

Table 14.2-11: SAR Values (LTE Band4 - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conduct ed Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
1745	20300	1RB_Low	Left	Touch	/	24.08	24.5	0.0979	0.11	0.158	0.17	0.12
1745	20300	1RB_Low	Left	Tilt	/	24.08	24.5	0.0471	0.05	0.0775	0.09	0.05
1745	20300	1RB_Low	Right	Touch	Fig.11	24.08	24.5	0.108	0.12	0.174	0.19	-0.19
1745	20300	1RB_Low	Right	Tilt	/	24.08	24.5	0.0483	0.05	0.0854	0.09	0.03
1732.5	20175	50RB_High	Left	Touch	/	23.04	23.5	0.0851	0.09	0.135	0.15	0.08
1732.5	20175	50RB_High	Left	Tilt	/	23.04	23.5	0.0381	0.04	0.0681	0.08	0.10
1732.5	20175	50RB_High	Right	Touch	/	23.04	23.5	0.0923	0.10	0.149	0.17	0.06
1732.5	20175	50RB_High	Right	Tilt	/	23.04	23.5	0.0424	0.05	0.0745	0.08	-0.01

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-12: SAR Values (LTE Band4 - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No.	Conduct ed Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
1745	20300	1RB_Low	Front	/	24.08	24.5	0.387	0.43	0.7	0.77	-0.17
1745	20300	1RB_Low	Rear	Fig.12	24.08	24.5	0.626	0.69	1.15	1.27	-0.17
1732.5	20175	1RB_Low	Rear	/	23.96	24.5	0.502	0.57	0.94	1.06	0.06
1720	20050	1RB_Low	Rear	/	23.87	24.5	0.515	0.60	0.964	1.11	-0.04
1745	20300	1RB_Low	Left	/	24.08	24.5	0.0397	0.04	0.0656	0.07	0.02
1745	20300	1RB_Low	Right	/	24.08	24.5	0.113	0.12	0.187	0.21	-0.19
1745	20300	1RB_Low	Bottom	/	24.08	24.5	0.545	0.60	1.03	1.14	-0.06
1732.5	20175	1RB_Low	Bottom	/	23.96	24.5	0.49	0.56	0.95	1.08	0.13
1720	20050	1RB_Low	Bottom	/	23.87	24.5	0.487	0.56	0.931	1.08	-0.01
1732.5	20175	50RB_High	Front	/	23.04	23.5	0.31	0.34	0.53	0.59	0.19
1745	20300	50RB_High	Rear	/	22.83	23.5	0.446	0.52	0.847	0.99	-0.01
1732.5	20175	50RB_High	Rear	/	23.04	23.5	0.419	0.47	0.773	0.86	0.01
1720	20050	50RB_High	Rear	/	23.03	23.5	0.407	0.45	0.76	0.85	-0.07
1732.5	20175	50RB_High	Left	/	23.04	23.5	0.033	0.04	0.0521	0.06	0.12
1732.5	20175	50RB_High	Right	/	23.04	23.5	0.054	0.06	0.124	0.14	0.11
1745	20300	50RB_High	Bottom	/	22.83	23.5	0.435	0.51	0.835	0.97	0.05
1732.5	20175	50RB_High	Bottom	/	23.04	23.5	0.421	0.47	0.784	0.87	-0.09
1720	20050	50RB_High	Bottom	/	23.03	23.5	0.397	0.44	0.753	0.84	0.14
1732.5	20175	100RB	Rear	/	23.10	23.5	0.453	0.50	0.862	0.94	0.05
1732.5	20175	100RB	Bottom	/	23.10	23.5	0.447	0.49	0.859	0.94	0.11
1745	20300	1RB_Low	Rear	/	24.08	24.5	0.535	0.59	0.935	1.03	0.00

			Headset1								
1745	20300	1RB_Low	Rear Headset2	/	24.08	24.5	0.534	0.59	0.956	1.05	0.01

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK_20MHz.

Note3: The headset1 is CCB3160A11C4, the headset2 is CCB3160A11C1.

