14.2 SAR results for Standard procedure

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

Table 14.2-1: SAR Values (GSM 850 MHz Band - Head)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Side	Test Position	Figure No./Note	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)
Ch.	MHz										
190	836.6	Right	Cheek	Fig.1	29.2	31	0.197	**0.30**	0.252	**0.38**	-0.11

Note: the head SAR of GSM850 is tested with GPRS (3Txslots) mode because of VoIP.

Table 14.2-2: SAR Values (GSM 850 MHz Band - Body)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Mode (number of timeslots)	Test Position	Figure No./ Note	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)
Ch.	MHz										
251	848.8	GPRS (3)	Rear	Fig.2	29.32	31	0.178	**0.26**	0.313	**0.46**	-0.01

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

Table 14.2-3: SAR Values (GSM 1900 MHz Band - Head)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Side	Test Position	Figure No./ Note	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)
Ch.	MHz										
810	1909.8	Left	Cheek	Fig.3	27.15	28	0.056	**0.07**	0.086	**0.10**	0.07

Note: the head SAR of GSM1900 is tested with GPRS (2Txslots) mode because of VoIP.

Table 14.2-4: SAR Values (GSM 1900 MHz Band - Body)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Mode (number of timeslots)	Test Position	Figure No./ Note	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)
Ch.	MHz										
810	1909.8	GPRS (2)	Bottom	Fig.4	27.15	28	0.558	**0.68**	1.08	**1.31**	0.04

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

Table 14.2-5: SAR Values (WCDMA 850 MHz Band - Head)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC										
Frequency		Side	Test Positio	Figure No./N	Conducted Power	Max. tune-up	Measure d	Reported SAR(10g)	Measured SAR(1g)	Reporte d	Power Drift
Ch.	MHz										

			n	ote	(dBm)	Power (dBm)	SAR(10g) (W/kg)	(W/kg)	(W/kg)	SAR(1g) (W/kg)	(dB)
4183	836.6	Right	Cheek	Fig.5	24.07	24.5	0.189	**0.21**	0.243	**0.27**	0.09

Table 14.2-6: SAR Values (WCDMA 850 MHz Band - Body)

Ambient Temperature: 22.9 °C Liquid Temperature: 22.5°C										
Frequency		Test Position	Figure No./ Note	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)
Ch.	MHz									
4233	846.6	Rear	Fig.6	24.29	24.5	0.202	**0.21**	0.362	**0.38**	-0.08

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

Table 14.2-7: SAR Values (WCDMA 1700 MHz Band - Head)

Ambient Temperature: 22.9 °C Liquid Temperature: 22.5°C											
Frequency		Side	Test Position	Figure No./Note	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)
Ch.	MHz										
1412	1732.4	Right	Cheek	Fig.7	24.4	24.5	0.127	**0.13**	0.196	**0.20**	0.01

Table 14.2-8: SAR Values (WCDMA 1700 MHz Band - Body)

Ambient Temperature: 22.9 °C Liquid Temperature: 22.5°C										
Frequency		Test Position	Figure No./ Note	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)
Ch.	MHz									
1312	1712.4	Bottom	Fig.8	22.27	22.5	0.56	**0.59**	1.05	**1.11**	0.07

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

Table 14.2-9: SAR Values (WCDMA 1900 MHz Band - Head)

Ambient Temperature: 22.9 °C Liquid Temperature: 22.5°C											
Frequency		Side	Test Position	Figure No./ Note	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)
Ch.	MHz										
9538	1907.6	Right	Cheek	Fig.9	23.36	24	0.138	**0.16**	0.217	**0.25**	-0.03

Table 14.2-10: SAR Values (WCDMA 1900 MHz Band - Body)

Ambient Temperature: 22.9 °C Liquid Temperature: 22.5°C										
Frequency		Test Position	Figure No./ Note	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)
Ch.	MHz									
9400	1880	Bottom	Fig.10	21.42	21.5	0.652	**0.66**	1.26	**1.28**	0.09

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

Table 14.2-11: SAR Values (LTE Band7 - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C						
Frequency		Mode	Side	Test Position	Figure No./ Note	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)
Ch.	MHz											
20850	2510	50RB-Low	Right	Cheek	Fig.11	23.34	23.5	0.289	**0.30**	0.657	**0.68**	0.04

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-12: SAR Values (LTE Band7 - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C					
Frequency		Mode	Test Position	Figure No./ Note	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)
Ch.	MHz										
20850	2510	Rear	50RB-Low	Fig.12	13.87	14.5	0.128	**0.15**	0.329	**0.38**	0.03

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

Note3: The LTE mode is QPSK_20MHz.

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

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C					
Frequency		Mode	Test Position	Figure No./ Note	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)
Ch.	MHz										
21350	2560	100RB	Rear	Fig.13	17.12	18	0.428	**0.52**	0.938	**1.15**	0.06

Note1: The distance between the EUT and the phantom bottom is 15mm.

Table 14.2-14: SAR Values (LTE Band12 - 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)
Ch.	MHz											
23060	704	1RB-Low	Right	Cheek	Fig.14	23.04	24.5	0.099	**0.14**	0.126	**0.18**	-0.19

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-15: SAR Values (LTE Band12 - 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)
Ch.	MHz										
23060	704	1RB-Low	Rear	Fig.15	23.04	24.5	0.118	**0.17**	0.152	**0.21**	0.05

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-16: SAR Values (LTE Band13 - 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)
Ch.	MHz											
23230	782	1RB-High	Right	Cheek	Fig.16	23.06	24.5	0.125	**0.17**	0.16	**0.22**	0.05

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-17: SAR Values (LTE Band13 - 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)
Ch.	MHz										
23230	782	1RB-High	Rear	Fig.17	23.06	24.5	0.139	**0.19**	0.179	**0.25**	-0.03

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-18: SAR Values (LTE Band25 - 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)
Ch.	MHz											
26365	1882.5	1RB-Low	Left	Tilt	Fig.18	24.06	24.5	0.091	**0.10**	0.141	**0.16**	0.04

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-19: SAR Values (LTE Band25 - Body)

Ambient Temperature: 22.9 ºC		Liquid Temperature: 22.5ºC									
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)
Ch.	MHz										
26365	1882.5	1RB-Low	Bottom	Fig.19	20.94	21.5	0.615	**0.70**	1.18	**1.34**	-0.02

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

Table 14.2-20: SAR Values (LTE Band26 - Head)

Ambient Temperature: 22.9 ºC		Liquid Temperature: 22.5ºC										
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)
Ch.	MHz											
26865	831.5	1RB-High	Right	Cheek	Fig.20	23.26	24.5	0.165	**0.22**	0.214	**0.28**	0.01

Note1: The LTE mode is QPSK_15MHz.

