Band 2) - Left/Cheek - Low/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000821/5

Communication System: WCDMA1900 (Band 2); Frequency: 1852.4 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL1900 Medium parameters used (interpolated): $f = 1852.4 \text{ MHz}$; $\sigma = 1.342 \text{ mho/m}$; $\epsilon_r = 38.687$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Probe: ES3DV3 - SN3194; ConvF(4.97, 4.97, 4.97); Calibrated: 2012-08-27;

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

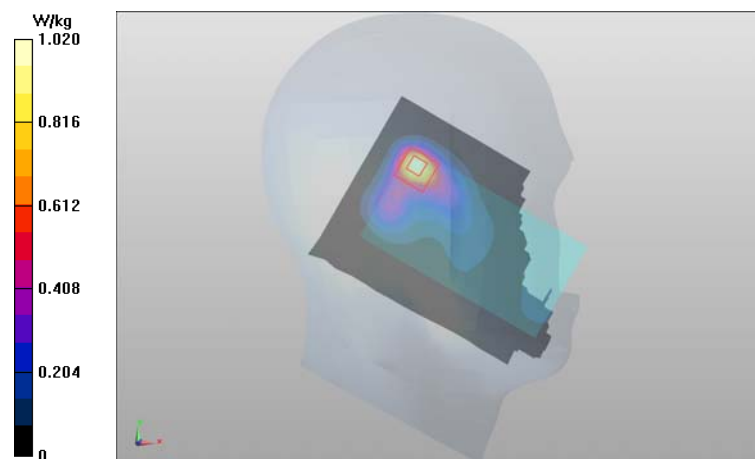
Electronics: DAE4 Sn538; Calibrated: 2012-08-03

Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449

Measurement SW: DASY4, Version 4.7 (80)

Fast SAR of Combined Scans: SAR(1 g) = 0.870 mW/g; SAR(10 g) = 0.395 mW/g

Maximum value of SAR (interpolated) = 1.02 W/kg



Note: WCDMA1900 (Band 2) result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.42 before combining.

SAR Report

Appendix B.1 for FCC_RM-860_01

Applicant: Nokia Corporation

Type: RM-860

Copyright © 2013 TCC Nokia

Plot #21

Date/Time: 2013-02-07 09:13:45

DASY Configuration for LTE750 (Band 13) - Left/Cheek - Middle -QPSK - 10MHz - 50%RB - 100% offset/Area

Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000822/3

Communication System: LTE750 (Band 13); Frequency: 782 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL750 Medium parameters used: $f = 782 \text{ MHz}$; $\sigma = 0.916 \text{ S/m}$; $\epsilon_r = 42.907$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Probe: ES3DV3 - SN3112; ConvF(6.5, 6.5, 6.5); Calibrated: 2012-02-13;

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn701; Calibrated: 2012-08-15

Phantom: SAM3 11-19-2012; Type: QD000P40CD; Serial: TP: 1729

Measurement SW: DASY52, Version 52.8 (1)

Date/Time: 2013-02-04 17:50:37

DASY Configuration for WLAN5000 a-mode - Left/Cheek - Channel 161 - OFDM 6 Mbps/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000737/1

Communication System: WLAN5000 a-mode; Frequency: 5805 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL5000 Medium parameters used: $f = 5805 \text{ MHz}$; $\sigma = 5.238 \text{ S/m}$; $\epsilon_r = 33.56$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Probe: EX3DV4 - SN3835; ConvF(4.07, 4.07, 4.07); Calibrated: 2012-02-07;

Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used))

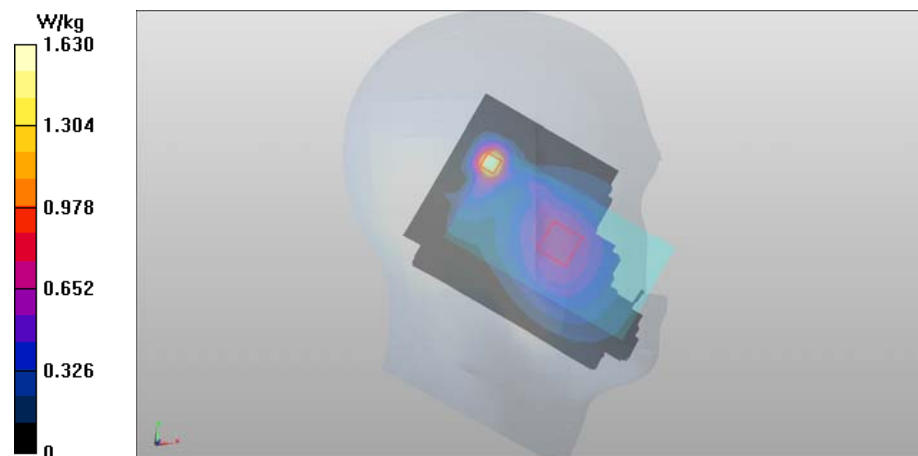
Electronics: DAE4 Sn1316; Calibrated: 2012-02-15

Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179

Measurement SW: DASY52, Version 52.8 (0)

Fast SAR of Combined Scans: SAR(1 g) = 0.802 W/kg; SAR(10 g) = 0.487 W/kg

Maximum value of SAR (interpolated) = 1.63 W/kg



Note: LTE750 (Band 13) result was scaled by a factor of 1.30 and WLAN5000 result was scaled by a factor of 1.28 before combining.

SAR Report

Appendix B.1 for FCC_RM-860_01

Applicant: Nokia Corporation

Type: RM-860

Copyright © 2013 TCC Nokia

Plot #22

Date/Time: 2013-02-04 17:50:37

DASY Configuration for WLAN5000 a-mode - Left/Cheek - Channel 161 - OFDM 6 Mbps/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000737/1

Communication System: WLAN5000 a-mode; Frequency: 5805 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL5000 Medium parameters used: $f = 5805$ MHz; $\sigma = 5.238$ mho/m; $\epsilon_r = 33.56$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: EX3DV4 - SN3835; ConvF(4.07, 4.07, 4.07); Calibrated: 2012-02-07;

Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used))

Electronics: DAE4 Sn1316; Calibrated: 2012-02-15

Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179

Measurement SW: DASY52, Version 52.8 (0)

Date/Time: 2012-12-22 13:48:27

DASY Configuration for CDMA800 - Left/Cheek - Middle/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000836/3

Communication System: CDMA800; Frequency: 836.52 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL835 Medium parameters used: $f = 837$ MHz; $\sigma = 0.891$ mho/m; $\epsilon_r = 40.709$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: ES3DV3 - SN3112; ConvF(6.27, 6.27, 6.27); Calibrated: 2012-02-13;

Sensor-Surface: 4mm (Mechanical Surface Detection)

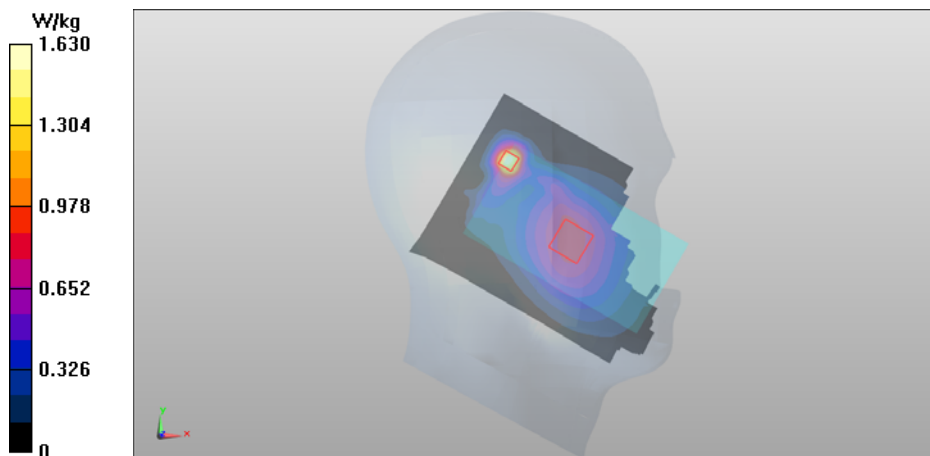
Electronics: DAE4 Sn701; Calibrated: 2012-08-15

Phantom: SAM 2 11/29/2012; Type: Twin SAM 040 CA; Serial: TP - 1177

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.805 mW/g; SAR(10 g) = 0.556 mW/g

Maximum value of SAR (interpolated) = 1.63 W/kg



Note: CDMA800 result was scaled by a factor of 1.12 and WLAN5000 result was scaled by a factor of 1.28 before combining.

Plot #23

Date/Time: 2013-02-04 18:32:30

DASY Configuration for WLAN5000 a-mode - Left/Tilt - Channel 161 - OFDM 6 Mbps/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000737/1

Communication System: WLAN5000 a-mode; Frequency: 5805 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL5000 Medium parameters used: $f = 5805$ MHz; $\sigma = 5.238$ mho/m; $\epsilon_r = 33.56$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: EX3DV4 - SN3835; ConvF(4.07, 4.07, 4.07); Calibrated: 2012-02-07;

Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used))

Electronics: DAE4 Sn1316; Calibrated: 2012-02-15

Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179

Measurement SW: DASY52, Version 52.8 (0)

Date/Time: 2012-12-21 01:18:30

DASY Configuration for 2-slot GPRS850 - Left/Tilt - Middle/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000833/0

Communication System: 2-slot GPRS850; Frequency: 836.6 MHz; Duty Cycle: 1:4.19952; PMF: 2.04927

Medium: HSL900 Medium parameters used: $f = 837$ MHz; $\sigma = 0.89$ mho/m; $\epsilon_r = 40.853$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: ES3DV3 - SN3112; ConvF(6.27, 6.27, 6.27); Calibrated: 2012-02-13;

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

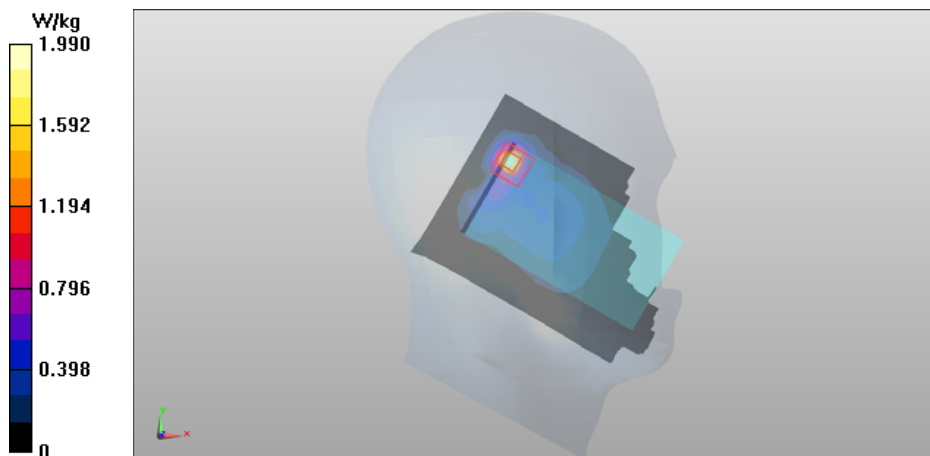
Electronics: DAE4 Sn701; Calibrated: 2012-08-15

Phantom: SAM 2 11/29/2012; Type: Twin SAM 040 CA; Serial: TP - 1177

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.987 mW/g; SAR(10 g) = 0.340 mW/g

Maximum value of SAR (interpolated) = 1.99 W/kg



Note: 2-slot GPRS850 result was scaled by a factor of 1.12 and WLAN5000 result was scaled by a factor of 1.28 before combining.

Plot #24

Date/Time: 2013-02-04 17:50:37

DASY Configuration for WLAN5000 a-mode – Left/Cheek - Channel 161 - OFDM 6 Mbps/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000737/1

Communication System: WLAN5000 a-mode; Frequency: 5805 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL5000 Medium parameters used: $f = 5805$ MHz; $\sigma = 5.238$ mho/m; $\epsilon_r = 33.56$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: EX3DV4 - SN3835; ConvF(4.07, 4.07, 4.07); Calibrated: 2012-02-07;

Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used))

Electronics: DAE4 Sn1316; Calibrated: 2012-02-15

Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179

Measurement SW: DASY52, Version 52.8 (0)

Date/Time: 2012-12-22 00:43:20

DASY Configuration for WCDMA850 (Band 5) - Left/Cheek - Middle/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000821/5

Communication System: WCDMA850 (Band 5); Frequency: 835 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL835 Medium parameters used: $f = 835$ MHz; $\sigma = 0.89$ mho/m; $\epsilon_r = 40.686$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: ES3DV3 - SN3112; ConvF(6.27, 6.27, 6.27); Calibrated: 2012-02-13;

Sensor-Surface: 4mm (Mechanical Surface Detection)

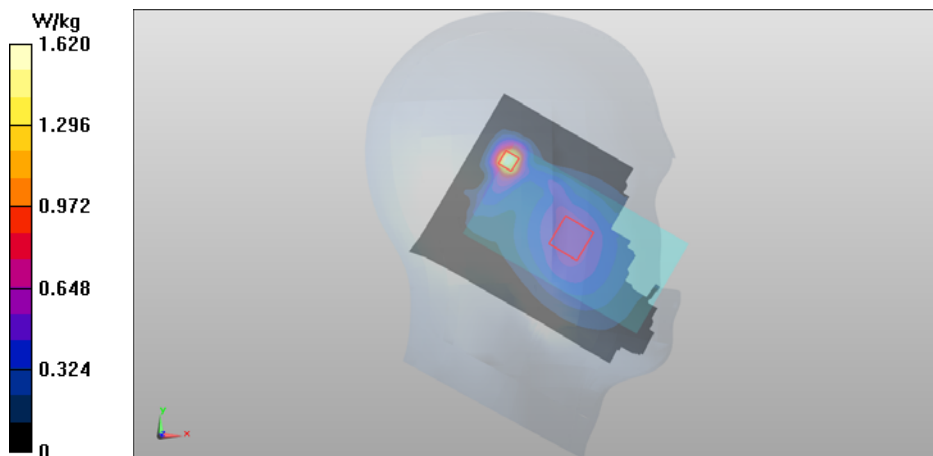
Electronics: DAE4 Sn701; Calibrated: 2012-08-15

Phantom: SAM 2 11/29/2012; Type: Twin SAM 040 CA; Serial: TP - 1177

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.797 mW/g; SAR(10 g) = 0.417 mW/g

Maximum value of SAR (interpolated) = 1.62 W/kg



Note: WCDMA850 (Band 5) result was scaled by a factor of 1.12 and WLAN5000 result was scaled by a factor of 1.28 before combining.

SAR Report

Appendix B.1 for FCC_RM-860_01

Applicant: Nokia Corporation

Type: RM-860

Copyright © 2013 TCC Nokia

Plot #25

Date/Time: 2013-02-05 08:45:53

DASY Configuration for WLAN5000 a-mode - Right/Cheek - Channel 161 - OFDM 6 Mbps/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05000737/1

Communication System: WLAN5000 a-mode; Frequency: 5805 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL5000 Medium parameters used: $f = 5805$ MHz; $\sigma = 5.238$ mho/m; $\epsilon_r = 33.56$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Probe: EX3DV4 - SN3835; ConvF(4.07, 4.07, 4.07); Calibrated: 2012-02-07;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1316; Calibrated: 2012-02-15

Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179

Measurement SW: DASY52, Version 52.8 (0)

Date/Time: 2013-01-14 22:11:19

DASY Configuration for LTE1700/2100 (Band 4) - Right/Cheek - Low -QPSK - 20MHz - 1RB - 0% offset/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000818/1

Communication System: LTE1700/2100(Band 4); Frequency: 1720 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL1750 Medium parameters used: $f = 1720$ MHz; $\sigma = 1.288$ mho/m; $\epsilon_r = 39.827$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Probe: ES3DV3 - SN3112; ConvF(5.35, 5.35, 5.35); Calibrated: 2012-02-13;

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

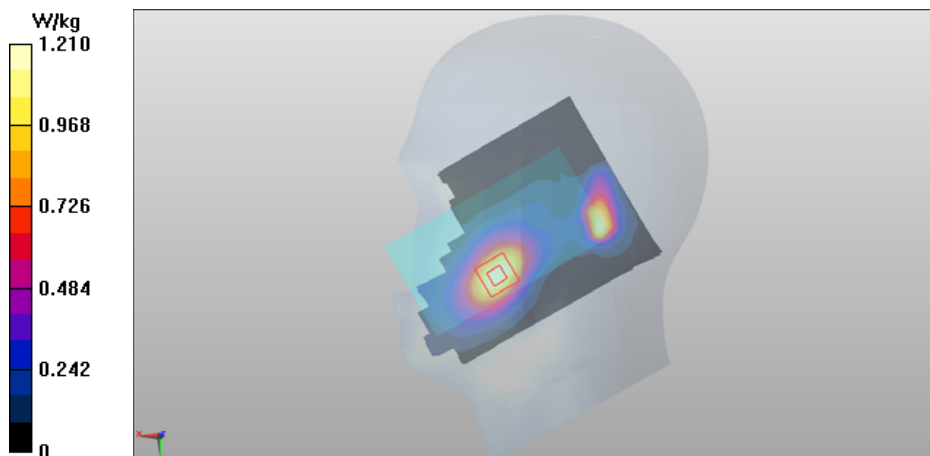
Electronics: DAE4 Sn701; Calibrated: 2012-08-15

Phantom: SAM1 12/03/2012; Type: QD000P40CC; Serial: TP:1279

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 1.1 mW/g; SAR(10 g) = 0.648 mW/g

Maximum value of SAR (interpolated) = 1.21 W/kg



Note: LTE1700/2100 (Band 4) result was scaled by a factor of 1.12 and WLAN5000 result was scaled by a factor of 1.28 before combining.

