13 Evaluation of Simultaneous

Table 13.1: The sum of SAR values for Main antenna + WiFi-2.4G SISO+ WiFi-5G SISO

	Position	Main antenna	WiFi-2.4G SISO+ WiFi-5G SISO	Sum
Highest SAR value for Head	Right head, Cheek (LTE Band2)	1.24	0.12	**1.36**
Highest SAR value for Body	Rear 10mm (LTE Band2)	1.18	0.37	**1.55**

Table 13.2: The sum of SAR values for Main antenna + WiFi-5G MIMO

	Position	Main antenna	WiFi-5G MIMO	Sum
Highest SAR value for Head	Right head, Cheek (LTE Band2)	1.24	0.08	**1.32**
Highest SAR value for Body	Rear 10mm (LTE Band2)	1.18	0.22	**1.40**

Table 13.3: The sum of SAR values for Main antenna + WiFi-2.4G MIMO

	Position	Main antenna	WiFi-2.4G MIMO	Sum
Highest SAR value for Head	Right head, Cheek (LTE Band2)	1.24	0.09	**1.33**
Highest SAR value for Body	Rear 10mm (LTE Band2)	1.18	0.38	**1.56**

Table 13.4: The sum of SAR values for Main antenna + WiFi-2.4G SISO

	Position	Main antenna	WiFi-2.4G SISO	Sum
Highest SAR value for Head	Right head, Cheek (LTE Band2)	1.24	0.05	**1.29**
Highest SAR value for Body	Rear 10mm (LTE Band2)	1.18	0.17	**1.35**

Table 13.5: The sum of SAR values for Main antenna + WiFi-5G SISO

	Position	Main antenna	WiFi-5G SISO	Sum
Highest SAR value for Head	Right head, Cheek (LTE Band2)	1.24	0.07	**1.31**
Highest SAR value for Body	Rear 10mm (LTE Band2)	1.18	0.20	**1.38**

Table 13.6: The sum of SAR values for Main antenna + BT

	Position	Main antenna	BT	Sum
Highest SAR value for Head	Right head, Cheek (LTE Band2)	1.24	<0.01	1.24
Highest SAR value for Body	Rear 10mm (LTE Band2)	1.18	<0.01	1.18

[1] – The SAR of BT is too low to get it, so the "<0.01" is used to indicate the head SAR of BT.

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.

Table 13.7 CA:B5+B7 head SAR Results

Head SAR		B5		B7		CA:B5+B7
Test Position	**Test side**	**Test setup**	**Calculated SAR 1g (W/kg)**	**Test setup**	**Calculated SAR 1g (W/kg)**	**Calculated SAR 1g (W/kg)**
Cheek	Left	1RB-High	0.4	1RB-Mid	0.15	**0.55**
Tilt	Left	1RB-High	0.42	1RB-Mid	0.05	**0.48**
Cheek	Right	1RB-High	0.49	1RB-Mid	0.52	**1.01**
Tilt	Right	1RB-High	0.54	1RB-Mid	0.17	**0.71**
Cheek	Left	25RB-Mid	0.39	50RB-High	0.12	**0.51**
Tilt	Left	25RB-Mid	0.41	50RB-High	0.05	**0.46**
Cheek	Right	25RB-Mid	0.49	50RB-High	0.27	**0.76**
Tilt	Right	25RB-Mid	0.54	50RB-High	0.13	0.67

