11.3. Wi-Fi Measurement result

Power Level A1

The average conducted power for Wi-Fi is as following:

FCC	
802.11b(dBm)	
Channel\data rate	1Mbps
11(2462MHz)	18.61
6(2437MHz)	18.49
1(2412MHz)	18.46
Tune up	20.00
802.11g(dBm)	
Channel\data rate	6Mbps
11(2462MHz)	17.31
6(2437MHz)	17.25
1(2412MHz)	17.17
Tune up	19.00
802.11n(dBm)-20MHz	
Channel\data rate	MCS0
11(2462MHz)	17.16
6(2437MHz)	17.13
1(2412MHz)	17.01
Tune up	19.00
802.11n(dBm)-40MHz	
Channel\data rate	MCS0
9(2452MHz)	16.59
6(2437MHz)	16.66
3(2422MHz)	16.84
Tune up	18.00

5GHz	
802.11a(dBm)	
Channel\data rate	6Mbps
36(5180 MHz)	16.90
40(5200 MHz)	16.81
44(5220 MHz)	16.85
48(5240 MHz)	**16.62**
Tune up	18.00
52(5260 MHz)	**16.41**
56(5280 MHz)	16.42
60(5300 MHz)	16.42
64(5320 MHz)	16.69
100(5500 MHz)	16.45
104(5520 MHz)	16.82
108(5540 MHz)	**16.98**
112(5560 MHz)	17.18
116(5580 MHz)	17.18
120(5600 MHz)	17.12
124(5620 MHz)	17.01
128(5640 MHz)	16.92
132(5660 MHz)	17.23
136(5680 MHz)	17.46
140(5700 MHz)	17.61
144(5720 MHz)	17.83
Tune up	18.00
149(5745 MHz)	17.88
153(5765 MHz)	17.94
157(5785 MHz)	17.56
161(5805 MHz)	**17.35**
165(5825 MHz)	17.24
Tune up	19.00

Power Level B1

The average conducted power for Wi-Fi is as following:

FCC	
802.11b(dBm)	
Channel\data rate	1Mbps
11(2462MHz)	15.35
6(2437MHz)	15.40
1(2412MHz)	15.48
Tune up	17.00
802.11g(dBm)	
Channel\data rate	6Mbps
11(2462MHz)	15.03
6(2437MHz)	15.07
1(2412MHz)	15.17
Tune up	17.00
802.11n(dBm)-20MHz	
Channel\data rate	MCS0
11(2462MHz)	15.06
6(2437MHz)	15.07
1(2412MHz)	15.01
Tune up	17.00
802.11n(dBm)-40MHz	
Channel\data rate	MCS0
9(2452MHz)	15.39
6(2437MHz)	15.46
3(2422MHz)	15.76
Tune up	17.00

802.11ac(dBm)-80MHz	
Channel\data rate	MCS0
42(5210 MHz)	**13.22**
58(5290 MHz)	**12.74**
106(5530 MHz)	**13.09**
122(5610 MHz)	13.25
138(5690 MHz)	13.68
155(5775 MHz)	**13.69**
Tune up	14.00

Power Level C1

The average conducted power for Wi-Fi is as following:

802.11b(dBm)	
Channel\data rate	1Mbps
11(2462MHz)	12.64
6(2437MHz)	12.65
1(2412MHz)	12.66
Tune up	14.00
802.11g(dBm)	
Channel\data rate	6Mbps
11(2462MHz)	12.38
6(2437MHz)	12.33
1(2412MHz)	12.37
Tune up	14.00
802.11n(dBm)-20MHz	
Channel\data rate	MCS0
11(2462MHz)	12.22
6(2437MHz)	12.17
1(2412MHz)	12.22
Tune up	14.00
802.11n(dBm)-40MHz	
Channel\data rate	MCS0
9(2452MHz)	12.07
6(2437MHz)	12.60
3(2422MHz)	12.26
Tune up	14.00

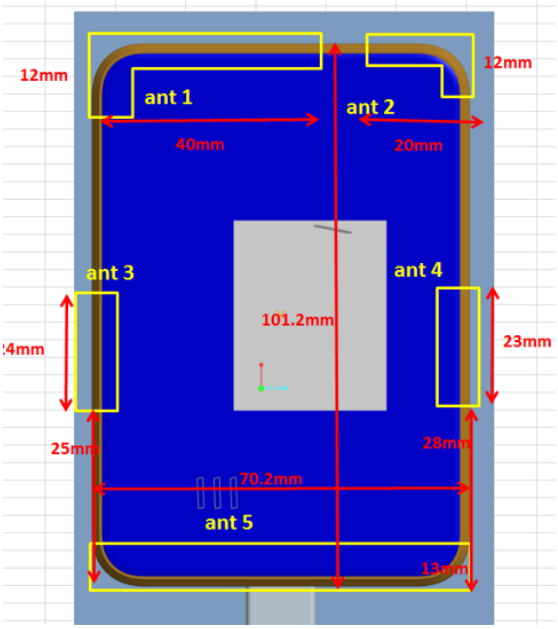
802.11ac(dBm)-80MHz	
Channel\data rate	MCS0
42(5210 MHz)	**8.25**
58(5290 MHz)	**7.80**
106(5530 MHz)	**8.15**
122(5610 MHz)	8.25
138(5690 MHz)	8.77
155(5775 MHz)	**8.76**
Tune up	9.00

12. Transmit Antenna Position and Size

12.1. Introduction

The following procedures adopted from “FCC SAR Considerations for Cell Phones with Multiple Transmitters” are applicable to handsets with built-in unlicensed transmitters such as 802.11 a/b/g and Bluetooth devices which may simultaneously transmit with the licensed transmitter.
For this device, the BT and Wi-Fi can transmit simultaneous with other transmitters.

12.2. Transmit Antenna Separation Distances



Antenna	Mode	Band
ANT #1(TX&RX)	WCDMA	5
	LTE	5,12,14
ANT #2(TX&RX)	WCDMA	2,4
	LTE	2,4,30,66
ANT #3 (RX)	WCDMA	2,4
	LTE	2,4,30,66
ANT #5 (RX)	WCDMA	5
	LTE	5,12,14
ANT #4 (TX&RX)	WIFI	2.4G
		5G

Picture 12.1 Antenna Position and size

12.3. SAR Measurement Positions

According to the KDB941225 D06 Hot Spot SAR v01, the edges with less than 2.5 cm distance to the antennas need to be tested for SAR.

SAR measurement positions						
Mode	Front	Rear	Left edge	Right edge	Top edge	Bottom edge
Main antenna- antenna1	Yes	Yes	Yes	Yes	Yes	No
Main antenna- antenna2	Yes	Yes	No	Yes	Yes	No
WLAN	Yes	Yes	No	Yes	No	No

12.4. Standalone SAR Test Exclusion Considerations

Standalone 1-g head or body SAR evaluation by measurement or numerical simulation is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.
The 1-g SAR test exclusion threshold for 100 MHz to 6 GHz at test separation distances≤ 50 mm are determined by:
[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR, where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

Table 12.1: Standalone SAR test exclusion considerations

Band/Mode	F(GHz)	Position	SAR test exclusion threshold(mW)	RF output power		SAR test exclusion
				dBm	mW	
2.4GHz WLAN	2.45	Head	9.58	20	100	No
		Body	19.17	20	100	No
5GHz WLAN	5.2	Head	6.58	18	63.10	No
		Body	13.16	18	63.10	No
	5.3	Head	6.52	18	63.10	No
		Body	13.03	18	63.10	No
	5.6	Head	6.34	18	63.10	No
		Body	12.68	18	63.10	No
	5.8	Head	6.23	19	79.43	No
		Body	12.46	19	79.43	No

13. Evaluation of Simultaneous

Table 13.1: The sum of reported SAR values for Main antenna and WiFi-2.4G (Non-USB)

	Position	Cellular antenna	WiFi2.4G	Sum
Highest reported SAR value for Head	Front 15mm	0.97	0.22	**1.19**

Table 13.2: The sum of reported SAR values for Main antenna + WiFi-5G (Non-USB)

	Position	Cellular antenna	WiFi-5G	Sum
Maximum reported SAR value for Body	Front 15mm	0.97	0.22	**1.19**

Table 13.3: The sum of reported SAR values for Main antenna and WiFi-2.4G (USB)

	Position	Cellular antenna	WiFi2.4G	Sum
Highest reported SAR value for Head	Rear 0mm	0.96	0.24	**1.20**

Table 13.4: The sum of reported SAR values for Main antenna + WiFi-5G (USB)

	Position	Cellular antenna	WiFi-5G	Sum
Maximum reported SAR value for Body	Front 15mm	0.97	0.22	**1.19**

Conclusion:

According to the above tables, the sum of reported SAR values is<1.6W/kg. So the simultaneous transmission SAR with volume scans is not required.

14. SAR Test Result

It is determined by user manual for the distance between the EUT and the phantom bottom. The distance is 10mm 15mm or 0mm and just applied to the condition of body worn accessory.

It is performed for all SAR measurements with area scan based 1-g SAR estimation (Fast SAR). A zoom scan measurement is added when the estimated 1-g SAR is the highest measured SAR in each exposure configuration, wireless mode and frequency band combination or more than 1.2W/kg.

The calculated SAR is obtained by the following formula:

$$\text{Reported SAR} = \text{Measured SAR} \times 10^{(P_{Target}-P_{Measured})/10}$$

Where P_{Target} is the power of manufacturing upper limit;

$P_{Measured}$ is the measured power in chapter 11.

Table 13.1: Duty Cycle

Mode	Duty Cycle
WCDMA&LTE FDD	1:1

14.1. SAR results for Fast SAR(Non-USB)

.

Table 14.1-1: SAR Values (WCDMA 850 MHz Band - Body)

Ambient Temperature: 22.9℃ Liquid Temperature: 22.5℃										
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									
4233	846.6	Front	Note2	24.17	25.90	0.228	**0.34**	0.3	**0.45**	-0.13
4182	836.4	Front	Note2 Fig.1	24.30	25.90	0.344	**0.50**	0.449	**0.65**	-0.12
4132	826.4	Front	Note2	24.00	25.90	0.296	**0.46**	0.382	**0.59**	0.00
4182	836.4	Rear	Note2	24.30	25.90	0.318	**0.46**	0.415	**0.60**	-0.13
4182	836.4	Left	/	24.30	25.90	0.099	**0.14**	0.126	**0.18**	0.11
4182	836.4	Right	Note2	24.30	25.90	0.114	**0.16**	0.153	**0.22**	-0.07
4182	836.4	Top	Note2	24.30	25.90	0.029	**0.04**	0.042	**0.06**	-0.02
4182	836.4	Front	/	20.74	22.40	0.236	**0.35**	0.309	**0.45**	0.02
4182	836.4	Rear	/	20.74	22.40	0.175	**0.26**	0.234	**0.34**	-0.08
4182	836.4	Right	/	20.74	22.40	0.096	**0.14**	0.127	**0.19**	0.03
4182	836.4	Top	/	20.74	22.40	0.038	**0.06**	0.056	**0.08**	-0.10

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

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Table 14.1-2: SAR Values (WCDMA 1700 MHz Band - Body)

Ambient Temperature: 22.9℃ Liquid Temperature: 22.5℃										
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									
1412	1732.5	Front	Note2	22.98	24.80	0.202	**0.31**	0.313	**0.48**	0.03
1513	1752.6	Rear	Note2	23.14	24.80	0.251	**0.37**	0.37	**0.54**	-0.05
1412	1732.5	Rear	Note2 Fig.2	22.98	24.80	0.337	**0.51**	0.493	**0.75**	-0.05
1312	1712.4	Rear	Note2	22.91	24.80	0.325	**0.50**	0.482	**0.74**	-0.07
1412	1732.5	Right	Note2	22.98	24.80	0.168	**0.26**	0.258	**0.39**	0.11
1412	1732.5	Top	Note2	22.98	24.80	0.202	**0.31**	0.323	**0.49**	0.07
1412	1732.5	Front	/	19.18	20.80	0.138	**0.20**	0.223	**0.32**	-0.10
1412	1732.5	Rear	/	19.18	20.80	0.174	**0.25**	0.25	**0.36**	-0.09
1412	1732.5	Right	/	19.18	20.80	0.129	**0.19**	0.201	**0.29**	-0.10
1412	1732.5	Top	/	19.18	20.80	0.116	**0.17**	0.189	**0.27**	0.03

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

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Table 14.1-3: SAR Values (WCDMA 1900 MHz Band - Body)

Ambient Temperature: 22.9℃ Liquid Temperature: 22.5℃										
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									
9400	1800	Front	Note2	23.76	25.30	0.336	**0.48**	0.535	**0.76**	-0.02
9538	1907.6	Rear	Note2	23.69	25.30	0.383	**0.55**	0.607	**0.88**	-0.07
9400	1800	Rear	Note2 Fig.3	23.76	25.30	0.388	**0.55**	0.616	**0.88**	-0.02
9262	1852.4	Rear	Note2	23.89	25.30	0.363	**0.50**	0.586	**0.81**	0.04
9400	1800	Right	Note2	23.76	25.30	0.207	**0.30**	0.322	**0.46**	-0.11
9400	1800	Top	Note2	23.76	25.30	0.29	**0.41**	0.459	**0.65**	-0.04
9400	1800	Front	/	18.80	20.30	0.222	**0.31**	0.366	**0.52**	-0.07
9400	1800	Rear	/	18.80	20.30	0.219	**0.31**	0.365	**0.52**	0.07
9400	1800	Right	/	18.80	20.30	0.108	**0.15**	0.175	**0.25**	-0.12
9400	1800	Top	/	18.80	20.30	0.149	**0.21**	0.245	**0.35**	-0.10

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

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Table 14.1-4: SAR Values (LTE Band2- 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										
19100	1900	1RB_Low	Front	Note2 Fig.4	23.39	24.50	0.457	**0.59**	0.750	**0.97**	-0.09
18900	1880	1RB_Low	Front	Note2	23.09	24.50	0.400	**0.55**	0.665	**0.92**	0.06
18700	1860	1RB_Low	Front	Note2	23.20	24.50	0.369	**0.50**	0.618	**0.83**	0.04
19100	1900	1RB_Low	Rear	Note2	23.39	24.50	0.340	**0.44**	0.484	**0.63**	0.00
19100	1900	1RB_Low	Right	Note2	23.39	24.50	0.192	**0.25**	0.269	**0.35**	0.01
19100	1900	1RB_Low	Top	Note2	23.39	24.50	0.265	**0.34**	0.379	**0.49**	-0.03
19100	1900	1RB_Low	Front	/	18.82	20.00	0.262	**0.34**	0.447	**0.59**	-0.02
19100	1900	1RB_Low	Rear	/	18.82	20.00	0.216	**0.28**	0.363	**0.48**	0.07
19100	1900	1RB_Low	Right	/	18.82	20.00	0.119	**0.16**	0.202	**0.27**	0.00
19100	1900	1RB_Low	Top	/	18.82	20.00	0.155	**0.20**	0.266	**0.35**	0.02
19100	1900	50RB_ Low	Front	Note2	22.37	23.50	0.263	**0.34**	0.441	**0.57**	-0.12
19100	1900	50RB_ Low	Rear	Note2	22.37	23.50	0.257	**0.33**	0.364	**0.47**	0.12
19100	1900	50RB_ Low	Right	Note2	22.37	23.50	0.147	**0.19**	0.205	**0.27**	0.12
19100	1900	50RB_ Low	Top	Note2	22.37	23.50	0.198	**0.26**	0.285	**0.37**	0.03
19100	1900	50RB_ Low	Front	/	17.82	19.00	0.204	**0.27**	0.349	**0.46**	-0.10
19100	1900	50RB_ Low	Rear	/	17.82	19.00	0.168	**0.22**	0.281	**0.37**	0.01
19100	1900	50RB_ Low	Right	/	17.82	19.00	0.094	**0.12**	0.158	**0.21**	-0.06
19100	1900	50RB_ Low	Top	/	17.82	19.00	0.121	**0.16**	0.208	**0.27**	0.13
19100	1900	100RB	Front	Note2	22.30	23.50	0.256	**0.34**	0.430	**0.57**	0.11

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

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Note3: The LTE mode is QPSK_20MHz.

