

SAR Compliance Test Report

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Tested device:	RM-983		
FCC ID:	QMNRM-983	IC:	-
Supplement reports:	SAR_Photo_RM-983_04		
Testing has been carried out in accordance with:	47CFR §2.1093 Radiofrequency Radiation Exposure Evaluation: Portable Devices FCC published RF exposure KDB procedures RSS-102, Issue 4 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 - 2013 IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Technique		
Documentation:	The documentation of the testing performed on the tested devices is archived for 15 years at TCC Microsoft.		
Test results:	The tested device complies with the requirements in respect of all parameters subject to the test. The test results and statements relate only to the items tested. The test report shall not be reproduced except in full, without written approval of the laboratory.		
Date and signatures:			
For the contents:			

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1. SUMMARY OF SAR TEST REPORT

1.1 Test Details

Period of test	2014-06-24 to 2014-08-01
SN, HW and SW numbers of tested device	SN: 354250/06/000024/0, HW: 0200, SW: 02028.00000.14224.06004, DUT: 31369 SN: 354250/06/000027/3, HW: 0200, SW: 02028.00000.14224.06004, DUT: 31370 SN: 354250/06/000035/6, HW: 0200, SW: 02028.00000.14224.06004, DUT: 31385 SN: 354250/06/000040/6, HW: 0200, SW: 02028.00000.14224.06004, DUT: 31371
Batteries used in testing	BV-L4A, DUT: 31372, 31373, 31374, 31375, 31676, 31377, 31378, 31379, 31380, 31381, 31382, 31383, 31384
Headsets used in testing	WH-208, DUT: 31386, 31387, 31391
Other accessories used in testing	-
State of sample	Prototype unit
Notes	-

1.2 Maximum Results

The maximum measured SAR values for Head, Body Worn and Wireless Router configuration are given in section 1.2.1, 1.2.2 and 1.2.3 respectively. 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 Head Configuration

Mode	Ch / f(MHz)	Conducted power	Position	Measured SAR value (1g avg)	Reported* SAR value (1g avg)	SAR limit (1g avg)	Result	Plot #
LTE700 (Band17)	23790 / 710.0	23.3 dBm	Right, Cheek	0.209 W/kg	0.24 W/kg	1.6 W/kg	PASSED	1
2-slot GPRS850	231 / 844.8	30.2 dBm	Left, Cheek	0.289 W/kg	0.34 W/kg	1.6 W/kg	PASSED	2
WCDMA850 (Band5)	4219 / 843.8	23.4 dBm	Left, Cheek	0.287 W/kg	0.32 W/kg	1.6 W/kg	PASSED	3
LTE850 (Band5)	20600 / 844.0	23.4 dBm	Left, Cheek	0.277 W/kg	0.31 W/kg	1.6 W/kg	PASSED	4
LTE1700/2100 (Band4)	20050 / 1720.0	23.8 dBm	Right, Cheek	0.358 W/kg	0.37 W/kg	1.6 W/kg	PASSED	8
2-slot GPRS1900	512 / 1850.2	27.6 dBm	Right, Cheek	0.172 W/kg	0.18 W/kg	1.6 W/kg	PASSED	9
WCDMA1900 (Band2)	9262 / 1852.4	23.4 dBm	Right, Cheek	0.325 W/kg	0.37 W/kg	1.6 W/kg	PASSED	10
LTE1900 (Band2)	18700 / 1860.0	23.5 dBm	Right, Cheek	0.290 W/kg	0.32 W/kg	1.6 W/kg	PASSED	11
LTE2500 (Band7)	20850 / 2511.0	23.7 dBm	Left, Cheek	0.212 W/kg	0.22 W/kg	1.6 W/kg	PASSED	12
WLAN2450	6 / 2437.0	18.6 dBm	Right, Tilt	0.421 W/kg	0.52 W/kg	1.6 W/kg	PASSED	13
WLAN5000	153 / 5765.0	15.7 dBm	Right, Cheek	0.142 W/kg	0.22 W/kg	1.6 W/kg	PASSED	14
LTE700 (Band17) + WLAN2450	-	-	Right, Cheek	0.455 W/kg	0.56 W/kg	1.6 W/kg	PASSED	-
2-slot GPRS850 + WLAN2450	-	-	Right, Cheek	0.462 W/kg	0.57 W/kg	1.6 W/kg	PASSED	-
WCDMA850 (Band 5) + WLAN2450	-	-	Right, Cheek	0.481 W/kg	0.59 W/kg	1.6 W/kg	PASSED	-
LTE850 (Band5) + WLAN2450	-	-	Right, Cheek	0.457 W/kg	0.56 W/kg	1.6 W/kg	PASSED	-
LTE1700/2100 (Band4) + WLAN2450	-	-	Right, Cheek	0.454 W/kg	0.55 W/kg	1.6 W/kg	PASSED	-
2-slot GPRS1900 + WLAN2450	-	-	Right, Cheek	0.434 W/kg	0.53 W/kg	1.6 W/kg	PASSED	-
WCDMA1900 + WLAN2450	-	-	Right, Cheek	0.450 W/kg	0.55 W/kg	1.6 W/kg	PASSED	-
LTE1900 (Band2) + WLAN2450	-	-	Right, Cheek	0.451 W/kg	0.55 W/kg	1.6 W/kg	PASSED	-
LTE2500 (Band 7) + WLAN2450	-	-	Right, Cheek	0.434 W/kg	0.53 W/kg	1.6 W/kg	PASSED	-
LTE700 (Band17) + WLAN5000	-	-	Right, Cheek	0.213 W/kg	0.25 W/kg	1.6 W/kg	PASSED	-
2-slot GPRS850 + WLAN5000	-	-	Right, Cheek	0.289 W/kg	0.34 W/kg	1.6 W/kg	PASSED	2**
WCDMA850 (Band 5) + WLAN5000	-	-	Right, Cheek	0.287 W/kg	0.32 W/kg	1.6 W/kg	PASSED	3**
LTE850 (Band5) + WLAN5000	-	-	Left, Cheek	0.277 W/kg	0.31 W/kg	1.6 W/kg	PASSED	4**
LTE1700/2100 (Band4) + WLAN5000	-	-	Right, Cheek	0.358 W/kg	0.37 W/kg	1.6 W/kg	PASSED	8**
2-slot GPRS1900 + WLAN5000	-	-	Right, Cheek	0.142 W/kg	0.22 W/kg	1.6 W/kg	PASSED	14**
WCDMA1900 + WLAN5000	-	-	Right, Cheek	0.325 W/kg	0.37 W/kg	1.6 W/kg	PASSED	10**
LTE1900 (Band2) + WLAN5000	-	-	Right, Cheek	0.310 W/kg	0.34 W/kg	1.6 W/kg	PASSED	-
LTE2500 (Band 7) + WLAN5000	-	-	Left, Cheek	0.208 W/kg	0.23 W/kg	1.6 W/kg	PASSED	-

1.2.2 Body Worn Configuration

Mode	Ch / f(MHz)	Conducted power	Separation Distance	Measured SAR value (1g avg)	Reported* SAR value (1g avg)	SAR limit (1g avg)	Result	Plot #
LTE700 (Band17)	23790 / 710.0	23.3 dBm	1.5 cm	0.320 W/kg	0.37 W/kg	1.6 W/kg	PASSED	15
2-slot GPRS850	231 / 844.8	30.2 dBm	1.5 cm	0.387 W/kg	0.46 W/kg	1.6 W/kg	PASSED	16
WCDMA850 (Band5)	4219 / 843.8	30.2 dBm	1.5 cm	0.328 W/kg	0.37 W/kg	1.6 W/kg	PASSED	17
LTE850 (Band5)	20600 / 844.0	23.4 dBm	1.5 cm	0.341 W/kg	0.38 W/kg	1.6 W/kg	PASSED	20
LTE1700/2100 (Band4)	20050 / 1720.0	23.8 dBm	1.5 cm	0.833 W/kg	0.85 W/kg	1.6 W/kg	PASSED	22
2-slot GPRS1900	512 / 1850.2	27.6 dBm	1.5 cm	0.466 W/kg	0.50 W/kg	1.6 W/kg	PASSED	23
WCDMA1900 (Band2)	9538 / 1907.6	23.4 dBm	1.5 cm	0.900 W/kg	1.01 W/kg	1.6 W/kg	PASSED	24
LTE1900 (Band2)	19100 / 1900.0	23.1 dBm	1.5 cm	0.776 W/kg	0.93 W/kg	1.6 W/kg	PASSED	25
LTE2500 (Band7)	20850 / 2510.0	23.7 dBm	1.5 cm	0.556 W/kg	0.58 W/kg	1.6 W/kg	PASSED	26
WLAN2450	1 / 2412.0	18.6 dBm	1.5 cm	0.116 W/kg	0.14 W/kg	1.6 W/kg	PASSED	27
WLAN5000	161 / 5805.0	15.6 dBm	1.5 cm	0.133 W/kg	0.21 W/kg	1.6 W/kg	PASSED	28
LTE700 (Band17) + WLAN2450	-	-	1.5 cm	0.320 W/kg	0.37 W/kg	1.6 W/kg	PASSED	15**
2-slot GPRS850 + WLAN2450	-	-	1.5 cm	0.387 W/kg	0.46 W/kg	1.6 W/kg	PASSED	16**
WCDMA850 (Band 5) + WLAN2450	-	-	1.5 cm	0.328 W/kg	0.37 W/kg	1.6 W/kg	PASSED	17**
LTE850 (Band5) + WLAN2450	-	-	1.5 cm	0.341 W/kg	0.38 W/kg	1.6 W/kg	PASSED	20**
LTE1700/2100 (Band4) + WLAN2450	-	-	1.5 cm	0.833 W/kg	0.85 W/kg	1.6 W/kg	PASSED	22**
2-slot GPRS1900 + WLAN2450	-	-	1.5 cm	0.466 W/kg	0.50 W/kg	1.6 W/kg	PASSED	23**
WCDMA1900 + WLAN2450	-	-	1.5 cm	0.900 W/kg	1.01 W/kg	1.6 W/kg	PASSED	24**
LTE1900 (Band2) + WLAN2450	-	-	1.5 cm	0.776 W/kg	0.93 W/kg	1.6 W/kg	PASSED	25**
LTE2500 (Band 7) + WLAN2450	-	-	1.5 cm	0.556 W/kg	0.58 W/kg	1.6 W/kg	PASSED	26**
LTE700 (Band17) + WLAN5000	-	-	1.5 cm	0.320 W/kg	0.37 W/kg	1.6 W/kg	PASSED	15**
2-slot GPRS850 + WLAN5000	-	-	1.5 cm	0.387 W/kg	0.46 W/kg	1.6 W/kg	PASSED	16**
WCDMA850 (Band 5) + WLAN5000	-	-	1.5 cm	0.328 W/kg	0.37 W/kg	1.6 W/kg	PASSED	17**
LTE850 (Band5) + WLAN5000	-	-	1.5 cm	0.341 W/kg	0.38 W/kg	1.6 W/kg	PASSED	20**
LTE1700/2100 (Band4) + WLAN5000	-	-	1.5 cm	0.833 W/kg	0.85 W/kg	1.6 W/kg	PASSED	22**
2-slot GPRS1900 + WLAN5000	-	-	1.5 cm	0.466 W/kg	0.50 W/kg	1.6 W/kg	PASSED	23**
WCDMA1900 + WLAN5000	-	-	1.5 cm	0.900 W/kg	1.01 W/kg	1.6 W/kg	PASSED	24**
LTE1900 (Band2) + WLAN5000	-	-	1.5 cm	0.776 W/kg	0.93 W/kg	1.6 W/kg	PASSED	25**
LTE2500 (Band 7) + WLAN5000	-	-	1.5 cm	0.556 W/kg	0.58 W/kg	1.6 W/kg	PASSED	26**

1.2.3 Wireless Router Configuration

Summary of Maximum Results for Wireless Router mode at 10.0mm.

Mode	Ch / f(MHz)	Conducted power	Separation Distance	Measured SAR value (1g avg)	Reported* SAR value (1g avg)	SAR limit (1g avg)	Result	Plot #
LTE700 (Band17)	23790 / 710.0	23.3 dBm	10.0 mm	0.429 W/kg	0.49 W/kg	1.6 W/kg	PASSED	29
2-slot GPRS850	231 / 844.8	30.2 dBm	10.0 mm	0.516 W/kg	0.61 W/kg	1.6 W/kg	PASSED	30
WCDMA850 (Band5)	4219 / 843.8	23.4 dBm	10.0 mm	0.547 W/kg	0.61 W/kg	1.6 W/kg	PASSED	31
LTE850 (Band5)	20600 / 844.0	23.4 dBm	10.0 mm	0.464 W/kg	0.52 W/kg	1.6 W/kg	PASSED	33
LTE1700/2100 (Band4)	20300 / 1745.0	19.6 dBm	10.0 mm	0.968 W/kg	1.04 W/kg	1.6 W/kg	PASSED	37
1-slot GPRS1900	810 / 1909.8	28.1 dBm	10.0 mm	1.18 W/kg	1.26 W/kg	1.6 W/kg	PASSED	38
WCDMA1900 (Band2)	9538 / 1907.6	18.1 dBm	10.0 mm	0.977 W/kg	1.05 W/kg	1.6 W/kg	PASSED	39
LTE1900 (Band2)	19100 / 1900.0	18.0 dBm	10.0 mm	0.927 W/kg	1.02 W/kg	1.6 W/kg	PASSED	40
LTE2500 (Band7)	21100 / 2535.0	18.7 dBm	10.0 mm	0.752 W/kg	0.79 W/kg	1.6 W/kg	PASSED	41
WLAN2450	6 / 2437.0	18.6 dBm	10.0 mm	0.266 W/kg	0.33 W/kg	1.6 W/kg	PASSED	42
LTE700 (Band17) + WLAN2450	-	-	10.0 mm	0.429 W/kg	0.49 W/kg	1.6 W/kg	PASSED	29**
2-slot GPRS850 + WLAN2450	-	-	10.0 mm	0.516 W/kg	0.61 W/kg	1.6 W/kg	PASSED	30**
WCDMA850 (Band 5) + WLAN2450	-	-	10.0 mm	0.547 W/kg	0.61 W/kg	1.6 W/kg	PASSED	31**
LTE850 (Band5) + WLAN2450	-	-	10.0 mm	0.464 W/kg	0.52 W/kg	1.6 W/kg	PASSED	33**
LTE1700/2100 (Band4) + WLAN2450	-	-	10.0 mm	0.968 W/kg	1.04 W/kg	1.6 W/kg	PASSED	37**
1-slot GPRS1900 + WLAN2450	-	-	10.0 mm	1.18 W/kg	1.26 W/kg	1.6 W/kg	PASSED	38**
WCDMA1900 + WLAN2450	-	-	10.0 mm	0.977 W/kg	1.05 W/kg	1.6 W/kg	PASSED	39**
LTE1900 (Band2) + WLAN2450	-	-	10.0 mm	0.927 W/kg	1.02 W/kg	1.6 W/kg	PASSED	40**
LTE2500 (Band 7) + WLAN2450	-	-	10.0 mm	0.752 W/kg	0.79 W/kg	1.6 W/kg	PASSED	41**

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

** This is due to fact that in some of the cases combined SAR values are less than the maximum SAR values for the contributing individual band and therefore plot numbers might be the same i.e. the ones providing highest SAR value. Some of the Combined SAR values in the above table are less than the maximum SAR values for the contributing cellular band. This is due to a) minimal overlap of the SAR distributions of the cellular band with WLAN2450 and b) uncertainties associated with the different methods of calculation. In these cases, the maximum SAR values given for the combined Modes in the Summary table in Section 1.2 are those for the individual cellular or WLAN band.

1.2.4 Summary SAR data

	FCC-defined SAR values for the Grants of Equipment Authorization		
	PCE	DTS	NII
Maximum Head SAR values	0.37 W/kg	0.52 W/kg	0.20 W/Kg
{Max + Max} Simultaneous Head SAR value	0.89 W/kg		
Maximum Body SAR values	1.01 W/kg	0.21 W/kg	0.16 W/Kg
{Max + Max} Simultaneous Body SAR value	1.06 W/kg		
Maximum Product Specific (Wireless Router) SAR values	1.26 W/kg	0.33 W/kg	-
{Max + Max} Simultaneous Product Specific SAR value	1.26 W/kg		
Maximum Simultaneous SAR value Wireless Router at 10.0mm: 1-slot GPRS1900 + WLAN2450	1.26 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

1.2.5 Maximum Drift

Maximum drift covered by 5% scaling up of the SAR values	Maximum drift during measurements
0.2dB	0.20dB

1.2.6 Measurement Uncertainty

Expanded Uncertainty (k=2) 95%	± 29.8%
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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
GSM / GPRS	850	GMSK	1/8 to 2/8	824 – 849	32.5	30.5	-	-	32.9	30.9	-	-
	1900			1850 – 1910	30.0	27.5	-	-	30.4	27.9	-	-
EGPRS	850	8PSK	1/8 to 2/8	824 – 849	27.0	27.0	-	-	27.4	27.4	-	-
	1900			1850 – 1910	26.0	26.0	-	-	26.4	26.4	-	-
WCDMA	850 (Band 5)		1	826 – 847	23.5				23.9			
WCDMA	1900 (Band 2)		1	1852 – 1908	23.5				23.9			
HSUPA	850 (Band 5)		1	826 – 847	See Appendix D for details See Appendix D for details							
HSUPA	1900 (Band 2)		1	1852 – 1908								
LTE	700 (Band 17)	QPSK / 16QAM		704 - 716	23.5 / 22.5				23.9 / 22.9			
LTE	850 (Band 5)	QPSK / 16QAM		824 - 849	23.5 / 22.5				23.9 / 22.9			
LTE	1700/2100 (Band 4)	QPSK / 16QAM		1710 - 1750	23.5 / 22.5				23.9 / 22.9			
LTE	1900 (Band 2)	QPSK / 16QAM		1850 - 1910	23.5 / 22.5				23.9 / 22.9			
LTE	2500 (Band 7)	QPSK / 16QAM		2510 - 2560	23.5 / 22.5				23.9 / 22.9			
BT	2450	GFSK	1	2402 – 2480	6.0				7.5			
					Ch 1 -11				Ch 1 -11			
WLAN b-mode*	2450	BPSK / QPSK Up to 11 Mbps	1	2412 – 2462	18.0				19.5			
WLAN g-mode*	2450	Up to 64QAM / 54 Mbps	1	2412 – 2462	16.0				17.5			
WLAN n-mode 20MHz*	2450	Up to 64QAM / 72.2 Mbps	1	2412 – 2462	14.0				15.5			
					Ch 36 - 165				Ch 36 - 165			
WLAN a-mode*	5000	Up to 64QAM / 54 Mbps	1	5150 – 5825	16.0				17.5			
WLAN n-mode 20MHz*	5000	Up to 64QAM / 72.2 Mbps	1	5150 – 5825	14.0				15.5			
					Ch 38 - 163				Ch 38 - 163			
WLAN n-mode 40MHz*	5000	Up to 64QAM / 150 Mbps	1	5150 – 5825	10.0				11.5			

* See Appendix J for details

Outside of USA, the transmitter of the device is capable of operating also in GSM/GPRS/EGPRS900, GSM/GPRS/EGPRS1800, WCDMA/HSUPA900 (Band 8) and WCDMA/HSUPA2100 (Band 1) bands which are not part of this filing.

This device has Voice-over-IP/Dual Transfer Mode capability for use at the ear. Therefore, SAR for multi slot GPRS mode was evaluated against the head profile of the phantom. Dual Transfer Mode is a feature that utilises the multi-slot GPRS capability in this device; it allows simultaneous transmission of voice and data during the same call, using the same transmitter and antenna.

This device has also HSUPA capabilities in all WCDMA bands listed above. HSUPA target powers are always lower than or equal to the corresponding WCDMA target power listed above, details of the HSUPA MPR scheme. 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 and details of the HSUPA MPRscheme. Additionally, Appendix I lists target and measured conducted powers for WCDMA bands.

This is a BT Class 1 device and its power tuning target upper limit is 7.5dBm. WLAN2450 power tuning target upper limit is 19.5dBm. Since WLAN2450 and BT use same frequency and antenna, WLAN2450 power is 12.0dB higher, and they cannot transmit simultaneously, the WLAN2450 standalone SAR is conservative estimation of BT SAR. As WLAN2450 SAR result is below limit, also BT SAR can be deemed to comply without further analysis or standalone measurements. Also 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 is an LTE device LTE bands and Channel Bandwidths are given in the table below.

Band	Channel Bandwidth MHz					
	20	15	10	5	3	1.4
LTE700 (Band 17)			X	X		
LTE850 (Band 5)			X	X	X	X
LTE1700/2100 (Band 4)	X	X	X	X	X	X
LTE1900 (Band 2)	X	X	X	X	X	X
LTE2500 (Band 7)	X	X	X	X		

Simultaneous transmission of any singular cellular and PCS band is possible with WLAN in Head, Body-worn and Wireless router use according to the tables below.

Simultaneous transmission capabilities in Head and Body-worn use		
	WLAN2450	WLAN5000
LTE700	✓	✓
GSM/GPRS/EGPRS850	✓	✓
WCDMA850	✓	✓
LTE850	✓	✓
LTE1700/2100	✓	✓
GSM/GPRS/EGPRS1900	✓	✓
WCDMA1900	✓	✓
LTE1900	✓	✓
LTE2500	✓	✓
Simultaneous transmission capabilities in Wireless Router use		
	WLAN2450	WLAN5000
LTE700	✓	-
GSM/GPRS/EGPRS850	✓	-
WCDMA850	✓	-
LTE850	✓	-
LTE1700/2100	✓	-
GSM/GPRS/EGPRS1900	✓	-
WCDMA1900	✓	-
LTE1900	✓	-
LTE2500	✓	-

The hotspot mode (Wireless Router mode) may operate concurrently in DTM mode with voice calls. The reported SAR test results are conservative regarding that use case, since output power in hotspot mode is equal to or lower than in normal voice and data modes. See following chapter for hotspot mode power reductions. Also simultaneous transmissions with WLANs are already conservatively assessed for head and body-worn exposure conditions due to VoIP capability.