Table 13.8 CA:B5+B7 body SAR Results

Body SAR	B5		B7		CA:B5+B7
Test setup	**Test setup**	**Calculated SAR 1g (W/kg)**	**Test setup**	**Calculated SAR 1g (W/kg)**	**Calculated SAR 1g (W/kg)**
Front 10mm	1RB-High Front 10mm	0.33	1RB-High Front 10mm	0.06	**0.39**
Rear 10mm	1RB-High Rear 10mm	0.46	1RB Rear 10mm	0.41	**0.87**
Left Edge 10mm	1RB-High Left Edge 10mm	0.35	1RB-High Left Edge 10mm	0.18	**0.53**
Right Edge 10mm	1RB-High Right Edge 10mm	0.05	1RB-High Right Edge 10mm	0.00	**0.05**
Top Edge 10mm	1RB-High Top Edge 10mm	0.49	1RB-High Top Edge 10mm	0.05	**0.54**
Front 10mm	25RB-Middle Front 10mm	0.26	50RB-High Front 10mm	0.04	**0.29**
Rear 10mm	25RB-Middle Rear 10mm	0.36	50RB-High Rear 10mm	0.32	**0.68**
Left Edge 10mm	25RB-Middle Left Edge 10mm	0.27	50RB-High Left Edge 10mm	0.16	0.43
Right Edge 10mm	25RB-Middle Right Edge 10mm	0.00	50RB-High Right Edge 10mm	0.00	0.00
Top Edge 10mm	25RB-Middle Top Edge 10mm	0.37	50RB-High Top Edge 10mm	0.05	0.42

Table 13.9 CA: B5+B66 head SAR Results

Head SAR		B5		B66		CA:B5+B66
Test Position	**Test side**	**Test setup**	**Calculated SAR 1g (W/kg)**	**Test setup**	**Calculated SAR 1g (W/kg)**	**Calculated SAR 1g (W/kg)**
Cheek	Left	1RB-High	0.4	1RB-High	0.28	**0.68**
Tilt	Left	1RB-High	0.42	1RB-High	0.17	**0.59**
Cheek	Right	1RB-High	0.49	1RB-High	0.54	**1.03**
Tilt	Right	1RB-High	0.54	1RB-High	0.18	**0.72**
Cheek	Left	25RB-Mid	0.39	50RB-Mid	0.18	**0.58**
Tilt	Left	25RB-Mid	0.41	50RB-Mid	0.15	**0.57**
Cheek	Right	25RB-Mid	0.49	50RB-Mid	0.46	**0.95**
Tilt	Right	25RB-Mid	0.54	50RB-Mid	0.15	0.69

Table 13.10 CA:B5+B66 head SAR Results

Body SAR	B5		B66		CA:B5+B66
Test setup	**Test setup**	**Calculated SAR 1g (W/kg)**	**Test setup**	**Calculated SAR 1g (W/kg)**	**Calculated SAR 1g (W/kg)**
Front 10mm	1RB-High Front 10mm	0.33	1RB-Low Front 10mm	0.20	**0.53**
Rear 10mm	1RB-High Rear 10mm	0.46	1RB-Low Rear 10mm	0.53	**0.98**
Left 10mm	1RB-High Left 10mm	0.35	1RB-Low Left Edge 10mm	0.60	**0.95**
Right 10mm	1RB-High Right 10mm	0.05	1RB-Low Right Edge 10mm	0.00	**0.05**
Top 10mm	1RB-High Top 10mm	0.49	1RB-Low Top Edge 10mm	0.12	**0.61**
Front 10mm	25RB-Mid Front 10mm	0.26	50RB-High Front 10mm	0.21	**0.47**
Rear 10mm	25RB-Mid Rear 10mm	0.36	50RB-High Rear 10mm	0.53	**0.89**
Left 10mm	25RB-Mid Left 10mm	0.27	50RB-High Left 10mm	0.62	0.89
Right 10mm	25RB-Mid Right 10mm	0	50RB-High Right 10mm	0.00	0.00
Top 10mm	25RB-Middle Top 10mm	0.37	50RB-High Top 10mm	0.14	0.50

Table 13.11 ENDC:66A+n7 head SAR Results

Head SAR		N7	B66		66A+N7
Test Position	**Test side**	**Calculated SAR 1g (W/kg)**	**Test setup**	**Calculated SAR 1g (W/kg)**	**Calculated SAR 1g (W/kg)**
Cheek	Left	0.10	1RB-High	0.28	0.38
Tilt	Left	0.05	1RB-High	0.17	0.22
Cheek	Right	0.05	1RB-High	0.54	0.59
Tilt	Right	0.05	1RB-High	0.18	0.23
Cheek	Left	0.10	50RB-Mid	0.18	0.28
Tilt	Left	0.05	50RB-Mid	0.15	0.20
Cheek	Right	0.05	50RB-Mid	0.46	0.51
Tilt	Right	0.05	50RB-Mid	0.15	0.20