Table 14.2-21: SAR Values (LTE Band26 - Body)

Ambient Temperature: 22.9 ºC		Liquid Temperature: 22.5ºC									
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)
Ch.	MHz										
26865	831.5	1RB-High	Rear	Fig.21	23.26	24.5	0.138	**0.18**	0.239	**0.32**	-0.01

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

Note2: The LTE mode is QPSK_15MHz.

Table 14.2-22: SAR Values (LTE Band41- Head)

Ambient Temperature: 22.9 ºC		Liquid Temperature: 22.5ºC										
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	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)
Ch.	MHz											
40470	2578	1RB-Mid	Right	Cheek	Fig.22	24.37	24.5	0.236	**0.24**	0.543	**0.56**	0.05

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-23: SAR Values (LTE Band41- Body)

Ambient Temperature: 22.9 ºC		Liquid Temperature: 22.5ºC									
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	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)
Ch.	MHz										
40800	2611	1RB-Low	Rear	Fig.23	15.72	16.5	0.347	**0.42**	0.869	**1.04**	0.05

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.2-24: SAR Values (LTE Band41 - Body)

Ambient Temperature: 22.9 °C Liquid Temperature: 22.5°C											
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	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)
Ch.	MHz										
40140	2545	100RB	Rear	Fig.24	18.56	19	0.300	**0.33**	0.662	**0.73**	0.03

Note1: The distance between the EUT and the phantom bottom is 15mm.
Note2: The LTE mode is QPSK_20MHz.

Table 14.2-25: SAR Values (LTE Band66 - 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)
Ch.	MHz											
132572	1770	1RB-High	Left	Cheek	Fig.25	24.52	25	0.186	**0.21**	0.281	**0.31**	0.08

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-26: SAR Values (LTE Band66 - 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)
Ch.	MHz										
132072	1720	1RB-High	Bottom	Fig.26	22.63	23	0.567	**0.62**	1.06	**1.15**	0.19

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

Table 14.2-27: SAR Values (LTE Band71 - 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)
133222	673	1RB-Mid	Right	Cheek	Fig.27	22.78	23.7	0.098	**0.12**	0.123	**0.15**	0.11

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-42: SAR Values (LTE Band71 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
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)
Ch.	MHz										
133222	673	1RB-Mid	Rear	Fig.28	22.78	23.7	0.152	**0.19**	0.195	**0.24**	-0.14

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

Note2: The LTE mode is QPSK_20MHz.

14.3 WLAN Evaluation for 2.4G

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

Normal Power

Head Evaluation- Normal Power

Table 14.3-1: SAR Values (WLAN - Head)– 802.11b (Fast SAR)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
Frequency		Side	Test Position	Figure No./ Note	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.										
2412	1	Left	Cheek	/	18.24	18.5	0.154	**0.16**	0.274	**0.29**	0.06
2412	1	Left	Tilt	/	18.24	18.5	0.185	**0.20**	0.374	**0.40**	0.09
2412	1	Right	Cheek	/	18.24	18.5	0.372	**0.39**	0.747	**0.79**	-0.06
2412	1	Right	Tilt	/	18.24	18.5	0.293	**0.31**	0.61	**0.65**	0.11
2437	6	Right	Cheek	/	18.12	18.5	0.539	**0.59**	0.994	**1.08**	0.06
2437	6	Right	Cheek	B2	18.12	18.5	0.521	**0.57**	0.981	**1.07**	0.05

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

Table 14.3-2: SAR Values (WLAN - Head)– 802.11b (Full SAR)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
Frequency		Side	Test Position	Figure No./ Note	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.										
2412	1	Right	Cheek	/	18.24	18.5	0.354	**0.38**	0.705	**0.75**	-0.06
2437	6	Right	Cheek	Fig.29	18.12	18.5	0.553	**0.60**	1.11	**1.21**	0.09
2462	11	Right	Cheek	/	18.01	18.5	0.389	**0.44**	0.792	**0.89**	-0.15
2412	1	Right	Tilt	/	18.24	18.5	0.301	**0.32**	0.643	**0.68**	0.00
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 ≤ 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 ≤ 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 14.3-3: SAR Values (WLAN - Head) – 802.11b (Scaled Reported SAR)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC							
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	Cheek	98.73%	100%	**1.21**	**1.23**

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

Head Evaluation- Low Power

Table 14.3-4: SAR Values (WLAN - Head)– 802.11b (Fast SAR)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Side	Test Position	Figure No./ Note	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.										
2412	1	Left	Cheek	/	15.09	16	0.063	**0.08**	0.112	**0.14**	-0.11
2412	1	Left	Tilt	/	15.09	16	0.075	**0.09**	0.153	**0.19**	0.14
2412	1	Right	Cheek	/	15.09	16	0.151	**0.19**	0.306	**0.38**	0.1
2412	1	Right	Tilt	/	15.09	16	0.119	**0.15**	0.25	**0.31**	-0.08
2412	1	Right	Cheek	B2	15.09	16	0.142	**0.18**	0.294	**0.36**	-0.02

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

Table 14.3-5: SAR Values (WLAN - Head)– 802.11b (Full SAR)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC											
Frequency		Side	Test Position	Figure No./ Note	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.										
2412	1	Right	Cheek	Fig.30	15.09	16	0.151	**0.19**	0.3	**0.37**	0.01

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 ≤ 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 ≤ 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 14.3-3: SAR Values (WLAN - Head) – 802.11b (Scaled Reported SAR)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC							
Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
MHz	Ch.						
2412	1	Right	Cheek	99.05%	100%	**0.37**	**0.37**

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

Body Evaluation- Normal Power

Table 14.3-4: SAR Values (WLAN - Body)– 802.11b (Fast SAR)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC										
Frequency		Test Position	Figure No./ Note	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.									
2412	1	Front	/	18.24	18.5	0.118	**0.13**	0.217	**0.23**	-0.08
2412	1	Rear	/	18.24	18.5	0.16	**0.17**	0.324	**0.34**	0.03
2412	1	Left	/	18.24	18.5	0.145	**0.15**	0.284	**0.30**	-0.03
2412	1	Top	/	18.24	18.5	0.107	**0.11**	0.199	**0.21**	0.09

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

Table 14.3-5: SAR Values (WLAN - Body)– 802.11b (Full SAR)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC										
Frequency		Test Position	Figure No./ Note	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.									
2412	1	Rear	Fig.31	18.24	18.5	0.147	**0.16**	0.309	**0.33**	0.03

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 ≤ 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 ≤ 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.