Table 14.2-13: SAR Values (LTE Band7 - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
2560	21350	1RB_High	Left	Touch	/	22.52	23	0.133	0.15	0.24	0.27	0.08
2560	21350	1RB_High	Left	Tilt	/	22.52	23	0.093	0.10	0.188	0.21	-0.07
2560	21350	1RB_High	Right	Touch	Fig.13	22.52	23	0.249	0.28	0.462	0.52	-0.16
2560	21350	1RB_High	Right	Tilt	/	22.52	23	0.083	0.09	0.156	0.17	0.06
2560	21350	50RB_Mid	Left	Touch	/	21.48	22	0.119	0.13	0.215	0.24	0.08
2560	21350	50RB_Mid	Left	Tilt	/	21.48	22	0.086	0.10	0.172	0.19	0.12
2560	21350	50RB_Mid	Right	Touch	/	21.48	22	0.234	0.26	0.388	0.44	0.13
2560	21350	50RB_Mid	Right	Tilt	/	21.48	22	0.076	0.09	0.142	0.16	0.16

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-14: SAR Values (LTE Band7 - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
2560	21350	1RB_High	Front	/	22.52	23	0.214	0.24	0.445	0.50	0.13
2560	21350	1RB_High	Rear	/	22.52	23	0.408	0.46	0.932	1.04	0.11
2535	21100	1RB_High	Rear	/	22.32	23	0.376	0.44	0.944	1.10	0.04
2510	20850	1RB_High	Rear	/	22.07	23	0.35	0.43	0.867	1.07	-0.17
2560	21350	1RB_High	Left	/	22.52	23	0.016	0.02	0.032	0.04	0.01
2560	21350	1RB_High	Right	/	22.52	23	0.174	0.19	0.324	0.36	0.09
2560	21350	1RB_High	Bottom	/	22.52	23	0.406	0.45	0.971	1.08	0.10
2535	21100	1RB_High	Bottom	Fig.14	22.32	23	0.515	0.60	1.15	1.35	0.03
2510	20850	1RB_High	Bottom	/	22.07	23	0.426	0.53	0.996	1.23	0.19
2560	21350	50RB_Mid	Front	/	21.48	22	0.169	0.19	0.364	0.41	0.16
2560	21350	50RB_Mid	Rear	/	21.48	22	0.375	0.42	0.759	0.85	0.17
2535	21100	50RB_Mid	Rear	/	21.24	22	0.382	0.45	0.863	1.03	0.10
2510	20850	50RB_Mid	Rear	/	20.55	22	0.348	0.49	0.786	1.10	0.00
2560	21350	50RB_Mid	Left	/	21.48	22	0.0344	0.04	0.0791	0.09	-0.13

2560	21350	50RB_Mid	Right	/	21.48	22	0.131	0.15	0.243	0.27	-0.01
2560	21350	50RB_Mid	Bottom	/	21.48	22	0.381	0.43	0.897	1.01	-0.06
2535	21100	50RB_Mid	Bottom	/	21.24	22	0.46	0.55	0.95	1.13	0.12
2510	20850	50RB_Mid	Bottom	/	20.55	22	0.417	0.58	0.852	1.19	0.11
2560	21350	100RB	Rear	/	21.29	22	0.386	0.45	0.876	1.03	-0.01
2560	21350	100RB	Bottom	/	21.29	22	0.41	0.48	0.974	1.15	0.15
2535	21100	1RB_High	Bottom Headset1	/	22.52	23	0.453	0.51	1.06	1.18	0.16
2535	21100	1RB_High	Bottom Headset2	/	22.52	23	0.428	0.48	1.02	1.14	0.17

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK_20MHz.

Note3: The headset1 is CCB3160A11C4, the headset2 is CCB3160A11C1.

Table 14.2-15: SAR Values (LTE Band17 - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
710	23790	1RB_Low	Left	Touch	/	22.82	24	0.061	0.08	0.09	0.12	-0.03
710	23790	1RB_Low	Left	Tilt	/	22.82	24	0.048	0.06	0.068	0.09	0.05
710	23790	1RB_Low	Right	Touch	Fig.15	22.82	24	0.088	0.12	0.109	0.14	0.06
710	23790	1RB_Low	Right	Tilt	/	22.82	24	0.056	0.07	0.081	0.11	0.01
709	23780	25RB_High	Left	Touch	/	21.78	23	0.057	0.08	0.084	0.11	0.04
709	23780	25RB_High	Left	Tilt	/	21.78	23	0.042	0.06	0.059	0.08	-0.02
709	23780	25RB_High	Right	Touch	/	21.78	23	0.064	0.08	0.096	0.13	-0.05
709	23780	25RB_High	Right	Tilt	/	21.78	23	0.052	0.07	0.076	0.10	-0.08

