

SAR Compliance Test Report

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Tested device:	RX-114		
FCC ID:	QMNA	IC:	661X-A
Supplement reports:	SAR_Photo_RX-114_06		
Testing has been carried out in accordance with:	47CFR §2.1093 Radiofrequency Radiation Exposure Evaluation: Portable Devices 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 FCC PUBLISHED RF EXPOSURE KDB PROCEDURES		
Documentation:	The documentation of the testing performed on the tested devices is archived for 15 years at TCC Nokia.		
Test results:	The tested device complies with the requirements in respect of all parameters subject to the test. The test results and statements relate only to the items tested. The test report shall not be reproduced except in full, without written approval of the laboratory.		
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1. SUMMARY OF SAR TEST REPORT

1.1 Test Details

Period of test	2013-08-22 to 2013-10-14
SN, HW and SW numbers of tested device	SN: 004402/47/351342/6, HW: 0108, SW: B10_9447_1030_1328_v0.1.12a, DUT: 17633 SN: 004402/47/351393/9, HW: 0108, SW: B10_9447_1030_1328_v0.1.12a, DUT: 17634 SN: 004402/47/351347/5, HW: 0108, SW: B10_9447_1030_1328_v0.1.12a, DUT: 17636 SN: 004402/47/351408/5, HW: 0108, SW: B10_9447_1030_1328_v0.1.12a, DUT: 17635 SN: 004402/47/351363/2, HW: 0108, SW: B10_9447_1030_1328_v0.1.12a, DUT: 17622 SN: 004402/47/351375/6, HW: 0108, SW: B10_9447_1030_1328_v0.1.12a, DUT: 17621 SN: 004402/47/351376/4, HW: 0108, SW: B10_9447_1030_1328_v0.1.12a, DUT: 31338 SN: 004402/47/351070/3, HW: 0108, SW: B10_9447_1030_1328_v0.1.12a, DUT: 31337
Batteries used in testing	-
Headsets used in testing	-
Other accessories used in testing	SU-42 Smart cover; DUT: 17809, 17808
State of sample	Prototype unit
Notes	-

1.2 Maximum Results

The maximum measured SAR values for Body configuration are given in section 1.2.1. The device conforms to the requirements of the standards when the maximum measured SAR value is less than or equal to the limit.

1.2.1 Body 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 #
LTE700	23790 / 710.0	20.69 dBm	0 mm	1.20 W/kg	1.30 W/kg	1.6 W/kg	PASSED	1
LTE750	23230 / 782.0	20.36 dBm	0 mm	1.06 W/kg	1.19 W/kg	1.6 W/kg	PASSED	3
4-slot GPRS850	128 / 824.2	25.00 dBm	0 mm	1.22 W/kg	1.32 W/kg	1.6 W/kg	PASSED	5
WCDMA850	4233 / 846.6	20.07 dBm	0 mm	0.964 W/kg	1.03 W/kg	1.6 W/kg	PASSED	6
LTE850	20600 / 844.0	20.04 dBm	0 mm	1.05 W/kg	1.13 W/kg	1.6 W/kg	PASSED	9
LTE1700/2100	20300 / 1745.0	17.17 dBm	0 mm	0.957 W/kg	1.07 W/kg	1.6 W/kg	PASSED	11
4-slot GPRS1900	512 / 1850.2	22.10 dBm	0 mm	1.32 W/kg	1.40 W/kg	1.6 W/kg	PASSED	13
WCDMA1900	9262 / 1852.4	16.98 dBm	0 mm	0.934 W/kg	1.02 W/kg	1.6 W/kg	PASSED	14
LTE1900	18700 / 1869.0	17.13 dBm	0 mm	0.915 W/kg	1.03 W/kg	1.6 W/kg	PASSED	17
WLAN2450	6 / 2437.0	14.39 dBm	0 mm	1.33 W/kg	1.36 W/kg	1.6 W/kg	PASSED	19
WLAN5000	120 / 5600.0	10.30 dBm	0 mm	1.18 W/kg	1.39 W/kg	1.6 W/kg	PASSED	22

(Table continues)

(Table continues)

LTE700 + WLAN2450 Main + WLAN2450 AUX	-	-	0 mm	1.33 W/kg	1.36 W/kg	1.6 W/kg	PASSED	19**
LTE750 + WLAN2450 Main + WLAN2450 AUX	-	-	0 mm	1.33 W/kg	1.36 W/kg	1.6 W/kg	PASSED	19**
4-slot GPRS850 + WLAN2450 Main + WLAN2450 AUX	-	-	0 mm	1.33 W/kg	1.36 W/kg	1.6 W/kg	PASSED	19**
WCDMA850 + WLAN2450 Main + WLAN2450 AUX	-	-	0 mm	1.33 W/kg	1.36 W/kg	1.6 W/kg	PASSED	19**
LTE850 + WLAN2450 Main + WLAN2450 AUX	-	-	0 mm	1.33 W/kg	1.36 W/kg	1.6 W/kg	PASSED	19**
LTE1700/2100 + WLAN2450 Main + WLAN2450 AUX	-	-	0 mm	1.33 W/kg	1.36 W/kg	1.6 W/kg	PASSED	19**
4-slot GPRS1900 + WLAN2450 Main + WLAN2450 AUX	-	-	0 mm	1.32 W/kg	1.40 W/kg	1.6 W/kg	PASSED	13**
WCDMA1900 + WLAN2450 Main + WLAN2450 AUX	-	-	0 mm	1.33 W/kg	1.36 W/kg	1.6 W/kg	PASSED	19**
LTE1900 + WLAN2450 Main + WLAN2450 AUX	-	-	0 mm	1.33 W/kg	1.36 W/kg	1.6 W/kg	PASSED	19**
LTE700 + WLAN5000 Main + WLAN5000 AUX	-	-	0 mm	1.20 W/kg	1.39 W/kg	1.6 W/kg	PASSED	31
LTE750 + WLAN5000 Main + WLAN5000 AUX	-	-	0 mm	1.18 W/kg	1.39 W/kg	1.6 W/kg	PASSED	22**
2-slot GPRS850 + WLAN5000 Main + WLAN5000 AUX	-	-	0 mm	1.24 W/kg	1.44 W/kg	1.6 W/kg	PASSED	32
WCDMA850 + WLAN5000 Main + WLAN5000 AUX	-	-	0 mm	1.24 W/kg	1.44 W/kg	1.6 W/kg	PASSED	33
LTE850 + WLAN5000 Main + WLAN5000 AUX	-	-	0 mm	1.24 W/kg	1.44 W/kg	1.6 W/kg	PASSED	34

(Table continues)

(Table continues)

LTE1700/2100 + WLAN5000 Main + WLAN5000 AUX	-	-	0 mm	1.18 W/kg	1.39 W/kg	1.6 W/kg	PASSED	22**
4-slot GPRS1900 + WLAN5000 Main + WLAN5000 AUX	-	-	0 mm	1.32 W/kg	1.40 W/kg	1.6 W/kg	PASSED	13**
WCDMA1900 + WLAN5000 Main + WLAN5000 AUX	-	-	0 mm	1.19 W/kg	1.39 W/kg	1.6 W/kg	PASSED	35
LTE1900 + WLAN5000 Main + WLAN5000 AUX	-	-	0 mm	1.19 W/kg	1.40 W/kg	1.6 W/kg	PASSED	36

* Reported SAR values are scaled to, or measured at, upper limit of power tuning tolerance.

** This is due to fact that individual transmitter and antenna SAR hotspots are not overlapping with each other. Hence the combined plot numbers above table are those of the individual cellular, WLAN2450 or WLAN5000 results, whichever is giving highest individual SAR result.

1.2.2 Summary SAR data

	FCC-defined SAR values for the Grants of Equipment Authorization		
	PCE	DTS	NII
Maximum Body SAR values	1.40 W/kg	1.36 W/kg	1.39 W/Kg
{Max + Max} Simultaneous Body SAR value	1.59 W/kg †		
Maximum Simultaneous SAR value Body SAR: LTE1700/2100 Full power+ WLAN2450 Main Antenna	1.59 W/kg		

Note:

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 7.1

[†]{Max + Max} Simultaneous Body SAR quoted here is 1.59W/kg for LTE1700/2100 Full power + WLAN2450 Main Antenna Body Back Facing Phantom. This value is highest max+max or max+max+max value not exceeding 1.6W/kg in max+max or max+max+max table.

1.2.3 Maximum Drift

Maximum drift covered by 5% scaling up of the SAR values	Maximum drift during measurements
0.2dB	0.2dB

1.2.4 Measurement Uncertainty

Expanded Uncertainty (k=2) 95%	± 27.8%
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2. DESCRIPTION OF THE DEVICE UNDER TEST

Device category	Portable
Exposure environment	General population / uncontrolled

Modes of Operation	Bands	Modulation Mode	Duty Cycle	Transmitter Frequency Range (MHz)	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
GPRS	850	GMSK	1/8 to 4/8	824 – 849	32.50	30.00	28.20	27.00	32.85	30.35	28.55	27.35
	1900			1850 – 1910	30.00	27.00	25.20	24.00	30.35	27.35	25.55	24.35
EGPRS	850	8PSK	1/8 to 4/8	824 – 849	27.00	27.00	27.00	26.50	27.35	27.35	27.35	26.85
	1900			1850 – 1910	25.50	24.50	24.50	23.20	25.85	24.85	24.85	23.55
WCDMA	850 (Band 5)		1	826 – 847	23.50				23.85			
WCDMA	1900 (Band 2)		1	1852 – 1908	23.50				23.85			
HSUPA	850 (Band 5)		1	826 – 847	See Appendix D for details							
HSUPA	1900 (Band 2)		1	1852 – 1908	See Appendix D for details							
LTE	700 (Band 17)	QPSK / 16QAM		704 – 716	23.50				23.85			
LTE	750 (Band 13)	QPSK / 16QAM		777 - 787	23.00				23.35			
LTE	850 (Band 5)	QPSK / 16QAM		824 – 849	23.50				23.85			
LTE	1700/2100 (Band 4)	QPSK / 16QAM		1710 – 1755	23.50				23.85			
LTE	1900 (Band 2)	QPSK / 16QAM		1850 – 1910	23.50				23.85			
BT	2450	GFSK	1	2402 – 2480	8.00				9.50			
BT LE	2450	GFSK	1	2402 – 2480	8.00				9.50			
					Ch 1 - 11				Ch 1 - 11			
WLAN b-mode** 20MHz – Main Ant	2450	BPSK QPSK	1	2412 – 2472	13.00				14.50			
WLAN b-mode** 20MHz – AUX Ant	2450	BPSK QPSK	1	2412 – 2472	13.00				14.50			
					Ch 1 - 2	Ch 6	Ch 10 - 11		Ch 1 - 2	Ch 6	Ch 10 - 11	
WLAN g-mode** 20MHz – Main Ant	2450	Up to 64QAM	1	2412 – 2472	10.00	11.50	10.00		11.50	13.00	11.50	

(Table continues)

(Table continues)

WLAN g-mode** 20MHz – AUX Ant	2450	Up to 64QAM	1	2412 – 2472	10.00	11.50	10.00	11.50	13.00	11.50				
WLAN n-mode** 20MHz – Main Ant	2450	Up to 64QAM	1	2412 – 2462 2412 – 2472	8.50	10.00	8.50	10.00	11.50	10.00				
WLAN n-mode** 20MHz – AUX Ant	2450	Up to 64QAM	1	2412 – 2462 2412 – 2472	8.50	10.00	8.50	10.00	11.50	10.00				
					Ch 3 - 9				Ch 3 - 9					
WLAN n-mode** 40MHz – Main Ant	2450	Up to 64QAM	1	2412 – 2472	9.00				10.50					
WLAN n-mode** 40MHz – AUX Ant	2450	Up to 64QAM	1	2412 – 2472	9.00				10.50					
					Ch 36 - 48	Ch 52 - 116	Ch 120 - 140	Ch 149 - 165	Ch 36 - 48	Ch 52 - 116	Ch 120 - 140	Ch 149 - 165		
WLAN a-mode** 20MHz – Main Ant	5000	Up to 64QAM	1	5150 – 5825	7.50	7.50	6.50	7.50	9.00	9.00	8.00	9.00		
WLAN a-mode** 20MHz – AUX Ant	5000	Up to 64QAM	1	5150 – 5825	9.50	8.50	9.50	8.50	11.00	10.00	11.00	10.00		
WLAN n-mode** 20MHz – Main Ant	5000	Up to 64QAM	1	5150 – 5825	7.50	7.50	6.50	7.50	9.00	9.00	8.00	9.00		
WLAN n-mode** 20MHz – AUX Ant	5000	Up to 64QAM	1	5150 – 5825	9.50	8.50	9.50	8.50	11.00	10.00	11.00	10.00		
					Ch 38 - 62	Ch 102 - 118	Ch 122 - 130	Ch 134 - 138	Ch 151 - 163	Ch 38 - 62	Ch 102 - 118	Ch 122 - 130	Ch 134 - 138	Ch 151 - 163
WLAN n-mode** 40MHz Main Ant	5000	Up to 64QAM	1	5180 – 5825	8.00	7.00	6.50	7.00	8.00	9.50	8.50	8.00	8.50	9.50
					Ch 38 - 46	Ch 50 - 118	Ch 122 - 130	Ch 134 - 138	Ch 151 - 163	Ch 38 - 62	Ch 102 - 118	Ch 122 - 130	Ch 134 - 138	Ch 151 - 163
WLAN n-mode** 40MHz AUX Ant	5000	Up to 64QAM	1	5180 – 5825	8.50	8.00	9.00	8.50	8.00	10.00	9.50	10.50	10.00	9.50

**Maximum tuning targets are presented above. See full details in Appendix J.

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

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 D 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 five LTE bands, namely LTE bands 700, 750, 850, 1700/2100 and 1900. In LTE700(Band 17) and in LTE750 (Band 13), the device possesses Channel Bandwidths of 10MHz and 5MHz; in LTE850(Band 5), the device possesses Channel Bandwidths of 10MHz, 5MHz, 3MHz and 1.4MHz; in LTE1700/2100 (Band 4) and in LTE1900(Band 2) Channel Bandwidths of 20MHz, 15MHz, 10MHz, 5MHz, 3MHz and 1.4MHz are available.

This is a BT Class 1 device; as its upper limit of power tuning tolerance is 9.5dBm (8.91mW), SAR testing was deemed unnecessary since $(8.91\text{mW}/5\text{mm}) \cdot \sqrt{2.48\text{GHz}} < 3.0$ (KDB447498 D01 General RF Exposure Guidelines v05 Section 4.3.1 Standalone SAR test exclusion considerations). Since WLAN2450 and BT use same frequency and antenna, WLAN2450 power is 4.5dB higher in minimum, and they can not transmit simultaneously, the WLAN2450+cellular bands combined SAR results can be regarded as conservative estimation of BT+cellular combined SARs. As WLAN2450+cellular combined SAR result are below limit, also BT+cellular combined SAR can be deemed to comply without further analysis and estimations required in KDB 447498 for simultaneous transmission exclusion.

This device uses a single antenna for transmission of all the cellular, AWS and PCS bands; two antennas are used for transmission of WLAN, a main antenna and an auxiliary one; these antennas can be used in MIMO mode. Auxiliary one is also used for transmission of BT. Simultaneous transmission of any singular cellular, AWS and PCS band is possible with either WLAN or BT in Body use.

Simultaneous transmission capabilities in Body use		
	WLAN2450	WLAN5000
LTE700	✓	✓
LTE750	✓	✓
GPRS/EGPRS850	✓	✓
WCDMA850	✓	✓
LTE850	✓	✓
LTE1700/2100	✓	✓
GPRS/EGPRS1900	✓	✓
WCDMA1900	✓	✓
LTE1900	✓	✓

This device has Wireless Router "Hotspot" mode capability.

Simultaneous transmission capabilities in Wireless Router use		
	WLAN2450	WLAN5000
LTE700	✓	–
LTE750	✓	–
GPRS/EGPRS850	✓	–
WCDMA850	✓	–
LTE850	✓	–
LTE1700/2100	✓	–
GPRS/EGPRS1900	✓	–
WCDMA1900	✓	–
LTE1900	✓	–

Wireless Router SAR is not required to be tested for a tablet since tablet test procedures are more conservative (616217 D04 SAR for laptop and tablets v01r01).

2.1 Tuning target when proximity sensor triggers power reduction on for cellular bands

The following table details the tuning target when proximity sensor triggers power reduction on for cellular bands. Both WLANs were tested at full power.

Band	Power reduction	Target tuning power	Upper Limit of Power Tuning Tolerance
LTE700	2.8 dB	20.7 dBm	21.05 dBm
LTE750	2.5 dB	20.5 dBm	20.85 dBm
GPRS/EGPRS850	2.5 dB	1-slot GPRS: 30.0 dBm	1-slot GPRS: 30.35 dBm
	2.5 dB	2-slot GPRS: 27.5 dBm	2-slot GPRS: 27.85 dBm
	3.0 dB	3-slot GPRS: 25.2 dBm	3-slot GPRS: 25.55 dBm
	2.0 dB	4-slot GPRS: 25.0 dBm	4-slot GPRS: 25.35 dBm
	0.0 dB	1-slot EGPRS: 27.0 dBm	1-slot EGPRS: 27.35 dBm
	0.0 dB	2-slot EGPRS: 27.0 dBm	2-slot EGPRS: 27.35 dBm
	2.0 dB	3-slot EGPRS: 25.0 dBm	3-slot EGPRS: 25.35 dBm
	2.0 dB	4-slot EGPRS: 24.5 dBm	4-slot EGPRS: 24.85 dBm
WCDMA850	3.5 dB	20.0 dBm	20.35 dBm
LTE850	3.5 dB	20.0 dBm	20.35 dBm
LTE1700/2100	6.2 dB	17.3 dBm	17.65 dBm
GPRS/EGPRS1900	4.0 dB	1-slot GPRS: 26.0 dBm	1-slot GPRS: 26.35 dBm
	4.5 dB	2-slot GPRS: 22.5 dBm	2-slot GPRS: 22.85 dBm
	3.0 dB	3-slot GPRS: 22.2 dBm	3-slot GPRS: 22.55 dBm
	2.0 dB	4-slot GPRS: 22.0 dBm	4-slot GPRS: 22.35 dBm
	0.0 dB	1-slot EGPRS: 25.5 dBm	1-slot EGPRS: 25.85 dBm
	2.5 dB	2-slot EGPRS: 22.0 dBm	2-slot EGPRS: 22.35 dBm
	2.5 dB	3-slot EGPRS: 22.0 dBm	3-slot EGPRS: 22.35 dBm
	1.5 dB	4-slot EGPRS: 21.7 dBm	4-slot EGPRS: 22.05 dBm
WCDMA1900	6.5 dB	17.0 dBm	17.35 dBm
LTE1900	6.2 dB	17.3 dBm	17.65 dBm

2.2 Description of the Antenna

The device has an internal antenna for cellular, AWS, PCS use and 2 separate internal antennas for WLAN use. The cellular antenna is located near the left edge of the device (when looking from the screen side); the main and AUX WLAN antennas are located near the bottom edge.

Picture of antenna dimensions and antenna interdistances can be found from RX-114_Antenna_Description document.

3. TEST CONDITIONS

3.1 Temperature and Humidity

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

3.2 Test Signal, Frequencies and Output Power

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

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

This device was tested in all the available multi-slot GMSK GPRS modes (this is a multi-slot class 12 device).

The transmission mode of the device in all WCDMA tests was configured to 12.2kbps RMC with all TPC bits set as “1”. All WCDMA testing has been carried out in accordance with FCC KDB 941225: SAR Measurement Procedures for 3G Devices.

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 conducted 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 Appendices G-J of this report.

The standard transmission mode of the device in all WLAN b-mode tests was BPSK 1Mbps. The standard transmission mode of the device in all WLAN a-mode tests was BPSK 6 Mbps. 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 J. All WLAN testing has been carried out in accordance with FCC KDB 248227: SAR Measurement Procedures for 802.11 a/b/g Transmitters. WLAN MIMO Tx exposure was tested using highest available output powers among SISO and MIMO modes to minimize testing. This gives conservative estimate of the WLAN MIMO Tx mode exposure since SISO Tx mode output powers are always equal to or higher than in MIMO mode. Please see Appendix J for details of the WLAN SISO and MIMO mode output powers.

LTE band has been tested according to the guidance given in KDB941225 D05 SAR for LTE Devices v02r02. MPR values as stipulated in Table 6.2.3 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.

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

KDB941225 D05 SAR for LTE Devices v02r02
KDB 941225 D01 SAR Measurement Procedures for 3G Devices
KDB 248227: SAR Measurement Procedures for 802.11 a/b/g Transmitters
KDB 648474 D04 Handset SAR v01r01
KDB 447498 D01 General RF Exposure Guidance v05r01
KDB 690783 D01 SAR Listings on Grants
KDB 865664 D01 SAR Measurement 100MHz to 6GHz v01r01
616217 D04 SAR for laptop and tablets v01r01
865664 D02 SAR reporting v01r01

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	793	2013-06	2014-06
DAE4	555	2013-01	2014-01
DAE4	1355	2013-01	2014-01
DAE4	1301	2013-02	2014-02
E-field Probe ES3DV3	3131	2013-06	2014-06
E-field Probe ES3DV3	3165	2013-01	2014-01
E-field Probe EX3DV4	3834	2013-01	2014-01
E-field Probe EX3DV4	3817	2013-01	2014-01
Dipole Validation Kit, D750V3	1075	2012-11	2014-11
Dipole Validation Kit, D835V2	480	2012-12	2014-12
Dipole Validation Kit, D1750V2	1082	2012-12	2014-12
Dipole Validation Kit, D1900V2	5d013	2012-12	2014-12
Dipole Validation Kit, D2450V2	800	2012-09	2014-09
Dipole Validation Kit, D5GHzV2	1042	2012-11	2014-11
DASY5 software	Version 52.8	-	-

Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration date	Calibration expiry
Signal Generator	E4438C	MY42080610	2013-08	2014-08
Signal Generator	SML03	101264	2013-08	2014-08
Signal Generator	E4436B	US39260114	2013-08	2014-08
Signal Generator	N5181B	MY51350034	2013-06	2016-06
Amplifier	5S1G4M3	302338	-	-
Amplifier	ZHL-42-SMA	N072095-5	-	-
Amplifier	5S1G4	25583	-	-
Amplifier	ZYE-8G+	N811401219	-	-
Power Meter	NRVS	838624/032	2013-08	2014-08
Power Meter	NRVD	840023/028	2013-08	2014-08
Power Meter	NRVZ	849305/029	2013-08	2014-08
Power Meter	E4419B	GB40202156	2013-07	2015-07
Power Sensor	NRV-Z32	100067	2013-08	2014-08
Power Sensor	NRV-Z32	849745/018	2013-08	2014-08
Power Sensor	NRV-Z32	825600/002	2013-08	2014-08
Power Sensor	E9301A	US39211864	2013-07	2014-07
Call Tester	CMU 200	103293	-	-
Call Tester	CMU 200	101111	-	-
Call Tester	CMU 200	104983	-	-
Call Tester	CMU 200	103294	-	-
Call Tester	MT8820C	6200883095	-	-
Call Tester	CMW 500	110565	-	-
Call Tester	CMW 500	110556	-	-
Network Analyzer	ENA E5071C	MY46213166	2013-08	2014-08
Network Analyzer	ENA E5071C	MY46315958	2013-07	2014-07
Dielectric Probe Kit	DAK-3.5	1042	-	-
Dielectric Probe Kit	DAK-3.5	1064	-	-

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 Body SAR tests i.e. for both system checks and device testing was a “Triple Flat phantom” and “ELI phantom” manufactured by SPEAG; these phantoms conform to the requirements of FCC published RF Exposure KDB Procedures.

System checking and Body SAR testing was performed using the Triple Flat phantom and ELI Phantom.

The device holder made of low loss expanded polystyrene (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 of FCC published RF Exposure KDB Procedures. 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 flat reference point of the Triple Flat Phantom and ELI Phantom.

4.3.1 Tissue Simulant Recipes

The following recipes were used for Body tissue simulants:

700MHz band

Ingredient	Body (% by weight)
Deionised Water	69.23
Tween 20	29.56
Salt	1.21

800MHz band

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

1800MHz band

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

1900MHz band

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

2450MHz band

Ingredient	Body (% by weight)
Deionised Water	70.20
Tween 20	29.62
Salt	0.18

5000MHz band †

Ingredient	Body (% by weight)
Water	60-80
Oil	-
Emulsifiers, Esters, Inhibitors	20-40
Sodium salt	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	Calibrated signal type(s)	DAE unit Type / SN	Validation done
							Body tissue simulant
750	TCC Salo / SAR-4	V52.8	D750V2 / 1075	EX3DV4 / 3834	CW	DAE4 / 555	2013-06
835	TCC Salo / SAR-3	V52.8	D835V2 / 480	ES3DV4 / 3165	CW	DAE4 / 1355	2013-05
1750	TCC Salo / SAR-1	V52.8	D1750V2 / 1082	ES3DV3 / 3131	CW	DAE4 / 793	2013-07
1900	TCC Salo / SAR-1	V52.8	D1900V2 / 5d013	ES3DV3 / 3131	CW	DAE4 / 793	2013-07
2450	TCC San Diego / SAR-3	V52.8	D2450MHzV2 / 800	EX3DV4 / 3817	CW	DAE4 / 1301	2013-04
5200	TCC San Diego / SAR-3	V52.8	D5GHzV2 / 1042	EX3DV4 / 3817	CW/OFDM	DAE4 / 1301	2013-04
5300	TCC San Diego / SAR-3	V52.8	D5GHzV2 / 1042	EX3DV4 / 3817	CW/OFDM	DAE4 / 1301	2013-04
5500	TCC San Diego / SAR-3	V52.8	D5GHzV2 / 1042	EX3DV4 / 3817	CW/OFDM	DAE4 / 1301	2013-04
5600	TCC San Diego / SAR-3	V52.8	D5GHzV2 / 1042	EX3DV4 / 3817	CW/OFDM	DAE4 / 1301	2013-04
5800	TCC San Diego / SAR-3	V52.8	D5GHzV2 / 1042	EX3DV4 / 3817	CW/OFDM	DAE4 / 1301	2013-04

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 (except in the case of the 5000MHz dipole for which 100 mW was supplied), which was placed under the flat section of the Triple Flat Phantom. The system checking results (dielectric parameters and SAR values) are given in the table below.

System checking, body tissue simulant

f [MHz]	Description	SAR 1g [W/kg]	Estimated SAR 1g [W/kg]	Estimated SAR 1g Deviation	Dielectric Parameters		SAR 1g Deviation from target	Dielectric Parameters Deviation from target		Temp [°C]	Plot #
				dSAR [%]	ϵ_r	σ [S/m]	dSAR [%]	d ϵ_r [%]	d σ [%]		
	Tolerances			±3%			±10 %	±5 %	±5 %		
750	IEEE1528 / IEC62209				55.5	0.96					
	Reference result SN:1075	2.24	-		55.3	0.97	TCC Salo/SAR-4 EX3DV4 SN:3834 Body 750MHz				
	2013-08-22	2.26	2.26	0.00	53.3	1.00	0.89	-3.62	3.09	20.7	-
	2013-08-23	2.28	2.28	0.00	53.7	1.00	1.79	-2.89	3.09	21.0	-
	2013-08-26	2.27	2.27	0.00	54.0	1.01	1.34	-2.35	4.12	20.5	-
	2013-08-27	2.30	2.29	-0.43	53.9	1.01	2.68	-2.53	4.12	21.2	-
	2013-09-06	2.28	2.28	0.00	53.1	1.00	1.79	-3.98	3.09	21.3	-
	2013-09-24	2.10	2.11	0.48	53.8	0.97	-6.25	-2.71	0.00	20.3	1
	2013-10-14	2.24	2.25	0.45	52.9	1.00	0.00	-4.34	3.09	21.8	-
835	IEEE1528 / IEC62209				55.2	0.97					
	Reference result SN:480	2.42	-		54.5	0.99	TCC Salo/SAR-3 ES3DV3 SN:3165 Body 835MHz				
	2013-08-30	2.32	2.32	0.00	53.7	0.98	-4.13	-1.47	-1.01	22.1	-
	2013-09-02	2.26	2.27	0.44	54.0	0.96	-6.61	-0.92	-3.03	20.5	-
	2013-09-04	2.33	2.35	0.86	53.5	0.98	-3.72	-1.83	-1.01	21.2	-
	2013-09-05	2.31	2.33	0.87	53.1	0.98	-4.55	-2.57	-1.01	22.5	-
	2013-09-23	2.27	2.29	0.88	53.6	0.97	-6.20	-1.65	-2.02	20.8	-
	2013-09-24	2.23	2.25	0.90	53.7	0.98	-7.85	-1.47	-1.01	20.8	2
	2013-10-10	2.26	2.27	0.44	53.2	0.97	-6.61	-2.39	-2.02	20.8	-
	2013-10-11	2.24	2.24	0.00	52.9	0.97	-7.44	-2.94	-2.02	21.1	-
1750	IEEE1528 / IEC62209				53.4	1.49					
	Reference result SN:1082	9.21	-		51.8	1.47	TCC Salo/SAR-1 ES3DV3 SN:3131 Body 1750MHz				
	2013-09-02	8.87	8.97	1.13	52.3	1.44	-3.69	0.97	-2.04	21.3	-
	2013-09-12	9.07	9.27	2.21	51.5	1.46	-1.52	-0.58	-0.68	20.5	-
	2013-10-11	8.79	8.83	0.46	51.5	1.43	-4.56	-0.58	-2.72	21.5	3

(Table continues)

(Table continues)

f [MHz]	Description	SAR 1g [W/kg]	Estimate d SAR 1g [W/kg]	Estimated SAR 1g Deviation	Dielectric Parameters		SAR 1g Deviation from target	Dielectric Parameters Deviation from target		Temp [°C]	Plot #
				dSAR [%]	ϵ_r	σ [S/m]	dSAR [%]	d ϵ_r [%]	d σ [%]		
1900	IEEE1528 / IEC62209				53.3	1.52					
	Reference result SN:5d013	10.3	-		52.2	1.52	TCC Salo/SAR-1 ES3DV3 SN:3131 Body 1900MHz				
	2013-08-28	9.82	9.90	0.81	51.6	1.54	-4.66	-1.15	1.32	21.3	-
	2013-08-29	9.76	9.84	0.82	51.9	1.52	-5.24	-0.57	0.00	20.5	-
	2013-08-30	10.2	10.20	0.00	51.6	1.52	-0.97	-1.15	0.00	20.6	-
	2013-09-04	9.94	9.99	0.50	51.4	1.53	-3.50	-1.53	0.66	21.0	-
	2013-09-06	10.1	10.20	0.99	51.9	1.53	-1.94	-0.57	0.66	20.9	-
	2013-09-10	9.76	9.82	0.61	51.5	1.52	-5.24	-1.34	0.00	20.7	-
	2013-09-11	9.51	9.53	0.21	51.6	1.53	-7.67	-1.15	0.66	20.3	-
	2013-09-12	9.86	9.93	0.71	51.4	1.53	-4.27	-1.53	0.66	20.4	-
	2013-09-23	9.75	9.85	1.03	51.2	1.51	-5.34	-1.92	-0.66	21.7	-
	2013-10-10	9.38	9.33	-0.53	51.5	1.49	-8.93	-1.34	-1.97	21.5	4
2450	IEEE1528 / IEC62209				52.7	1.95					
	Reference result SN:800	13.0	-		51.0	2.01	TCC San Diego /SAR-3 EX3DV4 SN:3817 Body 2450MHz				
	2013-08-22	13.0	13.30	2.31	51.1	1.93	0.00	0.20	-3.98	21.5	5
5200	FCC Published RF Exposure KDB Procedures				49.0	5.30					
	Reference result SN:1042	7.36	-		46.8	5.35	TCC San Diego/SAR-3 EX3DV4 SN:3817 Body 5200MHz				
	2013-08-28	7.35	6.65	-9.52	48.4	5.45	-0.14	3.42	1.87	21.5	6
5300	FCC Published RF Exposure KDB Procedures				48.9	5.42					
	Reference result SN:1042	7.54	-		46.7	5.47	TCC San Diego/SAR-3 EX3DV4 SN:3817 Body 5300MHz				
	2013-08-28	7.70	7.07	-8.18	48.3	5.58	2.12	3.43	2.01	21.5	7
	2013-09-11	7.67	6.69	-12.78	48.4	5.60	1.72	3.64	2.38	21.5	-

(Table continues)

f [MHz]	Description	SAR 1g [W/kg]	Estimated SAR 1g [W/kg]	Estimated SAR 1g Deviation	Dielectric Parameters		SAR 1g Deviation from target	Dielectric Parameters Deviation from target		Temp [°C]	Plot #
				dSAR [%]	ϵ_r	σ [S/m]	dSAR [%]	d ϵ_r [%]	d σ [%]		
5500	FCC Published RF Exposure KDB Procedures				48.6	5.65					
	Reference result SN:1042	7.94	-		46.3	5.73	TCC San Diego/SAR-3 EX3DV4 SN:3817 Body 5500MHz				
	2013-08-29	8.07	7.34	-9.05	47.7	5.85	1.64	3.02	2.09	21.5	-
	2013-08-30	8.17	7.29	-10.77	47.7	5.81	2.90	3.02	1.40	21.5	-
	2013-09-23	7.57	6.86	-9.38	48.6	5.87	-4.66	4.97	2.44	21.5	8
5600	FCC Published RF Exposure KDB Procedures				48.5	5.77					
	Reference result SN:1042	8.04	-		46.2	5.86	TCC San Diego/SAR-3 EX3DV4 SN:3817 Body 5600MHz				
	2013-08-29	8.26	7.20	-12.83	47.5	5.99	2.74	2.81	2.22	21.5	9
	2013-08-30	8.25	7.26	-12.00	47.6	5.95	2.61	3.03	1.54	21.5	-
	2013-09-11	8.19	7.20	-12.09	47.9	6.01	1.87	3.68	2.56	21.5	-
	2013-09-23	7.84	6.97	-11.10	48.4	6.01	-2.49	4.76	2.56	21.5	-
5800	FCC Published RF Exposure KDB Procedures				48.2	6.00					
	Reference result SN:1042	7.46	-		45.9	6.13	TCC San Diego/SAR-3 EX3DV4 SN:3817 Body 5800MHz				
	2013-08-30	7.11	6.55	-7.88	47.2	6.22	-4.69	2.83	1.47	21.5	10
	2013-09-11	7.19	6.36	-11.54	47.6	6.29	-3.62	3.70	2.61	21.5	-

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

4.5 Tissue Simulants used in the Measurements

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 %	
710	Recommended value	55.7	0.96			
	2013-08-22	53.4	0.98	-4.13	2.08	20.7
	2013-08-23	53.8	0.98	-3.41	2.08	21.0
	2013-08-26	54.2	0.99	-2.69	3.13	20.5
	2013-08-27	54.1	0.99	-2.87	3.13	21.2
	2013-09-06	53.3	0.98	-4.31	2.08	21.3
	2013-09-24	54.0	0.95	-3.05	-1.04	20.3
	2013-10-14	53.3	0.98	-4.31	2.08	21.8
782	Recommended value	55.4	0.97			
	2013-08-23	53.4	1.02	-3.61	3.03	21.0
	2013-08-27	53.7	1.03	-3.07	4.04	21.2
	2013-09-06	52.9	1.02	-4.51	3.03	21.3
	2013-10-14	52.7	1.02	-4.87	3.03	21.8
835	Recommended value	55.2	0.97			
	2013-09-02	54.0	0.96	-2.17	-1.03	20.5
	2013-09-04	53.5	0.98	-3.08	1.03	21.2
	2013-09-05	53.1	0.98	-3.80	1.03	22.5
	2013-09-23	53.6	0.97	-2.90	0.00	20.8
	2013-10-10	53.2	0.97	-3.62	0.00	20.8
836	Recommended value	55.2	0.97			
	2013-08-30	53.7	0.98	-2.72	1.03	22.1
	2013-09-02	54.0	0.96	-2.17	-1.03	20.5
	2013-09-04	53.5	0.98	-3.08	1.03	21.2
	2013-09-05	53.1	0.98	-3.80	1.03	22.5
	2013-09-23	53.6	0.97	-2.90	0.00	20.8
	2013-09-24	53.7	0.98	-2.72	1.03	20.8
	2013-10-11	52.9	0.97	-4.17	0.00	21.1
1732	Recommended value	53.5	1.48			
	2013-09-02	52.4	1.42	-2.06	-4.05	21.3
	2013-09-12	51.5	1.44	-3.74	-2.70	20.5
	2013-10-11	51.6	1.41	-3.55	-4.73	21.5

(Table continues)

(Table continues)

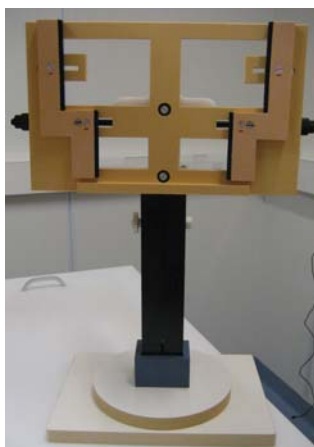
1880	Recommended value	53.3	1.52			
	2013-08-28	51.6	1.52	-3.19	0.00	21.3
	2013-08-29	52.0	1.50	-2.44	-1.32	20.5
	2013-08-30	51.7	1.50	-3.00	-1.32	20.6
	2013-09-04	51.5	1.51	-3.38	-0.66	21.0
	2013-09-06	52.0	1.51	-2.44	-0.66	20.9
	2013-09-10	51.6	1.50	-3.19	-1.32	20.7
	2013-09-11	51.6	1.51	-3.19	-0.66	20.3
	2013-09-12	51.4	1.51	-3.56	-0.66	20.4
	2013-09-23	51.3	1.50	-3.75	-1.32	21.7
	2013-10-10	51.6	1.47	-3.19	-3.29	21.5
2437	Recommended value	52.7	1.94			
	2013-08-22	51.1	1.91	-3.04	-1.55	21.5
5210	Recommended value	49.0	5.31			
	2013-08-28	48.4	5.46	-1.22	2.82	21.5
5290	Recommended value	48.9	5.40			
	2013-08-28	48.3	5.57	-1.23	3.15	21.5
	2013-09-11	48.4	5.58	-1.02	3.33	21.5
5520	Recommended value	48.6	5.67			
	2013-08-29	47.6	5.88	-2.06	3.70	21.5
	2013-08-30	47.7	5.83	-1.85	2.82	21.5
	2013-09-23	48.5	5.89	-0.21	3.88	21.5
5620	Recommended value	48.4	5.79			
	2013-08-29	47.5	6.02	-1.86	3.97	21.5
	2013-08-30	47.5	5.97	-1.86	3.11	21.5
	2013-09-11	47.9	6.04	-1.03	4.32	21.5
	2013-09-23	48.3	6.04	-0.21	4.32	21.5
5760	Recommended value	48.3	5.95			
	2013-08-30	47.3	6.16	-2.07	3.53	21.5
	2013-09-11	47.6	6.23	-1.45	4.71	21.5

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

5. DESCRIPTION OF THE TEST PROCEDURE

5.1 Device Holder

The device was placed in a device holder (illustrated below) supplied by Nokia.