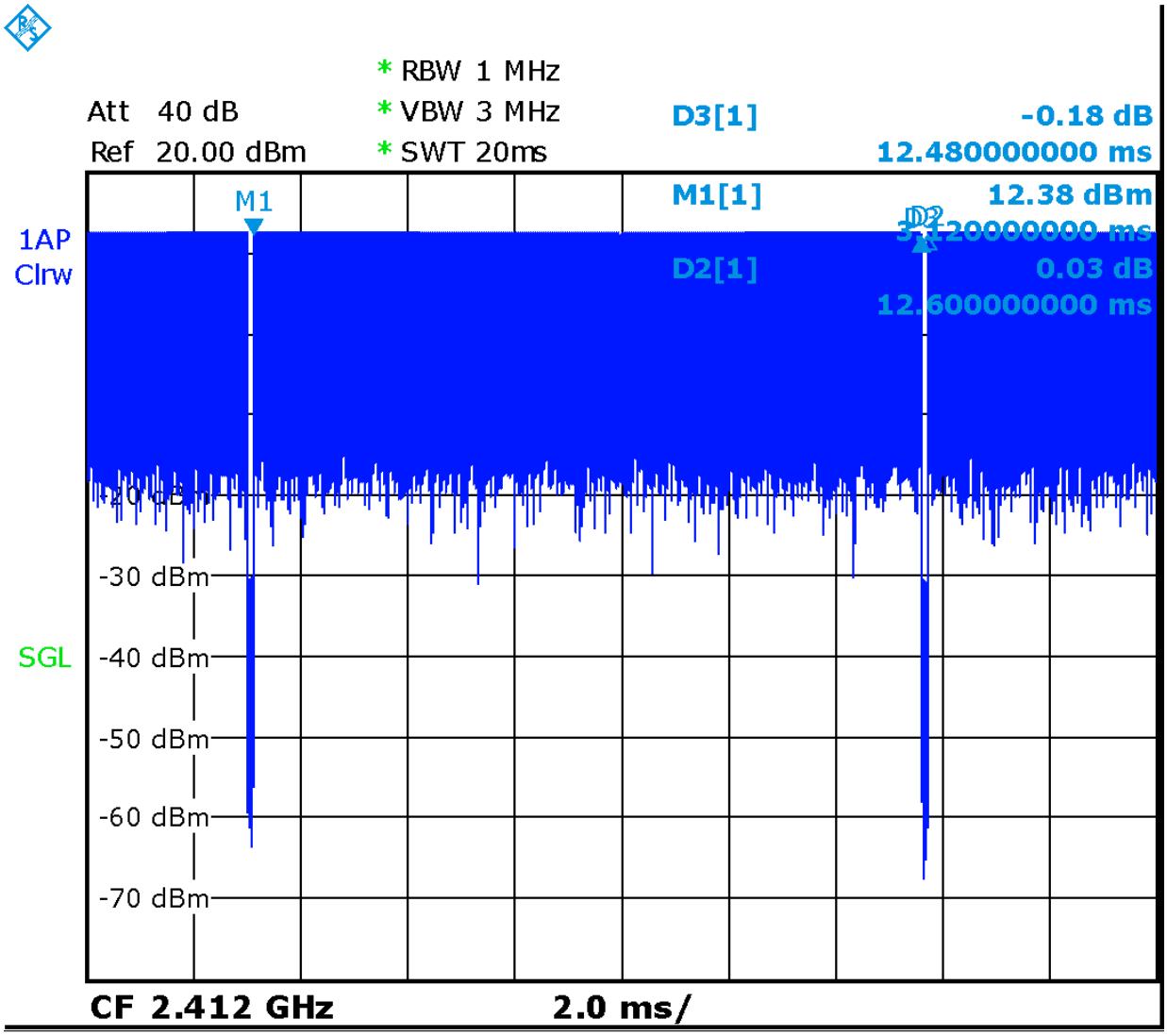
Table 14.3-6: SAR Values (WLAN - Body) – 802.11b (Scaled Reported SAR)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC						
Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
MHz	Ch.					
2412	1	Rear	99.05%	100%	**0.33**	**0.33**

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

Table 14.3-7: SAR Values (WLAN - Body)– 802.11b (Full SAR)

Ambient Temperature: 22.9 °C					Liquid Temperature: 22.5°C					
Frequency		Test Position	Figure No./ Note	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.									
2412	1	Rear	10mm	18.24	18.5	0.147	**0.16**	0.309	**0.33**	0.03
2412	1	Rear	15mm	18.24	18.5	0.065	**0.07**	0.129	**0.14**	0.01



Picture 14.1 Duty factor plot for head

14.4 WLAN Evaluation For 5G

Table 14.4-1: OFDM mode specified maximum output power of WLAN antenna

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	X		X	X	X	X	X	
U-NII-2A	X		X	X	X	X	X	
U-NII-2C	X		X	X	X	X	X	
U-NII-3	X		X	X	X	X	X	
§ 15.247 (5.8 GHz)								
X: maximum(conducted) output power(mW), including tolerance, specified for production units								

Table 14.4-2(1): Maximum output power specified of WLAN antenna for Normal Power-Head

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	20		18	18	18	18	10	
U-NII-2A	20		18	18	18	18	10	
U-NII-2C	22		18	18	18	18	10	
U-NII-3	25		18	18	18	18	10	
§ 15.247 (5.8 GHz)								

- The maximum output power specified for production units is the same for all channels, modulations and data rates in each channel bandwidth configuration of the 802.11a/g/n/ac modes.
- The blue highlighted cells represent highest output configurations in each standalone or aggregated frequency band, with tune-up tolerance included.

Table 14.4-2(2)Maximum output power specified of WLAN antenna for Low Power-Head

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	14		13	13	13	13	10	
U-NII-2A	14		13	13	13	13	10	
U-NII-2C	13		11	11	11	11	10	
U-NII-3	16		13	13	13	13	10	
§ 15.247 (5.8 GHz)								

- The maximum output power specified for production units is the same for all channels, modulations and data rates in each channel bandwidth configuration of the 802.11a/g/n/ac modes.
- The blue highlighted cells represent highest output configurations in each standalone or aggregated frequency band, with tune-up tolerance included.