Table 13.12 ENDC:66A+n7 body SAR Results

Body SAR	N7	B66		ENDC:N7+B66
Test setup	**Calculated SAR 1g (W/kg)**	**Test setup**	**Calculated SAR 1g (W/kg)**	**Calculated SAR 1g (W/kg)**
Front 10mm	0.26	1RB-Low Front 10mm	0.20	0.46
Rear 10mm	0.20	1RB-Low Rear 10mm	0.53	0.73
Left 10mm	0.08	1RB-Low Left Edge 10mm	0.60	0.68
Right 10mm	0.03	1RB-Low Right Edge 10mm	0.00	0.03
Bottom 10mm	0.13	1RB-Low Bottom Edge 10mm	0.00	0.13
Top 10mm	0.00	1RB-Low Top Edge 10mm	0.12	0.12
Front 10mm	0.26	50RB-High Front 10mm	0.21	0.47
Rear 10mm	0.20	50RB-High Rear 10mm	0.53	0.73
Left 10mm	0.08	50RB-High Left 10mm	0.62	0.70
Right 10mm	0.03	50RB-High Right 10mm	0.00	0.03
Bottom 10mm	0.13	50RB-High Bottom Edge 10mm	0.00	0.13
Top 10mm	0.00	50RB-High Top 10mm	0.14	0.14

Table 13.13 ENDC:5A+n7 Head SAR Results

Head SAR		B5		N7	ENDC:B5+n7
Test Position	Test side	Test setup	Calculated SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Calculated SAR 1g (W/kg)
Cheek	Left	1RB-High	0.40	0.18	0.58
Tilt	Left	1RB-High	0.42	0.07	0.49
Cheek	Right	1RB-High	0.49	0.38	0.87
Tilt	Right	1RB-High	0.54	0.15	0.69
Cheek	Left	25RB-Mid	0.39	0.18	0.58
Tilt	Left	25RB-Mid	0.41	0.07	0.48
Cheek	Right	25RB-Mid	0.49	0.38	0.87
Tilt	Right	25RB-Mid	0.54	0.15	0.69

Table 13.14 ENDC:5A+n7 Body SAR Results

Body SAR	B5		N7	ENDC:B5+N7
Test setup	Test setup	Calculated SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Calculated SAR 1g (W/kg)
Front 10mm	1RB-High Front 10mm	0.33	0.04	0.37
Rear 10mm	1RB-High Rear 10mm	0.46	0.38	0.84
Left 10mm	1RB-High Left 10mm	0.35	0.21	0.55
Right 10mm	1RB-High Right 10mm	0.05	0.00	0.05
Top 10mm	1RB-High Top 10mm	0.49	0.00	0.49
Front 10mm	25RB-Mid Front 10mm	0.26	0.04	0.30
Rear 10mm	25RB-Mid Rear 10mm	0.36	0.38	0.74
Left 10mm	25RB-Mid Left 10mm	0.27	0.21	0.48
Right 10mm	25RB-Mid Right 10mm	0.00	0.00	0.00
Top 10mm	25RB-Middle Top 10mm	0.37	0.00	0.37

Table 13.15: CA and ENDC Results

	LTE	LTE	Position	Reported SAR 1g(W/kg)
CA	LTE Band B5	LTE Band B7	Head	**1.01**
			Body	**0.87**
	LTE Band B5	LTE Band B66	Head	**1.03**
			Body	**0.98**
	LTE	NR	Position	Reported SAR 1g(W/kg)
ENDC	LTE Band B5	N7	Head	**0.87**
			Body	**0.84**
	LTE Band B66	N7	Head	**0.59**
			Body	**0.73**

Note: N7of this device doesn't support SA mode, only supports NSA mode:

14 SAR Test Result

It is determined by user manual for the distance between the EUT and the phantom bottom. The distance is 10 mm or 15mm 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-gSAR 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 14.1: Duty Cycle