Plot #26

Date/Time: 2013-02-04 17:50:37

DASY Configuration for WLAN5000 a-mode - Left/Cheek - Channel 161 - OFDM 6 Mbps/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000737/1

Communication System: WLAN5000 a-mode; Frequency: 5805 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL5000 Medium parameters used: $f = 5805$ MHz; $\sigma = 5.238$ mho/m; $\epsilon_r = 33.56$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: EX3DV4 - SN3835; ConvF(4.07, 4.07, 4.07); Calibrated: 2012-02-07;

Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used))

Electronics: DAE4 Sn1316; Calibrated: 2012-02-15

Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179

Measurement SW: DASY52, Version 52.8 (0)

Date/Time: 2013-01-04 02:13:05

DASY Configuration for CDMA1900 - Left/Cheek - High/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000899/1

Communication System: CDMA1900; Frequency: 1908.75 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL1900 Medium parameters used: $f = 1909$ MHz; $\sigma = 1.412$ mho/m; $\epsilon_r = 39.63$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: ES3DV3 - SN3112; ConvF(5.35, 5.35, 5.35); Calibrated: 2012-02-13;

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

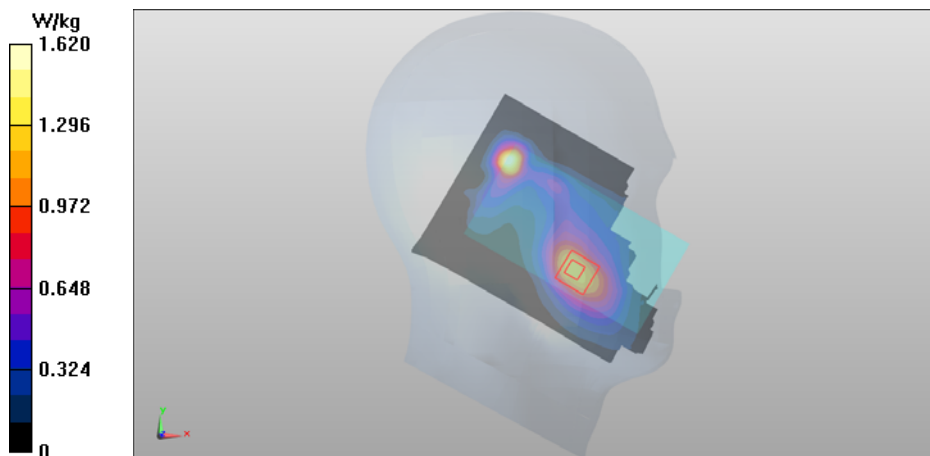
Electronics: DAE4 Sn701; Calibrated: 2012-08-15

Phantom: SAM 4 03-12-2012; Type: QD000P40CD; Serial: TP1630

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 1.16 mW/g; SAR(10 g) = 0.682 mW/g

Maximum value of SAR (interpolated) = 1.62 W/kg



Note: CDMA1900 result was scaled by a factor of 1.12 and WLAN5000 result was scaled by a factor of 1.28 before combining.

SAR Report

Appendix B.1 for FCC_RM-860_01

Applicant: Nokia Corporation

Type: RM-860

Copyright © 2013 TCC Nokia

Plot #27

Date/Time: 2013-02-19 06:58:43

DASY Configuration for 2-slot 8PSK EGPRS1900 - Left/Cheek - Middle/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000833/0

Communication System: 2-slot 8PSK EGPRS1900; Frequency: 1880 MHz; Duty Cycle: 1:4.2; PMF: 2.04939

Medium: HSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.401$ S/m; $\epsilon_r = 39.196$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: ES3DV3 - SN3194; ConvF(4.97, 4.97, 4.97); Calibrated: 2012-08-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn538; Calibrated: 2012-08-03

Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449

Measurement SW: DASY4, Version 4.7 (80)

Date/Time: 2013-02-04 17:50:37

DASY Configuration for WLAN5000 a-mode - Left/Cheek - Channel 161 - OFDM 6 Mbps/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000737/1

Communication System: WLAN5000 a-mode; Frequency: 5805 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL5000 Medium parameters used: $f = 5805$ MHz; $\sigma = 5.238$ S/m; $\epsilon_r = 33.56$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Probe: EX3DV4 - SN3835; ConvF(4.07, 4.07, 4.07); Calibrated: 2012-02-07;

Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used))

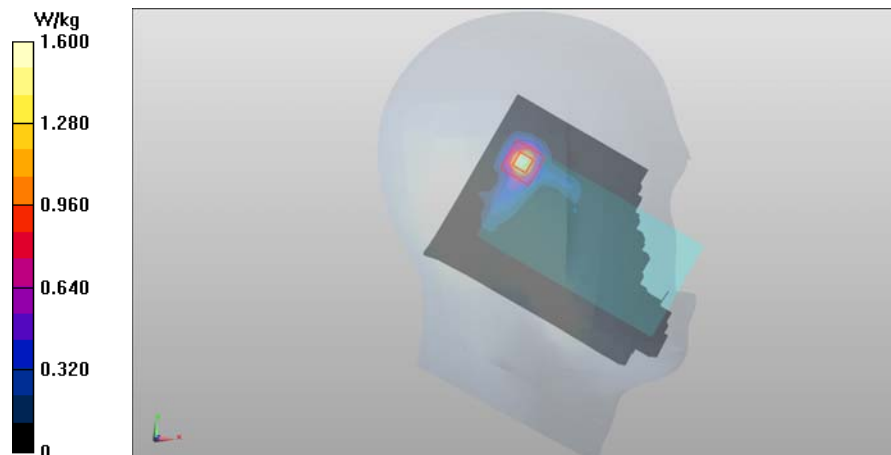
Electronics: DAE4 Sn1316; Calibrated: 2012-02-15

Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179

Measurement SW: DASY52, Version 52.8 (0)

Fast SAR of Combined Scans: SAR(1 g) = 0.768 W/kg; SAR(10 g) = 0.242 W/kg

Maximum value of SAR (interpolated) = 1.60 W/kg



Note: 2-slot 8PSK EGPRS1900 result was scaled by a factor of 1.12 and WLAN5000 result was scaled by a factor of 1.28 before combining.

Plot #28

Date/Time: 2013-02-04 17:50:37

DASY Configuration for WLAN5000 a-mode - Left/Cheek - Channel 161 - OFDM 6 Mbps/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000737/1

Communication System: WLAN5000 a-mode; Frequency: 5805 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL5000 Medium parameters used: $f = 5805 \text{ MHz}$; $\sigma = 5.238 \text{ mho/m}$; $\epsilon_r = 33.56$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Probe: EX3DV4 - SN3835; ConvF(4.07, 4.07, 4.07); Calibrated: 2012-02-07;
Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
Measurement SW: DASY52, Version 52.8 (0)

Date/Time: 2013-01-09 17:09:19

DASY Configuration for WCDMA1900 (Band 2) - Left/Cheek - Low/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000821/5

Communication System: WCDMA1900 (Band 2); Frequency: 1852.4 MHz; Duty Cycle: 1:1; PMF: 1

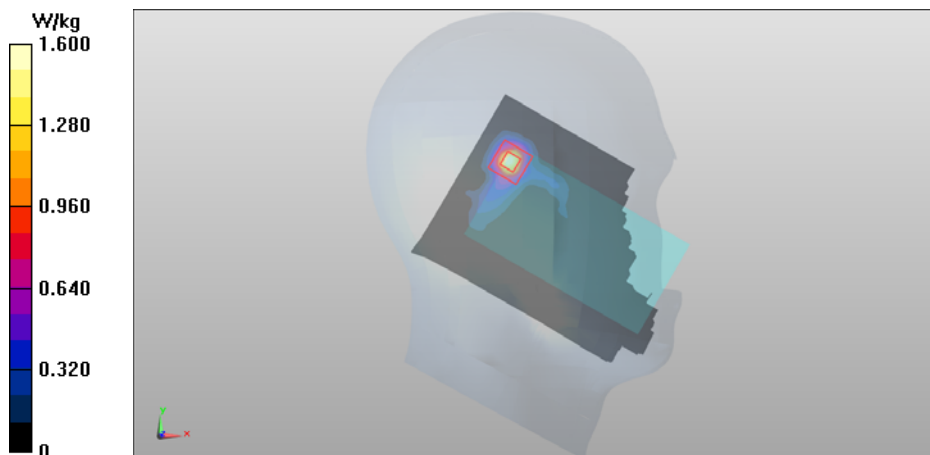
Medium: HSL1900 Medium parameters used (interpolated): $f = 1852.4 \text{ MHz}$; $\sigma = 1.342 \text{ mho/m}$; $\epsilon_r = 38.687$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Probe: ES3DV3 - SN3194; ConvF(4.97, 4.97, 4.97); Calibrated: 2012-08-27;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2012-08-03
Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1449
Measurement SW: DASY4, Version 4.7 (80)

Fast SAR of Combined Scans: SAR(1 g) = 0.768 mW/g; SAR(10 g) = 0.242 mW/g

Maximum value of SAR (interpolated) = 1.60 W/kg



Note: WCDMA1900 (Band 2) result was scaled by a factor of 1.12 and WLAN5000 result was scaled by a factor of 1.28 before combining.

Plot #29

Date/Time: 2013-02-12 17:59:58

DASY Configuration for WLAN5000 a-mode - Left/Tilt - Channel 161 - OFDM 6 Mbps/Volume Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000737/1

Communication System: WLAN5000 a-mode; Frequency: 5805 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL5000 Medium parameters used: $f = 5805 \text{ MHz}$; $\sigma = 5.151 \text{ S/m}$; $\epsilon_r = 34.739$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Probe: EX3DV4 - SN3835; ConvF(4.07, 4.07, 4.07); Calibrated: 2012-02-07;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
Phantom: SAM 1; Type: Twin SAM 040 CA; Serial: TP-1179
Measurement SW: DASY52, Version 52.8 (0)

Date/Time: 2013-01-24 07:18:31

DASY Configuration for CDMA 800 - Left/Tilt - Middle/Volume Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000836/3

Communication System: CDMA800; Frequency: 836.52 MHz; Duty Cycle: 1:1; PMF: 1

Medium: HSL900 Medium parameters used: $f = 837 \text{ MHz}$; $\sigma = 0.888 \text{ S/m}$; $\epsilon_r = 42.032$; $\rho = 1000 \text{ kg/m}^3$

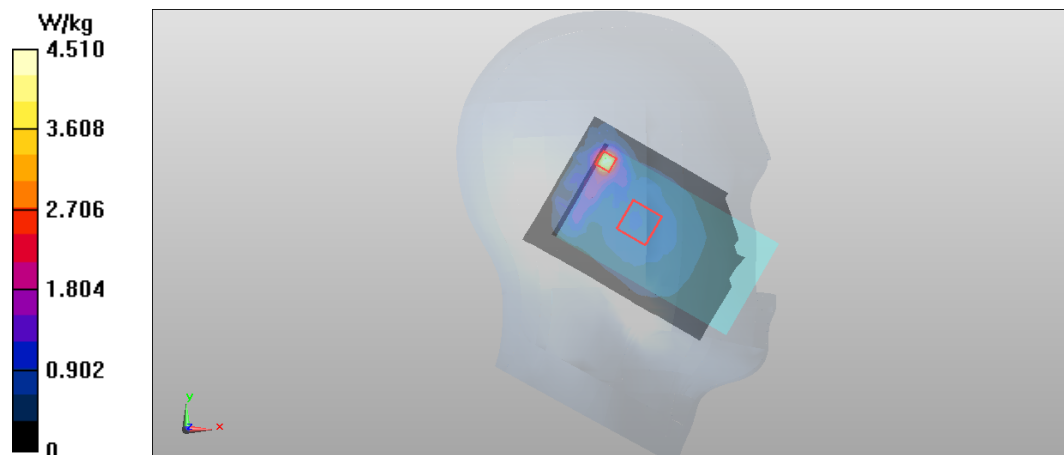
Phantom section: Left Section

Probe: ES3DV3 - SN3112; ConvF(6.27, 6.27, 6.27); Calibrated: 2012-02-13;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn701; Calibrated: 2012-08-15
Phantom: SAM 2 11/29/2012; Type: Twin SAM 040 CA; Serial: TP - 1177
Measurement SW: DASY52, Version 52.8 (1)

Multi Band Result:

SAR(1 g) = 1.21 W/kg; SAR(10 g) = 0.462 W/kg

Maximum value of SAR (interpolated) = 4.51 W/kg



Note: CDMA800 result was scaled by a factor of 1.12 and WLAN5000 result was scaled by a factor of 1.28 before combining.

Plot #30

Date/Time: 2012-12-27 15:01:33

Test Laboratory: TCC Nokia

Type: RM-860 Serial: 354106/05/000822/3

Communication System: LTE750 (Band 13)

Frequency: 782 MHz; Duty Cycle: 1:1

Medium: MSL750; Medium Notes: T=21.9C

Medium parameters used: $f = 782 \text{ MHz}$; $\sigma = 0.965 \text{ mho/m}$; $\epsilon_r = 54.681$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3852
- ConvF(9.31, 9.31, 9.31); Calibrated: 2012-03-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

LTE750 (Band 13)/Body -Middle - Spacer 15mm - No Accessory - Display Facing Phantom QPSK-10MHz - 1%RB - 0%offset/Area Scan (81x121x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.703 W/kg

LTE750 (Band 13)/Body - Middle - Spacer 15mm - No Accessory - Display Facing Phantom QPSK-10MHz - 1%RB - 0%offset/Zoom Scan (7x6x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 26.555 V/m

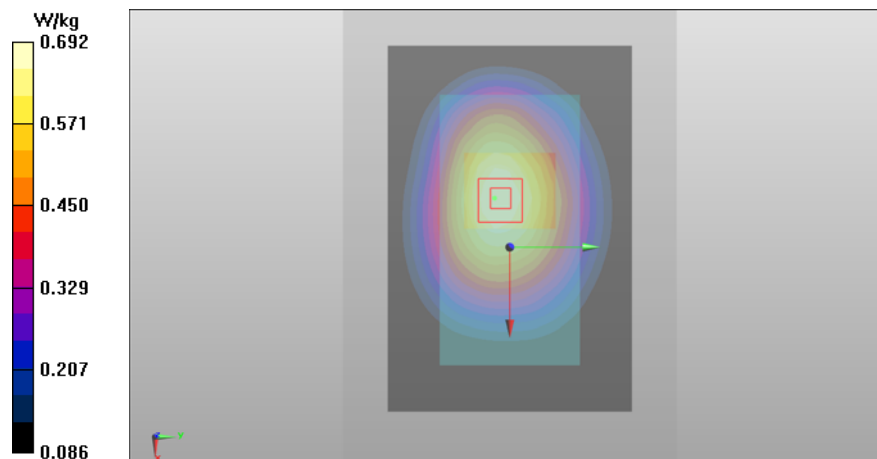
Peak SAR (extrapolated) = 0.837 mW/g

SAR(1 g) = 0.660 mW/g

SAR(10 g) = 0.504 mW/g

Power Drift = -0.07 dB

Maximum value of SAR (measured) = 0.692 W/kg



Plot #31

Date/Time: 2013-01-16 12:08:18

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000836/3

Communication System: CDMA800

Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: MSL900; Medium Notes: T = 21.4 C

Medium parameters used: $f = 825 \text{ MHz}$; $\sigma = 0.989 \text{ mho/m}$; $\epsilon_r = 55.563$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3852
- ConvF(9.14, 9.14, 9.14); Calibrated: 2012-03-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

CDMA800/Body - Low - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan (81x121x1):

Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.710 W/kg

CDMA800/Body - Low - Spacer 15mm - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 26.541 V/m