Table 14.4-3(1): Maximum output power specified of WLAN antenna for Normal Power-Body

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	50		45	32	40	32	32	
U-NII-2A	45		40	32	40	32	32	
U-NII-2C	50		40	32	40	32	32	
U-NII-3	63		40	32	40	32	32	
§ 15.247 (5.8 /GHz)								

- The maximum output power specified for production units is the same for all channels, modulations and data rates in each channel bandwidth configuration of the 802.11a/g/n/ac modes.
- The blue highlighted cells represent highest output configurations in each standalone or aggregated frequency band, with tune-up tolerance included.

Table 14.4-3(2): Maximum output power specified of WLAN antenna forLow Power-Body

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	32		28	28	25	25	25	
U-NII-2A	32		28	28	25	25	25	
U-NII-2C	40		28	28	25	25	25	
U-NII-3	40		28	28	25	25	25	
§ 15.247 (5.8 /GHz)								

- The maximum output power specified for production units is the same for all channels, modulations and data rates in each channel bandwidth configuration of the 802.11a/g/n/ac modes.
- The blue highlighted cells represent highest output configurations in each standalone or aggregated frequency band, with tune-up tolerance included.

Table 14.4-4: Maximum output power measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations – Head Normal Power

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 **17/18/19/18**	36/40/44/48 Lower power	38/46 Lower power	36/40/44/48 Lower power	38/46 Lower power	42 Lower power
U-NII-2A	52/56/60/64 **17/16/16/14**	52/56/60/64 Lower power	54/62 Lower power	52/56/60/64 Lower power	54/62 Lower power	58 Lower power
U-NII-2C	100/104/108/112 **16/17/18/17** 116/120/124/128 **16/16/15/16**	100/104/108/112 116/132/136/140	102/110/134 Lower power	100/104/108/112 116/132/136/140	102/110/134 Lower power	106 Lower power

	132/136/140/144 **15/17/19/20**	Lower power		Lower power		
U-NII-3	149/153/157/161/165 **20/23/23/23/22**	149/153/157/161/165 Lower power	151/159 Lower power	149/153/157/161/165 Lower power	151/159 Lower power	155 Lower power

- The **bold numbers** is the maximum output measured power (mW).
- Channels with measured maximum power within 0.25dB are considered to have the same measured output. Channels selected for initial test configuration are highlighted in yellow.

Table 14.4-5: Maximum output power measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations –Head Low power

802.11 mode	**a**	**n**		**ac**		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 **11/12/13/13**	36/40/44/48 Lower power	38/46 Lower power	36/40/44/48 Lower power	38/46 Lower power	42 Lower power
U-NII-2A	52/56/60/64 **12/11/10/9**	52/56/60/64 Lower power	54/62 Lower power	52/56/60/64 Lower power	54/62 Lower power	58 Lower power
U-NII-2C	100/104/108/112 **11/11/12/11** 116/120/124/128 **11/10/10/10** 132/136/140/144 **10/11/1112**	100/104/108/112 116/132/136/140 Lower power	102/110/134 Lower power	100/104/108/112 116/132/136/140 Lower power	102/110/134 Lower power	106 Lower power
U-NII-3	149/153/157/161/165 **13/15/15/14/14**	149/153/157/161/165 Lower power	151/159 Lower power	149/153/157/161/165 Lower power	151/159 Lower power	155 Lower power

- The **bold numbers** is the maximum output measured power (mW).
- Channels with measured maximum power within 0.25dB are considered to have the same measured output. Channels selected for initial test configuration are highlighted in yellow.

Table 14.4-6 Maximum output power measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations – Body Normal Power

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 **42/44/46/44**	36/40/44/48 Lower power	38/46 Lower power	36/40/44/48 Lower power	38/46 Lower power	42 Lower power
U-NII-2A	52/56/60/64 **40/37/35/29**	52/56/60/64 Lower power	54/62 Lower power	52/56/60/64 Lower power	54/62 Lower power	58 Lower power
U-NII-2C	100/104/108/112 **37/39/39/38** 116/120/124/128 **36/38/38/39** 132/136/140/144 **39/44/43/46**	100/104/108/112 116/132/136/140 Lower power	102/110/134 Lower power	100/104/108/112 116/132/136/140 Lower power	102/110/134 Lower power	106 Lower power
U-NII-3	149/153/157/161/165 **44/52/57/53/56**	149/153/157/161/165 Lower power	151/159 Lower power	149/153/157/161/165 Lower power	151/159 Lower power	155 Lower power

- The **bold numbers** is the maximum output measured power (mW).
- Channels with measured maximum power within 0.25dB are considered to have the same measured output. Channels selected for initial test configuration are highlighted in yellow.

Table 14.4-7: Maximum output power measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations –Body Low power

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 **27/29/29/28**	36/40/44/48 Lower power	38/46 Lower power	36/40/44/48 Lower power	38/46 Lower power	42 Lower power
U-NII-2A	52/56/60/64 **28/26/25/22**	52/56/60/64 Lower power	54/62 Lower power	52/56/60/64 Lower power	54/62 Lower power	58 Lower power
U-NII-2C	100/104/108/112 **26/27/28/27** 116/120/124/128 **26/26/26/26** 132/136/140/144 **26/28/31/33**	100/104/108/112 116/132/136/140 Lower power	102/110/134 Lower power	100/104/108/112 116/132/136/140 Lower power	102/110/134 Lower power	106 Lower power
U-NII-3	149/153/157/161/165 **33/37/37/37/36**	149/153/157/161/165 Lower power	151/159 Lower power	149/153/157/161/165 Lower power	151/159 Lower power	155 Lower power

- The **bold numbers** is the maximum output measured power (mW).
- Channels with measured maximum power within 0.25dB are considered to have the same measured output. Channels selected for initial test configuration are highlighted in yellow.

Table 14.4-8: Reported SAR of initial test configuration for Normal Power Head

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 UNII-2A exclusion applied	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 **0.75**	52/56/60/64	54/62	52/56/60/64	54/62	58
U-NII-2C	100/104/108/112/116/120/124/128/132/136/140/144 **0.70**	100/104/108/112 116/132/136/140	102/110/118/126/134	100/104/108/112 116/132/136/140	102/110/134	106
U-NII-3	149/153/157/161/165 **0.66**	149/153/157/161/165	151/159	149/153/157/161/165	151/159	155

Highest measured output power channel tested initially are in yellow highlight.
The tune up of UNII-1 is less than UNII-2A. SAR is measured for UNII-2A band first. Adjusted SAR of UNII-2A band is ≤ 1.2 W/kg. SAR is not required for UNII-1 band.