Mode	Duty Cycle
Speech for GSM850/1900	1:8.3
GPRS&EGPRS for GSM850/1900	1:2.67
WCDMA&LTE FDD	1:1

Note;

H: the headset of WH35 by Juwei

14.1 SAR results for Fast SAR

Table 14.1-1: SAR Values (GSM 850 MHz Band - Head)

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)
Ch.	MHz										
190	836.6	Left	Cheek	/	28.95	30.5	0.171	**0.24**	0.296	**0.42**	0.01
190	836.6	Left	Tilt	/	28.95	30.5	0.151	**0.22**	0.303	**0.43**	-0.02
190	836.6	Right	Cheek	/	28.95	30.5	0.207	**0.30**	0.365	**0.52**	0.03
251	848.8	Right	Tilt	/	28.84	30.5	0.202	**0.30**	0.378	**0.55**	-0.05
190	836.6	Right	Tilt	Fig.1	28.95	30.5	0.21	**0.30**	0.404	**0.58**	0.14
128	824.2	Right	Tilt	/	28.39	30.5	0.193	**0.31**	0.359	**0.58**	0.03

Table 14.1-2: 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										
190	836.6	GPRS(3)	Front	/	28.13	28.2	0.118	**0.12**	0.199	**0.20**	0.07
251	848.8	GPRS(3)	Rear	Fig.2	27.64	28.2	0.196	**0.22**	0.341	**0.39**	0.00
190	836.6	GPRS(3)	Rear	/	28.13	28.2	0.166	**0.17**	0.289	**0.29**	0.03
128	824.2	GPRS(3)	Rear	/	28.13	28.2	0.175	**0.18**	0.303	**0.31**	-0.11
190	836.6	GPRS(3)	Left	/	28.13	28.2	0.122	**0.12**	0.187	**0.19**	-0.12
190	836.6	GPRS(3)	Right	/	28.13	28.2	<0.01	<0.01	<0.01	<0.01	0.09
190	836.6	GPRS(3)	Top	/	28.13	28.2	0.129	**0.13**	0.251	**0.26**	0.1
251	848.8	EGPRS(3)	Rear	/	27.83	28.2	0.187	**0.20**	0.321	**0.35**	0.03

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

Table 14.1-3: 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										
661	1880	Left	Cheek	/	28.95	30	0.159	**0.20**	0.266	**0.34**	0.01
661	1880	Left	Tilt	/	28.95	30	0.09	**0.11**	0.152	**0.19**	0.02
810	1909.8	Right	Cheek	Fig.3	29.23	30	0.456	**0.54**	0.92	**1.10**	0.04
661	1880	Right	Cheek	/	28.95	30	0.38	**0.48**	0.769	**0.98**	0.06
512	1850.2	Right	Cheek	/	29.39	30	0.321	**0.37**	0.646	**0.74**	0.08
661	1880	Right	Tilt	/	28.95	30	0.14	**0.18**	0.263	**0.33**	-0.09

Table 14.1-4: 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										
661	1880	GPRS(3)	Front	/	24.71	26	0.069	**0.09**	0.128	**0.17**	0.03
810	1909.8	GPRS(3)	Rear	Fig.4	25.20	26	0.252	**0.30**	0.508	**0.61**	0.07
661	1880	GPRS(3)	Rear	/	24.71	26	0.167	**0.22**	0.326	**0.44**	-0.06
512	1850.2	GPRS(3)	Rear	/	25.06	26	0.174	**0.22**	0.341	**0.42**	0.01
661	1880	GPRS(3)	Left	/	24.71	26	0.16	**0.22**	0.313	**0.43**	0.03
661	1880	GPRS(3)	Right	/	24.71	26	<0.01	<0.01	<0.01	<0.01	/
661	1880	GPRS(3)	Top	/	24.71	26	0.033	**0.05**	0.054	**0.07**	0.02
661	1880	EGPRS(3)	Rear	/	24.93	26	0.241	**0.31**	0.487	**0.62**	0.03

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

Table 14.1-5: SAR Values (WCDMA 1900 MHz Band - Head)