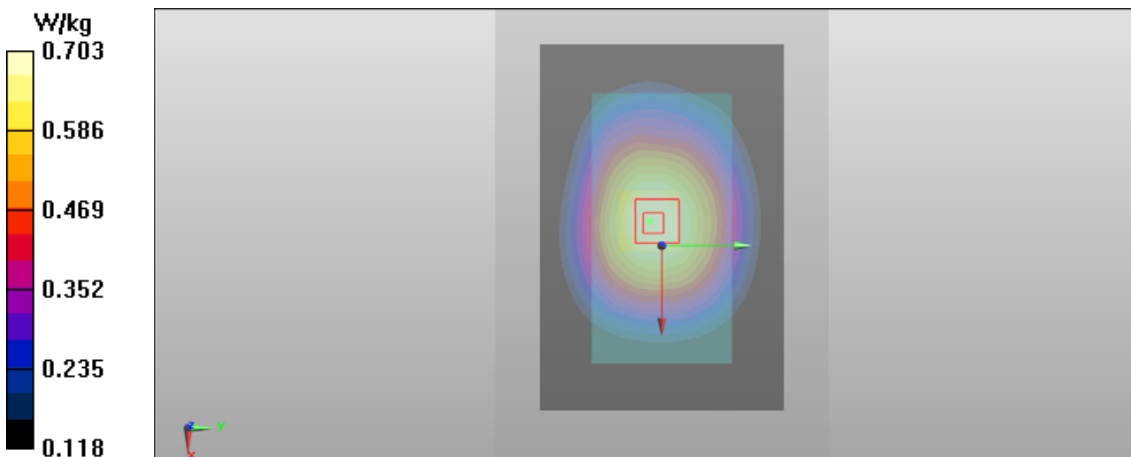
Peak SAR (extrapolated) = 0.842 mW/g

SAR(1 g) = 0.668 mW/g

SAR(10 g) = 0.511 mW/g

Power Drift = -0.01 dB

Maximum value of SAR (measured) = 0.703 W/kg



Plot #32

Date/Time: 2012-12-26 21:23:46

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000833/0

Communication System: 2-slot GPRS850

Frequency: 824.2 MHz; Duty Cycle: 1:4.19952

Medium: MSL900; Medium Notes: T= 21.3C

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.991$ mho/m; $\epsilon_r = 53.909$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3852
- ConvF(9.14, 9.14, 9.14); Calibrated: 2012-03-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

2-slot GPRS850/Body - Low - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan (81x121x1):

Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.450 W/kg

2-slot GPRS850/Body - Low - Spacer 15mm - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube

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

Reference Value = 20.649 V/m

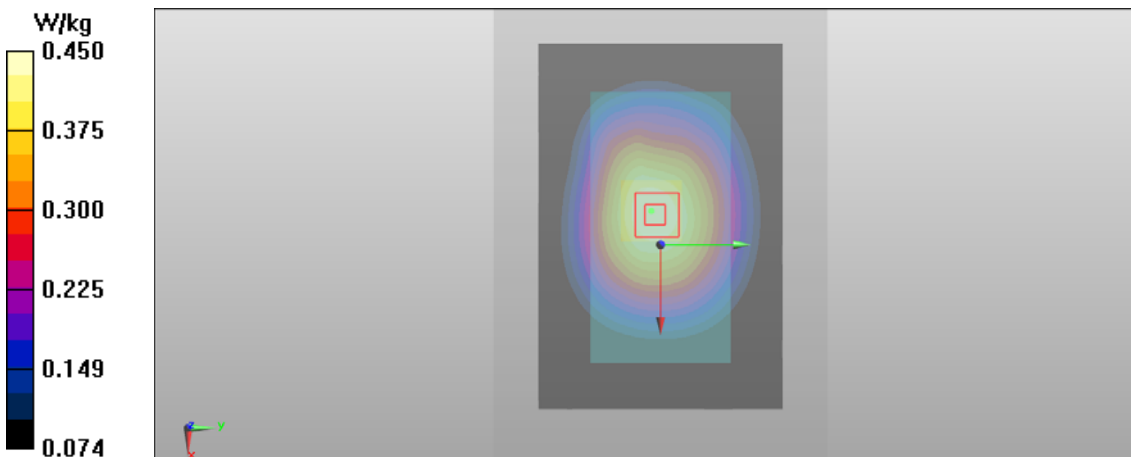
Peak SAR (extrapolated) = 0.544 mW/g

SAR(1 g) = 0.433 mW/g

SAR(10 g) = 0.329 mW/g

Power Drift = 0.03 dB

Maximum value of SAR (measured) = 0.450 W/kg



Plot #33

Date/Time: 2012-12-18 18:38:35

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000821/5

Communication System: WCDMA850

Frequency: 826.4 MHz; Duty Cycle: 1:1

Medium: MSL800; Medium Notes: T=21.0c

Medium parameters used (interpolated): $f = 826.4$ MHz; $\sigma = 0.973$ mho/m; $\epsilon_r = 55.577$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3852
- ConvF(9.14, 9.14, 9.14); Calibrated: 2012-03-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

WCDMA850 (Band 5)/Body - Low - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan (81x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.572 W/kg

WCDMA850 (Band 5)/Body - Low - Spacer 15mm - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 24.085 V/m

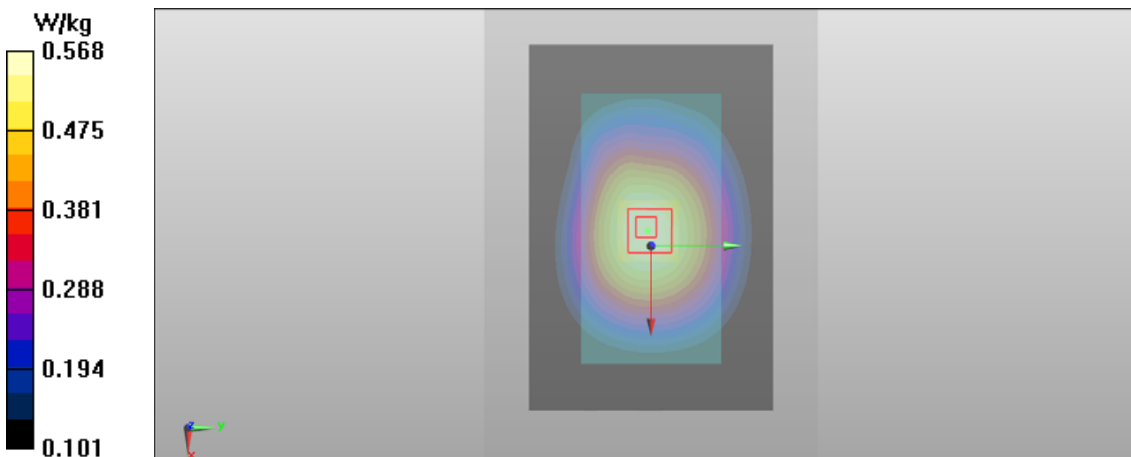
Peak SAR (extrapolated) = 0.673 mW/g

SAR(1 g) = 0.540 mW/g

SAR(10 g) = 0.412 mW/g

Power Drift = 0.02 dB

Maximum value of SAR (measured) = 0.568 W/kg



Plot #34

Date/Time: 2013-01-10 14:47:02

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000818/1

Communication System: LTE1700/2100 (Band 4)

Frequency: 1745 MHz; Duty Cycle: 1:1

Medium: MSL1750; Medium Notes: T = 21.2 C

Medium parameters used: $f = 1745$ MHz; $\sigma = 1.463$ S/m; $\epsilon_r = 51.413$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3852
- ConvF(7.75, 7.75, 7.75); Calibrated: 2012-03-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.8 (7028)

LTE1700/2100 (Band 4)/Body - High - QPSK - 20MHz - 1%RB - 50% offset - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan (81x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.24 W/kg

LTE1700/2100 (Band 4)/Body - High - QPSK - 20MHz - 1%RB - 50% offset - Spacer 15mm - No Accessory - Back Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 28.312 V/m

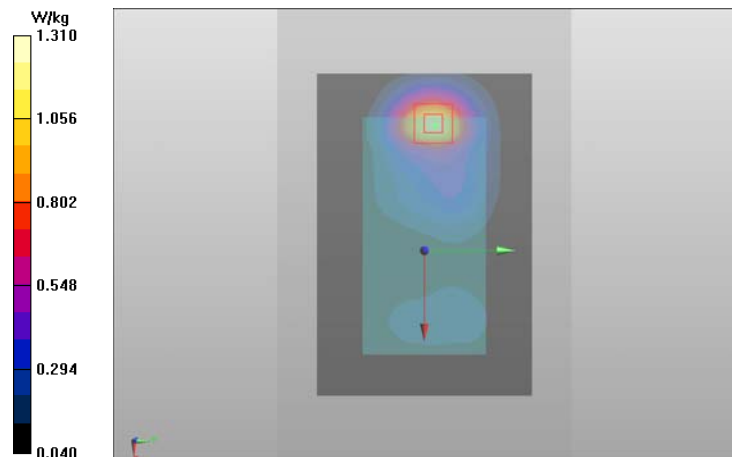
Peak SAR (extrapolated) = 1.86 W/kg

SAR(1 g) = 1.16 W/kg

SAR(10 g) = 0.669 W/kg

Power Drift = -0.01 dB

Maximum value of SAR (measured) = 1.31 W/kg



Plot #35

Date/Time: 2013-01-04 14:30:49

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000899/1

Communication System: CDMA1900

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: MSL1900; Medium Notes: T = 21.6 C

Medium parameters used: f = 1880 MHz; σ = 1.534 mho/m; ϵ_r = 51.963; ρ = 1000 kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3852
- ConvF(7.24, 7.24, 7.24); Calibrated: 2012-03-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

CDMA1900/Body - Middle - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan (81x121x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.641 W/kg

CDMA1900/Body - Middle - Spacer 15mm - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

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

Reference Value = 9.164 V/m

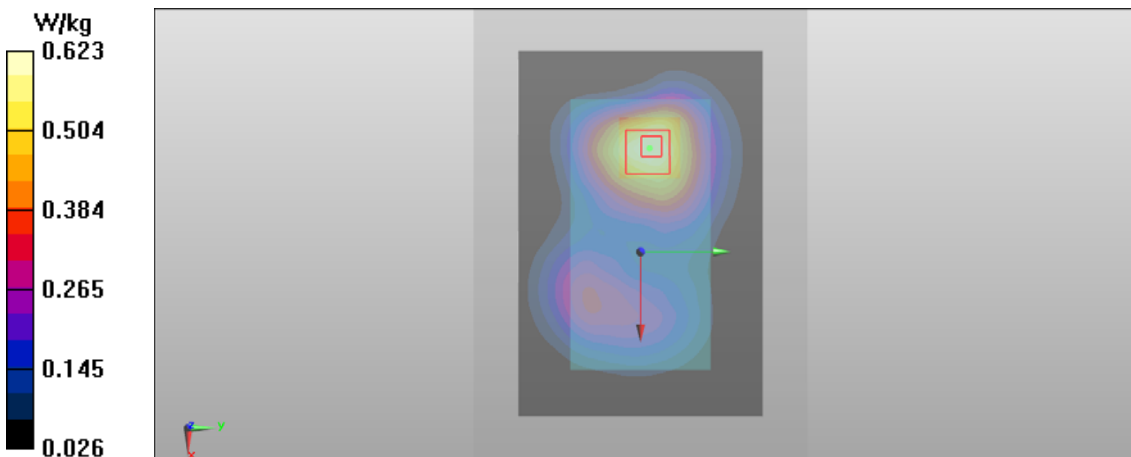
Peak SAR (extrapolated) = 0.859 mW/g

SAR(1 g) = 0.580 mW/g

SAR(10 g) = 0.376 mW/g

Power Drift = -0.14 dB

Maximum value of SAR (measured) = 0.623 W/kg



Plot #36

Date/Time: 2013-02-19 20:49:15

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000833/0

Communication System: 2-slot 8PSK EGPRS1900

Frequency: 1909.8 MHz; Duty Cycle: 1:4.2

Medium: BSL1900; Medium Notes: $t = 20.7$ C

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.545$ S/m; $\epsilon_r = 51.464$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3194
- ConvF(4.62, 4.62, 4.62); Calibrated: 2012-08-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn538; Calibrated: 2012-08-03
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: -
- Measurement SW: DASY4, Version 4.7 (80); SEMCAD X Version 14.6.8 (7028)

2-slot 8PSK EGPRS1900/Body - High - Spacer 15mm - WH-902 - Back Facing Phantom - Repeated/Area Scan (81x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.24 W/kg

2-slot 8PSK EGPRS1900/Body - High - Spacer 15mm - WH-902 - Back Facing Phantom - Repeated/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 23.629 V/m

Peak SAR (extrapolated) = 1.76 W/kg

SAR(1 g) = 1.04 W/kg

SAR(10 g) = 0.572 W/kg

Power Drift = 0.08 dB

Maximum value of SAR (measured) = 1.16 W/kg



Plot #37

Date/Time: 2012-12-19 16:10:32

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000821/5

Communication System: WCDMA1900 (Band 2)

Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: MSL1900; Medium Notes: t= 21.3C

Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.482 mho/m; ϵ_r = 51.866; ρ = 1000 kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3852
- ConvF(7.24, 7.24, 7.24); Calibrated: 2012-03-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

WCDMA1900 (Band 2)/Body - Low - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan (81x121x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.23 W/kg

WCDMA1900 (Band 2)/Body - Low - Spacer 15mm - No Accessory - Back Facing Phantom/Zoom Scan

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

Reference Value = 23.812 V/m

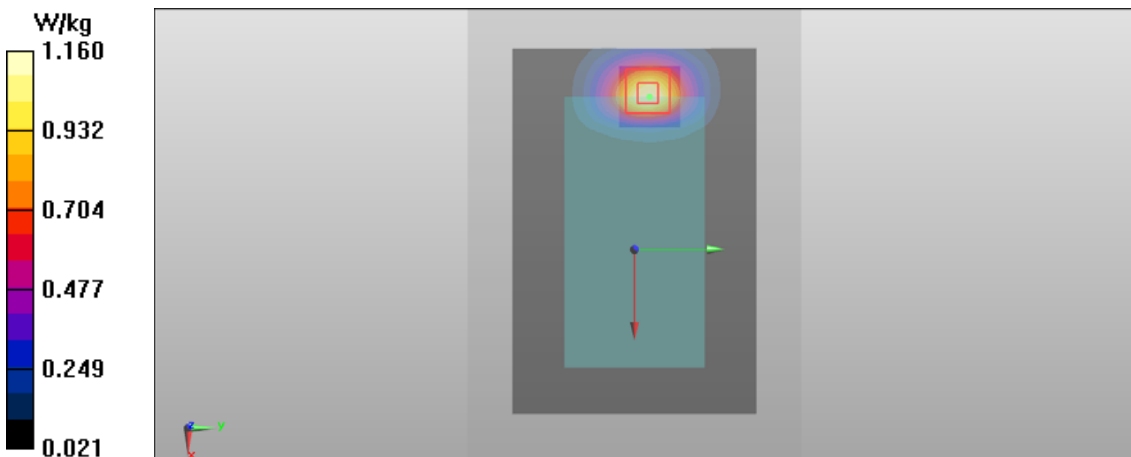
Peak SAR (extrapolated) = 1.714 mW/g

SAR(1 g) = 1.05 mW/g

SAR(10 g) = 0.597 mW/g

Power Drift = -0.02 dB

Maximum value of SAR (measured) = 1.16 W/kg



Plot #38

Date/Time: 2013-02-04 03:26:57

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode

Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 20.7$ C

Medium parameters used: $f = 2462$ MHz; $\sigma = 1.988$ mho/m; $\epsilon_r = 51.18$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(4.11, 4.11, 4.11); Calibrated: 2012-08-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2012-08-21
- Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: -
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

WLAN2450 b-mode/Body - Channel 11 - DSSS 1 Mbps - Spacer 15mm - No Accessory - Display Facing

Phantom/Area Scan (121x181x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.0771 W/kg

WLAN2450 b-mode/Body - Channel 11 - DSSS 1 Mbps - Spacer 15mm - No Accessory - Display Facing

Phantom/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 6.149 V/m

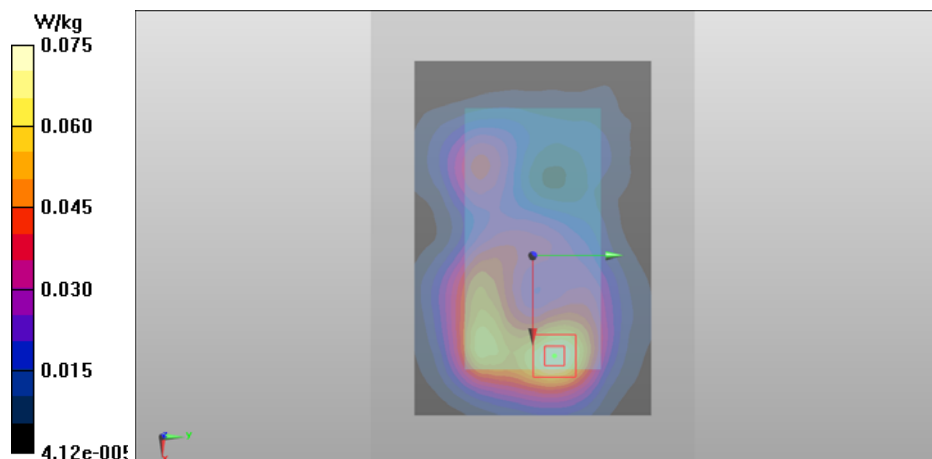
Peak SAR (extrapolated) = 0.125 mW/g

SAR(1 g) = 0.069 mW/g

SAR(10 g) = 0.038 mW/g

Power Drift = 0.06 dB

Maximum value of SAR (measured) = 0.0752 W/kg



Plot #39

Date/Time: 2013-02-08 05:54:38

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000819/9

Communication System: WLAN5000 a-mode

Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: BSL5000; Medium Notes: $t = 19.9$ C