2.1 Power reductions in Wireless Router configurations

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

Band	Power reduction in WR mode	Target tuning power in WR mode
LTE700	0 dB	23.5 dBm
GPRS/EGPRS850	0 dB	1-slot GPRS: 32.5 dBm 2-slot GPRS: 30.5 dBm 1-slot EGPRS: 27.0 dBm 2-slot EGPRS: 27.0 dBm
WCDMA850	0 dB	23.5 dBm
LTE850	0 dB	23.5 dBm
LTE1700/2100	4.0 dB	19.5 dB
GPRS/EGPRS1900	1-slot GPRS: 2.0 dB 2-slot GPRS: 3.0 dB 1-slot EGPRS: 0.0 dB 2-slot EGPRS: 1.5 dB	1-slot GPRS: 28.0 dBm 2-slot GPRS: 24.5 dBm 1-slot EGPRS: 26.0 dBm 2-slot EGPRS: 24.5 dBm
WCDMA1900	5.5 dB	18.0 dBm
LTE1900	5.5 dB	18.0 dBm
LTE2500	5.0 dB	18.5 dBm
WLAN2450 b-mode (BPSK 1 Mbps)	0 dB	Ch 1 - 11: 18.0 dBm
WLAN2450 g-mode (BPSK 6 Mbps)	0 dB	Ch 1 - 11: 16.0 dBm
WLAN2450 n-mode 20MHz (BPSK 6.5/7.25 Mbps)	0 dB	Ch 1 - 11: 14.0 dBm
WLAN5000 a-mode (BPSK 6 Mbps)	N/A	N/A
WLAN5000 n-mode 20MHz (BPSK 6.5 Mbps)	N/A	N/A
WLAN5000 n-mode 40MHz (BPSK 13.5/15.0 Mbps)	N/A	N/A

2.2 Description of the Antenna

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

Picture of antenna dimensions and antenna interdistances can be found from Exhibit_QMNRM-983_Antenna_Description document

The device has an antenna tuner. See Section 3.3.

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.

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

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

The 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 the appendixes G-J of this report.

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

In all operating bands the measurements were performed on lowest, middle and highest channels, and/or on all required test channels as defined in Published FCC KDB Procedures.

Dual Transfer Mode was not specifically tested as the average power in multi-slot GMSK GPRS mode is always greater than, or equal to, the average power in Dual Transfer Mode in Microsoft devices.

The number of Tx slots in all GSM/GPRS mode tests was based on tuning target/conducted power data, see Appendix H. The number of slots with highest or equal highest time-average power was tested.

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.

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.

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_1 of 3GPP TS 36.101 (presented below) have been incorporated into the device; these MPR values are dependent on the modulation, Channel Bandwidth and Resource Block allocations as shown:

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

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

No additional MPR settings have been incorporated into the design of the device and therefore no A-MPR settings have been active during its testing.

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

KDB 941225 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 SAR Handsets Multi Xmitter and Ant v01
 KDB 941225 D06 v01 Hot Spot SAR
 KDB 447498 D01 General RF Exposure Guidance v05
 KDB 690783 D01 SAR Listings on Grants
 KDB 865664 D01 SAR Measurements 100MHz to 6GHz v01
 KDB 865664 D02 SAR Reporting v01

3.3 Special consideration for antenna tuner

The device has antenna tuner. The antenna is used for all bands and protocols supported by the device. The FCC regulated bands and protocols supported in the device are given in the table below.

Band	Technology	Sub-band	Scenario	Tune-word	C1 (state)	S1	C2 (state)	S2	S3
1900 (Band 2)	LTE	1	0	1F E8	F	open	28	open	open
1700/2100 (Band 4)	LTE	1	0	1F 96	F	open	16	closed	open
LTE850 (Band 5)	LTE	1	0	1F 40	F	open	0	open	closed
		1	1	1F 22	F	open	22	closed	closed
		1	2	1F C0	F	open	0	open	open
		2	0	1F C0	F	open	0	open	open
		2	1	1F 24	F	open	24	closed	closed
		2	2	1F C0	F	open	0	open	open
		3	0	1F 46	F	open	6	open	closed
		3	1	1F 24	F	open	24	closed	closed
		3	2	1F C6	F	open	6	open	open
2500 (Band 7)	LTE	1	0	1F 80	F	open	0	closed	open
700 (Band 17)	LTE	1	0	1F 80	F	open	0	closed	open
700 (band 17) : CA 17 UL/DL + 2 DL**	LTE Carrier Aggregation	1	0	1F 80	F	open	0	closed	open
1900 (band 2) : CA 2 UL/DL + 17 DL*	LTE Carrier Aggregation	1	0	1F 88	F	open	8	closed	open
1700/2100 (band 4): CA 4 UL/DL + 17 DL*	LTE Carrier Aggregation	1	0	1F 88	F	open	8	closed	open
850	GSM	1	0	1F 40	F	open	0	open	closed
		2	0	1F C0	F	open	0	open	open
		3	0	1F 46	F	open	6	open	closed
1900	GSM	1	0	1F EE	F	open	2E	open	open
1900 (Band 2)	WCDMA	1	0	1F E8	F	open	28	open	open

(Table continues)

(Table continues)

850 (Band 5)	WCDMA	1	0	1F 96	F	open	16	closed	open
		1	1	1F A6	F	open	26	closed	open
		1	2	1F A0	F	open	20	closed	open
		2	0	1F 2A	F	open	2A	closed	closed
		2	1	1F 1A	F	open	1A	closed	closed
		2	2	1F C0	F	open	0	open	open
		3	0	1F A6	F	open	26	closed	open
		3	1	1F 40	F	open	0	open	closed
		3	2	1F C0	F	open	0	open	open

Tuning words used for each band, sub-band and scenario for QMNRM-983. Format used is Hex. The tune-word is also converted to show the individual state of each RF component.

Each band, protocol and non-carrier/carrier aggregation mode has its own set of tuning scenarios. The details of the antenna tuner and the selected tuner states based on to pre-screening results between the different states are attached in Appendix K.

CA=Carrier Aggregation Mode in downlink.

*Uplink in this Mode has a different antenna tuner state than the Non-Carrier Aggregation mode. The both modes are tested separately.

**Uplink in this Mode has the same antenna tuner state as the Non-Carrier Aggregation mode. SAR testing of the Non-Carrier Aggregation mode is applicable to this Carrier Aggregation mode.

Following test conditions have been agreed via KDB Inquiry process.

Band/protocols with 3 sub-bands, either 1) the middle channel of the sub-band was tested or 2) the valid channel that is nearest to the middle channel of the sub-band was tested. The tables below show the channels that were tested for SAR and/or conducted power for GSM850, WCDMA850 (Band 5) and LTE850 (Band 5).

GSM Band	-	Sub-band	GSM channels		Mid channel of valid GSM channels	Low-channel of valid GSM channels of TX part of sub-band	High-channel of valid GSM channels of TX part of sub-band	Test channel
850 MHz	-	1	128	168	148	128	168	148
850 MHz	-	2	169	209	189	169	209	189
850 MHz	-	3	210	251	231	210	251	231
WCDMA Band	-	Sub-band	WCDMA channels		Mid channel of valid WCDMA channels	Low-channel of valid WCDMA channels of TX part of sub-band	High-channel of valid WCDMA channels of TX part of sub-band	Test channel
5	-	1	4132	4161	4147	4132	4161	4147
5	-	2	4162	4203	4183	4162	4203	4183
5	-	3	4204	4233	4219	4204	4233	4219
LTE Band	Channel BW (MHz)	Sub-band	Range of LTE channels used for each sub-band		Mid channel of sub-band	Low-channel of valid LTE channels of TX part of sub-band	High-channel of valid LTE channels of TX part of sub-band	Test channel
5	10	1	20400	20482	20466	20450	20482	20450
5	10	2	20483	20566	20525	20483	20566	20525
5	10	3	20567	20649	20584	20567	20600	20600
5	5	1	20400	20482	20454	20425	20482	20441
5	5	2	20483	20566	20525	20483	20566	20525
5	5	3	20567	20649	20596	20567	20625	20608
5	3	1	20400	20482	20449	20415	20482	20441
5	3	2	20483	20566	20525	20483	20566	20525
5	3	3	20567	20649	20601	20567	20635	20608
5	1.4	1	20400	20482	20445	20407	20482	20441
5	1.4	2	20483	20566	20525	20483	20566	20525
5	1.4	3	20567	20649	20605	20450	20643	20608

GSM: Use the channel closest to the middle of each subband to perform SAR testing instead of the normally assumed high, middle and low channels across the full transmission band. Because separate tuner states are used for the sub-bands, treat each GSM 850 sub-band independently instead of applying the typically assumed test reduction procedures where high and low channels may not require testing when the middle channel SAR is low.

WCDMA: Each sub-band should be considered separately and treat the three tuner states in each sub-band as the equivalent of the normally tested high, middle and low channels to apply existing SAR procedures and test reduction considerations. That is, perform full SAR testing on the highest fast SAR results in each sub-band and apply applicable test reduction procedures to the other two tuner states in the sub-band.

LTE: In section K.4, for purpose of applying the LTE test procedures for full SAR measurements, treat the highest SAR tuner state in each sub-band as the equivalent of a test channel normally required

for SAR testing; that is, highest SAR tuner state in the high sub-band would be equivalent to the high channel for normal SAR testing and the highest SAR tuner state in the low sub-band would be equivalent to the low channel for normal SAR testing. The highlighted SAR (highest among the 3 sub-bands) would be equivalent to the initial test configuration in section 4.2.1 of the Rel. 8 LTE SAR test procedures in KDB 941225. Apply the normally required Rel. 8 LTE SAR procedures accordingly to determine SAR test reduction for full SAR where the RB offsets would be equivalent to the antenna tuner states in each sub-band.

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	756	2014-01	2015-01
DAE4	1301	2014-01	2015-01
DAE4	1332	2014-01	2015-01
ES3DV3	3275	2014-01	2015-01
EX3DV4	3817	2014-01	2015-01
ES3DV3	3112	2014-01	2015-01
Dipole Validation Kit, D750V3	1010	2013-03	2015-03
Dipole Validation Kit, D835V2	4d040	2012-09	2014-09
Dipole Validation Kit, D1750V2	1081	2012-12	2014-12
Dipole Validation Kit, D1900V2	5d099	2013-01	2015-01
Dipole Validation Kit, D2450V2	800	2012-09	2014-09
Dipole Validation Kit, D2600V2	1064	2013-07	2015-07
Dipole Validation Kit, D5GHzV2	1042	2013-10	2015-10
DASY5 software	Version 52.8	-	-

Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration date	Calibration expiry
Signal Generator	E8247C	MY43321016	2014-6	2016-6
Signal Generator	N5181B	MY51350034	2013-06	2016-06
Signal Generator	E8257C	MY43350540	2013-06	2015-06
Amplifier	ZHL-1000-3W	15542	-	-
Amplifier	ZYE-8G+	N811401219	-	-
Amplifier	KM0822-8R	981441	-	-
Power Meter	E4419B	GB3920697	2013-07	2015-07
Power Meter	E4419B	GB40202156	2013-07	2015-07
Power Meter	E4417A	GB41291021	2013-04	2015-04
Power Sensor	8482H	2704A04612	2014-06	2015-06
Power Sensor	E4412A	US38484674	2014-06	2015-06
Power Sensor	8481H	MY41090586	2014-06	2015-06
Power Sensor	E9301A	US39211864	2014-06	2015-06
Power Sensor	E9325A	US40420196	2014-02	2015-02
Power Sensor	E9325A	US40420191	2014-03	2015-03
Call Tester	CMU 200	100925	-	-
Call Tester	E5515C	GB42230195	-	-
Call Tester	CMU 200	100304	-	-
Call Tester	E5515C	GB42230129	-	-
Call Tester	CMW500	136294-CF	-	-
Call Tester	CMU 200	114271	-	-
Network Analyzer	ENA E5071C	MY46315958	2014-06	2015-06
Dielectric Probe Kit	DAK-3.5	1064	-	-
Spectrum Analyzer	9kHz-7GHz	100084	2014-05	2015-05

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 $\mu\text{W/g}$ 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
Application	Distance from probe tip to dipole centers: 2.0 mm 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 $\mu\text{W/g}$ 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
Application	Distance from probe tip to dipole centers: 1.0 mm General dosimetry up to 6 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms

4.2 Phantoms

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

The phantom used for all Body SAR tests i.e. for both system checks and device testing, was a flat phantom also manufactured by SPEAG this phantom conform to the requirements of FCC published RF Exposure KDB Procedures.

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

4.3 Tissue Simulants

Recommended values for the dielectric parameters of the tissue simulants are given in IEEE 1528 and 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 ear reference point in the case of the SAM phantom and from the inner surface of the flat phantom.

4.3.1 Tissue Simulant Recipes

The following recipes were used for Head and Body tissue simulants:

700MHz band

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

800MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Deionised Water	51.50	69.25
Tween 20	47.35	30.00
Salt	1.15	0.75

1800MHz band

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

1900MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Deionised Water	54.50	70.25
Tween 20	45.23	29.41
Salt	0.27	0.34

2450-2600MHz band

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

5000MHz band †

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

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

4.4 System validation and System checking

4.4.1 System validation status

Probe Calibration Point f / MHz	Test System	DASY SW	Dipole Type / SN	Probe Type / SN	Calibrated signal type(s)	DAE unit Type / SN	Validation done	
							Head tissue simulant	Body tissue simulant
750	TCC San Diego / SAR-2	V52.8	D750V3 / 1010	ES3DV3 / 3275	CW	DAE4 / 756	2014-02	2014-02
835	TCC San Diego / SAR-2	V52.8	D835V2 / 4d040	ES3DV3 / 3275	CW	DAE4 / 756	2014-01	2014-02
1750	TCC San Diego / SAR-4	V52.8	D1750V3 / 1081	ES3DV3 / 3112	CW / LTEFDD	DAE4 / 1332	2014-03	2014-04
1900	TCC San Diego / SAR-4	V52.8	D1900V2 / 5d099	ES3DV3 / 3112	CW	DAE4 / 1332	2014-02	2014-04
2450	TCC San Diego / SAR-3	V52.8	D2450V2 / 800	EX3DV4 / 3817	CW	DAE4 / 1301	2014-03	2014-04
2600	TCC San Diego / SAR-2	V52.8	D2600V3 / 1064	ES3DV3 / 3275	CW / LTETDD	DAE4 / 756	2014-04	2014-04
5200	TCC San Diego / SAR-3	V52.8	D5000V3 / 1042	EX3DV4 / 3817	CW	DAE4 / 1301	2014-03	2014-07
5300	TCC San Diego / SAR-3	V52.8	D5000V3 / 1042	EX3DV4 / 3817	CW	DAE4 / 1301	2014-03	2014-07
5500	TCC San Diego / SAR-3	V52.8	D5000V3 / 1042	EX3DV4 / 3817	CW / LTEFDD	DAE4 / 1301	2014-03	2014-07
5600	TCC San Diego / SAR-3	V52.8	D5000V3 / 1042	EX3DV4 / 3817	CW	DAE4 / 1301	2014-03	2014-07
5800	TCC San Diego / SAR-3	V52.8	D5000V3 / 1042	EX3DV4 / 3817	CW	DAE4 / 1301	2014-03	2014-07

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 100mW was supplied), which was placed under the flat section of the twin SAM phantom for head system checking, and under the flat phantom for body system checking. The system checking results (dielectric parameters and SAR values) are given in the table below.

System checking, head tissue simulant

f [MHz]	Description	SAR 1g [W/kg]	Estimated SAR 1g [W/kg]	Estimated SAR 1g Deviation	Scaled 1W SAR 1g [W/kg]	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 [%]	
750	Tolerances			±3%				±10 %	±5 %	±5 %		
	Reference result SN:1010	-	-	-	8.50	41.9	0.89	TCC San Diego/SAR-2 ES3DV3 SN:3275 Head 750MHz				
	2014-07-02	2.08	2.12	1.92	8.32	41.1	0.89	-2.12	-1.91	0.00	21.5	1
	2014-07-14	2.16	2.19	1.39	8.64	42.4	0.92	1.65	1.19	3.37	21.5	-
835	Reference result SN:4d040	-	-	-	9.49	41.5	0.90	TCC San Diego/SAR-2 ES3DV3 SN:3275 Head 835MHz				
	2014-07-08	2.36	2.42	2.54	9.44	41.6	0.92	-0.53	0.24	2.22	21.5	-
	2014-07-09	2.40	2.45	2.08	9.60	40.7	0.91	1.16	-1.93	1.11	21.5	2
	2014-07-14	2.40	2.44	1.67	9.60	41.0	0.91	1.16	-1.20	1.11	21.5	-
	2014-07-31	2.39	2.43	1.67	9.56	40.8	0.90	0.74	-1.69	0.00	21.5	-
1750	Reference result SN:1081	-	-	-	36.50	40.1	1.37	TCC San Diego/SAR-1 ES3DV3 SN:3112 Head 1750MHz				
	2014-06-26	9.04	8.98	-0.66	36.16	40.8	1.37	-0.93	1.75	0.00	21.5	-
	2014-07-02	9.35	9.57	2.35	37.40	40.2	1.37	2.47	0.25	0.00	21.5	3
1900	Reference result SN:5d099	-	-	-	40.60	40.0	1.40	TCC San Diego/SAR-1 ES3DV3 SN:3112 Head 1750MHz				
	2014-06-24	9.34	9.52	1.93	37.36	39.8	1.37	-7.98	-0.50	-2.14	21.5	4
	2014-06-25	9.50	9.68	1.89	38.00	39.6	1.38	-6.40	-1.00	-1.43	21.5	-
	2014-07-03	10.10	10.20	0.99	40.40	40.1	1.42	-0.49	0.25	1.43	21.5	-
2450	Reference result SN:800	-	-	-	53.20	39.2	1.80	TCC San Diego/SAR-1 EX3DV4 SN:3817 Head 2450MHz				
	2014-07-10	13.50	13.10	-2.96	54.00	39.5	1.77	1.50	0.77	-1.67	21.5	5
2600	Reference result SN:1064	-	-	-	58.40	39.0	1.96	TCC San Diego/SAR-2 ES3DV3 SN:3275 Head 2600MHz				
	2014-06-30	14.70	14.90	1.36	58.80	38.0	1.93	0.68	-2.56	-1.53	21.5	-
	2014-07-14	15.20	15.50	1.97	60.80	38.0	1.96	4.11	-2.56	0.00	21.5	6
	2014-07-31	15.00	15.20	1.33	60.00	37.8	1.96	2.74	-3.08	0.00	21.5	-
5200	Reference result SN:1042	-	-	-	76.30	36.0	4.66	TCC San Diego/SAR-3 EX3DV4 SN:3817 Head 5200MHz				
	2014-06-26	7.32	-	-	73.20	36.4	4.45	-4.06	1.11	-4.51	21.5	7
5300	Reference result SN:1042	-	-	-	80.60	35.9	4.76	TCC San Diego/SAR-3 EX3DV4 SN:3817 Head 5300MHz				
	2014-06-27	7.62	-	-	76.20	36.4	4.57	-5.46	1.39	-3.99	21.5	8

(Table continues)

(Table continues)

f [MHz]	Description	SAR 1g [W/kg]	Estimated SAR 1g [W/kg]	Estimated SAR 1g Deviation	Scaled 1W SAR 1g [W/kg]	Dielectric Parameters*		SAR 1g Deviation from target	Dielectric Parameters Deviation from target		Temp [°C]	Plot #
				dSAR [%]		ε _r	σ [S/m]		dSAR [%]	dε _r [%]		
5500	Tolerances			±3%				±10 %	±5 %	±5 %		
	Reference result SN:1042	-	-	-	82.40	35.6	4.96	TCC San Diego/SAR-3 EX3DV4 SN:3817 Head 5500MHz				
	2014-06-30	8.40	-	-	84.00	36.0	4.73	1.94	1.12	-4.64	21.5	9
5600	Reference result SN:1042	-	-	-	81.60	35.5	5.07	TCC San Diego/SAR-3 EX3DV4 SN:3817 Head 5600MHz				
	2014-07-01	7.45	-	-	74.50	36.6	4.95	-8.70	3.10	-2.37	21.5	-
	2014-07-18	7.91	-	-	79.10	36.2	4.88	-5.50	1.97	-3.75	21.5	10
5800	Reference result SN:1042	-	-	-	77.50	35.3	5.27	TCC San Diego/SAR-3 EX3DV4 SN:3817 Head 5700MHz				
	2014-07-02	7.57	6.99	-7.66	75.70	36.3	5.21	-2.32	2.83	-1.14	21.5	11