Table 14.1-5: 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)
Ch.	MHz										
20450	829	1RB_High	Front	Note2	23.25	24.70	0.161	**0.22**	0.195	**0.27**	-0.06
20450	829	1RB_High	Rear	Note2	23.25	24.70	0.125	**0.17**	0.152	**0.21**	0.10
20450	829	1RB_High	Left	Note2	23.25	24.70	0.100	**0.14**	0.122	**0.17**	-0.02
20450	829	1RB_High	Right	Note2	23.25	24.70	0.071	**0.10**	0.087	**0.12**	0.09
20450	829	1RB_High	Top	Note2	23.25	24.70	0.023	**0.03**	0.031	**0.04**	-0.05
20450	829	1RB_High	Front	Fig.5	21.20	22.70	0.316	**0.45**	0.416	**0.59**	0.10
20450	829	1RB_High	Rear	/	21.20	22.70	0.187	**0.26**	0.260	**0.37**	-0.09
20450	829	1RB_High	Right	/	21.20	22.70	0.113	**0.16**	0.153	**0.22**	0.03
20450	829	1RB_High	Top	/	21.20	22.70	0.050	**0.07**	0.078	**0.11**	-0.04
20525	836.5	25RB_Low	Front	Note2	22.34	23.70	0.126	**0.17**	0.154	**0.21**	-0.11
20525	836.5	25RB_Low	Rear	Note2	22.34	23.70	0.101	**0.14**	0.125	**0.17**	-0.11
20525	836.5	25RB_Low	Left	Note2	22.34	23.70	0.096	**0.13**	0.118	**0.16**	0.00
20525	836.5	25RB_Low	Right	Note2	22.34	23.70	0.055	**0.08**	0.068	**0.09**	0.06
20525	836.5	25RB_Low	Top	Note2	22.34	23.70	0.021	**0.03**	0.029	**0.04**	0.00
20525	836.5	25RB_Low	Front	/	20.26	21.70	0.234	**0.33**	0.310	**0.43**	0.11
20525	836.5	25RB_Low	Rear	/	20.26	21.70	0.158	**0.22**	0.220	**0.31**	0.03
20525	836.5	25RB_Low	Right	/	20.26	21.70	0.086	**0.12**	0.117	**0.16**	0.06
20525	836.5	25RB_Low	Top	/	20.26	21.70	0.041	**0.06**	0.063	**0.09**	0.08

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

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Note3: The LTE mode is QPSK_10MHz.

Table 14.1-6: SAR Values (LTE Band12 - 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										
23130	711	1RB_Low	Front	/	23.32	25.00	0.257	**0.38**	0.333	**0.49**	-0.12
23130	711	1RB_Low	Rear	Fig.6	23.32	25.00	0.314	**0.46**	0.407	**0.60**	0.07
23130	711	1RB_Low	Left	/	23.32	25.00	0.215	**0.32**	0.286	**0.42**	-0.01
23130	711	1RB_Low	Right	/	23.32	25.00	0.239	**0.35**	0.312	**0.46**	0.09
23130	711	1RB_Low	Top	/	23.32	25.00	0.087	**0.13**	0.150	**0.22**	-0.12
23130	711	25RB_High	Front	/	22.32	24.00	0.155	**0.23**	0.247	**0.36**	-0.03
23130	711	25RB_High	Rear	/	22.32	24.00	0.197	**0.29**	0.256	**0.38**	-0.06
23130	711	25RB_High	Left	/	22.32	24.00	0.158	**0.23**	0.210	**0.31**	-0.04
23130	711	25RB_High	Right	/	22.32	24.00	0.105	**0.15**	0.141	**0.21**	0.09
23130	711	25RB_High	Top	/	22.32	24.00	0.063	**0.09**	0.108	**0.16**	-0.01

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.1-7: SAR Values (LTE Band14 - 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										
23330	793	1RB_High	Front	Note2	23.20	25.00	0.217	**0.33**	0.291	**0.44**	-0.01
23330	793	1RB_High	Rear	Note2	23.20	25.00	0.258	**0.39**	0.342	**0.52**	0.10
23330	793	1RB_High	Left	Note2	23.20	25.00	0.224	**0.34**	0.300	**0.45**	-0.13
23330	793	1RB_High	Right	Note2	23.20	25.00	0.130	**0.20**	0.173	**0.26**	0.13
23330	793	1RB_High	Top	Note2	23.20	25.00	0.059	**0.09**	0.087	**0.13**	0.11
23330	793	1RB_Low	Front	Fig.7	22.16	24.00	0.279	**0.43**	0.367	**0.56**	0.09
23330	793	1RB_Low	Rear	/	22.16	24.00	0.184	**0.28**	0.248	**0.38**	-0.09
23330	793	1RB_Low	Right	/	22.16	24.00	0.106	**0.16**	0.142	**0.22**	-0.06
23330	793	1RB_Low	Top	/	22.16	24.00	0.072	**0.11**	0.106	**0.16**	0.09
23330	793	25RB_Mid	Front	Note2	22.25	24.00	0.206	**0.31**	0.272	**0.41**	0.07
23330	793	25RB_Mid	Rear	Note2	22.25	24.00	0.245	**0.37**	0.325	**0.49**	0.10
23330	793	25RB_Mid	Left	Note2	22.25	24.00	0.203	**0.30**	0.271	**0.41**	0.03
23330	793	25RB_Mid	Right	Note2	22.25	24.00	0.122	**0.18**	0.162	**0.24**	0.07
23330	793	25RB_Mid	Top	Note2	22.25	24.00	0.048	**0.07**	0.071	**0.11**	0.10
23330	793	25RB_Low	Front	/	21.15	23.00	0.243	**0.37**	0.317	**0.49**	0.03
23330	793	25RB_Low	Rear	/	21.15	23.00	0.161	**0.25**	0.217	**0.33**	-0.11
23330	793	25RB_Low	Right	/	21.15	23.00	0.092	**0.14**	0.123	**0.19**	-0.07
23330	793	25RB_Low	Top	/	21.15	23.00	0.061	**0.09**	0.092	**0.14**	-0.11

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

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Note3: The LTE mode is QPSK_10MHz.

Table 14.1-8: SAR Values (LTE Band30 - Body)

Ambient Temperature: 22.9℃ Liquid Temperature: 22.5℃											
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										
27710	2310	1RB_Mid	Front	Note2	21.91	23.50	0.119	**0.17**	0.191	**0.28**	-0.03
27710	2310	1RB_Mid	Rear	Note2	21.91	23.50	0.152	**0.22**	0.247	**0.36**	-0.03
27710	2310	1RB_Mid	Right	Note2	21.91	23.50	0.075	**0.11**	0.125	**0.18**	0.00
27710	2310	1RB_Mid	Top	Note2	21.91	23.50	0.102	**0.15**	0.182	**0.26**	-0.11
27710	2310	1RB_Mid	Front	Fig.8	20.86	22.50	0.279	**0.41**	0.367	**0.54**	-0.08
27710	2310	1RB_Mid	Rear	/	20.86	22.50	0.272	**0.40**	0.341	**0.50**	-0.05
27710	2310	1RB_Mid	Right	/	20.86	22.50	0.121	**0.18**	0.159	**0.23**	-0.13
27710	2310	1RB_Mid	Top	/	20.86	22.50	0.175	**0.26**	0.250	**0.36**	-0.13
27710	2310	25RB_Mid	Front	Note2	20.98	22.50	0.095	**0.13**	0.153	**0.22**	0.04
27710	2310	25RB_Mid	Rear	Note2	20.98	22.50	0.122	**0.17**	0.199	**0.28**	-0.09
27710	2310	25RB_Mid	Right	Note2	20.98	22.50	0.058	**0.08**	0.098	**0.14**	-0.02
27710	2310	25RB_Mid	Top	Note2	20.98	22.50	0.082	**0.12**	0.146	**0.21**	0.11
27710	2310	25RB_Low	Front	/	19.99	21.50	0.164	**0.23**	0.202	**0.29**	0.05
27710	2310	25RB_Low	Rear	/	19.99	21.50	0.226	**0.32**	0.283	**0.40**	0.03
27710	2310	25RB_Low	Right	/	19.99	21.50	0.094	**0.13**	0.125	**0.18**	0.00
27710	2310	25RB_Low	Top	/	19.99	21.50	0.140	**0.20**	0.201	**0.28**	-0.11

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

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Note3: The LTE mode is QPSK_10MHz.

Table 14.1-9: SAR Values (LTE Band66 - 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										
132322	1745	1RB_ Low	Front	Note2	22.71	24.00	0.238	**0.32**	0.370	**0.50**	0.07
132322	1745	1RB_ Low	Rear	Note2 Fig.9	22.71	24.00	0.398	**0.54**	0.581	**0.78**	-0.10
132322	1745	1RB_ Low	Right	Note2	22.71	24.00	0.337	**0.45**	0.539	**0.73**	-0.03
132322	1745	1RB_ Low	Top	Note2	22.71	24.00	0.237	**0.32**	0.374	**0.50**	0.04
132322	1745	1RB_ Low	Front	/	20.26	21.70	0.255	**0.36**	0.411	**0.57**	0.05
132322	1745	1RB_ Low	Rear	/	20.26	21.70	0.299	**0.42**	0.443	**0.62**	0.12
132322	1745	1RB_ Low	Right	/	20.26	21.70	0.173	**0.24**	0.269	**0.37**	0.08
132322	1745	1RB_ Low	Top	/	20.26	21.70	0.218	**0.30**	0.361	**0.50**	0.11
132322	1745	50RB_Low	Front	Note2	21.69	23.00	0.187	**0.25**	0.292	**0.39**	-0.04
132322	1745	50RB_Low	Rear	Note2	21.69	23.00	0.303	**0.41**	0.450	**0.61**	0.08
132322	1745	50RB_Low	Right	Note2	21.69	23.00	0.254	**0.34**	0.402	**0.54**	0.06
132322	1745	50RB_Low	Top	Note2	21.69	23.00	0.200	**0.27**	0.315	**0.43**	0.15
132322	1745	50RB_Low	Front	/	19.22	20.70	0.203	**0.29**	0.327	**0.46**	-0.12
132322	1745	50RB_Low	Rear	/	19.22	20.70	0.189	**0.27**	0.313	**0.44**	0.13
132322	1745	50RB_Low	Right	/	19.22	20.70	0.132	**0.19**	0.206	**0.29**	0.13
132322	1745	50RB_Low	Top	/	19.22	20.70	0.173	**0.24**	0.287	**0.40**	-0.04

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

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Note5: The LTE mode is QPSK_20MHz.

14.2. SAR results for Fast SAR(USB)

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Table 14.2-1: SAR Values (WCDMA 850 MHz Band - Body)

Ambient Temperature: 22.9℃ Liquid Temperature: 22.5℃										
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									
4233	846.6	Front	Note2	24.17	25.90	0.228	**0.34**	0.300	**0.45**	-0.13
4182	836.4	Front	Note2 Fig.10	24.30	25.90	0.344	**0.50**	0.449	**0.65**	-0.12
4132	826.4	Front	Note2	24.00	25.90	0.296	**0.46**	0.382	**0.59**	0.00
4182	836.4	Rear	Note2	24.30	25.90	0.318	**0.46**	0.415	**0.60**	-0.13
4182	836.4	Left	Note3	24.30	25.90	0.099	**0.14**	0.126	**0.18**	0.11
4182	836.4	Right	Note2	24.30	25.90	0.114	**0.16**	0.153	**0.22**	-0.07
4182	836.4	Front	/	13.75	15.50	0.101	**0.15**	0.133	**0.20**	0.03
4182	836.4	Rear	/	13.75	15.50	0.167	**0.25**	0.284	**0.42**	-0.13
4182	836.4	Left	/	13.75	15.50	0.052	**0.08**	0.069	**0.10**	-0.04
4182	836.4	Right	/	13.75	15.50	0.053	**0.08**	0.129	**0.19**	-0.03

Note1: The distance between the EUT and the phantom bottom is 0mm

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Note3: The distance between the EUT and the phantom bottom is 10mm by sensor (See detail in annex I).

Table 14.2-2: SAR Values (WCDMA 1700 MHz Band - Body)

Ambient Temperature: 22.9℃ Liquid Temperature: 22.5℃										
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									
1412	1732.5	Front	Note2	22.98	24.80	0.202	**0.31**	0.313	**0.48**	0.03
1513	1752.6	Rear	Note2	23.14	24.80	0.251	**0.37**	0.370	**0.54**	-0.05
1412	1732.5	Rear	Note2 Fig.11	22.98	24.80	0.337	**0.51**	0.493	**0.75**	-0.05
1312	1712.4	Rear	Note2	22.91	24.80	0.325	**0.50**	0.482	**0.74**	-0.07
1412	1732.5	Left	Note3	22.98	24.80	0.082	**0.12**	0.122	**0.19**	0.01
1412	1732.5	Right	Note2	22.98	24.80	0.168	**0.26**	0.258	**0.39**	0.11
1412	1732.5	Front	/	12.73	14.50	0.136	**0.20**	0.324	**0.49**	0.09
1412	1732.5	Rear	/	12.73	14.50	0.176	**0.26**	0.333	**0.50**	-0.07
1412	1732.5	Left	/	12.73	14.50	0.043	**0.06**	0.067	**0.10**	0.10
1412	1732.5	Right	/	12.73	14.50	0.117	**0.18**	0.211	**0.32**	0.06

Note1: The distance between the EUT and the phantom bottom is 0mm

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Note3: The distance between the EUT and the phantom bottom is 10mm by sensor (See detail in annex I).