Table 14.4-9: Reported SAR of initial test configuration for Low Power Head

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 UNII-2A exclusion applied	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 **0.37**	52/56/60/64	54/62	52/56/60/64	54/62	58
U-NII-2C	100/104/108/112/116/120/124 /128/132/136/140/144 **0.28**	100/104/108/112 116/132/136/140	102/110/118/ 126/134	100/104/108/112 116/132/136/140	102/110 /134	106
U-NII-3	149/153/157/161/165 **0.41**	149/153/157/161/ 165	151/159	149/153/157/161 /165	151/159	155

Highest measured output power channel tested initially are in yellow highlight.
The tune up of UNII-1 is less than UNII-2A. SAR is measured for UNII-2A band first. Adjusted SAR of UNII-2A band is ≤ 1.2 W/kg. SAR is not required for UNII-1 band.

Table 14.4-10: Reported SAR of initial test configuration for Normal Power Body

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 **0.88**	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 **0.78**	52/56/60/64	54/62	52/56/60/64	54/62	58
U-NII-2C	100/104/108/112/116/120/124 /128/132/136/140/144 **0.66**	100/104/108/112 116/132/136/140	102/110/118/ 126/134	100/104/108/112 116/132/136/140	102/110 /134	106
U-NII-3	149/153/157/161/165 **0.75**	149/153/157/161/ 165	151/159	149/153/157/161 /165	151/159	155

Highest measured output power channel tested initially are in yellow highlight.
The tune up of UNII-1 is less than UNII-2A. SAR is measured for UNII-2A band first. Adjusted SAR of UNII-2A band is ≤ 1.2 W/kg. SAR is not required for UNII-1 band.

Table 14.4-11: Reported SAR of initial test configuration for Low Power Body

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 UNII-2A exclusion applied	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 **0.42**	52/56/60/64	54/62	52/56/60/64	54/62	58
U-NII-2C	100/104/108/112/116/120/124/128/132/136/140/144 **0.42**	100/104/108/112 116/132/136/140	102/110/118/ 126/134	100/104/108/112 116/132/136/140	102/110 /134	106
U-NII-3	149/153/157/161/165 **0.39**	149/153/157/161/ 165	151/159	149/153/157/161 /165	151/159	155
Highest measured output power channel tested initially are in yellow highlight. The tune up of UNII-1 is less than UNII-2A. SAR is measured for UNII-2A band first. Adjusted SAR of UNII-2A band is ≤ 1.2 W/kg. SAR is not required for UNII-1 band.						

Table 14.4-12: SAR Values (WLAN - Normal Power Head)

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.										
5260	52	Left	Cheek	/	12.39	13	0.07	**0.08**	0.232	**0.27**	-0.17
5260	52	Left	Tilt	/	12.39	13	0.081	**0.09**	0.285	**0.33**	0.05
5260	52	Right	Cheek	Fig.32	12.39	13	0.159	**0.18**	0.654	**0.75**	0.06
5260	52	Right	Tilt	/	12.39	13	0.145	**0.17**	0.548	**0.63**	0.01
5720	144	Left	Cheek	/	13	13.5	0.046	**0.05**	0.153	**0.17**	-0.19
5720	144	Left	Tilt	/	13	13.5	0.04	**0.04**	0.139	**0.16**	-0.15
5720	144	Right	Cheek	/	13	13.5	0.134	**0.15**	0.613	**0.69**	0.09
5720	144	Right	Tilt	/	13	13.5	0.123	**0.14**	0.512	**0.57**	0.05
5785	157	Left	Cheek	/	13.68	14	0.059	**0.06**	0.214	**0.23**	-0.14
5785	157	Left	Tilt	/	13.68	14	0.065	**0.07**	0.245	**0.26**	-0.18
5785	157	Right	Cheek	/	13.68	14	0.13	**0.14**	0.603	**0.65**	0.02
5785	157	Right	Tilt	/	13.68	14	0.125	**0.13**	0.542	**0.58**	-0.14
5220	44	Right	Cheek	B2	12.39	13	0.15	**0.17**	0.635	**0.73**	0.03

Table 14.4-13: SAR Values (WLAN - Low Power Head)

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.										
5260	52	Left	Cheek	/	10.62	11.5	0.028	**0.03**	0.102	**0.12**	0.12
5260	52	Left	Tilt	/	10.62	11.5	0.04	**0.05**	0.143	**0.18**	-0.18
5260	52	Right	Cheek	/	10.62	11.5	0.068	**0.08**	0.293	**0.36**	0.05
5260	52	Right	Tilt	/	10.62	11.5	0.072	**0.09**	0.275	**0.34**	0.06
5540	108	Left	Cheek	/	10.62	11	0.022	**0.02**	0.079	**0.09**	-0.09
5540	108	Left	Tilt	/	10.62	11	0.022	**0.02**	0.074	**0.08**	0.17
5540	108	Right	Cheek	/	10.62	11	0.054	**0.06**	0.247	**0.27**	0.09
5540	108	Right	Tilt	/	10.62	11	0.051	**0.06**	0.214	**0.23**	-0.1
5785	157	Left	Cheek	/	11.71	12	0.028	**0.03**	0.102	**0.11**	0
5785	157	Left	Tilt	/	11.71	12	0.042	**0.04**	0.143	**0.15**	0.08
5785	157	Right	Cheek	Fig.33	11.71	12	0.08	**0.09**	0.372	**0.40**	0.02
5785	157	Right	Tilt	/	11.71	12	0.083	**0.09**	0.355	**0.38**	-0.11
5785	157	Right	Cheek	B2	11.71	12	0.073	**0.08**	0.364	**0.39**	0.06

Table 14.4-14: SAR Values (WLAN - Normal Power Body)