* Dielectric parameter reference data taken from IEEE1528/IEC62209

System checking, body tissue simulant

f [MHz]	Description	SAR 1g [W/kg]	Estimated SAR 1g [W/kg]	Estimated SAR 1g Deviation	Scaled 1W SAR 1g [W/kg]	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 [%]	
750	Tolerances			±3%				±10 %	±5 %	±5 %		
	Reference result SN:1010	-	-	-	8.68	55.5	0.96	TCC San Diego/SAR-2 ES3DV3 SN:3275 Body 750MHz				
	2014-07-03	2.16	2.19	1.39	8.64	55.2	0.94	-0.46	-0.54	-2.08	21.5	-
	2014-07-14	2.11	2.15	1.90	8.44	54.8	0.94	-2.76	-1.26	-2.08	21.5	12
835	Reference result SN:4d040	-	-	-	9.50	55.2	0.97	TCC San Diego/SAR-2 ES3DV3 SN:3275 Body 835MHz				
	2014-06-25	2.31	2.33	0.87	9.24	54.7	0.96	-2.74	-0.91	-1.03	21.5	-
	2014-06-27	2.31	2.33	0.87	9.24	54.7	0.96	-2.74	-0.91	-1.03	21.5	-
	2014-07-10	2.34	2.35	0.43	9.36	54.7	0.97	-1.47	-0.91	0.00	21.5	-
	2014-07-11	2.30	2.33	1.30	9.20	54.2	0.96	-3.16	-1.81	-1.03	21.5	-
	2014-07-14	2.32	2.33	0.43	9.28	54.8	0.97	-2.32	-0.72	0.00	21.5	-
	2014-07-31	2.28	2.31	1.32	9.12	54.3	0.97	-4.00	-1.63	0.00	21.5	13
1750	Reference result SN1081	-	-	-	37.3	53.4	1.49	TCC San Diego/SAR-1 ES3DV3 SN:3112 Body 1750MHz				
	2014-07-03	9.53	9.72	1.99	38.12	55.1	1.44	2.20	3.18	-3.36	21.5	-
	2014-07-07	9.23	9.31	0.87	36.92	54.3	1.43	-1.02	1.69	-4.03	21.5	-
	2014-07-08	9.22	9.30	0.87	36.88	54.2	1.42	-1.13	1.50	-4.70	21.5	-
	2014-07-10	9.47	9.50	0.32	37.88	54.7	1.44	1.55	2.43	-3.36	21.5	-
	2014-07-18	9.43	9.50	0.74	37.70	54.3	1.43	1.07	1.69	-4.03	21.5	14
	2013-07-31	9.11	9.13	0.22	36.44	54.6	1.43	-2.31	2.25	-4.03	21.5	-
1900	Reference result SN:5d099	-	-	-	41.0	53.3	1.52	TCC San Diego/SAR-1 ES3DV3 SN:3112 Body 1900MHz				
	2014-06-30	9.79	9.78	-0.10	39.16	52.1	1.46	-4.49	-2.25	-3.95	21.5	-
	2014-07-01	10.00	10.10	1.00	40.00	51.8	1.47	-2.44	-2.81	-3.29	21.5	-
	2014-07-02	10.20	10.20	0.00	40.80	51.9	1.49	-0.49	-2.63	-1.97	21.5	-
	2014-07-07	10.00	10.00	0.00	40.00	51.4	1.48	-2.44	-3.56	-2.63	21.5	-
	2014-07-11	9.68	9.70	0.21	38.72	51.3	1.49	-5.56	-3.75	-1.97	21.5	15
	2014-07-16	9.96	9.92	-0.40	39.84	51.6	1.49	-2.83	-3.19	-1.97	21.5	-
2450	Reference result SN: 800	-	-	-	50.9	52.7	1.95	TCC San Diego/SAR-1 EX3DV4 SN:3817 Body 2450MHz				
	2014-07-11	13.10	13.00	-0.76	52.40	51.1	1.90	2.95	-3.04	-2.56	21.5	16
	2014-07-14	14.40	14.40	0.00	57.60	51.2	1.90	1.95	-2.84	-2.56	21.5	-

(Table continues)

(Table continues)

f [MHz]	Description	SAR 1g [W/kg]	Estimated SAR 1g [W/kg]	Estimated SAR 1g Deviation	Scaled 1W SAR 1g [W/kg]	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 [%]		
2600	Reference result SN: 1064	-	-	-	56.5	52.5	2.16	TCC San Diego/SAR-1 ES3DV3 SN:3275 Body 2600MHz				
	2014-07-01	14.50	14.30	-1.38	58.00	53.0	2.10	2.65	0.95	-2.78	21.5	17
	2014-07-14	14.40	14.40	0.00	57.60	53.0	2.10	1.95	0.95	-2.78	21.5	-
	2013-07-31	14.30	14.50	1.40	57.20	52.9	2.11	1.24	0.76	-2.31	21.5	-
5200	Reference result SN:1042	-	-	-	75.00	49.0	5.30	TCC San Diego/SAR-3 EX3DV4 SN:3817 Body 5200MHz				
	2014-07-08	7.09	6.76	-4.65	70.90	48.2	5.37	-5.47	-1.63	1.32	21.5	18
5300	Reference result SN:1042	-	-	-	75.90	48.9	5.42	TCC San Diego/SAR-3 EX3DV4 SN:3817 Body 5300MHz				
	2014-07-08	7.41	7.07	-4.59	74.10	48.0	5.50	-2.37	-1.84	1.48	21.5	19
5500	Reference result SN:1042	-	-	-	79.10	48.6	5.65	TCC San Diego/SAR-3 EX3DV4 SN:3817 Body 5500MHz				
	2014-07-08	7.83	7.31	-6.64	78.30	47.7	5.76	-1.01	-1.85	1.95	21.5	20
5600	Reference result SN:1042	-	-	-	79.70	48.5	5.77	TCC San Diego/SAR-3 EX3DV4 SN:3817 Body 5600MHz				
	2014-07-08	7.89	7.35	-6.84	78.90	47.5	5.91	-1.00	-2.06	2.43	21.5	21
5800	Reference result SN:1042	-	-	-	74.70	48.2	6.00	TCC San Diego/SAR-3 EX3DV4 SN:3817 Body 5800MHz				
	2014-07-09	7.32	7.20	-1.64	73.20	47.0	6.13	-2.01	-2.49	2.00	21.5	22

* Dielectric parameter reference data taken from FCC Published RF Exposure KDB Procedures

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

4.5 Tissue Simulants used in the Measurements

Head tissue simulant measurements

f [MHz]	Description	Dielectric Parameters		Dielectric Parameters Deviation from recommended value		Temp [°C]
		ϵ_r	σ [S/m]	$d\epsilon_r$ [%]	$d\sigma$ [%]	
710	Tolerances			±5 %	±5 %	
	Recommended value	42.1	0.89			
	2014-07-02	41.3	0.86	-1.90	-3.37	21.5
	2014-07-14	42.7	0.89	1.43	0.00	21.5
835	Recommended value	41.5	0.90			
	2014-07-09	40.7	0.91	-1.93	1.11	21.5
836	Recommended value	41.5	0.90			
	2014-07-08	41.6	0.92	0.24	2.22	21.5
	2014-07-14	41.0	0.91	-1.20	1.11	21.5
	2014-07-31	40.8	0.90	-1.69	0.00	21.5
1732	Recommended value	40.1	1.36			
	2014-06-26	40.8	1.36	1.75	0.00	21.5
	2014-07-02	40.3	1.36	0.50	0.00	21.5
1880	Recommended value	40.0	1.40			
	2014-06-24	39.9	1.35	-0.25	-3.57	21.5
	2014-06-25	39.6	1.37	-1.00	-2.14	21.5
	2014-07-03	40.2	1.40	0.50	0.00	21.5
2437	Recommended value	39.2	1.79			
	2014-07-10	39.5	1.76	0.77	-1.68	21.5
2535	Recommended value	39.1	1.89			
	2014-06-30	38.0	1.93	-2.56	-1.53	21.5
	2014-07-14	38.0	1.95	-2.56	-0.51	21.5
	2014-07-31	38.1	1.88	-2.56	-0.53	21.5
5210	Recommended value	36.0	4.67			
	2014-06-26	36.4	4.45	1.11	-4.71	21.5
5290	Recommended value	35.9	4.75			
	2014-06-27	36.5	4.56	1.67	-4.00	21.5
5520	Recommended value	35.6	4.99			
	2014-06-30	35.9	4.76	0.84	-4.61	21.5
5620	Recommended value	35.5	5.09			
	2014-07-01	36.6	4.97	3.10	-2.36	21.5
	2014-07-18	36.2	4.90	1.97	-3.73	21.5
5760	Recommended value	35.3	5.23			
	2014-07-02	36.3	5.16	2.83	-1.34	21.5

Body tissue simulant measurements

f [MHz]	Description	Dielectric Parameters		Dielectric Parameters Deviation from recommended value		Temp [°C]
		ϵ_r	σ [S/m]	$d\epsilon_r$ [%]	$d\sigma$ [%]	
710	Tolerances			±5 %	±5 %	
	Recommended value	55.7	0.96			
	2014-07-03	55.4	0.92	-0.54	-4.17	21.5
	2014-07-14	55.0	0.92	-1.26	-4.17	21.5
835	Recommended value	55.2	0.97			
	2014-06-27	54.7	0.96	-0.91	-1.03	21.5
	2014-07-10	54.7	0.97	-0.91	0.00	21.5
	2014-07-11	54.2	0.96	-1.81	-1.03	21.5
836	Recommended value	55.2	0.97			
	2014-06-25	54.7	0.96	-0.91	-1.03	21.5
	2014-07-10	54.7	0.97	-0.91	0.00	21.5
	2014-07-14	54.8	0.97	-0.72	0.00	21.5
	2014-07-31	54.3	0.97	-1.63	0.00	21.5
1732	Recommended value	53.5	1.48			
	2014-07-03	55.1	1.41	2.99	-4.73	21.5
	2014-07-07	54.4	1.41	1.68	-4.73	21.5
	2014-07-08	54.2	1.41	1.31	-4.73	21.5
	2014-07-10	54.7	1.42	2.24	-4.05	21.5
	2014-07-18	54.9	1.41	2.62	-4.73	21.5
	2013-07-31	54.7	1.41	2.24	-4.73	21.5
1880	Recommended value	53.3	1.52			
	2014-06-30	52.1	1.44	-2.25	-5.00	21.5
	2014-07-01	51.8	1.45	-2.81	-4.61	21.5
	2014-07-02	52.0	1.47	-2.44	-3.29	21.5
	2014-07-07	51.5	1.46	-3.38	-3.95	21.5
	2014-07-11	51.4	1.47	-3.56	-3.29	21.5
	2014-07-16	51.7	1.47	-3.00	-3.29	21.5
	2013-07-31	51.3	1.46	-3.75	-3.95	21.5
2437	Recommended value	52.7	1.94			
	2014-07-11	51.1	1.89	-3.04	-2.58	21.5
	2014-07-14	51.3	1.89	-2.66	-2.56	21.5
2535	Recommended value	52.6	2.07			
	2014-07-01	53.1	2.02	0.95	-2.42	21.5
	2014-07-14	53.2	2.02	1.14	-2.42	21.5
	2013-07-31	53.1	2.03	0.95	-1.93	21.5
5210	Recommended value	49.0	5.31			
	2014-07-08	48.2	5.38	-1.63	1.32	21.5
5290	Recommended value	48.9	5.40			
	2014-07-08	48.0	5.49	-1.84	1.48	21.5
5520	Recommended value	48.6	5.67			
	2014-07-08	47.6	5.79	-2.05	2.11	21.5
5620	Recommended value	48.4	5.79			
	2014-07-08	47.5	5.93	-1.85	2.42	21.5
5760	Recommended value	48.3	5.95			
	2014-07-09	47.0	6.07	-2.69	2.02	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 the device holder (illustrated below) that is supplied by SPEAG as an integral part of the Dasy system.



Device holder supplied by SPEAG

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



Spacer

5.2 Test Positions

5.2.1 Against Phantom Head

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

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

5.2.2 Body Worn Configuration

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

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

5.2.3 Wireless Router Configuration

The device was placed in the SPEAG holder and, in sequence, the back, display and each of the 4 edges was positioned 10.0mm away from the flat phantom. The spacer was removed before the start of the measurements.

5.3 Scan Procedures

First, area scans were used for determination of the field distribution. Next, a zoom scan, a minimum of 5x5x7 points covering a volume of at least 30x30x30mm, 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. Fast SAR is measured according to the KDB 447498 D01 General RF Exposure Guidance v05r01.

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 Dasy52 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 for 1g Full SAR in 0.3-6GHz range

Uncertainty Component	Section in IEEE 1528	Tol. (%)	Prob Dist	Div	G_i	$G_i \cdot U_i$ (%)	V_i
Measurement System							
Probe Calibration	E2.1	±6.6	N	1	1	±6.6	∞
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	±2.0	R	$\sqrt{3}$	1	±1.2	∞
Linearity	E2.4	±4.7	R	$\sqrt{3}$	1	±2.7	∞
System Detection Limits	E2.5	±1.0	R	$\sqrt{3}$	1	±0.6	∞
Modulation response	E2.5	±2.4	R	$\sqrt{3}$	1	±1.4	
Readout Electronics	E2.6	±0.3	N	1	1	±0.3	∞
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	±0.8	R	$\sqrt{3}$	1	±0.5	∞
Probe Positioning with respect to Phantom Shell	E6.3	±6.7	R	$\sqrt{3}$	1	±3.9	∞
Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	E5	±4.0	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	±3.6	N	1	1	±3.6	5
Output Power Variation - SAR drift measurement	E2.9	±5.0	R	$\sqrt{3}$	1	±2.9	∞
Phantom and Tissue Parameters							
Phantom Uncertainty (shape and thickness tolerances)	E3.1	±6.6	R	$\sqrt{3}$	1	±3.8	∞
SAR correction	E3.2	±1.9	R	$\sqrt{3}$	1	±1.1	∞
Conductivity Target - tolerance	E3.4	±5.0	R	$\sqrt{3}$	0.6	±1.8	∞
Conductivity - measurement uncertainty	E3.3	±5.5	N	1	0.6	±3.5	5
Permittivity Target - tolerance	E3.4	±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			±14.0	198
Coverage Factor for 95%			k=2				
Expanded Uncertainty						±28.2	

Table 6.2 – Measurement uncertainty evaluation for 1g Fast SAR in 0.3-6GHz range

Relative DASYS 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	±6.6	N	1	0		
Axial Isotropy	±4.7	R	√3	$(1-c_p)^{1/2}$	±1.9	∞
Hemispherical Isotropy	±9.6	R	√3	$(c_p)^{1/2}$	±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	±6.0	N	1	1	±6.0	12
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 Target - tolerance	±1.9	R	√3	0		
Conductivity - measurement uncertainty	±5.0	R	√3	0		
Permittivity Target - tolerance	±5.5	N	1	0		
Permittivity - measurement uncertainty	±5.0	R	√3	0		
Combined Standard Uncertainty		RSS			±14.9	748
Coverage Factor for 95%		k=2				
Expanded Uncertainty					±29.8	

7. RESULTS

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

LTE700 (Band 17) Head SAR results / Non-Carrier Aggregation and Carrier Aggregation with 17UL/DL+2DL

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 23780 709.0 MHz	Ch 23790 710.0 MHz	Ch 23800 711.0 MHz	Ch 23780 709.0 MHz	Ch 23790 710.0 MHz	Ch 23800 711.0 MHz		
10MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Power [dBm]		23.0	23.1	23.2	0.9	0.8	0.7	dB	
	Time-averaged Power [dBm]		23.0	23.1	23.2	1.23	1.20	1.17	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]		23.9			Scaling factor*				
	Conducted Power [dBm]		23.1	23.2	23.1	0.8	0.7	0.8	dB	
	Time-averaged Power [dBm]		23.1	23.2	23.1	1.20	1.17	1.20	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]		23.9			Scaling factor*				
	Conducted Power [dBm]		23.3	23.3	23.3	0.6	0.6	0.6	dB	
	Time-averaged Power [dBm]		23.3	23.3	23.3	1.15	1.15	1.15	Lin	
	Left Cheek	Estimated SAR	-	0.195	-	-	0.224	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left Tilt	Estimated SAR	-	0.122	-	-	0.140	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right Cheek	Estimated SAR	-	0.209	-	-	0.240	-	0.00	1
		Full SAR	-	0.209	-	-	0.240	-	-	-
	Right Tilt	Estimated SAR	-	0.135	-	-	0.155	-	-	-
		Full SAR	-	-	-	-	-	-	-	-

(LTE700 (Band 17) Head SAR results /Non-CA and CA with 17UL/DL+2DL continues)

(LTE700 (Band 17) Head SAR results /Non-CA and CA with 17UL/DL+2DL 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 23780 709.0 MHz	Ch 23790 710.0 MHz	Ch 23800 711.0 MHz	Ch 23780 709.0 MHz	Ch 23790 710.0 MHz	Ch 23800 711.0 MHz		
10MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Power [dBm]		22.1	22.2	22.2	0.8	0.7	0.7	dB	
	Time-averaged Power [dBm]		22.1	22.2	22.2	1.20	1.17	1.17	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]		22.9			Scaling factor*				
	Conducted Power [dBm]		22.2	22.2	22.2	0.7	0.7	0.7	dB	
	Time-averaged Power [dBm]		22.2	22.2	22.2	1.17	1.17	1.17	Lin	
	Left Cheek	Estimated SAR	-	0.153	-	-	0.180	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left Tilt	Estimated SAR	-	0.087	-	-	0.102	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right Cheek	Estimated SAR	-	0.157	-	-	0.184	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right Tilt	Estimated SAR	-	0.108	-	-	0.127	-	-	-
Full SAR		-	-	-	-	-	-	-	-	
10MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Power [dBm]		22.2	22.2	22.2	0.7	0.7	0.7	dB	
	Time-averaged Power [dBm]		22.2	22.2	22.2	1.17	1.17	1.17	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]		22.9			Scaling factor*				
	Conducted Power [dBm]		22.3	22.3	22.2	0.6	0.6	0.7	dB	
	Time-averaged Power [dBm]		22.3	22.3	22.2	1.15	1.15	1.17	Lin	
	Right Cheek	Estimated SAR	-	0.170	-	-	0.195	-	-	-
		Full SAR	-	-	-	-	-	-	-	-

GSM/GPRS/EGPRS 850MHz Band Head SAR results

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 148 828.2 MHz	Ch 189 836.4 MHz	Ch 231 844.8 MHz	Ch 148 828.2 MHz	Ch 189 836.4 MHz	Ch 231 844.8 MHz		
GSM	Tuning Target + Tolerance [dBm]		32.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		32.2	32.3	32.2	0.7	0.6	0.7	dB	
	Time-averaged power [dBm]		23.2	23.3	23.2	1.17	1.15	1.17	Lin	
			No testing required for this slot configuration.							
2-slot GPRS	Tuning Target + Tolerance [dBm]		30.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		30.5	30.5	30.2	0.4	0.4	0.7	dB	
	Time-averaged power [dBm]		24.5	24.5	24.2	1.10	1.10	1.17	Lin	
	Left Cheek	Estimated SAR	0.292	0.277	0.305	0.320	0.304	0.358	0.02	2
		Full SAR	0.297	0.284	0.289	0.326	0.311	0.340		
	Left Tilt	Estimated SAR	0.177	0.174	0.170	0.194	0.191	0.200	-	-
		Full SAR	-	-	-	-	-	-		
	Right Cheek	Estimated SAR	0.260	0.248	0.266	0.285	0.272	0.313	-	-
		Full SAR	-	-	-	-	-	-		
	Right Tilt	Estimated SAR	0.197	0.186	0.197	0.216	0.204	0.231	-	-
Full SAR		-	-	-	-	-	-			
1-slot 8PSK EGPRS	Tuning Target + Tolerance [dBm]		27.4			Scaling factor*				
	Conducted Slot Average Power [dBm]		26.7	27.0	26.8	0.7	0.4	0.6	dB	
	Time-averaged power [dBm]		17.7	18.0	17.8	1.17	1.10	1.15	Lin	
			No testing required for this slot configuration.							
2-slot 8PSK EGPRS	Tuning Target + Tolerance [dBm]		27.4			Scaling factor*				
	Conducted Slot Average Power [dBm]		26.7	26.9	26.7	0.7	0.5	0.7	dB	
	Time-averaged power [dBm]		20.7	20.9	20.7	1.17	1.12	1.17	Lin	
	Left Cheek	Estimated SAR	0.147	0.137	0.138	0.173	0.154	0.162	-	-
		Full SAR	-	-	-	-	-	-		

WCDMA850 (Band 5) Band Head SAR results

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 4147 829.4 MHz	Ch 4183 836.6 MHz	Ch 4219 843.8 MHz	Ch 4147 829.4 MHz	Ch 4183 836.6 MHz	Ch 4219 843.8 MHz		
WCDMA	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		23.4	23.3	23.4	0.5	0.6	0.5	dB	
	Time-averaged power [dBm]		23.4	23.3	23.4	1.12	1.15	1.12	Lin	
	Left Cheek	Scenario	1	2	2	-	-	-	0.01	3
		Estimated SAR	0.243	0.255	0.279	0.273	0.293	0.313		
		Full SAR	0.254	0.267	0.287	0.285	0.307	0.322		
	Left Tilt	Scenario	1	0	1	-	-	-	-	-
		Estimated SAR	0.157	0.161	0.169	0.176	0.185	0.190		
		Full SAR	-	-	-	-	-	-		
	Right Cheek	Scenario	1	0	1	-	-	-	-	-
		Estimated SAR	0.239	0.253	0.277	0.268	0.291	0.311		
		Full SAR	-	-	-	-	-	-		
	Right Tilt	Scenario	1	0	1	-	-	-	-	-
		Estimated SAR	0.197	0.190	0.212	0.221	0.219	0.238		
		Full SAR	-	-	-	-	-	-		

LTE850 (Band 5) Head SAR results

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 20450 829.0 MHz	Ch 20525 836.5 MHz	Ch 20600 844.0 MHz	Ch 20450 829.0 MHz	Ch 20525 836.5 MHz	Ch 20600 844.0 MHz		
10MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		23.4	23.5	23.4	0.5	0.4	0.5	dB	
	Time-averaged power [dBm]		23.4	23.5	23.4	1.12	1.10	1.12	Lin	
	Left Cheek	Scenario	-	-	0	-	-	-	0.01	4
		Estimated SAR	-	-	0.265	-	-	0.297		
		Full SAR	-	-	0.277	-	-	0.311		
	Left Tilt	Scenario	-	-	0	-	-	-	-	5
		Estimated SAR	-	-	0.156	-	-	0.175		
		Full SAR	-	-	-	-	-	-		
	Right Cheek	Scenario	-	-	1	-	-	-	-	6
		Estimated SAR	-	-	0.214	-	-	0.240		
		Full SAR	-	-	-	-	-	-		
	Right Tilt	Scenario	-	-	0	-	-	-	-	7
		Estimated SAR	-	-	0.180	-	-	0.202		
		Full SAR	-	-	-	-	-	-		
10MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		23.5	23.4	23.3	0.4	0.5	0.6	dB	
	Time-averaged power [dBm]		23.5	23.4	23.3	1.10	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							
10MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		23.4	23.3	23.4	0.5	0.6	0.5	dB	
	Time-averaged power [dBm]		23.4	23.3	23.4	1.12	1.15	1.12	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