Table 14.2-3: SAR Values (WCDMA 1900 MHz Band - Body)

Ambient Temperature: 22.9℃ Liquid Temperature: 22.5℃										
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									
9400	1800	Front	Note2	23.76	25.30	0.336	**0.48**	0.535	**0.76**	-0.02
9538	1907.6	Rear	Note2	23.69	25.30	0.383	**0.55**	0.607	**0.88**	-0.07
9400	1800	Rear	Note2 Fig.12	23.76	25.30	0.388	**0.55**	0.616	**0.88**	-0.02
9262	1852.4	Rear	Note2	23.89	25.30	0.363	**0.50**	0.586	**0.81**	0.04
9400	1800	Left	Note3	23.76	25.30	0.108	**0.15**	0.171	**0.24**	0.16
9400	1800	Right	Note2	23.76	25.30	0.207	**0.30**	0.322	**0.46**	-0.11
9400	1800	Front	/	12.94	14.50	0.189	**0.27**	0.338	**0.48**	-0.06
9400	1800	Rear	/	12.94	14.50	0.247	**0.35**	0.435	**0.62**	-0.11
9400	1800	Left	/	12.94	14.50	0.029	**0.04**	0.061	**0.09**	0.02
9400	1800	Right	/	12.94	14.50	0.112	**0.16**	0.203	**0.29**	0.07

Note1: The distance between the EUT and the phantom bottom is 0mm

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Note3: The distance between the EUT and the phantom bottom is 10mm by sensor (See detail in annex I).

Table 14.2-4: 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)
Ch.	MHz										
19100	1900	1RB_Low	Front	Note2 Fig.13	23.39	24.50	0.457	**0.59**	0.750	**0.97**	-0.09
18900	1880	1RB_Low	Front	Note2	23.09	24.50	0.400	**0.55**	0.665	**0.92**	0.06
18700	1860	1RB_Low	Front	Note2	23.20	24.50	0.369	**0.50**	0.618	**0.83**	0.04
19100	1900	1RB_Low	Rear	Note2	23.39	24.50	0.340	**0.44**	0.484	**0.63**	0.00
19100	1900	1RB_Low	Left	Note3	23.39	24.50	0.194	**0.25**	0.310	**0.40**	0.13
19100	1900	1RB_Low	Right	Note2	23.39	24.50	0.192	**0.25**	0.269	**0.35**	0.01
19100	1900	1RB_Low	Front	/	14.78	16.00	0.338	**0.45**	0.616	**0.82**	-0.01
18900	1880	1RB_Low	Front		14.58	16.00	0.310	**0.43**	0.580	**0.80**	-0.03
18700	1860	1RB_Low	Front		14.71	16.00	0.332	**0.45**	0.606	**0.82**	-0.06
19100	1900	1RB_Low	Rear	/	14.78	16.00	0.350	**0.46**	0.640	**0.85**	0.02
18900	1880	1RB_Low	Rear		14.58	16.00	0.344	**0.48**	0.695	**0.96**	0.05
18700	1860	1RB_Low	Rear		14.71	16.00	0.349	**0.47**	0.704	**0.95**	0.03
19100	1900	1RB_Low	Left	/	14.78	16.00	0.034	**0.05**	0.054	**0.07**	-0.07
19100	1900	1RB_Low	Right	/	14.78	16.00	0.200	**0.26**	0.375	**0.50**	-0.01
19100	1900	50RB_ Low	Front	Note2	22.37	23.50	0.263	**0.34**	0.441	**0.57**	-0.12
19100	1900	50RB_ Low	Rear	Note2	22.37	23.50	0.257	**0.33**	0.364	**0.47**	0.12
19100	1900	50RB_ Low	Left	Note3	22.37	23.50	0.151	**0.20**	0.240	**0.31**	0.15
19100	1900	50RB_ Low	Right	Note2	22.37	23.50	0.147	**0.19**	0.205	**0.27**	0.12
19100	1900	50RB_ Low	Front	/	13.75	15.00	0.260	**0.35**	0.472	**0.63**	0.07
19100	1900	50RB_ Low	Rear	/	13.75	15.00	0.272	**0.36**	0.501	**0.67**	-0.05
19100	1900	50RB_ Low	Left	/	13.75	15.00	0.026	**0.03**	0.041	**0.05**	-0.03
19100	1900	50RB_ Low	Right	/	13.75	15.00	0.154	**0.21**	0.288	**0.38**	-0.08
19100	1900	100RB	Front	Note2	22.30	23.50	0.256	**0.34**	0.430	**0.57**	0.11
19100	1900	100RB	Front	/	13.74	15.00	0.244	**0.33**	0.464	**0.62**	0.06
19100	1900	100RB	Rear	/	13.74	15.00	0.279	**0.37**	0.554	**0.74**	0.11

Note1: The distance between the EUT and the phantom bottom is 0mm

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Note3: The distance between the EUT and the phantom bottom is 10mm by sensor (See detail in annex I).

Note4: The LTE mode is QPSK_20MHz.

Table 14.2-5: 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)
Ch.	MHz										
20450	829	1RB_High	Front	Note2	23.25	24.70	0.161	**0.22**	0.195	**0.27**	-0.06
20450	829	1RB_High	Rear	Note2	23.25	24.70	0.125	**0.17**	0.152	**0.21**	0.10
20450	829	1RB_High	Left	Note3	23.25	24.70	0.100	**0.14**	0.122	**0.17**	-0.02
20450	829	1RB_High	Right	Note2	23.25	24.70	0.071	**0.10**	0.087	**0.12**	0.09
20450	829	1RB_High	Front	/	15.17	16.70	0.151	**0.21**	0.210	**0.30**	0.10
20450	829	1RB_High	Rear	Fig.14	15.17	16.70	0.231	**0.33**	0.388	**0.55**	0.03
20450	829	1RB_High	Left	/	15.17	16.70	0.082	**0.12**	0.114	**0.16**	0.03
20450	829	1RB_High	Right	/	15.17	16.70	0.062	**0.09**	0.149	**0.21**	-0.12
20525	836.5	25RB_Low	Front	Note2	22.34	23.70	0.126	**0.17**	0.154	**0.21**	-0.11
20525	836.5	25RB_Low	Rear	Note2	22.34	23.70	0.101	**0.14**	0.125	**0.17**	-0.11
20525	836.5	25RB_Low	Left	Note3	22.34	23.70	0.096	**0.13**	0.118	**0.16**	0.00
20525	836.5	25RB_Low	Right	Note2	22.34	23.70	0.055	**0.08**	0.068	**0.09**	0.06
20525	836.5	25RB_Low	Front	/	14.23	15.70	0.150	**0.21**	0.170	**0.24**	-0.08
20525	836.5	25RB_Low	Rear	/	14.23	15.70	0.187	**0.26**	0.314	**0.44**	0.09
20525	836.5	25RB_Low	Left	/	14.23	15.70	0.065	**0.09**	0.090	**0.13**	0.10
20525	836.5	25RB_Low	Right	/	14.23	15.70	0.050	**0.07**	0.120	**0.17**	0.02

Note1: The distance between the EUT and the phantom bottom is 0mm

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Note2: The distance between the EUT and the phantom bottom is 10mm by sensor (See detail in annex I).

Note3: The LTE mode is QPSK_10MHz.

Table 14.2-6: 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										
23130	711	1RB_Low	Front	Note2 Fig.15	23.32	25.00	0.262	**0.39**	0.350	**0.52**	0.02
23130	711	1RB_Low	Rear	Note2	23.32	25.00	0.252	**0.37**	0.327	**0.48**	0.13
23130	711	1RB_Low	Left	Note3	23.32	25.00	0.190	**0.28**	0.259	**0.38**	-0.08
23130	711	1RB_Low	Right	Note2	23.32	25.00	0.092	**0.14**	0.125	**0.18**	0.05
23130	711	1RB_Low	Front	/	15.64	17.50	0.085	**0.13**	0.104	**0.16**	0.03
23130	711	1RB_Low	Rear	/	15.64	17.50	0.183	**0.28**	0.341	**0.52**	-0.11
23130	711	1RB_Low	Left	/	15.64	17.50	0.048	**0.07**	0.067	**0.10**	-0.11
23130	711	1RB_Low	Right	/	15.64	17.50	0.046	**0.07**	0.104	**0.16**	0.09
23130	711	25RB_High	Front	Note2	22.32	24.00	0.194	**0.29**	0.256	**0.38**	-0.07
23130	711	25RB_High	Rear	Note2	22.32	24.00	0.165	**0.24**	0.217	**0.32**	0.04
23130	711	25RB_High	Left	Note3	22.32	24.00	0.139	**0.20**	0.189	**0.28**	-0.03
23130	711	25RB_High	Right	Note2	22.32	24.00	0.087	**0.13**	0.101	**0.15**	-0.15
23130	711	25RB_High	Front	/	14.73	16.50	0.067	**0.10**	0.084	**0.13**	-0.04
23130	711	25RB_High	Rear	/	14.73	16.50	0.142	**0.21**	0.261	**0.39**	-0.12
23130	711	25RB_High	Left	/	14.73	16.50	0.035	**0.05**	0.047	**0.07**	-0.07
23130	711	25RB_High	Right	/	14.73	16.50	0.027	**0.04**	0.068	**0.10**	-0.05

Note1: The distance between the EUT and the phantom bottom is 0mm

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Note2: The distance between the EUT and the phantom bottom is 10mm by sensor (See detail in annex I).

Note3: The LTE mode is QPSK_10MHz.

Table 14.2-7: SAR Values (LTE Band14 - 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										
23330	793	1RB_High	Front	Note2	23.20	25.00	0.217	**0.33**	0.291	**0.44**	-0.01
23330	793	1RB_High	Rear	Note2 Fig.16	23.20	25.00	0.258	**0.39**	0.342	**0.52**	0.10
23330	793	1RB_High	Left	Note3	23.20	25.00	0.224	**0.34**	0.300	**0.45**	-0.13
23330	793	1RB_High	Right	Note2	23.20	25.00	0.130	**0.20**	0.173	**0.26**	0.13
23330	793	1RB_Low	Front	/	15.08	17.00	0.113	**0.18**	0.148	**0.23**	-0.07
23330	793	1RB_Low	Rear	/	15.08	17.00	0.196	**0.30**	0.336	**0.52**	-0.10
23330	793	1RB_Low	Left	/	15.08	17.00	0.057	**0.09**	0.077	**0.12**	0.12
23330	793	1RB_Low	Right	/	15.08	17.00	0.033	**0.05**	0.085	**0.13**	0.13
23330	793	25RB_Mid	Front	Note2	22.25	24.00	0.206	**0.31**	0.272	**0.41**	0.07
23330	793	25RB_Mid	Rear	Note2	22.25	24.00	0.245	**0.37**	0.325	**0.49**	0.10
23330	793	25RB_Mid	Left	Note3	22.25	24.00	0.203	**0.30**	0.271	**0.41**	0.03
23330	793	25RB_Mid	Right	Note2	22.25	24.00	0.122	**0.18**	0.162	**0.24**	0.07
23330	793	25RB_Low	Front	/	14.08	16.00	0.090	**0.14**	0.117	**0.18**	-0.04
23330	793	25RB_Low	Rear	/	14.08	16.00	0.165	**0.26**	0.289	**0.45**	0.01
23330	793	25RB_Low	Left	/	14.08	16.00	0.050	**0.08**	0.065	**0.10**	0.02
23330	793	25RB_Low	Right	/	14.08	16.00	0.032	**0.05**	0.078	**0.12**	-0.02

Note1: The distance between the EUT and the phantom bottom is 0mm

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Note3: The distance between the EUT and the phantom bottom is 10mm by sensor (See detail in annex I).

Note4: The LTE mode is QPSK_10MHz.

Table 14.2-8: SAR Values (LTE Band30 - 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										
27710	2310	1RB_Mid	Front	Note2	21.91	23.50	0.119	**0.17**	0.191	**0.28**	-0.03
27710	2310	1RB_Mid	Rear	Note2	21.91	23.50	0.152	**0.22**	0.247	**0.36**	-0.03
27710	2310	1RB_Mid	Left	Note3	21.91	23.50	0.084	**0.12**	0.141	**0.20**	0.11
27710	2310	1RB_Mid	Right	Note2	21.91	23.50	0.075	**0.11**	0.125	**0.18**	0.00
27710	2310	1RB_Mid	Front	Fig.17	13.93	15.50	0.176	**0.25**	0.353	**0.51**	0.00
27710	2310	1RB_Mid	Rear	/	13.93	15.50	0.176	**0.25**	0.338	**0.49**	-0.08
27710	2310	1RB_Mid	Left	/	13.93	15.50	0.055	**0.08**	0.131	**0.19**	0.05
27710	2310	1RB_Mid	Right	/	13.93	15.50	0.105	**0.15**	0.204	**0.29**	-0.08
27710	2310	25RB_Mid	Front	Note2	20.98	22.50	0.095	**0.13**	0.153	**0.22**	0.04
27710	2310	25RB_Mid	Rear	Note2	20.98	22.50	0.122	**0.17**	0.199	**0.28**	-0.09
27710	2310	25RB_Mid	Left	Note3	20.98	22.50	0.067	**0.10**	0.112	**0.16**	0.04
27710	2310	25RB_Mid	Right	Note2	20.98	22.50	0.058	**0.08**	0.098	**0.14**	-0.02
27710	2310	25RB_Low	Front	/	12.95	14.50	0.145	**0.21**	0.286	**0.41**	-0.04
27710	2310	25RB_Low	Rear	/	12.95	14.50	0.147	**0.21**	0.277	**0.40**	-0.08
27710	2310	25RB_Low	Left	/	12.95	14.50	0.041	**0.06**	0.107	**0.15**	0.05
27710	2310	25RB_Low	Right	/	12.95	14.50	0.094	**0.13**	0.182	**0.26**	-0.09

Note1: The distance between the EUT and the phantom bottom is 0mm

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Note3: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Note4: The LTE mode is QPSK_10MHz.