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)
Ch.	MHz										
9400	1880	Left	Cheek	/	19.29	21.00	0.122	**0.18**	0.207	**0.31**	0.03
9400	1880	Left	Tilt	/	19.29	21.00	0.063	**0.09**	0.106	**0.16**	0.09
9538	1907.6	Right	Cheek	Fig.5	19.35	21.00	0.334	**0.49**	0.683	**1.00**	0.07
9400	1880	Right	Cheek	/	19.29	21.00	0.282	**0.42**	0.575	**0.85**	-0.03
9262	1852.4	Right	Cheek	/	19.20	21.00	0.246	**0.37**	0.506	**0.77**	0.03
9400	1880	Right	Tilt	/	19.29	21.00	0.150	**0.22**	0.288	**0.43**	0.09

Table 14.1-6: SAR Values (WCDMA 1900 MHz Band - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
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	Front	/	21.29	22.50	0.093	**0.12**	0.17	**0.22**	0.00
9400	1880	Rear	/	21.29	22.50	0.230	**0.30**	0.451	**0.60**	0.09
9538	1907.6	Left	Fig.6	21.21	22.50	0.235	**0.32**	0.473	**0.64**	-0.04
9400	1880	Left	/	21.29	22.50	0.234	**0.31**	0.459	**0.61**	-0.02
9262	1852.4	Left	/	21.17	22.50	0.231	**0.31**	0.461	**0.63**	0.05
9400	1880	Right	/	21.29	22.50	<0.01	<0.01	<0.01	<0.01	/
9400	1880	Top	/	21.29	22.50	0.050	**0.07**	0.083	**0.11**	-0.13

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

Table 14.1-7: SAR Values (WCDMA 850 MHz Band - Head)

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)
Ch.	MHz										
4183	836.6	Left	Cheek	/	20.44	22	0.156	**0.22**	0.261	**0.37**	-0.01
4183	836.6	Left	Tilt	/	20.44	22	0.140	**0.20**	0.248	**0.36**	0.14
4183	836.6	Right	Cheek	/	20.44	22	0.176	**0.25**	0.302	**0.43**	0.07
4233	846.6	Right	Tilt	/	20.38	22	0.168	**0.24**	0.3	**0.44**	-0.13
4183	836.6	Right	Tilt	Fig.7	20.44	22	0.171	**0.24**	0.323	**0.46**	-0.01
4132	826.4	Right	Tilt	/	20.38	22	0.162	**0.24**	0.299	**0.43**	0.07

Table 14.1-8: SAR Values (WCDMA 850 MHz Band - Body)

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)
Ch.	MHz									
4183	836.6	Front	/	23.42	24	0.119	**0.14**	0.19	**0.22**	-0.15
4183	836.6	Rear	/	23.42	24	0.162	**0.19**	0.263	**0.30**	-0.15
4183	836.6	Left	/	23.42	24	0.138	**0.16**	0.196	**0.22**	-0.15
4183	836.6	Right	/	23.42	24	0.019	**0.02**	0.027	**0.03**	0.10
4233	846.6	Top	Fig.8	23.38	24	0.141	**0.16**	0.272	**0.31**	-0.01
4183	836.6	Top	/	23.42	24	0.142	**0.16**	0.265	**0.30**	0.09
4132	826.4	Top	/	23.40	24	0.128	**0.15**	0.249	**0.29**	-0.06

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

Table 14.1-9: SAR Values (LTE Band2 - Head)