Device holder supplied by Nokia

5.2 Test Positions

5.2.1 Body Configuration

This tablet device was tested in all bands with its back facing the flat phantom; it was also tested with its edges facing the flat phantom as indicated in table below. Exclusion from testing of edges was based on SAR Exclusion Threshold formula (KDB447498 DR01), please find calculations in Appendix K.

The following table details the edge/antenna combinations tested:

	Left edge	Top edge	Right edge	Bottom edge
Cellular antenna	✓	✓	×	✓
WLAN Main	×	×	×	✓
WLAN AUX	×	×	×	✓

For GPRS1900 and LTE750 (Band 13) bottom edge was excluded from tests according to formula.

The tablet device was tested at full power with a separation distance of 22mm from the back surface and a separation distance of 21mm from the Left edge. The separation distance used in

all reduced power testing was 0mm. All cellular bands were tested at full power against the top and bottom edge.

This tablet was also tested with SU-42 Smart cover in tablet mode and laptop mode. The highest SAR measured in all cellular bands for each relevant exposure condition was repeated with the SU-42 Smart cover.

In SU-42 tablet mode the device was tested in all cellular bands with its back facing the flat phantom. Exclusion from testing of SU-42 Smart cover edges was based on SAR Exclusion Threshold formula (KDB447498 DR01), please find calculations in Appendix K. In SU-42 tablet mode the Smart cover was tested at full power with a separation distance of 0mm from the back surface and a separation distance of 20mm from the Left edge. The separation distance used in all reduced power testing was 0mm.

The following table details the edge/antenna combinations tested for SU-42 Smart cover tablet mode. WLAN tests were excluded from all tests.

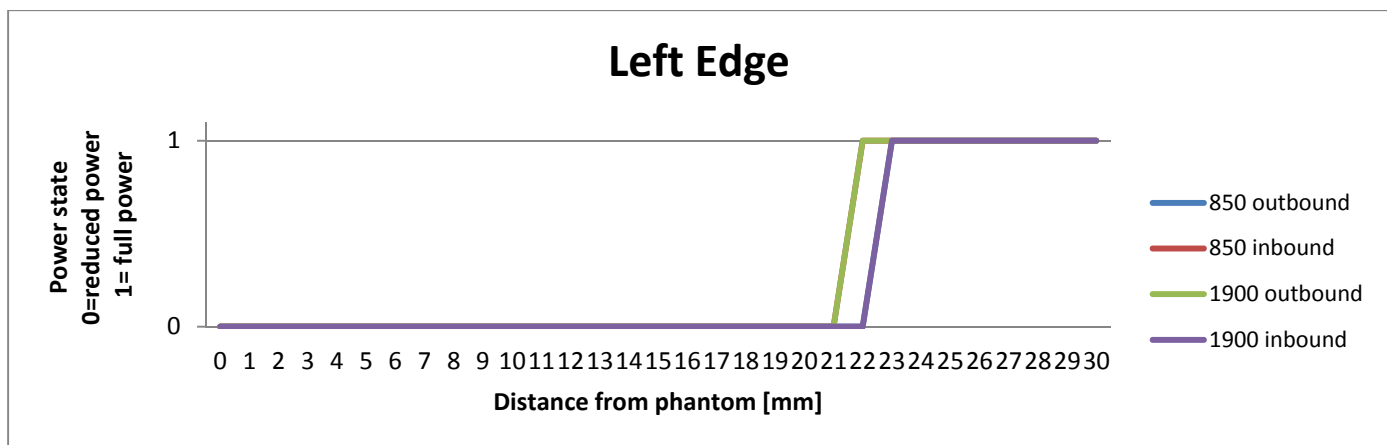
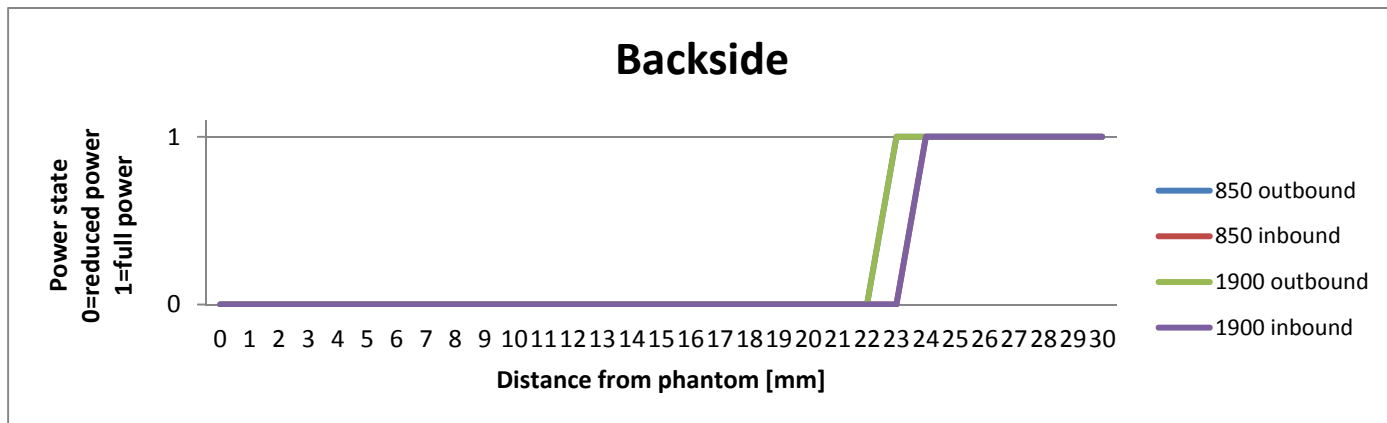
	Left edge	Top edge	Right edge	Bottom edge
Cellular antenna	✓	×	×	×

The following table details the edge/antenna combinations tested for SU-42 laptop mode. All cellular and WLAN tests were excluded from all tests except GPRS850 Bottom edge testing.

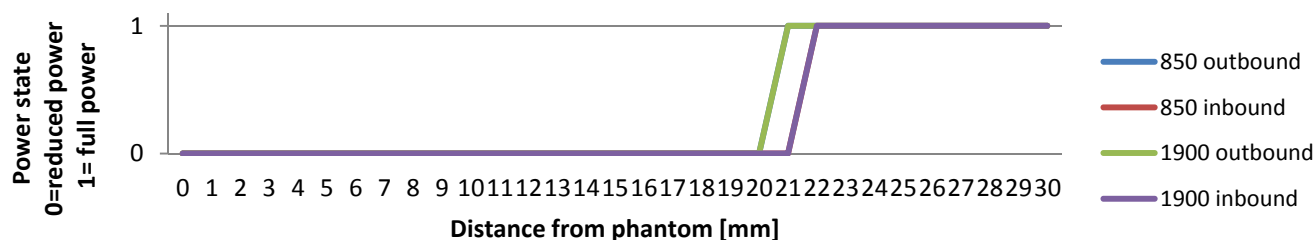
	Left edge	Top edge	Right edge	Bottom edge
Cellular antenna	×	×	×	✓

5.2.2 Proximity Sensor Considerations

Full power separation distances are based on proximity sensor triggering distances, on back side and left edge, respectively. Following graph depicts the proximity sensor triggering distances for tissue simulating liquids at different frequencies, and when approaching (inbound) and drawn away (outbound) from the phantom:



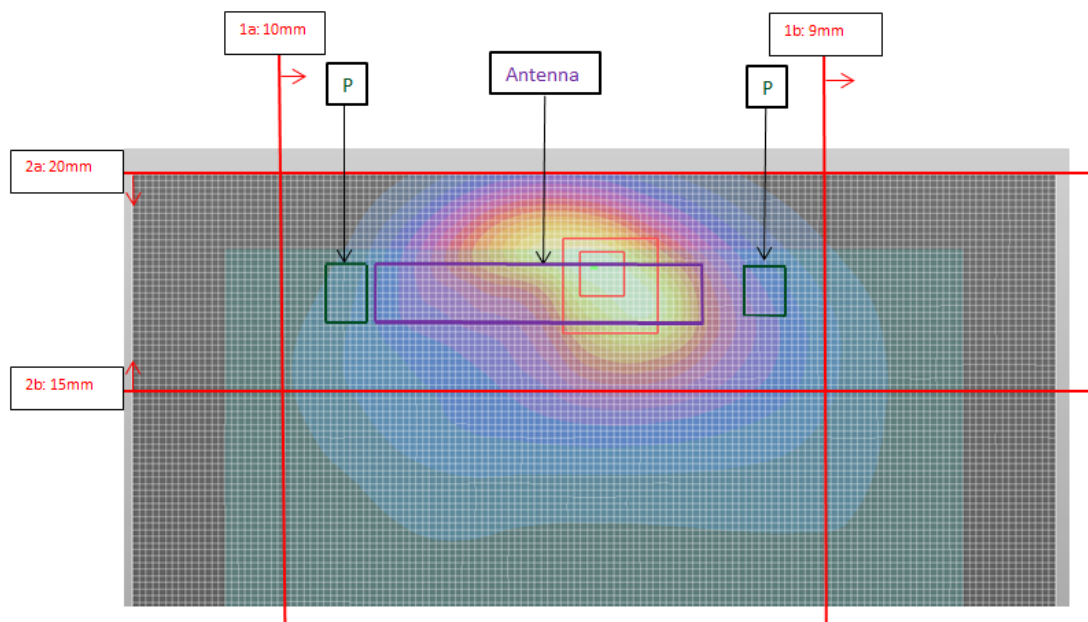
Left Edge with SU-42 Smart cover

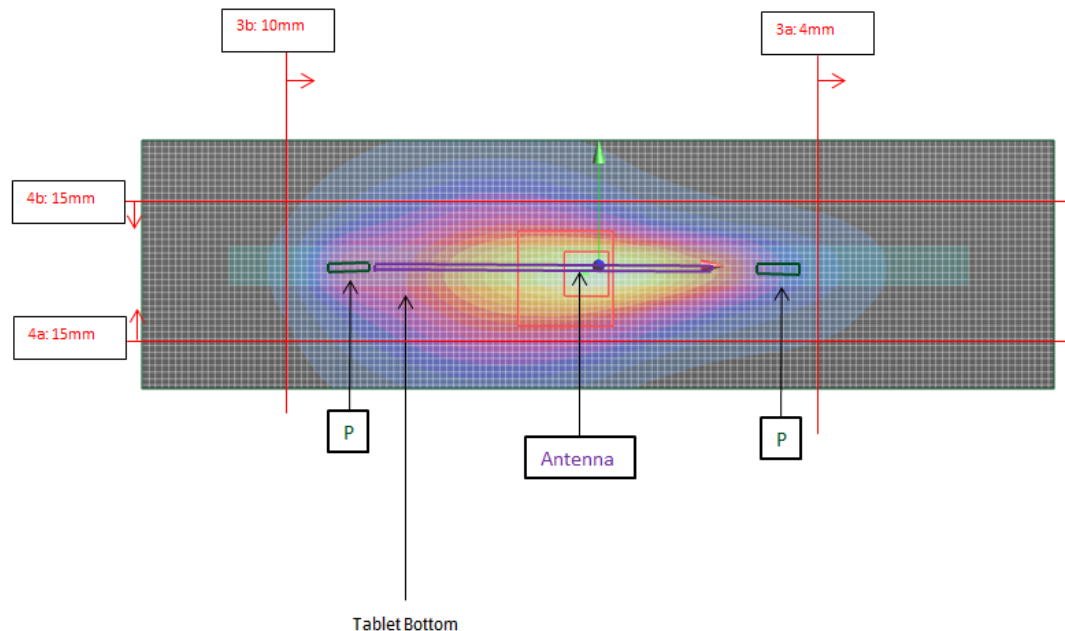


Only 1900 liquid graphs are visible, since triggering distance is exactly the same at both 850 and 1900 liquid. The test distance was chosen as closest distance among these tests, i.e. 22mm from the back surface and 21mm from the left edge (20mm from the left edge for SU-42 Smart cover tablet mode).

Following drawings depict proximity sensor coverage area overlaid on top of SAR distribution in 700MHz. 700Mhz has widest spread of all cellular SAR distributions, giving conservative estimate of the needed proximity sensor coverage area.

As Seen From Tablet Back Side





In addition, proximity sensor passes the $\pm 45^\circ$ tilt test for left edge at this distance. Full proximity sensor test results are tabulated in Appendix L.

Both WLANs were tested at full power with device touching the phantom. Combining these WLAN results with cellular band results at above mentioned separation distances gives conservative estimate of the combined SAR value.

5.3 Scan Procedures

First, area scans were used for determination of the field distribution. Next, a zoom scan, a minimum of $5 \times 5 \times 7$ points covering a volume of at least $30 \times 30 \times 30 \text{ mm}$, 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.

Estimated SAR is measured according to the KDB 447498 D01 Exposure Guidance v05r01 and uses the specific polynomial fit algorithm as presented at the 29th Bioelectromagnetics Society meeting (2007) to estimate 1-g SAR based on the interpolated and extrapolated results of a normally required full area 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	$\sqrt{3}$	$(1-c_p)^{1/2}$	±1.9	∞
Hemispherical Isotropy	E2.2	±9.6	R	$\sqrt{3}$	$(c_p)^{1/2}$	±3.9	∞
Boundary Effect	E2.3	±1.0	R	$\sqrt{3}$	1	±0.6	∞
Linearity	E2.4	±4.7	R	$\sqrt{3}$	1	±2.7	∞
System Detection Limits	E2.5	±1.0	R	$\sqrt{3}$	1	±0.6	∞
Readout Electronics	E2.6	±1.0	N	1	1	±1.0	∞
Response Time	E2.7	±0.8	R	$\sqrt{3}$	1	±0.5	∞
Integration Time	E2.8	±2.6	R	$\sqrt{3}$	1	±1.5	∞
RF Ambient Conditions - Noise	E6.1	±3.0	R	$\sqrt{3}$	1	±1.7	∞
RF Ambient Conditions - Reflections	E6.1	±3.0	R	$\sqrt{3}$	1	±1.7	∞
Probe Positioner Mechanical Tolerance	E6.2	±0.4	R	$\sqrt{3}$	1	±0.2	∞
Probe Positioning with respect to Phantom Shell	E6.3	±2.9	R	$\sqrt{3}$	1	±1.7	∞
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	E5	±3.9	R	$\sqrt{3}$	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	±5.0	R	$\sqrt{3}$	1	±2.9	∞
Phantom and Tissue Parameters							
Phantom Uncertainty (shape and thickness tolerances)	E3.1	±4.0	R	$\sqrt{3}$	1	±2.3	∞
Conductivity Target - tolerance	E3.2	±5.0	R	$\sqrt{3}$	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	$\sqrt{3}$	0.6	±1.7	∞
Permittivity - measurement uncertainty	E3.3	±2.9	N	1	0.6	±1.7	5
Combined Standard Uncertainty			RSS			±13.5	116
Coverage Factor for 95%			k=2				
Expanded Uncertainty						±27.1	

Table 6.2 – Measurement uncertainty evaluation for Fast SAR

Relative DASY5 Uncertainty Budget for Fast SAR Tests According to IEEE 1528/2011 and IEC 62209-1/2011 (0.3-6 GHz range)						
Uncertainty Component	Tol. (%)	Prob Dist.	Div.	C_i	$C_i \cdot U_i$ (%)	V_i
Measurement System						
Probe Calibration	±6.55	N	1	0		
Axial Isotropy	±4.7	R	√3	0.7	±1.9	∞
Hemispherical Isotropy	±9.6	R	√3	0.7	±3.9	∞
Boundary Effect	±2.0	R	√3	1	±1.2	∞
Linearity	±4.7	R	√3	1	±2.7	∞
System Detection Limits	±1.0	R	√3	1	±0.6	∞
Modulation Response	±2.4	R	√3	1	±1.4	∞
Readout Electronics	±0.3	N	1	0		
Response Time	±0.8	R	√3	0		
Integration Time	±2.6	R	√3	1	±1.5	∞
RF Ambient Conditions - Noise	±3.0	R	√3	1	±1.7	∞
RF Ambient Conditions - Reflections	±3.0	R	√3	0		
Probe Positioner Mechanical Tolerance	±0.8	R	√3	1	±0.5	∞
Probe Positioning with respect to Phantom Shell	±6.7	R	√3	1	±3.9	∞
Spatial x-y Resolution	±10.0	R	√3	1	±5.8	∞
Fast SAR z Approximation	±14.0	R	√3	1	±8.1	∞
Test sample Related						
Test Sample Positioning	±2.9	N	1	1	±2.9	145
Device Holder Uncertainty	±3.6	N	1	1	±3.6	5
Output Power Variation - SAR drift measurement	±5.0	R	√3	1	±2.9	∞
Power Scaling	±0	R	√3	0		
Phantom and Setup						
Phantom Uncertainty (shape and thickness tolerances)	±6.6	R	√3	1	±3.8	∞
SAR correction	±1.9	R	√3	0		
Conductivity - measurement uncertainty	±2.5	R	√3	0		
Permittivity - measurement uncertainty	±2.5	R	√3	0		
Temperature - Conductivity	±3.4	R	√3	0		
Temperature - Permittivity	±0.4	R	√3	0		
Combined Standard Uncertainty		RSS			±13.9	748
Coverage Factor for 95%		k=2				
Expanded Uncertainty					±27.8	

7. RESULTS

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

LTE700 (Band 17) Body SAR results – Reduced Power

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full SAR) [W/kg]	Plot #
			Ch 23780	Ch 23790	Ch 23800	Ch 23780	Ch 23790	Ch 23800		
			709.0 MHz	710.0 MHz	711.0 MHz	709.0 MHz	710.0 MHz	711.0 MHz		
10MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		21.05			Scaling factor*				
	Conducted Power [dBm]		20.94	20.81	20.74	0.11	0.24	0.31	dB	
	Time-averaged power [dBm]		20.94	20.81	20.74	1.03	1.06	1.07	Lin	
	Back facing phantom 0mm	Estimated SAR	1.16	-	-	1.19	-	-	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom 0mm	Estimated SAR	0.805	-	-	0.826	-	-	-	-
		Full SAR	-	-	-	-	-	-		
10MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		21.05			Scaling factor*				
	Conducted Power [dBm]		20.76	20.73	20.74	0.29	0.32	0.31	dB	
	Time-averaged power [dBm]		20.76	20.73	20.74	1.07	1.08	1.07	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
10MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		21.05			Scaling factor*				
	Conducted Power [dBm]		20.82	20.85	20.89	0.23	0.20	0.16	dB	
	Time-averaged power [dBm]		20.82	20.85	20.89	1.05	1.05	1.04	Lin	
	Back facing phantom 0mm	Estimated SAR	-	1.16	1.17	-	1.22	1.21	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom 0mm	Estimated SAR	-	0.762	0.770	-	0.798	0.799	-	-
		Full SAR	-	-	-	-	-	-		

(Table continues)

(Table continues)

10MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		21.05			Scaling factor*				
	Conducted Power [dBm]		20.73	20.69	20.61	0.32	0.36	0.44	dB	
	Time-averaged power [dBm]		20.73	20.69	20.61	1.08	1.09	1.11	Lin	
	Back facing phantom 0mm	Estimated SAR	1.11	1.16	-	1.20	1.26	-	0.04	1
		Full SAR	-	1.20	-	-	1.30	-		
	Left edge facing phantom 0mm	Estimated SAR	0.777	0.781	-	0.836	0.848	-	0.02	-
		Full SAR	-	0.798	-	-	0.867	-		
	Repeated SAR: Back facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	-
		Full SAR	-	0.991	-	-	1.08	-		
10MHz Ch BW 50% RB 0% offset SU-42 Tablet mode	Tuning Target + Tolerance [dBm]		21.05			Scaling factor*				
	Conducted Power [dBm]		20.73	20.69	20.61	0.32	0.36	0.44	dB	
	Time-averaged power [dBm]		20.73	20.69	20.61	1.08	1.09	1.11	Lin	
	Left edge facing phantom 0mm	Estimated SAR	-	0.517	-	-	0.562	-	-	-
		Full SAR	-	-	-	-	-	-		
10MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		21.05			Scaling factor*				
	Conducted Power [dBm]		20.64	20.64	20.56	0.41	0.41	0.49	dB	
	Time-averaged power [dBm]		20.64	20.64	20.56	1.10	1.10	1.12	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
10MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		21.05			Scaling factor*				
	Conducted Power [dBm]		20.59	20.58	20.69	0.46	0.47	0.36	dB	
	Time-averaged power [dBm]		20.59	20.58	20.69	1.11	1.11	1.09	Lin	
	Back facing phantom 0mm	Estimated SAR	-	-	0.983	-	-	1.07	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom 0mm	Estimated SAR	-	-	0.748	-	-	0.813	-	-
		Full SAR	-	-	-	-	-	-		

(Table continues)

(Table continues)

10MHz Ch BW 100%RB	Tuning Target + Tolerance [dBm]		21.05			Scaling factor*				
	Conducted Power [dBm]		20.61	20.54	20.59	0.44	0.51	0.46	dB	
	Time-averaged power [dBm]		20.61	20.54	20.59	1.11	1.12	1.11	Lin	
	Back facing phantom 0mm	Estimated SAR	0.912	-	-	1.01	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left edge facing phantom 0mm	Estimated SAR	0.769	-	-	0.851	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-

LTE700 (Band 17) Body SAR results – Full Power

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full SAR) [W/kg]	Plot #
			Ch 23780	Ch 23790	Ch 23800	Ch 23780	Ch 23790	Ch 23800		
			709.0 MHz	710.0 MHz	711.0 MHz	709.0 MHz	710.0 MHz	711.0 MHz		
10MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*				
	Conducted Power [dBm]		23.83	23.77	23.80	0.02	0.08	0.05	dB	
	Time-averaged power [dBm]		23.83	23.77	23.80	1.00	1.02	1.01	Lin	
		No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02								
10MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*				
	Conducted Power [dBm]		23.59	23.59	23.53	0.26	0.26	0.32	dB	
	Time-averaged power [dBm]		23.59	23.59	23.53	1.06	1.06	1.08	Lin	
		No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02								

(Table continues)

(Table continues)

10MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*				
	Conducted Power [dBm]		23.65	23.72	23.85	0.20	0.13	0.00	dB	
	Time-averaged power [dBm]		23.65	23.72	23.85	1.05	1.03	1.00	Lin	
	Back facing phantom 22mm	Estimated SAR	-	-	0.238	-	-	0.238	0.02	2
		Full SAR	-	-	0.220	-	-	0.220		
	Top edge facing phantom 0mm	Estimated SAR	-	-	0.074	-	-	0.074	-	-
		Full SAR	-	-	-	-	-	-		
	Bottom edge facing phantom 0mm	Estimated SAR	-	-	0.128	-	-	0.128	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom 21mm	Estimated SAR	-	-	0.129	-	-	0.129	-	-
Full SAR		-	-	-	-	-	-			
10MHz Ch BW 1RB 100% offset SU-42 Tablet mode	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*				
	Conducted Power [dBm]		23.65	23.72	23.85	0.20	0.13	0.00	dB	
	Time-averaged power [dBm]		23.65	23.72	23.85	1.05	1.03	1.00	Lin	
	Back facing phantom 0mm	Estimated SAR	-	-	0.059	-	-	0.059	-	-
		Full SAR	-	-	-	-	-			
	Left edge facing phantom 20mm	Estimated SAR	-	-	0.116	-	-	0.116	-	-
		Full SAR	-	-	-	-	-	-		

(Table continues)

(Table continues)

10MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*				
	Conducted Power [dBm]		23.42	23.34	23.27	0.00	0.01	0.08	dB	
	Time-averaged power [dBm]		23.42	23.34	23.27	1.00	1.00	1.02	Lin	
	Back facing phantom 22mm	Estimated SAR	0.209	-	-	0.209	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Top edge facing phantom 0mm	Estimated SAR	0.053	-	-	0.053	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Bottom edge facing phantom 0mm	Estimated SAR	0.114	-	-	0.114	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left edge facing phantom 21mm	Estimated SAR	0.102	-	-	0.102	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
10MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*				
	Conducted Power [dBm]		23.30	23.25	23.19	0.05	0.10	0.16	dB	
	Time-averaged power [dBm]		23.30	23.25	23.19	1.01	1.02	1.04	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
10MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*				
	Conducted Power [dBm]		23.22	23.30	23.27	0.13	0.05	0.08	dB	
	Time-averaged power [dBm]		23.22	23.30	23.27	1.03	1.01	1.02	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
10MHz Ch BW 100%RB	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*				
	Conducted Power [dBm]		23.23	23.17	23.20	0.12	0.18	0.15	dB	
	Time-averaged power [dBm]		23.23	23.17	23.20	1.03	1.04	1.04	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

LTE750 (Band 13) Body SAR results – Reduced Power

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full SAR) [W/kg]	Plot #
			-	Ch 23230	-	-	Ch 23230	-		
			-	782.0 MHz	-	-	782.0 MHz	-		
10MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		20.85			Scaling factor*				
	Conducted Power [dBm]		-	20.49	-	-	0.36	-	dB	
	Time-averaged power [dBm]		-	20.49	-	-	1.09	-	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
10MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		20.85			Scaling factor*				
	Conducted Power [dBm]		-	20.48	-	-	0.37	-	dB	
	Time-averaged power [dBm]		-	20.48	-	-	1.09	-	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
10MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		20.85			Scaling factor*				
	Conducted Power [dBm]		-	20.62	-	-	0.23	-	dB	
	Time-averaged power [dBm]		-	20.62	-	-	1.05	-	Lin	
	Back facing phantom 0mm	Estimated SAR	-	0.998	-	-	1.05	-	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom 0mm	Estimated SAR	-	0.791	-	-	0.834	-	0.02	-
		Full SAR	-	0.816	-	-	0.860	-		
10MHz Ch BW 1RB 100% offset SU-42 Tablet mode	Tuning Target + Tolerance [dBm]		20.85			Scaling factor*				
	Conducted Power [dBm]		-	20.62	-	-	0.23	-	dB	
	Time-averaged power [dBm]		-	20.62	-	-	1.05	-	Lin	
	Left edge facing phantom 0mm	Estimated SAR	-	0.571	-	-	0.602	-	-	-
		Full SAR	-	-	-	-	-	-		

(Table continues)

(Table continues)

10MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		20.85			Scaling factor*				
	Conducted Power [dBm]		-	20.36	-	-	0.49	-	dB	
	Time-averaged power [dBm]		-	20.36	-	-	1.12	-	Lin	
	Back facing phantom 0mm	Estimated SAR	-	1.04	-	-	1.16	-	0.02	3
		Full SAR	-	1.06	-	-	1.19	-		
	Left edge facing phantom 0mm	Estimated SAR	-	0.710	-	-	0.795	-	-	-
		Full SAR	-	-	-	-	-	-		
	Repeated SAR: Back facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	-
		Full SAR	-	0.919	-	-	1.03	-		
10MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		20.85			Scaling factor*				
	Conducted Power [dBm]		-	20.36	-	-	0.49	-	dB	
	Time-averaged power [dBm]		-	20.36	-	-	1.12	-	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
10MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		20.85			Scaling factor*				
	Conducted Power [dBm]		-	20.29	-	-	0.56	-	dB	
	Time-averaged power [dBm]		-	20.29	-	-	1.14	-	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
10MHz Ch BW 100%RB	Tuning Target + Tolerance [dBm]		20.85			Scaling factor*				
	Conducted Power [dBm]		-	20.38	-	-	0.47	-	dB	
	Time-averaged power [dBm]		-	20.38	-	-	1.11	-	Lin	
	Back facing phantom 0mm	Estimated SAR	-	0.955	-	-	1.06	-	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom 0mm	Estimated SAR	-	0.727	-	-	0.810	-	-	-
		Full SAR	-	-	-	-	-	-		

LTE750 (Band 13) Body SAR results – Full Power

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full SAR) [W/kg]	Plot #
			-	Ch 23230	-	-	Ch 23230	-		
			-	782.0 MHz	-	-	782.0 MHz	-		
10MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*				
	Conducted Power [dBm]		-	23.17	-	-	0.18	-	dB	
	Time-averaged power [dBm]		-	23.17	-	-	1.04	-	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
10MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*				
	Conducted Power [dBm]		-	23.22	-	-	0.13	-	dB	
	Time-averaged power [dBm]		-	23.22	-	-	1.03	-	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
10MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*				
	Conducted Power [dBm]		-	23.30	-	-	0.05	-	dB	
	Time-averaged power [dBm]		-	23.30	-	-	1.01	-	Lin	
	Back facing phantom 22mm	Estimated SAR	-	0.257	-	-	0.260	-	0.00	4
		Full SAR	-	0.260	-	-	0.263	-		
	Top edge facing phantom 0mm	Estimated SAR	-	0.140	-	-	0.142	-	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom 21mm	Estimated SAR	-	0.216	-	-	0.219	-	-	-
		Full SAR	-	-	-	-	-	-		

(Table continues)

(Table continues)

10MHz Ch BW 1RB 100% offset SU-42 Tablet mode	Tuning Target + Tolerance [dBm]		23.35			Scaling factor*			
	Conducted Power [dBm]		-	23.30	-	-	0.05	-	dB
	Time-averaged power [dBm]		-	23.30	-	-	1.01	-	Lin
	Back facing phantom 0mm	Estimated SAR	-	0.064	-	-	0.065	-	-
		Full SAR	-	-	-	-	-	-	
	Left edge facing phantom 20mm	Estimated SAR	-	0.149	-	-	0.151	-	-
		Full SAR	-	-	-	-	-	-	
10MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		22.85			Scaling factor*			
	Conducted Power [dBm]		-	22.50	-	-	0.35	-	dB
	Time-averaged power [dBm]		-	22.50	-	-	1.08	-	Lin
	Back facing phantom 22mm	Estimated SAR	-	0.211	-	-	0.229	-	-
		Full SAR	-	-	-	-	-	-	
	Top edge facing phantom 0mm	Estimated SAR	-	0.0847	-	-	0.092	-	-
		Full SAR	-	-	-	-	-	-	
	Left edge facing phantom 21mm	Estimated SAR	-	0.167	-	-	0.181	-	-
		Full SAR	-	-	-	-	-	-	
10MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		22.85			Scaling factor*			
	Conducted Power [dBm]		-	22.48	-	-	0.37	-	dB
	Time-averaged power [dBm]		-	22.48	-	-	1.09	-	Lin
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02						
10MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		22.85			Scaling factor*			
	Conducted Power [dBm]		-	22.49	-	-	0.36	-	dB
	Time-averaged power [dBm]		-	22.49	-	-	1.09	-	Lin
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02						

(Table continues)

(Table continues)

10MHz Ch BW 100%RB	Tuning Target + Tolerance [dBm]	22.85			Scaling factor*				
	Conducted Power [dBm]	-	22.41	-	-	0.44	-	dB	
	Time-averaged power [dBm]	-	22.41	-	-	1.11	-	Lin	
No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02									

850MHz Band Body SAR results – Reduced Power

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full 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		
1-slot GPRS	Tuning Target + Tolerance [dBm]		30.35			Scaling factor*				
	Conducted Slot Average Power [dBm]		29.60	29.50	29.50	0.75	0.85	0.85	dB	
	Time-averaged power [dBm]		20.57	20.47	20.47	1.19	1.22	1.22	Lin	
	Back facing phantom 0mm	Estimated SAR	0.932	0.880	0.801	1.11	1.07	0.97	0.03	-
		Full SAR	0.967	-	-	1.15	-	-		
2-slot GPRS	Tuning Target + Tolerance [dBm]		27.85			Scaling factor*				
	Conducted Slot Average Power [dBm]		27.30	27.20	27.10	0.55	0.65	0.75	dB	
	Time-averaged power [dBm]		21.28	21.18	21.08	1.14	1.16	1.19	Lin	
	Back facing phantom 0mm	Estimated SAR	1.01	0.913	0.822	1.15	1.06	0.977	0.05	-
		Full SAR	1.06	-	-	1.20	-	-		

(Table continues)

(Table continues)

3-slot GPRS	Tuning Target + Tolerance [dBm]		25.55			Scaling factor*				
	Conducted Slot Average Power [dBm]		25.20	25.10	24.90	0.35	0.45	0.65	dB	
	Time-averaged power [dBm]		20.94	20.84	20.64	1.08	1.11	1.16	Lin	
	Back facing phantom 0mm	Estimated SAR	0.917	0.824	0.742	0.994	0.914	0.862	0.05	-
		Full SAR	0.969	-	-	1.05	-	-		
4-slot GPRS	Tuning Target + Tolerance [dBm]		25.35			Scaling factor*				
	Conducted Slot Average Power [dBm]		25.00	24.90	24.80	0.35	0.45	0.55	dB	
	Time-averaged power [dBm]		21.99	21.89	21.79	1.08	1.11	1.14	Lin	
	Back facing phantom 0mm	Estimated SAR	1.17	1.04	0.934	1.27	1.15	1.06	0.05	5
		Full SAR	1.22	-	-	1.32	-	-		
	Left edge facing phantom 0mm	Estimated SAR	1.15	0.826	0.730	1.25	0.916	0.829	0.02	-
		Full SAR	1.17	-	-	1.27	-	-		
		Repeated SAR: Back facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-
Full SAR			1.15	-	-	1.25	-	-		
4-slot GPRS SU-42 Tablet mode	Tuning Target + Tolerance [dBm]		25.35			Scaling factor*				
	Conducted Slot Average Power [dBm]		25.00	24.90	24.80	0.35	0.45	0.55	dB	
	Time-averaged power [dBm]		21.99	21.89	21.79	1.08	1.11	1.14	Lin	
	Left edge facing phantom 0mm	Estimated SAR	0.342	-	-	0.371	-	-	-	-
		Full SAR	-	-	-	-	-	-		

(Table continues)

(Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full 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]		20.35			Scaling factor*				
	Conducted Power [dBm]		20.10	20.23	20.07	0.25	0.12	0.28	dB	
	Time-averaged power [dBm]		20.10	20.23	20.07	1.06	1.03	1.07	Lin	
	Back facing phantom 0mm	Estimated SAR	0.896	0.917	0.918	0.949	0.943	0.979	0.05	6
		Full SAR	-	-	0.964	-	-	1.03		
	Left edge facing phantom 0mm	Estimated SAR	-	0.763	-	-	0.784	-	0.00	-
		Full SAR	-	0.762	-	-	0.783	-		
	Repeated SAR: Back facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	-
		Full SAR	-	-	0.936	-	-	0.998		
WCDMA SU-42 Tablet mode	Tuning Target + Tolerance [dBm]		20.35			Scaling factor*				
	Conducted Power [dBm]		20.10	20.23	20.07	0.25	0.12	0.28	dB	
	Time-averaged power [dBm]		20.10	20.23	20.07	1.06	1.03	1.07	Lin	
	Left edge facing phantom 0mm	Estimated SAR	-	0.290	-	-	0.298	-	-	-
		Full SAR	-	-	-	-	-	-		

850MHz Band Body SAR results – Full Power

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full 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		
1-slot GPRS	Tuning Target + Tolerance [dBm]		32.85			Scaling factor*				
	Conducted Slot Average Power [dBm]		32.63	32.61	32.60	0.22	0.24	0.25	dB	
	Time-averaged power [dBm]		23.60	23.58	23.57	1.05	1.06	1.06	Lin	
	Back facing phantom 22mm	Estimated SAR	-	0.185	-	-	0.196	-	-	-
		Full SAR	-	-	-	-	-	-		
2-slot GPRS	Tuning Target + Tolerance [dBm]		30.35			Scaling factor*				
	Conducted Slot Average Power [dBm]		30.16	30.13	30.16	0.19	0.22	0.19	dB	
	Time-averaged power [dBm]		24.14	24.11	24.14	1.04	1.05	1.04	Lin	
	Back facing phantom 22mm	Estimated SAR	0.234	0.231	0.199	0.244	0.243	0.208	0.00	7
		Full SAR	0.232	-	-	0.242	-	-		
	Top edge facing phantom 0mm	Estimated SAR	-	0.062	-	-	0.065	-	-	-
		Full SAR	-	-	-	-	-	-		
	Bottom edge facing phantom 0mm	Estimated SAR	-	0.115	-	-	0.121	-	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom 21mm	Estimated SAR	-	0.215	-	-	0.226	-	-	-
		Full SAR	-	-	-	-	-	-		

(Table continues)

(Table continues)

2-slot GPRS SU-42 Tablet mode	Tuning Target + Tolerance [dBm]		30.35			Scaling factor*			
	Conducted Slot Average Power [dBm]		30.16	30.13	30.16	0.19	0.22	0.19	dB
	Time-averaged power [dBm]		24.14	24.11	24.14	1.04	1.05	1.04	Lin
	Back facing phantom 0mm	Estimated SAR	0.060	-	-	0.063	-	-	-
		Full SAR	-	-	-	-	-	-	-
	Left edge facing phantom 20mm	Estimated SAR	-	0.046	-	-	0.049	-	-
		Full SAR	-	-	-	-	-	-	-
2-slot GPRS SU-42 Laptop mode	Tuning Target + Tolerance [dBm]		30.35			Scaling factor*			
	Conducted Slot Average Power [dBm]		30.16	30.13	30.16	0.19	0.22	0.19	dB
	Time-averaged power [dBm]		24.14	24.11	24.14	1.04	1.05	1.04	Lin
	Bottom edge facing phantom 0mm	Estimated SAR	-	0.012	-	-	0.013	-	-
		Full SAR	-	-	-	-	-	-	-
	Tuning Target + Tolerance [dBm]		28.55			Scaling factor*			
	Conducted Slot Average Power [dBm]		28.54	28.42	28.33	0.01	0.13	0.22	dB
3-slot GPRS	Time-averaged power [dBm]		24.28	24.16	24.07	1.00	1.03	1.05	Lin
	Back facing phantom 22mm	Estimated SAR	-	0.224	-	-	0.231	-	-
		Full SAR	-	-	-	-	-	-	-
	Tuning Target + Tolerance [dBm]		27.35			Scaling factor*			
	Conducted Slot Average Power [dBm]		27.21	27.05	27.35	0.14	0.30	0.00	dB
4-slot GPRS	Time-averaged power [dBm]		24.20	24.04	24.34	1.03	1.07	1.00	Lin
	Back facing phantom 22mm	Estimated SAR	-	0.219	-	-	0.235	-	-
		Full SAR	-	-	-	-	-	-	-

(Table continues)

(Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full 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]		23.85			Scaling factor*				
	Conducted Power [dBm]		23.77	23.73	23.68	0.08	0.12	0.17	dB	
	Time-averaged power [dBm]		23.77	23.73	23.68	1.02	1.03	1.04	Lin	
	Back facing phantom 22mm	Estimated SAR	0.226	0.227	0.212	0.230	0.233	0.220	0.02	8
		Full SAR	-	0.205	-	-	0.211	-		
	Top edge facing phantom 0mm	Estimated SAR	-	0.088	-	-	0.090	-	-	-
		Full SAR	-	-	-	-	-	-		
	Bottom edge facing phantom 0mm	Estimated SAR	-	0.107	-	-	0.110	-	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom 21mm	Estimated SAR	-	0.180	-	-	0.185	-	-	-
		Full SAR	-	-	-	-	-	-		
WCDMA SU-42 Tablet mode	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*				
	Conducted Power [dBm]		23.77	23.73	23.68	0.08	0.12	0.17	dB	
	Time-averaged power [dBm]		23.77	23.73	23.68	1.02	1.03	1.04	Lin	
	Back facing phantom 0mm	Estimated SAR	-	0.048	-	-	0.049	-	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom 20mm	Estimated SAR	-	0.058	-	-	0.059	-	-	-
		Full SAR	-	-	-	-	-	-		

LTE850 (Band 5) Body SAR results – Reduced Power

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full SAR)	Plot #
			Ch 20450	Ch 20525	Ch 20600	Ch 20450	Ch 20525	Ch 20600		
			829.0 MHz	836.5 MHz	844.0 MHz	829.0 MHz	836.5 MHz	844.0 MHz	[W/kg]	
10MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		20.35			Scaling factor*				
	Conducted Power [dBm]		20.12	20.14	20.18	0.23	0.21	0.17	dB	
	Time-averaged power [dBm]		20.12	20.14	20.18	1.05	1.05	1.04	Lin	
	Back facing phantom 0mm	Estimated SAR	-	-	0.955	-	-	0.993	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom 0mm	Estimated SAR	-	-	0.804	-	-	0.836	-	-
		Full SAR	-	-	-	-	-	-		
10MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		20.35			Scaling factor*				
	Conducted Power [dBm]		20.08	20.19	20.08	0.27	0.16	0.27	dB	
	Time-averaged power [dBm]		20.08	20.19	20.08	1.06	1.04	1.06	Lin	
	Back facing phantom 0mm	Estimated SAR	-	0.934	-	-	0.969	-	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom 0mm	Estimated SAR	-	0.787	-	-	0.817	-	-	-
		Full SAR	-	-	-	-	-	-		
10MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		20.35			Scaling factor*				
	Conducted Power [dBm]		20.21	20.09	20.10	0.14	0.26	0.25	dB	
	Time-averaged power [dBm]		20.21	20.09	20.10	1.03	1.06	1.06	Lin	
	Back facing phantom 0mm	Estimated SAR	0.949	-	-	0.980	-	-	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom 0mm	Estimated SAR	0.782	-	-	0.808	-	-	-	-
		Full SAR	-	-	-	-	-	-		

(Table continues)

(Table continues)

10MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		20.35			Scaling factor*					
	Conducted Power [dBm]		20.02	20.09	20.04	0.33	0.26	0.31	dB		
	Time-averaged power [dBm]		20.02	20.09	20.04	1.08	1.06	1.07	Lin		
	Back facing phantom 0mm	Estimated SAR	-	0.943	0.951	-	1.00	1.02	0.06	-	
		Full SAR	-	-	1.01	-	-	1.09			
	Left edge facing phantom 0mm	Estimated SAR	-	0.785	0.815	-	0.833	0.875	0.01	-	
		Full SAR	-	-	0.827	-	-	0.888			
	Repeated SAR: Back facing phantom 0mm	Estimated SAR	-	-		-	-	-	-	9	
		Full SAR	-	-	1.05	-	-	1.13			
10MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		20.35			Scaling factor*					
	Conducted Power [dBm]		20.02	20.09	20.04	0.33	0.26	0.31	dB		
	Time-averaged power [dBm]		20.02	20.09	20.04	1.08	1.06	1.07	Lin		
	SU-42 Tablet mode	Left edge facing phantom 0mm	Estimated SAR	-	-	0.457	-	-	0.491	-	-
		Full SAR	-	-	-	-	-	-			
10MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		20.35			Scaling factor*					
	Conducted Power [dBm]		20.05	20.08	20.00	0.30	0.27	0.35	dB		
	Time-averaged power [dBm]		20.05	20.08	20.00	1.07	1.06	1.08	Lin		
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02								
10MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		20.35			Scaling factor*					
	Conducted Power [dBm]		20.17	20.04	19.98	0.18	0.31	0.37	dB		
	Time-averaged power [dBm]		20.17	20.04	19.98	1.04	1.07	1.09	Lin		
	Back facing phantom 0mm	Estimated SAR	0.942	-	-	0.982	-	-	-	-	
		Full SAR	-	-	-	-	-	-			
	Left edge facing phantom 0mm	Estimated SAR	0.792	-	-	0.826	-	-	-	-	
		Full SAR	-	-	-	-	-	-			

(Table continues)

(Table continues)

10MHz Ch BW 100%RB	Tuning Target + Tolerance [dBm]		20.35			Scaling factor*				
	Conducted Power [dBm]		20.01	19.99	19.97	0.34	0.36	0.38	dB	
	Time-averaged power [dBm]		20.01	19.99	19.97	1.08	1.09	1.09	Lin	
	Back facing phantom 0mm	Estimated SAR	0.929	-	-	1.01	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left edge facing phantom 0mm	Estimated SAR	0.772	-	-	0.835	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-

LTE850 (Band 5) Body SAR results – Full Power

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full SAR) [W/kg]	Plot #
			Ch 20450	Ch 20525	Ch 20600	Ch 20450	Ch 20525	Ch 20600		
			829.0 MHz	836.5 MHz	844.0 MHz	829.0 MHz	836.5 MHz	844.0 MHz		
10MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*				
	Conducted Power [dBm]		23.65	23.70	23.60	0.20	0.15	0.25	dB	
	Time-averaged power [dBm]		23.65	23.70	23.60	1.05	1.04	1.06	Lin	
		No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02								
10MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*				
	Conducted Power [dBm]		23.63	23.65	23.58	0.22	0.20	0.27	dB	
	Time-averaged power [dBm]		23.63	23.65	23.58	1.05	1.05	1.06	Lin	
		No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02								

(Table continues)

(Table continues)

10MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*				
	Conducted Power [dBm]		23.71	23.61	23.73	0.14	0.24	0.12	dB	
	Time-averaged power [dBm]		23.71	23.61	23.73	1.03	1.06	1.03	Lin	
	Back facing phantom 22mm	Estimated SAR	-	-	0.224	-	-	0.230	0.00	10
		Full SAR	-	-	0.222	-	-	0.228		
	Top edge facing phantom 0mm	Estimated SAR	-	-	0.069	-	-	0.071	-	-
		Full SAR	-	-	-	-	-	-		
	Bottom edge facing phantom 0mm	Estimated SAR	-	-	0.133	-	-	0.137	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom 21mm	Estimated SAR	-	-	0.198	-	-	0.204	-	-
		Full SAR	-	-	-	-	-	-		
10MHz Ch BW 1RB 100% offset SU-42 Tablet mode	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*				
	Conducted Power [dBm]		23.71	23.61	23.73	0.14	0.24	0.12	dB	
	Time-averaged power [dBm]		23.71	23.61	23.73	1.03	1.06	1.03	Lin	
	Back facing phantom 0mm	Estimated SAR	-	-	0.045	-	-	0.047	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom 20mm	Estimated SAR	-	-	0.065	-	-	0.067	-	-
		Full SAR	-	-	-	-	-	-		
10MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*				
	Conducted Power [dBm]		22.88	22.85	22.79	0.37	0.40	0.46	dB	
	Time-averaged power [dBm]		22.88	22.85	22.79	1.09	1.10	1.11	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
10MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*				
	Conducted Power [dBm]		22.87	22.80	22.88	0.38	0.45	0.37	dB	
	Time-averaged power [dBm]		22.87	22.80	22.88	1.09	1.11	1.09	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

(Table continues)

(Table continues)

10MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*				
	Conducted Power [dBm]		22.91	22.84	22.95	0.34	0.41	0.30	dB	
	Time-averaged power [dBm]		22.91	22.84	22.95	1.08	1.10	1.07	Lin	
	Back facing phantom 22mm	Estimated SAR	-	-	0.184	-	-	0.197	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Top edge facing phantom 0mm	Estimated SAR	-	-	0.062	-	-	0.066	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Bottom edge facing phantom 0mm	Estimated SAR	-	-	0.123	-	-	0.132	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left edge facing phantom 21mm	Estimated SAR	-	-	0.161	-	-	0.173	-	-
		Full SAR	-	-	-	-	-	-	-	-
10MHz Ch BW 100%RB	Tuning Target + Tolerance [dBm]		23.25			Scaling factor*				
	Conducted Power [dBm]		22.76	22.69	22.70	0.49	0.56	0.55	dB	
	Time-averaged power [dBm]		22.76	22.69	22.70	1.12	1.14	1.14	Lin	
	No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02									

LTE1700/2100 (Band 4) Body SAR results – Reduced Power

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full SAR)	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	[W/kg]	
20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		17.65			Scaling factor*				
	Conducted Power [dBm]		17.17	17.15	17.17	0.48	0.50	0.48	dB	
	Time-averaged power [dBm]		17.17	17.15	17.17	1.12	1.12	1.12	Lin	
	Back facing phantom 0mm	Estimated SAR	0.881	0.914	0.922	0.984	1.03	1.03	0.03	-
		Full SAR	-	-	0.954	-	-	1.07		
	Left edge facing phantom 0mm	Estimated SAR	-	-	0.699	-	-	0.781	0.01	-
		Full SAR	-	-	0.691	-	-	0.772		
	Repeated SAR: Back facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	11
		Full SAR	-	-	0.957	-	-	1.07		
20MHz Ch BW 1RB 0% offset SU-42 Tablet mode	Tuning Target + Tolerance [dBm]		17.65			Scaling factor*				
	Conducted Power [dBm]		17.17	17.15	17.17	0.48	0.50	0.48	dB	
	Time-averaged power [dBm]		17.17	17.15	17.17	1.12	1.12	1.12	Lin	
	Left edge facing phantom 0mm	Estimated SAR	-	-	0.602	-	-	0.672	-	-
		Full SAR	-	-	-	-	-	-		
20MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		17.65			Scaling factor*				
	Conducted Power [dBm]		17.04	17.03	17.11	0.61	0.62	0.54	dB	
	Time-averaged power [dBm]		17.04	17.03	17.11	1.15	1.15	1.13	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

(Table continues)

(Table continues)

20MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		17.65			Scaling factor*					
	Conducted Power [dBm]		17.06	16.99	17.13	0.59	0.66	0.52	dB		
	Time-averaged power [dBm]		17.06	16.99	17.13	1.15	1.16	1.13	Lin		
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02								
20MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		17.65			Scaling factor*					
	Conducted Power [dBm]		17.06	17.00	17.03	0.59	0.65	0.62	dB		
	Time-averaged power [dBm]		17.06	17.00	17.03	1.15	1.16	1.15	Lin		
	Back facing phantom 0mm	Estimated SAR	-	0.865	-	-	1.01	-	-	-	
		Full SAR	-	-	-	-	-	-			
20MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		17.65			Scaling factor*					
	Conducted Power [dBm]		17.10	16.95	17.03	0.55	0.70	0.62	dB		
	Time-averaged power [dBm]		17.10	16.95	17.03	1.14	1.17	1.15	Lin		
	Back facing phantom 0mm	Estimated SAR	0.895	-	-	1.02	-	-	-	-	
		Full SAR	-	-	-	-	-	-			
	Left edge facing phantom 0mm	Estimated SAR	0.653	-	-	0.741	-	-	-	-	
		Full SAR	-	-	-	-	-	-			
20MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		17.65			Scaling factor*					
	Conducted Power [dBm]		16.97	16.95	17.04	0.68	0.70	0.61	dB		
	Time-averaged power [dBm]		16.97	16.95	17.04	1.17	1.17	1.15	Lin		
	Back facing phantom 0mm	Estimated SAR	-	-	0.869	-	-	1.00	-	-	
		Full SAR	-	-	-	-	-	-			

(Table continues)

(Table continues)

20MHz Ch BW 100%RB	Tuning Target + Tolerance [dBm]		17.65			Scaling factor*				
	Conducted Power [dBm]		17.06	16.97	17.02	0.59	0.68	0.63	dB	
	Time-averaged power [dBm]		17.06	16.97	17.02	1.15	1.17	1.16	Lin	
	Back facing phantom 0mm	Estimated SAR	0.895	-	-	1.03	-	-	-	-
		Full SAR	-	-	-	-	-	-		

LTE1700/2100 (Band 4) Body SAR results – Full Power

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full SAR)	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	[W/kg]	
20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]	23.85			Scaling factor*					
	Conducted Power [dBm]	23.70	23.78	23.74	0.15	0.07	0.11	dB		
	Time-averaged power [dBm]	23.70	23.78	23.74	1.04	1.02	1.03	Lin		
		No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02								
20MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]	23.85			Scaling factor*					
	Conducted Power [dBm]	23.62	23.74	23.75	0.23	0.11	0.10	dB		
	Time-averaged power [dBm]	23.62	23.74	23.75	1.05	1.03	1.02	Lin		
		No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02								

(Table continues)

(Table continues)

20MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*				
	Conducted Power [dBm]		23.58	23.80	23.78	0.27	0.05	0.07	dB	
	Time-averaged power [dBm]		23.58	23.80	23.78	1.06	1.01	1.02	Lin	
	Back facing phantom 22mm	Estimated SAR	-	0.227	-	-	0.230	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Top edge facing phantom 0mm	Estimated SAR	-	0.201	-	-	0.203	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Bottom edge facing phantom 0mm	Estimated SAR	-	0.009	-	-	0.009	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left edge facing phantom 21mm	Estimated SAR	-	0.266	-	-	0.269	-	0.01	12
		Full SAR	-	0.258	-	-	0.261	-		
20MHz Ch BW 1RB 100% offset SU-42 Tablet mode	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*				
	Conducted Power [dBm]		23.58	23.80	23.78	0.27	0.05	0.07	dB	
	Time-averaged power [dBm]		23.58	23.80	23.78	1.06	1.01	1.02	Lin	
	Back facing phantom 0mm	Estimated SAR	-	0.147	-	-	0.149	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left edge facing phantom 20mm	Estimated SAR	-	0.248	-	-	0.251	-	-	-
		Full SAR	-	-	-	-	-	-	-	-

(Table continues)

(Table continues)

20MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		23.45			Scaling factor*				
	Conducted Power [dBm]		22.86	22.95	22.84	0.59	0.50	0.61	dB	
	Time-averaged power [dBm]		22.86	22.95	22.84	1.15	1.12	1.15	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
20MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		23.45			Scaling factor*				
	Conducted Power [dBm]		22.84	22.90	22.87	0.61	0.55	0.58	dB	
	Time-averaged power [dBm]		22.84	22.90	22.87	1.15	1.14	1.14	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
20MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		23.45			Scaling factor*				
	Conducted Power [dBm]		22.97	22.86	22.89	0.48	0.59	0.56	dB	
	Time-averaged power [dBm]		22.97	22.86	22.89	1.12	1.15	1.14	Lin	
	Back facing phantom 22mm	Estimated SAR	0.179	-	-	0.200	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Top edge facing phantom 0mm	Estimated SAR	0.137	-	-	0.153	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Bottom edge facing phantom 0mm	Estimated SAR	0.009	-	-	0.011	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left edge facing phantom 21mm	Estimated SAR	0.237	-	-	0.265	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
20MHz Ch BW 100%RB	Tuning Target + Tolerance [dBm]		23.45			Scaling factor*				
	Conducted Power [dBm]		22.83	22.93	22.95	0.62	0.52	0.50	dB	
	Time-averaged power [dBm]		22.83	22.93	22.95	1.15	1.13	1.12	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

1900MHz Band Body SAR results – Reduced Power

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full 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 GPRS	Tuning Target + Tolerance [dBm]		26.35			Scaling factor*				
	Conducted Slot Average Power [dBm]		25.80	25.90	26.10	0.55	0.45	0.25	dB	
	Time-averaged power [dBm]		16.77	16.87	17.07	1.14	1.11	1.06	Lin	
	Back facing phantom 0mm	Estimated SAR	0.747	0.817	0.735	0.848	0.906	0.779	0.07	-
		Full SAR	-	0.875	-	-	0.971	-		
2-slot GPRS	Tuning Target + Tolerance [dBm]		22.85			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.40	22.40	22.50	0.45	0.45	0.35	dB	
	Time-averaged power [dBm]		16.38	16.38	16.48	1.11	1.11	1.08	Lin	
	Back facing phantom 0mm	Estimated SAR	-	0.706	-	-	0.783	-	-	-
		Full SAR	-	-	-	-	-	-		
3-slot GPRS	Tuning Target + Tolerance [dBm]		22.55			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.40	22.40	22.50	0.15	0.15	0.05	dB	
	Time-averaged power [dBm]		18.14	18.14	18.24	1.04	1.04	1.01	Lin	
	Back facing phantom 0mm	Estimated SAR	1.05	1.04	1.00	1.09	1.08	1.01	0.06	-
		Full SAR	1.11	-	-	1.15	-	-		

(Table continues)

(Table continues)

4-slot GPRS	Tuning Target + Tolerance [dBm]		22.35			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.10	22.10	22.20	0.25	0.25	0.15	dB	
	Time-averaged power [dBm]		19.09	19.09	19.19	1.06	1.06	1.04	Lin	
	Back facing phantom 0mm	Estimated SAR	1.22	1.17	1.19	1.29	1.24	1.23	0.10	13
		Full SAR	1.32	-	-	1.40	-	-		
	Left edge facing phantom 0mm	Estimated SAR	1.03	1.01	1.03	1.09	1.070	1.07	0.01	-
		Full SAR	-	-	1.02	-	-	1.06		
	Repeated SAR: Back facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	-
		Full SAR	1.24	-	-	1.31	-	-		
4-slot GPRS SU-42 Tablet mode	Tuning Target + Tolerance [dBm]		22.35			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.10	22.10	22.20	0.25	0.25	0.15	dB	
	Time-averaged power [dBm]		19.09	19.09	19.19	1.06	1.06	1.04	Lin	
	Left edge facing phantom 0mm	Estimated SAR	-	-	0.532	-	-	0.551	-	-
		Full SAR	-	-	-	-	-	-		

(Table continues)

(Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full 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]		17.35			Scaling factor*				
	Conducted Power [dBm]		16.98	17.02	17.15	0.37	0.33	0.20	dB	
	Time-averaged power [dBm]		16.98	17.02	17.15	1.09	1.08	1.05	Lin	
	Back facing phantom 0mm	Estimated SAR	0.850	0.821	0.859	0.926	0.886	0.899	0.08	14
		Full SAR	0.934	-	-	1.02	-			
	Left edge facing phantom 0mm	Estimated SAR	0.812	0.777	0.802	0.884	0.838	0.840	0.03	-
		Full SAR	0.780	-	-	0.849	-	-		
	Repeated SAR: Back facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	-
		Full SAR	0.927	-	-	1.01	-	-		
WCDMA SU-42 Tablet mode	Tuning Target + Tolerance [dBm]		17.35			Scaling factor*				
	Conducted Power [dBm]		16.98	17.02	17.15	0.37	0.33	0.20	dB	
	Time-averaged power [dBm]		16.98	17.02	17.15	1.09	1.08	1.05	Lin	
	Left edge facing phantom 0mm	Estimated SAR	0.434	-	-	0.473	-	-	-	-
		Full SAR	-	-	-	-	-	-		

1900MHz Band Body SAR results – Full Power

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full 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 GPRS	Tuning Target + Tolerance [dBm]		30.35			Scaling factor*				
	Conducted Slot Average Power [dBm]		30.24	30.18	30.26	0.11	0.17	0.09	dB	
	Time-averaged power [dBm]		21.21	21.15	21.23	1.03	1.04	1.02	Lin	
	Back facing phantom 22mm	Estimated SAR	-	0.123	-	-	0.128	-	-	-
		Full SAR	-	-	-	-	-	-		
2-slot GPRS	Tuning Target + Tolerance [dBm]		27.35			Scaling factor*				
	Conducted Slot Average Power [dBm]		27.34	27.35	27.26	0.01	0.00	0.09	dB	
	Time-averaged power [dBm]		21.32	21.33	21.24	1.00	1.00	1.02	Lin	
	Back facing phantom 22mm	Estimated SAR	-	0.139	-	-	0.139	-	-	-
		Full SAR	-	-	-	-	-	-		
3-slot GPRS	Tuning Target + Tolerance [dBm]		25.55			Scaling factor*				
	Conducted Slot Average Power [dBm]		25.36	25.44	25.43	0.19	0.11	0.12	dB	
	Time-averaged power [dBm]		21.10	21.18	21.17	1.04	1.03	1.03	Lin	
	Back facing phantom 22mm	Estimated SAR	-	0.136	-	-	0.139	-	-	-
		Full SAR	-	-	-	-	-	-		

(Table continues)

(Table continues)

4-slot GPRS	Tuning Target + Tolerance [dBm]		24.35			Scaling factor*				
	Conducted Slot Average Power [dBm]		24.34	24.21	24.27	0.01	0.14	0.08	dB	
	Time-averaged power [dBm]		21.33	21.20	21.26	1.00	1.03	1.02	Lin	
	Back facing phantom 22mm	Estimated SAR	-	0.137	-	-	0.141	-	-	-
		Full SAR	-	-	-	-	-	-		
	Top edge facing phantom 0mm	Estimated SAR	0.254	0.269	0.293	0.255	0.278	0.298	0.00	15
		Full SAR	-	-	0.293	-	-	0.298		
	Left edge facing phantom 21mm	Estimated SAR	-	0.166	-	-	0.171	-	-	-
		Full SAR	-	-	-	-	-	-		
4-slot GPRS SU-42 Tablet mode	Tuning Target + Tolerance [dBm]		24.35			Scaling factor*				
	Conducted Slot Average Power [dBm]		24.34	24.21	24.27	0.01	0.14	0.08	dB	
	Time-averaged power [dBm]		21.33	21.20	21.26	1.00	1.03	1.02	Lin	
	Back facing phantom 0mm	Estimated SAR	-	0.080	-	-	0.082	-	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom 20mm	Estimated SAR	-	0.115	-	-	0.119	-	-	-
		Full SAR	-	-	-	-	-	-		

(Table continues)

(Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full 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]		23.85			Scaling factor*				
	Conducted Power [dBm]		23.67	23.64	23.60	0.18	0.21	0.25	dB	
	Time-averaged power [dBm]		23.67	23.64	23.60	1.04	1.05	1.06	Lin	
	Back facing phantom 22mm	Estimated SAR	-	0.416	-	-	0.437	-	-	-
		Full SAR	-	-	-	-	-	-		
	Top edge facing phantom 0mm	Estimated SAR	0.760	0.735	0.762	0.792	0.771	0.807	0.04	16
		Full SAR	-	-	0.779	-	-	0.825		
	Bottom edge facing phantom 0mm	Estimated SAR	-	0.072	-	-	0.075	-	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom 21mm	Estimated SAR	-	0.446	-	-	0.468	-	-	-
		Full SAR	-	-	-	-	-	-		
WCDMA SU-42 Tablet mode	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*				
	Conducted Power [dBm]		23.67	23.64	23.60	0.18	0.21	0.25	dB	
	Time-averaged power [dBm]		23.67	23.64	23.60	1.04	1.05	1.06	Lin	
	Back facing phantom 0mm	Estimated SAR	-	0.228	-	-	0.239	-	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom 20mm	Estimated SAR	-	0.292	-	-	0.306	-	-	-
		Full SAR	-	-	-	-	-	-		

LTE1900 (Band 2) Body SAR results – Reduced Power

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full SAR) [W/kg]	Plot #
			Ch 18700	Ch 18900	Ch 19100	Ch 18700	Ch 18900	Ch 19100		
			1869.0 MHz	1880.0 MHz	1900.0 MHz	1869.0 MHz	1880.0 MHz	1900.0 MHz		
20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		17.65			Scaling factor*				
	Conducted Power [dBm]		17.36	17.04	17.60	0.29	0.61	0.05	dB	
	Time-averaged power [dBm]		17.36	17.04	17.60	1.07	1.15	1.01	Lin	
	Back facing phantom 0mm	Estimated SAR	0.909	-	0.931	0.972	-	0.942	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom 0mm	Estimated SAR	-	-	0.739	-	-	0.748	0.01	-
		Full SAR	-	-	0.729	-	-	0.737		
20MHz Ch BW 1RB 0% offset SU-42 Tablet mode	Tuning Target + Tolerance [dBm]		17.65			Scaling factor*				
	Conducted Power [dBm]		17.36	17.04	17.60	0.29	0.61	0.05	dB	
	Time-averaged power [dBm]		17.36	17.04	17.60	1.07	1.15	1.01	Lin	
	Left edge facing phantom 0mm	Estimated SAR	-	-	0.383	-	-	0.387	-	-
		Full SAR	-	-	-	-	-	-		
20MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		17.65			Scaling factor*				
	Conducted Power [dBm]		17.09	17.45	17.56	0.56	0.20	0.09	dB	
	Time-averaged power [dBm]		17.09	17.45	17.56	1.14	1.05	1.02	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
20MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		17.65			Scaling factor*				
	Conducted Power [dBm]		16.80	17.47	17.20	0.85	0.18	0.45	dB	
	Time-averaged power [dBm]		16.80	17.47	17.20	1.22	1.04	1.11	Lin	
	Back facing phantom 0mm	Estimated SAR		0.871		-	0.908	-	-	-
		Full SAR				-	-	-		

(Table continues)

(Table continues)

20MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		17.65			Scaling factor*				
	Conducted Power [dBm]		17.13	16.84	17.64	0.52	0.81	0.01	dB	
	Time-averaged power [dBm]		17.13	16.84	17.64	1.13	1.21	1.00	Lin	
	Back facing phantom 0mm	Estimated SAR	0.866	-	0.942	0.976	-	0.944	0.05	17
		Full SAR	0.915	-	-	1.03	-	-		
	Left edge facing phantom 0mm	Estimated SAR	-	-	0.732	-	-	0.734	-	-
		Full SAR	-	-	-	-	-	-		
	Repeated SAR: Back facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	0.05	-
		Full SAR	0.906	-	-	1.02	-	-		
20MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		17.65			Scaling factor*				
	Conducted Power [dBm]		17.02	17.29	17.53	0.63	0.36	0.12	dB	
	Time-averaged power [dBm]		17.02	17.29	17.53	1.16	1.09	1.03	Lin	
	Back facing phantom 0mm	Estimated SAR	-	0.830	-	-	0.902	-	-	-
		Full SAR	-	-	-	-	-	-		
20MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		17.65			Scaling factor*				
	Conducted Power [dBm]		16.96	17.23	17.25	0.69	0.42	0.40	dB	
	Time-averaged power [dBm]		16.96	17.23	17.25	1.17	1.10	1.10	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
20MHz Ch BW 100%RB	Tuning Target + Tolerance [dBm]		17.65			Scaling factor*				
	Conducted Power [dBm]		16.98	17.11	17.23	0.67	0.54	0.42	dB	
	Time-averaged power [dBm]		16.98	17.11	17.23	1.17	1.13	1.10	Lin	
	Back facing phantom 0mm	Estimated SAR	-	-	0.856	-	-	0.943	-	-
		Full SAR	-	-	-	-	-	-		

LTE1900 (Band 2) Body SAR results – Full Power

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full SAR)	Plot #	
			Ch 18700	Ch 18900	Ch 19100	Ch 18700	Ch 18900	Ch 19100			
			1869.0 MHz	1880.0 MHz	1900.0 MHz	1869.0 MHz	1880.0 MHz	1900.0 MHz	[W/kg]		
20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*					
	Conducted Power [dBm]		23.64	23.64	23.69	0.21	0.21	0.16	dB		
	Time-averaged power [dBm]		23.64	23.64	23.69	1.05	1.05	1.04	Lin		
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02								
20MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*					
	Conducted Power [dBm]		23.50	23.61	23.57	0.35	0.24	0.28	dB		
	Time-averaged power [dBm]		23.50	23.61	23.57	1.08	1.06	1.07	Lin		
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02								
20MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*					
	Conducted Power [dBm]		23.66	23.69	23.50	0.19	0.16	0.35	dB		
	Time-averaged power [dBm]		23.66	23.69	23.50	1.04	1.04	1.08	Lin		
	Back facing phantom 22mm	Estimated SAR	-	0.350	-	-	0.363	-	-	-	
		Full SAR	-	-	-	-	-	-	-	-	
	Top edge facing phantom 0mm	Estimated SAR	-	0.741	-	-	0.769	-	0.01	18	
		Full SAR	-	0.749	-	-	0.777	-	-	-	
	Bottom edge facing phantom 0mm	Estimated SAR	-	0.079	-	-	0.082	-	-	-	
		Full SAR	-	-	-	-	-	-	-	-	
	Left edge facing phantom 21mm	Estimated SAR	-	0.426	-	-	0.442	-	-	-	
		Full SAR	-	-	-	-	-	-	-	-	

(Table continues)

(Table continues)

20MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		23.45			Scaling factor*				
	Conducted Power [dBm]		22.87	22.83	22.92	0.58	0.62	0.53	dB	
	Time-averaged power [dBm]		22.87	22.83	22.92	1.14	1.15	1.13	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
20MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*				
	Conducted Power [dBm]		22.86	22.82	22.73	0.99	1.03	1.12	dB	
	Time-averaged power [dBm]		22.86	22.82	22.73	1.26	1.27	1.29	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
20MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*				
	Conducted Power [dBm]		22.88	23.07	22.92	0.97	0.78	0.93	dB	
	Time-averaged power [dBm]		22.88	23.07	22.92	1.25	1.20	1.24	Lin	
	Back facing phantom 22mm	Estimated SAR	-	0.308	-	-	0.369	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Top edge facing phantom 0mm	Estimated SAR	-	0.633	-	-	0.758	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Bottom edge facing phantom 0mm	Estimated SAR	-	0.069	-	-	0.083	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left edge facing phantom 21mm	Estimated SAR	-	0.373	-	-	0.446	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
20MHz Ch BW 100%RB	Tuning Target + Tolerance [dBm]		23.45			Scaling factor*				
	Conducted Power [dBm]		22.81	22.93	22.71	0.64	0.52	0.74	dB	
	Time-averaged power [dBm]		22.81	22.93	22.71	1.16	1.13	1.19	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

(Table continues)

(Table continues)

20MHz Ch BW 50% RB 100% offset SU-42 Tablet mode	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*				
	Conducted Power [dBm]		22.88	23.07	22.92	0.97	0.78	0.93	dB	
	Time-averaged power [dBm]		22.88	23.07	22.92	1.25	1.20	1.24	Lin	
	Back facing phantom 0mm	Estimated SAR	-	0.188	-	-	0.225	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left edge facing phantom 20mm	Estimated SAR	-	0.257	-	-	0.308	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
20MHz Ch BW 100%RB	Tuning Target + Tolerance [dBm]		23.45			Scaling factor*				
	Conducted Power [dBm]		22.81	22.93	22.71	0.64	0.52	0.74	dB	
	Time-averaged power [dBm]		22.81	22.93	22.71	1.16	1.13	1.19	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

2450MHz Body SAR results – Main Antenna

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full SAR) [W/kg]	Plot #
			Ch 1	Ch 6	Ch 11	Ch 1	Ch 6	Ch 11		
			2412 MHz	2437.0 MHz	2462.0 MHz	2412 MHz	2437.0 MHz	2462.0 MHz		
WLAN b-mode BPSK 1Mbps	Tuning Target + Tolerance [dBm]		14.50			Scaling factor*				
	Conducted Slot Average Power [dBm]		12.86	14.39	13.01	1.64	0.11	1.49	dB	
	Time-averaged power [dBm]		12.86	14.39	13.01	1.46	1.03	1.41	Lin	
	Back facing phantom 0mm	Estimated SAR	0.639	1.30	0.608	0.932	1.33	0.857	0.03	19
		Full SAR		1.33	-	-	1.36	-		
	Bottom edge facing phantom 0mm	Estimated SAR	-	0.421	-	-	0.432	-	0.02	-
		Full SAR	-	0.445	-	-	0.456	-		
	Repeated SAR, Back facing phantom	Estimated SAR	-		-	-	-	-	-	-
		Full SAR	-	1.32	-	-	1.35	-		

2450MHz Body SAR results – AUX Antenna

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full SAR) [W/kg]	Plot #
			Ch 1	Ch 6	Ch 11	Ch 1	Ch 6	Ch 11		
			2412 MHz	2437.0 MHz	2462.0 MHz	2412 MHz	2437.0 MHz	2462.0 MHz		
WLAN b-mode BPSK 1Mbps	Tuning Target + Tolerance [dBm]		14.50			Scaling factor*				
	Conducted Slot Average Power [dBm]		13.50	14.10	13.18	1.00	0.40	1.32	dB	
	Time-averaged power [dBm]		13.50	14.10	13.18	1.26	1.10	1.36	Lin	
	Back facing phantom 0mm	Estimated SAR	0.655	0.930	0.571	0.825	1.02	0.774	0.06	-
		Full SAR	-	0.873	-	-	0.957	-		
	Bottom edge facing phantom 0mm	Estimated SAR	-	0.360	-	-	0.395	-	0.04	-
		Full SAR	-	0.397	-	-	0.435	-		
	Repeated SAR: Back facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	20
		Full SAR	-	0.936	-	-	1.03	-		

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

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Max Deviation (Estimated SAR - Full SAR) [W/kg]	Plot #
			Ch 40 5200.0 MHz	Ch 48 5240.0 MHz	Ch 52 5260.0 MHz	Ch 60 5300.0 MHz	Ch 40 5200.0 MHz	Ch 48 5240.0 MHz	Ch 52 5260.0 MHz	Ch 60 5300.0 MHz		
WLAN a-mode BPSK 6 Mbps	Tuning Target + Tolerance [dBm]		9.00		9.00		Scaling factor*					
	Conducted Power [dBm]		8.14	8.49	8.71	8.84	0.86	0.51	0.29	0.16	dB	
	Time-averaged power [dBm]		8.14	8.49	8.71	8.84	1.22	1.12	1.07	1.04	Lin	
	Back facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	-	-	-
		Full SAR	0.312	0.355	0.360	0.357	0.380	0.399	0.385	0.370		
	Bottom edge facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	-	-	-
		Full SAR	-	0.611	0.604	-	-	0.687	0.646	-		

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

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Max Deviation (Estimated SAR - Full SAR) [W/kg]	Plot #
			Ch 36 5180.0 MHz	Ch 44 5220.0 MHz	Ch 52 5260.0 MHz	Ch 60 5300.0 MHz	Ch 36 5180.0 MHz	Ch 44 5220.0 MHz	Ch 52 5260.0 MHz	Ch 60 5300.0 MHz		
WLAN a-mode BPSK 6 Mbps	Tuning Target + Tolerance [dBm]		11.00		10.00		Scaling factor*					
	Conducted Power [dBm]		10.84	10.66	9.16	9.04	0.16	0.34	0.84	0.96	dB	
	Time-averaged power [dBm]		10.84	10.66	9.16	9.04	1.04	1.08	1.21	1.25	Lin	
	Back facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	-	-	-
		Full SAR	0.544	0.496	0.508	0.502	0.564	0.536	0.616	0.626		
	Bottom edge facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	-	-	-
		Full SAR	1.06	-	-	0.810	1.10	-	-	1.01		
	Repeated SAR: Bottom edge facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	-	-	-
		Full SAR	1.09	-	-	0.821	1.13	-	-	1.02		

5000MHz Body SAR results
5470–5725 MHz - Main Antenna

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Max Deviation (Estimated SAR - Full SAR) [W/kg]	Plot #
			Ch 100 5500.0 MHz	Ch 112 5560.0 MHz	Ch 120 5600.0 MHz	Ch 132 5660.0 MHz	Ch 100 5500.0 MHz	Ch 112 5560.0 MHz	Ch 120 5600.0 MHz	Ch 132 5660.0 MHz		
WLAN a-mode BPSK 6 Mbps	Tuning Target + Tolerance [dBm]		9.00		8.00		Scaling factor*					
	Conducted Power [dBm]		8.56	7.62	7.18	7.57	0.44	1.38	0.82	0.43	dB	
	Time-averaged power [dBm]		8.56	7.62	7.18	7.57	1.11	1.37	1.21	1.10	Lin	
	Back facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	-	-	-
		Full SAR	0.547	0.362	0.268	0.280	0.605	0.497	0.324	0.309		
	Bottom edge facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	-	-	21
		Full SAR	0.779	-	-	-	0.862	-	-	-		

5000MHz Body SAR results
5470–5725 MHz - AUX Antenna

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Max Deviation (Estimated SAR - Full SAR) [W/kg]	Plot #
			Ch 108 5540.0 MHz	Ch 120 5600.0 MHz	Ch 124 5620.0 MHz	Ch 132 5660.0 MHz	Ch 108 5540.0 MHz	Ch 120 5600.0 MHz	Ch 124 5620.0 MHz	Ch 132 5660.0 MHz		
WLAN a-mode BPSK 6 Mbps	Tuning Target + Tolerance [dBm]		10.00	11.00			Scaling factor*					
	Conducted Power [dBm]		9.38	10.30	10.59	9.74	0.62	0.70	0.41	1.26	dB	
	Time-averaged power [dBm]		9.38	10.30	10.59	9.74	1.15	1.17	1.10	1.34	Lin	
	Back facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	-	-	-
		Full SAR	0.512	0.731	0.740	0.638	0.591	0.859	0.813	0.853		
	Bottom edge facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	-	-	22
		Full SAR	-	1.18	-	-	-	1.39	-	-		
	Repeated SAR: Bottom edge facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	-	-	-
		Full SAR	-	1.16	-	-	-	1.36	-	-		

5000MHz Body SAR results
5725–5850 MHz – Main Antenna

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full SAR) [W/kg]	Plot #
			Ch 153	Ch 161	Ch 165	Ch 153	Ch 161	Ch 165		
			5765.0 MHz	5805.0 MHz	5825.0 MHz	5765.0 MHz	5805.0 MHz	5825.0 MHz		
WLAN a-mode BPSK 6 Mbps	Tuning Target + Tolerance [dBm]		9.00			Scaling factor*				
	Conducted Power [dBm]		8.12	8.88	8.91	0.88	0.12	0.09	dB	
	Time-averaged power [dBm]		8.12	8.88	8.91	1.22	1.03	1.02	Lin	
	Back facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	-
		Full SAR	0.262	0.345	0.381	0.321	0.355	0.389		
	Bottom edge facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	-
		Full SAR	-	-	0.547	-	-	0.558		

5000MHz Body SAR results
5725–5850 MHz – AUX Antenna

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full SAR) [W/kg]	Plot #
			Ch 149	Ch 153	Ch 165	Ch 149	Ch 153	Ch 165		
			5745.0 MHz	5765.0 MHz	5825.0 MHz	5745.0 MHz	5765.0 MHz	5825.0 MHz		
WLAN a-mode BPSK 6 Mbps	Tuning Target + Tolerance [dBm]		10.00			Scaling factor*				
	Conducted Power [dBm]		9.25	9.04	8.88	0.75	0.96	1.12	dB	
	Time-averaged power [dBm]		9.25	9.04	8.88	1.19	1.25	1.29	Lin	
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-	-
		Full SAR	0.484	0.489	0.477	0.575	0.610	0.617		
	Bottom edge facing phantom	Estimated SAR	-	-	-	-	-	-	-	-
		Full SAR	-	-	0.561	-	-	0.726		