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-16: SAR Values (LTE Band17 - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
710	23790	1RB_Low	Front	/	22.82	24	0.104	0.14	0.141	0.19	0.02
710	23790	1RB_Low	Rear	Fig.16	22.82	24	0.17	0.22	0.22	0.29	-0.04
710	23790	1RB_Low	Left	/	22.82	24	0.067	0.09	0.099	0.13	0.02
710	23790	1RB_Low	Right	/	22.82	24	0.048	0.06	0.072	0.09	0.06
710	23790	1RB_Low	Bottom	/	22.82	24	0.046	0.06	0.076	0.10	-0.01
709	23780	25RB_High	Front	/	21.78	23	0.093	0.12	0.127	0.17	0.04
709	23780	25RB_High	Rear	/	21.78	23	0.143	0.19	0.199	0.26	0.02

709	23780	25RB_High	Left	/	21.78	23	0.038	0.05	0.055	0.07	0.03
709	23780	25RB_High	Right	/	21.78	23	0.054	0.07	0.079	0.10	0.01
709	23780	25RB_High	Bottom	/	21.78	23	0.024	0.03	0.04	0.05	0.04

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-17: SAR Values (WCDMA 1700 MHz Band - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
1732.4	1412	Left	Touch	/	23.43	24	0.110	0.13	0.183	0.21	-0.01
1732.4	1412	Left	Tilt	/	23.43	24	0.060	0.07	0.106	0.12	0.14
1752.6	1513	Right	Touch	/	23.22	24	0.103	0.12	0.171	0.20	0.11
1732.4	1412	Right	Touch	Fig.17	23.43	24	0.130	0.15	0.198	0.23	0.07
1712.4	1312	Right	Touch	/	23.64	24	0.114	0.12	0.190	0.21	0.18
1732.4	1412	Right	Tilt	/	23.43	24	0.070	0.08	0.123	0.14	0.09

Table 14.2-18: SAR Values (WCDMA 1700 MHz Band - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C				
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
1732.4	1412	Front	/	23.43	24	0.290	0.33	0.515	0.59	0.11
1752.6	1513	Rear	Fig.18	23.22	24	0.452	0.54	0.837	1.00	0.11
1732.4	1412	Rear	/	23.43	24	0.417	0.48	0.759	0.87	0.03
1712.4	1312	Rear	/	23.64	24	0.312	0.34	0.706	0.77	0.06
1732.4	1412	Left	/	23.43	24	0.033	0.04	0.053	0.06	0.02
1732.4	1412	Right	/	23.43	24	0.075	0.09	0.130	0.15	0.07
1732.4	1412	Bottom	/	23.43	24	0.309	0.35	0.604	0.69	0.09

Note1: The distance between the EUT and the phantom bottom is 10mm.

Table 14.2-19: SAR Values (LTE Band5 - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
829	20450	1RB_Low	Left	Touch	Fig.19	23.34	24	0.103	0.12	0.142	0.17	-0.18
829	20450	1RB_Low	Left	Tilt	/	23.34	24	0.087	0.10	0.126	0.15	0.01
829	20450	1RB_Low	Right	Touch	/	23.34	24	0.106	0.12	0.139	0.16	0.06
829	20450	1RB_Low	Right	Tilt	/	23.34	24	0.064	0.07	0.092	0.11	0.17
829	20450	25RB_Low	Left	Touch	/	22.22	23	0.085	0.10	0.128	0.15	0.04

829	20450	25RB_Low	Left	Tilt	/	22.22	23	0.070	0.08	0.100	0.12	-0.03
829	20450	25RB_Low	Right	Touch	/	22.22	23	0.092	0.11	0.135	0.16	0.10
829	20450	25RB_Low	Right	Tilt	/	22.22	23	0.080	0.10	0.118	0.14	-0.05