Ambient Temperature: 22.9 ºC Liquid Temperature: 22.5ºC												
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											
18900	1880	1RB-Mid	Left	Cheek	/	19.39	21.00	0.179	**0.26**	0.315	**0.46**	0.1
18900	1880	1RB-Mid	Left	Tilt	/	19.39	21.00	0.087	**0.13**	0.155	**0.22**	0.18
18900	1880	1RB-Mid	Right	Cheek	/	19.39	21.00	0.396	**0.57**	0.816	**1.18**	0.02
19100	1900	1RB-Mid	Right	Cheek	/	19.35	21.00	0.357	**0.52**	0.801	**1.17**	0.01
18700	1860	1RB-Mid	Right	Cheek	/	19.32	21.00	0.368	**0.54**	0.798	**1.17**	0.03
18900	1880	1RB-Mid	Right	Tilt	/	19.39	21.00	0.153	**0.22**	0.308	**0.45**	0.09
19100	1900	50RB-High	Left	Cheek	/	19.47	21.00	0.182	**0.26**	0.318	**0.45**	0.15
19100	1900	50RB-High	Left	Tilt	/	19.47	21.00	0.082	**0.12**	0.152	**0.22**	-0.13
19100	1900	50RB-High	Right	Cheek	Fig.9	19.47	21.00	0.440	**0.63**	0.871	**1.24**	0.05
18900	1880	50RB-High	Right	Cheek	/	19.43	21.00	0.409	**0.59**	0.844	**1.21**	0.01
18700	1860	50RB-Mid	Right	Cheek	/	19.43	21.00	0.387	**0.55**	0.791	**1.13**	0.19
19100	1900	50RB-High	Right	Tilt	/	19.47	21.00	0.180	**0.26**	0.361	**0.51**	0.11
18700	1860	100RB	Right	Cheek	/	19.41	21.00	0.389	**0.56**	0.795	**1.15**	0.14

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-10: SAR Values (LTE Band2 - Body)

Ambient Temperature: 22.9℃ Liquid Temperature: 22.5℃											
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										
19100	1900	1RB-High	Front	/	20.80	22.50	0.149	**0.22**	0.266	**0.39**	-0.07
19100	1900	1RB-High	Rear	Fig.10	20.80	22.50	0.392	**0.58**	0.798	**1.18**	0.18
18900	1880	1RB-Low	Rear	/	20.76	22.50	0.340	**0.51**	0.681	**1.02**	0.06
18700	1860	1RB-High	Rear	/	20.76	22.50	0.280	**0.42**	0.543	**0.81**	-0.12
19100	1900	1RB-High	Left	/	20.80	22.50	0.298	**0.44**	0.537	**0.79**	0.07
19100	1900	1RB-High	Right	/	20.80	22.50	<0.01	<0.01	<0.01	<0.01	/
19100	1900	1RB-High	Top	/	20.80	22.50	0.057	**0.08**	0.089	**0.13**	-0.16
19100	1900	50RB-High	Front	/	20.96	22.50	0.157	**0.22**	0.285	**0.41**	0.15
19100	1900	50RB-High	Rear	/	20.96	22.50	0.389	**0.55**	0.781	**1.11**	0.07
18900	1880	50RB-High	Rear	/	20.92	22.50	0.347	**0.50**	0.706	**1.02**	-0.01
18700	1860	50RB-High	Rear	/	20.92	22.50	0.286	**0.41**	0.563	**0.81**	0.07
19100	1900	50RB-High	Left	/	20.96	22.50	0.322	**0.46**	0.624	**0.89**	-0.18
19100	1900	50RB-High	Right	/	20.96	22.50	<0.01	<0.01	<0.01	<0.01	/
19100	1900	50RB-High	Top	/	20.96	22.50	0.062	**0.09**	0.097	**0.14**	0.04
18700	1860	1000RB	Rear	/	20.88	22.50	0.278	**0.40**	0.546	**0.79**	-0.02

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.1-11: SAR Values (LTE Band5 - Head)

Ambient Temperature: 22.9℃ Liquid Temperature: 22.5℃												
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											
20450	829	1RB-High	Left	Cheek	/	21.04	22.40	0.308	**0.42**	0.542	**0.74**	0.08
20450	829	1RB-High	Left	Tilt	/	21.04	22.40	0.291	**0.40**	0.548	**0.75**	-0.17
20600	844	1RB-Mid	Right	Cheek	/	20.98	22.40	0.450	**0.62**	0.729	**1.01**	0.07
20525	836.5	1RB-Mid	Right	Cheek	/	21.00	22.40	0.431	**0.60**	0.733	**1.01**	-0.01
20450	829	1RB-High	Right	Cheek	/	21.04	22.40	0.364	**0.50**	0.658	**0.90**	0.19
20600	844	1RB-Mid	Right	Tilt	/	20.98	22.40	0.420	**0.58**	0.77	**1.07**	0.12
20525	836.5	1RB-Mid	Right	Tilt	/	21.00	22.40	0.420	**0.58**	0.74	**1.02**	-0.04
20450	829	1RB-High	Right	Tilt	/	21.04	22.40	0.352	**0.48**	0.661	**0.90**	0.05
20450	829	25RB-Mid	Left	Cheek	/	21.10	22.40	0.280	**0.38**	0.51	**0.69**	-0.01
20450	829	25RB-Mid	Left	Tilt	/	21.10	22.40	0.256	**0.35**	0.548	**0.74**	0.06
20600	844	25RB-Mid	Right	Cheek	/	21.06	22.40	0.458	**0.62**	0.772	**1.05**	0.08