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.965$ S/m; $\epsilon_r = 46.42$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3835
- ConvF(3.34, 3.34, 3.34); Calibrated: 2012-02-07;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.8 (7028)

WLAN5000 a-mode/Body - Channel 120 - OFDM 6Mbps - Spacer 15mm - No Accessory - Back Facing

Phantom/Area Scan (121x181x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.252 W/kg

WLAN5000 a-mode/Body - Channel 120 - OFDM 6Mbps - Spacer 15mm - No Accessory - Back Facing

Phantom/Zoom Scan (9x9x12)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=2$ mm

Reference Value = 6.067 V/m

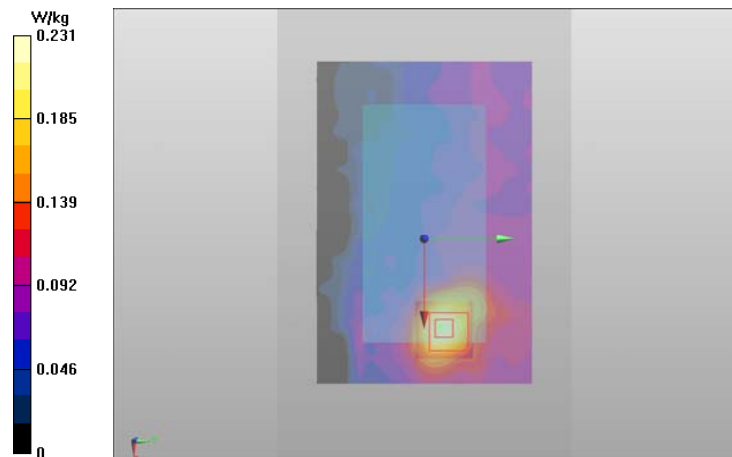
Peak SAR (extrapolated) = 0.362 W/kg

SAR(1 g) = 0.150 W/kg

SAR(10 g) = 0.094 W/kg

Power Drift = 0.14 dB

Maximum value of SAR (measured) = 0.231 W/kg



Plot #40

Date/Time: 2013-02-04 03:26:57

DASY Configuration for WLAN2450 b-mode/Body - Channel 11 - DSSS 1 Mbps - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2462 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 1.988$ mho/m; $\epsilon_r = 51.18$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: ES3DV3 - SN3131; ConvF(4.11, 4.11, 4.11); Calibrated: 2012-08-27;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn728; Calibrated: 2012-08-21
Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: -
Measurement SW: DASY52, Version 52.8 (2)

Date/Time: 2012-12-27 15:01:33

DASY Configuration for LTE750 (Band 13)/Body - Middle - Spacer 15mm - No Accessory - Display Facing Phantom QPSK-10MHz - 1%RB - 0%offset/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000822/3

Communication System: LTE750 (Band 13); Frequency: 782 MHz; Duty Cycle: 1:1; PMF: 1

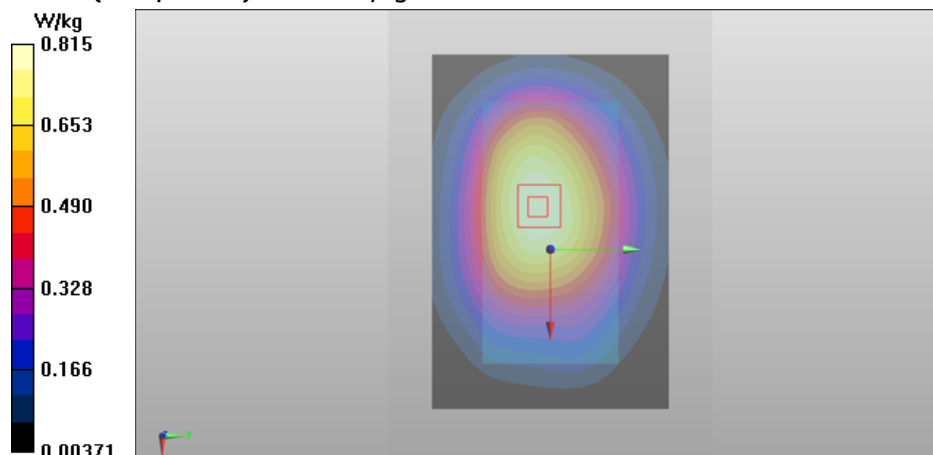
Medium: MSL750 Medium parameters used: $f = 782$ MHz; $\sigma = 0.965$ mho/m; $\epsilon_r = 54.681$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(9.31, 9.31, 9.31); Calibrated: 2012-03-27;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.773 mW/g; SAR(10 g) = 0.554 mW/g

Maximum value of SAR (interpolated) = 0.815 W/kg



Note: LTE750 (Band 13) result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.26 before combining.

Plot #41

Date/Time: 2013-02-04 03:26:57

DASY Configuration for WLAN2450 b-mode/Body - Channel 11 - DSSS 1 Mbps - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2462 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 1.988$ mho/m; $\epsilon_r = 51.18$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: ES3DV3 - SN3131; ConvF(4.11, 4.11, 4.11); Calibrated: 2012-08-27;

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

Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: -

Measurement SW: DASY52, Version 52.8 (2)

Date/Time: 2013-01-16 12:08:18

DASY Configuration for CDMA800/Body - Low - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000836/3

Communication System: CDMA800; Frequency: 824.7 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL900 Medium parameters used: $f = 825$ MHz; $\sigma = 0.989$ mho/m; $\epsilon_r = 55.563$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(9.14, 9.14, 9.14); Calibrated: 2012-03-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

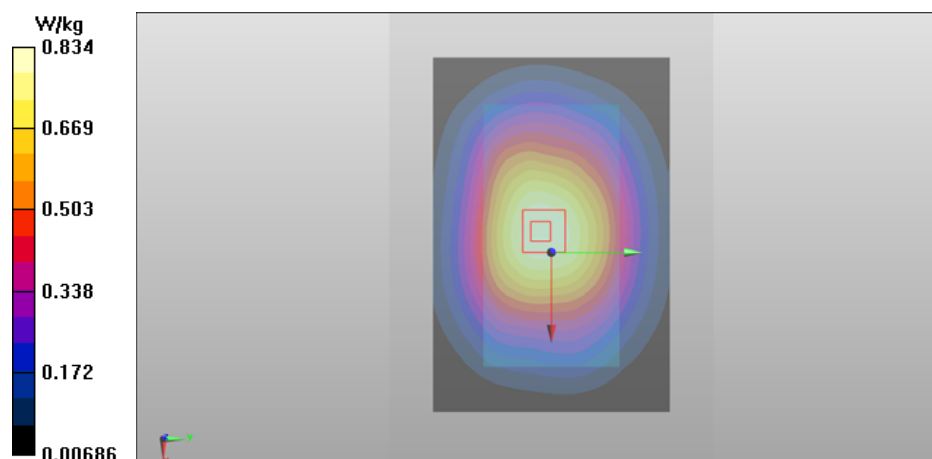
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26

Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.791 mW/g; SAR(10 g) = 0.565 mW/g

Maximum value of SAR (interpolated) = 0.834 W/kg



Note: CDMA800 result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.26 before combining.

Plot #42

Date/Time: 2013-02-04 03:26:57

DASY Configuration for WLAN2450 b-mode/Body - Channel 11 - DSSS 1 Mbps - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2462 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 1.988$ mho/m; $\epsilon_r = 51.18$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: ES3DV3 - SN3131; ConvF(4.11, 4.11, 4.11); Calibrated: 2012-08-27;

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

Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: -

Measurement SW: DASY52, Version 52.8 (2)

Date/Time: 2012-12-26 21:23:46

DASY Configuration for 2-slot GPRS850/Body - Low - Spacer 15mm - No Accessory - Display Facing

Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000833/0

Communication System: 2-slot GPRS850; Frequency: 824.2 MHz; Duty Cycle: 1:4.19952; PMF: 2.04927

Medium: MSL900 Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.991$ mho/m; $\epsilon_r = 53.909$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(9.14, 9.14, 9.14); Calibrated: 2012-03-27;

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

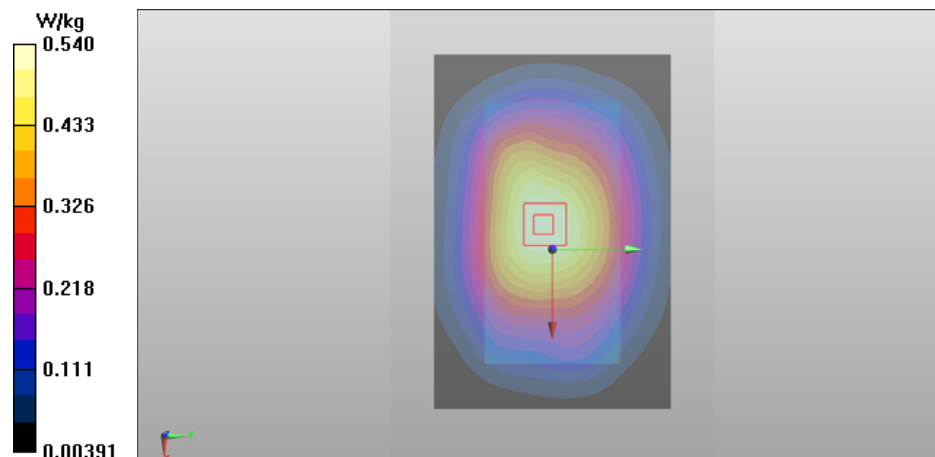
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26

Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.512 mW/g; SAR(10 g) = 0.363 mW/g

Maximum value of SAR (interpolated) = 0.540 W/kg



Note: 2-slot GPRS850 result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.26 before combining.

Plot #43

Date/Time: 2013-02-04 03:26:57

DASY Configuration for WLAN2450 b-mode/Body - Channel 11 - DSSS 1 Mbps - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2462 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 1.988$ mho/m; $\epsilon_r = 51.18$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: ES3DV3 - SN3131; ConvF(4.11, 4.11, 4.11); Calibrated: 2012-08-27;

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

Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: -

Measurement SW: DASY52, Version 52.8 (2)

Date/Time: 2012-12-18 18:38:35

DASY Configuration for WCDMA850 (Band 5)/Body - Low - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000821/5

Communication System: WCDMA850 (Band 5); Frequency: 826.4 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL800 Medium parameters used (interpolated): $f = 826.4$ MHz; $\sigma = 0.973$ mho/m; $\epsilon_r = 55.577$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(9.14, 9.14, 9.14); Calibrated: 2012-03-27;

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

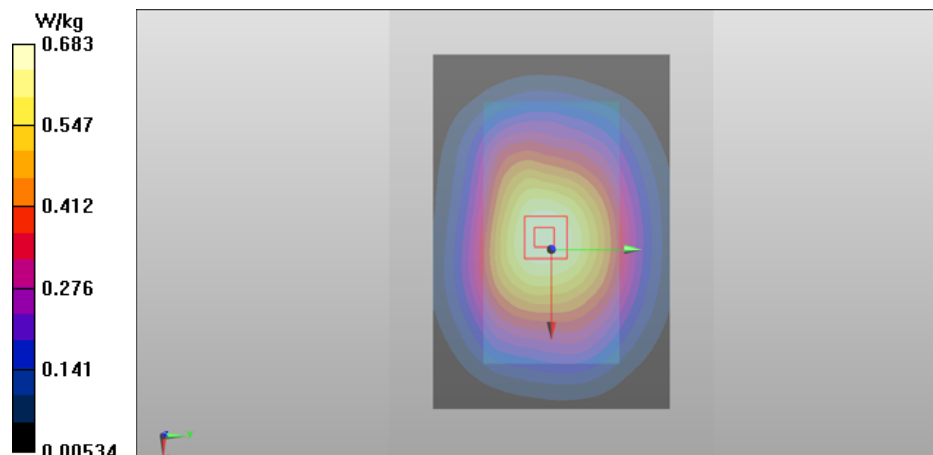
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26

Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.648 mW/g; SAR(10 g) = 0.461 mW/g

Maximum value of SAR (interpolated) = 0.683 W/kg



Note: WCDMA850 (Band 5) result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.26 before combining.

Plot #44

Date/Time: 2013-01-10 14:47:02

DASY Configuration for LTE1700/2100 (Band 4)/Body - High - QPSK - 20MHz - 1%RB - 50% offset - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000818/1

Communication System: LTE4; Frequency: 1745 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL1750 Medium parameters used: $f = 1745$ MHz; $\sigma = 1.463$ S/m; $\epsilon_r = 51.413$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(7.75, 7.75, 7.75); Calibrated: 2012-03-27;

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

Electronics: DAE4 Sn1332; Calibrated: 2012-07-26

Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx

Measurement SW: DASY52, Version 52.8 (1)

Date/Time: 2013-02-03 21:14:01

DASY Configuration for WLAN2450 b-mode/Body - Channel 6 - DSSS 1 Mbps - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.958$ S/m; $\epsilon_r = 51.291$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: ES3DV3 - SN3131; ConvF(4.11, 4.11, 4.11); Calibrated: 2012-08-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

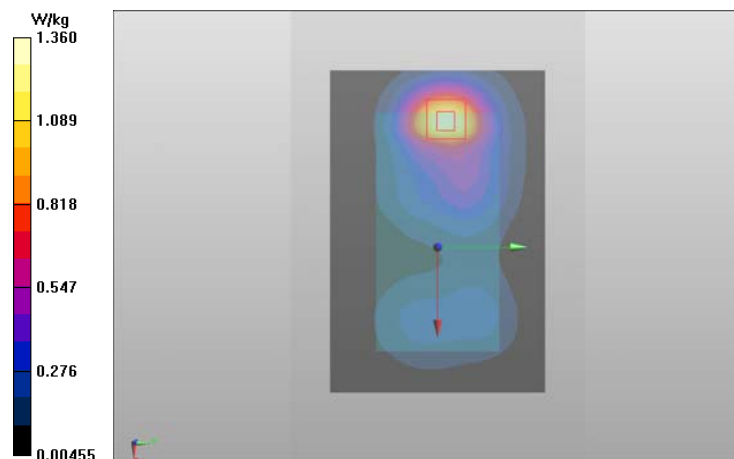
Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: -

Measurement SW: DASY52, Version 52.8 (2)

Fast SAR of Combined Scans: SAR(1 g) = 1.23 W/kg; SAR(10 g) = 0.703 W/kg

Maximum value of SAR (interpolated) = 1.36 W/kg



Note: LTE1700/2100 (Band 4) result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.42 before combining.

Plot #45

Date/Time: 2013-02-04 03:26:57

DASY Configuration for WLAN2450 b-mode/Body - Channel 11 - DSSS 1 Mbps - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2462 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 1.988$ mho/m; $\epsilon_r = 51.18$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: ES3DV3 - SN3131; ConvF(4.11, 4.11, 4.11); Calibrated: 2012-08-27;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn728; Calibrated: 2012-08-21
Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: -
Measurement SW: DASY52, Version 52.8 (2)

Date/Time: 2013-01-04 14:30:49

DASY Configuration for CDMA1900/Body - Middle - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000899/1

Communication System: CDMA1900; Frequency: 1880 MHz; Duty Cycle: 1:1; PMF: 1

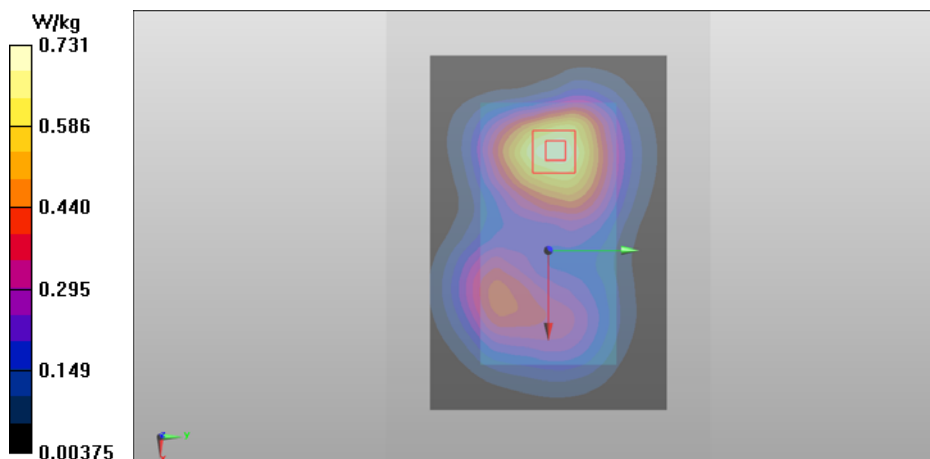
Medium: MSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.534$ mho/m; $\epsilon_r = 51.963$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(7.24, 7.24, 7.24); Calibrated: 2012-03-27;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.674 mW/g; SAR(10 g) = 0.411 mW/g

Maximum value of SAR (interpolated) = 0.731 W/kg



Note: CDMA1900 result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.42 before combining.