**Simultaneous transmissions: Combined Body SAR results –
Individual band Max results – Reduced power**

Test configuration	*Reported Max. 1g SAR results						
	WLAN 2450 - Main	WLAN 2450 - AUX	WLAN 5000 - Main	WLAN 5000 - AUX	LTE700	LTE750	
Back facing phantom	1.36	1.03	0.605	0.859	1.30	1.19	
Bottom edge facing phantom	0.456	0.435	0.862	1.39	-	-	
Left edge facing phantom	-	-	-	-	0.867	0.860	
Test configuration	*Reported Max. 1g SAR results						
	4-slot GPRS 850	WCDMA 850	LTE850	LTE1700/2100	4-slot GPRS 1900	WCDMA 1900	LTE1900
Back facing phantom	1.32	1.03	1.13	1.07	1.40	1.02	1.03
Bottom edge facing phantom	-	-	-	-	-	-	-
Left edge facing phantom	1.27	0.783	0.888	0.772	1.06	0.849	0.737

**Simultaneous transmissions: Combined Body SAR results –
Individual band Max results – Full power**

Test configuration	*Reported Max. 1g SAR results						
	WLAN 2450 - Main	WLAN 2450 - AUX	WLAN 5000 - Main	WLAN 5000 - AUX	LTE700	LTE750	
Back facing phantom	1.36	1.03	0.605	0.859	0.220	0.263	
Top edge facing phantom	-	-	-	-	0.074	0.142	
Bottom edge facing phantom	0.456	0.435	0.862	1.39	0.128	-	
Left edge facing phantom	-	-	-	-	0.129	0.219	
Test configuration	*Reported Max. 1g SAR results						
	2-slot GPRS 850	WCDMA 850	LTE850	LTE1700/ 2100	4-slot GPRS 1900	WCDMA 1900	LTE1900
Back facing phantom	0.242	0.211	0.228	0.230	0.141	0.437	0.369
Top edge facing phantom	0.065	0.090	0.071	0.203	0.298	0.825	0.777
Bottom edge facing phantom	0.121	0.110	0.137	0.011	-	0.075	0.083
Left edge facing phantom	0.226	0.185	0.204	0.265	0.171	0.468	0.446

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

Test configuration	*Reported Max. 1g SAR results									
	WLAN 2450 Main + WLAN 2450 Aux	LTE700 + WLAN 2450 - Main	LTE750 + WLAN 2450 - Main	4-slot GPRS 850 + WLAN 2450 - Main	WCDMA 850 + WLAN 2450 - Main	LTE850 + WLAN 2450 - Main	LTE1700/ 2100 + WLAN 2450 - Main	4-slot GPRS 1900 + WLAN 2450 - Main	WCDMA 1900 + WLAN 2450 - Main	LTE1900 + WLAN 2450 - Main
Back facing phantom	2.39	2.66	2.55	2.68	2.39	2.49	2.43	2.76	2.38	2.39
Bottom edge facing phantom	0.891	-	-	-	-	-	-	-	-	-
Left edge facing phantom	-	-	-	-	-	-	-	-	-	-
Test configuration	*Reported Max. 1g SAR results									
	LTE700 + WLAN 2450 - AUX	LTE750 + WLAN 2450 - AUX	4-slot GPRS 850 + WLAN 2450 - AUX	WCDMA 850 + WLAN 2450 - AUX	LTE850 + WLAN 2450 - AUX	LTE1700/ 2100 + WLAN 2450 - AUX	4-slot GPRS 1900 + WLAN 2450 - AUX	WCDMA 1900 + WLAN 2450 - AUX	LTE1900 + WLAN 2450 - AUX	
Back facing phantom	2.33	2.22	2.35	2.06	2.16	2.10	2.43	2.05	2.06	
Bottom edge facing phantom	-	-	-	-	-	-	-	-	-	
Left edge facing phantom	-	-	-	-	-	-	-	-	-	

(Table continues)

(Table continues)

Test configuration	*Reported Max. 1g SAR results									
	WLAN 5000 Main + WLAN 5000 Aux	LTE700 + WLAN 5000 - Main	LTE750 + WLAN 5000 - Main	4-slot GPRS 850 + WLAN 5000 - Main	WCDMA 850 + WLAN 5000 - Main	LTE850 + WLAN 5000 - Main	LTE1700/ 2100 + WLAN 5000 - Main	4-slot GPRS 1900 + WLAN 5000 - Main	WCDMA 1900 + WLAN 5000 - Main	LTE1900 + WLAN 5000 - Main
Back facing phantom	1.46	1.91	1.80	1.93	1.64	1.74	1.68	2.01	1.63	1.64
Bottom edge facing phantom	2.25	-	-	-	-	-	-	-	-	-
Left edge facing phantom	-	-	-	-	-	-	-	-	-	-
Test configuration	*Reported Max. 1g SAR results									
	LTE700 + WLAN 5000 - AUX	LTE750 + WLAN 5000 - AUX	4-slot GPRS 850 + WLAN 5000 - AUX	WCDMA 850 + WLAN 5000 - AUX	LTE850 + WLAN 5000 - AUX	LTE1700/ 2100 + WLAN 5000 - AUX	4-slot GPRS 1900 + WLAN 5000 - AUX	WCDMA 1900 + WLAN 5000 - AUX	LTE1900 + WLAN 5000 - AUX	
Back facing phantom	2.16	2.05	2.18	1.89	1.99	1.93	2.26	1.88	1.89	
Bottom edge facing phantom	-	-	-	-	-	-	-	-	-	
Left edge facing phantom	-	-	-	-	-	-	-	-	-	

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

Test configuration	*Reported Max. 1g SAR results									
	WLAN 2450 Main + WLAN 2450 Aux	LTE700 + WLAN 2450 - Main	LTE750 + WLAN 2450 - Main	4-slot GPRS 850 + WLAN 2450 - Main	WCDMA 850 + WLAN 2450 - Main	LTE850 + WLAN 2450 - Main	LTE1700/ 2100 + WLAN 2450 - Main	4-slot GPRS 1900 + WLAN 2450 - Main	WCDMA 1900 + WLAN 2450 - Main	LTE1900 + WLAN 2450 - Main
Back facing phantom	2.39	1.58	1.62	1.60	1.57	1.59	1.59	1.50	1.80	1.73
Top edge facing phantom	-	-	-	-	-	-	-	-	-	-
Bottom edge facing phantom	0.891	0.584	-	0.577	0.566	0.593	0.467	-	0.531	0.539
Left edge facing phantom	-	-	-	-	-	-	-	-	-	-
Test configuration	*Reported Max. 1g SAR results									
	LTE700 + WLAN 2450 - AUX	LTE750 + WLAN 2450 - AUX	4-slot GPRS 850 + WLAN 2450 - AUX	WCDMA 850 + WLAN 2450 - AUX	LTE850 + WLAN 2450 - AUX	LTE1700/ 2100 + WLAN 2450 - AUX	4-slot GPRS 1900 + WLAN 2450 - AUX	WCDMA 1900 + WLAN 2450 - AUX	LTE1900 + WLAN 2450 - AUX	
Back facing phantom	1.25	1.29	1.27	1.24	1.26	1.26	1.17	1.47	1.40	
Top edge facing phantom	-	-	-	-	-	-	-	-	-	
Bottom edge facing phantom	0.563	-	0.556	0.545	0.572	0.446	-	0.510	0.518	
Left edge facing phantom	-	-	-	-	-	-	-	-	-	

(Table continues)

(Table continues)

Test configuration	*Reported Max. 1g SAR results									
	WLAN 5000 Main + WLAN 5000 Aux	LTE700 + WLAN 5000 - Main	LTE750 + WLAN 5000 - Main	4-slot GPRS 850 + WLAN 5000 - Main	WCDMA 850 + WLAN 5000 - Main	LTE850 + WLAN 5000 - Main	LTE1700/ 2100 + WLAN 5000 - Main	4-slot GPRS 1900 + WLAN 5000 - Main	WCDMA 1900 + WLAN 5000 - Main	LTE1900 + WLAN 5000 - Main
Back facing phantom	1.46	0.825	0.868	0.847	0.816	0.833	0.835	0.746	1.04	0.974
Top edge facing phantom	-	-	-	-	-	-	-	-	-	-
Bottom edge facing phantom	2.25	0.990	-	0.983	0.972	0.999	0.873	-	0.937	0.945
Left edge facing phantom	-	-	-	-	-	-	-	-	-	-
Test configuration	*Reported Max. 1g SAR results									
	LTE700 + WLAN 5000 - AUX	LTE750 + WLAN 5000 - AUX	4-slot GPRS 850 + WLAN 5000 - AUX	WCDMA 850 + WLAN 5000 - AUX	LTE850 + WLAN 5000 - AUX	LTE1700/ 2100 + WLAN 5000 - AUX	4-slot GPRS 1900 + WLAN 5000 - AUX	WCDMA 1900 + WLAN 5000 - AUX	LTE1900 + WLAN 5000 - AUX	
Back facing phantom	1.08	1.12	1.10	1.07	1.09	1.09	1.00	1.30	1.23	
Top edge facing phantom	-	-	-	-	-	-	-	-	-	
Bottom edge facing phantom	1.52	-	1.51	1.50	1.53	1.40	-	1.47	1.47	
Left edge facing phantom	-	-	-	-	-	-	-	-	-	

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

Test configuration	*Reported Max. 1g SAR results								
	LTE700 + WLAN 2450 – Main + WLAN 2450 - AUX	LTE750 + WLAN 2450 – Main + WLAN 2450 - AUX	4-slot GPRS 850 + WLAN 2450 – Main + WLAN 2450 - AUX	WCDMA 850 + WLAN 2450 – Main + WLAN 2450 - AUX	LTE850 + WLAN 2450 – Main + WLAN 2450 - AUX	LTE1700/ 2100 + WLAN 2450 – Main + WLAN 2450 - AUX	4-slot GPRS 1900 + WLAN 2450 – Main + WLAN 2450 - AUX	WCDMA 1900 + WLAN 2450 – Main + WLAN 2450 - AUX	LTE1900 + WLAN 2450 – Main + WLAN 2450 - AUX
Back facing phantom	3.69	3.58	3.71	3.42	3.52	3.46	3.79	3.41	3.42
Bottom edge facing phantom	-	-	-	-	-	-	-	-	-
Left edge facing phantom	-	-	-	-	-	-	-	-	-
Test configuration	*Reported Max. 1g SAR results								
	LTE700 + WLAN 5000 – Main + WLAN 5000 - AUX	LTE750 + WLAN 5000 – Main + WLAN 5000 - AUX	4-slot GPRS 850 + WLAN 5000 – Main + WLAN 5000 - AUX	WCDMA 850 + WLAN 5000 – Main + WLAN 5000 - AUX	LTE850 + WLAN 5000 – Main + WLAN 5000 - AUX	LTE1700/ 2100 + WLAN 5000 – Main + WLAN 5000 - AUX	4-slot GPRS 1900 + WLAN 5000 – Main + WLAN 5000 - AUX	WCDMA 1900 + WLAN 5000 – Main + WLAN 5000 - AUX	LTE1900 + WLAN 5000 – Main + WLAN 5000 - AUX
Back facing phantom	2.76	2.65	2.78	2.49	2.59	2.53	2.86	2.48	2.49
Bottom edge facing phantom	-	-	-	-	-	-	-	-	-
Left edge facing phantom	-	-	-	-	-	-	-	-	-

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

Test configuration	*Reported Max. 1g SAR results								
	LTE700 + WLAN 2450 – Main + WLAN 2450 - AUX	LTE750 + WLAN 2450 – Main + WLAN 2450 - AUX	4-slot GPRS 850 + WLAN 2450 – Main + WLAN 2450 - AUX	WCDMA 850 + WLAN 2450 – Main + WLAN 2450 - AUX	LTE850 + WLAN 2450 – Main + WLAN 2450 - AUX	LTE1700/ 2100 + WLAN 2450 – Main + WLAN 2450 - AUX	4-slot GPRS 1900 + WLAN 2450 – Main + WLAN 2450 - AUX	WCDMA 1900 + WLAN 2450 – Main + WLAN 2450 - AUX	LTE1900 + WLAN 2450 – Main + WLAN 2450 - AUX
Back facing phantom	2.61	2.65	2.63	2.60	2.62	2.62	2.53	2.83	2.78
Top edge facing phantom	-	-	-	-	-	-	-	-	-
Bottom edge facing phantom	1.02	-	1.01	1.00	1.03	0.902	-	0.966	0.974
Left edge facing phantom	-	-	-	-	-	-	-	-	-

(Table continues)

(Table continues)

Test configuration	*Reported Max. 1g SAR results								
	LTE700 + WLAN 5000 – Main + WLAN 5000 – AUX	LTE750 + WLAN 5000 – Main + WLAN 5000 – AUX	2-slot GPRS 850 + WLAN 5000 – Main + WLAN 5000 – AUX	WCDMA 850 + WLAN 5000 – Main + WLAN 5000 – AUX	LTE850 + WLAN 5000 – Main + WLAN 5000 – AUX	LTE1700/ 2100 + WLAN 5000 – Main + WLAN 5000 – AUX	4-slot GPRS 1900 + WLAN 5000 – Main + WLAN 5000 – AUX	WCDMA 1900 + WLAN 5000 – Main + WLAN 5000 – AUX	LTE1900 + WLAN 5000 – Main + WLAN 5000 – AUX
Back facing phantom	1.68	1.73	1.71	1.68	1.69	1.69	1.61	1.90	1.83
Top edge facing phantom	-	-	-	-	-	-	-	-	-
Bottom edge facing phantom	2.38	-	2.37	2.36	2.39	2.26	-	2.33	2.34
Left edge facing phantom	-	-	-	-	-	-	-	-	-

Simultaneous Transmission SAR Test Exclusion Procedures for Body Measurements

Simultaneous transmissions 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 Main	WLAN 2450 Aux	LTE700 Reduced	WLAN 2450 Main	LTE750 Reduced	WLAN 2450 Main	4-slot GPRS850 Reduced	WLAN 2450 Main
X [mm]	74.0	73.0	0.0	74.0	0.0	74.0	-3.0	74.0
Y [mm]	-53.0	53.1	129.0	-53.0	129.0	-53.0	132.0	-53.0
Z [mm]	-179.5	-179.6	-180.5	-179.5	-180.5	-179.5	-180.4	-179.5
DISTANCE [mm]	106.02		196.45		196.45		200.36	
MAX + MAX (Reported SAR)	2.39		2.66		2.55		2.68	
SAR to peak location separation ratio	0.03		0.02		0.02		0.02	
	WCDMA 850 Reduced	WLAN 2450 Main	LTE850 Reduced	WLAN 2450 Main	LTE1700/2100 Reduced	WLAN 2450 Main	4-slot GPRS 1900 Reduced	WLAN 2450 Main
X [mm]	-3.0	74.0	-3.0	74.0	10.5	74.0	10.5	74.0
Y [mm]	132.0	-53.0	132.0	-53.0	120.0	-53.0	117.0	-53.0
Z [mm]	-180.4	-179.5	-180.4	-179.5	-180.5	-179.5	-180.7	-179.5
DISTANCE [mm]	200.36		200.36		184.26		181.45	
MAX + MAX (Reported SAR)	2.39		2.49		2.43		2.76	
SAR to peak location separation ratio	0.02		0.02		0.02		0.03	

(Table continues)

(Table continues)

	WCDMA 1900 Reduced	WLAN 2450 Main	LTE1900 Reduced	WLAN 2450 Main	LTE700 Reduced	WLAN 2450 Aux	LTE750 Reduced	WLAN 2450 Aux
X [mm]	10.5	74.0	10.5	74.0	0.0	73.0	0.0	73.0
Y [mm]	117.0	-53.0	117.0	-53.0	129.0	53.1	129.0	53.1
Z [mm]	-180.7	-179.5	-180.7	-179.5	-180.5	-179.6	-180.5	-179.6
DISTANCE [mm]	181.45		181.45		105.35		105.35	
MAX + MAX (Reported SAR)	2.38		2.39		2.33		2.22	
SAR to peak location separation ratio	0.02		0.02		0.03		0.03	
	4-slot GPRS850 Reduced	WLAN 2450 Aux	WCDMA 850 Reduced	WLAN 2450 Aux	LTE850 Reduced	WLAN 2450 Aux	LTE1700/2100 Reduced	WLAN 2450 Aux
X [mm]	-3.0	73.0	-3.0	73.0	-3.0	73.0	10.5	73.0
Y [mm]	132.0	53.1	132.0	53.1	132.0	53.1	120.0	53.1
Z [mm]	-180.4	-179.6	-180.4	-179.6	-180.4	-179.6	-180.5	-179.6
DISTANCE [mm]	109.58		109.58		109.58		91.61	
MAX + MAX (Reported SAR)	2.35		2.06		2.16		2.10	
SAR to peak location separation ratio	0.03		0.03		0.03		0.03	
	4-slot GPRS 1900 Reduced	WLAN 2450 Aux	WCDMA 1900 Reduced	WLAN 2450 Aux	LTE1900 Reduced	WLAN 2450 Aux	WLAN 5000 Main Bottom	WLAN 5000 Aux Bottom
X [mm]	10.5	73.0	10.5	73.0	10.5	73.0	0.0	0.0
Y [mm]	117.0	53.1	117.0	53.1	117.0	53.1	-49.0	53.0
Z [mm]	-180.7	-179.6	-180.7	-179.6	-180.7	-179.6	-182.2	-182.1
DISTANCE [mm]	89.43		89.43		89.43		102.01	
MAX + MAX (Reported SAR)	2.43		2.05		2.06		2.25	
SAR to peak location separation ratio	0.04		0.03		0.03		0.03	

(Table continues)

(Table continues)

	LTE700 Reduced	WLAN 5000 Main	LTE750 Reduced	WLAN 5000 Main	4-slot GPRS850 Reduced	WLAN 5000 Main	WCDMA 850 Reduced	WLAN 5000 Main
X [mm]	0.0	80.0	0.0	80.0	-3.0	80.0	-3.0	80.0
Y [mm]	129.0	-51.0	129.0	-51.0	132.0	-51.0	132.0	-51.0
Z [mm]	-180.5	-181.0	-180.5	-181.0	-180.4	-181.0	-180.4	-181.0
DISTANCE [mm]	196.98		196.98		200.94		200.94	
MAX + MAX (Reported SAR)	1.91		1.80		1.93		1.64	
SAR to peak location separation ratio	0.01		0.01		0.01		0.01	
	LTE850 Reduced	WLAN 5000 Main	LTE1700/2100 Reduced	WLAN 5000 Main	4-slot GPRS 1900 Reduced	WLAN 5000 Main	WCDMA 1900 Reduced	WLAN 5000 Main
X [mm]	-3.0	80.0	10.5	80.0	10.5	80.0	10.5	80.0
Y [mm]	132.0	-51.0	120.0	-51.0	117.0	-51.0	117.0	-51.0
Z [mm]	-180.4	-181.0	-180.5	-181.0	-180.7	-181.0	-180.7	-181.0
DISTANCE [mm]	200.94		184.59		181.81		181.81	
MAX + MAX (Reported SAR)	1.74		1.68		2.01		1.63	
SAR to peak location separation ratio	0.01		0.01		0.02		0.01	
	LTE1900 Reduced	WLAN 5000 Main	LTE700 Reduced	WLAN 5000 AUX	LTE750 Reduced	WLAN 5000 AUX	4-slot GPRS850 Reduced	WLAN 5000 AUX
X [mm]	10.5	80.0	0.0	79.0	0.0	79.0	-3.0	79.0
Y [mm]	117.0	-51.0	129.0	52.0	129.0	52.0	132.0	52.0
Z [mm]	-180.7	-181.0	-180.5	-181.0	-180.5	-181.0	-180.4	-181.0
DISTANCE [mm]	181.81		110.33		110.33		114.56	
MAX + MAX (Reported SAR)	1.64		2.16		2.05		2.18	
SAR to peak location separation ratio	0.01		0.03		0.03		0.03	

(Table continues)

(Table continues)

	WCDMA 850 Reduced	WLAN 5000 AUX	LTE850 Reduced	WLAN 5000 AUX	LTE1700/2100 Reduced	WLAN 5000 AUX	4-slot GPRS 1900 Reduced	WLAN 5000 AUX
X [mm]	-3.0	79.0	-3.0	79.0	10.5	79.0	10.5	79.0
Y [mm]	132.0	52.0	132.0	52.0	120.0	52.0	117.0	52.0
Z [mm]	-180.4	-181.0	-180.4	-181.0	-180.5	-181.0	-180.7	-181.0
DISTANCE [mm]	114.56		114.56		96.54		94.43	
MAX + MAX (Reported SAR)	1.89		1.99		1.93		2.26	
SAR to peak location separation ratio	0.02		0.02		0.03		0.04	
	WCDMA 1900 Reduced	WLAN 5000 AUX	LTE1900 Reduced	WLAN 5000 AUX	LTE750 Full	WLAN 2450 Main	4-slot GPRS 850 Full	WLAN 2450 Main
X [mm]	10.5	79.0	10.5	79.0	0.0	74.0	-3.0	74.0
Y [mm]	117.0	52.0	117.0	52.0	129.0	-53.0	132.0	-53.0
Z [mm]	-180.7	-181.0	-180.7	-181.0	-180.5	-179.5	-180.4	-179.5
DISTANCE [mm]	94.43		94.43		196.45		200.36	
MAX + MAX (Reported SAR)	1.88		1.89		1.62		1.60	
SAR to peak location separation ratio	0.03		0.03		0.01		0.01	
	WCDMA 1900 Full	WLAN 2450 Main	LTE1900 Full	WLAN 2450 Main	-	-	-	-
X [mm]	10.5	74.0	10.5	74.0	-	-	-	-
Y [mm]	117.0	-53.0	117.0	-53.0	-	-	-	-
Z [mm]	-180.7	-179.5	-180.7	-179.5	-	-	-	-
DISTANCE [mm]	181.45		181.45		-		-	
MAX + MAX (Reported SAR)	1.80		1.73		-		-	
SAR to peak location separation ratio	0.01		0.01		-		-	

(Table continues)

(Table continues)

Back facing phantom LTE700 + WLAN 2450 – Main + WLAN 2450 - AUX	WLAN 2450 Main	WLAN 2450 Aux	LTE700 Reduced	WLAN 2450 Main	LTE700 Reduced	WLAN 2450 Aux
X [mm]	74.0	73.0	0.0	74.0	0.0	73.0
Y [mm]	-53.0	53.1	129.0	-53.0	129.0	53.1
Z [mm]	-179.5	-179.6	-180.5	-179.5	-180.5	-179.6
DISTANCE [mm]	106.02		196.45		105.35	
MAX + MAX (Reported SAR)	2.39		2.66		2.33	
SAR to peak location separation ratio	0.03		0.02		0.03	
Back facing phantom LTE750 + WLAN 2450 – Main + WLAN 2450 - AUX	WLAN 2450 Main	WLAN 2450 Aux	LTE750 Reduced	WLAN 2450 Main	LTE750 Reduced	WLAN 2450 Aux
X [mm]	74.0	73.0	0.0	74.0	0.0	73.0
Y [mm]	-53.0	53.1	129.0	-53.0	129.0	53.1
Z [mm]	-179.5	-179.6	-180.5	-179.5	-180.5	-179.6
DISTANCE [mm]	106.02		196.45		105.35	
MAX + MAX (Reported SAR)	2.39		2.55		2.22	
SAR to peak location separation ratio	0.03		0.02		0.03	
Back facing phantom 4-slot GPRS 850 + WLAN 2450 – Main + WLAN 2450 - AUX	WLAN 2450 Main	WLAN 2450 Aux	4-slot GPRS850 Reduced	WLAN 2450 Main	4-slot GPRS850 Reduced	WLAN 2450 Aux
X [mm]	74.0	73.0	-3.0	74.0	-3.0	73.0
Y [mm]	-53.0	53.1	132.0	-53.0	132.0	53.1
Z [mm]	-179.5	-179.6	-180.4	-179.5	-180.4	-179.6
DISTANCE [mm]	106.02		200.36		109.58	
MAX + MAX (Reported SAR)	2.39		2.68		2.35	
SAR to peak location separation ratio	0.03		0.02		0.03	

(Table continues)

(Table continues)

Back facing phantom WCDMA 850 + WLAN 2450 – Main + WLAN 2450 - AUX	WLAN 2450 Main	WLAN 2450 Aux	WCDMA 850 Reduced	WLAN 2450 Main	WCDMA 850 Reduced	WLAN 2450 Aux
X [mm]	74.0	73.0	-3.0	74.0	-3.0	73.0
Y [mm]	-53.0	53.1	132.0	-53.0	132.0	53.1
Z [mm]	-179.5	-179.6	-180.4	-179.5	-180.4	-179.6
DISTANCE [mm]	106.02		200.36		109.58	
MAX + MAX (Reported SAR)	2.39		2.39		2.06	
SAR to peak location separation ratio	0.03		0.02		0.03	
Back facing phantom LTE850 + WLAN 2450 – Main + WLAN 2450 - AUX	WLAN 2450 Main	WLAN 2450 Aux	LTE850 Reduced	WLAN 2450 Main	LTE850 Reduced	WLAN 2450 Aux
X [mm]	74.0	73.0	-3.0	74.0	-3.0	73.0
Y [mm]	-53.0	53.1	132.0	-53.0	132.0	53.1
Z [mm]	-179.5	-179.6	-180.4	-179.5	-180.4	-179.6
DISTANCE [mm]	106.02		200.36		109.58	
MAX + MAX (Reported SAR)	2.39		2.49		2.16	
SAR to peak location separation ratio	0.03		0.02		0.03	
Back facing phantom LTE1700/2100 + WLAN 2450 – Main + WLAN 2450 - AUX	WLAN 2450 Main	WLAN 2450 Aux	LTE1700/2100 Reduced	WLAN 2450 Main	LTE1700/2100 Reduced	WLAN 2450 Aux
X [mm]	74.0	73.0	10.5	74.0	10.5	73.0
Y [mm]	-53.0	53.1	120.0	-53.0	120.0	53.1
Z [mm]	-179.5	-179.6	-180.5	-179.5	-180.5	-179.6
DISTANCE [mm]	106.02		184.26		91.61	
MAX + MAX (Reported SAR)	2.39		2.43		2.10	
SAR to peak location separation ratio	0.03		0.02		0.03	

(Table continues)

(Table continues)

Back facing phantom 4-slot GPRS 1900 + WLAN 2450 – Main + WLAN 2450 - AUX	WLAN 2450 Main	WLAN 2450 Aux	4-slot GPRS 1900 Reduced	WLAN 2450 Main	4-slot GPRS 1900 Reduced	WLAN 2450 Aux
X [mm]	74.0	73.0	10.5	74.0	10.5	73.0
Y [mm]	-53.0	53.1	117.0	-53.0	117.0	53.1
Z [mm]	-179.5	-179.6	-180.7	-179.5	-180.7	-179.6
DISTANCE [mm]	106.02		181.45		89.43	
MAX + MAX (Reported SAR)	2.39		2.76		2.43	
SAR to peak location separation ratio	0.03		0.03		0.04	
Back facing phantom WCDMA 1900 + WLAN 2450 – Main + WLAN 2450 - AUX	WLAN 2450 Main	WLAN 2450 Aux	WCDMA 1900 Reduced	WLAN 2450 Main	WCDMA 1900 Reduced	WLAN 2450 Aux
X [mm]	74.0	73.0	10.5	74.0	10.5	73.0
Y [mm]	-53.0	53.1	117.0	-53.0	117.0	53.1
Z [mm]	-179.5	-179.6	-180.7	-179.5	-180.7	-179.6
DISTANCE [mm]	106.02		181.45		89.43	
MAX + MAX (Reported SAR)	2.39		2.38		2.05	
SAR to peak location separation ratio	0.03		0.02		0.03	
Back facing phantom LTE1900 + WLAN 2450 – Main + WLAN 2450 - AUX	WLAN 2450 Main	WLAN 2450 Aux	LTE1900 Reduced	WLAN 2450 Main	LTE1900 Reduced	WLAN 2450 Aux
X [mm]	74.0	73.0	10.5	74.0	10.5	73.0
Y [mm]	-53.0	53.1	117.0	-53.0	117.0	53.1
Z [mm]	-179.5	-179.6	-180.7	-179.5	-180.7	-179.6
DISTANCE [mm]	106.02		181.45		89.43	
MAX + MAX (Reported SAR)	2.39		2.39		2.06	
SAR to peak location separation ratio	0.03		0.02		0.03	

(Table continues)

(Table continues)

Back facing phantom LTE700 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main	WLAN 5000 AUX	LTE700 Reduced	WLAN 5000 Main	LTE700 Reduced	WLAN 5000 AUX
X [mm]	80.0	79.0	0.0	80.0	0.0	79.0
Y [mm]	-51.0	52.0	129.0	-51.0	129.0	52.0
Z [mm]	-181.0	-181.0	-180.5	-181.0	-180.5	-181.0
DISTANCE [mm]	103.00		196.98		110.33	
MAX + MAX (Reported SAR)	1.46		1.91		2.16	
SAR to peak location separation ratio	0.02		0.01		0.03	
Back facing phantom LTE750 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main	WLAN 5000 AUX	LTE750 Reduced	WLAN 5000 Main	LTE750 Reduced	WLAN 5000 AUX
X [mm]	80.0	79.0	0.0	80.0	0.0	79.0
Y [mm]	-51.0	52.0	129.0	-51.0	129.0	52.0
Z [mm]	-181.0	-181.0	-180.5	-181.0	-180.5	-181.0
DISTANCE [mm]	103.00		196.98		110.33	
MAX + MAX (Reported SAR)	1.46		1.80		2.05	
SAR to peak location separation ratio	0.02		0.01		0.03	
Back facing phantom 4-slot GPRS 850 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main	WLAN 5000 AUX	4-slot GPRS850 Reduced	WLAN 5000 Main	4-slot GPRS850 Reduced	WLAN 5000 AUX
X [mm]	80.0	79.0	-3.0	80.0	-3.0	79.0
Y [mm]	-51.0	52.0	132.0	-51.0	132.0	52.0
Z [mm]	-181.0	-181.0	-180.4	-181.0	-180.4	-181.0
DISTANCE [mm]	103.00		200.94		114.56	
MAX + MAX (Reported SAR)	1.46		1.93		2.18	
SAR to peak location separation ratio	0.02		0.01		0.03	

(Table continues)

(Table continues)

Back facing phantom WCDMA 850 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main	WLAN 5000 AUX	WCDMA 850 Reduced	WLAN 5000 Main	WCDMA 850 Reduced	WLAN 5000 AUX
X [mm]	80.0	79.0	-3.0	80.0	-3.0	79.0
Y [mm]	-51.0	52.0	132.0	-51.0	132.0	52.0
Z [mm]	-181.0	-181.0	-180.4	-181.0	-180.4	-181.0
DISTANCE [mm]	103.00		200.94		114.56	
MAX + MAX (Reported SAR)	1.46		1.64		1.89	
SAR to peak location separation ratio	0.02		0.01		0.02	
Back facing phantom LTE850 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main	WLAN 5000 AUX	LTE850 Reduced	WLAN 5000 Main	LTE850 Reduced	WLAN 5000 AUX
X [mm]	80.0	79.0	-3.0	80.0	-3.0	79.0
Y [mm]	-51.0	52.0	132.0	-51.0	132.0	52.0
Z [mm]	-181.0	-181.0	-180.4	-181.0	-180.4	-181.0
DISTANCE [mm]	103.00		200.94		114.56	
MAX + MAX (Reported SAR)	1.46		1.74		1.99	
SAR to peak location separation ratio	0.02		0.01		0.02	
Back facing phantom LTE1700/2100 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main	WLAN 5000 AUX	LTE1700/2100 Reduced	WLAN 5000 Main	LTE1700/2100 Reduced	WLAN 5000 AUX
X [mm]	80.0	79.0	10.5	80.0	10.5	79.0
Y [mm]	-51.0	52.0	120.0	-51.0	120.0	52.0
Z [mm]	-181.0	-181.0	-180.5	-181.0	-180.5	-181.0
DISTANCE [mm]	103.00		184.59		96.54	
MAX + MAX (Reported SAR)	1.46		1.68		1.93	
SAR to peak location separation ratio	0.02		0.01		0.03	

(Table continues)

(Table continues)

Back facing phantom 4-slot GPRS1900 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main	WLAN 5000 AUX	4-slot GPRS 1900 Reduced	WLAN 5000 Main	4-slot GPRS 1900 Reduced	WLAN 5000 AUX
X [mm]	80.0	79.0	10.5	80.0	10.5	79.0
Y [mm]	-51.0	52.0	117.0	-51.0	117.0	52.0
Z [mm]	-181.0	-181.0	-180.7	-181.0	-180.7	-181.0
DISTANCE [mm]	103.00		181.81		94.43	
MAX + MAX (Reported SAR)	1.46		2.01		2.26	
SAR to peak location separation ratio	0.02		0.02		0.04	
Back facing phantom WCDMA1900 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main	WLAN 5000 AUX	WCDMA 1900 Reduced	WLAN 5000 Main	WCDMA 1900 Reduced	WLAN 5000 AUX
X [mm]	80.0	79.0	10.5	80.0	10.5	79.0
Y [mm]	-51.0	52.0	117.0	-51.0	117.0	52.0
Z [mm]	-181.0	-181.0	-180.7	-181.0	-180.7	-181.0
DISTANCE [mm]	103.00		181.81		94.43	
MAX + MAX (Reported SAR)	1.46		1.63		1.88	
SAR to peak location separation ratio	0.02		0.01		0.03	
Back facing phantom LTE1900 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main	WLAN 5000 AUX	LTE1900 Reduced	WLAN 5000 Main	LTE1900 Reduced	WLAN 5000 AUX
X [mm]	80.0	79.0	10.5	80.0	10.5	79.0
Y [mm]	-51.0	52.0	117.0	-51.0	117.0	52.0
Z [mm]	-181.0	-181.0	-180.7	-181.0	-180.7	-181.0
DISTANCE [mm]	103.00		181.81		94.43	
MAX + MAX (Reported SAR)	1.46		1.64		1.89	
SAR to peak location separation ratio	0.02		0.01		0.03	

(Table continues)

(Table continues)

Back facing phantom LTE700 + WLAN 2450 – Main + WLAN 2450 - AUX	WLAN 2450 Main	WLAN 2450 Aux	LTE700 Full	WLAN 2450 Main	LTE700 Full	WLAN 2450 Aux
X [mm]	74.0	73.0	0.0	74.0	0.0	73.0
Y [mm]	-53.0	53.1	129.0	-53.0	129.0	53.1
Z [mm]	-179.5	-179.6	-180.5	-179.5	-180.5	-179.6
DISTANCE [mm]	106.02		196.45		105.35	
MAX + MAX (Reported SAR)	2.39		1.58		1.25	
SAR to peak location separation ratio	0.03		0.01		0.01	
Back facing phantom LTE750 + WLAN 2450 – Main + WLAN 2450 - AUX	WLAN 2450 Main	WLAN 2450 Aux	LTE750 Full	WLAN 2450 Main	LTE750 Full	WLAN 2450 Aux
X [mm]	74.0	73.0	0.0	74.0	0.0	73.0
Y [mm]	-53.0	53.1	129.0	-53.0	129.0	53.1
Z [mm]	-179.5	-179.6	-180.5	-179.5	-180.5	-179.6
DISTANCE [mm]	106.02		196.45		105.35	
MAX + MAX (Reported SAR)	2.39		1.62		1.29	
SAR to peak location separation ratio	0.03		0.01		0.01	
Back facing phantom 4-slot GPRS 850 + WLAN 2450 – Main + WLAN 2450 - AUX	WLAN 2450 Main	WLAN 2450 Aux	4-slot GPRS 850 Full	WLAN 2450 Main	4-slot GPRS 850 Full	WLAN 2450 Aux
X [mm]	74.0	73.0	-3.0	74.0	-3.0	73.0
Y [mm]	-53.0	53.1	132.0	-53.0	132.0	53.1
Z [mm]	-179.5	-179.6	-180.4	-179.5	-180.4	-179.6
DISTANCE [mm]	106.02		200.36		109.58	
MAX + MAX (Reported SAR)	2.39		1.60		1.27	
SAR to peak location separation ratio	0.03		0.01		0.01	

(Table continues)

(Table continues)

Back facing phantom WCDMA 850 + WLAN 2450 – Main + WLAN 2450 - AUX	WLAN 2450 Main	WLAN 2450 Aux	WCDMA 850 Full	WLAN 2450 Main	WCDMA 850 Full	WLAN 2450 Aux
X [mm]	74.0	73.0	-3.0	74.0	-3.0	73.0
Y [mm]	-53.0	53.1	132.0	-53.0	132.0	53.1
Z [mm]	-179.5	-179.6	-180.4	-179.5	-180.4	-179.6
DISTANCE [mm]	106.02		200.36		109.58	
MAX + MAX (Reported SAR)	2.39		1.57		1.24	
SAR to peak location separation ratio	0.03		0.01		0.01	
Back facing phantom LTE850 + WLAN 2450 – Main + WLAN 2450 - AUX	WLAN 2450 Main	WLAN 2450 Aux	LTE850 Full	WLAN 2450 Main	LTE850 Full	WLAN 2450 Aux
X [mm]	74.0	73.0	-3.0	74.0	-3.0	73.0
Y [mm]	-53.0	53.1	132.0	-53.0	132.0	53.1
Z [mm]	-179.5	-179.6	-180.4	-179.5	-180.4	-179.6
DISTANCE [mm]	106.02		200.36		109.58	
MAX + MAX (Reported SAR)	2.39		1.59		1.26	
SAR to peak location separation ratio	0.03		0.01		0.01	
Back facing phantom LTE1700/2100 + WLAN 2450 – Main + WLAN 2450 - AUX	WLAN 2450 Main	WLAN 2450 Aux	LTE1700/2100 Full	WLAN 2450 Main	LTE1700/2100 Full	WLAN 2450 Aux
X [mm]	74.0	73.0	10.5	74.0	10.5	73.0
Y [mm]	-53.0	53.1	120.0	-53.0	120.0	53.1
Z [mm]	-179.5	-179.6	-180.5	-179.5	-180.5	-179.6
DISTANCE [mm]	106.02		184.26		91.61	
MAX + MAX (Reported SAR)	2.39		1.59		1.26	
SAR to peak location separation ratio	0.03		0.01		0.02	

(Table continues)

(Table continues)