(LTE850 (Band 5) Head SAR Table continues)

(LTE850 (Band 5) Head SAR 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 20050 1720.0 MHz	Ch 23175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 23175 1732.5 MHz	Ch 20300 1745.0 MHz		
10MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.5	22.4	22.4	0.4	0.5	0.5	dB	
	Time-averaged power [dBm]		22.5	22.4	22.4	1.10	1.12	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 50% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.5	22.4	22.4	0.4	0.5	0.5	dB	
	Time-averaged power [dBm]		22.5	22.4	22.4	1.10	1.12	1.12	Lin	
	Left Cheek	Scenario	-	-	0	-	-	-	-	-
		Estimated SAR	-	-	0.218	-	-	0.245		
		Full SAR	-	-	-	-	-	-		
	Left Tilt	Scenario	-	-	0	-	-	-	-	-
		Estimated SAR	-	-	0.121	-	-	0.136		
		Full SAR	-	-	-	-	-	-		
	Right Cheek	Scenario	-	-	1	-	-	-	-	-
		Estimated SAR	-	-	0.171	-	-	0.192		
		Full SAR	-	-	-	-	-	-		
	Right Tilt	Scenario	-	-	0	-	-	-	-	-
Estimated SAR		-	-	0.148	-	-	0.166			
Full SAR		-	-	-	-	-	-			
10MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.5	22.4	22.3	0.4	0.5	0.6	dB	
	Time-averaged power [dBm]		22.5	22.4	22.3	1.10	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							
10MHz Ch BW 100% RB	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.6	22.5	22.5	0.3	0.4	0.4	dB	
	Time-averaged power [dBm]		22.6	22.5	22.5	1.07	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							
	Left Cheek	Scenario	-	-	0	-	-	-	-	-
		Estimated SAR	-	-	0.221	-	-	0.242		
Full SAR		-	-	-	-	-	-			

LTE1700/2100 (Band 4) Head SAR results / Non-Carrier Aggregation mode

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 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz		
20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		23.8	23.6	23.6	0.1	0.3	0.3	dB	
	Time-averaged power [dBm]		23.8	23.6	23.6	1.02	1.07	1.07	Lin	
	Left Cheek	Estimated SAR	0.226	-	-	0.231	-	-	-	-
		Full SAR	-	-	-	-	-	-		
	Left Tilt	Estimated SAR	0.104	-	-	0.106	-	-	-	-
		Full SAR	-	-	-	-	-	-		
	Right Cheek	Estimated SAR	0.326	-	-	0.334	-	-	0.02	-
		Full SAR	0.310	-	-	0.317	-	-		
	Right Tilt	Estimated SAR	0.074	-	-	0.075	-	-	-	-
Full SAR		-	-	-	-	-	-			
20MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		23.6	23.3	23.6	0.3	0.6	0.3	dB	
	Time-averaged power [dBm]		23.6	23.3	23.6	1.07	1.15	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]		23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		23.3	23.5	23.5	0.6	0.4	0.4	dB	
	Time-averaged power [dBm]		23.3	23.5	23.5	1.15	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							

(LTE1700 (Band 4) Head SAR/Non-Carrier Aggregation mode Table continues)

(LTE1700 (Band 4) Head SAR/Non-Carrier Aggregation mode 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 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz		
20MHz Ch BW 50%RB 0% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.8	22.5	22.6	0.1	0.4	0.3	dB	
	Time-averaged power [dBm]		22.8	22.5	22.6	1.02	1.10	1.07	Lin	
	Left Cheek	Estimated SAR	0.170	-	-	0.174	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left Tilt	Estimated SAR	0.079	-	-	0.081	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right Cheek	Estimated SAR	0.249	-	-	0.255	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
Right Tilt	Estimated SAR	0.062	-	-	0.063	-	-	-	-	
	Full SAR	-	-	-	-	-	-	-	-	
-20MHz --Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.6	22.4	22.6	0.3	0.5	0.3	dB	
	Time-averaged power [dBm]		22.6	22.4	22.6	1.07	1.12	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 50% RB 100% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.4	22.4	22.7	0.5	0.5	0.2	dB	
	Time-averaged power [dBm]		22.4	22.4	22.7	1.12	1.12	1.05	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]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.6	22.4	22.6	0.3	0.5	0.3	dB	
	Time-averaged power [dBm]		22.6	22.4	22.6	1.07	1.12	1.07	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) Head SAR results / Carrier Aggregation mode with 4UL/DL+17DL

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 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz		
20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		23.8	23.6	23.6	0.1	0.3	0.3	dB	
	Time-averaged power [dBm]		23.8	23.6	23.6	1.02	1.07	1.07	Lin	
	Left Cheek	Estimated SAR	0.198	-	-	0.203	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left Tilt	Estimated SAR	0.114	-	-	0.117	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right Cheek	Estimated SAR	0.297	-	-	0.304	-	-	0.06	8
		Full SAR	0.358	-	-	0.366	-	-	-	-
	Right Tilt	Estimated SAR	0.098	-	-	0.101	-	-	-	-
Full SAR		-	-	-	-	-	-	-	-	
20MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		23.6	23.3	23.6	0.3	0.6	0.3	dB	
	Time-averaged power [dBm]		23.6	23.3	23.6	1.07	1.15	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]		23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		23.3	23.5	23.5	0.6	0.4	0.4	dB	
	Time-averaged power [dBm]		23.3	23.5	23.5	1.15	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							

(LTE1700 (Band 4) Head SAR Table/Carrier Aggregation with 4UL/DL+17DL continues)

(LTE1700 (Band 4) Head SAR Table/Carrier Aggregation with 4UL/DL+17DL 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 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz		
20MHz Ch BW 50%RB 0% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.8	22.5	22.6	0.1	0.4	0.3	dB	
	Time-averaged power [dBm]		22.8	22.5	22.6	1.02	1.10	1.07	Lin	
	Left Cheek	Estimated SAR	0.143	-	-	0.146	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left Tilt	Estimated SAR	0.087	-	-	0.089	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right Cheek	Estimated SAR	0.242	-	-	0.248	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
Right Tilt	Estimated SAR	0.077	-	-	0.079	-	-	-	-	
	Full SAR	-	-	-	-	-	-	-	-	
20MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.6	22.4	22.6	0.3	0.5	0.3	dB	
	Time-averaged power [dBm]		22.6	22.4	22.6	1.07	1.12	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 50% RB 100% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.4	22.4	22.7	0.5	0.5	0.2	dB	
	Time-averaged power [dBm]		22.4	22.4	22.7	1.12	1.12	1.05	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]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.6	22.4	22.6	0.3	0.5	0.3	dB	
	Time-averaged power [dBm]		22.6	22.4	22.6	1.07	1.12	1.07	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

GSM/GPRS/EGPRS 1900MHz Band Head SAR results

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 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz	Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz		
GSM	Tuning Target + Tolerance [dBm]		30.4			Scaling factor*				
	Conducted Slot Average Power [dBm]		30.1	30.2	29.9	0.3	0.2	0.5	dB	
	Time-averaged power [dBm]		21.1	21.2	20.9	1.07	1.05	1.12	Lin	
			No testing required for this slot configuration.							
2-slot GPRS	Tuning Target + Tolerance [dBm]		27.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		27.6	27.7	27.6	0.3	0.2	0.3	dB	
	Time-averaged power [dBm]		21.6	21.7	21.6	1.07	1.05	1.07	Lin	
	Left Cheek	Estimated SAR	-	0.121	-	-	0.127	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left Tilt	Estimated SAR	-	0.092	-	-	0.096	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right Cheek	Estimated SAR	0.164	0.142	0.134	0.176	0.149	0.144	0.01	9
		Full SAR	0.172	-	-	0.184	-	-	-	-
	Right Tilt	Estimated SAR	-	0.050	-	-	0.052	-	-	-
Full SAR		-	-	-	-	-	-	-	-	
1-slot 8PSK EGPRS	Tuning Target + Tolerance [dBm]		26.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		26.2	26.3	26.2	0.7	0.6	0.7	dB	
	Time-averaged power [dBm]		17.2	17.3	17.2	1.17	1.15	1.17	Lin	
			No testing required for this slot configuration.							
2-slot 8PSK EGPRS	Tuning Target + Tolerance [dBm]		26.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		26.1	26.2	26.1	0.8	0.7	0.8	dB	
	Time-averaged power [dBm]		20.1	20.2	20.1	1.20	1.17	1.20	Lin	
	Right Cheek	Estimated SAR	0.121	-	-	0.145	-	-	-	-
		Full SAR	0.129	-	-	0.155	-	-	-	-

WCDMA1900 (Band 2) Head SAR results

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]		23.9			Scaling factor*				
	Conducted Power [dBm]		23.4	23.7	23.4	0.5	0.2	0.5	dB	
	Time-averaged power [dBm]		23.4	23.7	23.4	1.12	1.05	1.12	Lin	
	Left Cheek	Estimated SAR	-	0.213	-	-	0.223	-	-	-
		Full SAR	-		-	-	-	-		
	Left Tilt	Estimated SAR	-	0.150	-	-	0.157	-	-	-
		Full SAR	-		-	-	-	-		
	Right Cheek	Estimated SAR	0.312	0.289	0.264	0.350	0.303	0.296	0.01	10
		Full SAR	0.325	-	-	0.365	-	-		
	Right Tilt	Estimated SAR	-	0.074	-	-	0.077	-	-	-
		Full SAR	-	-	-	-	-	-		

LTE1900 (Band 2) Head SAR results / Non-Carrier Aggregation mode

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 18700 1860.0 MHz	Ch 18900 1880.0 MHz	Ch 19100 1900.0 MHz	Ch 18700 1860.0 MHz	Ch 18900 1880.0 MHz	Ch 19100 1900.0 MHz		
20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		23.5	23.3	23.1	0.4	0.6	0.8	dB	
	Time-averaged power [dBm]		23.5	23.3	23.1	1.10	1.15	1.20	Lin	
	Left Cheek	Estimated SAR	0.211	-	-	0.231	-	-	-	-
		Full SAR	-	-	-	-	-	-		
	Left Tilt	Estimated SAR	0.116	-	-	0.127	-	-	-	-
		Full SAR	-	-	-	-	-	-		
	Right Cheek	Estimated SAR	0.312	-	-	0.342	-	-	0.02	11
		Full SAR	0.290	-	-	0.318	-	-		
	Right Tilt	Estimated SAR	0.081	-	-	0.088	-	-	-	-
Full SAR		-	-	-	-	-	-			
20MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		23.3	23.4	23.1	0.6	0.5	0.8	dB	
	Time-averaged power [dBm]		23.3	23.4	23.1	1.15	1.12	1.20	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]		23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		23.0	23.1	23.3	0.9	0.8	0.6	dB	
	Time-averaged power [dBm]		23.0	23.1	23.3	1.23	1.20	1.15	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

(LTE1900 (Band 2) Head SAR/Non-Carrier Aggregation Table continues)

(LTE1900 (Band 2) Head SAR/Non-Carrier Aggregation 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 18700 1860.0 MHz	Ch 18900 1880.0 MHz	Ch 19100 1900.0 MHz	Ch 18700 1860.0 MHz	Ch 18900 1880.0 MHz	Ch 19100 1900.0 MHz		
20MHz Ch BW 50%RB 0% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.4	22.4	22.1	0.5	0.5	0.8	dB	
	Time-averaged power [dBm]		22.4	22.4	22.1	1.12	1.12	1.20	Lin	
	Left Cheek	Estimated SAR	-	0.173	-	-	0.194	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left Tilt	Estimated SAR	-	0.104	-	-	0.117	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right Cheek	Estimated SAR	-	0.235	-	-	0.264	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right Tilt	Estimated SAR	-	0.071	-	-	0.080	-	-	-
Full SAR		-	-	-	-	-	-	-	-	
20MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.3	22.3	22.2	0.6	0.6	0.7	dB	
	Time-averaged power [dBm]		22.3	22.3	22.2	1.15	1.15	1.17	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]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.1	22.3	22.2	0.8	0.6	0.7	dB	
	Time-averaged power [dBm]		22.1	22.3	22.2	1.20	1.15	1.17	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]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.3	22.3	22.2	0.6	0.6	0.7	dB	
	Time-averaged power [dBm]		22.3	22.3	22.2	1.15	1.15	1.17	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

LTE1900 (Band 2) Head SAR results / Carrier Aggregation mode with 2UL/DL+17DL

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 18700 1860.0 MHz	Ch 18900 1880.0 MHz	Ch 19100 1900.0 MHz	Ch 18700 1860.0 MHz	Ch 18900 1880.0 MHz	Ch 19100 1900.0 MHz		
20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		23.5	23.3	23.1	0.4	0.6	0.8	dB	
	Time-averaged power [dBm]		23.5	23.3	23.1	1.10	1.15	1.20	Lin	
	Left Cheek	Estimated SAR	0.139	-	-	0.152	-	-	-	-
		Full SAR	-	-	-	-	-	-		
	Left Tilt	Estimated SAR	0.100	-	-	0.109	-	-	-	-
		Full SAR	-	-	-	-	-	-		
	Right Cheek	Estimated SAR	0.170	-	-	0.186	-	-	0.00	-
		Full SAR	0.174	-	-	0.191	-	-		
	Right Tilt	Estimated SAR	0.069	-	-	0.075	-	-	-	-
Full SAR		-	-	-	-	-	-			
20MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		23.3	23.4	23.1	0.6	0.5	0.8	dB	
	Time-averaged power [dBm]		23.3	23.4	23.1	1.15	1.12	1.20	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]		23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		23.0	23.1	23.3	0.9	0.8	0.6	dB	
	Time-averaged power [dBm]		23.0	23.1	23.3	1.23	1.20	1.15	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

(LTE1900 (Band 2) Head SAR Table /Carrier Aggregation with 2UL/DL+17DL continues)

(LTE1900 (Band 2) Head SAR Table /Carrier Aggregation with 2UL/DL+17DL 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 18700 1860.0 MHz	Ch 18900 1880.0 MHz	Ch 19100 1900.0 MHz	Ch 18700 1860.0 MHz	Ch 18900 1880.0 MHz	Ch 19100 1900.0 MHz		
20MHz Ch BW 50%RB 0% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.4	22.4	22.1	0.5	0.5	0.8	dB	
	Time-averaged power [dBm]		22.4	22.4	22.1	1.12	1.12	1.20	Lin	
	Left Cheek	Estimated SAR	-	0.095	-	-	0.107	-	-	-
		Full SAR	-	-	-	-	-	-		
	Left Tilt	Estimated SAR	-	0.067	-	-	0.075	-	-	-
		Full SAR	-	-	-	-	-	-		
	Right Cheek	Estimated SAR	-	0.118	-	-	0.132	-	-	-
		Full SAR	-	-	-	-	-	-		
	Right Tilt	Estimated SAR	-	0.036	-	-	0.041	-	-	-
Full SAR		-	-	-	-	-	-			
20MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.3	22.3	22.2	0.6	0.6	0.7	dB	
	Time-averaged power [dBm]		22.3	22.3	22.2	1.15	1.15	1.17	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]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.1	22.3	22.2	0.8	0.6	0.7	dB	
	Time-averaged power [dBm]		22.1	22.3	22.2	1.20	1.15	1.17	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]		22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		22.3	22.3	22.2	0.6	0.6	0.7	dB	
	Time-averaged power [dBm]		22.3	22.3	22.2	1.15	1.15	1.17	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

LTE2500 (Band 7) Head SAR results

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 20850 2511.0 MHz	Ch 21100 2535.0 MHz	Ch 21350 2560.0 MHz	Ch 20850 2511.0 MHz	Ch 21100 2535.0 MHz	Ch 21350 2560.0 MHz		
20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Power [dBm]		23.7	23.6	23.5	0.2	0.3	0.4	dB	
	Time-averaged Power [dBm]		23.7	23.6	23.5	1.05	1.07	1.10	Lin	
	Left Cheek	Estimated SAR	0.208	-	-	0.218	-	-	0.00	12
		Full SAR	0.212	-	-	0.222	-	-		
	Left Tilt	Estimated SAR	0.074	-	-	0.077	-	-	-	-
		Full SAR	-	-	-	-	-	-		
	Right Cheek	Estimated SAR	0.118	-	-	0.124	-	-	-	-
		Full SAR	-	-	-	-	-	-		
	Right Tilt	Estimated SAR	0.034	-	-	0.036	-	-	-	-
Full SAR		-	-	-	-	-	-			
20MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Power [dBm]		23.6	23.4	23.6	0.3	0.5	0.3	dB	
	Time-averaged Power [dBm]		23.6	23.4	23.6	1.07	1.12	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]		23.9			Scaling factor*				
	Conducted Power [dBm]		23.7	23.3	23.7	0.2	0.6	0.2	dB	
	Time-averaged Power [dBm]		23.7	23.3	23.7	1.05	1.15	1.05	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]		22.9			Scaling factor*				
	Conducted Power [dBm]		22.6	22.6	22.6	0.3	0.3	0.3	dB	
	Time-averaged Power [dBm]		22.6	22.6	22.6	1.07	1.07	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 50%RB 50% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Power [dBm]		22.6	22.6	22.6	0.3	0.3	0.3	dB	
	Time-averaged Power [dBm]		22.6	22.6	22.6	1.07	1.07	1.07	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

(LTE2500 (Band 7) Head SAR Table continues)

(LTE2500 (Band 7) Head SAR 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 20850 2510.0 MHz	Ch 21100 2535.0 MHz	Ch 21350 2560.0 MHz	Ch 20850 2511.0 MHz	Ch 21100 2535.0 MHz	Ch 21350 2560.0 MHz		
20MHz Ch BW 50%RB 100% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Power [dBm]		22.7	22.3	22.6	0.2	0.6	0.3	dB	
	Time-averaged Power [dBm]		22.7	22.3	22.6	1.05	1.15	1.07	Lin	
	Left Cheek	Estimated SAR	0.162	-	-	0.170	-	-	-	-
		Full SAR	-	-	-	-	-	-		
	Left Tilt	Estimated SAR	0.058	-	-	0.061	-	-	-	-
		Full SAR	-	-	-	-	-	-		
	Right Cheek	Estimated SAR	0.099	-	-	0.104	-	-	-	-
		Full SAR	-	-	-	-	-	-		
	Right Tilt	Estimated SAR	0.027	-	-	0.028	-	-	-	-
Full SAR		-	-	-	-	-	-			
20MHz Ch BW 100%RB	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Power [dBm]		22.7	22.4	22.7	0.2	0.5	0.2	dB	
	Time-averaged Power [dBm]		22.7	22.4	22.7	1.05	1.12	1.05	Lin	
	Left Cheek	Estimated SAR	0.091	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-		

2450MHz Head SAR results

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 2412.0 MHz	Ch 6 2437.0 MHz	Ch 11 2462.0 MHz	Ch 1 2412.0 MHz	Ch 6 2437.0 MHz	Ch 11 2462.0 MHz		
WLAN b-mode BPSK 1Mbps	Tuning Target + Tolerance [dBm]		19.5			Scaling factor*				
	Conducted Power [dBm]		18.6	18.6	18.5	0.9	0.9	1.0	dB	
	Time-averaged power [dBm]		18.6	18.6	18.5	1.23	1.23	1.26	Lin	
	Left Cheek	Estimated SAR	-	0.312	-	-	0.384	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left Tilt	Estimated SAR	-	0.297	-	-	0.365	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right Cheek	Estimated SAR	-	0.423	-	-	0.520	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right Tilt	Estimated SAR	0.425	0.453	0.440	0.523	0.557	0.554	0.03	13
		Full SAR	-	0.421	-	-	0.518	-	-	-

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

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				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]		17.5				Scaling factor*					
	Conducted Power [dBm]		16.0	16.1	16.0	16.0	1.5	1.4	1.5	1.5	dB	
	Time-averaged power [dBm]		16.0	16.1	16.0	16.0	1.41	1.38	1.41	1.41	Lin	
	Left Cheek	Estimated SAR	-		-		-	-	-	-	-	-
		Full SAR	0.099	0.099	0.081	0.100	0.140	0.136	0.114	0.141		
	Left Tilt	Estimated SAR	-		-		-	-	-	-	-	-
		Full SAR	-	0.074	-	0.062	-	0.102	-	0.087		
	Right Cheek	Estimated SAR	-		-		-	-	-	-	-	-
		Full SAR	-	0.116	-	0.087	-	0.160	-	0.123		
	Right Tilt	Estimated SAR	-		-		-	-	-	-	-	-
		Full SAR	-	0.086	-	0.070	-	0.118	-	0.099		

**5000MHz Head SAR results
5470–5725 MHz**

Mode	Device orientation	SAR measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				Max Deviation n (Estimated SAR - Full SAR) [W/kg]	Plot #
			Ch 104	Ch 112	Ch 124	Ch 132	Ch 104	Ch 112	Ch 124	Ch 132		
			5520.0 MHz	5560.0 MHz	5620.0 MHz	5660.0 MHz	5520.0 MHz	5560.0 MHz	5620.0 MHz	5660.0 MHz		
WLAN a-mode BPSK 6 Mbps	Tuning Target + Tolerance [dBm]		17.5				Scaling factor*					
	Conducted Power [dBm]		16.1	16.1	16.0	16.2	1.4	1.4	1.5	1.3	dB	
	Time-averaged power [dBm]		16.1	16.1	16.0	16.2	1.38	1.38	1.41	1.35	Lin	
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-	-	-	-
		Full SAR	0.062	0.057	0.072	0.075	0.085	0.078	0.102	0.101		
	Left Tilt	Estimated SAR	-	-	-	-	-	-	-	-	-	-
		Full SAR	-	-	-	0.064	0.076	-	-	0.086		
	Right Cheek	Estimated SAR	-	-	-	-	-	-	-	-	-	-
		Full SAR	-	-	-	0.149	0.122	-	-	0.201		
	Right Tilt	Estimated SAR	-	-	-	-	-	-	-	-	-	-
		Full SAR	-	-	-	0.123	0.089	-	-	0.166		