Plot #46

Date/Time: 2013-02-19 20:49:15

DASY Configuration for 2-slot 8PSK EGPRS1900/Body - High - Spacer 15mm - WH-902 - Back Facing Phantom - Repeated/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000833/0

Communication System: 2-slot 8PSK EGPRS1900; Frequency: 1909.8 MHz; Duty Cycle: 1:4.2; PMF: 2.04939

Medium: BSL1900 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.545$ S/m; $\epsilon_r = 51.464$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: ES3DV3 - SN3194; ConvF(4.62, 4.62, 4.62); Calibrated: 2012-08-27;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn538; Calibrated: 2012-08-03
Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: -
Measurement SW: DASY4, Version 4.7 (80)

Date/Time: 2013-02-03 22:01:04

DASY Configuration for WLAN2450 b-mode/Body - Channel 6 - DSSS 1 Mbps - Spacer 15mm - WH-902 - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

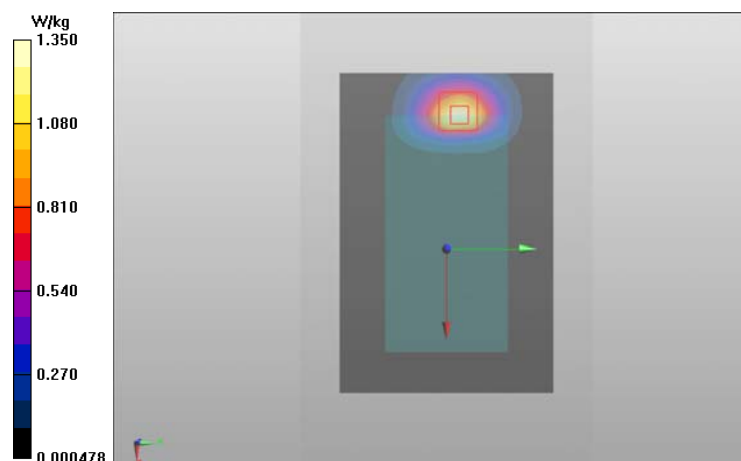
Medium: BSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.958$ S/m; $\epsilon_r = 51.291$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: ES3DV3 - SN3131; ConvF(4.11, 4.11, 4.11); Calibrated: 2012-08-27;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn728; Calibrated: 2012-08-21
Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: -
Measurement SW: DASY52, Version 52.8 (2)

Fast SAR of Combined Scans: SAR(1 g) = 1.18 W/kg; SAR(10 g) = 0.624 W/kg

Maximum value of SAR (interpolated) = 1.35 W/kg



Note: 2-slot 8PSK EGPRS1900 result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.42 before combining.

SAR Report

Appendix B.1 for FCC_RM-860_01

Applicant: Nokia Corporation

Type: RM-860

Copyright © 2013 TCC Nokia

Plot #47

Date/Time: 2013-02-03 21:14:01

DASY Configuration for WLAN2450 b-mode/Body - Channel 6 - DSSS 1 Mbps - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.958$ mho/m; $\epsilon_r = 51.291$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: ES3DV3 - SN3131; ConvF(4.11, 4.11, 4.11); Calibrated: 2012-08-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: -

Measurement SW: DASY52, Version 52.8 (2)

Date/Time: 2012-12-19 16:10:32

DASY Configuration for WCDMA1900 (Band 2)/Body - Low - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: Nokia

Type: RM-860; Serial: 354106/05/000821/5

Communication System: WCDMA1900 (Band 2); Frequency: 1852.4 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL1900 Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.482$ mho/m; $\epsilon_r = 51.866$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(7.24, 7.24, 7.24); Calibrated: 2012-03-27;

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

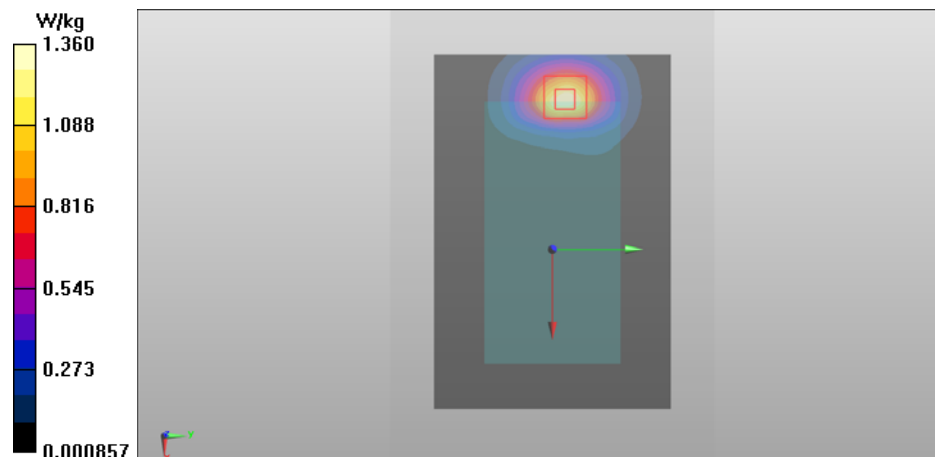
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26

Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 1.2 mW/g; SAR(10 g) = 0.654 mW/g

Maximum value of SAR (interpolated) = 1.36 W/kg



Note: WCDMA1900 (Band 2) result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.42 before combining.

Plot #48

Date/Time: 2013-02-08 05:54:38

DASY Configuration for WLAN5000 a-mode/Body - Channel 120 - OFDM 6Mbps - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000819/9

Communication System: WLAN5000 a-mode; Frequency: 5600 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL5000 Medium parameters used: $f = 5600$ MHz; $\sigma = 5.965$ S/m; $\epsilon_r = 46.42$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3835; ConvF(3.34, 3.34, 3.34); Calibrated: 2012-02-07;

Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used))

Electronics: DAE4 Sn1316; Calibrated: 2012-02-15

Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx

Measurement SW: DASY52, Version 52.8 (0)

Date/Time: 2012-12-26 12:36:38

DASY Configuration for LTE750 (Band 13) Body/Middle - Spacer 15mm - No Accessory - Back Facing Phantom-QPSK-10MHz 100%RB/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000822/3

Communication System: LTE750 (Band 13); Frequency: 782 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL750 Medium parameters used: $f = 782$ MHz; $\sigma = 0.964$ S/m; $\epsilon_r = 54.029$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(9.31, 9.31, 9.31); Calibrated: 2012-03-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

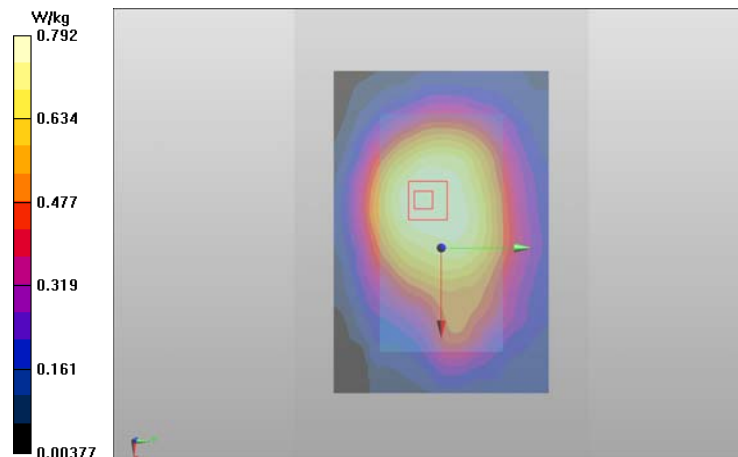
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26

Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.724 W/kg; SAR(10 g) = 0.517 W/kg

Maximum value of SAR (interpolated) = 0.792 W/kg



Note: LTE750 (Band 13) result was scaled by a factor of 1.33 and WLAN5000 result was scaled by a factor of 1.34 before combining.

Plot #49

Date/Time: 2013-02-08 14:23:43

DASY Configuration for WLAN5000 a-mode/Body - Channel 161 - OFDM 6Mbps - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000737/1

Communication System: WLAN5000 a-mode; Frequency: 5805 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL5000 Medium parameters used: $f = 5805$ MHz; $\sigma = 6.253$ S/m; $\epsilon_r = 46.064$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3835; ConvF(3.7, 3.7, 3.7); Calibrated: 2012-02-07;
Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
Measurement SW: DASY52, Version 52.8 (0)

Date/Time: 2013-01-16 12:08:18

DASY Configuration for CDMA800/Body - Low - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000836/3

Communication System: CDMA800; Frequency: 824.7 MHz; Duty Cycle: 1:1; PMF: 1

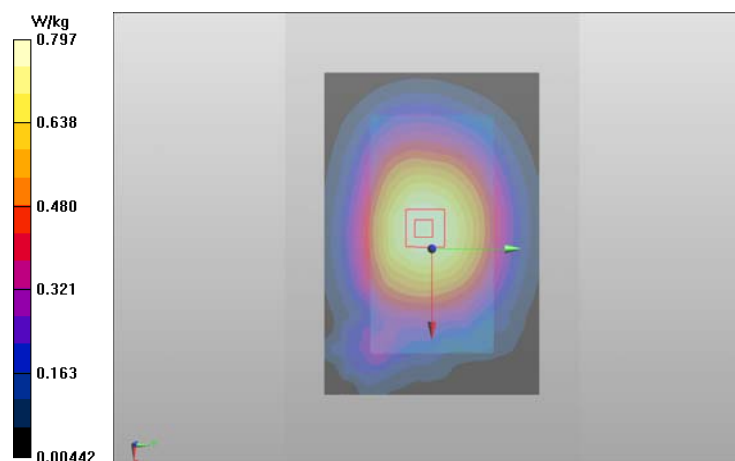
Medium: MSL900 Medium parameters used: $f = 825$ MHz; $\sigma = 0.989$ S/m; $\epsilon_r = 55.563$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(9.14, 9.14, 9.14); Calibrated: 2012-03-27;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.757 W/kg; SAR(10 g) = 0.545 W/kg

Maximum value of SAR (interpolated) = 0.797 W/kg



Note: CDMA800 result was scaled by a factor of 1.12 and WLAN5000 result was scaled by a factor of 1.28 before combining.

Plot #50

Date/Time: 2013-02-08 05:54:38

DASY Configuration for WLAN5000 a-mode/Body - Channel 120 - OFDM 6Mbps - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000819/9

Communication System: WLAN5000 a-mode; Frequency: 5600 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL5000 Medium parameters used: $f = 5600$ MHz; $\sigma = 5.965$ S/m; $\epsilon_r = 46.42$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3835; ConvF(3.34, 3.34, 3.34); Calibrated: 2012-02-07;
Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
Measurement SW: DASY52, Version 52.8 (0)

Date/Time: 2012-12-26 20:18:01

DASY Configuration for 2-slot GPRS850/Body - Middle - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000833/0

Communication System: 2-slot GPRS850; Frequency: 836.6 MHz; Duty Cycle: 1:4.19952; PMF: 2.04927

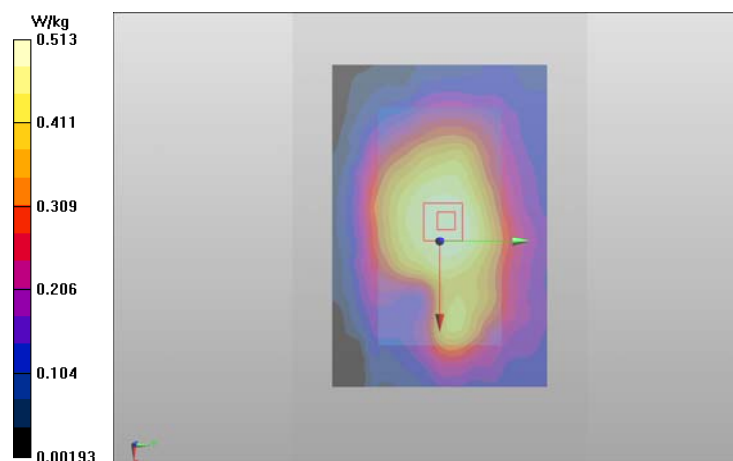
Medium: MSL900 Medium parameters used: $f = 837$ MHz; $\sigma = 0.996$ S/m; $\epsilon_r = 53.806$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(9.14, 9.14, 9.14); Calibrated: 2012-03-27;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.452 W/kg; SAR(10 g) = 0.314 W/kg

Maximum value of SAR (interpolated) = 0.513 W/kg



Note: 2-slot GPRS850 result was scaled by a factor of 1.12 and WLAN5000 result was scaled by a factor of 1.34 before combining.

Plot #51

Date/Time: 2013-02-08 05:54:38

DASY Configuration for WLAN5000 a-mode/Body - Channel 120 - OFDM 6Mbps - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000819/9

Communication System: WLAN5000 a-mode; Frequency: 5600 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL5000 Medium parameters used: $f = 5600$ MHz; $\sigma = 5.965$ S/m; $\epsilon_r = 46.42$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3835; ConvF(3.34, 3.34, 3.34); Calibrated: 2012-02-07;
Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
Measurement SW: DASY52, Version 52.8 (0)

Date/Time: 2012-12-18 12:59:46

DASY Configuration for WCDMA850 (Band 5)/Body - Middle - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000821/5

Communication System: WCDMA850 (Band 5); Frequency: 835 MHz; Duty Cycle: 1:1; PMF: 1

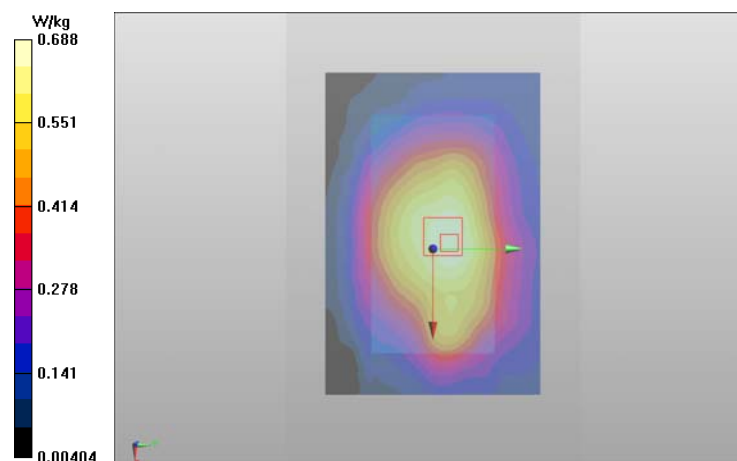
Medium: MSL800 Medium parameters used: $f = 835$ MHz; $\sigma = 0.98$ S/m; $\epsilon_r = 55.545$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(9.14, 9.14, 9.14); Calibrated: 2012-03-27;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.607 W/kg; SAR(10 g) = 0.423 W/kg

Maximum value of SAR (interpolated) = 0.688 W/kg



Note: WCDMA850 (Band 5) result was scaled by a factor of 1.12 and WLAN5000 result was scaled by a factor of 1.34 before combining.

Plot #52

Date/Time: 2013-02-08 05:54:38

DASY Configuration for WLAN5000 a-mode/Body - Channel 120 - OFDM 6Mbps - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000819/9

Communication System: WLAN5000 a-mode; Frequency: 5600 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL5000 Medium parameters used: $f = 5600$ MHz; $\sigma = 5.965$ S/m; $\epsilon_r = 46.42$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3835; ConvF(3.34, 3.34, 3.34); Calibrated: 2012-02-07;
Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
Measurement SW: DASY52, Version 52.8 (0)

Date/Time: 2013-01-10 14:47:02

DASY Configuration for LTE1700/2100 (Band 4)/Body - High - QPSK - 20MHz - 1%RB - 50% offset - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000818/1

Communication System: LTE1700/2100 (Band 4); Frequency: 1745 MHz; Duty Cycle: 1:1; PMF: 1

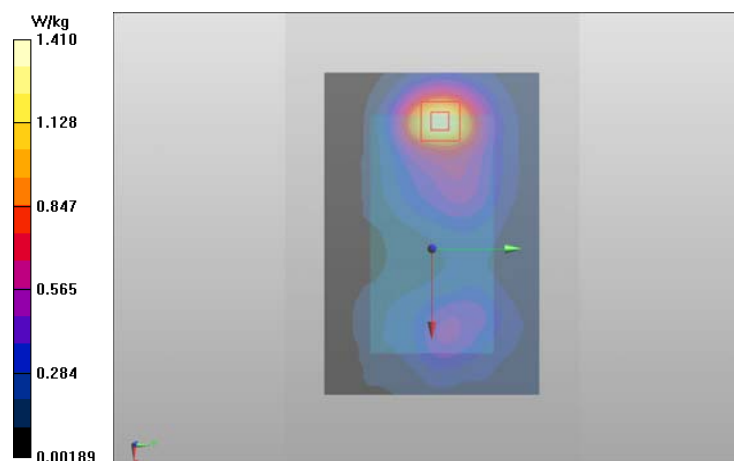
Medium: MSL1750 Medium parameters used: $f = 1745$ MHz; $\sigma = 1.463$ S/m; $\epsilon_r = 51.413$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(7.75, 7.75, 7.75); Calibrated: 2012-03-27;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 1.25 W/kg; SAR(10 g) = 0.710 W/kg

Maximum value of SAR (interpolated) = 1.41 W/kg



Note: LTE1700/2100 (Band 4) result was scaled by a factor of 1.12 and WLAN5000 result was scaled by a factor of 1.34 before combining.