Back facing phantom 4-slot GPRS1900 + WLAN 2450 – Main + WLAN 2450 - AUX	WLAN 2450 Main	WLAN 2450 Aux	4-slot GPRS 1900 Full	WLAN 2450 Main	4-slot GPRS 1900 Full	WLAN 2450 Aux
X [mm]	74.0	73.0	10.5	74.0	10.5	73.0
Y [mm]	-53.0	53.1	117.0	-53.0	117.0	53.1
Z [mm]	-179.5	-179.6	-180.7	-179.5	-180.7	-179.6
DISTANCE [mm]	106.02		181.45		89.43	
MAX + MAX (Reported SAR)	2.39		1.50		1.17	
SAR to peak location separation ratio	0.03		0.01		0.01	
Back facing phantom WCDMA1900 + WLAN 2450 – Main + WLAN 2450 - AUX	WLAN 2450 Main	WLAN 2450 Aux	WCDMA 1900 Full	WLAN 2450 Main	WCDMA 1900 Full	WLAN 2450 Aux
X [mm]	74.0	73.0	10.5	74.0	10.5	73.0
Y [mm]	-53.0	53.1	117.0	-53.0	117.0	53.1
Z [mm]	-179.5	-179.6	-180.7	-179.5	-180.7	-179.6
DISTANCE [mm]	106.02		181.45		89.43	
MAX + MAX (Reported SAR)	2.39		1.80		1.47	
SAR to peak location separation ratio	0.03		0.01		0.02	
Back facing phantom LTE1900 + WLAN 2450 – Main + WLAN 2450 - AUX	WLAN 2450 Main	WLAN 2450 Aux	LTE1900 Full	WLAN 2450 Main	LTE1900 Full	WLAN 2450 Aux
X [mm]	74.0	73.0	10.5	74.0	10.5	73.0
Y [mm]	-53.0	53.1	117.0	-53.0	117.0	53.1
Z [mm]	-179.5	-179.6	-180.7	-179.5	-180.7	-179.6
DISTANCE [mm]	106.02		181.45		89.43	
MAX + MAX (Reported SAR)	2.39		1.73		1.40	
SAR to peak location separation ratio	0.03		0.01		0.02	

(Table continues)

(Table continues)

Back facing phantom LTE700 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main	WLAN 5000 AUX	LTE700 Full	WLAN 5000 Main	LTE700 Full	WLAN 5000 AUX
X [mm]	80.0	79.0	0.0	80.0	0.0	79.0
Y [mm]	-51.0	52.0	129.0	-51.0	129.0	52.0
Z [mm]	-181.0	-181.0	-180.5	-181.0	-180.5	-181.0
DISTANCE [mm]	103.00		196.98		110.33	
MAX + MAX (Reported SAR)	1.46		0.83		1.08	
SAR to peak location separation ratio	0.02		0.00		0.01	
Bottom edge facing phantom LTE700 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main Bottom	WLAN 5000 Aux Bottom	LTE700 Full Bottom	WLAN 5000 Main Bottom	LTE700 Full Bottom	WLAN 5000 Aux Bottom
X [mm]	0.0	0.0	-1.9	0.0	-1.9	0.0
Y [mm]	-49.0	53.0	62.2	-49.0	62.2	53.0
Z [mm]	-182.2	-182.1	-181.1	-182.2	-181.1	-182.1
DISTANCE [mm]	102.01		111.21		9.43	
MAX + MAX (Reported SAR)	2.25		0.99		1.52	
SAR to peak location separation ratio	0.03		0.01		0.20	
Back facing phantom LTE750 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main	WLAN 5000 AUX	LTE750 Full	WLAN 5000 Main	LTE750 Full	WLAN 5000 AUX
X [mm]	80.0	79.0	0.0	80.0	0.0	79.0
Y [mm]	-51.0	52.0	129.0	-51.0	129.0	52.0
Z [mm]	-181.0	-181.0	-180.5	-181.0	-180.5	-181.0
DISTANCE [mm]	103.00		196.98		110.33	
MAX + MAX (Reported SAR)	1.46		0.87		1.12	
SAR to peak location separation ratio	0.02		0.00		0.01	

(Table continues)

(Table continues)

Back facing phantom 2-slot GPRS 850 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main	WLAN 5000 AUX	2-slot GPRS 850 Full	WLAN 5000 Main	2-slot GPRS 850 Full	WLAN 5000 AUX
X [mm]	80.0	79.0	-3.0	80.0	-3.0	79.0
Y [mm]	-51.0	52.0	132.0	-51.0	132.0	52.0
Z [mm]	-181.0	-181.0	-180.4	-181.0	-180.4	-181.0
DISTANCE [mm]	103.00		200.94		114.56	
MAX + MAX (Reported SAR)	1.46		0.85		1.10	
SAR to peak location separation ratio	0.02		0.00		0.01	
Bottom edge facing phantom 2-slot GPRS 850 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main Bottom	WLAN 5000 Aux Bottom	2-slot GPRS 850 Full Bottom	WLAN 5000 Main Bottom	2-slot GPRS 850 Full Bottom	WLAN 5000 Aux Bottom
X [mm]	0.0	0.0	-1.0	0.0	-1.0	0.0
Y [mm]	-49.0	53.0	54.0	-49.0	54.0	53.0
Z [mm]	-182.2	-182.1	-181.1	-182.2	-181.1	-182.1
DISTANCE [mm]	102.01		103.03		1.74	
MAX + MAX (Reported SAR)	2.25		0.98		1.51	
SAR to peak location separation ratio	0.03		0.01		1.06	
Back facing phantom WCDMA 850 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main	WLAN 5000 AUX	WCDMA 850 Full	WLAN 5000 Main	WCDMA 850 Full	WLAN 5000 AUX
X [mm]	80.0	79.0	-3.0	80.0	-3.0	79.0
Y [mm]	-51.0	52.0	132.0	-51.0	132.0	52.0
Z [mm]	-181.0	-181.0	-180.4	-181.0	-180.4	-181.0
DISTANCE [mm]	103.00		200.94		114.56	
MAX + MAX (Reported SAR)	1.46		0.82		1.07	
SAR to peak location separation ratio	0.02		0.00		0.01	

(Table continues)

(Table continues)

Bottom edge facing phantom WCDMA 850 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main Bottom	WLAN 5000 Aux Bottom	WCDMA 850 Full Bottom	WLAN 5000 Main Bottom	WCDMA 850 Full Bottom	WLAN 5000 Aux Bottom
X [mm]	0.0	0.0	-1.0	0.0	-1.0	0.0
Y [mm]	-49.0	53.0	54.0	-49.0	54.0	53.0
Z [mm]	-182.2	-182.1	-181.1	-182.2	-181.1	-182.1
DISTANCE [mm]	102.01		103.03		1.74	
MAX + MAX (Reported SAR)	2.25		0.97		1.50	
SAR to peak location separation ratio	0.03		0.01		1.05	
Back facing phantom LTE850 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main	WLAN 5000 AUX	LTE850 Full	WLAN 5000 Main	LTE850 Full	WLAN 5000 AUX
X [mm]	80.0	79.0	-3.0	80.0	-3.0	79.0
Y [mm]	-51.0	52.0	132.0	-51.0	132.0	52.0
Z [mm]	-181.0	-181.0	-180.4	-181.0	-180.4	-181.0
DISTANCE [mm]	103.00		200.94		114.56	
MAX + MAX (Reported SAR)	1.46		0.83		1.09	
SAR to peak location separation ratio	0.02		0.00		0.01	
Bottom edge facing phantom LTE850 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main Bottom	WLAN 5000 Aux Bottom	LTE850 Full Bottom	WLAN 5000 Main Bottom	LTE850 Full Bottom	WLAN 5000 AUX Bottom
X [mm]	0.0	0.0	-1.0	0.0	-1.0	0.0
Y [mm]	-49.0	53.0	54.0	-49.0	54.0	53.0
Z [mm]	-182.2	-182.1	-181.1	-182.2	-181.1	-182.1
DISTANCE [mm]	102.01		103.03		1.74	
MAX + MAX (Reported SAR)	2.25		1.00		1.53	
SAR to peak location separation ratio	0.03		0.01		1.09	

(Table continues)

(Table continues)

Back facing phantom LTE1700/2100 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main	WLAN 5000 AUX	LTE1700/2100 Full	WLAN 5000 Main	LTE1700/2100 Full	WLAN 5000 AUX
X [mm]	80.0	79.0	10.5	80.0	10.5	79.0
Y [mm]	-51.0	52.0	120.0	-51.0	120.0	52.0
Z [mm]	-181.0	-181.0	-180.5	-181.0	-180.5	-181.0
DISTANCE [mm]	103.00		184.59		96.54	
MAX + MAX (Reported SAR)	1.46		0.84		1.09	
SAR to peak location separation ratio	0.02		0.00		0.01	
Bottom edge facing phantom LTE1700/2100 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main Bottom	WLAN 5000 Aux Bottom	LTE1700/2100 Full Bottom	WLAN 5000 Main Bottom	LTE1700/2100 Full Bottom	WLAN 5000 AUX Bottom
X [mm]	0.0	0.0	0.0	0.0	0.0	0.0
Y [mm]	-49.0	53.0	118.0	-49.0	118.0	53.0
Z [mm]	-182.2	-182.1	-180.7	-182.2	-180.7	-182.1
DISTANCE [mm]	102.01		167.00		65.00	
MAX + MAX (Reported SAR)	2.25		0.87		1.40	
SAR to peak location separation ratio	0.03		0.00		0.03	
Back facing phantom 4-slot GPRS1900 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main	WLAN 5000 AUX	4-slot GPRS 1900 Full	WLAN 5000 Main	4-slot GPRS 1900 Full	WLAN 5000 AUX
X [mm]	80.0	79.0	10.5	80.0	10.5	79.0
Y [mm]	-51.0	52.0	117.0	-51.0	117.0	52.0
Z [mm]	-181.0	-181.0	-180.7	-181.0	-180.7	-181.0
DISTANCE [mm]	103.00		181.81		94.43	
MAX + MAX (Reported SAR)	1.46		0.75		1.00	
SAR to peak location separation ratio	0.02		0.00		0.01	

(Table continues)

(Table continues)

Back facing phantom WCDMA1900 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main	WLAN 5000 AUX	WCDMA 1900 Full	WLAN 5000 Main	WCDMA 1900 Full	WLAN 5000 AUX
X [mm]	80.0	79.0	10.5	80.0	10.5	79.0
Y [mm]	-51.0	52.0	117.0	-51.0	117.0	52.0
Z [mm]	-181.0	-181.0	-180.7	-181.0	-180.7	-181.0
DISTANCE [mm]	103.00		181.81		94.43	
MAX + MAX (Reported SAR)	1.46		1.04		1.30	
SAR to peak location separation ratio	0.02		0.01		0.02	
Bottom edge facing phantom WCDMA1900 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main Bottom	WLAN 5000 Aux Bottom	WCDMA 1900 Full Bottom	WLAN 5000 Main Bottom	WCDMA 1900 Full Bottom	WLAN 5000 AUX Bottom
X [mm]	0.0	0.0	0.0	0.0	0.0	0.0
Y [mm]	-49.0	53.0	59.0	-49.0	59.0	53.0
Z [mm]	-182.2	-182.1	-180.8	-182.2	-180.8	-182.1
DISTANCE [mm]	102.01		108.02		6.14	
MAX + MAX (Reported SAR)	2.25		0.94		1.47	
SAR to peak location separation ratio	0.03		0.01		0.29	
Back facing phantom LTE1900 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main	WLAN 5000 AUX	LTE1900 Full	WLAN 5000 Main	LTE1900 Full	WLAN 5000 AUX
X [mm]	80.0	79.0	10.5	80.0	10.5	79.0
Y [mm]	-51.0	52.0	117.0	-51.0	117.0	52.0
Z [mm]	-181.0	-181.0	-180.7	-181.0	-180.7	-181.0
DISTANCE [mm]	103.00		181.81		94.43	
MAX + MAX (Reported SAR)	1.46		0.97		1.23	
SAR to peak location separation ratio	0.02		0.01		0.01	

(Table continues)

(Table continues)

Bottom edge facing phantom LTE1900 + WLAN 5000 – Main + WLAN 5000 - AUX	WLAN 5000 Main Bottom	WLAN 5000 Aux Bottom	LTE1900 Full Bottom	WLAN 5000 Main Bottom	LTE1900 Full Bottom	WLAN 5000 AUX Bottom
X [mm]	0.0	0.0	0.0	0.0	0.0	0.0
Y [mm]	-49.0	53.0	59.0	-49.0	59.0	53.0
Z [mm]	-182.2	-182.1	-180.8	-182.2	-180.8	-182.1
DISTANCE [mm]	102.01		108.02		6.14	
MAX + MAX (Reported SAR)	2.25		0.95		1.47	
SAR to peak location separation ratio	0.03		0.01		0.29	

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.

LTE700 (Band 17) Body SAR Expanded Volume Scan results – Full Power

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full SAR) [W/kg]	Plot #
			Ch 23780	Ch 23790	Ch 23800	Ch 23780	Ch 23790	Ch 23800		
			709.0 MHz	710.0 MHz	711.0 MHz	709.0 MHz	710.0 MHz	711.0 MHz		
10MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*				
	Conducted Power [dBm]		23.65	23.72	23.85	0.20	0.13	0.00	dB	
	Time-averaged power [dBm]		23.65	23.72	23.85	1.05	1.03	1.00	Lin	
	Bottom edge facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	23
		Full SAR	-	-	0.107	-	-	0.107		

850MHz Band Body SAR Expanded Volume Scan results – Full Power

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full 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]		30.35			Scaling factor*				
	Conducted Slot Average Power [dBm]		30.16	30.13	30.16	0.19	0.22	0.19	dB	
	Time-averaged power [dBm]		24.14	24.11	24.14	1.04	1.05	1.04	Lin	
	Bottom edge facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	24
		Full SAR	-	0.150	-	-	0.158	-		

(Table continues)

(Table continues)

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full 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]		23.85			Scaling factor*				
	Conducted Power [dBm]		23.77	23.73	23.68	0.08	0.12	0.17	dB	
	Time-averaged power [dBm]		23.77	23.73	23.68	1.02	1.03	1.04	Lin	
	Bottom edge facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	25
		Full SAR	-	0.158	-	-	0.162	-		

LTE850 (Band 5) Body SAR Expanded Volume Scan results – Full Power

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full SAR)	Plot #
			Ch 20450	Ch 20525	Ch 20600	Ch 20450	Ch 20525	Ch 20600		
			829.0 MHz	836.5 MHz	844.0 MHz	829.0 MHz	836.5 MHz	844.0 MHz	[W/kg]	
10MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*				
	Conducted Power [dBm]		23.71	23.61	23.73	0.14	0.24	0.12	dB	
	Time-averaged power [dBm]		23.71	23.61	23.73	1.03	1.06	1.03	Lin	
	Bottom edge facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	26
		Full SAR	-	-	0.152	-	-	0.156		

WCDMA1900 (Band 2) Body SAR Expanded Volume Scan results – Full Power

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full 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]		23.85			Scaling factor*				
	Conducted Power [dBm]		23.67	23.64	23.60	0.18	0.21	0.25	dB	
	Time-averaged power [dBm]		23.67	23.64	23.60	1.04	1.05	1.06	Lin	
	Bottom edge facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	27
		Full SAR	-	0.088	-	-	0.092	-		

LTE1900 (Band 2) Body SAR Expanded Volume Scan results – Full Power

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full SAR)	Plot #
			Ch 18700	Ch 18900	Ch 19100	Ch 18700	Ch 18900	Ch 19100		
			1869.0 MHz	1880.0 MHz	1900.0 MHz	1869.0 MHz	1880.0 MHz	1900.0 MHz	[W/kg]	
20MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		23.85			Scaling factor*				
	Conducted Power [dBm]		22.88	23.07	22.92	0.97	0.78	0.93	dB	
	Time-averaged power [dBm]		22.88	23.07	22.92	1.25	1.20	1.24	Lin	
	Bottom edge facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	28
		Full SAR	-	0.081	-	-	0.097	-		

5000MHz Body SAR Expanded Volume Scan results
5470–5725 MHz - Main Antenna

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Max Deviation (Estimated SAR - Full SAR) [W/kg]	Plot #
			Ch 100 5500.0 MHz	Ch 112 5560.0 MHz	Ch 120 5600.0 MHz	Ch 132 5660.0 MHz	Ch 100 5500.0 MHz	Ch 112 5560.0 MHz	Ch 120 5600.0 MHz	Ch 132 5660.0 MHz		
WLAN a-mode BPSK 6 Mbps	Tuning Target + Tolerance [dBm]		9.00		8.00		Scaling factor*					
	Conducted Power [dBm]		8.56	7.62	7.18	7.57	0.44	1.38	0.82	0.43	dB	
	Time-averaged power [dBm]		8.56	7.62	7.18	7.57	1.11	1.37	1.21	1.10	Lin	
	Bottom edge facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	-	-	29
		Full SAR	0.724	-	-	-	0.801	-	-	-		

5000MHz Body SAR Expanded Volume Scan results
5470–5725 MHz - AUX Antenna

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Max Deviation (Estimated SAR - Full SAR) [W/kg]	Plot #
			Ch 108	Ch 120	Ch 124	Ch 132	Ch 108	Ch 120	Ch 124	Ch 132		
			5540.0 MHz	5600.0 MHz	5620.0 MHz	5660.0 MHz	5540.0 MHz	5600.0 MHz	5620.0 MHz	5660.0 MHz		
WLAN a-mode BPSK 6 Mbps	Tuning Target + Tolerance [dBm]		10.00	11.00			Scaling factor*					
	Conducted Power [dBm]		9.38	10.30	10.59	9.74	0.62	0.70	0.41	1.26	dB	
	Time-averaged power [dBm]		9.38	10.30	10.59	9.74	1.15	1.17	1.10	1.34	Lin	
	Bottom edge facing phantom 0mm	Estimated SAR	-	-	-	-	-	-	-	-	-	30
		Full SAR	-	1.07	-	-	-	1.26	-	-		

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

Test configuration	Max. Reported* 1g SAR results			
	LTE700+ WLAN 5000 – Main + WLAN 5000 - AUX	2-slot GPRS850 + WLAN 5000 – Main + WLAN 5000 - AUX	WCDMA 850 + WLAN 5000 – Main + WLAN 5000 - AUX	LTE850 + WLAN 5000 – Main + WLAN 5000 - AUX
Bottom edge facing phantom	1.39	1.44	1.44	1.44
Test configuration	Max. Reported* 1g SAR results			
	WCDMA1900 + WLAN 5000 – Main + WLAN 5000 - AUX	LTE1900 + WLAN 5000 – Main + WLAN 5000 - AUX	-	-
Bottom edge facing phantom	1.39	1.40	-	-

Plots # 31- 36

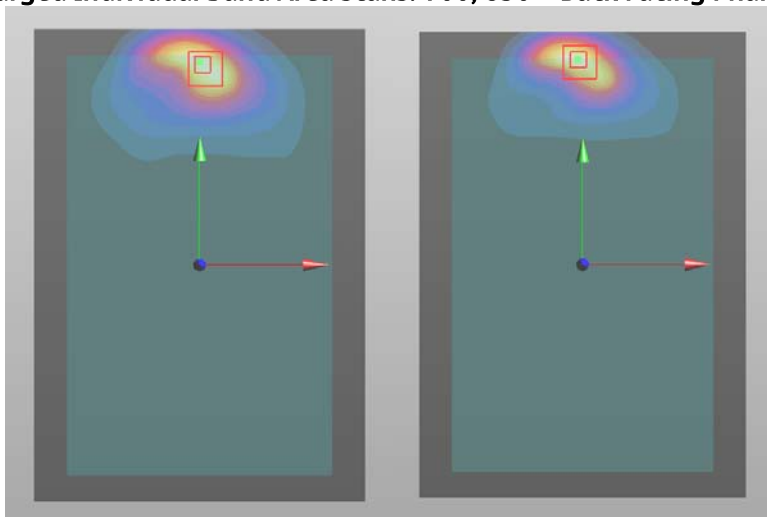
Highest result within individual zoom scan or individual expanded zoom scan results is given in Section 1.2 for each transmitter. Highest result within contributing individual zoom scan, individual expanded zoom scan, Speag combined algorithm or combined expanded zoom scan results are given in Section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

Note:

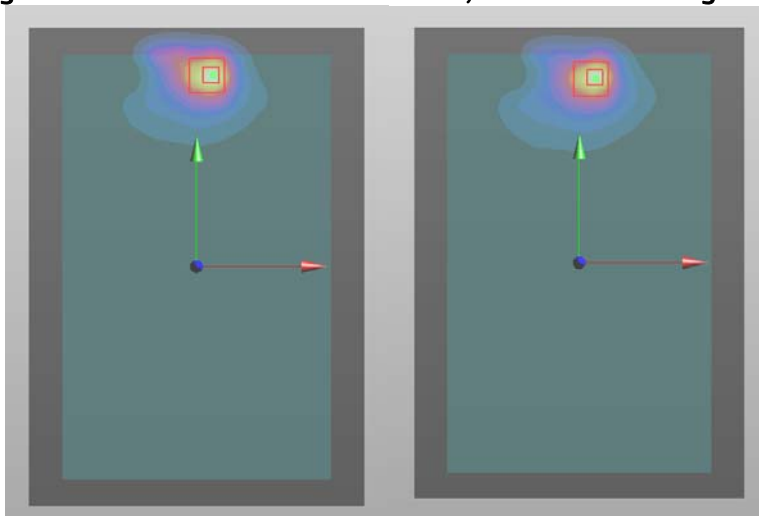
* Reported SAR values are scaled to, or measured at, upper limit of power tuning tolerance.

The following graphics show enlarged Area Scans and hotspots for the individual cellular, WLAN Main and AUX transmitters.

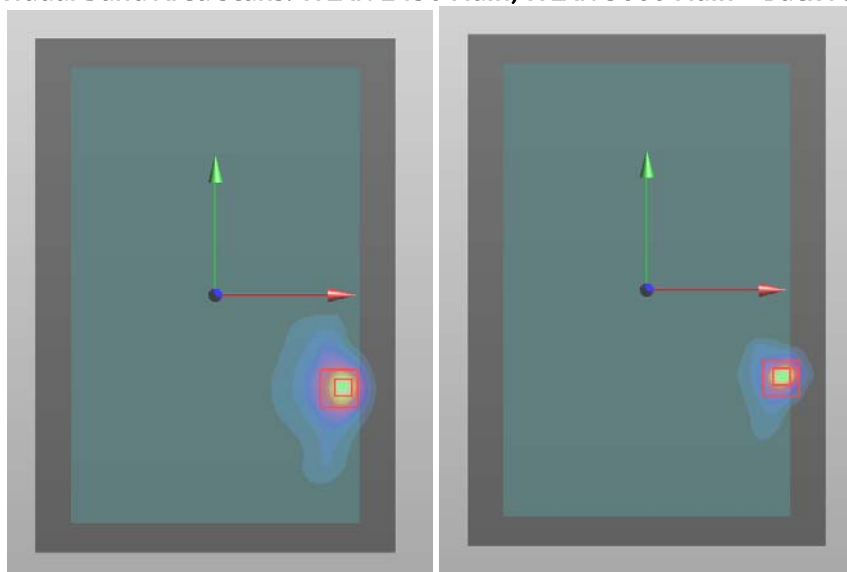
Enlarged Individual band Area scans: 700, 850 – Back Facing Phantom



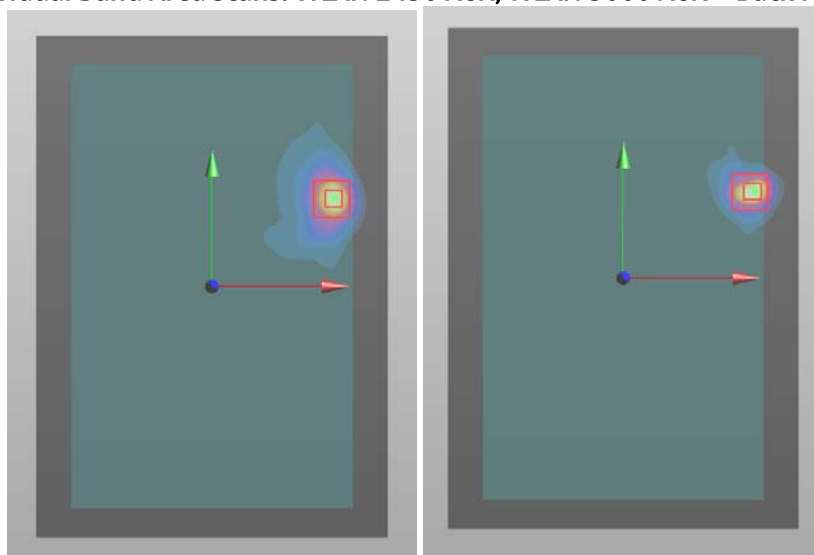
Enlarged Individual band Area scans: 1700, 1900 – Back Facing Phantom



Enlarged Individual band Area scans: WLAN 2450 Main, WLAN 5000 Main – Back Facing Phantom

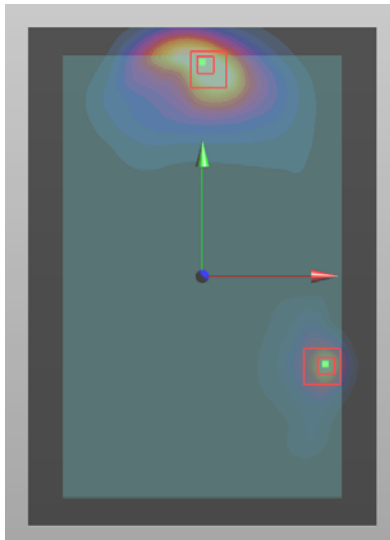


Enlarged Individual band Area scans: WLAN 2450 AUX, WLAN 5000 AUX – Back Facing Phantom

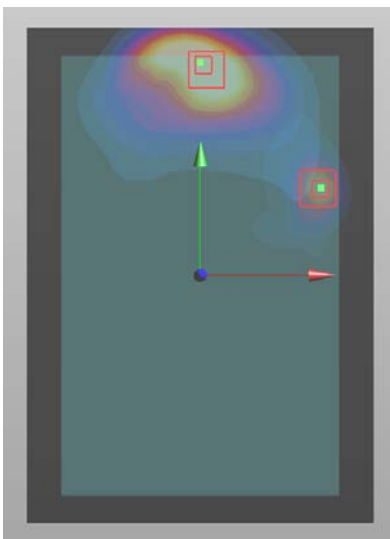


700MHz transmitter combined with all WLAN antennas and frequencies. 700MHz has widest spread of all cellular SAR hotspots, giving conservative estimate of the overlapping of the SAR distributions. The graphics show that individual transmitter and antenna SAR hotspots are not overlapping with each other. Hence the combined SAR results presented in Section 1.2.1 are those of the individual cellular, WLAN2450 or WLAN5000 results, whichever is giving highest individual SAR result.

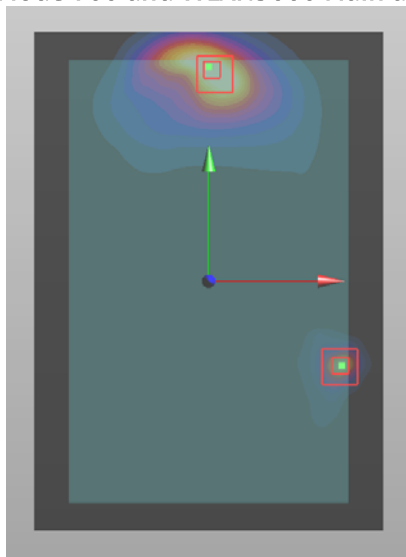
Enlarged Area Scans: Cellular Mode 700 and WLAN2450 Main antenna – Back Facing Phantom



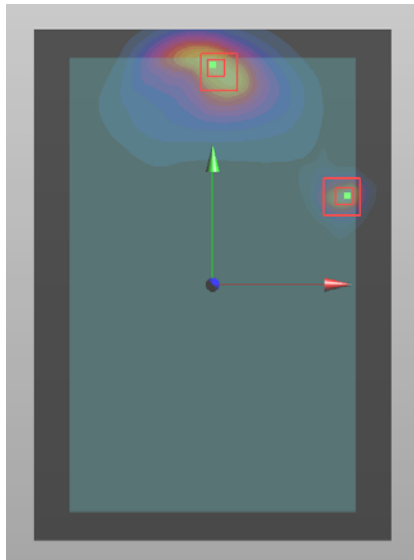
Enlarged Area Scans: Cellular Mode 700 and WLAN2450 Aux antenna – Back Facing Phantom



Enlarged Area Scans: Cellular Mode 700 and WLAN5000 Main antenna– Back Facing Phantom



Enlarged Area Scans: Cellular Mode 700 and WLAN5000 Aux antenna– Back Facing Phantom



APPENDIX A: SYSTEM CHECKING SCANS

Plot #1

Date/Time: 2013-09-24 06:21:40

Test Laboratory: TCC Nokia

Type: D750V3; Serial: D750V3 - SN:1075

Communication System: CW750

Frequency: 750 MHz; Duty Cycle: 1:1

Medium: BSL750; Medium Notes: $t = 20,3\text{ C}$

Medium parameters used: $f = 750\text{ MHz}$; $\sigma = 0.972\text{ S/m}$; $\epsilon_r = 53.795$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3834
- ConvF(9.14, 9.14, 9.14); Calibrated: 2013-01-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2013-01-11
- Phantom: #3 ELI, SAR4; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

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

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

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

Reference Value = 48.533 V/m

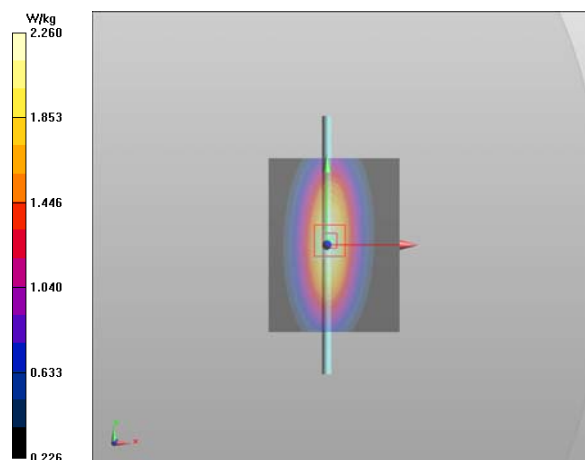
Peak SAR (extrapolated) = 3.10 W/kg

SAR(1 g) = 2.1 W/kg

SAR(10 g) = 1.38 W/kg

Power Drift = -0.07 dB

Maximum value of SAR (measured) = 2.26 W/kg



Plot #2

Date/Time: 2013-09-24 15:45:25

Test Laboratory: TCC Nokia

Type: D835V2; Serial: D835V2 - SN:480

Communication System: CW835

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: t= 20,8 C

Medium parameters used: f = 835 MHz; σ = 0.977 S/m; ϵ_r = 53.684; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2013-01-21;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1355; Calibrated: 2013-01-08
- Phantom: #2 ELI Phantom; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

d=15mm, Pin=250mW/Area Scan (81x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 2.42 W/kg

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

Reference Value = 49.319 V/m

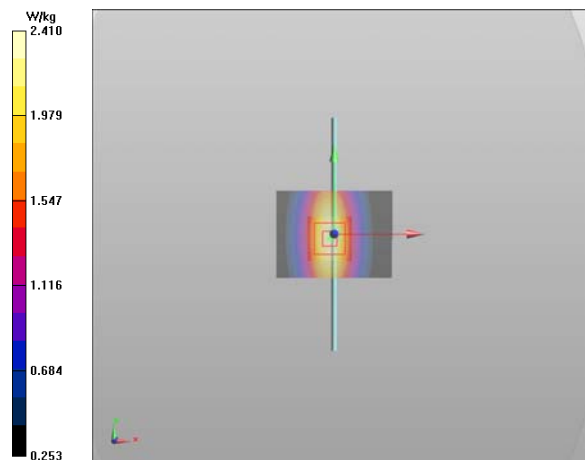
Peak SAR (extrapolated) = 3.27 W/kg

SAR(1 g) = 2.23 W/kg

SAR(10 g) = 1.48 W/kg

Power Drift = 0.01 dB

Maximum value of SAR (measured) = 2.41 W/kg



Plot #3

Date/Time: 2013-10-11 13:41:52

Test Laboratory: TCC Nokia

Type: D1750V2; Serial: D1750V2 - SN:1082

Communication System: CW1750

Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: BSL1800; Medium Notes: t= 21.5 C

Medium parameters used: f = 1750 MHz; $\sigma = 1.428$ S/m; $\epsilon_r = 51.53$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(4.87, 4.87, 4.87); Calibrated: 2013-06-18;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2013-06-10
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

d=10mm, Pin=250mW/Area Scan (81x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

d=10mm, Pin=250mW/Zoom Scan (6x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 85.326 V/m

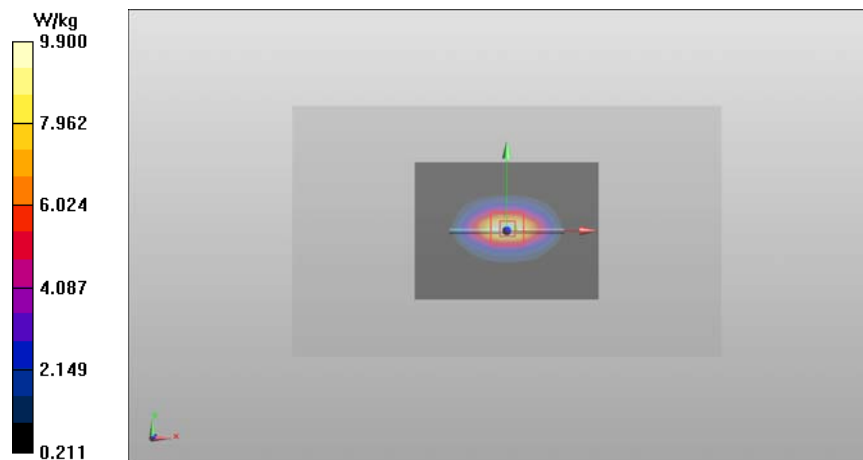
Peak SAR (extrapolated) = 14.5 W/kg

SAR(1 g) = 8.79 W/kg

SAR(10 g) = 4.78 W/kg

Power Drift = 0.01 dB

Maximum value of SAR (measured) = 9.90 W/kg



Plot #4

Date/Time: 2013-10-10 08:35:14

Test Laboratory: TCC Nokia

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

Communication System: CW1900

Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: t= 21.5 C

Medium parameters used: f = 1900 MHz; $\sigma = 1.496$ S/m; $\epsilon_r = 51.53$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(4.62, 4.62, 4.62); Calibrated: 2013-06-18;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2013-06-10
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

d=10mm, Pin=250mW/Area Scan (81x61x1): 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 (6x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 86.103 V/m

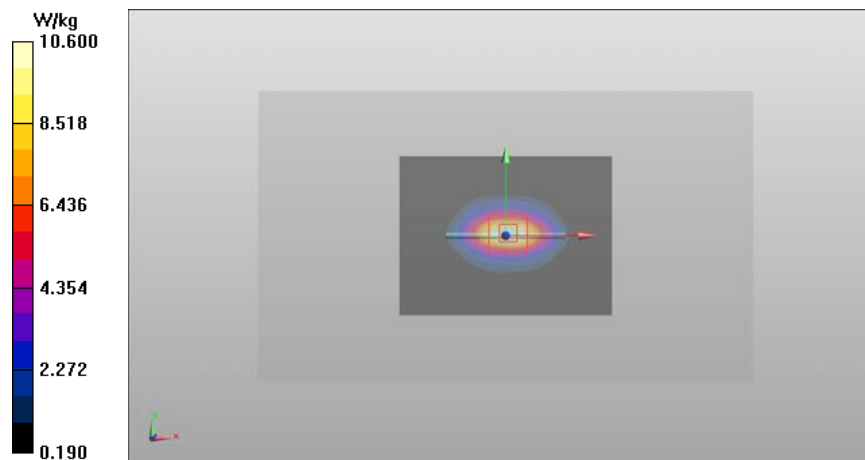
Peak SAR (extrapolated) = 16.0 W/kg

SAR(1 g) = 9.38 W/kg

SAR(10 g) = 4.98 W/kg

Power Drift = -0.01 dB

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



Plot #5

Date/Time: 2013-08-22 08:06:51

Test Laboratory: TCC Nokia

Type: D2450V2; Serial: D2450V2 - SN:800

Communication System: CW2450

Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: MSL2450; Medium Notes: T=21.5

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.929$ S/m; $\epsilon_r = 51.072$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3817
- ConvF(7.13, 7.13, 7.13); Calibrated: 2013-01-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1301; Calibrated: 2013-02-06
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 2013/06/28
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.9 (7117)

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

Maximum value of SAR (interpolated) = 15.2 W/kg

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

Reference Value = 102.6 V/m

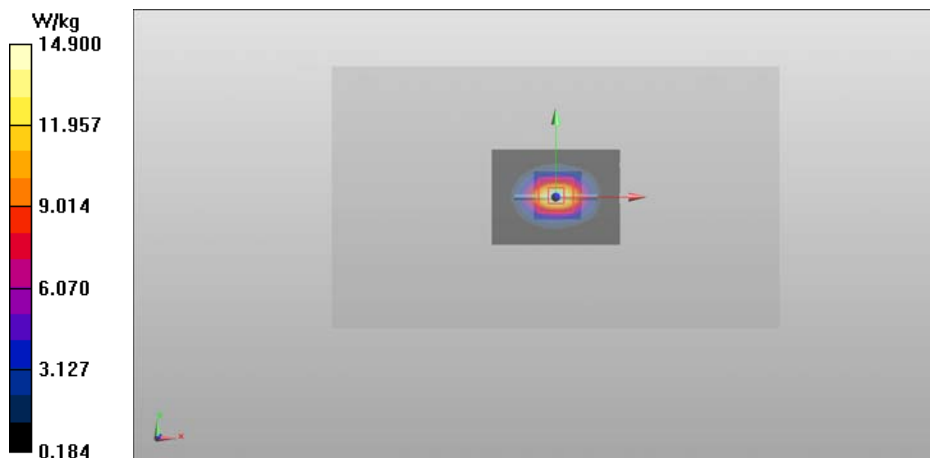
Peak SAR (extrapolated) = 24.8 W/kg

SAR(1 g) = 13 W/kg

SAR(10 g) = 6.3 W/kg

Power Drift = 0.02 dB

Maximum value of SAR (measured) = 14.9 W/kg



Plot #6

Date/Time: 2013-08-28 06:42:14

Test Laboratory: TCC Nokia

Type: D5GHzV2; Serial: D5GHzV2 - SN: 1042

Communication System: CW5200

Frequency: 5200 MHz; Duty Cycle: 1:1

Medium: MSL5000; Medium Notes: T=21.5

Medium parameters used: $f = 5200$ MHz; $\sigma = 5.454$ S/m; $\epsilon_r = 48.436$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3817
- ConvF(4.54, 4.54, 4.54); Calibrated: 2013-01-23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1301; Calibrated: 2013-02-06
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 2013/06/28
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.9 (7117)