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-20: SAR Values (LTE Band5 - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
829	20450	1RB_Low	Front	/	23.34	24	0.113	0.13	0.177	0.21	0.08
829	20450	1RB_Low	Rear	Fig.20	23.34	24	0.179	0.21	0.227	0.26	0.07
829	20450	1RB_Low	Left	/	23.34	24	0.102	0.12	0.172	0.20	0.12
829	20450	1RB_Low	Right	/	23.34	24	0.116	0.14	0.173	0.20	0.08
829	20450	1RB_Low	Bottom	/	23.34	24	0.045	0.05	0.074	0.09	0.09
829	20450	25RB_Low	Front	/	22.22	23	0.114	0.14	0.154	0.18	0.09
829	20450	25RB_Low	Rear	/	22.22	23	0.143	0.17	0.198	0.24	0.06
829	20450	25RB_Low	Left	/	22.22	23	0.097	0.12	0.145	0.17	0.12
829	20450	25RB_Low	Right	/	22.22	23	0.108	0.13	0.161	0.19	0.03
829	20450	25RB_Low	Bottom	/	22.22	23	0.040	0.05	0.062	0.07	0.13

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-21: SAR Values (LTE Band7 - Head) – other batteries

Ambient Temperature: 22.9 °C							Liquid Temperature: 22.5 °C					
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
2560	21350	1RB_High	Left	Touch Battery1	/	22.52	23	0.235	0.26	0.438	0.49	0.04
2560	21350	1RB_High	Left	Touch Battery2	/	22.52	23	0.229	0.26	0.429	0.48	-0.03

Note1: The battery1 is CAB2000041C7, the battery2 is CAB2000013C2.

Table 14.2-22: SAR Values (LTE Band7 - Body) – other batteries

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
2535	21100	1RB_High	Rear Battery1	/	22.32	23	0.462	0.54	1.03	1.21	0.09

2535	21100	1RB_High	Rear Battery2	/	22.32	23	0.471	0.55	1.01	1.18	0.03
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Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK_20MHz.

Note3: The battery1 is CAB2000041C7, the battery2 is CAB2000013C2.

14.3 SAR results for Standard procedure

There is zoom scan measurement to be added for the highest measured SAR in each exposure configuration/band.

Table 14.3-1: SAR Values (GSM 850 MHz Band - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
824.2	128	Left	Touch	Fig.1	32.25	33.3	0.217	0.28	0.284	0.36	0.10

Table 14.3-2: SAR Values (GSM 850 MHz Band - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode (number of timeslots)	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
824.2	128	GPRS (1)	Rear	Fig.2	32.27	32.3	0.301	0.30	0.387	0.39	-0.01

Note1: The distance between the EUT and the phantom bottom is 10mm.

Table 14.3-3: SAR Values (GSM 1900 MHz Band - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
1850.2	512	Right	Touch	Fig.3	29.65	30.3	0.0738	0.09	0.117	0.14	-0.03

Table 14.3-4: SAR Values (GSM 1900 MHz Band - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode (number of timeslots)	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
1850.2	512	GPRS (4)	Rear	Fig.4	24.48	25	0.546	0.62	1.03	1.16	-0.03

Note1: The distance between the EUT and the phantom bottom is 10mm.

Table 14.3-5: SAR Values (WCDMA 850 MHz Band - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
846.6	4233	Left	Touch	Fig.5	23.32	24	0.222	0.26	0.29	0.34	0.14

Table 14.3-6: SAR Values (WCDMA 850 MHz Band - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C				
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
846.6	4233	Rear	Fig.6	23.32	24	0.309	0.36	0.398	0.47	-0.01

Note1: The distance between the EUT and the phantom bottom is 10mm.

Table 14.3-7: SAR Values (WCDMA 1900 MHz Band - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
1907.6	9538	Right	Touch	Fig.7	23.11	24	0.107	0.13	0.171	0.21	0.12

Table 14.3-8: SAR Values (WCDMA 1900 MHz Band - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C				
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
1907.6	9538	Bottom	Fig.8	23.11	24	0.56	0.69	1.08	1.33	0.02

Note1: The distance between the EUT and the phantom bottom is 10mm.

Table 14.3-9: SAR Values (LTE Band2 - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
1900	19100	1RB_High	Right	Touch	Fig.9	23.06	23.4	0.111	0.12	0.176	0.19	0.12

Note1: The LTE mode is QPSK_20MHz.

Table 14.3-10: SAR Values (LTE Band2 - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
1900	19100	1RB_High	Rear	Fig.10	23.06	23.4	0.605	0.65	1.18	1.28	-0.13

Note1: The distance between the EUT and the phantom bottom is 10mm. Note2: The LTE mode is QPSK_20MHz.

Table 14.3-11: SAR Values (LTE Band4 - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
1745	20300	1RB_Low	Right	Touch	Fig.11	24.08	24.5	0.108	0.12	0.174	0.19	-0.19

Note1: The LTE mode is QPSK_20MHz.