Table 14.2-9: SAR Values (LTE Band66 - 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										
132322	1745	1RB_ Low	Front	Note2	22.71	24.00	0.238	**0.32**	0.370	**0.50**	0.07
132322	1745	1RB_ Low	Rear	Note2 Fig.18	22.71	24.00	0.398	**0.54**	0.581	**0.78**	-0.10
132322	1745	1RB_ Low	Left	Note3	22.71	24.00	0.098	**0.13**	0.149	**0.20**	-0.12
132322	1745	1RB_ Low	Right	Note2	22.71	24.00	0.337	**0.45**	0.539	**0.73**	-0.03
132322	1745	1RB_ Low	Front	/	14.71	16.20	0.272	**0.38**	0.500	**0.70**	0.10
132322	1745	1RB_ Low	Rear	/	14.71	16.20	0.277	**0.39**	0.518	**0.73**	0.12
132322	1745	1RB_ Low	Left	/	14.71	16.20	0.037	**0.05**	0.065	**0.09**	-0.05
132322	1745	1RB_ Low	Right	/	14.71	16.20	0.186	**0.26**	0.333	**0.47**	0.00
132322	1745	50RB_Low	Front	Note2	21.69	23.00	0.187	**0.25**	0.292	**0.39**	-0.04
132322	1745	50RB_Low	Rear	Note2	21.69	23.00	0.303	**0.41**	0.450	**0.61**	0.08
132322	1745	50RB_Low	Left	Note3	21.69	23.00	0.077	**0.10**	0.118	**0.16**	0.03
132322	1745	50RB_Low	Right	Note2	21.69	23.00	0.254	**0.34**	0.402	**0.54**	0.06
132322	1745	50RB_Low	Front	/	13.67	15.20	0.208	**0.30**	0.383	**0.54**	-0.05
132322	1745	50RB_Low	Rear	/	13.67	15.20	0.203	**0.29**	0.384	**0.55**	-0.03
132322	1745	50RB_Low	Left	/	13.67	15.20	0.030	**0.04**	0.052	**0.07**	0.10
132322	1745	50RB_Low	Right	/	13.67	15.20	0.135	**0.19**	0.243	**0.35**	-0.09

Note1: The distance between the EUT and the phantom bottom is 0mm

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Note2: The distance between the EUT and the phantom bottom is 10mm by sensor (See detail in annex I).

Note5: The LTE mode is QPSK_20MHz.

14.3. SAR results for Standard procedure(Non-USB)

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

Table 14.3-1: SAR Values (WCDMA 850 MHz Band - Body)

Ambient Temperature: 22.9℃ Liquid Temperature: 22.5℃										
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									
4182	836.4	Front	Note2 Fig.1	24.30	25.90	0.344	**0.50**	0.449	**0.65**	-0.12

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Table 14.3-2: SAR Values (WCDMA 1700 MHz Band - Body)

Ambient Temperature: 22.9℃ Liquid Temperature: 22.5℃										
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									
1412	1732.5	Rear	Note2 Fig.2	22.98	24.80	0.337	**0.51**	0.493	**0.75**	-0.05

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Table 14.3-3: SAR Values (WCDMA 1900 MHz Band - Body)

Ambient Temperature: 22.9℃ Liquid Temperature: 22.5℃										
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									
9400	1800	Rear	Note2 Fig.3	23.76	25.30	0.388	**0.55**	0.616	**0.88**	-0.02

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Table 14.3-4: SAR Values (LTE Band2- 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										
19100	1900	1RB_Low	Front	Note2 Fig.4	23.39	24.50	0.457	**0.59**	0.750	**0.97**	-0.09

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).
Note3: The LTE mode is QPSK_20MHz.

Table 14.3-5: 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)
Ch.	MHz										
20450	829	1RB_High	Front	Fig.5	21.20	22.70	0.316	**0.45**	0.416	**0.59**	0.10

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

Note3: The LTE mode is QPSK_10MHz.

Table 14.3-6: 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										
23130	711	1RB_Low	Rear	Fig.6	23.32	25.00	0.314	**0.46**	0.407	**0.60**	0.07

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.3-7: SAR Values (LTE Band14 - 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										
23330	793	1RB_Low	Front	Fig.7	22.16	24.00	0.279	**0.43**	0.367	**0.56**	0.09

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

Note3: The LTE mode is QPSK_10MHz.

Table 14.3-8: SAR Values (LTE Band30 - 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										
27710	2310	1RB_Mid	Front	Fig.8	20.86	22.50	0.279	**0.41**	0.367	**0.54**	-0.08

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

Note3: The LTE mode is QPSK_10MHz.

Table 14.3-9: 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										
132322	1745	1RB_ Low	Rear	Note2 Fig.9	22.71	24.00	0.398	**0.54**	0.581	**0.78**	-0.10

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).
Note5: The LTE mode is QPSK_20MHz.

14.4. SAR results for Standard procedure (USB)

Table 14.4-1: 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)
Ch.	MHz									
4182	836.4	Front	Note2 Fig.10	24.30	25.90	0.344	**0.50**	0.449	**0.65**	-0.12

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Table 14.4-2: 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)
Ch.	MHz									
1412	1732.5	Rear	Note2 Fig.11	22.98	24.80	0.337	**0.51**	0.493	**0.75**	-0.05

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Table 14.4-3: 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)
Ch.	MHz									
9400	1800	Rear	Note2 Fig.12	23.76	25.30	0.388	**0.55**	0.616	**0.88**	-0.02

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Table 14.4-4: 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)
Ch.	MHz										
19100	1900	1RB_Low	Front	Note2 Fig.13	23.39	24.50	0.457	**0.59**	0.750	**0.97**	-0.09

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).
Note4: The LTE mode is QPSK_20MHz.

Table 14.4-5: 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)
Ch.	MHz										
20450	829	1RB_High	Rear	Fig.14	15.17	16.70	0.231	**0.33**	0.388	**0.55**	0.03

Note1: The distance between the EUT and the phantom bottom is 0mm
Note3: The LTE mode is QPSK_10MHz.

Table 14.4-6: 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										
23130	711	1RB_Low	Front	Note2 Fig.15	23.32	25.00	0.262	**0.39**	0.350	**0.52**	0.02

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).
Note3: The LTE mode is QPSK_10MHz.

Table 14.4-7: SAR Values (LTE Band14 - 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										
23330	793	1RB_High	Rear	Note2 Fig.16	23.20	25.00	0.258	**0.39**	0.342	**0.52**	0.10

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).
Note4: The LTE mode is QPSK_10MHz.

Table 14.4-8: SAR Values (LTE Band30 - 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										
27710	2310	1RB_Mid	Front	Fig.17	13.93	15.50	0.176	**0.25**	0.353	**0.51**	0.00

Note1: The distance between the EUT and the phantom bottom is 0mm

Note4: The LTE mode is QPSK_10MHz.

Table 14.4-9: 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										
132322	1745	1RB_ Low	Rear	Note2 Fig.18	22.71	24.00	0.398	**0.54**	0.581	**0.78**	-0.10

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

Note5: The LTE mode is QPSK_20MHz.

14.5. 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.

Body Evaluation

Table 14.5-1: SAR Values (WLAN - Body)– 802.11b (Fast SAR) Non-USB

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.									
2462	11	Front	Note4	18.61	20.00	0.086	**0.12**	0.158	**0.22**	0.15
2462	11	Rear	Note4	18.61	20.00	0.099	**0.14**	0.188	**0.26**	-0.08
2462	11	Right	Note4	18.61	20.00	0.038	**0.05**	0.067	**0.09**	0.11
2412	1	Front	/	15.48	17.00	0.065	**0.09**	0.121	**0.17**	-0.13
2412	1	Rear	/	15.48	17.00	0.083	**0.12**	0.163	**0.23**	-0.09
2412	1	Right	/	15.48	17.00	0.039	**0.06**	0.072	**0.10**	-0.13

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

Table 14.5-2: SAR Values (WLAN - Body)– 802.11b (Full SAR) Non-USB

Ambient Temperature: 22.9 °C					Liquid Temperature: 22.5°C					
Frequency		Test Positio n	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.									
2462	11	Rear	Note4 Fig.19	18.61	20.00	0.099	**0.14**	0.186	**0.26**	-0.08

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.

Note3: The distance between the EUT and the phantom bottom is 10mm

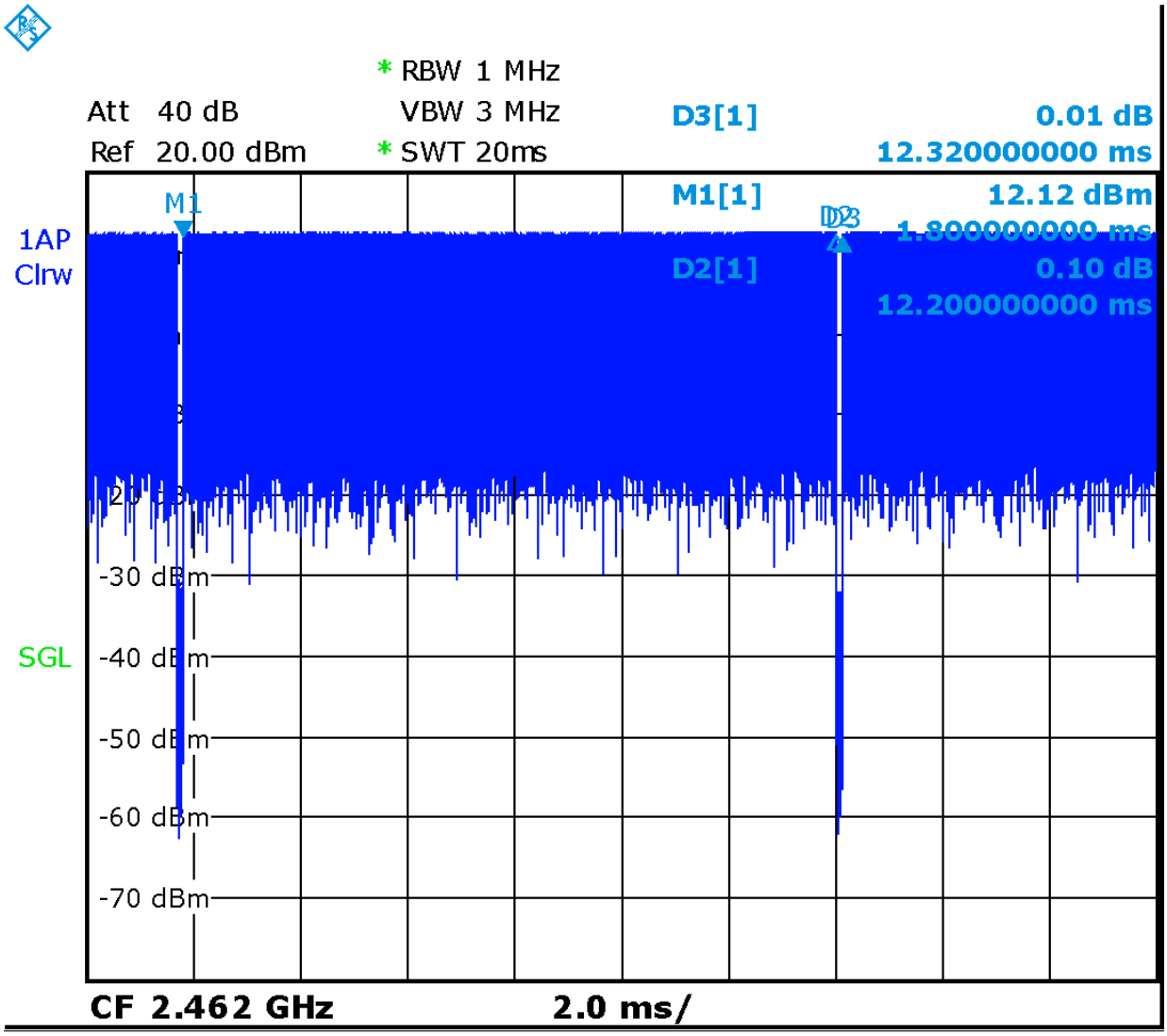
Note4: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

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 14.5-3: SAR Values (WLAN - Body) – 802.11b (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.					
2462	11	Rear	100%	99%	**0.26**	**0.26**

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



Picture 14.1 Duty factor plot

Table 14.5-1: SAR Values (WLAN - Body)– 802.11b (Fast SAR) USB

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.									
2462	11	Front	Note4	18.61	20.00	0.086	**0.12**	0.158	**0.22**	0.15
2462	11	Rear	Note4	18.61	20.00	0.099	**0.14**	0.188	**0.26**	-0.08
2462	11	Left	/	18.61	20.00	0.079	**0.11**	0.152	**0.21**	0.02
2462	11	Right	Note4	18.61	20.00	0.038	**0.05**	0.067	**0.09**	0.11
2412	1	Front	/	12.66	14.00	0.081	**0.11**	0.165	**0.22**	0.08
2412	1	Rear	/	12.66	14.00	0.089	**0.12**	0.177	**0.24**	0.14
2412	1	Right	/	12.66	14.00	0.071	**0.10**	0.153	**0.21**	0.03

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

Table 14.5-2: SAR Values (WLAN - Body)– 802.11b (Full SAR) Non-USB

Ambient Temperature: 22.9 °C Liquid Temperature: 22.5°C										
Frequency		Test Positio n	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.									
2462	11	Rear	Note4 Fig.20	18.61	20.00	0.099	**0.14**	0.186	**0.26**	-0.08

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.

Note3: The distance between the EUT and the phantom bottom is 0mm

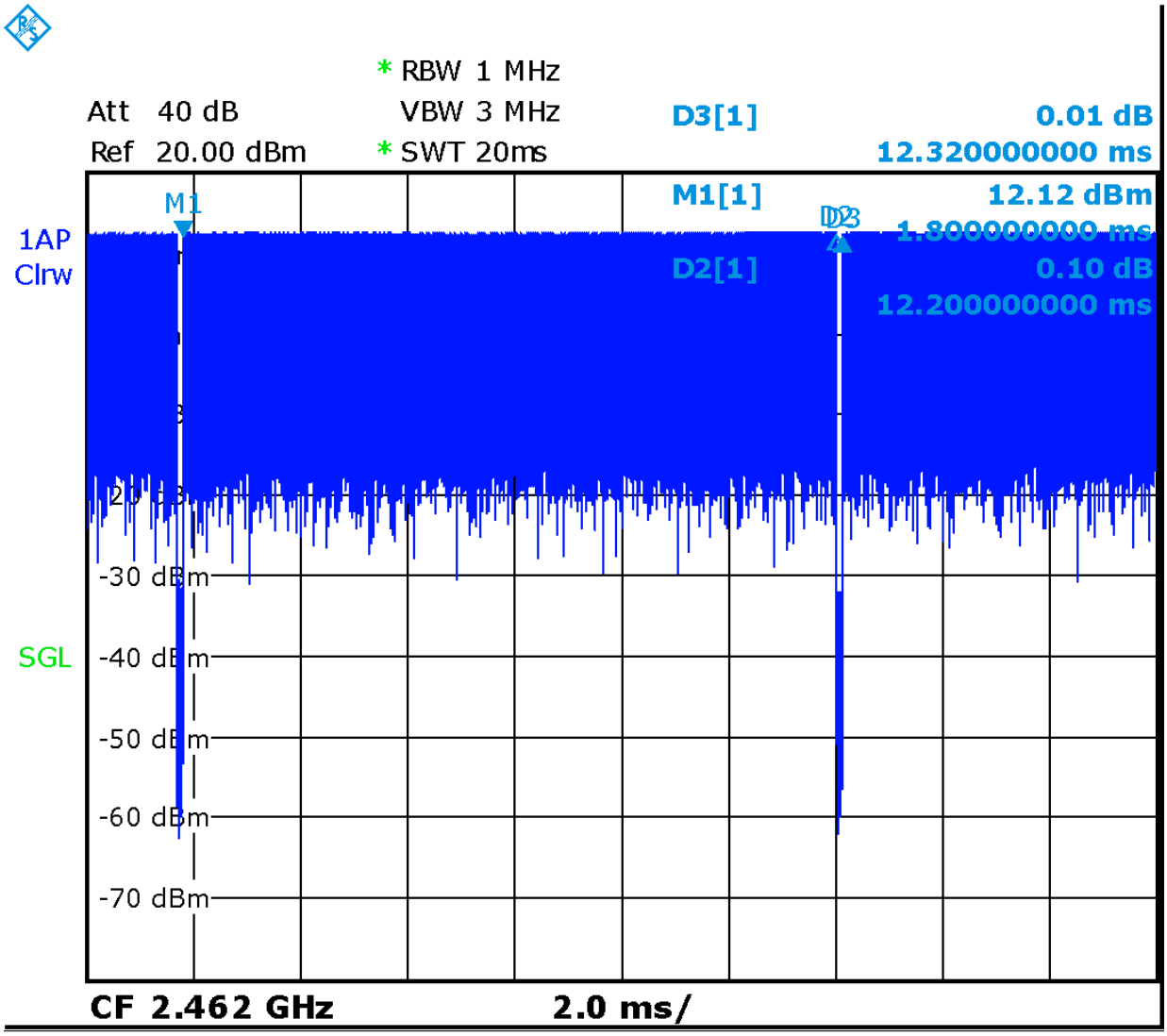
Note4: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