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.									
5220	44	Front	/	16.62	17	0.112	**0.12**	0.313	**0.34**	-0.02
5220	44	Rear	Fig.34	16.62	17	0.278	**0.30**	0.797	**0.87**	0.09
5220	44	Left	/	16.62	17	0.21	**0.23**	0.558	**0.61**	-0.03
5220	44	Top	/	16.62	17	0.185	**0.20**	0.469	**0.51**	-0.04
5220	40	Front	/	16.46	17	0.275	**0.31**	0.767	**0.87**	0.09
5260	52	Rear	/	15.98	16.5	0.093	**0.10**	0.275	**0.31**	0.06
5260	52	Left	/	15.98	16.5	0.234	**0.26**	0.680	**0.77**	-0.01
5260	52	Top	/	15.98	16.5	0.185	**0.21**	0.516	**0.58**	-0.01
5260	52	Front	/	15.98	16.5	0.152	**0.17**	0.409	**0.46**	0.1
5720	144	Rear	/	16.66	17	0.081	**0.09**	0.271	**0.29**	-0.16
5720	144	Left	/	16.66	17	0.205	**0.22**	0.600	**0.65**	0.09
5720	144	Top	/	16.66	17	0.184	**0.20**	0.57	**0.62**	0.08
5720	144	Rear	/	16.66	17	0.155	**0.17**	0.449	**0.49**	-0.19
5785	157	Front	/	17.54	18	0.09	**0.10**	0.289	**0.32**	0.18
5785	157	Rear	/	17.54	18	0.221	**0.25**	0.664	**0.74**	-0.04
5785	157	Left	/	17.54	18	0.206	**0.23**	0.658	**0.73**	0.14
5785	157	Top	/	17.54	18	0.154	**0.17**	0.455	**0.51**	-0.01
5220	44	Rear	/	16.62	17	0.271	**0.30**	0.789	**0.86**	0.03
5220	44	Front	/	16.62	17	0.112	**0.12**	0.313	**0.34**	-0.02
5220	44	Rear	/	16.62	17	0.278	**0.30**	0.797	**0.87**	0.09

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

Table 14.4-15: SAR Values (WLAN - Low Power Body)

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.									
5260	52	Front	/	14.45	15	0.05	**0.06**	0.139	**0.16**	0.02
5260	52	Rear	Fig.35	14.45	15	0.125	**0.14**	0.357	**0.41**	0.09
5260	52	Left	/	14.45	15	0.098	**0.11**	0.282	**0.32**	0.15
5260	52	Top	/	14.45	15	0.087	**0.10**	0.215	**0.24**	-0.07
5720	144	Front	/	15.13	16	0.05	**0.06**	0.143	**0.17**	-0.04
5720	144	Rear	/	15.13	16	0.116	**0.14**	0.333	**0.41**	0.09
5720	144	Left	/	15.13	16	0.112	**0.14**	0.322	**0.39**	-0.04
5720	144	Top	/	15.13	16	0.086	**0.11**	0.222	**0.27**	0.11
5785	157	Front	/	15.73	16	0.052	**0.06**	0.161	**0.17**	0.07
5785	157	Rear	/	15.73	16	0.126	**0.13**	0.361	**0.38**	0.01
5785	157	Left		15.73	16	0.121	**0.13**	0.359	**0.38**	0.16
5785	157	Top		15.73	16	0.089	**0.09**	0.239	**0.25**	0.16
5260	52	Rear		14.45	15	0.116	0.13	0.349	0.40	0.08

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

Table 14.4-16: SAR Values (WLAN - Low Power Body)

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.									
5260	52	Rear	0mm	14.45	15	0.787	**0.89**	3.7	**4.20**	0.09
5260	52	Front	0mm	14.45	15	0.365	**0.41**	1.57	**1.78**	0.09
5260	52	Rear	15mm	14.45	15	0.0895	0.10	0.233	0.26	0.09

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 14.4-17: SAR Values (WLAN - Normal Power Head) - Scaled Reported SAR

Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.						
5260	52	Right	Cheek	99.57%	100%	**0.75**	**0.75**

Table 14.4-18: SAR Values (WLAN - Low Power Head) - Scaled Reported SAR

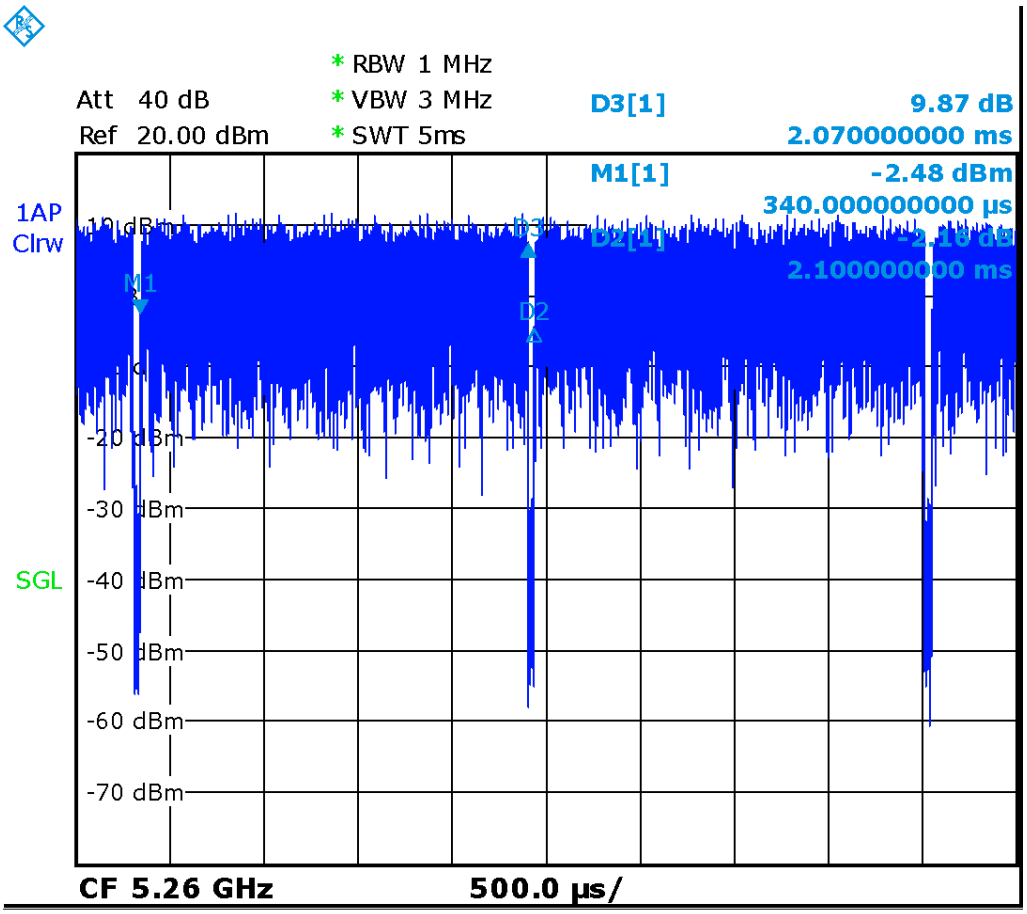
Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.						
5785	157	Right	Cheek	98.57%	100%	**0.40**	**0.41**