Table 14.3-12: SAR Values (LTE Band4 - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No.	Conduct ed Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
1745	20300	1RB_Low	Rear	Fig.12	24.08	24.5	0.626	0.69	1.15	1.27	-0.17

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK_20MHz.

Table 14.3-13: SAR Values (LTE Band7 - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
2560	21350	1RB_High	Right	Touch	Fig.13	22.52	23	0.249	0.28	0.462	0.52	-0.16

Note1: The LTE mode is QPSK_20MHz.

Table 14.3-14: SAR Values (LTE Band7 - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
2535	21100	1RB_High	Bottom	Fig.14	22.32	23	0.515	0.60	1.15	1.35	0.03

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK_20MHz.

Table 14.3-15: SAR Values (LTE Band17 - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
710	23790	1RB_Low	Right	Touch	Fig.15	22.82	24	0.088	0.12	0.109	0.14	0.06

Note1: The LTE mode is QPSK_10MHz.

Table 14.3-16: SAR Values (LTE Band17 - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
710	23790	1RB_Low	Rear	Fig.16	22.82	24	0.17	0.22	0.22	0.29	-0.04

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK_10MHz.

Table 14.3-17: SAR Values (WCDMA 1700 MHz Band - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
1732.4	1412	Right	Touch	Fig.17	23.43	24	0.130	0.15	0.198	0.23	0.07

Table 14.3-18: SAR Values (WCDMA 1700 MHz Band - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C				
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
1752.6	1513	Rear	Fig.18	23.22	24	0.452	0.54	0.837	1.00	0.11

Note1: The distance between the EUT and the phantom bottom is 10mm.

Table 14.3-19: SAR Values (LTE Band5 - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
829	20450	1RB_Low	Left	Touch	Fig.19	23.34	24	0.103	0.12	0.142	0.17	-0.18

Note1: The LTE mode is QPSK_10MHz.

Table 14.3-20: SAR Values (LTE Band5 - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
829	20450	1RB_Low	Rear	Fig.20	23.34	24	0.179	0.21	0.227	0.26	0.07

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK_10MHz.

14.4 WLAN Evaluation

According to the KDB248227 D01, SAR is measured for 2.4GHz 802.11b DSSS using the initial test position procedure.

Head Evaluation

Table 14.4-1: SAR Values (WLAN - Head) – 802.11b 5.5Mbps (Fast SAR)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
2437	6	Left	Touch	/	19.92	20	0.038	0.04	0.068	0.07	0.12
2437	6	Left	Tilt	/	19.92	20	0.037	0.04	0.069	0.07	0.02
2437	6	Right	Touch	/	19.92	20	0.0565	0.06	0.109	0.11	0.06
2437	6	Right	Tilt	/	19.92	20	0.049	0.05	0.106	0.11	-0.01

As shown above table, the initial test position for head is “Right Cheek”. So the head SAR of WLAN is presented as below:

Table 14.4-2: SAR Values (WLAN - Head) – 802.11b 5.5Mbps (Full SAR)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
2437	6	Right	Touch	Fig.23	19.92	20	0.0552	0.06	0.12	0.12	0.13

Note1: When the reported SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest estimated 1-g SAR conditions determined by area scans, on the highest maximum output power channel, until the reported SAR is \leq 0.8 W/kg.

Note2: For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel until the reported SAR is \leq 1.2 W/kg or all required channels are tested.

According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. The scaled reported SAR is presented as below.

Table 14.4-3: SAR Values (WLAN - Head) – 802.11b 1Mbps (Scaled Reported SAR)

Ambient Temperature: 22.9 °C					Liquid Temperature: 22.5 °C		
Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.						
2437	6	Right	Touch	98.25%	100%	0.12	0.12

SAR is not required for OFDM because the 802.11b adjusted SAR \leq 1.2 W/kg.