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 14.5-3: SAR Values (WLAN - Body) – 802.11b (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.					
2462	11	Rear	100%	99%	**0.26**	**0.26**

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



Picture 14.1 Duty factor plot

14.6. 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: Maximum output power specified of WLAN antenna-Normal Power

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	63		63	50	63	50	50	
U-NII-2A	63		63	50	63	50	50	
U-NII-2C	63		63	50	63	50	50	
U-NII-3	79		79	63	79	63	63	
§ 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: Maximum output power specified of WLAN antenna- Low Power Non-USB

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	25		25	25	25	25	25	
U-NII-2A	25		25	25	25	25	25	
U-NII-2C	25		25	25	25	25	25	
U-NII-3	25		25	25	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 specified of WLAN antenna- Low Power USB

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	8		8	8	8	8	8	
U-NII-2A	8		8	8	8	8	8	
U-NII-2C	8		8	8	8	8	8	
U-NII-3	8		8	8	8	8	8	
§ 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 14.4-5: Maximum output power measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations - Normal Power

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 49/48/48/46	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 44/44/44/47	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	100/104/108/112/116/120/124/128/132/136/140/144 44/48/50/52/52/52/50/49/53/56/58/61	100/104/108/112 116/132/136/140 Lower power	102/110/118/126/134/142 Lower power	100/104/108/112 116/132/136/140 Lower power	102/110/134 Lower power	106/122/138 Lower power
U-NII-3	149/153/157/161/165 61/62/57/54/53	149/153/157/161/165 Lower power	151/159 28/27 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 - Low Power Non-USB

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 Lower power	36/40/44/48 Lower power	38/46 Lower power	36/40/44/48 Lower power	38/46 Lower power	42 21
U-NII-2A	52/56/60/64 Lower power	52/56/60/64 Lower power	54/62 Lower power	52/56/60/64 Lower power	54/62 Lower power	58 19
U-NII-2C	100/104/108/112/116/120/124/128/132/136/140/144 Lower power	100/104/108/112 116/132/136/140 Lower power	102/110/118/126/134/ 142 Lower power	100/104/108/112 116/132/136/140 Lower power	102/110/134 Lower power	106/122/138 20/21/23
U-NII-3	149/153/157/161/165 Lower power	149/153/157/161/165 Lower power	151/159 Lower power	149/153/157/161/165 Lower power	151/159 Lower power	155 23

- 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 - Low Power USB

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 Lower power	36/40/44/48 Lower power	38/46 Lower power	36/40/44/48 Lower power	38/46 Lower power	42 7
U-NII-2A	52/56/60/64 Lower power	52/56/60/64 Lower power	54/62 Lower power	52/56/60/64 Lower power	54/62 Lower power	58 6
U-NII-2C	100/104/108/112/116/120/124/128/132/136/140/144 Lower power	100/104/108/112 116/132/136/140 Lower power	102/110/118/126/134/142 Lower power	100/104/108/112 116/132/136/140 Lower power	102/110/134 Lower power	106/122/138 7/7/8
U-NII-3	149/153/157/161/165 Lower power	149/153/157/161/165 Lower power	151/159 Lower power	149/153/157/161/165 Lower power	151/159 Lower power	155 8

- 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 Non-USB

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-2A	52/56/60/64 **0.35**	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 **0.38**	100/104/108/112 116/132/136/140	102/110/ 118/126/ 134/142	100/104/108/112 116/132/136/140	102/110 /134	106/122/138
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.						

Table 14.4-9: Reported SAR of initial test configuration for USB

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-2A	52/56/60/64 **0.35**	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	100/104/108/112 116/132/136/140	102/110/118/1 26/134/142	100/104/108/1 12 116/132/136/1 40	102/110/134	106/122/138 **0.53**
U-NII-3	149/153/157/161/ 165	149/153/157/161 /165	151/159	149/153/157/1 61/165	151/159	155 **0.44**
Highest measured output power channel tested initially are in yellow highlight.						

Table 14.4-10: SAR Values (WLAN 5G - Non-USB)

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									
64	5320	Front	Note2	16.69	18.00	0.040	**0.05**	0.105	**0.14**	-0.09
64	5320	Rear	Note2	16.69	18.00	0.028	**0.04**	0.072	**0.10**	-0.07
64	5320	Right	Note2	16.69	18.00	0.095	**0.13**	0.260	**0.35**	0.05
58	5290	Front	/	12.74	14.00	0.025	**0.03**	0.071	**0.09**	-0.13
58	5290	Rear	/	12.74	14.00	0.021	**0.03**	0.057	**0.08**	0.00
58	5290	Right	/	12.74	14.00	0.063	**0.08**	0.180	**0.24**	0.02
144	5720	Front	Note2	17.83	18.00	0.064	**0.07**	0.168	**0.17**	-0.02
144	5720	Rear	Note2	17.83	18.00	0.050	**0.05**	0.132	**0.14**	-0.02
144	5720	Right	Note2	17.83	18.00	0.137	**0.14**	0.370	**0.38**	0.07
138	5690	Front	/	13.68	14.00	0.034	**0.04**	0.096	**0.10**	-0.08
138	5690	Rear	/	13.68	14.00	0.024	**0.03**	0.066	**0.07**	0.02
138	5690	Right	/	13.68	14.00	0.087	**0.09**	0.247	**0.27**	-0.10
153	5765	Front	Note2	17.94	19.00	0.067	**0.09**	0.175	**0.22**	0.01
153	5765	Rear	Note2	17.94	19.00	0.050	**0.06**	0.135	**0.17**	0.10
153	5765	Right	Note2 Fig.21	17.94	19.00	0.122	**0.16**	0.324	**0.41**	-0.05
155	5775	Front	/	13.69	14.00	0.037	**0.04**	0.105	**0.11**	0.13
155	5775	Rear	/	13.69	14.00	0.024	**0.03**	0.068	**0.07**	-0.09
155	5775	Right	/	13.69	14.00	0.079	**0.08**	0.219	**0.24**	0.11

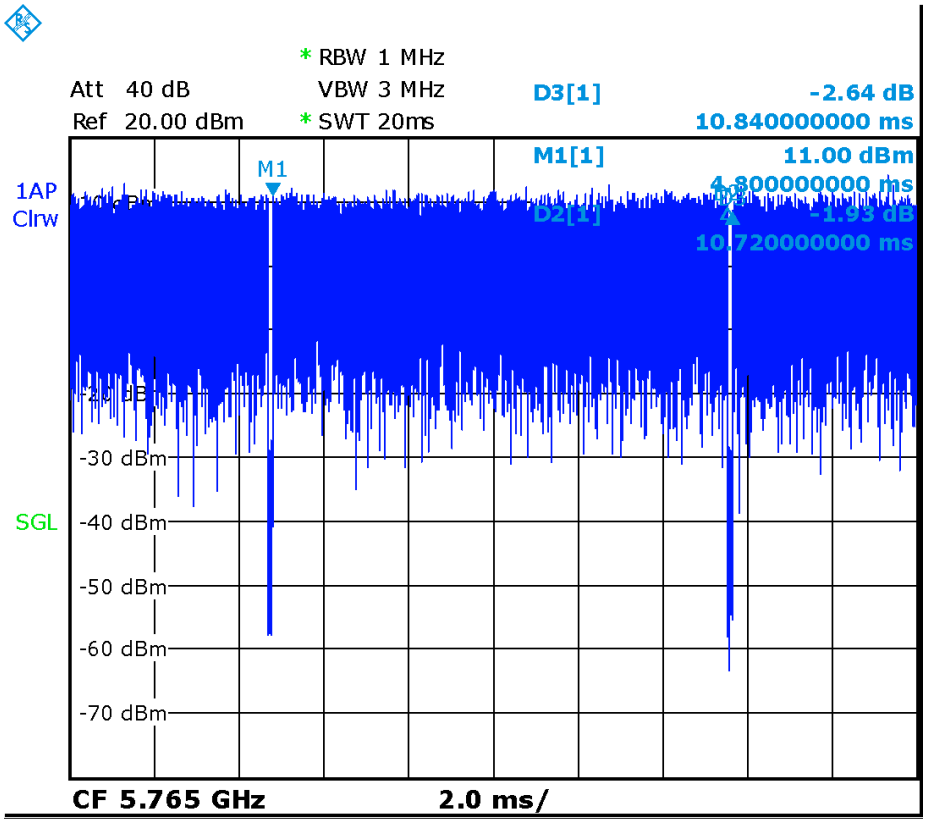
Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

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 14.4-11 SAR Values (WLAN 5G - Non-USB) (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)
Ch.	MHz						
153	5765	Right	15	100%	99%	**0.41**	**0.41**



Picture 14.3The plot of duty factor for Body

Table 14.4-12: SAR Values (WLAN 5G - USB)

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									
64	5320	Front	Note2	16.69	18.00	0.040	**0.05**	0.105	**0.14**	-0.09
64	5320	Rear	Note2	16.69	18.00	0.028	**0.04**	0.072	**0.10**	-0.07
64	5320	Left	/	16.69	18.00	0.008	**0.01**	0.019	**0.03**	-0.13
64	5320	Right	Note2	16.69	18.00	0.095	**0.13**	0.260	**0.35**	0.05
58	5290	Front	/	7.80	9.00	0.032	**0.04**	0.129	**0.17**	0.08
58	5290	Rear	/	7.80	9.00	0.021	**0.03**	0.070	**0.09**	0.14
58	5290	Right	/	7.80	9.00	0.055	**0.07**	0.237	**0.31**	0.06
144	5720	Front	Note2	17.83	18.00	0.064	**0.07**	0.168	**0.17**	-0.02
144	5720	Rear	Note2	17.83	18.00	0.050	**0.05**	0.132	**0.14**	-0.02
144	5720	Left	/	17.83	18.00	0.004	**0.00**	0.012	**0.01**	0.08
144	5720	Right	Note2	17.83	18.00	0.137	**0.14**	0.370	**0.38**	0.07
138	5690	Front	/	8.77	9.00	0.045	**0.05**	0.146	**0.15**	0.16
138	5690	Rear	/	8.77	9.00	0.026	**0.03**	0.093	**0.10**	0.08
138	5690	Right	Fig.22	8.77	9.00	0.107	**0.11**	0.499	**0.53**	0.07
153	5765	Front	Note2	17.94	19.00	0.067	**0.09**	0.175	**0.22**	0.01
153	5765	Rear	Note2	17.94	19.00	0.050	**0.06**	0.135	**0.17**	0.10
153	5765	Left	/	17.94	19.00	0.020	**0.03**	0.072	**0.09**	-0.17
153	5765	Right	Note2	17.94	19.00	0.122	**0.16**	0.324	**0.41**	-0.05
155	5775	Front	/	8.76	9.00	0.042	**0.04**	0.142	**0.15**	0.13
155	5775	Rear	/	8.76	9.00	0.027	**0.03**	0.090	**0.10**	0.09
155	5775	Right	/	8.76	9.00	0.096	**0.10**	0.421	**0.44**	0.05

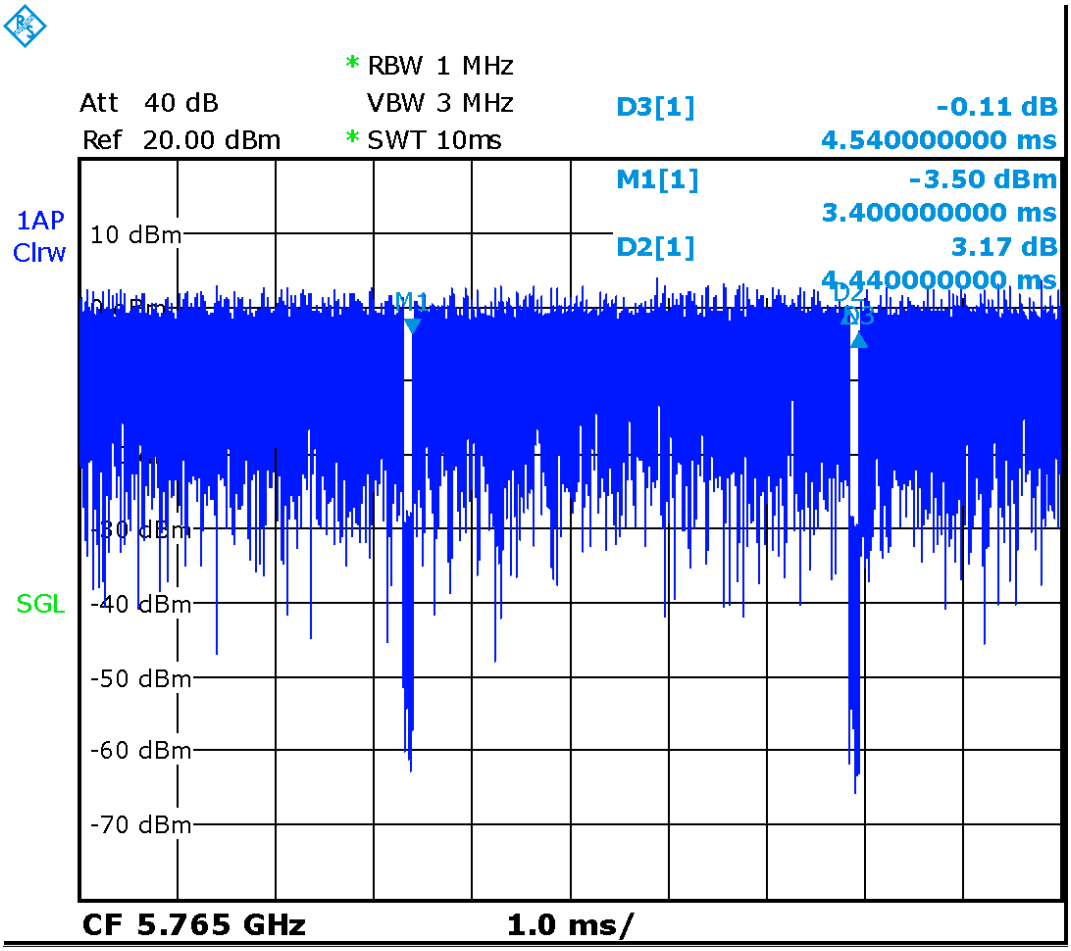
Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The distance between the EUT and the phantom bottom is 15mm by sensor (See detail in annex I).