Plot #53

Date/Time: 2013-02-08 14:23:43

DASY Configuration for WLAN5000 a-mode/Body - Channel 161 - OFDM 6Mbps - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000737/1

Communication System: WLAN5000 a-mode; Frequency: 5805 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL5000 Medium parameters used: $f = 5805$ MHz; $\sigma = 6.253$ S/m; $\epsilon_r = 46.064$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3835; ConvF(3.7, 3.7, 3.7); Calibrated: 2012-02-07;
Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1316; Calibrated: 2012-02-15
Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
Measurement SW: DASY52, Version 52.8 (0)

Date/Time: 2013-01-04 14:30:49

DASY Configuration for CDMA1900/Body - Middle - Spacer 15mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000899/1

Communication System: CDMA1900; Frequency: 1880 MHz; Duty Cycle: 1:1; PMF: 1

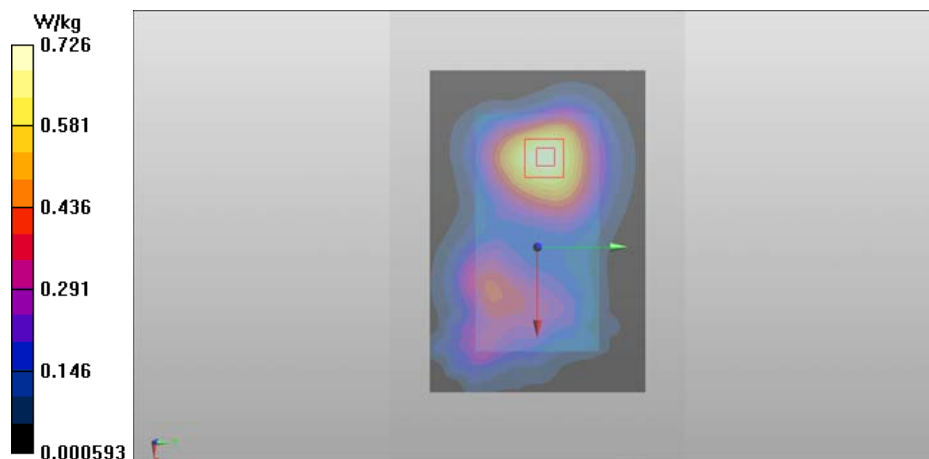
Medium: MSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.534$ S/m; $\epsilon_r = 51.963$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(7.24, 7.24, 7.24); Calibrated: 2012-03-27;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.671 W/kg; SAR(10 g) = 0.409 W/kg

Maximum value of SAR (interpolated) = 0.726 W/kg



Note: CDMA1900 result was scaled by a factor of 1.12 and WLAN5000 result was scaled by a factor of 1.28 before combining.

Plot #54

Date/Time: 2013-02-19 17:44:01

DASY Configuration for Configuration/2-slot 8PSK EGPRS1900/Body - High - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000833/0

Communication System: 2-slot 8PSK EGPRS1900; Frequency: 1909.8 MHz; Duty Cycle: 1:4.2; PMF: 2.04939

Medium: BSL1900 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.545$ S/m; $\epsilon_r = 51.464$; $\rho = 1000$ kg/m³

Phantom section: Center Section

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

Probe: ES3DV3 - SN3194; ConvF(4.62, 4.62, 4.62); Calibrated: 2012-08-27;

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

Electronics: DAE4 Sn538; Calibrated: 2012-08-03

Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial:

Measurement SW: DASY4, Version 4.7 (80)

Date/Time: 2013-02-08 05:54:38

DASY Configuration for WLAN5000 a-mode - 17228/Body - Channel 120 - OFDM 6Mbps - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106050008199

Communication System: WLAN5000 a-mode; Frequency: 5600 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL5000 Medium parameters used: $f = 5600$ MHz; $\sigma = 5.965$ S/m; $\epsilon_r = 46.42$; $\rho = 1000$ kg/m³

Phantom section: Center Section

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

Probe: EX3DV4 - SN3835; ConvF(3.34, 3.34, 3.34); Calibrated: 2012-02-07;

Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used))

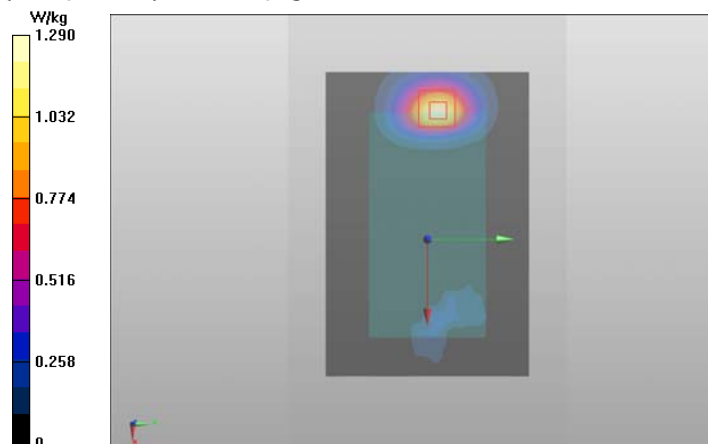
Electronics: DAE4 Sn1316; Calibrated: 2012-02-15

Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial:

Measurement SW: DASY52, Version 52.8 (0)

Fast SAR of Combined Scans: SAR(1 g) = 1.19 W/kg; SAR(10 g) = 0.625 W/kg

Maximum value of SAR (interpolated) = 1.38 W/kg



Note: 2-slot 8PSK EGPRS1900 result was scaled by a factor of 1.12 and WLAN5000 result was scaled by a factor of 1.34 before combining.

SAR Report

Appendix B.1 for FCC_RM-860_01

Applicant: Nokia Corporation

Type: RM-860

Copyright © 2013 TCC Nokia

Plot #55

Date/Time: 2013-02-08 05:54:38

DASY Configuration for WLAN5000 a-mode/Body - Channel 120 - OFDM 6Mbps - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000819/9

Communication System: WLAN5000 a-mode; Frequency: 5600 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL5000 Medium parameters used: $f = 5600$ MHz; $\sigma = 5.965$ S/m; $\epsilon_r = 46.42$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3835; ConvF(3.34, 3.34, 3.34); Calibrated: 2012-02-07;

Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used))

Electronics: DAE4 Sn1316; Calibrated: 2012-02-15

Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx

Measurement SW: DASY52, Version 52.8 (0)

Date/Time: 2012-12-19 16:10:32

DASY Configuration for WCDMA1900 (Band 2)/Body - Low - Spacer 15mm - No Accessory - Back Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000821/5

Communication System: WCDMA1900 (Band 2); Frequency: 1852.4 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL1900 Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.482$ S/m; $\epsilon_r = 51.866$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(7.24, 7.24, 7.24); Calibrated: 2012-03-27;

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

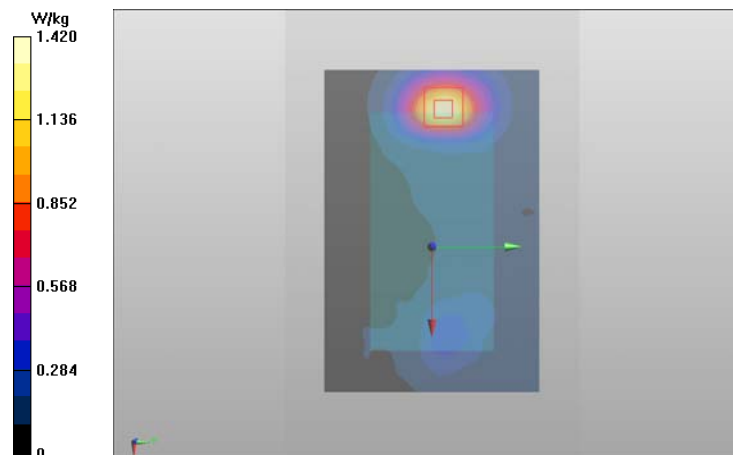
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26

Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 1.24 W/kg; SAR(10 g) = 0.666 W/kg

Maximum value of SAR (interpolated) = 1.42 W/kg



Note: WCDMA1900 (Band 2) result was scaled by a factor of 1.12 and WLAN5000 result was scaled by a factor of 1.34 before combining.

Plot #56

Date/Time: 2012-12-27 22:33:43

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000822/3

Communication System: LTE750 (Band 13)

Frequency: 782 MHz; Duty Cycle: 1:1

Medium: MSL750; Medium Notes: T=21.9C

Medium parameters used: $f = 782 \text{ MHz}$; $\sigma = 0.965 \text{ mho/m}$; $\epsilon_r = 54.681$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3852
- ConvF(9.31, 9.31, 9.31); Calibrated: 2012-03-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

LTE750 (Band 13)/Body - Middle - QPSK- 10MHz - 100%RB - 0% offset - Spacer 10mm - No Accessory - Display Facing Phantom/Area Scan (81x121x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.636 W/kg

LTE750 (Band 13)/Body - Middle - QPSK- 10MHz - 100%RB - 0% offset - Spacer 10mm - No Accessory - Display Facing Phantom/Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 23.208 V/m

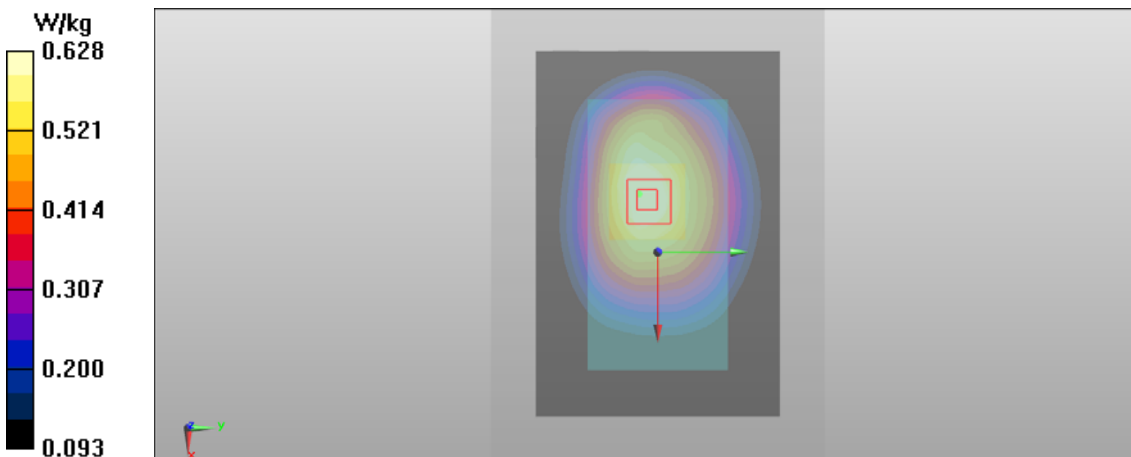
Peak SAR (extrapolated) = 0.746 mW/g

SAR(1 g) = 0.600 mW/g

SAR(10 g) = 0.461 mW/g

Power Drift = -0.02 dB

Maximum value of SAR (measured) = 0.628 W/kg



Plot #57

Date/Time: 2012-12-22 10:54:40

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000836/3

Communication System: CDMA800

Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: MSL900; Medium Notes: T=21.4c

Medium parameters used: $f = 837 \text{ MHz}$; $\sigma = 0.975 \text{ mho/m}$; $\epsilon_r = 55.29$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3852
- ConvF(9.14, 9.14, 9.14); Calibrated: 2012-03-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

CDMA800/Body - Middle - Spacer 10mm - No Accessory - Display Facing Phantom/Area Scan (81x121x1):

Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.753 W/kg

CDMA800/Body - Middle - Spacer 10mm - No Accessory - Display Facing Phantom/Zoom Scan (6x6x7)/Cube 0:

Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 26.963 V/m

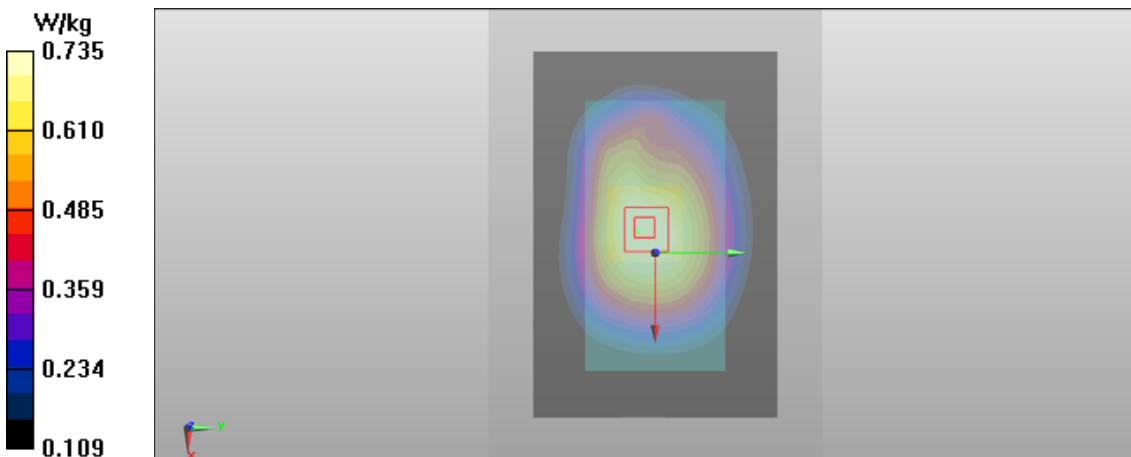
Peak SAR (extrapolated) = 0.876 mW/g

SAR(1 g) = 0.707 mW/g

SAR(10 g) = 0.547 mW/g

Power Drift = -0.08 dB

Maximum value of SAR (measured) = 0.735 W/kg



Plot #58

Date/Time: 2012-12-27 14:10:10

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000833/0

Communication System: 2-slot GPRS850

Frequency: 824.2 MHz; Duty Cycle: 1:4.19952

Medium: MSL900; Medium Notes: T=21.9C

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.996$ mho/m; $\epsilon_r = 54.642$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3852
- ConvF(9.14, 9.14, 9.14); Calibrated: 2012-03-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

2-slot GPRS850/Body - Low - Spacer 10mm - No Accessory - Display Facing Phantom/Area Scan (81x121x1):

Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.639 W/kg

2-slot GPRS850/Body - Low - Spacer 10mm - No Accessory - Display Facing Phantom/Zoom Scan (6x6x7)/Cube

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

Reference Value = 24.941 V/m

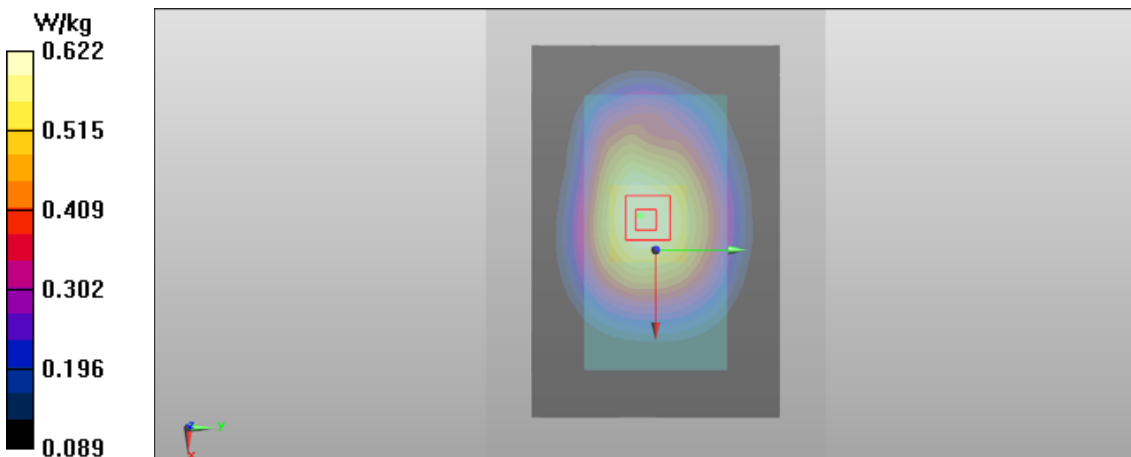
Peak SAR (extrapolated) = 0.741 mW/g

SAR(1 g) = 0.598 mW/g

SAR(10 g) = 0.461 mW/g

Power Drift = -0.03 dB

Maximum value of SAR (measured) = 0.622 W/kg



Plot #59

Date/Time: 2012-12-18 19:33:52

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000821/5

Communication System: WCDMA850 (Band 5)

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: MSL800; Medium Notes: T=21.0c

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.98 \text{ mho/m}$; $\epsilon_r = 55.545$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3852
- ConvF(9.14, 9.14, 9.14); Calibrated: 2012-03-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

WCDMA850 (Band 5)/Body - Middle - Spacer 10mm - No Accessory - Display Facing Phantom/Area Scan (81x121x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.666 W/kg

WCDMA850 (Band 5)/Body - Middle - Spacer 10mm - No Accessory - Display Facing Phantom/Zoom Scan (6x5x7)/Cube 0: Measurement grid: $dx=7.5\text{mm}$, $dy=7.5\text{mm}$, $dz=5\text{mm}$