20525	836.5	25RB-Mid	Right	Cheek	/	21.04	22.40	0.437	**0.60**	0.741	**1.01**	0.01
20450	829	25RB-Mid	Right	Cheek	/	21.10	22.40	0.366	**0.49**	0.662	**0.89**	0.17
20600	844	25RB-Mid	Right	Tilt	Fig.11	21.06	22.40	0.447	**0.61**	0.845	**1.15**	-0.04
20525	836.5	25RB-Mid	Right	Tilt	/	21.04	22.40	0.426	**0.58**	0.812	**1.11**	0.06
20450	829	25RB-Mid	Right	Tilt	/	21.10	22.40	0.357	**0.48**	0.725	**0.98**	0.01
20450	829	50RB	Right	Cheek	/	21.08	22.40	0.402	**0.55**	0.705	**0.96**	0.09
20450	829	50RB	Right	Tilt	/	21.08	22.40	0.408	**0.55**	0.782	**1.06**	-0.02

Note1: The LTE mode is QPSK_10MHz.

Table 14.1-12: SAR Values (LTE Band5 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
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										
20450	829	1RB-High	Front	/	23.46	24.40	0.166	**0.21**	0.267	**0.33**	-0.07
20450	829	1RB-High	Rear	/	23.46	24.40	0.225	**0.28**	0.37	**0.46**	-0.06
20450	829	1RB-High	Left	/	23.46	24.40	0.199	**0.25**	0.28	**0.35**	0.04
20450	829	1RB-High	Right	/	23.46	24.40	0.029	**0.04**	0.039	**0.05**	0.09
20450	829	1RB-High	Top	Fig.12	23.46	24.40	0.204	**0.25**	0.393	**0.49**	0.17
20450	829	25RB-Mid	Front	/	22.64	23.40	0.134	**0.16**	0.216	**0.26**	-0.16
20450	829	25RB-Mid	Rear	/	22.64	23.40	0.183	**0.22**	0.3	**0.36**	0.02
20450	829	25RB-Mid	Left	/	22.64	23.40	0.161	**0.19**	0.23	**0.27**	0.15
20450	829	25RB-Mid	Right	/	22.64	23.40	<0.01	<0.01	<0.01	<0.01	0.14
20450	829	25RB-Mid	Top	/	22.64	23.40	0.161	**0.19**	0.31	**0.37**	-0.05

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

Note2: The LTE mode is QPSK_10MHz.

Note3: The data is used for CA &ENDC.

Table 14.1-13: SAR Values (LTE Band7 - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
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											
21100	2535	1RB-Mid	Left	Cheek	/	23.59	24.00	0.068	**0.07**	0.137	**0.15**	0.02
21100	2535	1RB-Mid	Left	Tilt	/	23.59	24.00	0.025	**0.03**	0.049	**0.05**	0.03
21100	2535	1RB-Mid	Right	Cheek	Fig.13	23.59	24.00	0.206	**0.23**	0.474	**0.52**	0.1
21100	2535	1RB-Mid	Right	Tilt	/	23.59	24.00	0.079	**0.09**	0.157	**0.17**	-0.03
21100	2535	50RB-High	Left	Cheek	/	22.70	23.00	0.055	**0.06**	0.111	**0.12**	-0.05
21100	2535	50RB-High	Left	Tilt	/	22.70	23.00	0.021	**0.02**	0.042	**0.05**	0.06
21100	2535	50RB-High	Right	Cheek	/	22.70	23.00	0.119	**0.13**	0.253	**0.27**	-0.07

21100	2535	50RB-High	Right	Tilt	/	22.70	23.00	0.061	**0.07**	0.122	**0.13**	0.08
21350	2560	CA	Right	Cheek	/	23.70	24.00	0.189	**0.20**	0.43	**0.46**	0.07

Note1: The LTE mode is QPSK_20MHz.