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 14.4-13 SAR Values (WLAN 5G - USB) (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)
Ch.	MHz						
138	5690	Right	10	100%	98%	**0.53**	**0.54**



Picture 14.3The plot of duty factor for Body

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

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	12	N	2	1	1	6.0	6.0	∞
2	Axial isotropy	B	4.7	R	$\sqrt{3}$	√0.5	√0.5	4.3	4.3	∞
3	Hemispherical isotropy	B	9.6	R	$\sqrt{3}$	1	1	4.8	4.8	∞
4	Boundary effect	B	1.1	R	$\sqrt{3}$	1	1	0.6	0.6	∞
5	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
6	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
7	Modulation response	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
8	Readout electronics	B	1.0	N	1	1	1	1.0	1.0	∞
9	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
10	Integration time	B	1.7	R	$\sqrt{3}$	1	1	1.0	1.0	∞
11	RF ambient conditions-noise	B	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
12	RF ambient conditions-reflection	B	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Probe positioned mech. restrictions	B	0.35	R	$\sqrt{3}$	1	1	0.2	0.2	∞
14	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
15	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
Test sample related										
16	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	5
17	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
18	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
19	Phantom uncertainty	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
20	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
21	Liquid conductivity (meas.)	A	1.3	N	1	0.64	0.43	0.83	0.56	9
22	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
23	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	0.96	0.78	9
Combined standard uncertainty		$u_c' = \sqrt{\sum_{i=1}^{23} c_i^2 u_i^2}$						11.3	11.2	95.5
Expanded uncertainty (Confidence interval of 95 %)		$u_e = 2u_c$						22.6	22.4	

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	13	N	2	1	1	6.5	6.5	∞
2	Axial isotropy	B	4.7	R	$\sqrt{3}$	√0.5	√0.5	4.3	4.3	∞
3	Hemispherical isotropy	B	9.6	R	$\sqrt{3}$	1	1	4.8	4.8	∞
4	Boundary effect	B	2.3	R	$\sqrt{3}$	1	1	1.3	1.3	∞
5	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
6	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
7	Modulation response	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
8	Readout electronics	B	1.0	N	1	1	1	1.0	1.0	∞
9	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
10	Integration time	B	1.7	R	$\sqrt{3}$	1	1	1.0	1.0	∞
11	RF ambient conditions-noise	B	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
12	RF ambient conditions-reflection	B	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Probe positioned mech. restrictions	B	0.71	R	$\sqrt{3}$	1	1	0.4	0.4	∞
14	Probe positioning with respect to phantom shell	B	5.7	R	$\sqrt{3}$	1	1	3.3	3.3	∞
15	Post-processing	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
Test sample related										
16	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	5
17	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
18	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
19	Phantom uncertainty	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
20	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
21	Liquid conductivity (meas.)	A	1.3	N	1	0.64	0.43	0.83	0.56	9
22	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
23	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	0.96	0.78	9
Combined standard uncertainty		$u_c^{'} = \sqrt{\sum_{i=1}^{23} c_i^2 u_i^2}$						12.2	12.1	95.5
Expanded uncertainty (Confidence interval of 95 %)		$u_e = 2u_c$						24.4	24.2	

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	√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	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	0.4	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	∞
14	Fast SAR z-Approximation	B	7.0	R	√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	√3	1	1	2.9	2.9	∞
Phantom and set-up										
18	Phantom uncertainty	B	4.0	R	√3	1	1	2.3	2.3	∞
19	Liquid conductivity (target)	B	5.0	R	√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	√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	√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	1.0	R	√3	1	1	0.6	0.6	∞
14	Fast SAR z-Approximation	B	14.0	R	√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
17	Drift of output power	B	5.0	R	√3	1	1	2.9	2.9	∞
Phantom and set-up										
18	Phantom uncertainty	B	4.0	R	√3	1	1	2.3	2.3	∞
19	Liquid conductivity (target)	B	5.0	R	√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	√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	$u_c^{'} = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$					13.5	13.4	257
Expanded uncertainty (confidence interval of 95 %)	$u_e = 2u_c$					27.0	26.8	

17. Main Test Instruments

Table 17.1: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	Agilent E5071C	MY46103759	2019-11-15	One year
02	Dielectric probe	85070E	MY44300317	/	/
03	Power meter	E4418B	MY50000366	2019-12-14	One year
04	Power sensor	E9304A	MY50000188		
05	Power meter	NRP	101460	2020-01-15	One year
06	Power sensor	NRP-Z91	100553		
07	Signal Generator	E8257D	MY47461211	2020-01-15	One year
08	Amplifier	VTL5400	0404	/	/
09	DAE	DAE4	786	2020-03-03	One year
10	E-field Probe	EX3DV4	3633	2020-04-01	One year
11	Dipole Validation Kit	D750V3	1163	2019-09-03	Three year
12	Dipole Validation Kit	D835V2	4d057	2018-10-09	Three year
13	Dipole Validation Kit	D1750V2	1152	2019-08-30	Three year
14	Dipole Validation Kit	D1900V2	5d088	2018-10-24	Three year
15	Dipole Validation Kit	D2300V2	1059	2018-09-03	Three year
16	Dipole Validation Kit	D2450V2	873	2018-10-26	Three year
17	Dipole Validation Kit	D5GHzV2	1238	2019-08-29	Three year
18	BTS	E5515C	GB46110722	2020-01-05	One year
19	Radio Communication Analyzer	MT8820C	6201341853	2020-01-15	One year
20	Software	DASY5	52.8.8.1222	/	/

ANNEX A: Graph Results

WCDMA1900-BII_CH9400 Rear

Date: 9/11/2020

Electronics: DAE4 Sn786

Medium: Head 1900 MHz

Medium parameters used: f = 1880; σ = 1.392 mho/m; εr = 39.4; ρ = 1000 kg/m^3

Ambient Temperature: 22.5^{o}C, Liquid Temperature: 22.3^{o}C

Communication System: WCDMA1900-BII 1880 Duty Cycle: 1:1

Probe: EX3DV4 – SN3633 ConvF(7.76, 7.76, 7.76)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.889 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.492 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.894 W/kg

SAR(1 g) = 0.616 W/kg; SAR(10 g) = 0.388 W/kg

Maximum value of SAR (measured) = 0.809 W/kg

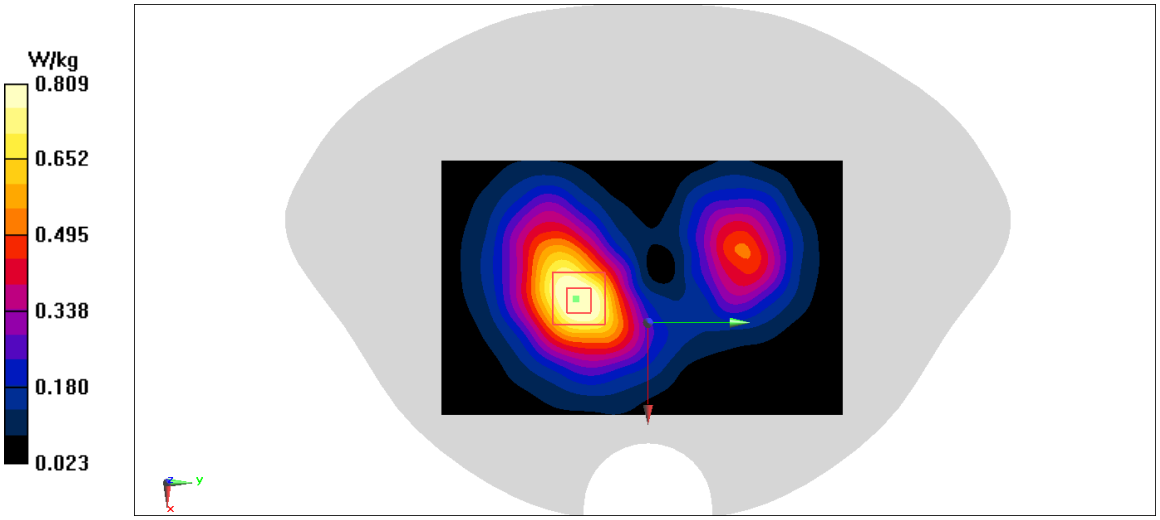


Fig A.1

WCDMA1700-BIV_CH1412 Rear
Date: 9/10/2020
Electronics: DAE4 Sn786
Medium: Head 1750 MHz
Medium parameters used: f = 1732.5; σ = 1.337 mho/m; εr = 40.22; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: WCDMA1700-BIV 1732.5 Duty Cycle: 1:1
Probe: EX3DV4 – SN3633 ConvF(8.09, 8.09, 8.09)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.683 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.36 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.653 W/kg
SAR(1 g) = 0.493 W/kg; SAR(10 g) = 0.337 W/kg
Maximum value of SAR (measured) = 0.606 W/kg

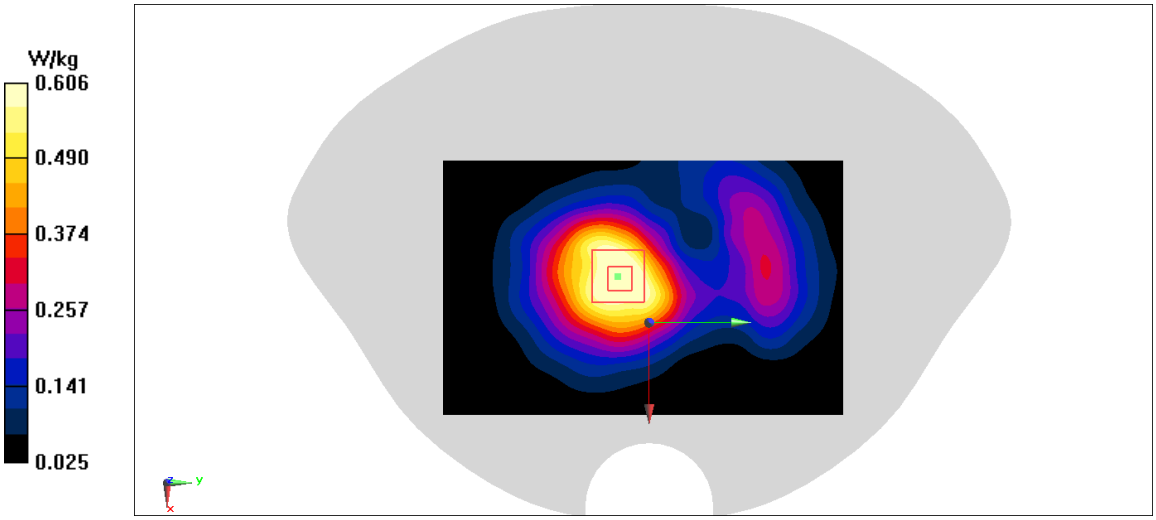


Fig A.2

WCDMA850-BV_CH4183 Front
Date: 9/9/2020
Electronics: DAE4 Sn786
Medium: Head 835 MHz
Medium parameters used: f = 836.6; σ = 0.89 mho/m; εr = 40.69; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: WCDMA850-BV 836.6 Duty Cycle: 1:1
Probe: EX3DV4 – SN3633 ConvF(9.59, 9.59, 9.59)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.568 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.17 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.538 W/kg
SAR(1 g) = 0.449 W/kg; SAR(10 g) = 0.344 W/kg
Maximum value of SAR (measured) = 0.515 W/kg

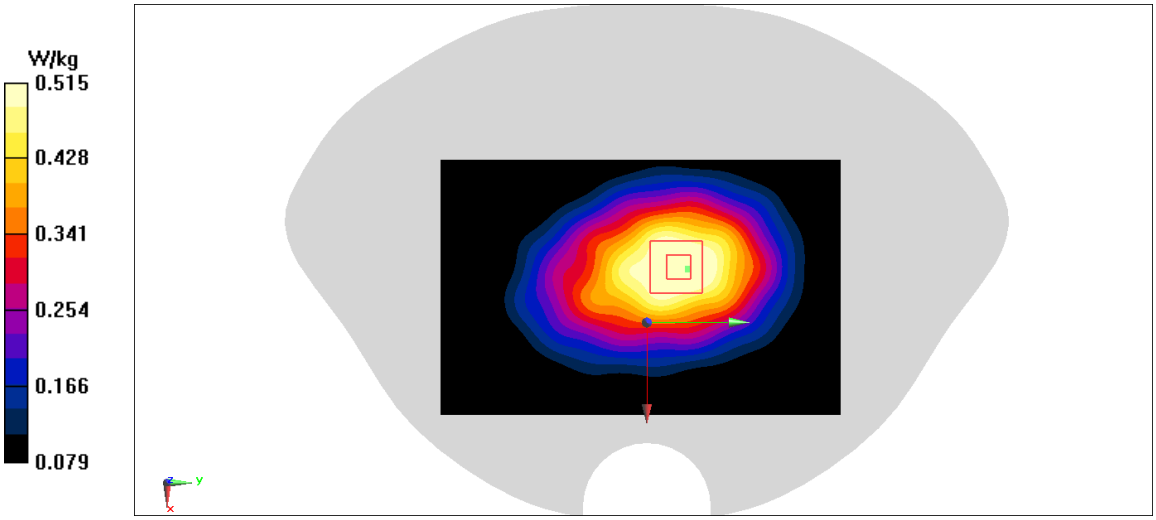


Fig A.3

LTE1900-FDD2_CH19100 Front
Date: 9/11/2020
Electronics: DAE4 Sn786
Medium: Head 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.411 mho/m; εr = 39.38; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE1900-FDD2 1900 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3633 ConvF(7.76, 7.76, 7.76)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.09 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.43 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.75 W/kg; SAR(10 g) = 0.457 W/kg
Maximum value of SAR (measured) = 1.03 W/kg