Reference Value = 25.766 V/m

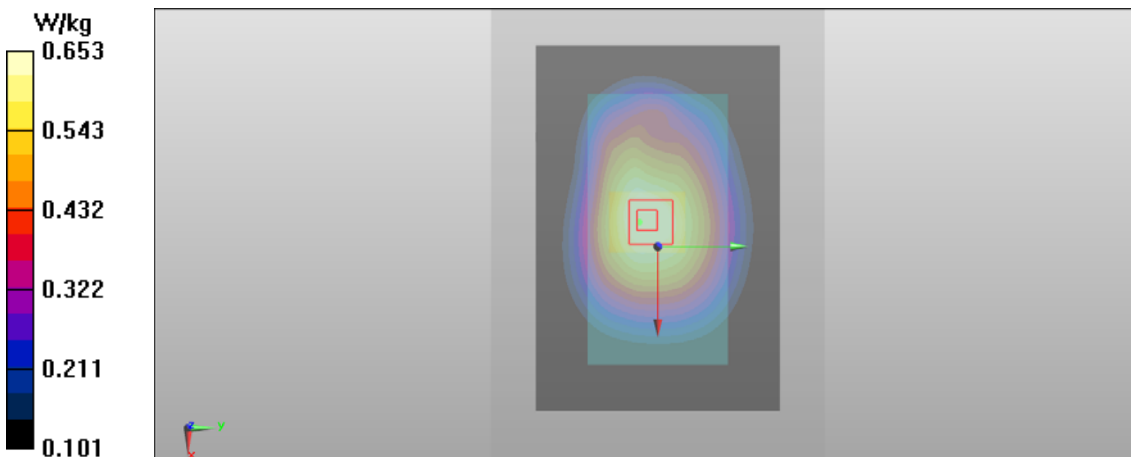
Peak SAR (extrapolated) = 0.785 mW/g

SAR(1 g) = 0.626 mW/g

SAR(10 g) = 0.484 mW/g

Power Drift = -0.03 dB

Maximum value of SAR (measured) = 0.653 W/kg



Plot #60

Date/Time: 2013-02-12 19:59:12

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000902/3

Communication System: LTE1700/2100 (Band 4)

Frequency: 1745 MHz; Duty Cycle: 1:1

Medium: MSL1750; Medium Notes: T=21.4C

Medium parameters used: $f = 1745$ MHz; $\sigma = 1.465$ S/m; $\epsilon_r = 50.971$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3852
- ConvF(7.75, 7.75, 7.75); Calibrated: 2012-03-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.8 (7028)

LTE1700/2100 (Band 4)/Body - High - QPSK - 20MHz - 50% RB - 100% offset - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Area Scan (41x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.966 W/kg

LTE1700/2100 (Band 4)/Body - High - QPSK - 20MHz - 50% RB - 100% offset - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 23.150 V/m

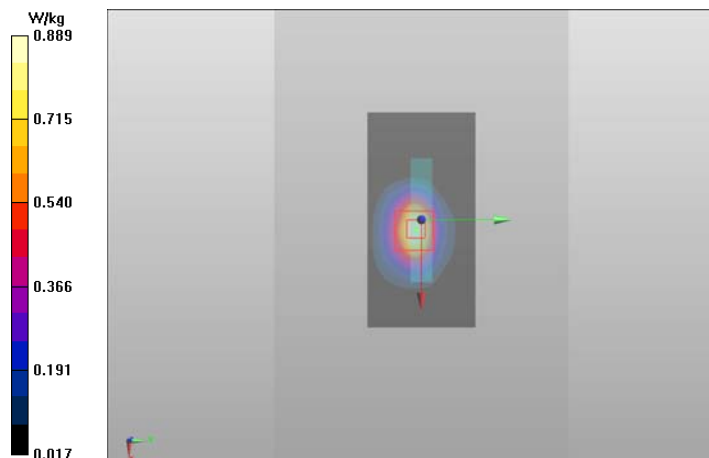
Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 0.792 W/kg

SAR(10 g) = 0.420 W/kg

Power Drift = -0.12 dB

Maximum value of SAR (measured) = 0.889 W/kg



Plot #61

Date/Time: 2012-12-21 13:46:08

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000840/5

Communication System: CDMA1900

Frequency: 1851.25 MHz; Duty Cycle: 1:1

Medium: MSL1900; Medium Notes: T= 21.1c

Medium parameters used (interpolated): $f = 1851.25$ MHz; $\sigma = 1.486$ mho/m; $\epsilon_r = 51.33$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3852
- ConvF(7.24, 7.24, 7.24); Calibrated: 2012-03-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

CDMA1900/Body - Low - Spacer 10mm - No Accessory - Display Facing Phantom/Area Scan (81x121x1):

Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.928 W/kg

CDMA1900/Body - Low - Spacer 10mm - No Accessory - Display Facing Phantom/Zoom Scan (5x5x7)/Cube 0:

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

Reference Value = 23.708 V/m

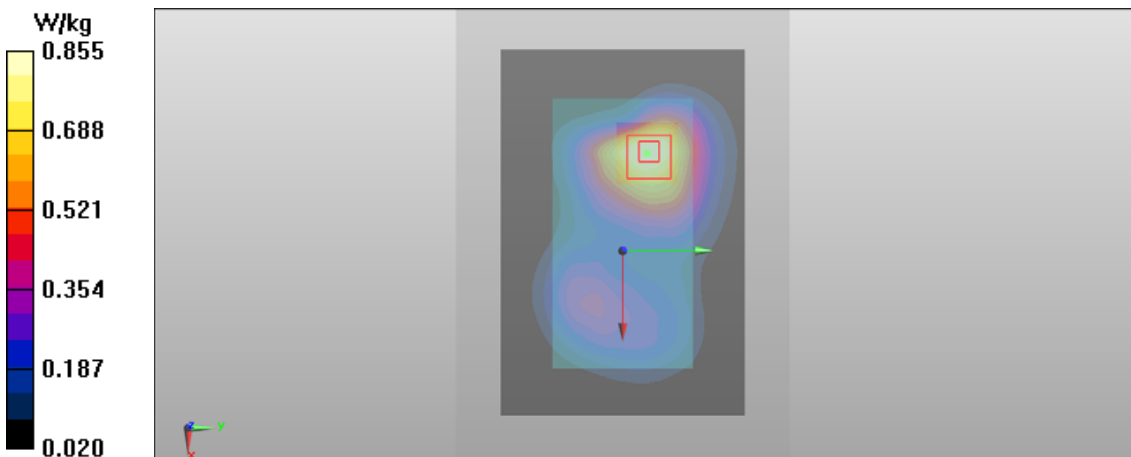
Peak SAR (extrapolated) = 1.195 mW/g

SAR(1 g) = 0.800 mW/g

SAR(10 g) = 0.513 mW/g

Power Drift = -0.05 dB

Maximum value of SAR (measured) = 0.855 W/kg



Plot #62

Date/Time: 2013-02-19 14:01:42

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000840/5

Communication System: 1-slot 8PSK EGPRS1900

Frequency: 1909.8 MHz; Duty Cycle: 1:8.30042

Medium: MSL1900; Medium Notes: T22.3C

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.553$ S/m; $\epsilon_r = 51.103$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3852
- ConvF(7.24, 7.24, 7.24); Calibrated: 2012-03-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.8 (7028)

1-slot 8PSK EGPRS1900/Body - High - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Area Scan (41x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.47 W/kg

1-slot 8PSK EGPRS1900/Body - High - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 28.377 V/m

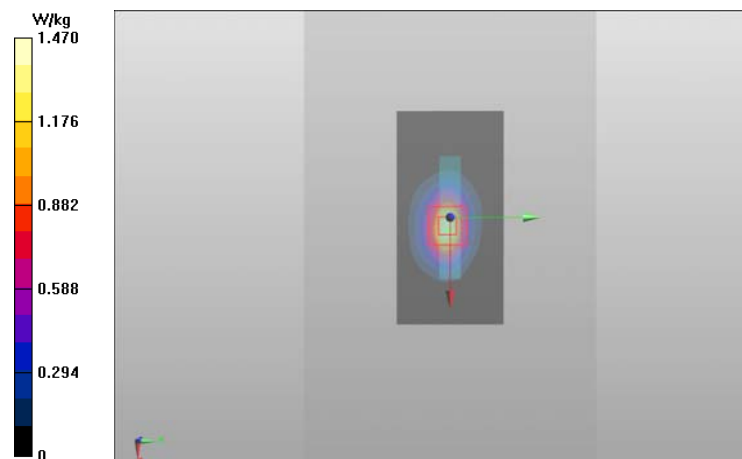
Peak SAR (extrapolated) = 2.12 W/kg

SAR(1 g) = 1.17 W/kg

SAR(10 g) = 0.589 W/kg

Power Drift = -0.09 dB

Maximum value of SAR (measured) = 1.31 W/kg



Plot #63

Date/Time: 2013-01-16 14:46:41

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000840/5

Communication System: WCDMA1900 (Band 2)

Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: MSL1900; Medium Notes: T=22.1C

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.483$ mho/m; $\epsilon_r = 51.815$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3852
- ConvF(7.24, 7.24, 7.24); Calibrated: 2012-03-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.6 (6824)

WCDMA1900 (Band 2)/Body - Low - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Area Scan (41x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.43 W/kg

WCDMA1900 (Band 2)/Body - Low - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 27.888 V/m

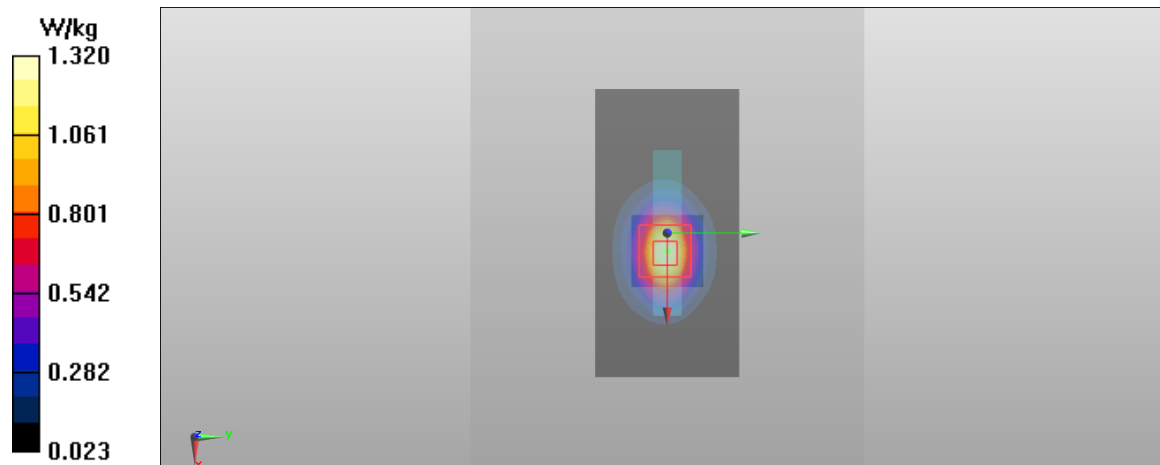
Peak SAR (extrapolated) = 2.022 mW/g

SAR(1 g) = 1.17 mW/g

SAR(10 g) = 0.609 mW/g

Power Drift = -0.10 dB

Maximum value of SAR (measured) = 1.32 W/kg



Plot #64

Date/Time: 2013-02-04 09:50:46

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode

Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: BSL2450; Medium Notes: $t = 20.7\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 2437\text{ MHz}$; $\sigma = 1.958\text{ S/m}$; $\epsilon_r = 51.291$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 – SN3131
- ConvF(4.11, 4.11, 4.11); Calibrated: 2012-08-27;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn728; Calibrated: 2012-08-21
- Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: -
- Measurement SW: DASYS2, Version 52.8 (2); SEMCAD X Version 14.6.8 (7028)

WLAN2450 b-mode/Body – Channel 6 – DSSS 1 Mbps – Spacer 10mm – No Accessory – Top Edge Facing

Phantom/Area Scan (61x121x1): Interpolated grid: $dx=1.000\text{ mm}$, $dy=1.000\text{ mm}$

Maximum value of SAR (interpolated) = 0.131 W/kg

WLAN2450 b-mode/Body – Channel 6 – DSSS 1 Mbps – Spacer 10mm – No Accessory – Top Edge Facing

Phantom/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{ mm}$, $dy=5\text{ mm}$, $dz=5\text{ mm}$

Reference Value = 8.223 V/m

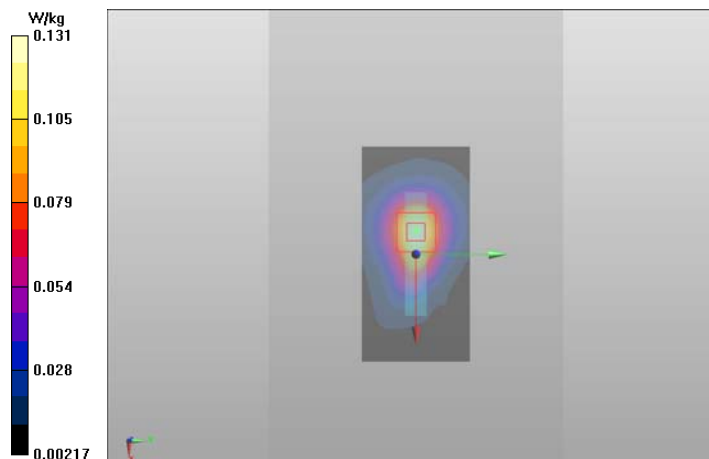
Peak SAR (extrapolated) = 0.219 W/kg

SAR(1 g) = 0.119 W/kg

SAR(10 g) = 0.064 W/kg

Power Drift = 0.03 dB

Maximum value of SAR (measured) = 0.131 W/kg



Plot #65

Date/Time: 2013-02-04 07:46:30

DASY Configuration for WLAN2450 b-mode/Body - Channel 6 - DSSS 1 Mbps - Spacer 10mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.958$ mho/m; $\epsilon_r = 51.291$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: ES3DV3 - SN3131; ConvF(4.11, 4.11, 4.11); Calibrated: 2012-08-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: -

Measurement SW: DASY52, Version 52.8 (2)

Date/Time: 2012-12-27 22:33:43

DASY Configuration for LTE70 (Band 13)/Body - Middle - QPSK- 10MHz - 100%RB - 0% offset - Spacer 10mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000822/3

Communication System: LTE750 (Band 13); Frequency: 782 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL750 Medium parameters used: $f = 782$ MHz; $\sigma = 0.965$ mho/m; $\epsilon_r = 54.681$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(9.31, 9.31, 9.31); Calibrated: 2012-03-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

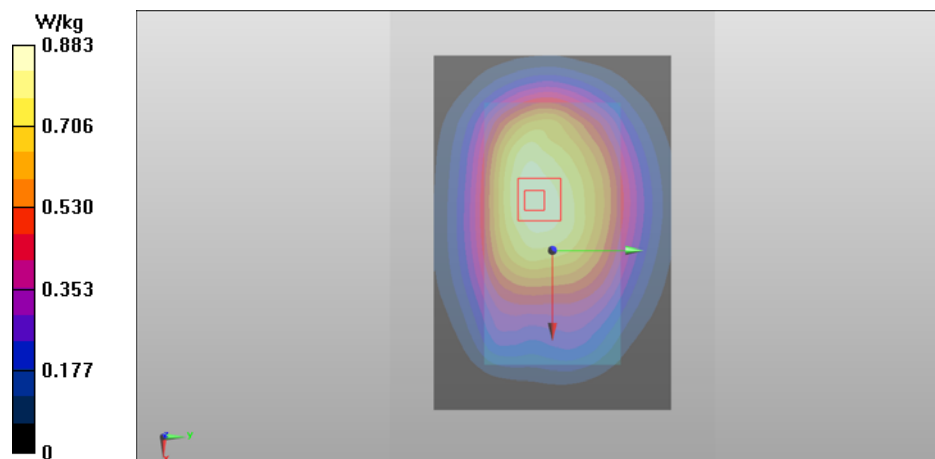
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26

Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.833 mW/g; SAR(10 g) = 0.595 mW/g

Maximum value of SAR (interpolated) = 0.883 W/kg



Note: LTE750 (Band 13) result was scaled by a factor of 1.33 and WLAN2450 result was scaled by a factor of 1.42 before combining.