Body Evaluation

Table 14.4-4: SAR Values (WLAN - Body) – 802.11b 5.5Mbps (Fast SAR)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C				
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
2437	6	Front	/	19.92	20	0.0247	0.03	0.044	0.04	0.14
2437	6	Rear	/	19.92	20	0.121	0.12	0.266	0.27	-0.05
2437	6	Left	/	19.92	20	0.0546	0.06	0.112	0.11	0.15
2437	6	Top	/	19.92	20	0.0475	0.05	0.0982	0.10	-0.12

As shown above table, the initial test position for body is “Rear”. So the body SAR of WLAN is presented as below:

Table 14.4-5: SAR Values (WLAN - Body) – 802.11b 5.5Mbps (Full SAR)

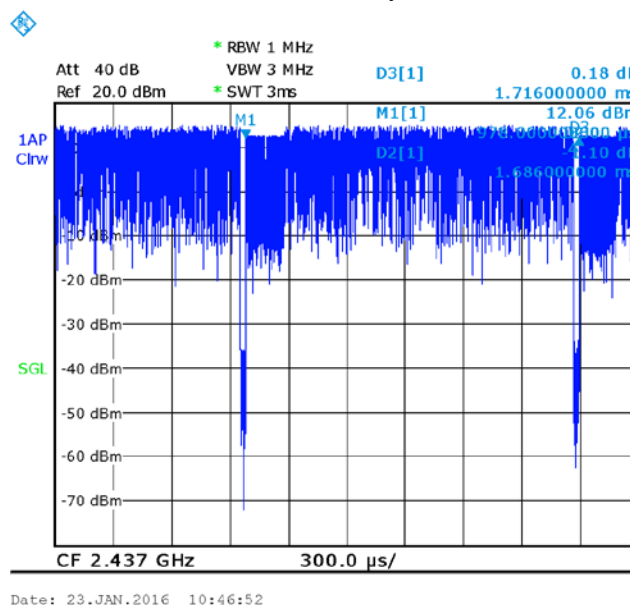
Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C				
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
2437	6	Rear	Fig.24	19.92	20	0.134	0.14	0.283	0.29	-0.05

According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. The scaled reported SAR is presented as below.

Table 14.4-6: SAR Values (WLAN - Body) – 802.11b 1Mbps (Scaled Reported SAR)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C	
Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)	
MHz	Ch.						
2437	6	Rear	98.25%	100%	0.29	0.30	

SAR is not required for OFDM because the 802.11b adjusted SAR ≤ 1.2 W/kg.



Picture 14.1 Duty factor plot

15 SAR Measurement Variability

SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium.

The following procedures are applied to determine if repeated measurements are required.

- 1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
- 3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).
- 4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

Table 15.1: SAR Measurement Variability for Body GSM1900 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
1850.2	512	Rear	10	1.03	1.02	1.01	/

Table 15.2: SAR Measurement Variability for Body WCDMA1900 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
1907.6	9938	Bottom	10	1.08	1.07	1.01	/

Table 15.3: SAR Measurement Variability for Body LTE Band 2 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
1900	19100	Rear	15	1.18	1.16	1.02	/

Table 15.4: SAR Measurement Variability for Body LTE Band 4 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
1745	20300	Rear	10	1.15	1.14	1.01	/

Table 15.5: SAR Measurement Variability for Body LTE Band 7 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
2535	21100	Bottom	10	1.15	1.14	1.01	/

Table 15.6: SAR Measurement Variability for Body WCDMA1700 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
1752.6	1738	Rear	10	0.837	0.834	1.00	/

16 Measurement Uncertainty

16.1 Measurement Uncertainty for Normal SAR Tests (300MHz~3GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	5.5	N	1	1	1	5.5	5.5	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RF ambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	∞
12	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
Test sample related										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
17	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
20	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
21	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521

Combined standard uncertainty	$u_c' = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$					9.25	9.12	257
Expanded uncertainty (confidence interval of 95 %)	$u_e = 2u_c$					18.5	18.2	

16.2 Measurement Uncertainty for Normal SAR Tests (3~6GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.5	N	1	1	1	6.5	6.5	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	2.0	R	$\sqrt{3}$	1	1	1.2	1.2	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RF ambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
12	Probe positioning with respect to phantom shell	B	6.7	R	$\sqrt{3}$	1	1	3.9	3.9	∞
13	Post-processing	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
Test sample related										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
17	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43

20	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
21	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$						10.8	10.7	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						21.6	21.4	

16.3 Measurement Uncertainty for Fast SAR Tests (300MHz~3GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	5.5	N	1	1	1	5.5	5.5	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RF ambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. Restrictions	B	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	∞
12	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
14	Fast SAR z-Approximation	B	7.0	R	$\sqrt{3}$	1	1	4.0	4.0	∞
Test sample related										
15	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
16	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
17	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