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

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 5765.0 MHz	Ch 157 5785.0 MHz	Ch 161 5805.0 MHz	Ch 153 5765.0 MHz	Ch 157 5785.0 MHz	Ch 161 5805.0 MHz		
WLAN a-mode BPSK 6 Mbps	Tuning Target + Tolerance [dBm]		17.5			Scaling factor*				
	Conducted Power [dBm]		15.7	15.7	15.6	1.8	1.8	1.9	dB	
	Time-averaged power [dBm]		15.7	15.7	15.6	1.51	1.51	1.55	Lin	
	Left Cheek	Estimated SAR	-	-	-	-	-	-	-	-
		Full SAR	0.112	0.104	0.095	0.170	0.157	0.147	-	-
	Left Tilt	Estimated SAR		-	-	-	-	-	-	-
		Full SAR	0.102	-	-	0.154	-	-	-	-
	Right Cheek	Estimated SAR		-	-	-	-	-	-	14
		Full SAR	0.142	-	-	0.215	-	-	-	
	Right Tilt	Estimated SAR		-	-	-	-	-	-	-
Full SAR		0.126	-	-	0.191	-	-	-		

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

Test configuration	Max. Reported* 1g SAR results										
	WLAN 2450	WLAN 5000	LTE 700	2-slot GPRS 850	WCDMA 850	LTE 850	LTE 1700/2100	2-slot GPRS 1900	WCDMA 1900	LTE 1900	LTE 2500
Head: Left, Cheek	0.384	0.170	0.224	0.340	0.322	0.311	0.231	0.127	0.223	0.231	0.222
Head: Left, Tilt	0.365	0.154	0.140	0.200	0.190	0.175	0.117	0.096	0.157	0.127	0.077
Head: Right, Cheek	0.520	0.215	0.240	0.313	0.311	0.240	0.366	0.184	0.365	0.318	0.124
Head: Right, Tilt	0.518	0.191	0.155	0.231	0.238	0.202	0.101	0.052	0.080	0.088	0.036

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

Test configuration	Max. Reported* 1g SAR results								
	LTE700 + WLAN 2450	2-slot GPRS850 + WLAN 2450	WCDMA 850 + WLAN 2450	LTE850 + WLAN 2450	LTE1700/ 2100 + WLAN 2450	2-slot GPRS1900 + WLAN 2450	WCDMA 1900 + WLAN 2450	LTE1900 + WLAN 2450	LTE2500 +WLAN 2450
Head: Left, Cheek	0.608	0.724	0.706	0.695	0.615	0.511	0.607	0.615	0.606
Head: Left, Tilt	0.505	0.565	0.555	0.540	0.482	0.461	0.522	0.492	0.442
Head: Right, Cheek	0.760	0.833	0.831	0.760	0.886	0.704	0.885	0.838	0.644
Head: Right, Tilt	0.673	0.749	0.756	0.720	0.619	0.570	0.598	0.606	0.554
Test configuration	LTE700 + WLAN 5000	2-slot GPRS850 + WLAN 5000	WCDMA 850 + WLAN 5000	LTE850 + WLAN 5000	LTE1700/ 2100 + WLAN 5000	2-slot GPRS1900 + WLAN 5000	WCDMA 1900 + WLAN 5000	LTE1900 + WLAN 5000	LTE2500 + WLAN 5000
Head: Left, Cheek	0.394	0.510	0.492	0.481	0.401	0.297	0.393	0.401	0.392
Head: Left, Tilt	0.294	0.354	0.344	0.329	0.271	0.250	0.311	0.281	0.231
Head: Right, Cheek	0.455	0.528	0.526	0.455	0.581	0.399	0.580	0.533	0.339
Head: Right, Tilt	0.346	0.422	0.429	0.393	0.292	0.243	0.271	0.279	0.227

Note: Simultaneous Transmission Procedures as described in KDB648474 are not required for this product.

7.1.1 Combined Head SAR data

The Combined SAR data given in the tables below has been voluntarily calculated and should be ignored for FCC certification.

The following table gives a more accurate assessment of the SAR values for simultaneous transmission. These values have been calculated using the SPEAG Combined Multiband algorithm, which is based on area scans. It a) converts the 2D area scans into 3D volume scans by assuming frequency-dependent decay characteristics for the E-field, b) sums the SAR values for WLAN2450 or WLAN5000 and the cellular bands point-by-point and c) calculates the combined average SAR values.

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

Test configuration	Max. Reported* 1g SAR results								
	LTE700 + WLAN 2450	2-slot GPRS850 + WLAN 2450	WCDMA 850 + WLAN 2450	LTE850 + WLAN 2450	LTE1700/ 2100 + WLAN 2450	2-slot GPRS1900 + WLAN 2450	WCDMA 1900 + WLAN 2450	LTE1900 + WLAN 2450	LTE2500 +WLAN 2450
Head: Left, Cheek	-	-	-	-	-	-	-	-	-
Head: Left, Tilt	-	-	-	-	-	-	-	-	-
Head: Right, Cheek	0.557	0.566	0.585	0.558	0.552	0.532	0.551	0.551	0.532
Head: Right, Tilt	-	-	-	-	-	-	-	-	-
Test configuration	LTE700 + WLAN 5000	2-slot GPRS850 + WLAN 5000	WCDMA 850 + WLAN 5000	LTE850 + WLAN 5000	LTE1700/ 2100 + WLAN 5000	2-slot GPRS1900 + WLAN 5000	WCDMA 1900 + WLAN 5000	LTE1900 + WLAN 5000	LTE2500 + WLAN 5000
Head: Left, Cheek	-	-	-	0.298	-	-	-	-	0.228
Head: Left, Tilt	-	-	-	-	-	-	-	-	-
Head: Right, Cheek	0.247	0.322	0.318	-	0.309	0.191	0.351	0.343	-
Head: Right, Tilt	-	-	-	-	-	-	-	-	-

Some of the Combined SAR values in the above table are less than the maximum SAR values for the contributing cellular band. This is due to a) minimal overlap of the SAR distributions of the cellular band with WLAN2450 or WLAN5000 and b) uncertainties associated with the different methods of calculation. In these cases, the maximum SAR values given for the combined Modes in the Summary table in Section 1.2 are those for the individual cellular band.

Note:

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

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

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

LTE700 (Band 17) Body SAR results / Non-Carrier Aggregation and Carrier Aggregation with 17UL/DL+2DL

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 709.0 MHz	Ch 23790 710.0 MHz	Ch 23800 711.0 MHz	Ch 23780 709.0 MHz	Ch 23790 710.0 MHz	Ch 23800 711.0 MHz		
10MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]			23.9			Scaling factor*				
	Conducted Power [dBm]			23.0	23.1	23.2	0.9	0.8	0.7	dB	
	Time-averaged power [dBm]			23.0	23.1	23.2	1.23	1.20	1.17	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]			23.9			Scaling factor*				
	Conducted Power [dBm]			23.1	23.2	23.1	0.8	0.7	0.8	dB	
	Time-averaged power [dBm]			23.1	23.2	23.1	1.20	1.17	1.20	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]			23.9			Scaling factor*				
	Conducted Power [dBm]			23.3	23.3	23.3	0.6	0.6	0.6	dB	
	Time-averaged power [dBm]			23.3	23.3	23.3	1.15	1.15	1.15	Lin	
	Back facing phantom	Without headset	Estimated SAR	-	0.291	-	-	0.334	-	-	-
			Full SAR	-	-	-	-	-	-	-	-
		Headset WH-208	Estimated SAR	-	0.254	-	-	0.292	-	-	-
			Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Without headset	Estimated SAR	-	0.321	-	-	0.369	-	0.00	15
			Full SAR	-	0.320	-	-	0.367	-	-	-
		Headset WH-208	Estimated SAR	-	0.281	-	-	0.323	-	-	-
			Full SAR	-	-	-	-	-	-	-	-

(LTE700 (Band 17) Body SAR/Non-CA and CA with 17UL/DL+2DL Table continues)

(LTE700 (Band 17) Body SAR/Non-CA and CA with 17UL/DL+2DL Table continues)

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 50% RB 0% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*					
	Conducted Power [dBm]		22.1	22.2	22.2	0.8	0.7	0.7	dB		
	Time-averaged power [dBm]		22.1	22.2	22.2	1.20	1.17	1.17	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]		22.9			Scaling factor*					
	Conducted Power [dBm]		22.2	22.2	22.2	0.7	0.7	0.7	dB		
	Time-averaged power [dBm]		22.2	22.2	22.2	1.17	1.17	1.17	Lin		
	Back facing phantom	Without headset	Estimated SAR	-	0.234	-	-	0.275	-	-	-
			Full SAR	-	-	-	-	-	-	-	-
		Headset WH-208	Estimated SAR	-	0.198	-	-	0.233	-	-	-
			Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Without headset	Estimated SAR	-	0.252	-	-	0.296	-	-	-
			Full SAR	-	-	-	-	-	-	-	-
		Headset WH-208	Estimated SAR	-	0.221	-	-	0.260	-	-	-
			Full SAR	-	-	-	-	-	-	-	-
10MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*					
	Conducted Power [dBm]		22.2	22.2	22.2	0.7	0.7	0.7	dB		
	Time-averaged power [dBm]		22.2	22.2	22.2	1.17	1.17	1.17	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]		22.9			Scaling factor*					
	Conducted Power [dBm]		22.2	22.2	22.2	0.7	0.7	0.7	dB		
	Time-averaged power [dBm]		22.2	22.2	22.2	1.17	1.17	1.17	Lin		
	Display facing phantom	Without headset	Estimated SAR	-	0.254	-	-	0.292	-	-	-
			Full SAR	-	-	-	-	-	-	-	-

850MHz Band Body SAR results*

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 148 828.2 MHz	Ch 189 836.4 MHz	Ch 231 844.8 MHz	Ch 148 828.2 MHz	Ch 189 836.4 MHz	Ch 231 844.8 MHz		
2-slot GPRS	Tuning Target + Tolerance [dBm]			30.9			Scaling factor*				
	Conducted Slot Average Power [dBm]			30.5	30.5	30.2	0.4	0.4	0.7	dB	
	Time-averaged power [dBm]			24.5	24.5	24.2	1.10	1.10	1.17	Lin	
	Back facing phantom	Without headset	Estimated SAR	0.328	0.323	0.326	0.360	0.354	0.383	-	-
			Full SAR	-	-	-	-	-	-	-	-
		Headset WH-208	Estimated SAR	0.318	0.315	0.302	0.349	0.345	0.355	-	-
			Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Without headset	Estimated SAR	0.351	0.390	0.377	0.385	0.428	0.443	0.02	16
			Full SAR	0.360	0.371	0.387	0.395	0.407	0.455	-	-
		Headset WH-208	Estimated SAR	0.349	0.366	0.362	0.383	0.401	0.425	-	-
			Full SAR	-	-	-	-	-	-	-	-

*Each Sub-band is measured individually.

WCDMA850 (Band 5) Body SAR results*

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 4147 829.4 MHz	Ch 4183 836.6 MHz	Ch 4219 843.8 MHz	Ch 4147 829.4 MHz	Ch 4183 836.6 MHz	Ch 4219 843.8 MHz		
WCDMA	Tuning Target + Tolerance [dBm]			30.9			Scaling factor*				
	Conducted Slot Average Power [dBm]			30.5	30.5	30.2	0.4	0.4	0.7	dB	
	Time-averaged power [dBm]			24.5	24.5	24.2	1.10	1.10	1.17	Lin	
	Back facing phantom	Without headset	Scenario	1	0	1	-	-	-	-	-
			Estimated SAR	0.281	0.291	0.305	0.315	0.334	0.342	-	-
			Full SAR	-	-	-	-	-	-	-	-
		Headset WH-208	Scenario	1	0	1	-	-	-	-	-
			Estimated SAR	0.245	0.254	0.280	0.275	0.292	0.314	-	-
			Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Without headset	Scenario	1	0	2	-	-	-	0.01	17
			Estimated SAR	0.306	0.322	0.322	0.343	0.370	0.361	-	-
			Full SAR	0.310	0.318	0.328	0.348	0.365	0.368	-	-
		Headset WH-208	Scenario	1	0	2	-	-	-	-	-
			Estimated SAR	0.257	0.286	0.313	0.288	0.328	0.351	-	-
			Full SAR	-	-	-	-	-	-	-	-

*Each Sub-band is measured individually.

LTE850 (Band 5) Body SAR results

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 20450 829.0 MHz	Ch 20525 836.5 MHz	Ch 20600 844.0 MHz	Ch 20450 829.0 MHz	Ch 20525 836.5 MHz	Ch 20600 844.0 MHz		
10MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]			23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]			23.4	23.5	23.4	0.5	0.4	0.5	dB	
	Time-averaged power [dBm]			23.4	23.5	23.4	1.12	1.10	1.12	Lin	
	Back facing phantom	Without headset	Scenario	-	-	1	-	-	-	-	18
			Estimated SAR	-	-	0.278	-	-	0.312		
			Full SAR	-	-		-	-	-		
		Headset WH-208	Scenario	-	-	1	-	-	-	-	19
			Estimated SAR	-	-	0.262	-	-	0.294		
			Full SAR	-	-		-	-	-		
	Display facing phantom	Without headset	Scenario	-	-	0	-	-	-	0.01	20
			Estimated SAR	-	-	0.328	-	-	0.368		
			Full SAR	-	-	0.341	-	-	0.383		
		Headset WH-208	Scenario	-	-	0	-	-	-	-	21
			Estimated SAR	-	-	0.284	-	-	0.319		
			Full SAR	-	-		-	-	-		
10MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]			23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]			23.5	23.4	23.3	0.4	0.5	0.6	dB	
	Time-averaged power [dBm]			23.5	23.4	23.3	1.10	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							
10MHz Ch BW 1RB 100% offset	Tuning Target + Tolerance [dBm]			23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]			23.4	23.3	23.4	0.5	0.6	0.5	dB	
	Time-averaged power [dBm]			23.4	23.3	23.4	1.12	1.15	1.12	Lin	
				No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

(LTE850 (Band 5) Body SAR Table continues)

(LTE850 (Band 5) Body SAR 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 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 50%RB 0% offset	Tuning Target + Tolerance [dBm]			22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]			22.5	22.4	22.4	0.4	0.5	0.5	dB	
	Time-averaged power [dBm]			22.5	22.4	22.4	1.10	1.12	1.12	Lin	
				No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
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 4147	Ch 4183	Ch 4219	Ch 4147	Ch 4183	Ch 4219		
				829.4 MHz	836.6 MHz	843.8 MHz	829.4 MHz	836.6 MHz	843.8 MHz		
10MHz Ch BW 50%RB 50% offset	Tuning Target + Tolerance [dBm]			22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]			22.5	22.4	22.4	0.4	0.5	0.5	dB	
	Time-averaged power [dBm]			22.5	22.4	22.4	1.10	1.12	1.12	Lin	
	Back facing phantom	Without headset	Scenario	-	-	1	-	-	-	-	-
			Estimated SAR	-	-	0.212	-	-	0.238		
			Full SAR	-	-	-	-	-	-		
		Headset WH-208	Scenario	-	-	1	-	-	-	-	-
			Estimated SAR	-	-	0.176	-	-	0.197		
			Full SAR	-	-	-	-	-	-		
	Display facing phantom	Without headset	Scenario	-	-	0	-	-	-	-	-
			Estimated SAR	-	-	0.250	-	-	0.281		
			Full SAR	-	-	-	-	-	-		
		Headset WH-208	Scenario	-	-	0	-	-	-	-	-
			Estimated SAR	-	-	0.232	-	-	0.260		
			Full SAR	-	-	-	-	-	-		
10MHz Ch BW 50%RB 100% offset	Tuning Target + Tolerance [dBm]			23.9			Scaling factor*				
	Conducted Slot Average Power [dBm]			22.5	22.4	22.3	0.4	0.5	0.6	dB	
	Time-averaged power [dBm]			22.5	22.4	22.3	1.10	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							
10MHz Ch BW 100% RB	Tuning Target + Tolerance [dBm]			22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]			22.6	22.5	22.5	0.3	0.4	0.4	dB	
	Time-averaged power [dBm]			22.6	22.5	22.5	1.07	1.10	1.10	Lin	
	Display facing phantom	Without headset	Scenario	-	-	0	-	-	-	-	-
			Estimated SAR	-	-	0.237	-	-	0.260		
			Full SAR	-	-	-	-	-	-		

LTE1700/2100 (Band 4) Body SAR results / Non-Carrier Aggregation mode

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 20050 1720.0 MHz	Ch 23175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 23175 1732.5 MHz	Ch 20300 1745.0 MHz			
20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]			23.9			Scaling factor*					
	Conducted Power [dBm]			23.8	23.6	23.6	0.1	0.3	0.3	dB		
	Time-averaged power [dBm]			23.8	23.6	23.6	1.02	1.07	1.07	Lin		
	Back facing phantom	Without headset	Estimated SAR	0.628	-	-	0.643	-	-	-	-	
			Full SAR	-	-	-	-	-	-	-	-	
		Headset WH-208	Estimated SAR	0.621	-	-	0.635	-	-	-	-	-
			Full SAR	-	-	-	-	-	-	-	-	-
	Display facing phantom	Without headset	Estimated SAR	0.763	-	-	0.781	-	-	-	-	
			Full SAR	-	-	-	-	-	-	-	-	
		Headset WH-208	Estimated SAR	0.774	-	-	0.792	-	-	-	0.05	-
			Full SAR	0.825	-	-	0.844	-	-	-	-	-
Repeated SAR Display facing phantom, WH-208		Estimated SAR	-	-	-	-	-	-	-	-		
		Full SAR	0.807	-	-	0.826	-	-	-	-	-	
20MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]			23.9			Scaling factor*					
	Conducted Power [dBm]			23.6	23.3	23.6	0.3	0.6	0.3	dB		
	Time-averaged power [dBm]			23.6	23.3	23.6	1.07	1.15	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]			23.9			Scaling factor*					
	Conducted Power [dBm]			23.3	23.5	23.5	0.6	0.4	0.4	dB		
	Time-averaged power [dBm]			23.3	23.5	23.5	1.15	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								

(LTE1700/2100 (Band 4) Body SAR/Non-Carrier Aggregation mode Table continues)

(LTE1700/2100 (Band 4) Body SAR/Non-Carrier Aggregation mode Table continues)

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 20050 1720.0 MHz	Ch 23175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 23175 1732.5 MHz	Ch 20300 1745.0 MHz			
20MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]			22.9			Scaling factor*					
	Conducted Power [dBm]			22.8	22.5	22.6	0.1	0.4	0.3	dB		
	Time-averaged power [dBm]			22.8	22.5	22.6	1.02	1.10	1.07	Lin		
	Back facing phantom	Without headset	Estimated SAR	0.493	-	-	0.504	-	-	-	-	
			Full SAR	-	-	-	-	-	-	-	-	
		Headset WH-208	Estimated SAR	0.490	-	-	0.501	-	-	-	-	-
			Full SAR	-	-	-	-	-	-	-	-	-
	Display facing phantom	Without headset	Estimated SAR	0.600	-	-	0.614	-	-	-	-	
			Full SAR	-	-	-	-	-	-	-	-	
		Headset WH-208	Estimated SAR	0.601	-	-	0.615	-	-	-	-	-
Full SAR			-	-	-	-	-	-	-	-	-	
20MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]			22.9			Scaling factor*					
	Conducted Power [dBm]			22.6	22.4	22.6	0.3	0.5	0.3	dB		
	Time-averaged power [dBm]			22.6	22.4	22.6	1.07	1.12	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 50% RB 100% offset	Tuning Target + Tolerance [dBm]			22.9			Scaling factor*					
	Conducted Power [dBm]			22.4	22.4	22.7	0.5	0.5	0.2	dB		
	Time-averaged power [dBm]			22.4	22.4	22.7	1.12	1.12	1.05	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]			22.9			Scaling factor*					
	Conducted Power [dBm]			22.6	22.4	22.6	0.3	0.5	0.3	dB		
	Time-averaged power [dBm]			22.6	22.4	22.6	1.07	1.12	1.07	Lin		
	Display facing phantom	Headset WH-208	Estimated SAR	0.582	-	-	0.624	-	-	-	-	
			Full SAR	-	-	-	-	-	-	-	-	

LTE1700/2100 (Band 4) Body SAR results / Carrier Aggregation mode with 4UL/DL+17DL

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 20050 1720.0 MHz	Ch 23175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 23175 1732.5 MHz	Ch 20300 1745.0 MHz			
20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]			23.9			Scaling factor*					
	Conducted Power [dBm]			23.8	23.6	23.6	0.1	0.3	0.3	dB		
	Time-averaged power [dBm]			23.8	23.6	23.6	1.02	1.07	1.07	Lin		
	Back facing phantom	Without headset	Estimated SAR	0.684	-	-	0.700	-	-	-	-	
			Full SAR	-	-	-	-	-	-	-	-	
		Headset WH-208	Estimated SAR	0.696	-	-	0.712	-	-	-	-	-
			Full SAR	-	-	-	-	-	-	-	-	-
	Display facing phantom	Without headset	Estimated SAR	0.775	0.779	0.746	0.793	0.835	0.799	0.01	-	
			Full SAR	-	0.791	-	0.841	0.848	-	-	-	
		Headset WH-208	Estimated SAR	0.803	0.753	0.768	0.822	0.807	0.823	0.03	22	
			Full SAR	0.833	-	-	0.852	-	-	-	-	
	Repeated SAR Display facing phantom, WH-208			Estimated SAR	-	-	-	-	-	-	-	
				Full SAR	0.830	-	-	0.849	-	-	-	
20MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]			23.9			Scaling factor*					
	Conducted Power [dBm]			23.6	23.3	23.6	0.3	0.6	0.3	dB		
	Time-averaged power [dBm]			23.6	23.3	23.6	1.07	1.15	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]			23.9			Scaling factor*					
	Conducted Power [dBm]			23.3	23.5	23.5	0.6	0.4	0.4	dB		
	Time-averaged power [dBm]			23.3	23.5	23.5	1.15	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								