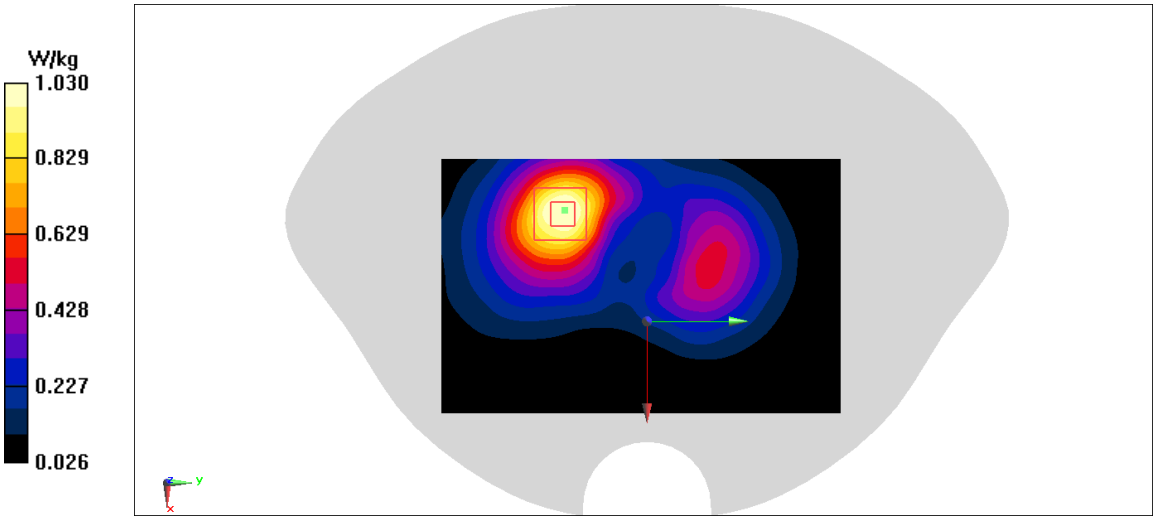


Fig A.4

LTE850-FDD5_CH20450 Front
Date: 9/9/2020
Electronics: DAE4 Sn786
Medium: Head 835 MHz
Medium parameters used: f = 829 MHz; σ = 0.882 mho/m; εr = 40.7; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE850-FDD5 829 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3633 ConvF(9.59, 9.59, 9.59)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.506 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.6 V/m; Power Drift = 0.1 dB
Peak SAR (extrapolated) = 0.512 W/kg
SAR(1 g) = 0.416 W/kg; SAR(10 g) = 0.316 W/kg
Maximum value of SAR (measured) = 0.481 W/kg

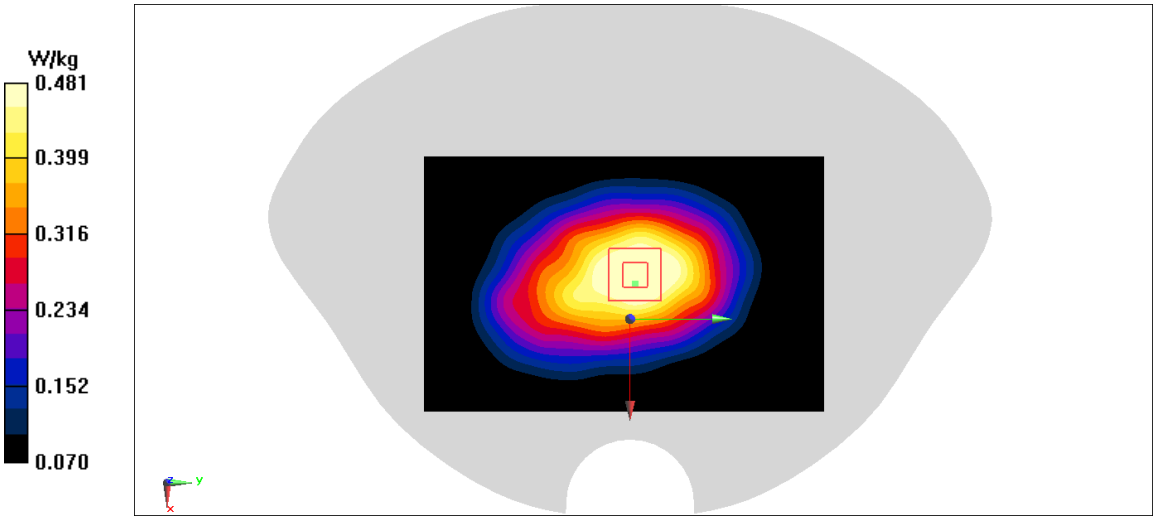


Fig A.5

LTE700-FDD12_CH23130 Rear
Date: 9/8/2020
Electronics: DAE4 Sn786
Medium: Head 750 MHz
Medium parameters used: f = 711 MHz; σ = 0.853 mho/m; εr = 42.55; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE700-FDD12 711 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3633 ConvF(9.59, 9.59, 9.59)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.514 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.69 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.495 W/kg
SAR(1 g) = 0.407 W/kg; SAR(10 g) = 0.314 W/kg
Maximum value of SAR (measured) = 0.47 W/kg

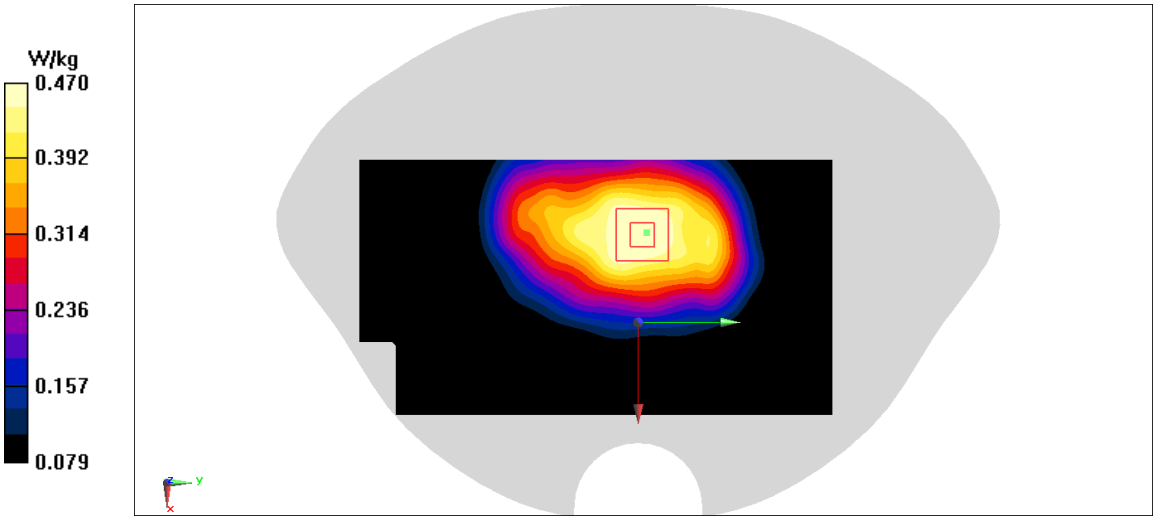


Fig A.6

LTE700-FDD14_CH23330 Front
Date: 9/8/2020
Electronics: DAE4 Sn786
Medium: Head 750 MHz
Medium parameters used: f = 793 MHz; σ = 0.931 mho/m; εr = 42.45; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE700-FDD14 793 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3633 ConvF(9.59, 9.59, 9.59)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.455 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.61 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.454 W/kg
SAR(1 g) = 0.367 W/kg; SAR(10 g) = 0.279 W/kg
Maximum value of SAR (measured) = 0.43 W/kg

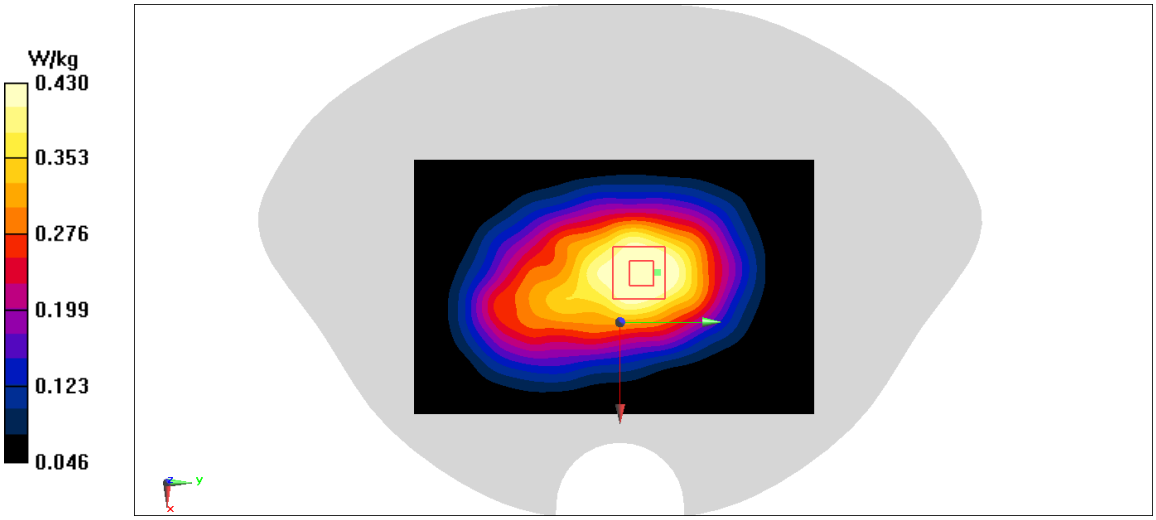


Fig A.7

LTE2300-FDD30_CH27710 Front
Date: 9/12/2020
Electronics: DAE4 Sn786
Medium: Head 2300 MHz
Medium parameters used: f = 2310 MHz; σ = 1.697 mho/m; εr = 40.13; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE2300-FDD30 2310 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3633 ConvF(7.69, 7.69, 7.69)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.455 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.61 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.454 W/kg
SAR(1 g) = 0.367 W/kg; SAR(10 g) = 0.279 W/kg
Maximum value of SAR (measured) = 0.43 W/kg

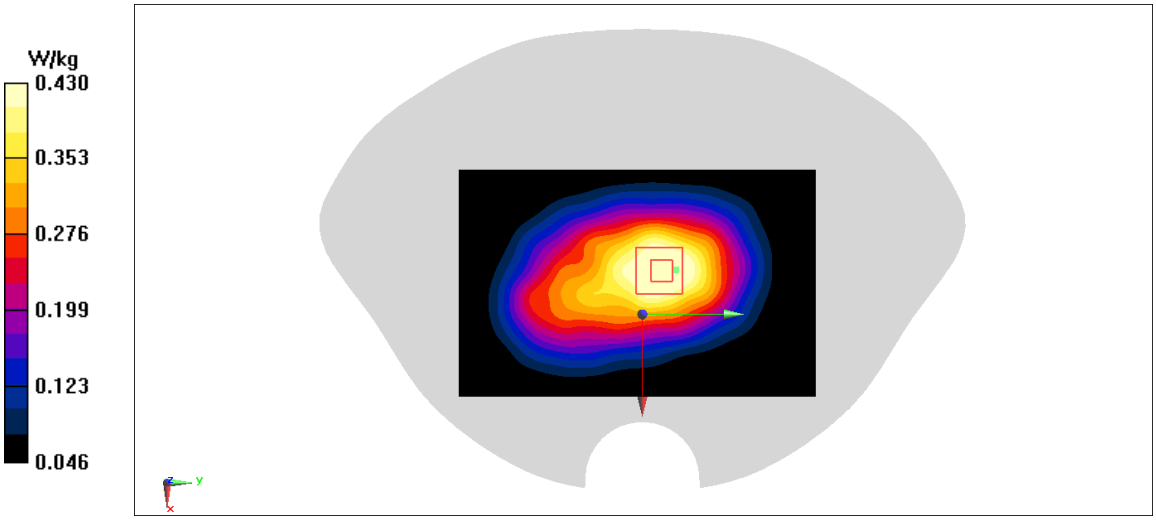


Fig A.8

LTE1700-FDD66_CH132322 Rear
Date: 9/10/2020
Electronics: DAE4 Sn786
Medium: Head 1750 MHz
Medium parameters used: f = 1745 MHz; σ = 1.35 mho/m; εr = 40.22; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE1700-FDD66 1745 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3633 ConvF(8.09, 8.09, 8.09)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.81 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.98 V/m; Power Drift = -0.1 dB
Peak SAR (extrapolated) = 0.764 W/kg
SAR(1 g) = 0.581 W/kg; SAR(10 g) = 0.398 W/kg
Maximum value of SAR (measured) = 0.706 W/kg

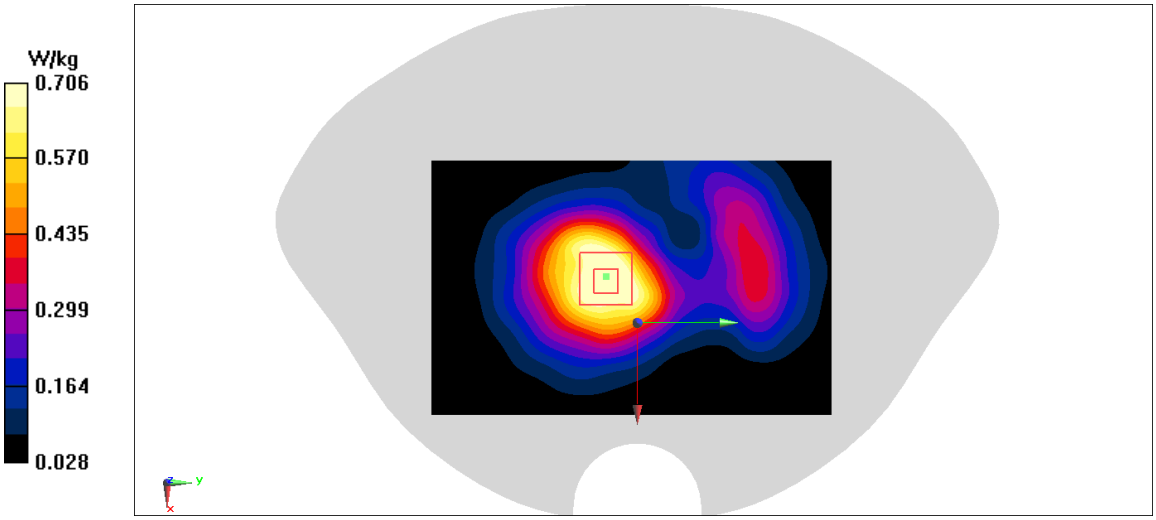


Fig A.9

WLAN2450_CH11 Right
Date: 9/13/2020
Electronics: DAE4 Sn786
Medium: Head 2450 MHz
Medium parameters used: f = 2462; σ = 1.807 mho/m; εr = 39.19; ρ = 1000 kg/m^3
Ambient Temperature: 22.5^{o}C, Liquid Temperature: 22.3^{o}C
Communication System: WLAN2450 2462 Duty Cycle: 1:1
Probe: EX3DV4 – SN3633 ConvF(7.43, 7.43, 7.43)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.313 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.29 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.457 W/kg
SAR(1 g) = 0.186 W/kg; SAR(10 g) = 0.099 W/kg
Maximum value of SAR (measured) = 0.312 W/kg