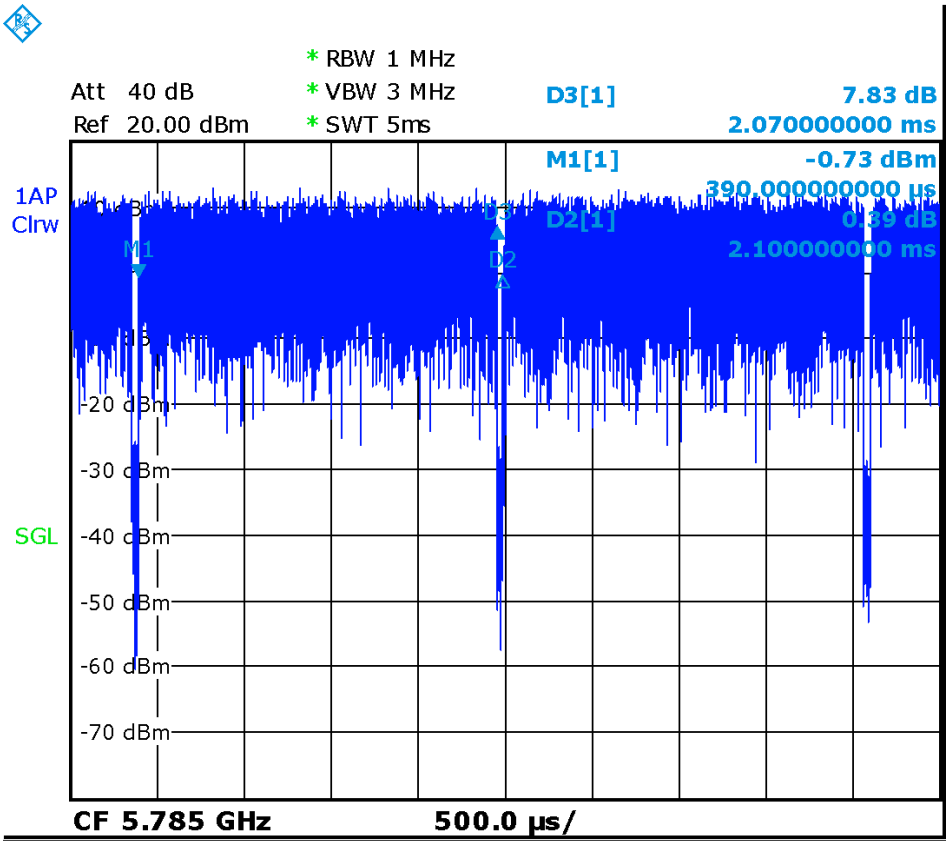
Table 14.4-19: SAR Values (WLAN - Normal Power Body) – Scaled Reported SAR

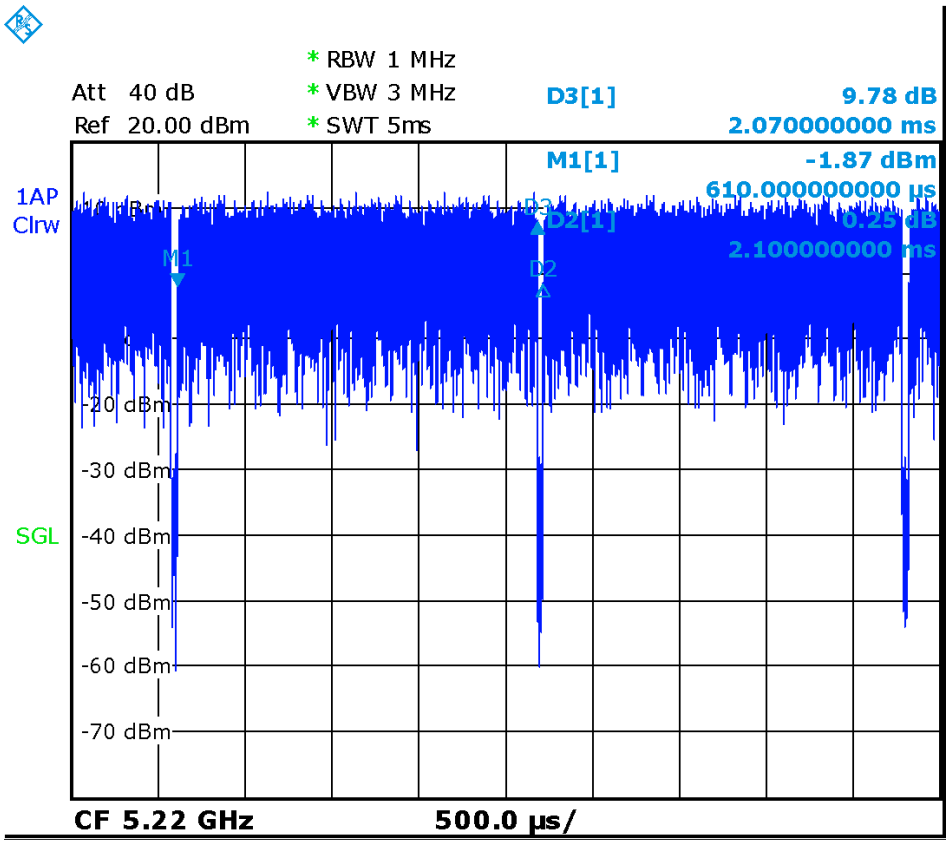
Frequency		Test Position	D (mm)	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.						
5220	44	Rear	10	98.57%	100%	**0.87**	**0.87**

Table 14.4-20: SAR Values (WLAN - Low Power Body) – Scaled Reported SAR

Frequency		Test Position	D (mm)	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.						
5260	52	Rear	10	98.57%	100%	**0.41**	**0.42**







14.5 SAR results for extremity SAR

Table 14.5-1: 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./ Note	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)
Ch.	MHz										
810	1909.8	GPRS (2)	Bottom	0mm	27.15	28	2.440	2.97	5.71	**6.94**	810

Table 14.5-2: SAR Values (WCDMA 1900 MHz Band - Body)

Ambient Temperature: 22.9 °C					Liquid Temperature: 22.5°C					
Frequency		Test Position	Figure No./ Note	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)
Ch.	MHz									
9400	1880	Bottom	0mm	21.42	21.5	2.620	2.67	6.23	**6.35**	-0.07

Table 14.5-3: SAR Values (LTE Band7 - Body)

Ambient Temperature: 22.9 °C					Liquid Temperature: 22.5°C						
Frequency		Mode	Test Position	Figure No./ Note	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)
Ch.	MHz										
21350	2560	1RB-Low	Rear	0mm	17.32	18	2.44	2.85	7.56	**8.84**	0.01
21100	2535	1RB-High	Rear	0mm	17.32	18	2.32	**2.71**	7.05	**8.24**	0.06
20850	2510	1RB-High	Rear	0mm	17.32	18	2.39	**2.80**	7.25	**8.48**	0.02
21350	2560	100RB	Rear	0mm	17.12	18	2.12	**2.60**	6.63	**8.12**	0.08