(LTE1700/2100 (Band 4) Body SAR / Carrier Aggregation with 4UL/DL+17DL Table continues)

(LTE1700/2100 (Band 4) Body SAR / Carrier Aggregation with 4UL/DL+17DL Table continues)

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 20050 1720.0 MHz	Ch 23175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 23175 1732.5 MHz	Ch 20300 1745.0 MHz		
20MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]			22.9			Scaling factor*				
	Conducted Power [dBm]			22.8	22.5	22.6	0.1	0.4	0.3	dB	
	Time-averaged power [dBm]			22.8	22.5	22.6	1.02	1.10	1.07	Lin	
	Back facing phantom	Without headset	Estimated SAR	0.521	-	-	0.533	-	-	-	-
			Full SAR	-	-	-	-	-	-	-	-
		Headset WH-208	Estimated SAR	0.548	-	-	0.561	-	-	-	-
			Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Without headset	Estimated SAR	0.628	-	-	0.643	-	-	-	-
			Full SAR	-	-	-	-	-	-	-	-
		Headset WH-208	Estimated SAR	0.631	-	-	0.646	-	-	-	-
Full SAR			-	-	-	-	-	-	-	-	
20MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]			22.9			Scaling factor*				
	Conducted Power [dBm]			22.6	22.4	22.6	0.3	0.5	0.3	dB	
	Time-averaged power [dBm]			22.6	22.4	22.6	1.07	1.12	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 50% RB 100% offset	Tuning Target + Tolerance [dBm]			22.9			Scaling factor*				
	Conducted Power [dBm]			22.4	22.4	22.7	0.5	0.5	0.2	dB	
	Time-averaged power [dBm]			22.4	22.4	22.7	1.12	1.12	1.05	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]			22.9			Scaling factor*				
	Conducted Power [dBm]			22.6	22.4	22.6	0.3	0.5	0.3	dB	
	Time-averaged power [dBm]			22.6	22.4	22.6	1.07	1.12	1.07	Lin	
				No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
	Display facing phantom	Headset WH-208	Estimated SAR	0.601	-	-	0.644	-	-	-	-
			Full SAR	-	-	-	-	-	-	-	-

1900MHz Band Body SAR results

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 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz	Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz		
2-slot GPRS	Tuning Target + Tolerance [dBm]			27.9			Scaling factor*				
	Conducted Slot Average Power [dBm]			27.6	27.7	27.6	0.3	0.2	0.3	dB	
	Time-averaged power [dBm]			21.6	21.7	21.6	1.07	1.05	1.07	Lin	
	Back facing phantom	Without headset	Estimated SAR	-	0.371	-	-	0.388	-	-	-
			Full SAR	-	-	-	-	-	-	-	-
		Headset WH-208	Estimated SAR	-	0.369	-	-	0.386	-	-	-
			Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Without headset	Estimated SAR	0.419	0.418	0.401	0.449	0.438	0.430	0.05	23
			Full SAR	0.466	-	-	0.499	-	-	-	-
		Headset WH-208	Estimated SAR	-	0.418	-	-	0.438	-	-	-
			Full SAR	-	-	-	-	-	-	-	-

WCDMA1900 (Band 2) Body SAR results

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 1852.4 MHz	Ch 9400 1880.0 MHz	Ch 9538 1907.6 MHz	Ch 9262 1852.4 MHz	Ch 9400 1880.0 MHz	Ch 9538 1907.6 MHz			
WCDMA	Tuning Target + Tolerance [dBm]			23.9			Scaling factor*					
	Conducted Power [dBm]			23.4	23.7	23.4	0.5	0.2	0.5	dB		
	Time-averaged power [dBm]			23.4	23.7	23.4	1.12	1.05	1.12	Lin		
	Back facing phantom	Without headset	Estimated SAR	-	0.536	-	-	0.561	-	-	-	
			Full SAR	-	-	-	-	-	-	-	-	
		Headset WH-208	Estimated SAR	-	0.528	-	-	0.553	-	-	-	-
			Full SAR	-	-	-	-	-	-	-	-	-
	Display facing phantom	Without headset	Estimated SAR	0.789	0.772	0.750	0.885	0.808	0.842	-	-	
			Full SAR	0.815	-	-	0.914	-	-	-	-	
		Headset WH-208	Estimated SAR	0.853	0.898	0.897	0.957	0.940	1.01	0.07	-	
			Full SAR	-	-	0.832	-	-	0.934	-	-	
	Repeated SAR Display facing phantom, WH-208		Estimated SAR	-	-	-	-	-	-	0.02	24	
			Full SAR	-	-	0.900	-	-	1.01	-	-	

LTE1900 (Band 2) Body SAR results / Non-Carrier Aggregation mode

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 1869.0 MHz	Ch 18900 1880.0 MHz	Ch 19100 1900.0 MHz	Ch 18700 1869.0 MHz	Ch 18900 1880.0 MHz	Ch 19100 1900.0 MHz			
20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]			23.9			Scaling factor*					
	Conducted Power [dBm]			23.5	23.3	23.1	0.4	0.6	0.8	dB		
	Time-averaged power [dBm]			23.5	23.3	23.1	1.10	1.15	1.20	Lin		
	Back facing phantom	Without headset	Estimated SAR	0.606	-	-	0.664	-	-	-	-	-
			Full SAR	-	-	-	-	-	-	-	-	-
		Headset WH-208	Estimated SAR	0.608	-	-	0.667	-	-	-	-	-
			Full SAR	-	-	-	-	-	-	-	-	-
	Display facing phantom	Without headset	Estimated SAR	0.746	0.716	0.741	0.818	0.822	0.891	0.04	25	
			Full SAR	-	-	0.776	-	-	0.933			
		Headset WH-208	Estimated SAR	0.754	0.726	0.694	0.827	0.834	0.834	0.04	-	
Full SAR			-	-	0.729	-	-	0.876				
20MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]			23.9			Scaling factor*					
	Conducted Power [dBm]			23.3	23.4	23.1	0.6	0.5	0.8	dB		
	Time-averaged power [dBm]			23.3	23.4	23.1	1.15	1.12	1.20	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]			23.9			Scaling factor*					
	Conducted Power [dBm]			23.0	23.1	23.3	0.9	0.8	0.6	dB		
	Time-averaged power [dBm]			23.0	23.1	23.3	1.23	1.20	1.15	Lin		
				No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02								

(LTE1900 (Band 2) Body SAR/Non-Carrier Aggregation results Table continues)

(LTE1900 (Band 2) Body SAR/Non-Carrier Aggregation results Table continues)

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 50%RB 0% offset	Tuning Target + Tolerance [dBm]			22.9			Scaling factor*					
	Conducted Power [dBm]			22.4	22.4	22.1	0.5	0.5	0.8	dB		
	Time-averaged power [dBm]			22.4	22.4	22.1	1.12	1.12	1.20	Lin		
	Back facing phantom	Without headset	Estimated SAR	-	0.470	-	-	0.527	-	-	-	
			Full SAR	-	-	-	-	-	-	-	-	
		Headset WH-208	Estimated SAR	-	0.471	-	-	0.528	-	-	-	-
			Full SAR	-	-	-	-	-	-	-	-	-
	Display facing phantom	Without headset	Estimated SAR	-	0.594	-	-	0.666	-	-	-	
			Full SAR	-	-	-	-	-	-	-	-	
		Headset WH-208	Estimated SAR	-	0.599	-	-	0.672	-	-	-	-
			Full SAR	-	-	-	-	-	-	-	-	-
20MHz Ch BW 50%RB 50% offset	Tuning Target + Tolerance [dBm]			22.9			Scaling factor*					
	Conducted Power [dBm]			22.3	22.3	22.2	0.6	0.6	0.7	dB		
	Time-averaged power [dBm]			22.3	22.3	22.2	1.15	1.15	1.17	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]			22.9			Scaling factor*					
	Conducted Power [dBm]			22.1	22.3	22.2	0.8	0.6	0.7	dB		
	Time-averaged power [dBm]			22.1	22.3	22.2	1.20	1.15	1.17	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]			22.9			Scaling factor*					
	Conducted Power [dBm]			22.3	22.3	22.2	0.6	0.6	0.7	dB		
	Time-averaged power [dBm]			22.3	22.3	22.2	1.15	1.15	1.17	Lin		
	Display facing phantom	Without headset	Estimated SAR	-	0.342	-	-	0.393	-	-	-	
			Full SAR	-	-	-	-	-	-	-	-	

LTE1900 (Band 2) Body SAR results / Carrier Aggregation mode with 2UL/DL+17DL

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 1869.0 MHz	Ch 18900 1880.0 MHz	Ch 19100 1900.0 MHz	Ch 18700 1869.0 MHz	Ch 18900 1880.0 MHz	Ch 19100 1900.0 MHz			
20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]			23.9			Scaling factor*					
	Conducted Power [dBm]			23.5	23.3	23.1	0.4	0.6	0.8	dB		
	Time-averaged power [dBm]			23.5	23.3	23.1	1.10	1.15	1.20	Lin		
	Back facing phantom	Without headset	Estimated SAR	0.437	-	-	0.479	-	-	-	-	
			Full SAR	-	-	-	-	-	-	-	-	
		Headset WH-208	Estimated SAR	0.441	-	-	0.484	-	-	-	-	-
			Full SAR	-	-	-	-	-	-	-	-	-
	Display facing phantom	Without headset	Estimated SAR	0.583	-	-	0.639	-	-	-	-	
			Full SAR	-	-	-	-	-	-	-	-	
		Headset WH-208	Estimated SAR	0.588	-	-	0.645	-	-	-	0.02	-
Full SAR			0.605	-	-	0.663	-	-	-	-	-	
20MHz Ch BW 1RB 50% offset	Tuning Target + Tolerance [dBm]			23.9			Scaling factor*					
	Conducted Power [dBm]			23.3	23.4	23.1	0.6	0.5	0.8	dB		
	Time-averaged power [dBm]			23.3	23.4	23.1	1.15	1.12	1.20	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]			23.9			Scaling factor*					
	Conducted Power [dBm]			23.0	23.1	23.3	0.9	0.8	0.6	dB		
	Time-averaged power [dBm]			23.0	23.1	23.3	1.23	1.20	1.15	Lin		
				No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02								

(LTE1900 (Band 2) Body SAR results / Carrier Aggregation with 2UL/DL+17DL Table continues)

(LTE1900 (Band 2) Body SAR results / Carrier Aggregation with 2UL/DL+17DL Table continues)

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 50%RB 0% offset	Tuning Target + Tolerance [dBm]			22.9			Scaling factor*					
	Conducted Power [dBm]			22.4	22.4	22.1	0.5	0.5	0.8	dB		
	Time-averaged power [dBm]			22.4	22.4	22.1	1.12	1.12	1.20	Lin		
	Back facing phantom	Without headset	Estimated SAR	-	0.281	-	-	0.315	-	-	-	
			Full SAR	-	-	-	-	-	-	-	-	
		Headset WH-208	Estimated SAR	-	0.297	-	-	0.333	-	-	-	-
			Full SAR	-	-	-	-	-	-	-	-	-
	Display facing phantom	Without headset	Estimated SAR	-	0.389	-	-	0.436	-	-	-	
			Full SAR	-	-	-	-	-	-	-	-	
		Headset WH-208	Estimated SAR	-	0.390	-	-	0.438	-	-	-	-
Full SAR			-	-	-	-	-	-	-	-	-	
20MHz Ch BW 50%RB 50% offset	Tuning Target + Tolerance [dBm]			22.9			Scaling factor*					
	Conducted Power [dBm]			22.3	22.3	22.2	0.6	0.6	0.7	dB		
	Time-averaged power [dBm]			22.3	22.3	22.2	1.15	1.15	1.17	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]			22.9			Scaling factor*					
	Conducted Power [dBm]			22.1	22.3	22.2	0.8	0.6	0.7	dB		
	Time-averaged power [dBm]			22.1	22.3	22.2	1.20	1.15	1.17	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]			22.9			Scaling factor*					
	Conducted Power [dBm]			22.3	22.3	22.2	0.6	0.6	0.7	dB		
	Time-averaged power [dBm]			22.3	22.3	22.2	1.15	1.15	1.17	Lin		
				No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02								

LTE2500 (Band 7) Body SAR results

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 20850	Ch 21100	Ch 21350	Ch 20850	Ch 21100	Ch 21350		
				2510.0 MHz	2535.0 MHz	2560.0 MHz	2510.0 MHz	2535.0 MHz	2560.0 MHz		
20MHz Ch BW 1RB 0% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*					
	Conducted Slot Average Power [dBm]		23.7	23.6	23.5	0.2	0.3	0.4	dB		
	Time-averaged power [dBm]		23.7	23.6	23.5	1.05	1.07	1.10	Lin		
	Back facing phantom	Without headset	Estimated SAR	0.424	-	-	0.444	-	-	-	-
			Full SAR		-	-	-	-	-	-	-
		Headset WH-208	Estimated SAR	0.424	-	-	0.444	-	-	-	-
			Full SAR		-	-	-	-	-	-	-
	Display facing phantom	Without headset	Estimated SAR	0.541	-	-	0.566	-	-	-	-
			Full SAR		-	-	-	-	-	-	-
Headset WH-208		Estimated SAR	0.543	-	-	0.569	-	-	0.01	26	
		Full SAR	0.556	-	-	0.582	-	-			
20MHz Ch BW 1 RB 50% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*					
	Conducted Slot Average Power [dBm]		23.6	23.4	23.6	0.3	0.5	0.3	dB		
	Time-averaged power [dBm]		23.6	23.4	23.6	1.07	1.12	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 1% RB 100% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*					
	Conducted Slot Average Power [dBm]		23.7	23.3	23.7	0.2	0.6	0.2	dB		
	Time-averaged power [dBm]		23.7	23.3	23.7	1.05	1.15	1.05	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]		22.9			Scaling factor*					
	Conducted Slot Average Power [dBm]		22.6	22.6	22.6	0.3	0.3	0.3	dB		
	Time-averaged power [dBm]		22.6	22.6	22.6	1.07	1.07	1.07	Lin		
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02								

(LTE2500 (Band 7) Body SAR results Table continues)

(LTE2500 (Band 7) Body SAR results 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 20850 2510.0 MHz	Ch 21100 2535.0 MHz	Ch 21350 2560.0 MHz	Ch 20850 2510.0 MHz	Ch 21100 2535.0 MHz	Ch 21350 2560.0 MHz		
20MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]			22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]			22.6	22.6	22.6	0.3	0.3	0.3	dB	
	Time-averaged power [dBm]			22.6	22.6	22.6	1.07	1.07	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 50%RB 100% offset	Tuning Target + Tolerance [dBm]			22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]			22.7	22.3	22.6	0.2	0.6	0.3	dB	
	Time-averaged power [dBm]			22.7	22.3	22.6	1.05	1.15	1.07	Lin	
	Back facing phantom	Without headset	Estimated SAR	0.347	-	-	0.363	-	-	-	-
		Headset WH-208	Estimated SAR	0.346	-	-	0.362	-	-	-	-
		Headset WH-208	Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Without headset	Estimated SAR	0.451	-	-	0.472	-	-	-	-
		Headset WH-208	Estimated SAR	0.481	-	-	0.504	-	-	-	-
		Headset WH-208	Full SAR	-	-	-	-	-	-	-	-
		Headset WH-208	Full SAR	-	-	-	-	-	-	-	-
20MHz Ch BW 100% RB	Tuning Target + Tolerance [dBm]			22.9			Scaling factor*				
	Conducted Slot Average Power [dBm]			22.7	22.4	22.7	0.2	0.5	0.2	dB	
	Time-averaged power [dBm]			22.7	22.4	22.7	1.05	1.12	1.05	Lin	
	Display facing phantom	Headset WH-208	Estimated SAR	0.419	-	-	0.439	-	-	-	-
			Full SAR	-	-	-	-	-	-	-	-

2450MHz Body SAR results

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 2412.0 MHz	Ch 6 2437.0 MHz	Ch 11 2462.0 MHz	Ch 1 2412.0 MHz	Ch 6 2437.0 MHz	Ch 11 2462.0 MHz		
WLAN b- mode BPSK 1 Mbps	Tuning Target + Tolerance [dBm]			19.5			Scaling factor*				
	Conducted Power [dBm]			18.6	18.6	18.5	0.9	0.9	1.0	dB	
	Time-averaged power [dBm]			18.6	18.6	18.5	1.23	1.23	1.26	Lin	
	Back facing phantom	Without headset	Estimated SAR	0.106	0.104	0.100	0.130	0.128	0.126	0.01	27
			Full SAR	0.116	-	-	0.143	-	-		
		Headset WH-208	Estimated SAR	-	0.084	-	-	0.104	-	-	-
			Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Without headset	Estimated SAR	-	0.047	-	-	0.058	-	-	-
			Full SAR	-	-	-	-	-	-	-	-
		Headset WH-208	Estimated SAR	-	0.023	-	-	0.028	-	-	-
			Full SAR	-	-	-	-	-	-	-	-

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

Mode	Test configuration		SAR Measurement	Measured 1g SAR [W/kg]				Reported* 1g SAR [W/kg]				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]			17.5				Scaling factor*					
	Conducted Power [dBm]			16.0	16.1	16.0	16.0	1.5	1.4	1.5	1.5	dB	
	Time-averaged power [dBm]			16.0	16.1	16.0	16.0	1.41	1.38	1.41	1.41	Lin	
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-	-	-	-
			Full SAR	0.047	0.049	0.048	0.039	0.067	0.067	0.068	0.056	-	-
		Headset WH-208	Estimated SAR	-	-	-	-	-	-	-	-	-	-
			Full SAR	-	0.037	0.047	-	-	0.051	0.066	-	-	-
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-	-	-	-
			Full SAR	-	0.007	0.003	-	-	0.010	0.004	-	-	-
		Headset WH-208	Estimated SAR	-	-	-	-	-	-	-	-	-	-
			Full SAR	-	0.004	0.003	-	-	0.005	0.004	-	-	-

**5000MHz Body SAR results
5470-5725 MHz**

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 104 5520.0 MHz	Ch 112 5560.0 MHz	Ch 124 5620.0 MHz	Ch 132 5660.0 MHz	Ch 104 5520.0 MHz	Ch 112 5560.0 MHz	Ch 124 5620.0 MHz	Ch 132 5660.0 MHz		
WLAN a-mode BPSK 6 Mbps	Tuning Target + Tolerance [dBm]			17.5				Scaling factor*					
	Conducted Power [dBm]			16.1	16.1	16.0	16.2	1.4	1.4	1.5	1.3	dB	
	Time-averaged power [dBm]			16.1	16.1	16.0	16.2	1.38	1.38	1.41	1.35	Lin	
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-	-	-	-
			Full SAR	0.080	0.066	0.094	0.116	0.110	0.091	0.133	0.156	-	-
		Headset WH-208	Estimated SAR	-	-	-	-	-	-	-	-	-	-
			Full SAR	-	-	-	0.087	-	-	-	0.117	-	-
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-	-	-	-
			Full SAR	-	-	-	0.013	-	-	-	0.017	-	-
		Headset WH-208	Estimated SAR	-	-	-	-	-	-	-	-	-	-
			Full SAR	-	-	-	0.000	-	-	-	0.000	-	-

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

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 5765.0 MHz	Ch 157 5785.0 MHz	Ch 161 5805.0 MHz	Ch 153 5765.0 MHz	Ch 157 5785.0 MHz	Ch 161 5805.0 MHz		
WLAN b-mode BPSK 6 Mbps	Tuning Target + Tolerance [dBm]			17.5			Scaling factor*				
	Conducted Power [dBm]			15.7	15.7	15.6	1.8	1.8	1.9	dB	
	Time-averaged power [dBm]			15.7	15.7	15.6	1.51	1.51	1.55	Lin	
	Back facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-	28
			Full SAR	0.123	0.128	0.133	0.186	0.194	0.206		
		Headset WH-208	Estimated SAR	-	-	-	-	-	-	-	-
			Full SAR	-	-	0.114	-	-	0.177		
	Display facing phantom	Without headset	Estimated SAR	-	-	-	-	-	-	-	-
			Full SAR	-	-	0.080	-	-	0.124		
		Headset WH-208	Estimated SAR	-	-	-	-	-	-	-	-
			Full SAR	-	-	0.010	-	-	0.015		

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

Test configuration	Max. Reported* 1g SAR results										
	WLAN 2450	WLAN 5000	LTE 750	2-slot GPRS 850	WCDMA 850	LTE 850	LTE 1700/2100	2-slot GPRS 1900	WCDMA 1900	LTE 1900	LTE 2500
Body: Back facing phantom, Without Headset	0.143	0.206	0.334	0.383	0.342	0.312	0.700	0.388	0.561	0.664	0.444
Body: Back facing phantom, Headset WH-208	0.104	0.177	0.292	0.355	0.314	0.294	0.712	0.386	0.553	0.667	0.444
Body: Display facing phantom, Without Headset	0.058	0.124	0.367	0.455	0.368	0.383	0.841	0.499	0.885	0.933	0.566
Body: Display facing phantom, Headset WH-208	0.028	0.015	0.323	0.425	0.351	0.319	0.852	0.438	1.01	0.876	0.582

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

Test configuration	Max. Reported* 1g SAR results								
	LTE700 + WLAN 2450	2-slot GPRS850 + WLAN 2450	WCDMA 850 + WLAN 2450	LTE850 + WLAN 2450	LTE1700 / 2100 + WLAN 2450	2-slot GPRS1900 + WLAN 2450	WCDMA 1900 + WLAN 2450	LTE 1900 + WLAN 2450	LTE 2500 +WLAN 2450
Body: Back facing phantom, Without Headset	0.477	0.526	0.485	0.455	0.843	0.531	0.704	0.807	0.587
Body: Back facing phantom, Headset WH-208	0.396	0.459	0.418	0.398	0.816	0.490	0.657	0.771	0.548
Body: Display facing phantom, Without Headset	0.425	0.513	0.426	0.441	0.899	0.557	0.943	0.991	0.624
Body: Display facing phantom, Headset WH-208	0.351	0.453	0.379	0.347	0.880	0.466	1.04	0.904	0.610
Test configuration	LTE700 + WLAN 5000	2-slot GPRS850 + WLAN 5000	WCDMA 850 + WLAN 5000	LTE850 + WLAN 5000	LTE1700/ 2100 + WLAN 5000	2-slot GPRS1900 + WLAN 5000	WCDMA 1900 + WLAN 5000	LTE190 0 + WLAN 5000	LTE250 0 + WLAN 5000
Body: Back facing phantom, Without Headset	0.540	0.589	0.548	0.518	0.906	0.594	0.767	0.870	0.650
Body: Back facing phantom, Headset WH-208	0.469	0.532	0.491	0.471	0.889	0.563	0.730	0.844	0.621
Body: Display facing phantom, Without Headset	0.491	0.579	0.492	0.507	0.965	0.623	1.01	1.06	0.690
Body: Display facing phantom, Headset WH-208	0.338	0.440	0.366	0.334	0.867	0.453	1.03	0.891	0.597

Note: Simultaneous Transmission Procedures as described in KDB648474 are not required for this product.