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

Maximum value of SAR (interpolated) = 14.8 W/kg

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

Reference Value = 55.616 V/m

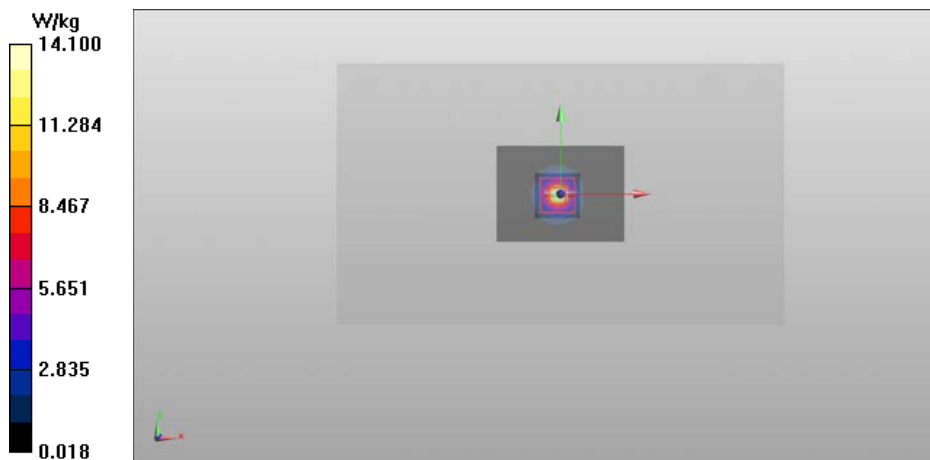
Peak SAR (extrapolated) = 26.1 W/kg

SAR(1 g) = 7.35 W/kg

SAR(10 g) = 2.15 W/kg

Power Drift = 0.00 dB

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



Plot #7

Date/Time: 2013-08-28 12:54:24

Test Laboratory: TCC Nokia

Type: D5GHzV2; Serial: D5GHzV2 - SN: 1042

Communication System: CW5300

Frequency: 5300 MHz; Duty Cycle: 1:1

Medium: MSL5000; Medium Notes: T=21.5

Medium parameters used: $f = 5300$ MHz; $\sigma = 5.587$ S/m; $\epsilon_r = 48.265$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3817
- ConvF(4.34, 4.34, 4.34); Calibrated: 2013-01-23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1301; Calibrated: 2013-02-06
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 2013/06/28
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.9 (7117)

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 = 55.904 V/m

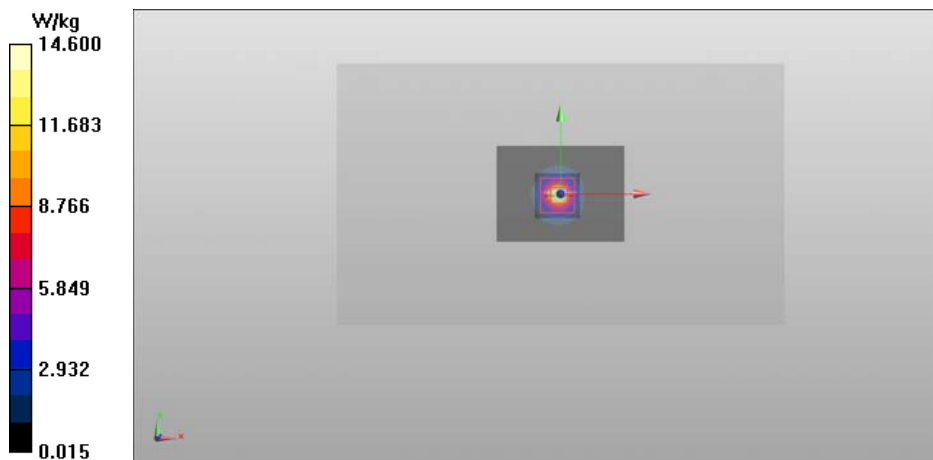
Peak SAR (extrapolated) = 27.5 W/kg

SAR(1 g) = 7.7 W/kg

SAR(10 g) = 2.27 W/kg

Power Drift = 0.03 dB

Maximum value of SAR (measured) = 14.6 W/kg



Plot #8

Date/Time: 2013-09-23 10:34:03

Test Laboratory: TCC Nokia

Type: D5GHzV2; Serial: D5GHzV2 - SN: 1042

Communication System: CW5500

Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: MSL5000; Medium Notes: T=21.5

Medium parameters used: $f = 5500$ MHz; $\sigma = 5.875$ S/m; $\epsilon_r = 48.56$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3817
- ConvF(4.07, 4.07, 4.07); Calibrated: 2013-01-23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1301; Calibrated: 2013-02-06
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1172
- Measurement SW: DASYS2, Version 52.8 (1); SEMCAD X Version 14.6.9 (7117)

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

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

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

Reference Value = 55.811 V/m

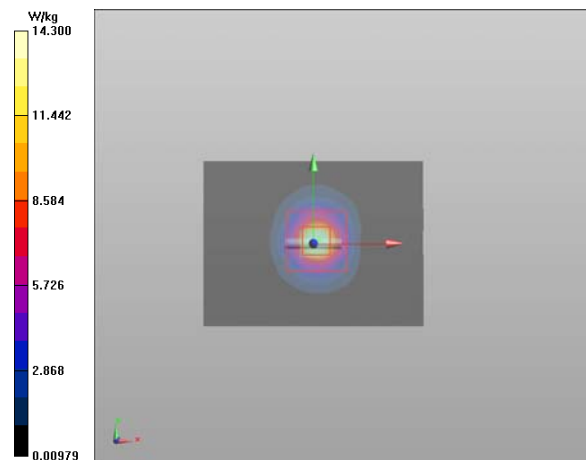
Peak SAR (extrapolated) = 28.3 W/kg

SAR(1 g) = 7.57 W/kg

SAR(10 g) = 2.22 W/kg

Power Drift = -0.19 dB

Maximum value of SAR (measured) = 14.3 W/kg



Plot #9

Date/Time: 2013-08-29 07:11:23

Test Laboratory: TCC Nokia

Type: D5GHzV2; Serial: D5GHzV2 - SN: 1042

Communication System: CW5600

Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: MSL5000; Medium Notes: T=21.5

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.997$ S/m; $\epsilon_r = 47.492$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3817
- ConvF(3.79, 3.79, 3.79); Calibrated: 2013-01-23;
- Sensor-Surface: 2mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1301; Calibrated: 2013-02-06
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 2013/06/28
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.9 (7117)

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

Maximum value of SAR (interpolated) = 16.1 W/kg

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

Reference Value = 59.309 V/m

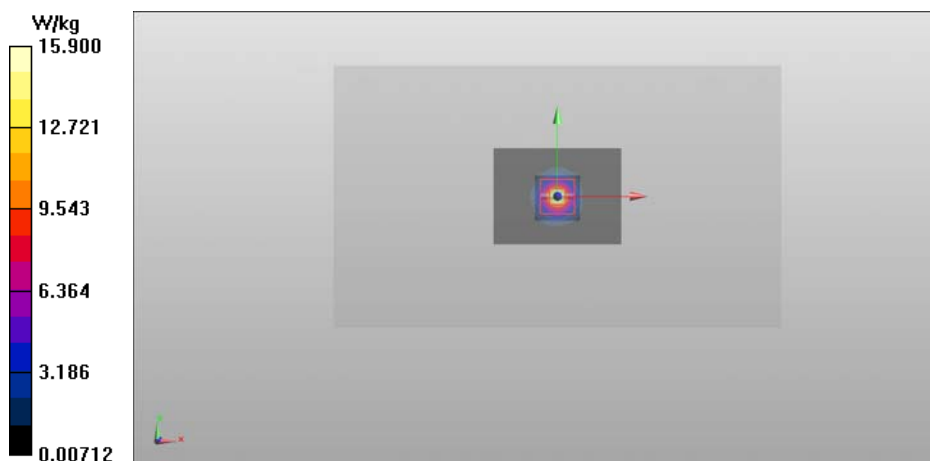
Peak SAR (extrapolated) = 30.1 W/kg

SAR(1 g) = 8.26 W/kg

SAR(10 g) = 2.4 W/kg

Power Drift = -0.10 dB

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



Plot #10

Date/Time: 2013-08-30 12:32:52

Test Laboratory: TCC Nokia

Type: D5GHzV2; Serial: D5GHzV2 - SN: 1042

Communication System: CW5800

Frequency: 5800 MHz; Duty Cycle: 1:1

Medium: MSL5000; Medium Notes: T=21.5

Medium parameters used: $f = 5800$ MHz; $\sigma = 6.229$ S/m; $\epsilon_r = 47.24$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3817
- ConvF(4.25, 4.25, 4.25); Calibrated: 2013-01-23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1301; Calibrated: 2013-02-06
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 2013/06/28
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.9 (7117)

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

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

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

Reference Value = 51.797 V/m

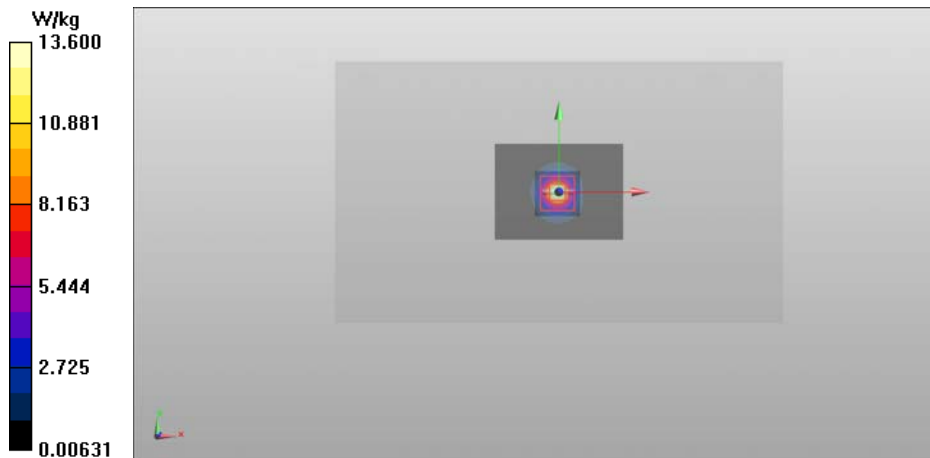
Peak SAR (extrapolated) = 27.2 W/kg

SAR(1 g) = 7.11 W/kg

SAR(10 g) = 2.07 W/kg

Power Drift = 0.04 dB

Maximum value of SAR (measured) = 13.6 W/kg



APPENDIX B: MEASUREMENT SCANS

Plot #1

Date/Time: 2013-08-23 17:19:21

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351375/6

Communication System: LTE700 (Band 17)

Frequency: 710 MHz; Duty Cycle: 1:1

Medium: BSL750; Medium Notes: t= 21.0 C

Medium parameters used: f = 710 MHz; $\sigma = 0.983$ S/m; $\epsilon_r = 53.761$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3834
- ConvF(9.14, 9.14, 9.14); Calibrated: 2013-01-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2013-01-11
- Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

LTE700 (Band 17)/Body - Middle - QPSK - 10 MHz - 50% RB - 0% offset - Spacer 0mm - No Accessory - Back Facing Phantom - Reduced Power/Area Scan (141x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.29 W/kg

LTE700 (Band 17)/Body - Middle - QPSK - 10 MHz - 50% RB - 0% offset - Spacer 0mm - No Accessory - Back Facing Phantom - Reduced Power/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 35.465 V/m

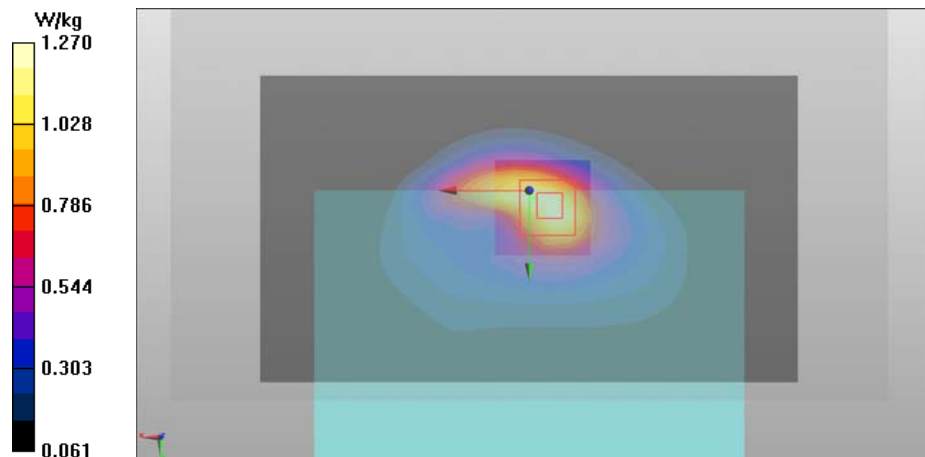
Peak SAR (extrapolated) = 2.20 W/kg

SAR(1 g) = 1.2 W/kg

SAR(10 g) = 0.691 W/kg

Power Drift = -0.01 dB

Maximum value of SAR (measured) = 1.27 W/kg



Plot #2

Date/Time: 2013-08-22 11:38:30

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351363/2

Communication System: LTE700 (Band 17)

Frequency: 711 MHz; Duty Cycle: 1:1

Medium: BSL750; Medium Notes: t= 20.7 C

Medium parameters used: f = 711 MHz; $\sigma = 0.986$ S/m; $\epsilon_r = 53.356$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3834
- ConvF(9.14, 9.14, 9.14); Calibrated: 2013-01-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2013-01-11
- Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

LTE700 (Band 17)/Body - High - QPSK - 10MHz - 1RB - 100% offset - Spacer 22mm - No Accessory - Back Facing Phantom - Full Power/Area Scan (141x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.253 W/kg

LTE700 (Band 17)/Body - High - QPSK - 10MHz - 1RB - 100% offset - Spacer 22mm - No Accessory - Back Facing Phantom - Full Power/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 14.506 V/m

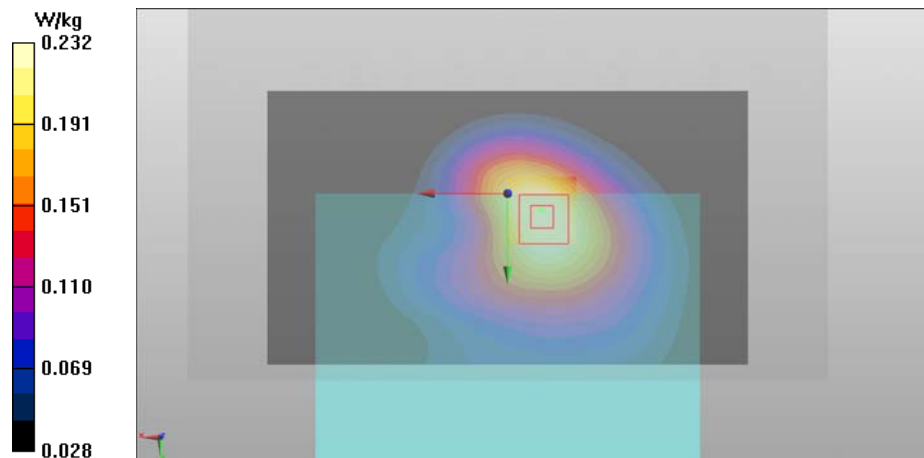
Peak SAR (extrapolated) = 0.298 W/kg

SAR(1 g) = 0.220 W/kg

SAR(10 g) = 0.157 W/kg

Power Drift = 0.09 dB

Maximum value of SAR (measured) = 0.232 W/kg



Plot #3

Date/Time: 2013-08-23 13:27:45

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351375/6

Communication System: LTE750 (Band 13)

Frequency: 782 MHz; Duty Cycle: 1:1

Medium: BSL750; Medium Notes: t= 21.0 C

Medium parameters used: f = 782 MHz; $\sigma = 1.02$ S/m; $\epsilon_r = 53.398$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3834
- ConvF(9.14, 9.14, 9.14); Calibrated: 2013-01-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2013-01-11
- Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

LTE750 (Band 13)/Body - Middle - QPSK - 10 MHz - 50% RB - 0% offset - Spacer 0mm - No Accessory - Back Facing Phantom - Reduced Power/Area Scan (141x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.16 W/kg

LTE750 (Band 13)/Body - Middle - QPSK - 10 MHz - 50% RB - 0% offset - Spacer 0mm - No Accessory - Back Facing Phantom - Reduced Power/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 33.433 V/m

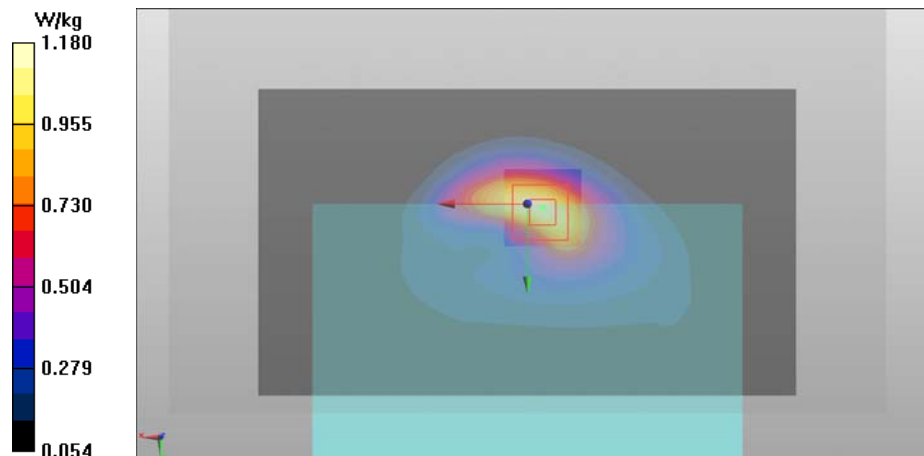
Peak SAR (extrapolated) = 1.93 W/kg

SAR(1 g) = 1.06 W/kg

SAR(10 g) = 0.606 W/kg

Power Drift = 0.13 dB

Maximum value of SAR (measured) = 1.18 W/kg



Plot #4

Date/Time: 2013-08-23 09:30:29

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351363/2

Communication System: LTE750 (Band 13)

Frequency: 782 MHz; Duty Cycle: 1:1

Medium: BSL750; Medium Notes: t= 21.0 C

Medium parameters used: f = 782 MHz; $\sigma = 1.02$ S/m; $\epsilon_r = 53.398$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3834
- ConvF(9.14, 9.14, 9.14); Calibrated: 2013-01-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2013-01-11
- Phantom: #2 Triple, SAR4; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

LTE750 (Band 13)/Body - Middle - QPSK - 10 MHz - 1RB - 100% offset - Spacer 22mm - No Accessory - Back Facing Phantom - Full Power/Area Scan (141x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.272 W/kg

LTE750 (Band 13)/Body - Middle - QPSK - 10 MHz - 1RB - 100% offset - Spacer 22mm - No Accessory - Back Facing Phantom - Full Power/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 14.175 V/m

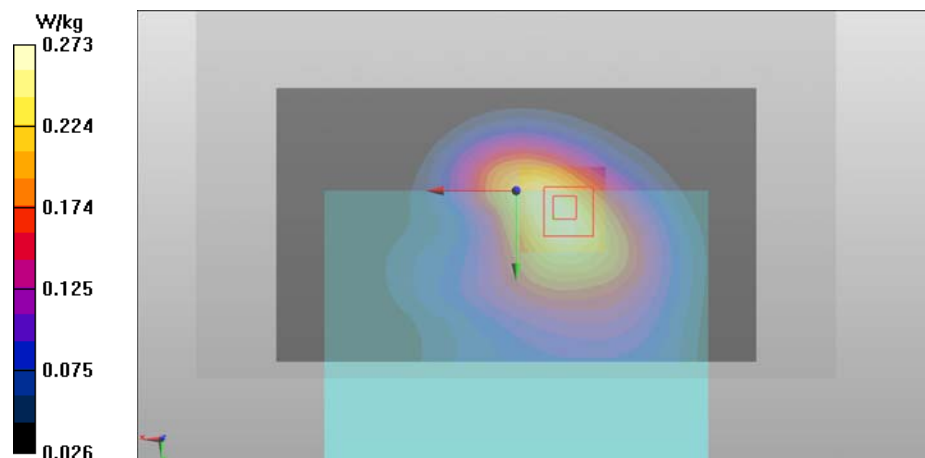
Peak SAR (extrapolated) = 0.355 W/kg

SAR(1 g) = 0.260 W/kg

SAR(10 g) = 0.186 W/kg

Power Drift = 0.04 dB

Maximum value of SAR (measured) = 0.273 W/kg



Plot #5

Date/Time: 2013-09-04 10:28:20

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351393/9

Communication System: 4-slot GPRS850

Frequency: 824.2 MHz; Duty Cycle: 1:2.09991

Medium: BSL850; Medium Notes: t= 21,2 C

Medium parameters used (interpolated): f = 824.2 MHz; $\sigma = 0.975$ S/m; $\epsilon_r = 53.576$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2013-01-21;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1355; Calibrated: 2013-01-08
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

4-slot GPRS850/Body - Low - Spacer 0mm - No Accessory - Back Facing Phantom - Reduced Power/Area Scan (141x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.32 W/kg

4-slot GPRS850/Body - Low - Spacer 0mm - No Accessory - Back Facing Phantom - Reduced Power/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 37.140 V/m

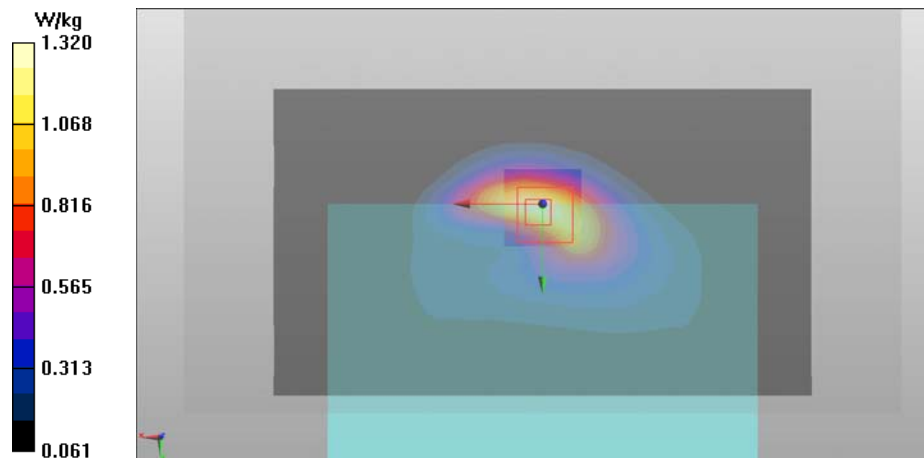
Peak SAR (extrapolated) = 2.15 W/kg

SAR(1 g) = 1.22 W/kg

SAR(10 g) = 0.692 W/kg

Power Drift = 0.03 dB

Maximum value of SAR (measured) = 1.32 W/kg



Plot #6

Date/Time: 2013-09-04 08:49:35

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351393/9

Communication System: WCDMA850 (Band 5)

Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: t= 21,2 C

Medium parameters used: f = 847 MHz; $\sigma = 0.988$ S/m; $\epsilon_r = 53.507$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2013-01-21;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1355; Calibrated: 2013-01-08
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

WCDMA850 (Band 5)/Body - High - Spacer 0mm - No Accessory - Back Facing Phantom - Reduced Power/Area Scan (141x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.04 W/kg

WCDMA850 (Band 5)/Body - High - Spacer 0mm - No Accessory - Back Facing Phantom - Reduced Power/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 32.571 V/m

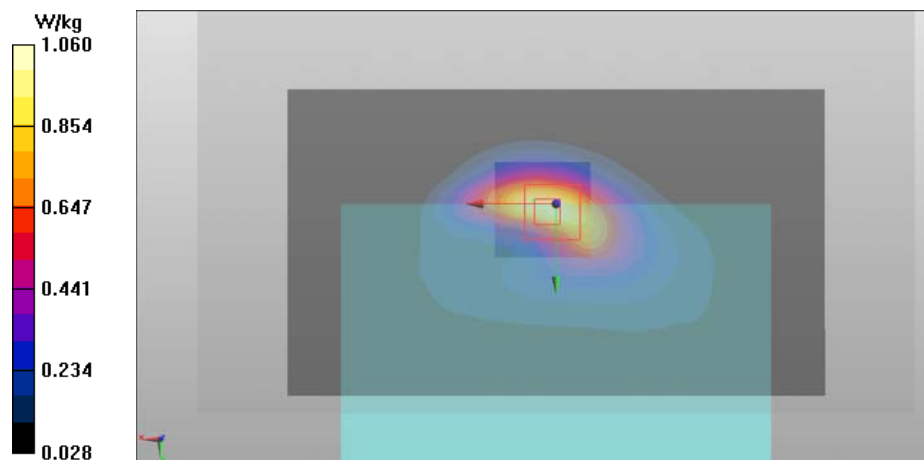
Peak SAR (extrapolated) = 1.75 W/kg

SAR(1 g) = 0.964 W/kg

SAR(10 g) = 0.534 W/kg

Power Drift = -0.00 dB

Maximum value of SAR (measured) = 1.06 W/kg



Plot #7

Date/Time: 2013-08-30 12:35:20

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351342/6

Communication System: 2-slot GPRS850

Frequency: 824.2 MHz; Duty Cycle: 1:4.19952

Medium: BSL850; Medium Notes: t= 22,1 C

Medium parameters used (interpolated): f = 824.2 MHz; $\sigma = 0.976$ S/m; $\epsilon_r = 53.765$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2013-01-21;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1355; Calibrated: 2013-01-08
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

2-slot GPRS850/Body - Low - Spacer 22mm - No Accessory - Back Facing Phantom - Full Power/Area Scan

(141x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.251 W/kg

2-slot GPRS850/Body - Low - Spacer 22mm - No Accessory - Back Facing Phantom - Full Power/Zoom Scan

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

Reference Value = 15.734 V/m

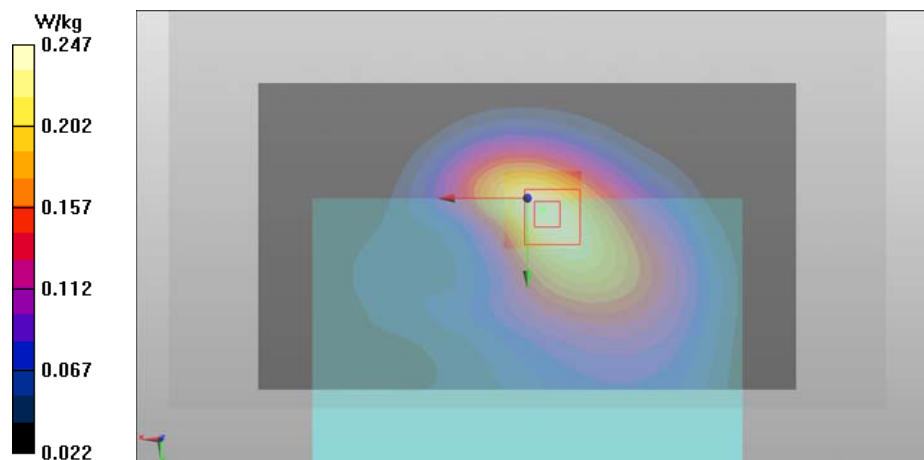
Peak SAR (extrapolated) = 0.322 W/kg

SAR(1 g) = 0.232 W/kg

SAR(10 g) = 0.163 W/kg

Power Drift = 0.04 dB

Maximum value of SAR (measured) = 0.247 W/kg



Plot #8

Date/Time: 2013-09-02 09:55:36

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351342/6

Communication System: WCDMA850 (Band 5)

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: t= 20,5 C

Medium parameters used: f = 835 MHz; $\sigma = 0.96$ S/m; $\epsilon_r = 54.035$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2013-01-21;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1355; Calibrated: 2013-01-08
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

WCDMA850 (Band 5)/Body - Middle - Spacer 22mm - No Accessory - Back Facing Phantom - Full Power/Area

Scan (141x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.244 W/kg

WCDMA850 (Band 5)/Body - Middle - Spacer 22mm - No Accessory - Back Facing Phantom - Full Power/Zoom

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

Reference Value = 14.833 V/m

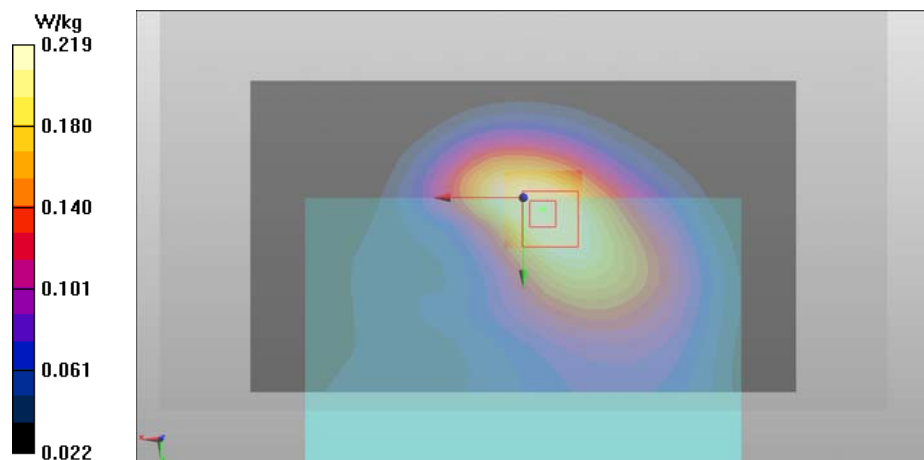
Peak SAR (extrapolated) = 0.283 W/kg

SAR(1 g) = 0.205 W/kg

SAR(10 g) = 0.144 W/kg

Power Drift = 0.04 dB

Maximum value of SAR (measured) = 0.219 W/kg



Plot #9

Date/Time: 2013-09-05 20:36:00

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351393/9

Communication System: LTE850 (Band 5)

Frequency: 844 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: t= 22,5 C

Medium parameters used: f = 844 MHz; $\sigma = 0.991$ S/m; $\epsilon_r = 53.057$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2013-01-21;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1355; Calibrated: 2013-01-08
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

LTE850 (Band 5)/Body - High - QPSK - 10 MHz - 50% RB - 0% offset - Spacer 0mm - No Accessory - Back Facing Phantom - Reduced Power - Repeated/Area Scan (141x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.20 W/kg

LTE850 (Band 5)/Body - High - QPSK - 10 MHz - 50% RB - 0% offset - Spacer 0mm - No Accessory - Back Facing Phantom - Reduced Power - Repeated/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 34.006 V/m

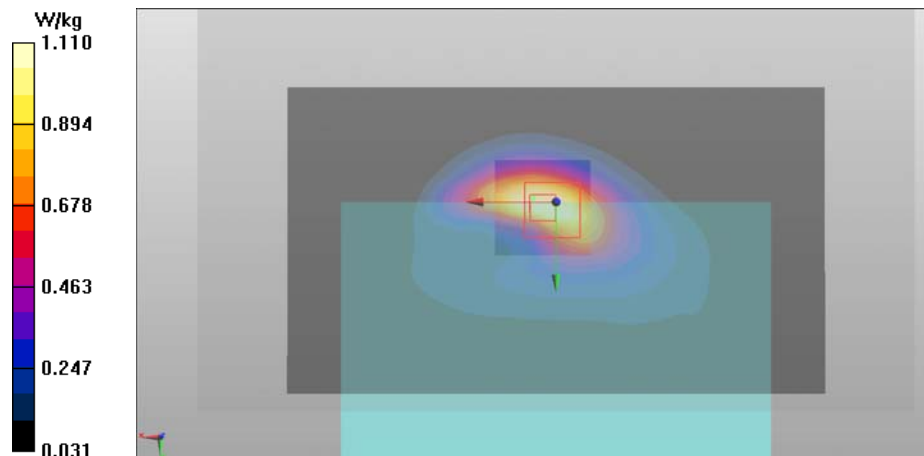
Peak SAR (extrapolated) = 1.91 W/kg

SAR(1 g) = 1.05 W/kg

SAR(10 g) = 0.582 W/kg

Power Drift = 0.07 dB

Maximum value of SAR (measured) = 1.11 W/kg



Plot #10

Date/Time: 2013-09-02 08:56:38

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351342/6

Communication System: LTE850 (Band 5)

Frequency: 844 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: t= 20,5 C

Medium parameters used: f = 844 MHz; $\sigma = 0.966$ S/m; $\epsilon_r = 54.019$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2013-01-21;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1355; Calibrated: 2013-01-08
- Phantom: 1. Triple Flat Phantom 5.1C; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

LTE850 (Band 5)/Body - High - QPSK - 10 MHz - 1RB - 100% offset - Spacer 22mm - No Accessory - Back Facing Phantom - Full Power/Area Scan (141x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.242 W/kg

LTE850 (Band 5)/Body - High - QPSK - 10 MHz - 1RB - 100% offset - Spacer 22mm - No Accessory - Back Facing Phantom - Full Power/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 15.692 V/m

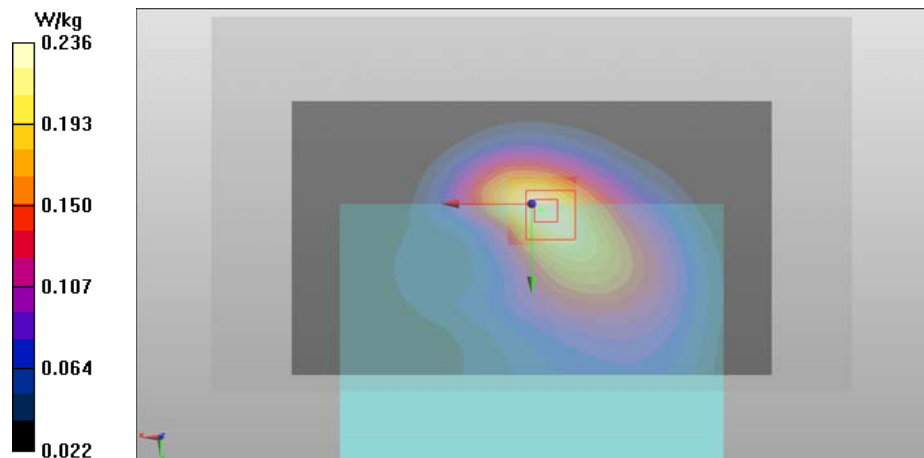
Peak SAR (extrapolated) = 0.308 W/kg

SAR(1 g) = 0.222 W/kg

SAR(10 g) = 0.155 W/kg

Power Drift = 0.03 dB

Maximum value of SAR (measured) = 0.236 W/kg



Plot #11

Date/Time: 2013-09-12 20:25:49

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351408/5

Communication System: LTE1700/2100 (Band 4)

Frequency: 1745 MHz; Duty Cycle: 1:1

Medium: BSL1800; Medium Notes: $t = 20.5$ C

Medium parameters used: $f = 1745$ MHz; $\sigma = 1.454$ S/m; $\epsilon_r = 51.483$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(4.87, 4.87, 4.87); Calibrated: 2013-06-18;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2013-06-10
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

LTE1700/2100 (Band 4)/Body - High - QPSK - 20MHz - 1RB - 0% offset - Spacer 0mm - No Accessory - Back Facing Phantom - Reduced Power - Repeated/Area Scan (141x81x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

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

LTE1700/2100 (Band 4)/Body - High - QPSK - 20MHz - 1RB - 0% offset - Spacer 0mm - No Accessory - Back Facing Phantom - Reduced Power - Repeated/Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 21.721 V/m

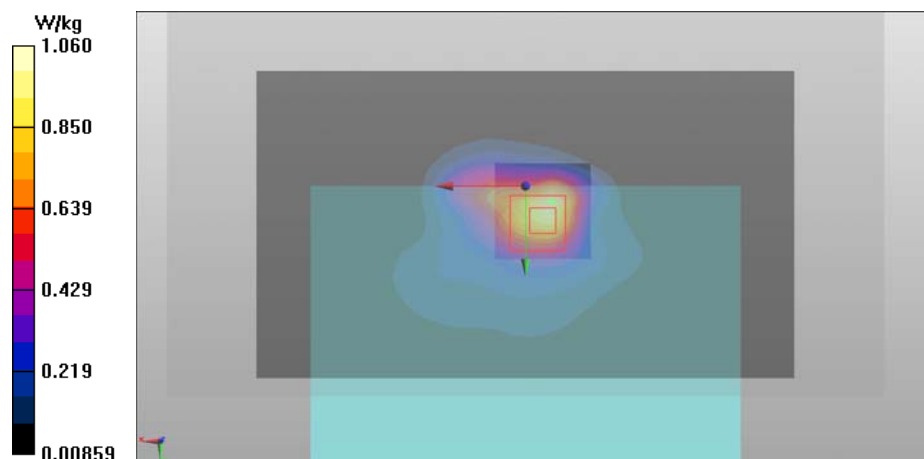
Peak SAR (extrapolated) = 1.66 W/kg

SAR(1 g) = 0.957 W/kg

SAR(10 g) = 0.517 W/kg

Power Drift = -0.01 dB

Maximum value of SAR (measured) = 1.06 W/kg



Plot #12

Date/Time: 2013-09-02 15:09:02

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351347/5

Communication System: LTE1700/2100 (Band 4)

Frequency: 1732.5 MHz; Duty Cycle: 1:1

Medium: BSL1800; Medium Notes: $t = 21.3$ C

Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.422$ S/m; $\epsilon_r = 52.382$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(4.87, 4.87, 4.87); Calibrated: 2013-06-18;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2013-06-10
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

LTE1700/2100 (Band 4)/Body - Middle - QPSK - 20MHz - 1RB - 100% offset - Spacer 21mm - No Accessory - Left Edge Facing Phantom - Full Power/Area Scan (141x41x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.289 W/kg

LTE1700/2100 (Band 4)/Body - Middle - QPSK - 20MHz - 1RB - 100% offset - Spacer 21mm - No Accessory - Left Edge Facing Phantom - Full Power/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 14.505 V/m

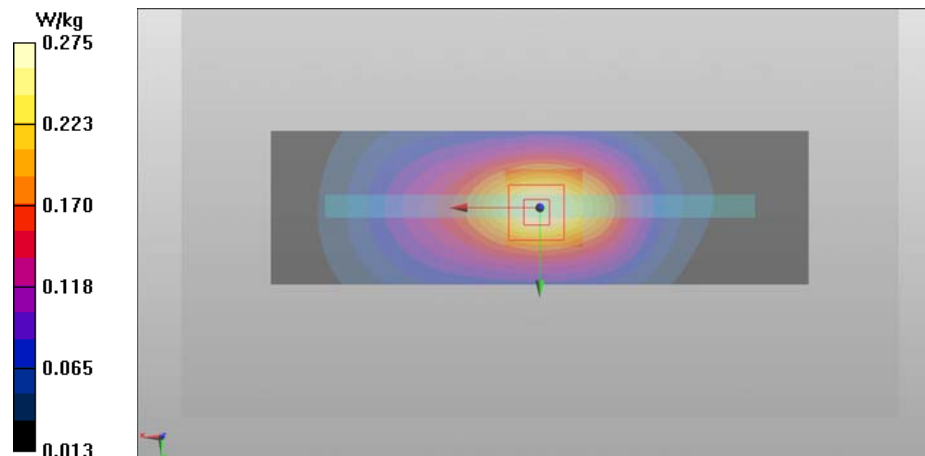
Peak SAR (extrapolated) = 0.371 W/kg

SAR(1 g) = 0.258 W/kg

SAR(10 g) = 0.167 W/kg

Power Drift = 0.06 dB

Maximum value of SAR (measured) = 0.275 W/kg



Plot #13

Date/Time: 2013-09-04 13:38:19

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351408/5

Communication System: 4-slot GPRS1900

Frequency: 1850.2 MHz; Duty Cycle: 1:2.09991

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

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.492$ S/m; $\epsilon_r = 51.5$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(4.62, 4.62, 4.62); Calibrated: 2013-06-18;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2013-06-10
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