Table 14.5-4: SAR Values (LTE Band25 - 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)
Ch.	MHz										
26365	1882.5	1RB-Low	Bottom	0mm	20.94	21.5	2.460	2.80	5.75	**6.54**	-0.01
26590	1905	1RB-Middle	Bottom	0mm	20.94	21.5	2.08	**2.37**	5.07	**5.77**	-0.09
26140	1860	1RB-Low	Bottom	0mm	20.94	21.5	2.38	**2.71**	5.70	**6.48**	-0.04
26140	1860	100RB	Bottom	0mm	20.94	21.5	2.4	**2.73**	5.65	**6.43**	-0.08

Table 14.5-5: SAR Values (LTE Band41 - Body)

Ambient Temperature: 22.9 °C					Liquid Temperature: 22.5°C						
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	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)
Ch.	MHz										
40470	2578	1RB-Low	Rear	0mm	18.38	19	1.550	1.79	4.74	**5.47**	0.01

Table 14.5-6: SAR Values (wlan 2.4G - Body)

Ambient Temperature: 22.9 °C Liquid Temperature: 22.5°C											
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	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)
Ch.	MHz										
1	2412	1M	Rear	0mm	18.24	18.5	0.802	0.85	1.96	**2.08**	0.01

Table 14.5-7: SAR Values (wlan 5G - Body)

Ambient Temperature: 22.9 °C Liquid Temperature: 22.5°C											
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	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)
Ch.	MHz										
52	5260	11a-6M	Rear	0mm	14.45	15	0.787	0.89	3.7	**4.20**	0.09

14.6 SAR results for Fast BT

Table 14.6-1: SAR Values (Bluetooth - Head)

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)
Ch.	MHz										
78	2480	Left	Touch	/	11.02	12	< 0.01	**< 0.01**	< 0.01	**< 0.01**	/
78	2480	Left	Tilt	/	11.02	12	< 0.01	**< 0.01**	< 0.01	**< 0.01**	/
78	2480	Right	Touch	/	11.02	12	< 0.01	**< 0.01**	< 0.01	**< 0.01**	/
78	2480	Right	Tilt	/	11.02	12	< 0.01	**< 0.01**	< 0.01	**< 0.01**	/

Table 14.6-2: SAR Values (Bluetooth - Body)

Ambient Temperature: 22.2 °C Liquid Temperature: 22 °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)
Ch	MHz									
78	2480	Front	/	11.02	12	< 0.01	**< 0.01**	< 0.01	**< 0.01**	/
78	2480	Rear	/	11.02	12	< 0.01	**< 0.01**	< 0.01	**< 0.01**	/
78	2480	Left	/	11.02	12	< 0.01	**< 0.01**	< 0.01	**< 0.01**	/
78	2480	Right	/	11.02	12	< 0.01	**< 0.01**	< 0.01	**< 0.01**	/
78	2480	Bottom	/	11.20	12	< 0.01	**< 0.01**	< 0.01	**< 0.01**	/
78	2480	Top	/	11.20	12	< 0.01	**< 0.01**	< 0.01	**< 0.01**	/

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

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; steps2) 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 ≥ 1.45W/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)
Ch.	MHz						
810	1909.8	Bottom	10	1.08	1.06	1.02	/

Table 15.2: SAR Measurement Variability for Body W1700 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
1312	1712.4	Bottom	10	1.05	1.04	1.01	/

Table 15.3: SAR Measurement Variability for Body W1900 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
9400	1880	Bottom	10	1.26	1.23	1.02	/

Table 15.4: SAR Measurement Variability for Body LTE B25 (1g)

Frequency		Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
26365	1882.5	1RB-Low	Bottom	10	1.18	1.16	1.02	/

Table 15.5: SAR Measurement Variability for Body LTE B41 (1g)

Frequency		Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
40800	2611	1RB-Low	Rear	10	0.869	0.861	1.01	/

Table 15.6: SAR Measurement Variability for Body LTE B66 (1g)

Frequency		Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
132072	1720	1RB-High	Bottom	10	1.06	1.05	1.01	/

Table 15.7: SAR Measurement Variability for Body LTE B7 (1g)

Frequency		Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
21350	2560	100RB	Rear	15	0.938	0.931	1.01	/

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	6.0	N	1	1	1	6.0	6.0	∞
2	Isotropy	B	4.7	R	√3	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	1.0	R	√3	1	1	0.6	0.6	∞
4	Linearity	B	4.7	R	√3	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	N	1	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	√3	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	√3	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	√3	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	√3	1	1	0	0	∞
10	RFambient conditions-reflection	B	0	R	√3	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.4	R	√3	1	1	0.2	0.2	∞
12	Probe positioning with respect to phantom shell	B	2.9	R	√3	1	1	1.7	1.7	∞
13	Post-processing	B	1.0	R	√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	√3	1	1	2.9	2.9	∞
Phantom and set-up										
17	Phantom uncertainty	B	4.0	R	√3	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	√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	√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	$u_c' = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$					9.55	9.43	257
Expanded uncertainty (confidence interval of 95 %)	$u_e = 2u_c$					19.1	18.9	

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	6.55	N	1	1	1	6.55	6.55	∞
2	Isotropy	B	4.7	R	√3	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	2.0	R	√3	1	1	1.2	1.2	∞
4	Linearity	B	4.7	R	√3	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	√3	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	√3	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	√3	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	√3	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	√3	1	1	0	0	∞
10	RFambient conditions-reflection	B	0	R	√3	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.8	R	√3	1	1	0.5	0.5	∞
12	Probe positioning with respect to phantom shell	B	6.7	R	√3	1	1	3.9	3.9	∞
13	Post-processing	B	4.0	R	√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	√3	1	1	2.9	2.9	∞
Phantom and set-up										
17	Phantom uncertainty	B	4.0	R	√3	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	√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	√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		$u_c^{'} = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$						10.7	10.6	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						21.4	21.1	

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	6.0	N	1	1	1	6.0	6.0	∞
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	RFambient 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	∞
Phantom and set-up										
18	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞

20	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
21	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
22	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c^{'} = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						10.4	10.3	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						20.8	20.6	

16.4 Measurement Uncertainty for Fast 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	6.55	N	1	1	1	6.55	6.55	∞
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	RFambient 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	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
14	Fast SAR z-Approximation	B	14.0	R	$\sqrt{3}$	1	1	8.1	8.1	∞
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