7.2.1 Combined Body SAR data

The Combined SAR data given in the tables below has been voluntarily calculated and should be ignored for FCC certification.

The following table gives a more accurate assessment of the SAR values for simultaneous transmission. These values have been calculated using the SPEAG Combined Multiband algorithm, which is based on area scans. It a) converts the 2D area scans into 3D volume scans by assuming frequency-dependent decay characteristics for the E-field, b) sums the SAR values for WLAN2450 or WLAN5000 and the cellular bands point-by-point and c) calculates the combined average SAR values.

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

Test configuration	Max. Reported* 1g SAR results								
	LTE700 + WLAN 2450	2-slot GPRS850 + WLAN 2450	WCDMA 850 + WLAN 2450	LTE850 + WLAN 2450	LTE1700 /2100 + WLAN 2450	2-slot GPRS 1900 + WLAN 2450	WCDMA 1900 + WLAN 2450	LTE 1900 +WLAN 2450	LTE 2500 +WLAN 2450
Body: Back facing phantom, Without Headset	0.338	0.385	0.361	0.317	-	-	-	-	-
Body: Back facing phantom, Headset WH-208	-	-	-	-	-	-	-	-	-
Body: Display facing phantom, Without Headset	-	-	-	-	0.793	0.449	-	0.890	0.569
Body: Display facing phantom, Headset WH-208	-	-	-	-	-	-	0.989	-	-
Test configuration	LTE700 + WLAN 5000	2-slot GPRS 850 + WLAN 5000	WCDMA 850 + WLAN 5000	LTE850 + WLAN 5000	LTE1700/ 2100 + WLAN 5000	2-slot GPRS 1900 + WLAN 5000	WCDMA 1900 + WLAN 5000	LTE190 0 + WLAN 5000	LTE2500 + WLAN 5000
Body: Back facing phantom, Without Headset	0.334	0.381	0.356	0.331	-	-	-	-	-
Body: Back facing phantom, Headset WH-208	-	-	-	-	-	-	-	-	-
Body: Display facing phantom, Without Headset	-	-	-	-	0.783	0.450	-	0.884	0.569
Body: Display facing phantom, Headset WH-208	-	-	-	-	-	-	0.971	-	-

All of the Combined SAR values in the above table are less than the maximum SAR values for the contributing cellular band. This is due to a) minimal overlap of the SAR distributions of the cellular band with WLAN2450 or WLAN5000 and b) uncertainties associated with the different methods of calculation. In these cases, the maximum SAR values given for the combined Modes in the Summary table in Section 1.2 are those for the individual cellular band.

Note:

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

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

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

LTE700 (Band 17) Wireless Router SAR results / Non-Carrier Aggregation and Carrier Aggregation with 17UL/DL+2DL

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 709.0 MHz	Ch 23790 710.0 MHz	Ch 23800 711.0 MHz	Ch 23780 709.0 MHz	Ch 23790 710.0 MHz	Ch 23800 711.0 MHz		
10MHz Ch BW 1RB 0 % offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Power [dBm]		23.0	23.1	23.2	0.9	0.8	0.7	dB	
	Time-averaged power [dBm]		23.0	23.1	23.2	1.23	1.20	1.17	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]		23.9			Scaling factor*				
	Conducted Power [dBm]		23.1	23.2	23.1	0.8	0.7	0.8	dB	
	Time-averaged power [dBm]		23.1	23.2	23.1	1.20	1.17	1.20	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]		23.9			Scaling factor*				
	Conducted Power [dBm]		23.3	23.3	23.3	0.6	0.6	0.6	dB	
	Time-averaged power [dBm]		23.3	23.3	23.3	1.15	1.15	1.15	Lin	
	Back facing phantom	Estimated SAR	-	0.394	-	-	0.452	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Estimated SAR	-	0.433	-	-	0.497	-	0.00	29
		Full SAR	-	0.429	-	-	0.493	-	-	-
	Top edge facing phantom	Estimated SAR	-	0.016	-	-	0.019	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Bottom edge facing phantom	Estimated SAR	-	0.155	-	-	0.178	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left edge facing phantom	Estimated SAR	-	0.272	-	-	0.312	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right edge facing phantom	Estimated SAR	-	0.229	-	-	0.263	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
10MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Power [dBm]		22.1	22.2	22.2	0.8	0.7	0.7	dB	
	Time-averaged power [dBm]		22.1	22.2	22.2	1.20	1.17	1.17	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

(LTE700 (Band 17) WR SAR/Non-CA and CA with 17UL/DL+2DL results Table continues)

(LTE700 (Band 17) WR SAR/Non-CA and CA with 17UL/DL+2DL results Table continues)

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 709.0 MHz	Ch 23790 710.0 MHz	Ch 23800 711.0 MHz	Ch 23780 709.0 MHz	Ch 23790 710.0 MHz	Ch 23800 711.0 MHz		
10MHz Ch BW 50% RB 50 % offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Power [dBm]		22.2	22.2	22.2	0.7	0.7	0.7	dB	
	Time-averaged power [dBm]		22.2	22.2	22.2	1.17	1.17	1.17	Lin	
	Back facing phantom	Estimated SAR	-	0.307	-	-	0.361	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Estimated SAR	-	0.331	-	-	0.389	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Top edge facing phantom	Estimated SAR	-	0.014	-	-	0.016	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Bottom edge facing phantom	Estimated SAR	-	0.121	-	-	0.142	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left edge facing phantom	Estimated SAR	-	0.195	-	-	0.229	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right edge facing phantom	Estimated SAR	-	0.181	-	-	0.213	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
10MHz Ch BW 50% RB 100% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Power [dBm]		22.2	22.2	22.2	0.7	0.7	0.7	dB	
	Time-averaged power [dBm]		22.2	22.2	22.2	1.17	1.17	1.17	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]		22.9			Scaling factor*				
	Conducted Power [dBm]		22.3	22.3	22.2	0.6	0.6	0.7	dB	
	Time-averaged power [dBm]		22.3	22.3	22.2	1.15	1.15	1.17	Lin	
	Display facing phantom	Estimated SAR	-	0.330	-	-	0.379	-	-	-
		Full SAR	-	-	-	-	-	-	-	-

GSM/GPRS/EGPRS 850MHz Wireless Router SAR results*

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 148	Ch 189	Ch 231	Ch 148	Ch 189	Ch 231		
			828.2 MHz	836.4 MHz	844.8 MHz	828.2 MHz	836.4 MHz	844.8 MHz		
2-slot GPRS	Tuning Target + Tolerance [dBm]		30.9			Scaling factor*				
	Conducted Power [dBm]		30.5	30.5	30.2	0.4	0.4	0.7	dB	
	Time-averaged power [dBm]		24.5	24.5	24.2	1.10	1.10	1.17	Lin	
	Back facing phantom	Estimated SAR	0.439	0.435	0.460	0.481	0.477	0.540	-	-
		Full SAR	-	-	-	-	-	-		
	Display facing phantom	Estimated SAR	0.503	0.504	0.514	0.552	0.553	0.604	0.02	30
		Full SAR	0.481	0.501	0.516	0.527	0.549	0.606		
	Top edge facing phantom	Estimated SAR	Not tested for bottom antenna.							
		Full SAR								
	Bottom edge facing phantom	Estimated SAR	0.343	0.343	0.346	0.376	0.376	0.407	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom	Estimated SAR	0.380	0.377	0.396	0.417	0.413	0.465	-	-
		Full SAR	-	-	-	-	-	-		
	Right edge facing phantom	Estimated SAR	0.115	0.106	0.106	0.126	0.116	0.125	-	-
		Full SAR	-	-	-	-	-	-		

*Each Sub-band is measured individually.

WCDMA850 (Band 5) Body SAR results*

Mode	Test configuration	SAR measurement	Measured 1g SAR [W/kg]			Reported* 1g SAR [W/kg]			Max Deviation (Estimated SAR - Full SAR)	Plot #
			Ch 4147	Ch 4183	Ch 4219	Ch 4147	Ch 4183	Ch 4219		
			829.4 MHz	836.6 MHz	843.8 MHz	829.4 MHz	836.6 MHz	843.8 MHz	[W/kg]	
WCDMA	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Power [dBm]		23.4	23.3	23.4	0.5	0.6	0.5	dB	
	Time-averaged power [dBm]		23.4	23.3	23.4	1.12	1.15	1.12	Lin	
	Back facing phantom	Scenario	1	0	1	-	-	-	-	-
		Estimated SAR	0.374	0.386	0.415	0.420	0.443	0.466		
		Full SAR	-	-	-	-	-	-		
	Display facing phantom	Scenario	1	2	2	-	-	-	0.05	31
		Estimated SAR	0.424	0.431	0.501	0.476	0.495	0.562		
		Full SAR	0.440	0.440	0.547	0.494	0.505	0.614		
	Top edge facing phantom	Scenario	Not tested for bottom antenna							
		Estimated SAR								
		Full SAR								
	Bottom edge facing phantom	Scenario	1	2	1	-	-	-	-	-
		Estimated SAR	0.314	0.332	0.366	0.352	0.381	0.411		
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom	Scenario	1	2	1	-	-	-	-	-
		Estimated SAR	0.360	0.352	0.387	0.404	0.404	0.434		
		Full SAR	-	-	-	-	-	-		
	Right edge facing phantom	Scenario	1	2	2	-	-	-	-	-
		Estimated SAR	0.089	0.088	0.101	0.100	0.101	0.113		
		Full SAR	-	-	-	-	-	-		

*Each Sub-band is measured individually.

LTE850 (Band 5) Wireless Router SAR results

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 1 RB 0% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Power [dBm]		23.4	23.5	23.4	0.5	0.4	0.5	dB	
	Time-averaged power [dBm]		23.4	23.5	23.4	1.12	1.10	1.12	Lin	
	Back facing phantom	Scenario	-	-	0	-	-	-	-	32
		Estimated SAR	-	-	0.399	-	-	0.448		
		Full SAR	-	-	-	-	-	-		
	Display facing phantom	Scenario	-	-	0	-	-	-	0.01	33
		Estimated SAR	-	-	0.450	-	-	0.505		
		Full SAR	-	-	0.464	-	-	0.521		
	Top edge facing phantom	Scenario	Not tested for bottom antenna							
		Estimated SAR								
		Full SAR								
	Bottom edge facing phantom	Scenario	-	-	0	-	-	-	-	34
		Estimated SAR	-	-	0.342	-	-	0.384		
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom	Scenario	-	-	2	-	-	-	-	35
		Estimated SAR	-	-	0.380	-	-	0.426		
		Full SAR	-	-	-	-	-	-		
	Right edge facing phantom	Scenario	0	-	-	-	-	-	-	36
		Estimated SAR	0.122	-	-	0.137	-	-		
		Full SAR	-	-	-	-	-	-		

(LTE850 (Band 5) Body WR SAR Table continues)

(LTE850 (Band 5) Body WR SAR Table continues)

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 1 RB 50% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Power [dBm]		23.5	23.4	23.3	0.4	0.5	0.6	dB	
	Time-averaged power [dBm]		23.5	23.4	23.3	1.10	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							
10MHz Ch BW 1% RB 100% offset	Tuning Target + Tolerance [dBm]		23.9			Scaling factor*				
	Conducted Power [dBm]		23.4	23.3	23.4	0.5	0.6	0.5	dB	
	Time-averaged power [dBm]		23.4	23.3	23.4	1.12	1.15	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 0% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Power [dBm]		22.5	22.4	22.4	0.4	0.5	0.5	dB	
	Time-averaged power [dBm]		22.5	22.4	22.4	1.10	1.12	1.12	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

(LTE850 (Band 5) Body WR SAR Table continues)

(LTE850 (Band 5) Body WR SAR Table continues)

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 50% RB 50% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Power [dBm]		22.5	22.4	22.4	0.4	0.5	0.5	dB	
	Time-averaged power [dBm]		22.5	22.4	22.4	1.10	1.12	1.12	Lin	
	Back facing phantom	Scenario	-	-	0	-	-	-	-	-
		Estimated SAR	-	-	0.297	-	-	0.333		
		Full SAR	-	-	-	-	-	-		
	Display facing phantom	Scenario	-	-	0	-	-	-	0.01	-
		Estimated SAR	-	-	0.368	-	-	0.413		
		Full SAR	-	-	0.375	-	-	0.421		
	Top edge facing phantom	Scenario	Not tested for bottom antenna							
		Estimated SAR								
		Full SAR								
	Bottom edge facing phantom	Scenario	-	-	0	-	-	-	-	-
		Estimated SAR	-	-	0.268	-	-	0.379		
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom	Scenario	-	-	2	-	-	-	-	-
		Estimated SAR	-	-	0.283	-	-	0.400		
		Full SAR	-	-		-	-	-		
	Right edge facing phantom	Scenario	0	-	-	-	-	-	-	-
		Estimated SAR	0.105	-	-	0.145	-	-		
		Full SAR	-	-	-	-	-	-		

(LTE850 (Band 5) Body WR SAR Table continues)

(LTE850 (Band 5) Body WR SAR Table continues)

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 50% RB 100% offset	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Power [dBm]		22.5	22.4	22.3	0.4	0.5	0.6	dB	
	Time-averaged power [dBm]		22.5	22.4	22.3	1.10	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							
10MHz Ch BW 100% RB	Tuning Target + Tolerance [dBm]		22.9			Scaling factor*				
	Conducted Power [dBm]		22.6	22.5	22.5	0.3	0.4	0.4	dB	
	Time-averaged power [dBm]		22.6	22.5	22.5	1.07	1.10	1.10	Lin	
	Display facing phantom	Scenario	-	-	0	-	-	-	-	-
		Estimated SAR	-	-	0.371	-	-	0.407		
		Full SAR	-	-	-	-	-	-		

LTE1700/2100 (Band 4) Wireless Router SAR results / Non-Carrier Aggregation mode

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 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz		
20MHz Ch BW 1RB 0 % offset	Tuning Target + Tolerance [dBm]		19.9			Scaling factor*				
	Conducted Power [dBm]		19.6	19.7	19.6	0.3	0.2	0.3	dB	
	Time-averaged power [dBm]		19.6	19.7	19.6	1.07	1.05	1.07	Lin	
	Back facing phantom	Estimated SAR	-	0.390	-	-	0.408	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Estimated SAR	-	0.418	-	-	0.438	-	0.05	-
		Full SAR	-	0.472	-	-	0.494	-	-	-
	Top edge facing phantom	Estimated SAR	-	0.002	-	-	0.002	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Bottom edge facing phantom	Estimated SAR	0.862	0.869	0.904	0.924	0.910	0.969	0.02	-
		Full SAR	-	-	0.925	-	-	0.991	-	-
	Left edge facing phantom	Estimated SAR	-	0.109	-	-	0.114	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right edge facing phantom	Estimated SAR	-	0.062	-	-	0.065	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
Repeated SAR Bottom edge facing phantom	Estimated SAR	-	-	0.954	-	-	1.02	0.01	37	
	Full SAR	-	-	0.968	-	-	1.04			
20MHz Ch BW 1% RB 50% offset	Tuning Target + Tolerance [dBm]		19.9			Scaling factor*				
	Conducted Power [dBm]		19.5	19.5	19.3	0.4	0.4	0.6	dB	
	Time-averaged power [dBm]		19.5	19.5	19.3	1.10	1.10	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 1% RB 100% offset	Tuning Target + Tolerance [dBm]		19.9			Scaling factor*				
	Conducted Power [dBm]		19.5	19.5	19.3	0.4	0.4	0.6	dB	
	Time-averaged power [dBm]		19.5	19.5	19.3	1.10	1.10	1.15	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) WR SAR/Non-Carrier Aggregation mode Table continues)

(LTE1700/2100 (Band 4) WR SAR/Non-Carrier Aggregation mode Table continues)

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 709.0 MHz	Ch 23790 710.0 MHz	Ch 23800 711.0 MHz	Ch 23780 709.0 MHz	Ch 23790 710.0 MHz	Ch 23800 711.0 MHz		
20MHz Ch BW 50% RB 0 % offset	Tuning Target + Tolerance [dBm]		18.9			Scaling factor*				
	Conducted Power [dBm]		18.5	18.6	18.6	0.4	0.3	0.3	dB	
	Time-averaged power [dBm]		18.5	18.6	18.6	1.10	1.07	1.07	Lin	
	Back facing phantom	Estimated SAR	-	0.309	-	-	0.331	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Estimated SAR	-	0.334	-	-	0.358	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Top edge facing phantom	Estimated SAR	-	0.002	-	-	0.002	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Bottom edge facing phantom	Estimated SAR	-	0.682	-	-	0.731	-	0.01	-
		Full SAR	-	0.690	-	-	0.739	-		
	Left edge facing phantom	Estimated SAR	-	0.086	-	-	0.092	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right edge facing phantom	Estimated SAR	-	0.046	-	-	0.049	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
20MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		18.9			Scaling factor*				
	Conducted Power [dBm]		18.5	18.6	18.4	0.4	0.3	0.5	dB	
	Time-averaged power [dBm]		18.5	18.6	18.4	1.10	1.07	1.12	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]		18.9			Scaling factor*				
	Conducted Power [dBm]		18.5	18.5	18.3	0.4	0.4	0.6	dB	
	Time-averaged power [dBm]		18.5	18.5	18.3	1.10	1.10	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 100% RB	Tuning Target + Tolerance [dBm]		18.9			Scaling factor*				
	Conducted Power [dBm]		18.5	18.6	18.5	0.4	0.3	0.4	dB	
	Time-averaged power [dBm]		18.5	18.6	18.5	1.10	1.07	1.10	Lin	
	Bottom edge facing phantom	Estimated SAR	-	0.857	-	-	0.940	-	-	-
		Full SAR	-	-	-	-	-	-		

LTE1700/2100 (Band 4) Wireless Router results / Carrier Aggregation mode with 4UL/DL+17DL

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 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz		
20MHz Ch BW 1RB 0 % offset	Tuning Target + Tolerance [dBm]		19.9			Scaling factor*				
	Conducted Power [dBm]		19.6	19.7	19.6	0.3	0.2	0.3	dB	
	Time-averaged power [dBm]		19.6	19.7	19.6	1.07	1.05	1.07	Lin	
	Back facing phantom	Estimated SAR	-	0.361	-	-	0.378	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Estimated SAR	-	0.396	-	-	0.415	-	0.10	-
		Full SAR	-	0.492	-	-	0.515	-	-	-
	Top edge facing phantom	Estimated SAR	-	0.004	-	-	0.004	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Bottom edge facing phantom	Estimated SAR	0.901	0.879	0.919	0.965	0.920	0.985	0.02	-
		Full SAR	-	-	0.939	-	-	1.01	-	-
	Left edge facing phantom	Estimated SAR	-	0.103	-	-	0.108	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right edge facing phantom	Estimated SAR	-	0.102	-	-	0.107	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
Repeated SAR Bottom edge facing phantom	Estimated SAR	-	-	0.909	-	-	0.974	0.02	-	
	Full SAR	-	-	0.927	-	-	0.993	-	-	
20MHz Ch BW 1% RB 50% offset	Tuning Target + Tolerance [dBm]		19.9			Scaling factor*				
	Conducted Power [dBm]		19.5	19.5	19.3	0.4	0.4	0.6	dB	
	Time-averaged power [dBm]		19.5	19.5	19.3	1.10	1.10	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 1% RB 100% offset	Tuning Target + Tolerance [dBm]		19.9			Scaling factor*				
	Conducted Power [dBm]		19.5	19.5	19.3	0.4	0.4	0.6	dB	
	Time-averaged power [dBm]		19.5	19.5	19.3	1.10	1.10	1.15	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) WR SAR Carrier Aggregation with 4UL/DL+17DL Table continues)

(LTE1700/2100 (Band 4) WR SAR Carrier Aggregation with 4UL/DL+17DL Table continues)

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 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz	Ch 20050 1720.0 MHz	Ch 20175 1732.5 MHz	Ch 20300 1745.0 MHz		
20MHz Ch BW 50% RB 0 % offset	Tuning Target + Tolerance [dBm]		18.9			Scaling factor*				
	Conducted Power [dBm]		18.5	18.6	18.6	0.4	0.3	0.3	dB	
	Time-averaged power [dBm]		18.5	18.6	18.6	1.10	1.07	1.07	Lin	
	Back facing phantom	Estimated SAR	-	0.285	-	-	0.305	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Estimated SAR	-	0.312	-	-	0.334	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Top edge facing phantom	Estimated SAR	-	0.003	-	-	0.003	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Bottom edge facing phantom	Estimated SAR	-	0.658	-	-	0.705	-	0.01	-
		Full SAR	-	0.669	-	-	0.717	-	-	-
	Left edge facing phantom	Estimated SAR	-	0.083	-	-	0.089	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right edge facing phantom	Estimated SAR	-	0.085	-	-	0.091	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
20MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		18.9			Scaling factor*				
	Conducted Power [dBm]		18.5	18.6	18.4	0.4	0.3	0.5	dB	
	Time-averaged power [dBm]		18.5	18.6	18.4	1.10	1.07	1.12	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]		18.9			Scaling factor*				
	Conducted Power [dBm]		18.5	18.5	18.3	0.4	0.4	0.6	dB	
	Time-averaged power [dBm]		18.5	18.5	18.3	1.10	1.10	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 100% RB	Tuning Target + Tolerance [dBm]		18.9			Scaling factor*				
	Conducted Power [dBm]		18.5	18.6	18.5	0.4	0.3	0.4	dB	
	Time-averaged power [dBm]		18.5	18.6	18.5	1.10	1.07	1.10	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							
	Bottom edge facing phantom	Estimated SAR	-	0.702	-	-	0.752	-	-	-
Full SAR		-	-	-	-	-	-	-	-	

1900MHz Band Wireless Router SAR results

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 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz	Ch 512 1850.2 MHz	Ch 661 1880.0 MHz	Ch 810 1909.8 MHz		
1-slot GPRS	Tuning Target + Tolerance [dBm]		28.4			Scaling factor*				
	Conducted Slot Average Power [dBm]		28.1	28.2	28.1	0.3	0.2	0.3	dB	
	Time-averaged power [dBm]		19.1	19.2	19.1	1.07	1.05	1.07	Lin	
	Back facing phantom	Estimated SAR	-	0.516	-	-	0.540	-	0.09	-
		Full SAR	-	0.431	-	-	0.451	-		
	Display facing phantom	Estimated SAR	-	0.365	-	-	0.382	-	-	-
		Full SAR	-	-	-	-	-	-		
	Top edge facing phantom	Estimated SAR	-	0.006	-	-	0.006	-	-	-
		Full SAR	-	-	-	-	-	-		
	Bottom edge facing phantom	Estimated SAR	0.905	1.06	1.16	0.970	1.11	1.24	0.02	38
		Full SAR	-	-	1.18	-	-	1.26		
	Left edge facing phantom	Estimated SAR	-	0.073	-	-	0.076	-	-	-
		Full SAR	-	-	-	-	-	-		
	Right edge facing phantom	Estimated SAR	-	0.109	-	-	0.114	-	-	-
Full SAR		-	-	-	-	-	-			
Repeated SAR Bottom edge facing phantom	Estimated SAR	-	-	1.15	-	-	1.23	0.02	-	
	Full SAR	-	-	1.17	-	-	1.25			
2-slot GPRS	Tuning Target + Tolerance [dBm]		24.9			Scaling factor*				
	Conducted Slot Average Power [dBm]		24.4	24.5	24.7	0.5	0.4	0.2	dB	
	Time-averaged power [dBm]		18.4	18.5	18.7	1.12	1.10	1.05	Lin	
			No testing required for this slot configuration.							