4-slot GPRS1900/Body - Low - Spacer 0mm - No Accessory - Back Facing Phantom - Full Power/Area Scan

(141x81x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 1.41 W/kg

4-slot GPRS1900/Body - Low - Spacer 0mm - No Accessory - Back Facing Phantom - Full Power/Zoom Scan

(6x6x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 22.317 V/m

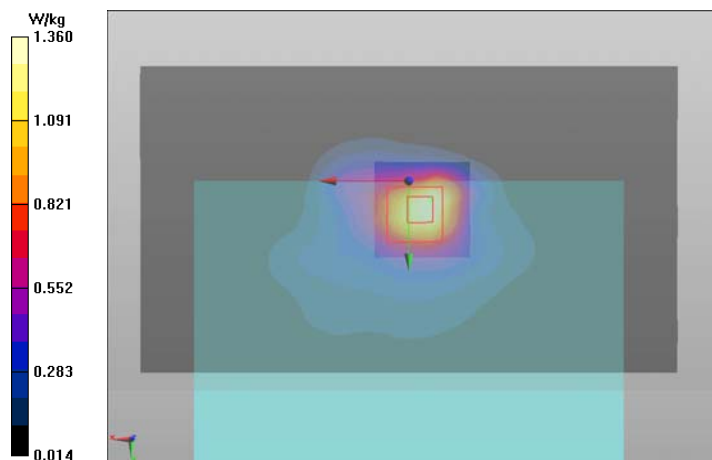
Peak SAR (extrapolated) = 2.40 W/kg

SAR(1 g) = 1.32 W/kg

SAR(10 g) = 0.695 W/kg

Power Drift = 0.02 dB

Maximum value of SAR (measured) = 1.36 W/kg



Plot #14

Date/Time: 2013-09-06 17:48:29

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351408/5

Communication System: WCDMA1900 (Band 2)

Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 20.9$ C

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.488$ S/m; $\epsilon_r = 52.049$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(4.62, 4.62, 4.62); Calibrated: 2013-06-18;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2013-06-10
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

WCDMA1900 (Band 2)/Body - Low - Spacer 0mm - No Accessory - Back Facing Phantom - Full Power/Area Scan (141x81x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.965 W/kg

WCDMA1900 (Band 2)/Body - Low - Spacer 0mm - No Accessory - Back Facing Phantom - Full Power/Zoom Scan (6x6x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 19.867 V/m

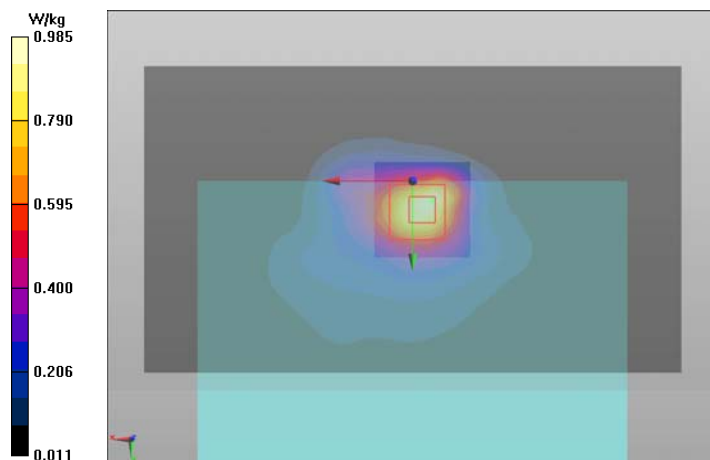
Peak SAR (extrapolated) = 1.66 W/kg

SAR(1 g) = 0.934 W/kg

SAR(10 g) = 0.496 W/kg

Power Drift = -0.03 dB

Maximum value of SAR (measured) = 0.985 W/kg



Plot #15

Date/Time: 2013-08-30 15:06:33

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351347/5

Communication System: 4-slot GPRS1900

Frequency: 1909.8 MHz; Duty Cycle: 1:2.09991

Medium: BSL1900; Medium Notes: $t = 20,6\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 1910\text{ MHz}$; $\sigma = 1.531\text{ S/m}$; $\epsilon_r = 51.608$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(4.62, 4.62, 4.62); Calibrated: 2013-06-18;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2013-06-10
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

4-slot GPRS1900/Body - High - Spacer 0mm - No Accessory - Top Facing Phantom - Full Power/Area Scan (181x41x1): Interpolated grid: $dx=1.500\text{ mm}$, $dy=1.500\text{ mm}$

Maximum value of SAR (interpolated) = 0.346 W/kg

4-slot GPRS1900/Body - High - Spacer 0mm - No Accessory - Top Facing Phantom - Full Power/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5\text{ mm}$, $dy=7.5\text{ mm}$, $dz=5\text{ mm}$

Reference Value = 0.868 V/m

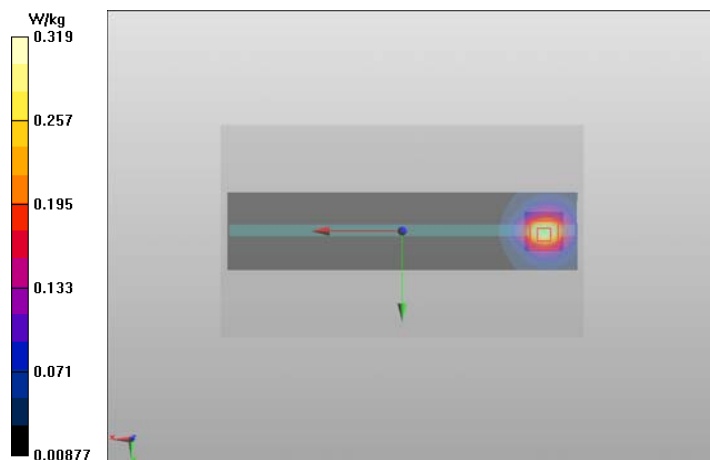
Peak SAR (extrapolated) = 0.467 W/kg

SAR(1 g) = 0.293 W/kg

SAR(10 g) = 0.161 W/kg

Power Drift = 0.12 dB

Maximum value of SAR (measured) = 0.319 W/kg



Plot #16

Date/Time: 2013-08-28 21:01:46

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351347/5

Communication System: WCDMA1900 (Band 2)

Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.3$ C

Medium parameters used: $f = 1908$ MHz; $\sigma = 1.546$ S/m; $\epsilon_r = 51.636$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(4.62, 4.62, 4.62); Calibrated: 2013-06-18;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2013-06-10
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

WCDMA1900 (Band 2) Top&Bottom/Body - High - Spacer 0mm - No Accessory - Top Edge Facing Phantom - Full Power/Area Scan (181x41x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.906 W/kg

WCDMA1900 (Band 2) Top&Bottom/Body - High - Spacer 0mm - No Accessory - Top Edge Facing Phantom - Full Power/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=7.5mm, dy=7.5mm, dz=5mm

Reference Value = 12.185 V/m

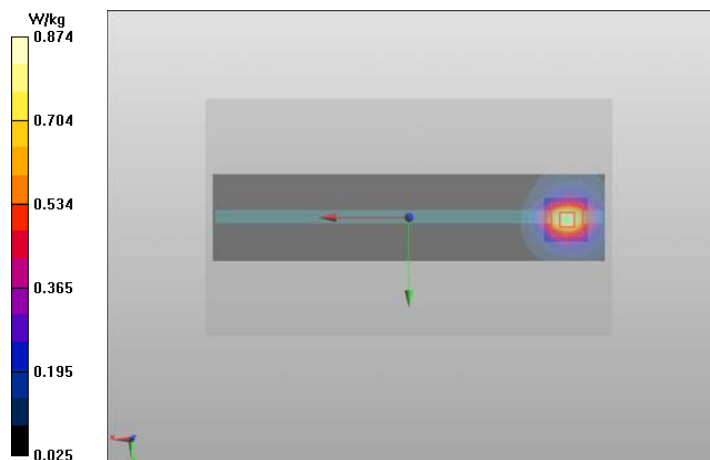
Peak SAR (extrapolated) = 1.26 W/kg

SAR(1 g) = 0.779 W/kg

SAR(10 g) = 0.425 W/kg

Power Drift = -0.17 dB

Maximum value of SAR (measured) = 0.874 W/kg



Plot #17

Date/Time: 2013-09-13 08:21:27

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351408/5

Communication System: LTE1900 (Band 2)

Frequency: 1860 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 20.4$ C

Medium parameters used: $f = 1860$ MHz; $\sigma = 1.489$ S/m; $\epsilon_r = 51.438$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(4.62, 4.62, 4.62); Calibrated: 2013-06-18;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2013-06-10
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

LTE1900 (Band 2)/Body - Low - QPSK - 20MHz - 50%RB - 0% offset - Spacer 0mm - No Accessory - Back Facing Phantom - Reduced Power/Area Scan (141x81x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.995 W/kg

LTE1900 (Band 2)/Body - Low - QPSK - 20MHz - 50%RB - 0% offset - Spacer 0mm - No Accessory - Back Facing Phantom - Reduced Power/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 16.664 V/m

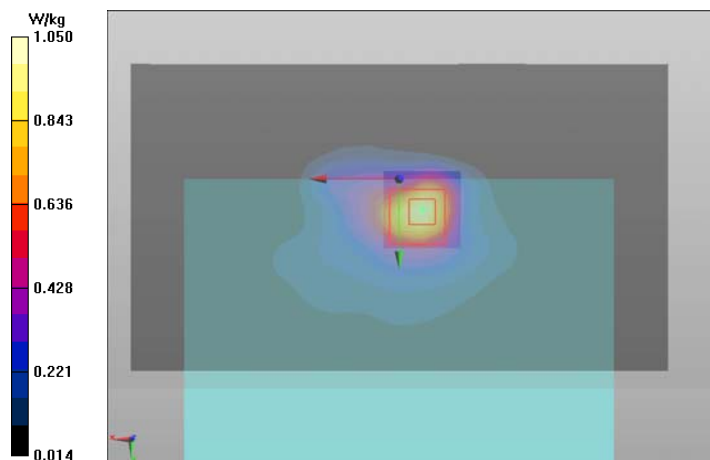
Peak SAR (extrapolated) = 1.62 W/kg

SAR(1 g) = 0.915 W/kg

SAR(10 g) = 0.482 W/kg

Power Drift = 0.08 dB

Maximum value of SAR (measured) = 1.05 W/kg



Plot #18

Date/Time: 2013-08-28 18:54:26

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351347/5

Communication System: LTE1900 (Band 2)

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.3$ C

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.521$ S/m; $\epsilon_r = 51.626$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(4.62, 4.62, 4.62); Calibrated: 2013-06-18;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2013-06-10
- Phantom: SAM 3 Triple Phantom 5.1C; Type: QD 000 P51 CA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

LTE1900 (Band 2)/Body - Middle - QPSK - 20MHz - 1RB - 100% offset - Spacer 0mm - No Accessory - Top Edge Facing Phantom - Full Power/Area Scan (181x41x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.873 W/kg

LTE1900 (Band 2)/Body - Middle - QPSK - 20MHz - 1RB - 100% offset - Spacer 0mm - No Accessory - Top Edge Facing Phantom - Full Power/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=7.5$ mm, $dy=7.5$ mm, $dz=5$ mm

Reference Value = 13.150 V/m

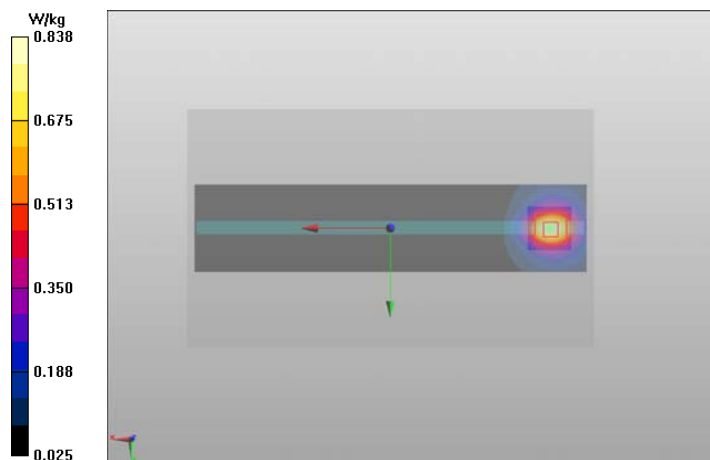
Peak SAR (extrapolated) = 1.18 W/kg

SAR(1 g) = 0.749 W/kg

SAR(10 g) = 0.416 W/kg

Power Drift = -0.11 dB

Maximum value of SAR (measured) = 0.838 W/kg



Plot #19

Date/Time: 2013-08-22 17:27:06

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351070/3

Communication System: WLAN2450 b-mode

Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: MSL2450; Medium Notes: T=21.5

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.914$ S/m; $\epsilon_r = 51.096$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3817
- ConvF(7.13, 7.13, 7.13); Calibrated: 2013-01-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1301; Calibrated: 2013-02-06
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 2013/06/28
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.9 (7117)

WLAN2450 b-mode/Body - Channel 6 - BPSK 1 Mbps - Spacer 0mm - No Accessory - Back Facing Phantom - Main Antenna/Area Scan (211x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.61 W/kg

WLAN2450 b-mode/Body - Channel 6 - BPSK 1 Mbps - Spacer 0mm - No Accessory - Back Facing Phantom - Main Antenna/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 28.793 V/m

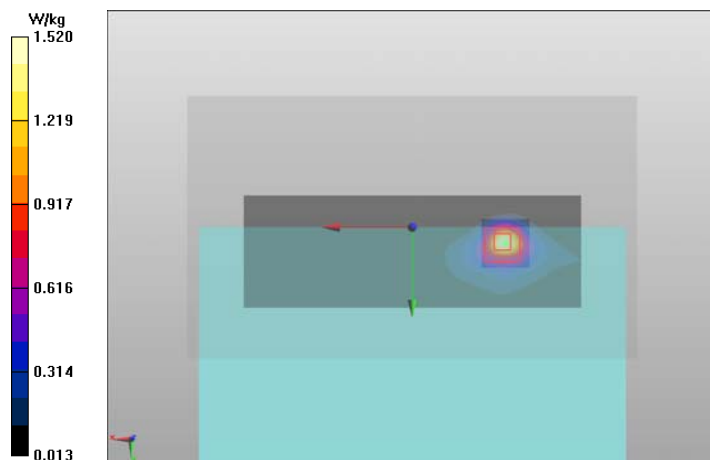
Peak SAR (extrapolated) = 2.81 W/kg

SAR(1 g) = 1.33 W/kg

SAR(10 g) = 0.586 W/kg

Power Drift = -0.14 dB

Maximum value of SAR (measured) = 1.52 W/kg



Plot #20

Date/Time: 2013-08-22 18:14:21

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351070/3

Communication System: WLAN2450 b-mode

Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: MSL2450; Medium Notes: T=21.5

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.914$ S/m; $\epsilon_r = 51.096$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3817
- ConvF(7.13, 7.13, 7.13); Calibrated: 2013-01-23;
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used)), Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1301; Calibrated: 2013-02-06
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 2013/06/28
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.9 (7117)

WLAN2450 b-mode/Body - Channel 6 - BPSK 1 Mbps - Spacer 0mm - No Accessory - Back Facing Phantom - AUX Antenna - Repeated/Area Scan (211x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

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

WLAN2450 b-mode/Body - Channel 6 - BPSK 1 Mbps - Spacer 0mm - No Accessory - Back Facing Phantom - AUX Antenna - Repeated/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.018 V/m

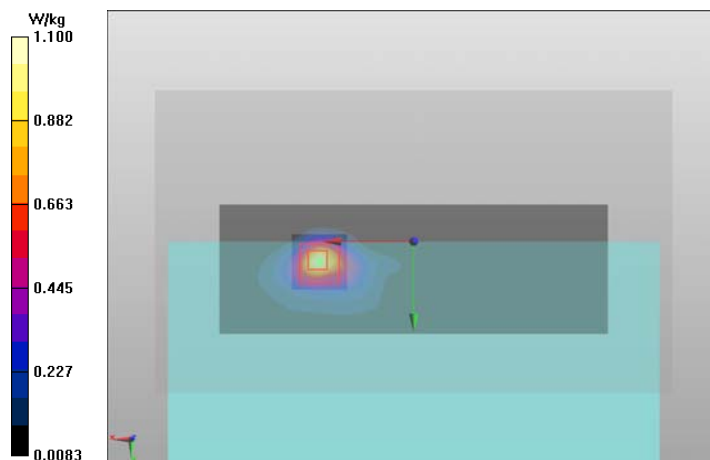
Peak SAR (extrapolated) = 2.03 W/kg

SAR(1 g) = 0.936 W/kg

SAR(10 g) = 0.417 W/kg

Power Drift = -0.13 dB

Maximum value of SAR (measured) = 1.10 W/kg



Plot #21

Date/Time: 2013-08-29 10:44:09

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351376/4

Communication System: WLAN5000 a-mode

Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: MSL5000; Medium Notes: T=21.5

Medium parameters used: $f = 5500$ MHz; $\sigma = 5.857$ S/m; $\epsilon_r = 47.66$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3817
- ConvF(4.07, 4.07, 4.07); Calibrated: 2013-01-23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1301; Calibrated: 2013-02-06
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 2013/06/28
- Measurement SW: DASYS2, Version 52.8 (1); SEMCAD X Version 14.6.9 (7117)

WLAN5000 a-mode/Body - Channel 100 - BPSK 6 Mbps - Spacer 0mm - No Accessory - Bottom Edge Facing Phantom - Main Antenna/Area Scan (211x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.88 W/kg

WLAN5000 a-mode/Body - Channel 100 - BPSK 6 Mbps - Spacer 0mm - No Accessory - Bottom Edge Facing Phantom - Main Antenna/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 19.644 V/m

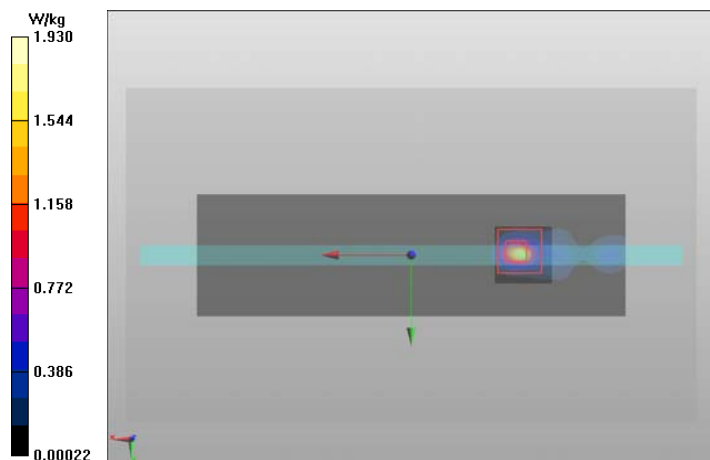
Peak SAR (extrapolated) = 4.41 W/kg

SAR(1 g) = 0.779 W/kg

SAR(10 g) = 0.174 W/kg

Power Drift = -0.05 dB

Maximum value of SAR (measured) = 1.93 W/kg



Plot #22

Date/Time: 2013-09-11 13:22:55

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351376/4

Communication System: WLAN5000 a-mode

Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: MSL5000; Medium Notes: T=21.5

Medium parameters used: $f = 5600$ MHz; $\sigma = 6.015$ S/m; $\epsilon_r = 47.903$; $\rho = 1000$ kg/m³

Phantom section: Center Section

DASY Configuration:

- Probe: EX3DV4 - SN3817
- ConvF(3.79, 3.79, 3.79); Calibrated: 2013-01-23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1301; Calibrated: 2013-02-06
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 2013/06/28
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.9 (7117)

WLAN5000 a-mode/Body - Channel 120 - BPSK 6 Mbps - Spacer 0mm - No Accessory - Bottom Edge Facing Phantom - Aux Antenna/Area Scan (211x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 3.04 W/kg

WLAN5000 a-mode/Body - Channel 120 - BPSK 6 Mbps - Spacer 0mm - No Accessory - Bottom Edge Facing Phantom - Aux Antenna/Zoom Scan (9x9x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 24.384 V/m

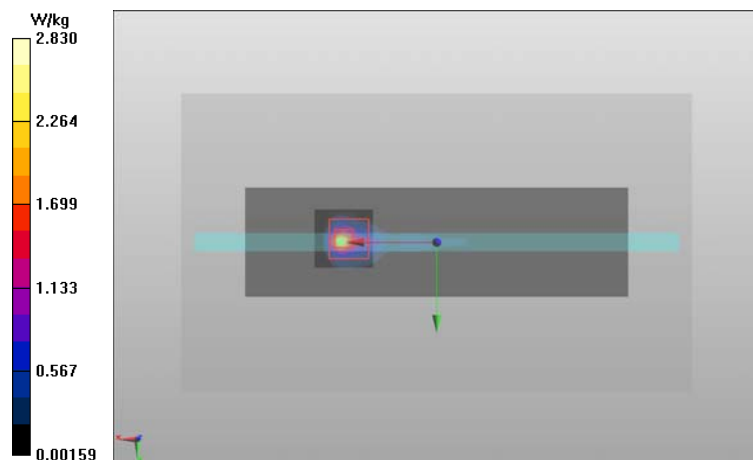
Peak SAR (extrapolated) = 5.74 W/kg

SAR(1 g) = 1.18 W/kg

SAR(10 g) = 0.287 W/kg

Power Drift = -0.02 dB

Maximum value of SAR (measured) = 2.83 W/kg



Plot #23

Date/Time: 2013-09-24 13:26:25

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351363/2

Communication System: LTE700 (Band 17)

Frequency: 711 MHz; Duty Cycle: 1:1

Medium: BSL750; Medium Notes: t= 20,3 C

Medium parameters used: f = 711 MHz; $\sigma = 0.95$ S/m; $\epsilon_r = 53.983$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3834
- ConvF(9.14, 9.14, 9.14); Calibrated: 2013-01-23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn555; Calibrated: 2013-01-11
- Phantom: #3 ELI, SAR4; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

LTE700 (Band 17)/Body - High - QPSK - 10 MHz - 1 RB - 100% offset - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Full Power/Volume Scan (16x71x12): Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 10.108 V/m

Peak SAR (extrapolated) = 0.294 W/kg

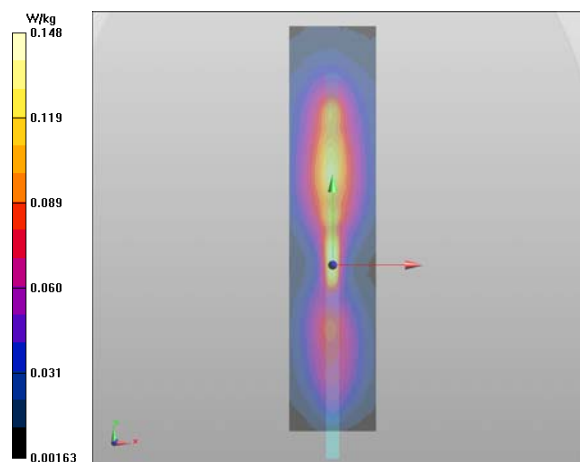
SAR(1 g) = 0.107 W/kg

SAR(10 g) = 0.071 W/kg

Power Drift = -0.05 dB

Total Absorbed Power = 0.0114 W

Maximum value of SAR (measured) = 0.148 W/kg



Plot #24

Date/Time: 2013-09-23 13:02:30

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351342/6

Communication System: 2-slot GPRS850

Frequency: 836.6 MHz; Duty Cycle: 1:4.19952

Medium: BSL850; Medium Notes: t= 20,8 C

Medium parameters used: f = 837 MHz; $\sigma = 0.977$ S/m; $\epsilon_r = 53.548$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2013-01-21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1355; Calibrated: 2013-01-08
- Phantom: #2 ELI Phantom; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

2-slot GPRS850/Body - Middle - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Full Power/Volume Scan (16x71x12): Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 8.123 V/m

Peak SAR (extrapolated) = 0.792 W/kg

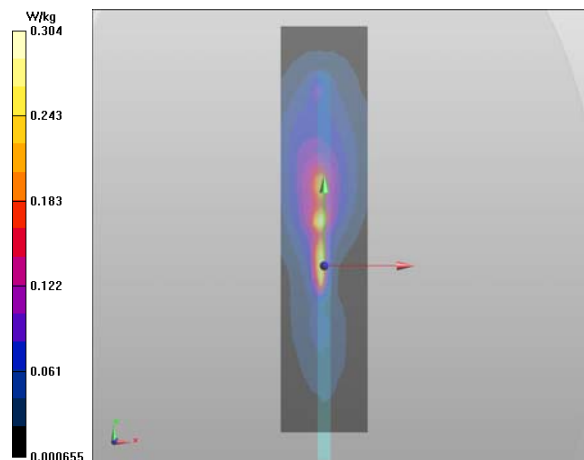
SAR(1 g) = 0.150 W/kg

SAR(10 g) = 0.076 W/kg

Power Drift = -0.05 dB

Total Absorbed Power = 0.00992 W

Maximum value of SAR (measured) = 0.304 W/kg



Plot #25

Date/Time: 2013-09-24 06:17:49

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351342/6

Communication System: WCDMA850 (Band 5)

Frequency: 835 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: t= 20,8 C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.976$ S/m; $\epsilon_r = 53.555$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2013-01-21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1355; Calibrated: 2013-01-08
- Phantom: #2 ELI Phantom; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

WCDMA850 (Band 5)/Body - Middle - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Full

Power/Volume Scan (16x71x12): Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 8.251 V/m

Peak SAR (extrapolated) = 0.925 W/kg

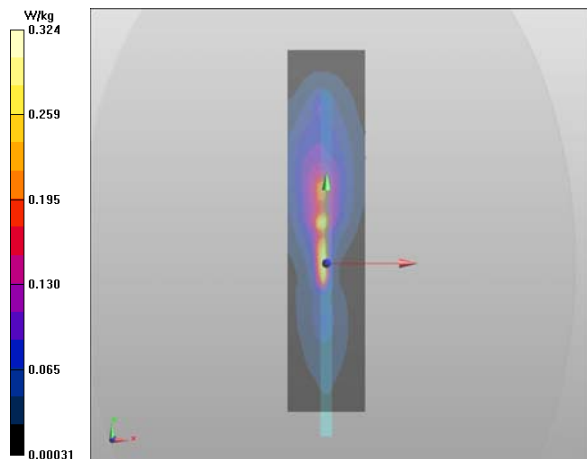
SAR(1 g) = 0.158 W/kg

SAR(10 g) = 0.080 W/kg

Power Drift = 0.02 dB

Total Absorbed Power = 0.0103 W

Maximum value of SAR (measured) = 0.324 W/kg



Plot #26

Date/Time: 2013-09-24 16:29:36

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351342/6

Communication System: LTE850 (Band 5)

Frequency: 844 MHz; Duty Cycle: 1:1

Medium: BSL850; Medium Notes: t= 20,8 C

Medium parameters used: f = 844 MHz; $\sigma = 0.983$ S/m; $\epsilon_r = 53.622$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3165
- ConvF(6.04, 6.04, 6.04); Calibrated: 2013-01-21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1355; Calibrated: 2013-01-08
- Phantom: #2 ELI Phantom; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

LTE850 (Band 5)/Body - High - QPSK - 10MHz - 1RB - 100% offset - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Full Power/Volume Scan (16x71x12): Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 8.041 V/m

Peak SAR (extrapolated) = 0.822 W/kg

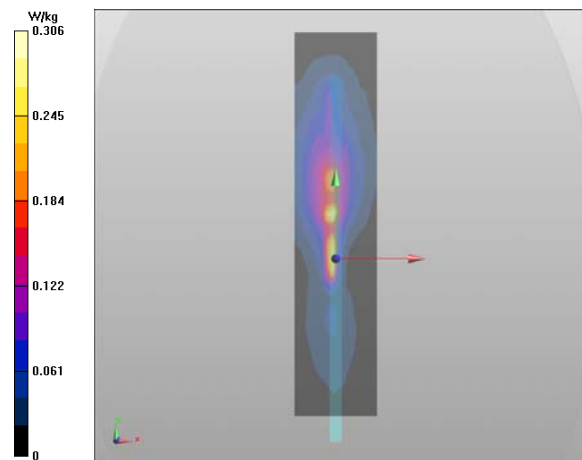
SAR(1 g) = 0.152 W/kg

SAR(10 g) = 0.081 W/kg

Power Drift = -0.02 dB

Total Absorbed Power = 0.00939 W

Maximum value of SAR (measured) = 0.306 W/kg



Plot #27

Date/Time: 2013-09-24 08:55:08

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351347/5

Communication System: WCDMA1900 (Band 2)

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.7\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.498\text{ S/m}$; $\epsilon_r = 51.28$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(4.62, 4.62, 4.62); Calibrated: 2013-06-18;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2013-06-10
- Phantom: SAM 2 ELI5; Type: QDOVA002AA; Serial: TP-1160
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

WCDMA1900 (Band 2)/Body - Middle - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Full

Power/Volume Scan (16x71x12): Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$

Reference Value = 3.396 V/m

Peak SAR (extrapolated) = 0.419 W/kg

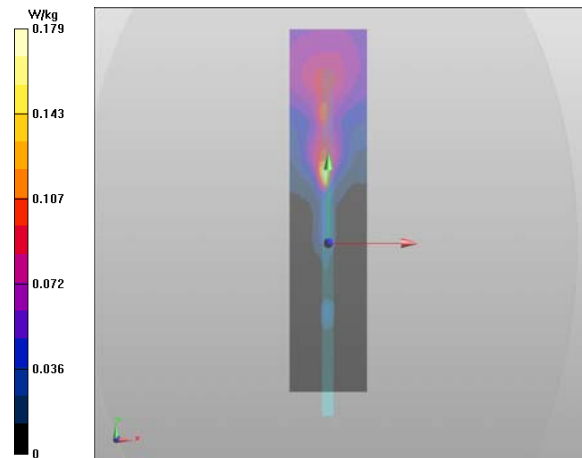
SAR(1 g) = 0.088 W/kg

SAR(10 g) = 0.043 W/kg

Power Drift = 0.20 dB

Total Absorbed Power = 0.00538 W

Maximum value of SAR (measured) = 0.179 W/kg



Plot #28

Date/Time: 2013-09-23 12:54:51

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351347/5

Communication System: LTE1900 (Band 2)

Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: BSL1900; Medium Notes: $t = 21.7\text{ }^{\circ}\text{C}$

Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.498\text{ S/m}$; $\epsilon_r = 51.28$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY Configuration:

- Probe: ES3DV3 - SN3131
- ConvF(4.62, 4.62, 4.62); Calibrated: 2013-06-18;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn793; Calibrated: 2013-06-10
- Phantom: SAM 2 ELI5; Type: QDOVA002AA; Serial: TP-1160
- Measurement SW: DASY52, Version 52.8 (6); SEMCAD X Version 14.6.9 (7117)

LTE1900 (Band 2)/Body - Middle - QPSK - 20 MHz - 50% RB - 100% offset - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Full Power/Volume Scan (16x71x12): Measurement grid: $dx=4\text{ mm}$, $dy=4\text{ mm}$, $dz=2\text{ mm}$

Reference Value = 3.019 V/m

Peak SAR (extrapolated) = 0.353 W/kg

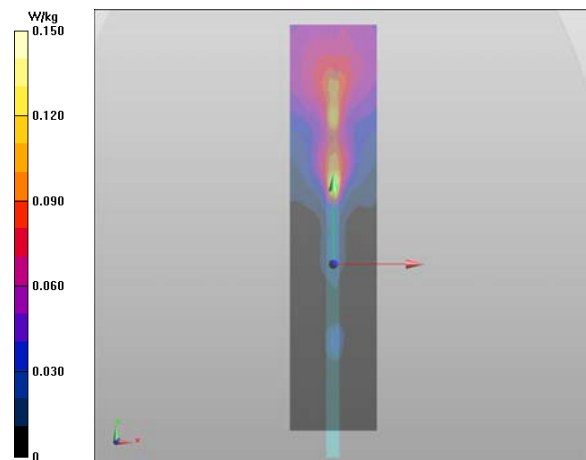
SAR(1 g) = 0.081 W/kg

SAR(10 g) = 0.041 W/kg

Power Drift = 0.20 dB

Total Absorbed Power = 0.00497 W

Maximum value of SAR (measured) = 0.150 W/kg



Plot #29

Date/Time: 2013-09-23 11:49:37

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351376/4

Communication System: WLAN5000 a-mode

Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: MSL5000; Medium Notes: T=21.5

Medium parameters used: $f = 5500$ MHz; $\sigma = 5.875$ S/m; $\epsilon_r = 48.56$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3817
- ConvF(4.07, 4.07, 4.07); Calibrated: 2013-01-23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1301; Calibrated: 2013-02-06
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1172
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.9 (7117)

WLAN5000 a-mode/Body - Channel 100 - BPSK 6 Mbps - Spacer 0mm - No Headset - Bottom Edge Facing

Phantom - Main Antenna/Volume Scan (16x71x12): Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.369 V/m

Peak SAR (extrapolated) = 2.82 W/kg

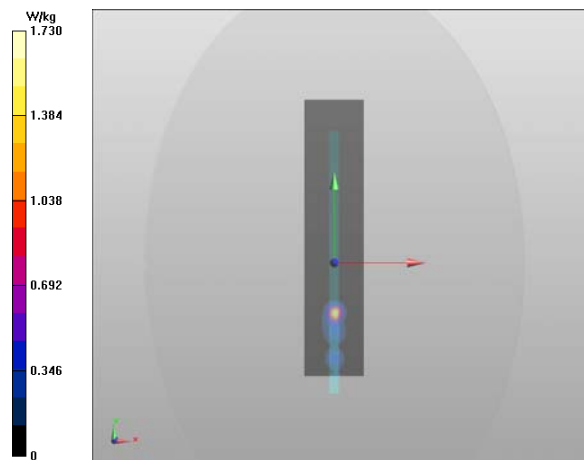
SAR(1 g) = 0.724 W/kg

SAR(10 g) = 0.164 W/kg

Power Drift = 0.18 dB

Total Absorbed Power = 0.00364 W

Maximum value of SAR (measured) = 1.73 W/kg



Plot #30

Date/Time: 2013-09-23 19:37:43

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351376/4

Communication System: WLAN5000 a-mode

Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: MSL5000; Medium Notes: T=21.5

Medium parameters used: $f = 5600$ MHz; $\sigma = 6.014$ S/m; $\epsilon_r = 48.382$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY Configuration:

- Probe: EX3DV4 - SN3817
- ConvF(3.79, 3.79, 3.79); Calibrated: 2013-01-23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1301; Calibrated: 2013-02-06
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1172
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.9 (7117)

WLAN5000 a-mode/Body - Channel 120 - BPSK 6 Mbps - Spacer 0mm - No Headset - Bottom Edge Facing

Phantom - Main Antenna/Volume Scan (16x71x12): Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 5.568 V/m

Peak SAR (extrapolated) = 3.99 W/kg

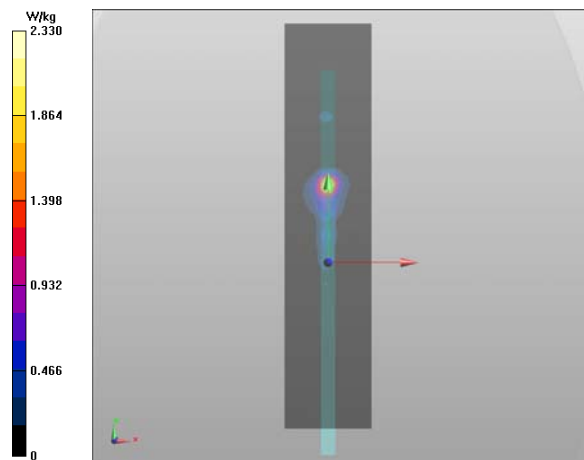
SAR(1 g) = 1.07 W/kg

SAR(10 g) = 0.262 W/kg

Power Drift = 0.16 dB

Total Absorbed Power = 0.00534 W

Maximum value of SAR (measured) = 2.33 W/kg



Plot #31

Date/Time: 2013-09-24 13:26:25

DASY Configuration for LTE700 (Band 17)/Body - High - QPSK - 10 MHz - 1 RB - 100% offset - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Full Power/Volume Scan:

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351363/2

Communication System: LTE700 (Band 17); Frequency: 711 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL750 Medium parameters used: $f = 711$ MHz; $\sigma = 0.95$ S/m; $\epsilon_r = 53.983$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3834; ConvF(9.14, 9.14, 9.14); Calibrated: 2013-01-23;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn555; Calibrated: 2013-01-11

Phantom: #3 ELI, SAR4; Type: QDOVA002AA;

Measurement SW: DASY52, Version 52.8 (6)

Date/Time: 2013-09-23 11:49:37

DASY Configuration for WLAN5000 a-mode/Body - Channel 100 - BPSK 6 Mbps - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Main Antenna/Volume Scan:

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351376/4

Communication System: WLAN5000 a-mode; Frequency: 5500 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL5000 Medium parameters used: $f = 5500$ MHz; $\sigma = 5.875$ S/m; $\epsilon_r = 48.56$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3817; ConvF(4.07, 4.07, 4.07); Calibrated: 2013-01-23;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1301; Calibrated: 2013-02-06

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1172

Measurement SW: DASY52, Version 52.8 (1)

Date/Time: 2013-09-23 19:37:43

DASY Configuration for WLAN5000 a-mode/Body - Channel 120 - BPSK 6 Mbps - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Main Antenna/Volume Scan:

Test Laboratory: TCC Nokia

RX-114; Serial: 004402/47/351376/4

Communication System: WLAN5000 a-mode; Frequency: 5600 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL5000 Medium parameters used: $f = 5600$ MHz; $\sigma = 6.014$ S/m; $\epsilon_r = 48.382$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3817; ConvF(3.79, 3.79, 3.79); Calibrated: 2013-01-23;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1301; Calibrated: 2013-02-06

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1172

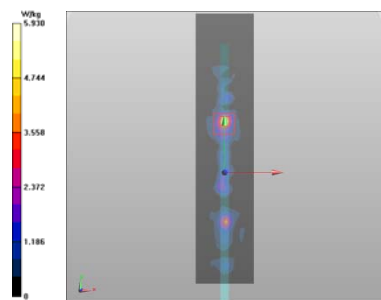
Measurement SW: DASY52, Version 52.8 (1)

Multi Band Result:

SAR(1 g) = 1.39 mW/g; SAR(10 g) = 0.400 mW/g

Maximum value of SAR (interpolated) = 5.93 W/kg

LTE700 (Band 17) was scaled with factor 1.00, WLAN5000 a-mode Main Antenna with factor 1.11, WLAN5000 a-mode AUX Antenna with factor 1.17, before combining in SEMCAD SW.