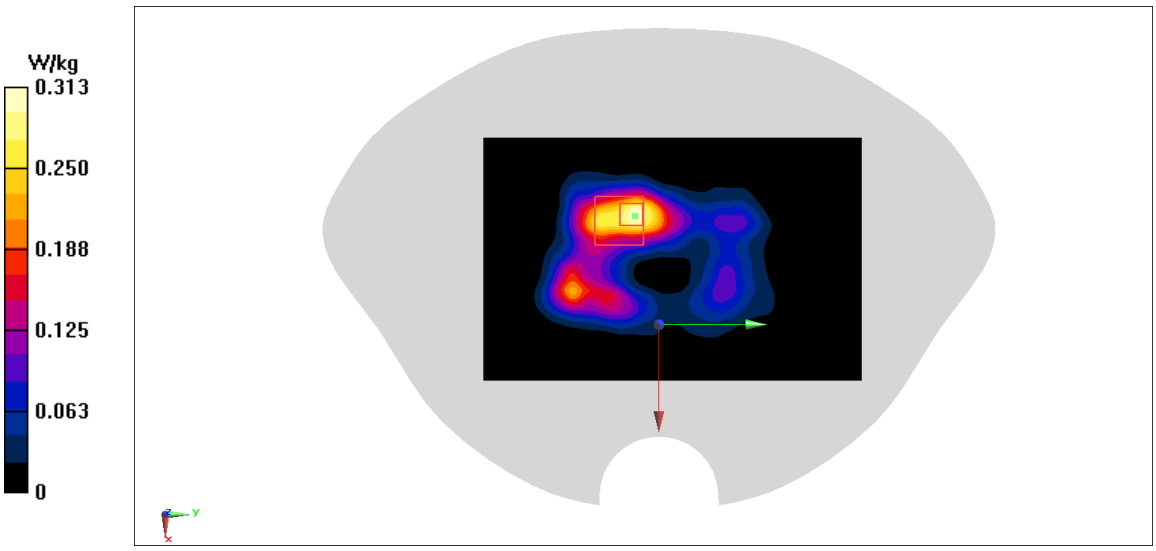


Fig A.10

WLAN5G_CH153 Right
Date: 9/14/2020
Electronics: DAE4 Sn786
Medium: Head 5750 MHz
Medium parameters used: f = 5765; σ = 5.203 mho/m; εr = 35.71; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: WLAN5G 5765 Duty Cycle: 1:1
Probe: EX3DV4 – SN3633 ConvF(4.73, 4.73, 4.73)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.821 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.129 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.324 W/kg; SAR(10 g) = 0.122 W/kg
Maximum value of SAR (measured) = 0.814 W/kg

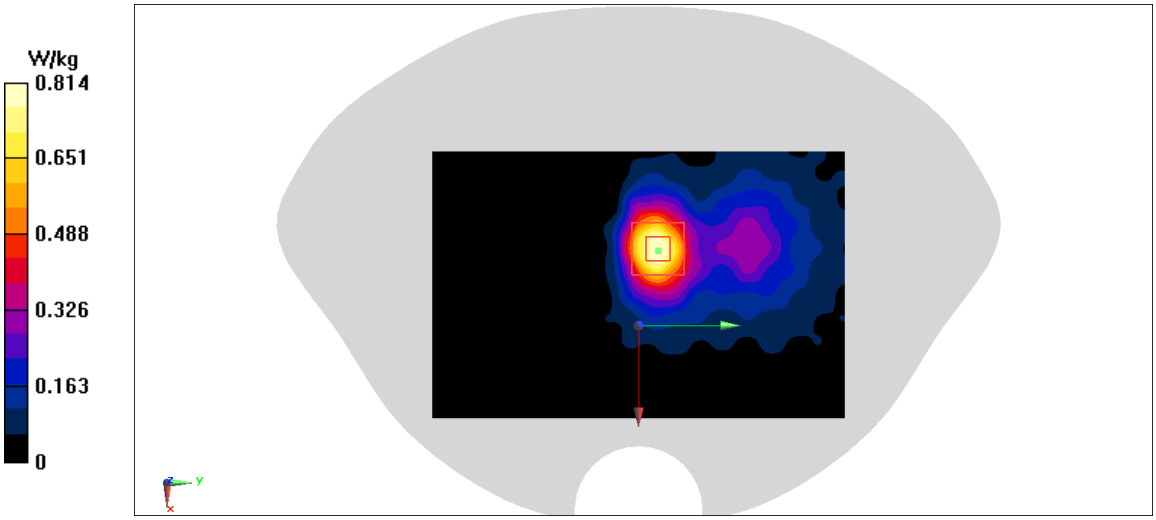


Fig A.11

WCDMA1900-BII_CH9400 Rear
Date: 9/11/2020
Electronics: DAE4 Sn786
Medium: Head 1900 MHz
Medium parameters used: f = 1880; σ = 1.392 mho/m; εr = 39.4; ρ = 1000 kg/m^3
Ambient Temperature: 22.5^{o}C, Liquid Temperature: 22.3^{o}C
Communication System: WCDMA1900-BII 1880 Duty Cycle: 1:1
Probe: EX3DV4 – SN3633 ConvF(7.76, 7.76, 7.76)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.889 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.492 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.894 W/kg
SAR(1 g) = 0.616 W/kg; SAR(10 g) = 0.388 W/kg
Maximum value of SAR (measured) = 0.809 W/kg

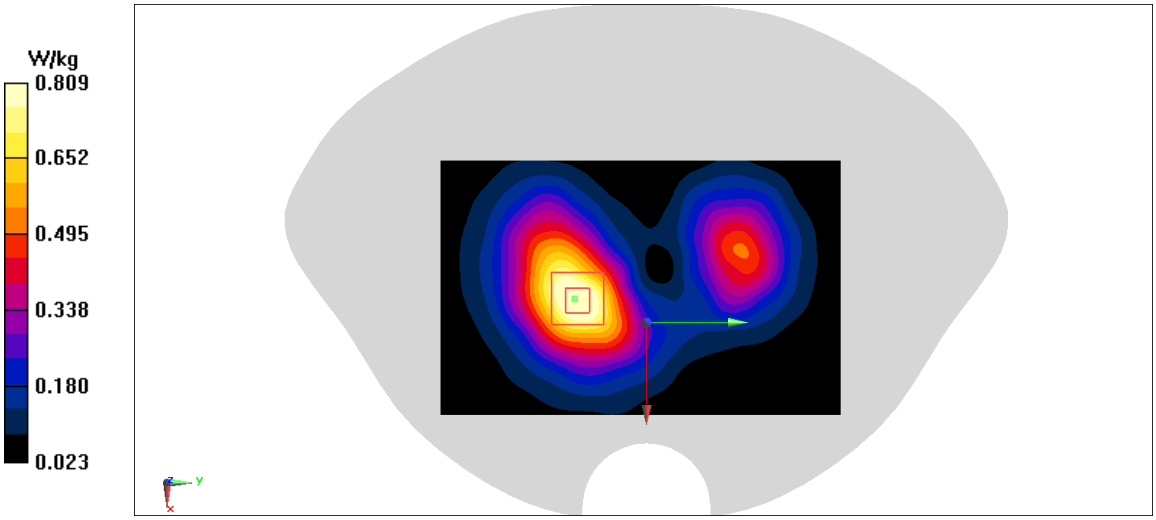


Fig A.12

WCDMA1700-BIV_CH1412 Rear
Date: 9/10/2020
Electronics: DAE4 Sn786
Medium: Head 1750 MHz
Medium parameters used: f = 1732.5; σ = 1.337 mho/m; εr = 40.22; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: WCDMA1700-BIV 1732.5 Duty Cycle: 1:1
Probe: EX3DV4 – SN3633 ConvF(8.09, 8.09, 8.09)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.683 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.36 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.653 W/kg
SAR(1 g) = 0.493 W/kg; SAR(10 g) = 0.337 W/kg
Maximum value of SAR (measured) = 0.606 W/kg

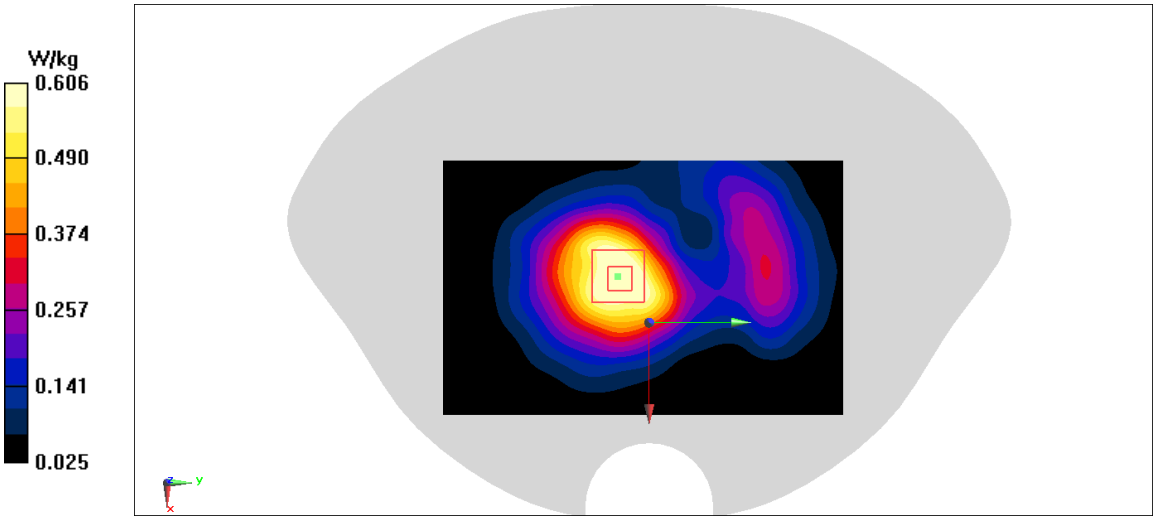


Fig A.13

WCDMA850-BV_CH4183 Front
Date: 9/9/2020
Electronics: DAE4 Sn786
Medium: Head 835 MHz
Medium parameters used: f = 836.6; σ = 0.89 mho/m; εr = 40.69; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: WCDMA850-BV 836.6 Duty Cycle: 1:1
Probe: EX3DV4 – SN3633 ConvF(9.59, 9.59, 9.59)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.568 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.17 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.538 W/kg
SAR(1 g) = 0.449 W/kg; SAR(10 g) = 0.344 W/kg
Maximum value of SAR (measured) = 0.515 W/kg

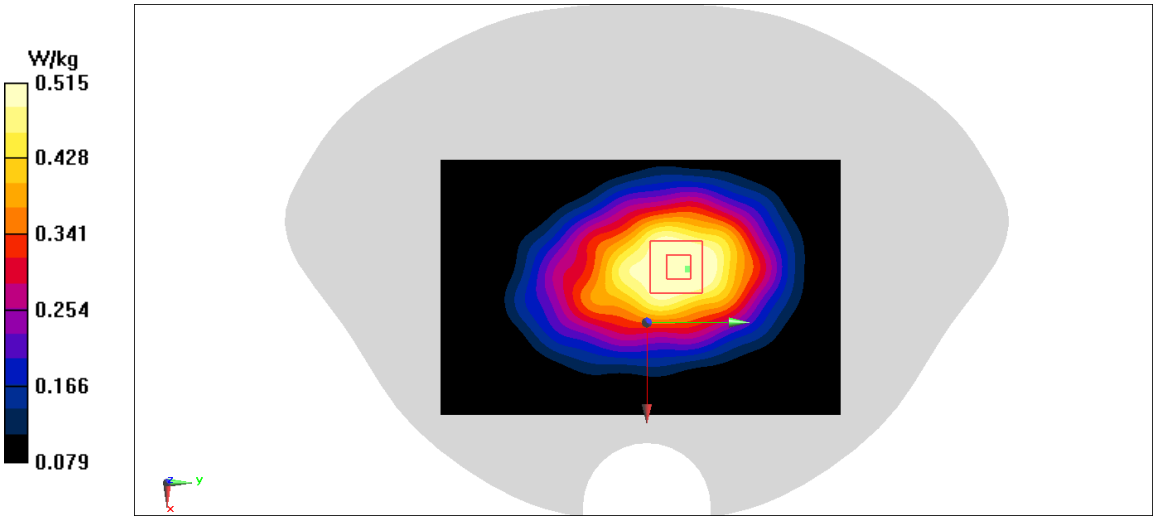


Fig A.14

LTE1900-FDD2_CH19100 Front
Date: 9/11/2020
Electronics: DAE4 Sn786
Medium: Head 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.411 mho/m; εr = 39.38; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE1900-FDD2 1900 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3633 ConvF(7.76, 7.76, 7.76)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.09 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.43 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.75 W/kg; SAR(10 g) = 0.457 W/kg
Maximum value of SAR (measured) = 1.03 W/kg

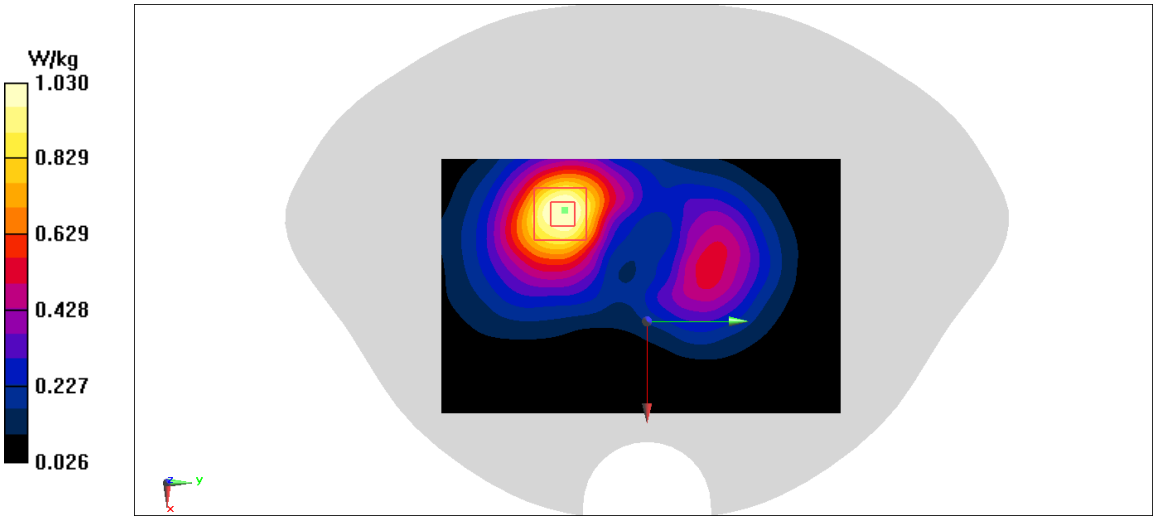


Fig A.15