SAR Report

Appendix B.1 for FCC_RM-860_01

Applicant: Nokia Corporation

Type: RM-860

Copyright © 2013 TCC Nokia

Plot #66

Date/Time: 2013-02-04 07:46:30

DASY Configuration for WLAN2450 b-mode/Body - Channel 6 - DSSS 1 Mbps - Spacer 10mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.958$ mho/m; $\epsilon_r = 51.291$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: ES3DV3 - SN3131; ConvF(4.11, 4.11, 4.11); Calibrated: 2012-08-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: -

Measurement SW: DASY52, Version 52.8 (2)

Date/Time: 2012-12-22 10:54:40

DASY Configuration for CDMA800/Body - Middle - Spacer 10mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000836/3

Communication System: CDMA800; Frequency: 836.52 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL900 Medium parameters used: $f = 837$ MHz; $\sigma = 0.975$ mho/m; $\epsilon_r = 55.29$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(9.14, 9.14, 9.14); Calibrated: 2012-03-27;

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

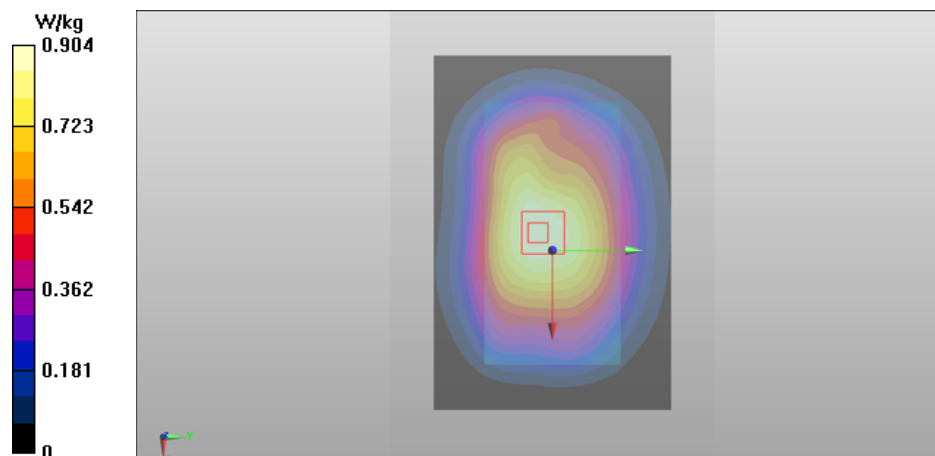
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26

Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.855 mW/g; SAR(10 g) = 0.606 mW/g

Maximum value of SAR (interpolated) = 0.904 W/kg



Note: CDMA800 result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.42 before combining.

SAR Report

Appendix B.1 for FCC_RM-860_01

Applicant: Nokia Corporation

Type: RM-860

Copyright © 2013 TCC Nokia

Plot #67

Date/Time: 2013-02-04 07:46:30

DASY Configuration for WLAN2450 b-mode/Body - Channel 6 - DSSS 1 Mbps - Spacer 10mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.958$ mho/m; $\epsilon_r = 51.291$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: ES3DV3 - SN3131; ConvF(4.11, 4.11, 4.11); Calibrated: 2012-08-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: -

Measurement SW: DASY52, Version 52.8 (2)

Date/Time: 2012-12-27 14:10:10

DASY Configuration for 2-slot GPRS850/Body - Low - Spacer 10mm - No Accessory - Display Facing

Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000833/0

Communication System: 2-slot GPRS850; Frequency: 824.2 MHz; Duty Cycle: 1:4.19952; PMF: 2.04927

Medium: MSL900 Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.996$ mho/m; $\epsilon_r = 54.642$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(9.14, 9.14, 9.14); Calibrated: 2012-03-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

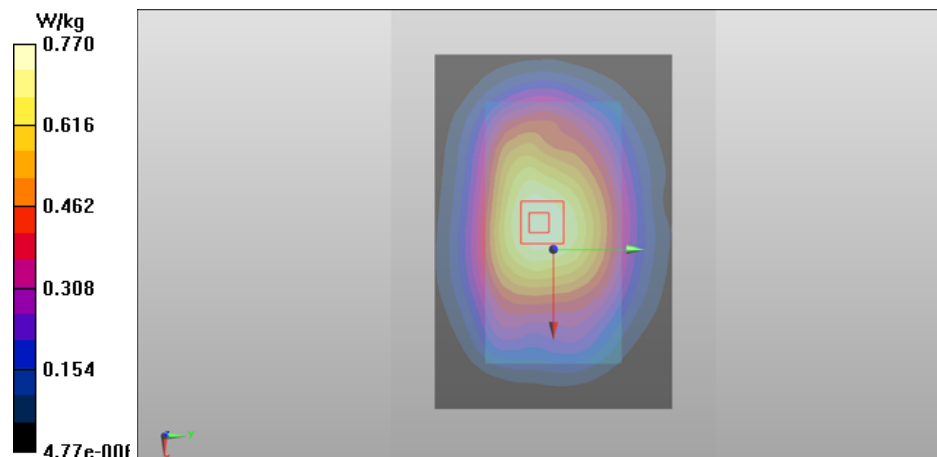
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26

Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.729 mW/g; SAR(10 g) = 0.515 mW/g

Maximum value of SAR (interpolated) = 0.770 W/kg



Note: 2-slot GPRS850 result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.42 before combining.

SAR Report

Appendix B.1 for FCC_RM-860_01

Applicant: Nokia Corporation

Type: RM-860

Copyright © 2013 TCC Nokia

Plot #68

Date/Time: 2013-02-04 07:46:30

DASY Configuration for WLAN2450 b-mode/Body - Channel 6 - DSSS 1 Mbps - Spacer 10mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.958$ mho/m; $\epsilon_r = 51.291$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: ES3DV3 - SN3131; ConvF(4.11, 4.11, 4.11); Calibrated: 2012-08-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: -

Measurement SW: DASY52, Version 52.8 (2)

Date/Time: 2012-12-18 19:33:52

DASY Configuration for WCDMA850 (Band 5)/Body - Middle - Spacer 10mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000821/5

Communication System: WCDMA850 (Band 5); Frequency: 835 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL800 Medium parameters used: $f = 835$ MHz; $\sigma = 0.98$ mho/m; $\epsilon_r = 55.545$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(9.14, 9.14, 9.14); Calibrated: 2012-03-27;

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

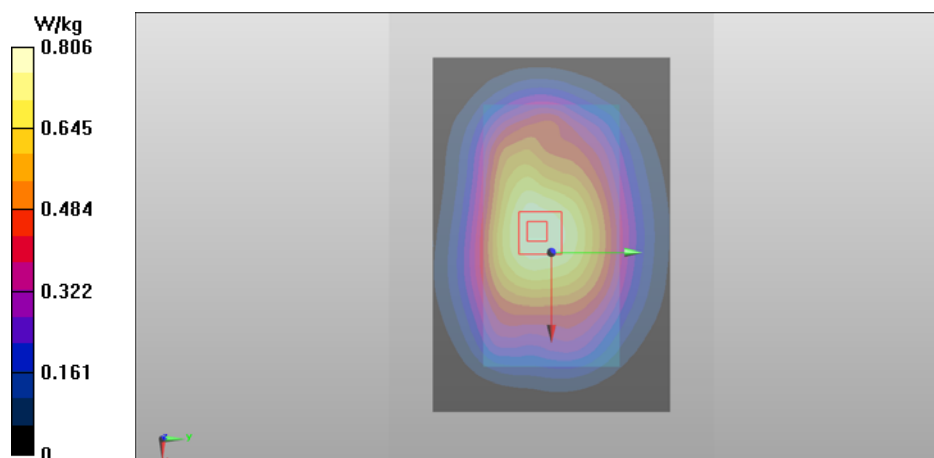
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26

Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.762 mW/g; SAR(10 g) = 0.539 mW/g

Maximum value of SAR (interpolated) = 0.806 W/kg



Note: WCDMA850 (Band 5) result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.42 before combining.

SAR Report

Appendix B.1 for FCC_RM-860_01

Applicant: Nokia Corporation

Type: RM-860

Copyright © 2013 TCC Nokia

Plot #69

Date/Time: 2013-02-04 09:20:49

DASY Configuration for WLAN2450 b-mode/Body - Channel 6 - DSSS 1 Mbps - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.958$ S/m; $\epsilon_r = 51.291$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: ES3DV3 - SN3131; ConvF(4.11, 4.11, 4.11); Calibrated: 2012-08-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: -

Measurement SW: DASY52, Version 52.8 (2)

Date/Time: 2013-02-12 19:59:12

DASY Configuration for LTE1700/2100 (Band 4)/Body - High - QPSK - 20MHz - 50% RB - 100% offset - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000902/3

Communication System: LTE1700/2100 (Band 4); Frequency: 1745 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL1750 Medium parameters used: $f = 1745$ MHz; $\sigma = 1.465$ S/m; $\epsilon_r = 50.971$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(7.75, 7.75, 7.75); Calibrated: 2012-03-27;

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

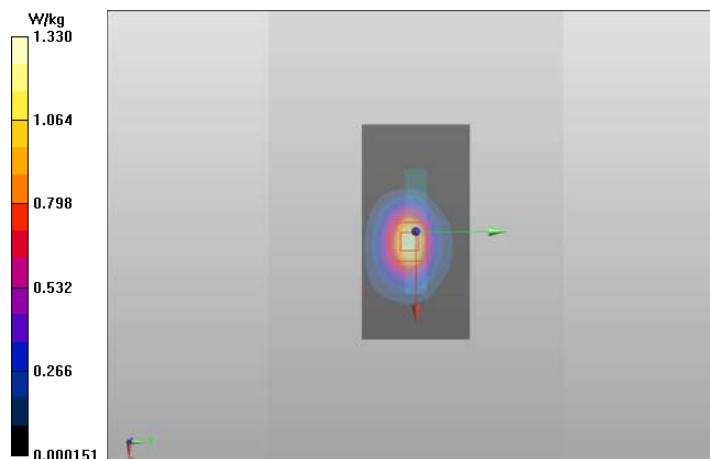
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26

Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.587 W/kg

Maximum value of SAR (interpolated) = 1.33 W/kg



Note: LTE1700/2100 (Band 4) result was scaled by a factor of 1.44 and WLAN2450 result was scaled by a factor of 1.42 before combining.

Plot #70

Date/Time: 2013-02-04 07:46:30

DASY Configuration for WLAN2450 b-mode/Body - Channel 6 - DSSS 1 Mbps - Spacer 10mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.958$ mho/m; $\epsilon_r = 51.291$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: ES3DV3 - SN3131; ConvF(4.11, 4.11, 4.11); Calibrated: 2012-08-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: -

Measurement SW: DASY52, Version 52.8 (2)

Date/Time: 2012-12-21 13:46:08

DASY Configuration for CDMA1900/Body - Low - Spacer 10mm - No Accessory - Display Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000840/5

Communication System: CDMA1900; Frequency: 1851.25 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL1900 Medium parameters used (interpolated): $f = 1851.25$ MHz; $\sigma = 1.486$ mho/m; $\epsilon_r = 51.33$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(7.24, 7.24, 7.24); Calibrated: 2012-03-27;

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

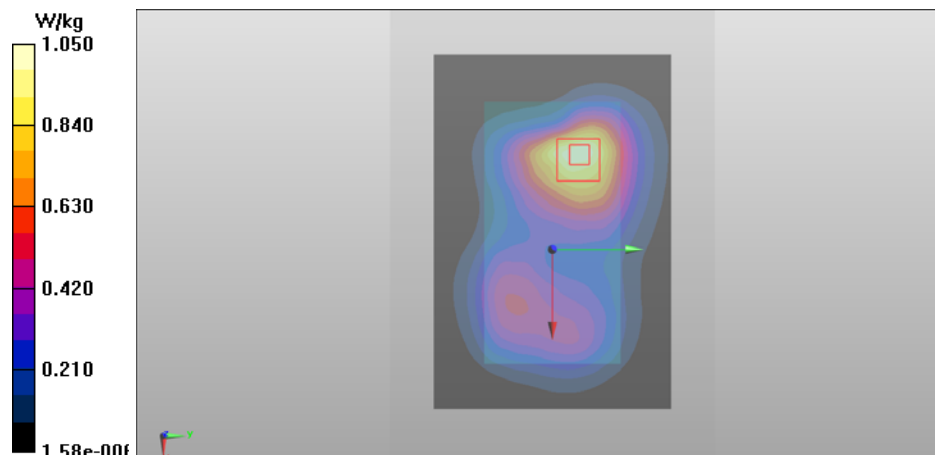
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26

Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 0.950 mW/g; SAR(10 g) = 0.568 mW/g

Maximum value of SAR (interpolated) = 1.05 W/kg



Note: CDMA1900 result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.42 before combining.

Plot #71

Date/Time: 2013-02-19 14:01:42

DASY Configuration for 1-slot 8PSK EGPRS1900/Body - High - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000840/5

Communication System: 1-slot 8PSK EGPRS1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.30042; PMF: 2.88104

Medium: MSL1900 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.553$ S/m; $\epsilon_r = 51.103$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(7.24, 7.24, 7.24); Calibrated: 2012-03-27;
Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26
Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx
Measurement SW: DASY52, Version 52.8 (1)

Date/Time: 2013-02-04 09:20:49

DASY Configuration for WLAN2450 b-mode/Body - Channel 6 - DSSS 1 Mbps - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

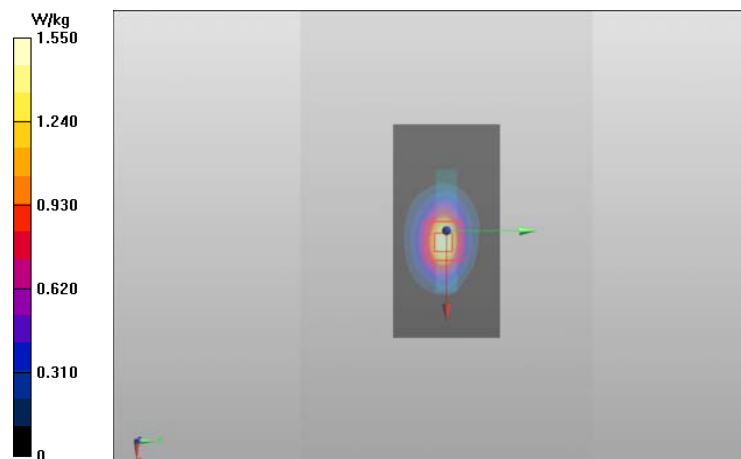
Medium: BSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.958$ S/m; $\epsilon_r = 51.291$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: ES3DV3 - SN3131; ConvF(4.11, 4.11, 4.11); Calibrated: 2012-08-27;
Sensor-Surface: 4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn728; Calibrated: 2012-08-21
Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: -
Measurement SW: DASY52, Version 52.8 (2)

Fast SAR of Combined Scans: SAR(1 g) = 1.32 W/kg; SAR(10 g) = 0.633 W/kg

Maximum value of SAR (interpolated) = 1.55 W/kg



Note: 1-slot 8 PSK EGPRS1900 result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.42 before combining.

Plot #72

Date/Time: 2013-02-04 09:20:49

DASY Configuration for WLAN2450 b-mode/Body - Channel 6 - DSSS 1 Mbps - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000891/8

Communication System: WLAN2450 b-mode; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.958$ S/m; $\epsilon_r = 51.291$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: ES3DV3 - SN3131; ConvF(4.11, 4.11, 4.11); Calibrated: 2012-08-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 2012-08-21

Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA; Serial: -

Measurement SW: DASY52, Version 52.8 (2)

Date/Time: 2013-01-16 14:46:41

DASY Configuration for WCDMA1900 (Band 2)/Body - Low - Spacer 10mm - No Accessory - Bottom Edge Facing Phantom/Area Scan:

Test Laboratory: TCC Nokia

Type: RM-860; Serial: 354106/05/000840/5

Communication System: WCDMA1900 (Band 2); Frequency: 1852.4 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL1900 Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.483$ S/m; $\epsilon_r = 51.815$; $\rho = 1000$ kg/m³

Phantom section: Center Section

Probe: EX3DV4 - SN3852; ConvF(7.24, 7.24, 7.24); Calibrated: 2012-03-27;

Sensor-Surface: 4mm (Mechanical Surface Detection)

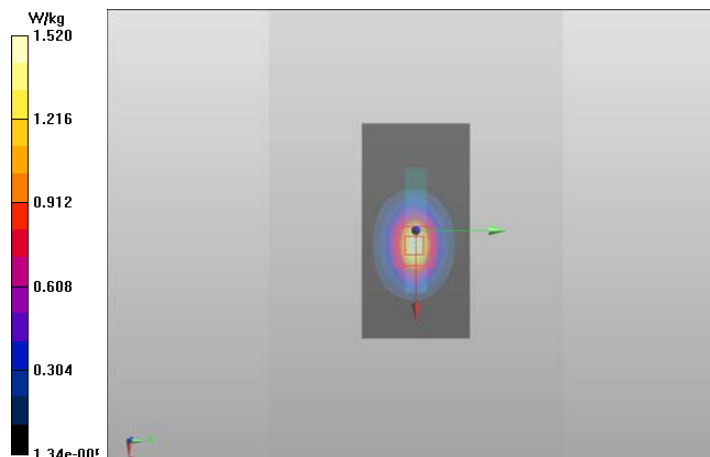
Electronics: DAE4 Sn1332; Calibrated: 2012-07-26

Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: xxxx

Measurement SW: DASY52, Version 52.8 (1)

Fast SAR of Combined Scans: SAR(1 g) = 1.31 W/kg; SAR(10 g) = 0.639 W/kg

Maximum value of SAR (interpolated) = 1.52 W/kg



Note: WCDMA1900 (Band 2) result was scaled by a factor of 1.12 and WLAN2450 result was scaled by a factor of 1.42 before combining.