WCDMA1900 (Band 2) Wireless Router SAR results

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 1852.4 MHz	Ch 9400 1880.0 MHz	Ch 9538 1907.6 MHz	Ch 9262 1852.4 MHz	Ch 9400 1880.0 MHz	Ch 9538 1907.6 MHz		
WCDMA	Tuning Target + Tolerance [dBm]		18.4			Scaling factor*				
	Conducted Power [dBm]		18.0	17.9	18.1	0.4	0.5	0.3	dB	
	Time-averaged power [dBm]		18.0	17.9	18.1	1.10	1.12	1.07	Lin	
	Back facing phantom	Estimated SAR	-	0.342	-	-	0.384	-	-	-
		Full SAR	-	-	-	-	-	-		
	Display facing phantom	Estimated SAR	-	0.447	-	-	0.502	-	0.06	-
		Full SAR	-	0.504	-	-	0.565	-		
	Top edge facing phantom	Estimated SAR	-	0.005	-	-	0.005	-	-	-
		Full SAR	-	-	-	-	-	-		
	Bottom edge facing phantom	Estimated SAR	0.786	0.873	0.961	0.862	0.980	1.03	0.02	39
		Full SAR		-	0.977	-	-	1.05		
	Left edge facing phantom	Estimated SAR	-	0.062	-	-	0.070	-	-	-
		Full SAR	-	-	-	-	-	-		
	Right edge facing phantom	Estimated SAR	-	0.090	-	-	0.101	-	-	-
		Full SAR	-	-	-	-	-	-		
	Repeated SAR Bottom edge facing phantom	Estimated SAR	-	-	0.961	-	-	1.03	0.02	-
		Full SAR	-	-	0.980	-	-	1.05		

LTE1900 (Band 2) Wireless Router SAR results / Non-Carrier Aggregation mode

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 1869.0 MHz	Ch 18900 1880.0 MHz	Ch 19100 1900.0 MHz	Ch 18700 1869.0 MHz	Ch 18900 1880.0 MHz	Ch 19100 1900.0 MHz		
20MHz Ch BW 1RB 0 % offset	Tuning Target + Tolerance [dBm]		18.4			Scaling factor*				
	Conducted Power [dBm]		17.8	18.0	18.0	0.6	0.4	0.4	dB	
	Time-averaged power [dBm]		17.8	18.0	18.0	1.15	1.10	1.10	Lin	
	Back facing phantom	Estimated SAR	-	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Estimated SAR	-	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Top edge facing phantom	Estimated SAR	-	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Bottom edge facing phantom	Estimated SAR	-	0.786	-	-	0.862	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left edge facing phantom	Estimated SAR	-	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right edge facing phantom	Estimated SAR	-	-	-	-	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
20MHz Ch BW 1RB 50 % offset	Tuning Target + Tolerance [dBm]		18.4			Scaling factor*				
	Conducted Power [dBm]		18.2	17.7	18.0	0.2	0.7	0.4	dB	
	Time-averaged power [dBm]		18.2	17.7	18.0	1.05	1.17	1.10	Lin	
	Back facing phantom	Estimated SAR	0.315	-	-	0.330	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Estimated SAR	0.434	-	-	0.454	-	-	0.04	-
		Full SAR	0.471	-	-	0.493	-	-	-	-
	Top edge facing phantom	Estimated SAR	0.004	-	-	0.004	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Bottom edge facing phantom	Estimated SAR	0.775	-	0.876	0.812	-	0.961	0.02	-
		Full SAR	-	-	0.891	-	-	0.977	-	-
	Left edge facing phantom	Estimated SAR	0.086	-	-	0.090	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right edge facing phantom	Estimated SAR	0.086	-	-	0.090	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
Repeated SAR Bottom edge facing phantom	Estimated SAR	-	-	0.910	-	-	0.998	0.02	40	
	Full SAR	-	-	0.927	-	-	1.02	-	-	
20MHz Ch BW 1% RB 100% offset	Tuning Target + Tolerance [dBm]		18.4			Scaling factor*				
	Conducted Power [dBm]		18.0	17.8	17.9	0.4	0.6	0.5	dB	
	Time-averaged power [dBm]		18.0	17.8	17.9	1.10	1.15	1.12	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

(LTE1900 (Band 2) WR SAR/Non-Carrier Aggregation results Table continues)

(LTE1900 (Band 2) WR SAR/Non-Carrier Aggregation results Table continues)

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 709.0 MHz	Ch 23790 710.0 MHz	Ch 23800 711.0 MHz	Ch 23780 709.0 MHz	Ch 23790 710.0 MHz	Ch 23800 711.0 MHz		
20MHz Ch BW 50% RB 0 % offset	Tuning Target + Tolerance [dBm]		17.4			Scaling factor*				
	Conducted Power [dBm]		17.1	17.0	17.2	0.3	0.4	0.2	dB	
	Time-averaged power [dBm]		17.1	17.0	17.2	1.07	1.10	1.05	Lin	
	Back facing phantom	Estimated SAR	-	-	0.263	-	-	0.275	-	-
		Full SAR	-	-	-	-	-	-		
	Display facing phantom	Estimated SAR	-	-	0.350	-	-	0.366	-	-
		Full SAR	-	-	-	-	-	-		
	Top edge facing phantom	Estimated SAR	-	-	0.001	-	-	0.001	-	-
		Full SAR	-	-	-	-	-	-		
	Bottom edge facing phantom	Estimated SAR	-	-	0.688	-	-	0.720	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom	Estimated SAR	-	-	0.069	-	-	0.072	-	-
		Full SAR	-	-	-	-	-	-		
	Right edge facing phantom	Estimated SAR	-	-	0.062	-	-	0.065	-	-
		Full SAR	-	-	-	-	-	-		
20MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		17.4			Scaling factor*				
	Conducted Power [dBm]		17.2	16.9	17.1	0.2	0.5	0.3	dB	
	Time-averaged power [dBm]		17.2	16.9	17.1	1.05	1.12	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 50% RB 100% offset	Tuning Target + Tolerance [dBm]		17.4			Scaling factor*				
	Conducted Power [dBm]		17.1	16.9	17.1	0.3	0.5	0.3	dB	
	Time-averaged power [dBm]		17.1	16.9	17.1	1.07	1.12	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 100% RB	Tuning Target + Tolerance [dBm]		17.4			Scaling factor*				
	Conducted Power [dBm]		17.1	16.9	17.1	0.3	0.5	0.3	dB	
	Time-averaged power [dBm]		17.1	16.9	17.1	1.07	1.12	1.07	Lin	
	Bottom edge facing phantom	Estimated SAR	-	-	0.723	-	-	0.775	-	-
		Full SAR	-	-	-	-	-	-		

LTE1900 (Band 2) Wireless Router SAR results / Carrier Aggregation mode with 2UL/DL+17DL

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		
			1860.0 MHz	1880.0 MHz	1900.0 MHz	1860.0 MHz	1880.0 MHz	1900.0 MHz		
20MHz Ch BW 1% RB 0% offset	Tuning Target + Tolerance [dBm]		18.4			Scaling factor*				
	Conducted Power [dBm]		17.8	18.0	18.0	0.6	0.4	0.4	dB	
	Time-averaged power [dBm]		17.8	18.0	18.0	1.15	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							
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		
			1860.0 MHz	1880.0 MHz	1900.0 MHz	1860.0 MHz	1880.0 MHz	1900.0 MHz		
20MHz Ch BW 1RB 50 % offset	Tuning Target + Tolerance [dBm]		18.4			Scaling factor*				
	Conducted Power [dBm]		18.2	17.7	18.0	0.2	0.7	0.4	dB	
	Time-averaged power [dBm]		18.2	17.7	18.0	1.05	1.17	1.10	Lin	
	Back facing phantom	Estimated SAR	0.250	-	-	0.262	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Estimated SAR	0.366	-	-	0.383	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Top edge facing phantom	Estimated SAR	0.004	-	-	0.004	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Bottom edge facing phantom	Estimated SAR	0.683	-	-	0.715	-	-	0.06	-
		Full SAR	0.746	-	-	0.781	-	-	-	-
	Left edge facing phantom	Estimated SAR	0.037	-	-	0.038	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right edge facing phantom	Estimated SAR	0.065	-	-	0.068	-	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
20MHz Ch BW 1% RB 100% offset	Tuning Target + Tolerance [dBm]		18.4			Scaling factor*				
	Conducted Power [dBm]		18.0	17.8	17.9	0.4	0.6	0.5	dB	
	Time-averaged power [dBm]		18.0	17.8	17.9	1.10	1.15	1.12	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

(LTE1900 (Band 2) WR SAR results/Carrier Aggregation with 2UL/DL+17DL Table continues)

(LTE1900 (Band 2) WR SAR results/Carrier Aggregation with 2UL/DL+17DL Table continues)

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 709.0 MHz	Ch 23790 710.0 MHz	Ch 23800 711.0 MHz	Ch 23780 709.0 MHz	Ch 23790 710.0 MHz	Ch 23800 711.0 MHz		
20MHz Ch BW 50% RB 0 % offset	Tuning Target + Tolerance [dBm]		17.4			Scaling factor*				
	Conducted Power [dBm]		17.1	17.0	17.2	0.3	0.4	0.2	dB	
	Time-averaged power [dBm]		17.1	17.0	17.2	1.07	1.10	1.05	Lin	
	Back facing phantom	Estimated SAR	-	-	0.159	-	-	0.166	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Estimated SAR	-	-	0.236	-	-	0.247	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Top edge facing phantom	Estimated SAR	-	-	0.001	-	-	0.001	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Bottom edge facing phantom	Estimated SAR	-	-	0.525	-	-	0.550	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left edge facing phantom	Estimated SAR	-	-	0.024	-	-	0.025	-	-
Full SAR		-	-	-	-	-	-	-	-	
Right edge facing phantom	Estimated SAR	-	-	0.040	-	-	0.042	-	-	
	Full SAR	-	-	-	-	-	-	-	-	
20MHz Ch BW 50% RB 50% offset	Tuning Target + Tolerance [dBm]		17.4			Scaling factor*				
	Conducted Power [dBm]		17.2	16.9	17.1	0.2	0.5	0.3	dB	
	Time-averaged power [dBm]		17.2	16.9	17.1	1.05	1.12	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 50% RB 100% offset	Tuning Target + Tolerance [dBm]		17.4			Scaling factor*				
	Conducted Power [dBm]		17.1	16.9	17.1	0.3	0.5	0.3	dB	
	Time-averaged power [dBm]		17.1	16.9	17.1	1.07	1.12	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 100% RB	Tuning Target + Tolerance [dBm]		17.4			Scaling factor*				
	Conducted Power [dBm]		17.1	16.9	17.1	0.3	0.5	0.3	dB	
	Time-averaged power [dBm]		17.1	16.9	17.1	1.07	1.12	1.07	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

LTE2500 (Band 7) Wireless Router SAR result

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 20850 2510.0 MHz	Ch 21100 2535 MHz	Ch 21350 2560.0 MHz	Ch 20850 2510.0 MHz	Ch 21100 2535.0 MHz	Ch 21350 2560.0 MHz		
20MHz Ch BW 1% RB 0% offset	Tuning Target + Tolerance [dBm]		18.9			Scaling factor*				
	Conducted Power [dBm]		18.5	18.5	18.5	0.4	0.4	0.4	dB	
	Time-averaged power [dBm]		18.5	18.5	18.5	1.10	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 1% RB 50% offset	Tuning Target + Tolerance [dBm]		18.9			Scaling factor*				
	Conducted Power [dBm]		18.4	18.6	18.6	0.5	0.3	0.3	dB	
	Time-averaged power [dBm]		18.4	18.6	18.6	1.12	1.07	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]		18.9			Scaling factor*				
	Conducted Power [dBm]		18.7	18.7	18.7	0.2	0.2	0.2	dB	
	Time-averaged power [dBm]		18.7	18.7	18.7	1.05	1.05	1.05	Lin	
	Back facing phantom	Estimated SAR	-	0.246	-	-	0.258	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Estimated SAR	-	0.309	-	-	0.324	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Top edge facing phantom	Estimated SAR	-	0.003	-	-	0.003	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Bottom edge facing phantom	Estimated SAR	-	0.730	-	-	0.764	-	0.02	41
		Full SAR	-	0.752	-	-	0.787	-	-	-
	Left edge facing phantom	Estimated SAR	-	0.051	-	-	0.054	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right edge facing phantom	Estimated SAR	-	0.098	-	-	0.103	-	-	-
Full SAR		-	-	-	-	-	-	-	-	

(LTE2500 (Band 7) WR SAR results Table continues)

(LTE2500 (Band 7) WR SAR results Table continues)

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 20850 2510.0 MHz	Ch 21100 2535 MHz	Ch 21350 2560.0 MHz	Ch 20850 2510.0 MHz	Ch 21100 2535 MHz	Ch 21350 2560.0 MHz		
20MHz Ch BW 50% RB 0% offset	Tuning Target + Tolerance [dBm]		17.9			Scaling factor*				
	Conducted Power [dBm]		17.5	17.5	17.5	0.4	0.4	0.4	dB	
	Time-averaged power [dBm]		17.5	17.5	17.5	1.10	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 50% RB 50% offset	Tuning Target + Tolerance [dBm]		17.9			Scaling factor*				
	Conducted Power [dBm]		17.5	17.5	17.5	0.4	0.4	0.4	dB	
	Time-averaged power [dBm]		17.5	17.5	17.5	1.10	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 50RB 100 % offset	Tuning Target + Tolerance [dBm]		17.9			Scaling factor*				
	Conducted Power [dBm]		17.7	17.7	17.7	0.2	0.2	0.2	dB	
	Time-averaged power [dBm]		17.7	17.7	17.7	1.05	1.05	1.05	Lin	
	Back facing phantom	Estimated SAR	-	0.199	-	-	0.208	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Display facing phantom	Estimated SAR	-	0.248	-	-	0.260	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Top edge facing phantom	Estimated SAR	-	0.001	-	-	0.001	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Bottom edge facing phantom	Estimated SAR	-	0.602	-	-	0.630	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Left edge facing phantom	Estimated SAR	-	0.041	-	-	0.042	-	-	-
		Full SAR	-	-	-	-	-	-	-	-
	Right edge facing phantom	Estimated SAR	-	0.079	-	-	0.083	-	-	-
Full SAR		-	-	-	-	-	-	-	-	
20MHz Ch BW 100% RB	Tuning Target + Tolerance [dBm]		17.9			Scaling factor*				
	Conducted Power [dBm]		17.6	17.6	17.6	0.3	0.3	0.3	dB	
	Time-averaged power [dBm]		17.6	17.6	17.6	1.07	1.07	1.07	Lin	
			No testing required for this CBW/RB/RB offset configuration according to KDB 941225 D05 SAR for LTE Devices v02r02							

2450MHz Wireless Router SAR results

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 1 2412.0 MHz	Ch 6 2437.0 MHz	Ch 11 2462.0 MHz	Ch 1 2412.0 MHz	Ch 6 2437.0 MHz	Ch 11 2462.0 MHz		
WLAN b-mode BPSK 1 Mbps	Tuning Target + Tolerance [dBm]		19.5			Scaling factor*				
	Conducted Power [dBm]		18.6	18.6	18.5	0.9	0.9	1.0	dB	
	Time-averaged power [dBm]		18.6	18.6	18.5	1.23	1.23	1.26	Lin	
	Back facing phantom	Estimated SAR	0.246	0.279	0.247	0.303	0.343	0.311	0.01	42
		Full SAR	-	0.266	-	-	0.327	-		
	Display facing phantom	Estimated SAR	-	0.090	-	-	0.110	-	-	-
		Full SAR	-	-	-	-	-	-		
	Top edge facing phantom	Estimated SAR	-	0.059	-	-	0.073	-	-	-
		Full SAR	-	-	-	-	-	-		
	Bottom edge facing phantom	Estimated SAR	-	0.001	-	-	0.001	-	-	-
		Full SAR	-	-	-	-	-	-		
	Left edge facing phantom	Estimated SAR	-	0.032	-	-	0.039	-	-	-
		Full SAR	-	-	-	-	-	-		
	Right edge facing phantom	Estimated SAR	-	0.029	-	-	0.035	-	-	-
		Full SAR	-	-	-	-	-	-		

Simultaneous transmissions: Combined SAR results – Individual band Max results

Test configuration	Max. Reported* 1g SAR results									
	WLAN 2450	LTE 700	2-slot GPRS 850	WCDMA 850	LTE 850	LTE 1700/2100	1-slot GPRS 1900	WCDMA 1900	LTE 1900	LTE 2500
Back facing phantom	0.327	0.452	0.540	0.466	0.448	0.408	0.451	0.384	0.330	0.258
Display facing phantom	0.110	0.493	0.606	0.614	0.521	0.515	0.382	0.565	0.493	0.324
Top edge facing phantom	0.073	0.019	-	-	-	0.004	0.006	0.005	0.004	0.003
Bottom edge facing phantom	0.001	0.178	0.407	0.411	0.384	1.04	1.26	1.05	1.02	0.787
Left edge facing phantom	0.039	0.312	0.465	0.434	0.426	0.114	0.076	0.070	0.090	0.054
Right edge facing phantom	0.035	0.263	0.126	0.113	0.145	0.107	0.114	0.101	0.090	0.103

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

Test configuration	Max. Reported* 1g SAR results								
	LTE700 + WLAN 2450	2-slot GPRS850 + WLAN 2450	WCDMA 850 + WLAN 2450	LTE850 + WLAN 2450	LTE1700/2100 + WLAN 2450	1-slot GPRS1900 + WLAN 2450	WCDMA 1900 + WLAN 2450	LTE1900 + WLAN 2450	LTE2500 + WLAN 2450
Back facing phantom	0.779	0.867	0.793	0.775	0.735	0.778	0.711	0.657	0.585
Display facing phantom	0.603	0.716	0.724	0.631	0.625	0.492	0.675	0.603	0.434
Top edge facing phantom	0.092	-	-	-	0.077	0.079	0.078	0.077	0.076
Bottom edge facing phantom	0.179	0.408	0.412	0.385	1.04	1.26	1.05	1.02	0.788
Left edge facing phantom	0.351	0.504	0.473	0.465	0.153	0.115	0.109	0.129	0.093
Right edge facing phantom	0.298	0.161	0.148	0.180	0.142	0.149	0.136	0.125	0.138

Note: Simultaneous Transmission Procedures as described in KDB648474 are not required for this product.

7.3.1 Combined Body SAR data

The Combined SAR data given in the tables below has been voluntarily calculated and should be ignored for FCC certification.

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

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

Test configuration	Max. Reported* 1g SAR results								
	LTE700 + WLAN 2450	2-slot GPRS850 + WLAN 2450	WCDMA 850 + WLAN 2450	LTE850 + WLAN 2450	LTE1700/ 2100 + WLAN 2450	1-slot GPRS1900 + WLAN 2450	WCDMA 1900 + WLAN 2450	LTE1900 + WLAN 2450	LTE2500 + WLAN 2450
Back facing phantom	0.458	0.545	0.472	0.482	-	-	-	-	-
Display facing phantom	-	-	-	-	-	-	-	-	-
Top edge facing phantom	-	-	-	-	-	-	-	-	-
Bottom edge facing phantom	-	-	-	-	1.02	1.25	1.03	1.00	0.767
Left edge facing phantom	-	-	-	-	-	-	-	-	-
Right edge facing phantom	-	-	-	-	-	-	-	-	-

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

Note:

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

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.

Plots of the Measurement scans are given in Appendix B.