Plot #32

Date/Time: 2013-09-23 13:02:30

DASY Configuration for 2-slot GPRS850/Body - Middle - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Full Power/Volume Scan:

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351342/6

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

Medium: BSL850 Medium parameters used: $f = 837$ MHz; $\sigma = 0.977$ S/m; $\epsilon_r = 53.548$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: ES3DV3 - SN3165; ConvF(6.04, 6.04, 6.04); Calibrated: 2013-01-21;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1355; Calibrated: 2013-01-08

Phantom: #2 ELI Phantom; Type: QDOVA002AA;

Measurement SW: DASY52, Version 52.8 (6)

Date/Time: 2013-09-23 11:49:37

DASY Configuration for WLAN5000 a-mode/Body - Channel 100 - BPSK 6 Mbps - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Main Antenna/Volume Scan:

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351376/4

Communication System: WLAN5000 a-mode; Frequency: 5500 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL5000 Medium parameters used: $f = 5500$ MHz; $\sigma = 5.875$ S/m; $\epsilon_r = 48.56$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3817; ConvF(4.07, 4.07, 4.07); Calibrated: 2013-01-23;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1301; Calibrated: 2013-02-06

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1172

Measurement SW: DASY52, Version 52.8 (1)

Date/Time: 2013-09-23 19:37:43

DASY Configuration for WLAN5000 a-mode/Body - Channel 120 - BPSK 6 Mbps - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Main Antenna/Volume Scan:

Test Laboratory: TCC Nokia

RX-114; Serial: 004402/47/351376/4

Communication System: WLAN5000 a-mode; Frequency: 5600 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL5000 Medium parameters used: $f = 5600$ MHz; $\sigma = 6.014$ S/m; $\epsilon_r = 48.382$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3817; ConvF(3.79, 3.79, 3.79); Calibrated: 2013-01-23;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1301; Calibrated: 2013-02-06

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1172

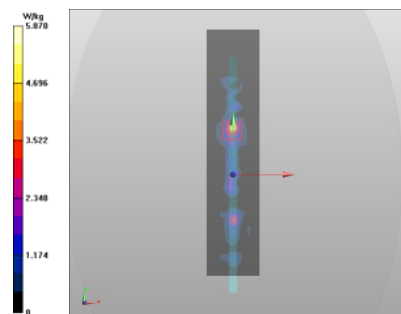
Measurement SW: DASY52, Version 52.8 (1)

Multi Band Result:

SAR(1 g) = 1.44 mW/g; SAR(10 g) = 0.414 mW/g

Maximum value of SAR (interpolated) = 5.87 W/kg

2-slot GPRS850 was scaled with factor 1.05, WLAN5000 a-mode Main Antenna with factor 1.11, WLAN5000 a-mode AUX Antenna with factor 1.17, before combining in SEMCAD SW.



Plot #33

Date/Time: 2013-09-24 06:17:49

DASY Configuration for WCDMA850 (Band 5)/Body - Middle - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Full Power/Volume Scan:

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351342/6

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

Medium: BSL850 Medium parameters used: $f = 835$ MHz; $\sigma = 0.976$ S/m; $\epsilon_r = 53.555$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: ES3DV3 - SN3165; ConvF(6.04, 6.04, 6.04); Calibrated: 2013-01-21;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1355; Calibrated: 2013-01-08

Phantom: #2 ELI Phantom; Type: QDOVA002AA;

Measurement SW: DASY52, Version 52.8 (6)

Date/Time: 2013-09-23 11:49:37

DASY Configuration for WLAN5000 a-mode/Body - Channel 100 - BPSK 6 Mbps - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Main Antenna/Volume Scan:

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351376/4

Communication System: WLAN5000 a-mode; Frequency: 5500 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL5000 Medium parameters used: $f = 5500$ MHz; $\sigma = 5.875$ S/m; $\epsilon_r = 48.56$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3817; ConvF(4.07, 4.07, 4.07); Calibrated: 2013-01-23;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1301; Calibrated: 2013-02-06

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1172

Measurement SW: DASY52, Version 52.8 (1)

Date/Time: 2013-09-23 19:37:43

DASY Configuration for WLAN5000 a-mode/Body - Channel 120 - BPSK 6 Mbps - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Main Antenna/Volume Scan:

Test Laboratory: TCC Nokia

RX-114; Serial: 004402/47/351376/4

Communication System: WLAN5000 a-mode; Frequency: 5600 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL5000 Medium parameters used: $f = 5600$ MHz; $\sigma = 6.014$ S/m; $\epsilon_r = 48.382$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3817; ConvF(3.79, 3.79, 3.79); Calibrated: 2013-01-23;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1301; Calibrated: 2013-02-06

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1172

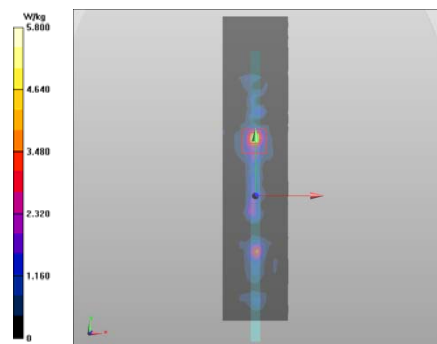
Measurement SW: DASY52, Version 52.8 (1)

Multi Band Result:

SAR(1 g) = 1.44 mW/g; SAR(10 g) = 0.418 mW/g

Maximum value of SAR (interpolated) = 5.80 W/kg

WCDMA850 (Band 5) was scaled with factor 1.03, WLAN5000 a-mode Main Antenna with factor 1.11, WLAN5000 a-mode AUX Antenna with factor 1.17, before combining in SEMCAD SW.



Plot #34

Date/Time: 2013-09-24 16:29:36

DASY Configuration for LTE850 (Band 5)/Body - High - QPSK - 10MHz - 1RB - 100% offset - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Full Power/Volume Scan:

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351342/6

Communication System: LTE850 (Band 5); Frequency: 844 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL850 Medium parameters used: $f = 844$ MHz; $\sigma = 0.983$ S/m; $\epsilon_r = 53.622$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: ES3DV3 - SN3165; ConvF(6.04, 6.04, 6.04); Calibrated: 2013-01-21;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1355; Calibrated: 2013-01-08

Phantom: #2 ELI Phantom; Type: QDOVA002AA;

Measurement SW: DASY52, Version 52.8 (6)

Date/Time: 2013-09-23 11:49:37

DASY Configuration for WLAN5000 a-mode/Body - Channel 100 - BPSK 6 Mbps - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Main Antenna/Volume Scan:

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351376/4

Communication System: WLAN5000 a-mode; Frequency: 5500 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL5000 Medium parameters used: $f = 5500$ MHz; $\sigma = 5.875$ S/m; $\epsilon_r = 48.56$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3817; ConvF(4.07, 4.07, 4.07); Calibrated: 2013-01-23;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1301; Calibrated: 2013-02-06

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1172

Measurement SW: DASY52, Version 52.8 (1)

Date/Time: 2013-09-23 19:37:43

DASY Configuration for WLAN5000 a-mode/Body - Channel 120 - BPSK 6 Mbps - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Main Antenna/Volume Scan:

Test Laboratory: TCC Nokia

RX-114; Serial: 004402/47/351376/4

Communication System: WLAN5000 a-mode; Frequency: 5600 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL5000 Medium parameters used: $f = 5600$ MHz; $\sigma = 6.014$ S/m; $\epsilon_r = 48.382$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3817; ConvF(3.79, 3.79, 3.79); Calibrated: 2013-01-23;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1301; Calibrated: 2013-02-06

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1172

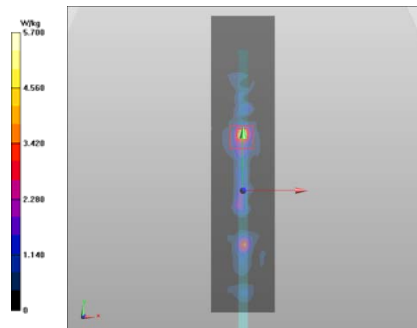
Measurement SW: DASY52, Version 52.8 (1)

Multi Band Result:

SAR(1 g) = 1.44 mW/g; SAR(10 g) = 0.416 mW/g

Maximum value of SAR (interpolated) = 5.70 W/kg

LTE850 (Band 5) was scaled with factor 1.03, WLAN5000 a-mode Main Antenna with factor 1.11, WLAN5000 a-mode AUX Antenna with factor 1.17, before combining in SEMCAD SW.



Plot #35

Date/Time: 2013-09-24 08:55:08

DASY Configuration for WCDMA1900 (Band 2)/Body - Middle - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Full

Power/Volume Scan:

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351347/5

Communication System: WCDMA1900 (Band 2); Frequency: 1880 MHz; Duty Cycle: 1:1; PMF:

Medium: BSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.498$ S/m; $\epsilon_r = 51.28$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: ES3DV3 - SN3131; ConvF(4.62, 4.62, 4.62); Calibrated: 2013-06-18;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn793; Calibrated: 2013-06-10

Phantom: SAM 2 ELI5; Type: QDOVA002AA; Serial: TP-1160

Measurement SW: DASY52, Version 52.8 (6)

Date/Time: 2013-09-23 11:49:37

DASY Configuration for WLAN5000 a-mode/Body - Channel 100 - BPSK 6 Mbps - Spacer 0mm - No Headset - Bottom Edge Facing Phantom -

Main Antenna/Volume Scan:

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351376/4

Communication System: WLAN5000 a-mode; Frequency: 5500 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL5000 Medium parameters used: $f = 5500$ MHz; $\sigma = 5.875$ S/m; $\epsilon_r = 48.56$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3817; ConvF(4.07, 4.07, 4.07); Calibrated: 2013-01-23;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1301; Calibrated: 2013-02-06

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1172

Measurement SW: DASY52, Version 52.8 (1)

Date/Time: 2013-09-23 19:37:43

DASY Configuration for WLAN5000 a-mode/Body - Channel 120 - BPSK 6 Mbps - Spacer 0mm - No Headset - Bottom Edge Facing Phantom -

Main Antenna/Volume Scan:

Test Laboratory: TCC Nokia

RX-114; Serial: 004402/47/351376/4

Communication System: WLAN5000 a-mode; Frequency: 5600 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL5000 Medium parameters used: $f = 5600$ MHz; $\sigma = 6.014$ S/m; $\epsilon_r = 48.382$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3817; ConvF(3.79, 3.79, 3.79); Calibrated: 2013-01-23;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1301; Calibrated: 2013-02-06

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1172

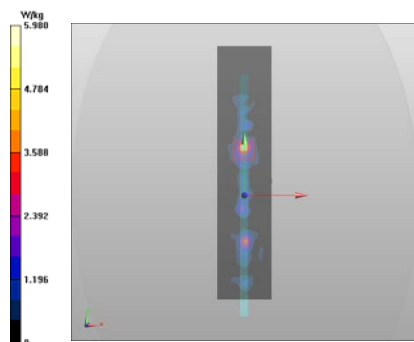
Measurement SW: DASY52, Version 52.8 (1)

Multi Band Result:

SAR(1 g) = 1.39 mW/g; SAR(10 g) = 0.369 mW/g

Maximum value of SAR (interpolated) = 5.98 W/kg

WCDMA1900 (Band 2) was scaled with factor 1.05, WLAN5000 a-mode Main Antenna with factor 1.11, WLAN5000 a-mode AUX Antenna with factor 1.17, before combining in SEMCAD SW.



Plot #36

Date/Time: 2013-09-23 12:54:51

DASY Configuration for LTE1900 (Band 2)/Body - Middle - QPSK - 20 MHz - 50% RB - 100% offset - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Full Power/Volume Scan:

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351347/5

Communication System: LTE1900 (Band 2); Frequency: 1880 MHz; Duty Cycle: 1:1; PMF: 1

Medium: BSL1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.498$ S/m; $\epsilon_r = 51.28$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: ES3DV3 - SN3131; ConvF(4.62, 4.62, 4.62); Calibrated: 2013-06-18;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn793; Calibrated: 2013-06-10

Phantom: SAM 2 ELI5; Type: QDOVA002AA; Serial: TP-1160

Measurement SW: DASY52, Version 52.8 (6)

Date/Time: 2013-09-23 11:49:37

DASY Configuration for WLAN5000 a-mode/Body - Channel 100 - BPSK 6 Mbps - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Main Antenna/Volume Scan:

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351376/4

Communication System: WLAN5000 a-mode; Frequency: 5500 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL5000 Medium parameters used: $f = 5500$ MHz; $\sigma = 5.875$ S/m; $\epsilon_r = 48.56$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3817; ConvF(4.07, 4.07, 4.07); Calibrated: 2013-01-23;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1301; Calibrated: 2013-02-06

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1172

Measurement SW: DASY52, Version 52.8 (1)

Date/Time: 2013-09-23 19:37:43

DASY Configuration for WLAN5000 a-mode/Body - Channel 120 - BPSK 6 Mbps - Spacer 0mm - No Headset - Bottom Edge Facing Phantom - Main Antenna/Volume Scan:

Test Laboratory: TCC Nokia

RX-114; Serial: 004402/47/351376/4

Communication System: WLAN5000 a-mode; Frequency: 5600 MHz; Duty Cycle: 1:1; PMF: 1

Medium: MSL5000 Medium parameters used: $f = 5600$ MHz; $\sigma = 6.014$ S/m; $\epsilon_r = 48.382$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Probe: EX3DV4 - SN3817; ConvF(3.79, 3.79, 3.79); Calibrated: 2013-01-23;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1301; Calibrated: 2013-02-06

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP:1172

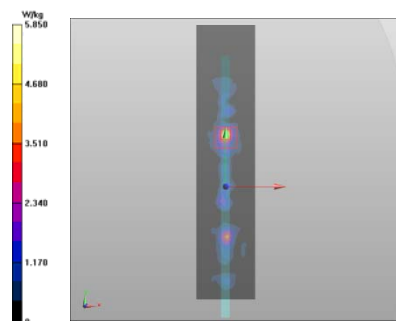
Measurement SW: DASY52, Version 52.8 (1)

Multi Band Result:

SAR(1 g) = 1.40 mW/g; SAR(10 g) = 0.367 mW/g

Maximum value of SAR (interpolated) = 5.85 W/kg

LTE1900 (Band 2) was scaled with factor 1.20, WLAN5000 a-mode Main Antenna with factor 1.11, WLAN5000 a-mode AUX Antenna with factor 1.17, before combining in SEMCAD SW.



APPENDIX C: DIELECTRIC PARAMETERS OF THE TISSUE SIMULANTS

Body tissue simulant dielectric parameters used in the measurements:

f (MHz)	Date	Dielectric Parameters					
		Ch 23780 709.0 MHz		Ch 23790 710.0 MHz		Ch 23800 711.0 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
710	2013-08-22	53.4	0.98	53.4	0.98	53.4	0.98
	2013-08-23	53.8	0.98	53.8	0.98	53.8	0.98
	2013-08-26	54.2	0.99	54.2	0.99	54.2	0.99
	2013-08-27	54.1	0.99	54.1	0.99	54.1	0.99
	2013-09-06	53.3	0.98	53.3	0.98	53.3	0.98
	2013-08-22	53.4	0.98	53.4	0.98	53.4	0.98
	2013-09-24	54.0	0.95	54.0	0.95	54.0	0.95
	2013-10-14	53.3	0.98	53.3	0.98	53.2	0.98
f (MHz)	Date	Dielectric Parameters					
		-		Ch 23230 782.0 MHz		-	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
782	2013-08-23	-	-	53.4	1.02	-	-
	2013-08-27	-	-	53.7	1.03	-	-
	2013-09-06	-	-	52.9	1.02	-	-
	2013-10-14	-	-	52.7	1.02	-	-
F (MHz)	Date	Dielectric Parameters					
		Ch 4132 826.4 MHz		Ch 4175 835.0 MHz		Ch 4233 846.6 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
835	2013-09-02	54.0	0.95	54.0	0.96	54.0	0.97
	2013-09-04	53.6	0.97	53.5	0.98	53.5	0.99
	2013-09-05	53.1	0.98	53.1	0.98	53.0	0.99
	2013-09-23	53.6	0.97	53.6	0.97	53.5	0.98
	2013-10-10	53.3	0.97	53.2	0.97	53.2	0.98

(Body tissue simulant table continues)

(Body tissue simulant table continues)

f (MHz)	Date	Dielectric Parameters					
		Ch 20450 829.0 MHz		Ch 20525 836.5 MHz		Ch 20600 844.0 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
836	2013-08-30	53.8	0.98	53.7	0.98	53.7	0.99
	2013-09-02	54.0	0.95	54.0	0.96	54.0	0.96
	2013-09-04	53.6	0.98	53.5	0.98	53.5	0.98
	2013-09-05	53.1	0.98	53.1	0.98	53.1	0.99
	2013-09-24	53.7	0.97	53.7	0.98	53.6	0.98
	2013-10-11	52.9	0.96	52.9	0.97	52.8	0.97
f (MHz)	Date	Dielectric Parameters					
		Ch 128 824.2 MHz		Ch 190 836.6 MHz		Ch 251 848.8 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
836	2013-08-30	53.8	0.98	53.7	0.98	53.7	0.99
	2013-09-04	53.6	0.97	53.5	0.98	53.5	0.99
	2013-09-05	53.2	0.98	53.1	0.99	53.0	0.99
	2013-09-23	53.6	0.97	53.5	0.98	53.5	0.98
	2013-10-11	52.9	0.96	52.9	0.97	52.8	0.97
F (MHz)	Date	Dielectric Parameters					
		Ch 20050 1720.0 MHz		Ch 20175 1732.5 MHz		Ch 20300 1745.0 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
1732	2013-09-02	52.4	1.41	52.4	1.42	52.4	1.43
	2013-09-12	51.6	1.43	51.5	1.44	51.5	1.45
	2013-10-11	51.6	1.40	51.6	1.41	51.5	1.42
f (MHz)	Date	Dielectric Parameters					
		Ch 512 1850.2 MHz		Ch 661 1880.0 MHz		Ch 810 1909.8 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
1880	2013-08-30	51.9	1.49	51.7	1.50	51.6	1.53
	2013-09-04	51.5	1.49	51.5	1.51	51.3	1.53
	2013-09-06	52.1	1.48	52.0	1.51	51.9	1.54
	2013-09-10	51.6	1.47	51.6	1.50	51.5	1.53
	2013-09-23	51.3	1.48	51.3	1.50	51.2	1.51
	2013-10-10	51.6	1.45	51.6	1.47	51.5	1.50

(Body tissue simulant table continues)

(Body tissue simulant table continues)

f (MHz)	Date	Dielectric Parameters					
		Ch 9262 1852.4 MHz		Ch 9400 1880.0 MHz		Ch 9538 1907.6 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
1880	2013-08-28	51.6	1.49	51.6	1.52	51.6	1.54
	2013-08-29	52.1	1.49	52.0	1.50	51.9	1.53
	2013-09-06	52.0	1.49	52.0	1.51	51.9	1.54
	2013-09-23	51.4	1.48	51.3	1.50	51.2	1.52
	2013-10-10	51.6	1.45	51.6	1.47	51.5	1.50
f (MHz)	Date	Dielectric Parameters					
		Ch 18700 1860.0 MHz		Ch 18900 1880.0 MHz		Ch 19100 1900.0 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
1880	2013-08-28	51.6	1.50	51.6	1.52	51.6	1.54
	2013-09-11	51.6	1.49	51.6	1.51	51.6	1.53
	2013-09-12	51.4	1.49	51.4	1.51	51.4	1.53
	2013-09-23	51.3	1.48	51.3	1.50	51.2	1.51
	2013-10-10	51.6	1.46	51.6	1.47	51.5	1.49
f (MHz)	Date	Dielectric Parameters					
		Ch 1 2412.0 MHz		Ch 6 2437.0 MHz		Ch 11 2462.0 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
2437	2013-08-22	51.1	1.88	51.1	1.91	51.1	1.94

**Body tissue simulant dielectric parameters used in the measurements 5180 – 5825 MHz:
Main Antenna**

f (MHz)	Date	Dielectric Parameters									
		Ch 40 5200.0 MHz		5210.0 MHz		Ch 48 5240.0 MHz		-		-	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
5210	2013-08-28	48.4	5.45	48.4	5.46	48.4	5.50	-	-	-	-
f (MHz)	Date	Dielectric Parameters									
		Ch 52 5260.0 MHz		5290.0 MHz		Ch 60 5300.0 MHz		-		-	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
5290	2013-08-28	48.3	5.53	48.3	5.57	48.3	5.58	-	-	-	-
f (MHz)	Date	Dielectric Parameters									
		Ch 100 5500.0 MHz		5520.0 MHz		Ch 112 5560.0 MHz		Ch 120 5600.0 MHz		Ch 132 5660.0 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
5520 5600	2013-08-29	47.7	5.85	47.6	5.88	47.6	5.93	47.5	5.99	47.4	6.07
	2013-08-30	47.7	5.81	47.7	5.83	47.6	5.88	47.6	5.95	47.4	6.02
	2013-09-23	48.6	5.87	48.5	5.89	48.4	6.01	48.3	6.09	48.4	6.01
f (MHz)	Date	Dielectric Parameters									
		5760.0 MHz		Ch 153 5765.0 MHz		Ch 161 5805.0 MHz		Ch 165 5825.0 MHz		-	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
5760	2013-08-30	47.3	6.16	47.3	6.17	47.2	6.23	47.2	6.25	-	-

**Body tissue simulant dielectric parameters used in the measurements 5180 – 5825 MHz:
AUX Antenna**

f (MHz)	Date	Dielectric Parameters									
		Ch 36 5180.0 MHz		5210.0 MHz		Ch 44 5220.0 MHz		-		-	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
5210	2013-08-28	48.5	5.42	48.4	5.46	48.4	5.47	-	-	-	-
f (MHz)	Date	Dielectric Parameters									
		Ch 52 5260.0 MHz		5290.0 MHz		Ch 60 5300.0 MHz		-		-	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
5290	2013-08-28	48.3	5.53	48.3	5.57	48.3	5.58	-	-	-	-
	2013-09-11	48.5	5.54	48.4	5.58	48.4	5.60				
f (MHz)	Date	Dielectric Parameters									
		5520.0 MHz		Ch 108 5540.0 MHz		Ch 120 5600.0 MHz		Ch 124 5620.0 MHz		Ch 132 5660.0 MHz	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
5520 5620	2013-08-29	47.6	5.88	47.6	5.91	47.5	5.99	47.5	6.02	47.4	6.07
	2013-08-30	47.7	5.83	47.7	5.85	47.6	5.95	47.5	5.97	47.4	6.02
	2013-09-11	48.0	5.89	48.0	5.92	47.9	6.01	47.9	6.04	47.8	6.09
	2013-09-23	48.5	5.89	48.5	5.92	48.4	6.01	48.3	6.04	48.3	6.09
f (MHz)	Date	Dielectric Parameters									
		Ch 149 5745.0 MHz		5760.0 MHz		Ch 153 5765.0 MHz		Ch 165 5825.0 MHz		-	
		ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]	ϵ_r	σ [S/m]
5760	2013-08-30	47.3	6.14	47.3	6.16	47.3	6.17	47.2	6.25	-	-
	2013-09-11	47.7	6.21	47.6	6.23	47.6	6.24	47.5	6.33	-	-

APPENDIX D: CONDUCTED AVERAGE POWER MEASUREMENTS FOR WCDMA AND HSUPA

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351342/6, HW: 0100, SW: B10_9447_1030_1328_v0.1.12a

D.1. WCDMA850 (Band 5), FULL POWER Test results

Average power

Ch / f (MHz)	P [dBm]
4132	23.77
4175	23.73
4233	23.68

D.2. HSUPA850, FULL POWER Test results

Average power

Ch / f (MHz)	P [dBm]				
	Subtest mode 1	Subtest mode 2	Subtest mode 3	Subtest mode 4	Subtest mode 5
4132	22.06	21.39	21.18	22.16	22.70
4175	21.88	21.45	20.88	22.15	22.57
4233	22.20	21.56	21.08	22.20	22.67

Note: In HSUPA operation, the output power is reduced relative to the tuning target power for WCDMA. This device runs a single HSUPA power control routine: MPR, and additional 0.5dB reduction to ensure PA linearity. As a result, the MPR for each of the Subtest modes is as follows:

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

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351393/9, HW: 0100, SW: B10_9447_1030_1328_v0.1.12a

D.3. WCDMA850 (Band 5), REDUCED POWER Test results

Average power

Ch / f (MHz)	P [dBm]
4132	20.10
4175	20.23
4233	20.07

D.4. HSUPA850, REDUCED POWER Test results

Average power

Ch / f (MHz)	P [dBm]				
	Subtest mode 1	Subtest mode 2	Subtest mode 3	Subtest mode 4	Subtest mode 5
4132	19.10	18.07	17.52	18.64	19.15
4175	19.06	18.19	17.61	18.82	19.34
4233	18.82	18.03	17.75	18.62	19.11

Note: In HSUPA operation, the output power is reduced relative to the tuning target power for WCDMA. This device runs a single HSUPA power control routine: MPR, and additional 0.5dB reduction to ensure PA linearity. As a result, the MPR for each of the Subtest modes is as follows:

Maximum Power Reduction (MPR)				
Subtest mode 1	Subtest mode 2	Subtest mode 3	Subtest mode 4	Subtest mode 5
0.5dB	2.0dB	2.0dB	1.5dB	0.5dB

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351347/5, HW: 0100, SW: B10_9447_1030_1328_v0.1.12a

D.5. WCDMA1900 (Band 2), FULL POWER Test results

Average power

Ch / f (MHz)	P [dBm]
9262	23.67
9400	23.64
9538	23.60

D.6. HSUPA1900, FULL POWER Test results

Average power

Ch / f (MHz)	P [dBm]				
	Subtest mode 1	Subtest mode 2	Subtest mode 3	Subtest mode 4	Subtest mode 5
9262	22.16	21.23	20.95	22.16	22.62
9400	22.44	21.20	20.85	22.21	22.63
9538	22.45	21.45	21.49	21.92	22.57

Note: In HSUPA operation, the output power is reduced relative to the tuning target power for WCDMA. This device runs a single HSUPA power control routine: MPR, and additional 0.5dB reduction to ensure PA linearity. As a result, the MPR for each of the Subtest modes is as follows:

Maximum Power Reduction (MPR)				
Subtest mode 1	Subtest mode 2	Subtest mode 3	Subtest mode 4	Subtest mode 5
00. dB	2.0 dB	1 dB	2 dB	0 dB

Test Laboratory: TCC Nokia

Type: RX-114; Serial: 004402/47/351408/5, HW: 0100, SW: B10_9447_1030_1328_v0.1.12a

D.7. WCDMA1900 (Band 2), REDUCED POWER Test results

Average power

Ch / f (MHz)	P [dBm]
9262	16.98
9400	17.02
9538	17.15

D.8. HSUPA1900, REDUCED POWER Test results

Average power

Ch / f (MHz)	P [dBm]				
	Subtest mode 1	Subtest mode 2	Subtest mode 3	Subtest mode 4	Subtest mode 5
9262	15.96	15.12	14.26	15.51	16.01
9400	15.36	15.16	14.47	15.58	16.04
9538	15.57	15.14	14.53	15.70	16.17

Note: In HSUPA operation, the output power is reduced relative to the tuning target power for WCDMA. This device runs a single HSUPA power control routine: MPR, and additional 0.5dB reduction to ensure PA linearity. As a result, the MPR for each of the Subtest modes is as follows:

Maximum Power Reduction (MPR)				
Subtest mode 1	Subtest mode 2	Subtest mode 3	Subtest mode 4	Subtest mode 5
1.5dB	1.5dB	2.5dB	1.5dB	0.5dB

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



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

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

Client **Nokia Salo TCC**

Certificate No: **ES3-3131_Jun13**

CALIBRATION CERTIFICATE

Object **ES3DV3 - SN:3131**

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

Calibration date: **June 18, 2013**

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

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^{\circ}\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	04-Apr-13 (No. 217-01733)	Apr-14
Power sensor E4412A	MY41498087	04-Apr-13 (No. 217-01733)	Apr-14
Reference 3 dB Attenuator	SN: S5054 (3c)	04-Apr-13 (No. 217-01737)	Apr-14
Reference 20 dB Attenuator	SN: S5277 (20x)	04-Apr-13 (No. 217-01735)	Apr-14
Reference 30 dB Attenuator	SN: S5129 (30b)	04-Apr-13 (No. 217-01738)	Apr-14
Reference Probe ES3DV2	SN: 3013	28-Dec-12 (No. ES3-3013_Dec12)	Dec-13
DAE4	SN: 660	31-Jan-13 (No. DAE4-660_Jan13)	Jan-14
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-13)	In house check: Apr-15
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

Calibrated by:	Name Israe El-Naouq	Function Laboratory Technician	Signature
Approved by:	Name Katja Pokovic	Function Technical Manager	Signature

Issued: June 18, 2013

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

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3131

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	41.9	0.89	6.23	6.23	6.23	0.31	1.83	± 12.0 %
835	41.5	0.90	5.96	5.96	5.96	0.26	1.99	± 12.0 %
1750	40.1	1.37	5.17	5.17	5.17	0.49	1.47	± 12.0 %
1900	40.0	1.40	4.98	4.98	4.98	0.67	1.27	± 12.0 %
2450	39.2	1.80	4.33	4.33	4.33	0.80	1.14	± 12.0 %
2600	39.0	1.96	4.21	4.21	4.21	0.80	1.09	± 12.0 %

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

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

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3131

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	55.5	0.96	6.10	6.10	6.10	0.30	1.90	± 12.0 %
835	55.2	0.97	6.03	6.03	6.03	0.39	1.68	± 12.0 %
1750	53.4	1.49	4.87	4.87	4.87	0.31	2.53	± 12.0 %
1900	53.3	1.52	4.62	4.62	4.62	0.28	2.70	± 12.0 %
2450	52.7	1.95	4.27	4.27	4.27	0.68	1.20	± 12.0 %
2600	52.5	2.16	4.17	4.17	4.17	0.50	1.10	± 12.0 %

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

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



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

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Multilateral Agreement for the recognition of calibration certificates

Client **Nokia Salo TCC**

Certificate No: **ES3-3165_Jan13**

CALIBRATION CERTIFICATE

Object **ES3DV3 - SN:3165**

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

Calibration date: **January 21, 2013**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	29-Mar-12 (No. 217-01508)	Apr-13
Power sensor E4412A	MY41498087	29-Mar-12 (No. 217-01508)	Apr-13
Reference 3 dB Attenuator	SN: S5054 (3c)	27-Mar-12 (No. 217-01531)	Apr-13
Reference 20 dB Attenuator	SN: S5086 (20b)	27-Mar-12 (No. 217-01529)	Apr-13
Reference 30 dB Attenuator	SN: S5129 (30b)	27-Mar-12 (No. 217-01532)	Apr-13
Reference Probe ES3DV2	SN: 3013	28-Dec-12 (No. ES3-3013_Dec12)	Dec-13
DAE4	SN: 660	20-Jun-12 (No. DAE4-660_Jun12)	Jun-13
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-11)	In house check: Apr-13
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

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

Issued: January 21, 2013

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

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

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	41.9	0.89	6.46	6.46	6.46	0.23	2.34	± 12.0 %
835	41.5	0.90	6.20	6.20	6.20	0.33	1.65	± 12.0 %
1750	40.1	1.37	5.19	5.19	5.19	0.67	1.25	± 12.0 %
1900	40.0	1.40	5.02	5.02	5.02	0.43	1.47	± 12.0 %
2450	39.2	1.80	4.45	4.45	4.45	0.60	1.41	± 12.0 %
2600	39.0	1.96	4.28	4.28	4.28	0.70	1.34	± 12.0 %

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

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

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

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	55.5	0.96	6.10	6.10	6.10	0.31	1.92	± 12.0 %
835	55.2	0.97	6.04	6.04	6.04	0.71	1.22	± 12.0 %
1750	53.4	1.49	4.86	4.86	4.86	0.54	1.49	± 12.0 %
1900	53.3	1.52	4.60	4.60	4.60	0.46	1.72	± 12.0 %
2450	52.7	1.95	4.18	4.18	4.18	0.64	1.17	± 12.0 %
2600	52.5	2.16	3.98	3.98	3.98	0.80	1.00	± 12.0 %

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

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



Accredited by the Swiss Accreditation Service (SAS)

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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Nokia Sala TCC**

Certificate No: **EX3-3834_Jan13**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3834**

Calibration procedure(s) **QA CAL-01.v8, QA CAL-14.v3, QA CAL-23.v4, QA CAL-25.v4**
Calibration procedure for dosimetric E-field probes

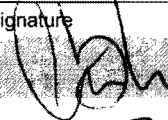
Calibration date: **January 23, 2013**

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

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^{\circ}\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	29-Mar-12 (No. 217-01508)	Apr-13
Power sensor E4412A	MY41498087	29-Mar-12 (No. 217-01508)	Apr-13
Reference 3 dB Attenuator	SN: S5054 (3c)	27-Mar-12 (No. 217-01531)	Apr-13
Reference 20 dB Attenuator	SN: S5086 (20b)	27-Mar-12 (No. 217-01529)	Apr-13
Reference 30 dB Attenuator	SN: S5129 (30b)	27-Mar-12 (No. 217-01532)	Apr-13
Reference Probe ES3DV2	SN: 3013	28-Dec-12 (No. ES3-3013_Dec12)	Dec-13
DAE4	SN: 660	20-Jun-12 (No. DAE4-660_Jun12)	Jun-13
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-11)	In house check: Apr-13
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

Calibrated by:	Name Claudio Leubler	Function Laboratory Technician	Signature 
Approved by:	Name Katja Pokovic	Function Technical Manager	Signature 
			Issued: January 26, 2013
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DASY/EASY - Parameters of Probe: EX3DV4 - SN:3834

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	41.9	0.89	9.55	9.55	9.55	0.65	0.67	± 12.0 %
835	41.5	0.90	9.12	9.12	9.12	0.80	0.50	± 12.0 %
1750	40.1	1.37	7.93	7.93	7.93	0.53	0.76	± 12.0 %
1900	40.0	1.40	7.64	7.64	7.64	0.80	0.65	± 12.0 %
2450	39.2	1.80	6.88	6.88	6.88	0.45	0.84	± 12.0 %
2600	39.0	1.96	6.79	6.79	6.79	0.50	0.81	± 12.0 %
5200	36.0	4.66	4.99	4.99	4.99	0.35	1.80	± 13.1 %
5300	35.9	4.76	4.68	4.68	4.68	0.40	1.80	± 13.1 %
5500	35.6	4.96	4.61	4.61	4.61	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.43	4.43	4.43	0.40	1.80	± 13.1 %
5800	35.3	5.27	4.49	4.49	4.49	0.40	1.80	± 13.1 %

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

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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3834

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	55.5	0.96	9.14	9.14	9.14	0.32	1.03	± 12.0 %
835	55.2	0.97	8.99	8.99	8.99	0.34	0.98	± 12.0 %
1750	53.4	1.49	7.82	7.82	7.82	0.60	0.71	± 12.0 %
1900	53.3	1.52	7.25	7.25	7.25	0.37	0.90	± 12.0 %
2450	52.7	1.95	6.90	6.90	6.90	0.75	0.59	± 12.0 %
2600	52.5	2.16	6.59	6.59	6.59	0.80	0.50	± 12.0 %
5200	49.0	5.30	4.30	4.30	4.30	0.45	1.90	± 13.1 %
5300	48.9	5.42	4.12	4.12	4.12	0.45	1.90	± 13.1 %
5500	48.6	5.65	3.87	3.87	3.87	0.45	1.90	± 13.1 %
5600	48.5	5.77	3.75	3.75	3.75	0.40	1.90	± 13.1 %
5800	48.2	6.00	3.82	3.82	3.82	0.60	1.90	± 13.1 %

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

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



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Accreditation No.: **SCS 108**

Client **Nokia SD**

Certificate No: **EX3-3817_Jan13**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3817**

Calibration procedure(s) **QA CAL-01.v8, QA CAL-14.v3, QA CAL-23.v4, QA CAL-25.v4
Calibration procedure for dosimetric E-field probes**

Calibration date: **January 23, 2013**

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

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^{\circ}\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	29-Mar-12 (No. 217-01508)	Apr-13
Power sensor E4412A	MY41498087	29-Mar-12 (No. 217-01508)	Apr-13
Reference 3 dB Attenuator	SN: S5054 (3c)	27-Mar-12 (No. 217-01531)	Apr-13
Reference 20 dB Attenuator	SN: S5086 (20b)	27-Mar-12 (No. 217-01529)	Apr-13
Reference 30 dB Attenuator	SN: S5129 (30b)	27-Mar-12 (No. 217-01532)	Apr-13
Reference Probe ES3DV2	SN: 3013	28-Dec-12 (No. ES3-3013_Dec12)	Dec-13
DAE4	SN: 660	20-Jun-12 (No. DAE4-660_Jun12)	Jun-13
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-11)	In house check: Apr-13
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-12)	In house check: Oct-13

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

Issued: January 26, 2013

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DASY/EASY - Parameters of Probe: EX3DV4 - SN:3817

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	41.9	0.89	9.47	9.47	9.47	0.32	0.90	± 12.0 %
835	41.5	0.90	9.07	9.07	9.07	0.20	1.29	± 12.0 %
1750	40.1	1.37	8.03	8.03	8.03	0.65	0.66	± 12.0 %
1900	40.0	1.40	7.77	7.77	7.77	0.80	0.59	± 12.0 %
2450	39.2	1.80	7.09	7.09	7.09	0.75	0.63	± 12.0 %
5200	36.0	4.66	5.14	5.14	5.14	0.40	1.80	± 13.1 %
5300	35.9	4.76	4.94	4.94	4.94	0.40	1.80	± 13.1 %
5500	35.6	4.96	4.84	4.84	4.84	0.40	1.80	± 13.1 %
5600	35.5	5.07	4.45	4.45	4.45	0.45	1.80	± 13.1 %
5800	35.3	5.27	4.53	4.53	4.53	0.45	1.80	± 13.1 %

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

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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3817

Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	55.5	0.96	9.42	9.42	9.42	0.44	0.83	± 12.0 %
835	55.2	0.97	9.25	9.25	9.25	0.27	1.15	± 12.0 %
1750	53.4	1.49	7.80	7.80	7.80	0.48	0.80	± 12.0 %
1900	53.3	1.52	7.46	7.46	7.46	0.31	0.98	± 12.0 %
2450	52.7	1.95	7.13	7.13	7.13	0.80	0.50	± 12.0 %
5200	49.0	5.30	4.54	4.54	4.54	0.50	1.90	± 13.1 %
5300	48.9	5.42	4.34	4.34	4.34	0.50	1.90	± 13.1 %
5500	48.6	5.65	4.07	4.07	4.07	0.50	1.90	± 13.1 %
5600	48.5	5.77	3.79	3.79	3.79	0.55	1.90	± 13.1 %
5800	48.2	6.00	4.25	4.25	4.25	0.50	1.90	± 13.1 %

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

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