Note2: The data is used for CA &ENDC.

Table 14.1-14: SAR Values (LTE Band7 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
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										
21100	2535	1RB-High	Front	/	16.71	18.00	0.013	**0.02**	0.043	**0.06**	0.01
21100	2535	1RB-High	Rear	Fig.14	16.71	18.00	0.13	**0.17**	0.295	**0.40**	0.15
21100	2535	1RB-High	Left	/	16.71	18.00	0.064	**0.09**	0.128	**0.17**	-0.12
21100	2535	1RB-High	Right	/	16.71	18.00	<0.01	<0.01	<0.01	<0.01	/
21100	2535	1RB-High	Top	/	16.71	18.00	0.012	**0.02**	0.039	**0.05**	-0.11
20850	2510	50RB-High	Front	/	16.72	18.00	0.013	**0.02**	0.027	**0.04**	0.13
20850	2510	50RB-High	Rear	/	16.72	18.00	0.114	**0.15**	0.234	**0.31**	0.03
20850	2510	50RB-High	Left	/	16.72	18.00	0.058	**0.08**	0.115	**0.15**	-0.05
20850	2510	50RB-High	Right	/	16.72	18.00	<0.01	<0.01	<0.01	<0.01	/
20850	2510	50RB-High	Top	/	16.72	18.00	0.012	**0.02**	0.036	**0.05**	0.08
21350	2560	CA	Rear	/	17.25	18.00	0.133	**0.16**	0.302	**0.36**	0.01

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

Note2: The LTE mode is QPSK_20MHz.

Note3: The data is used for CA &ENDC.

Table 14.1-15: SAR Values (LTE Band12 - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
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											
23130	711	1RB-Low	Left	Cheek	/	20.76	22.30	0.280	**0.40**	0.515	**0.73**	-0.17
23130	711	1RB-Low	Left	Tilt	/	20.76	22.30	0.259	**0.37**	0.467	**0.67**	-0.01
23130	711	1RB-Low	Right	Cheek	/	20.76	22.30	0.271	**0.39**	0.476	**0.68**	0.14
23130	711	1RB-Low	Right	Tilt	Fig.15	20.76	22.30	0.287	**0.41**	0.578	**0.82**	-0.09
23095	707.5	1RB-Low	Right	Tilt	/	20.65	22.30	0.233	**0.34**	0.455	**0.67**	0.06
23060	704	1RB-Low	Right	Tilt	/	20.75	22.30	0.222	**0.32**	0.434	**0.62**	-0.02
23060	704	25RB-Low	Left	Cheek	/	20.8	22.30	0.226	**0.32**	0.403	**0.57**	-0.12
23060	704	25RB-Low	Left	Tilt	/	20.8	22.30	0.221	**0.31**	0.412	**0.58**	-0.18
23060	704	25RB-Low	Right	Cheek	/	20.8	22.30	0.261	**0.37**	0.458	**0.65**	-0.05
23060	704	25RB-Low	Right	Tilt	/	20.8	22.30	0.282	**0.40**	0.573	**0.81**	0.18
23060	704	50RB	Right	Tilt	/	20.78	22.30	0.281	**0.40**	0.567	**0.80**	0.06

Note1: The LTE mode is QPSK_10MHz.

Table 14.1-16: SAR Values (LTE Band12 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
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										
23130	711	1RB-Mid	Front	/	23.37	24.30	0.149	**0.18**	0.242	**0.30**	0.13
23130	711	1RB-Mid	Rear	/	23.37	24.30	0.207	**0.26**	0.348	**0.43**	0.18
23130	711	1RB-Mid	Left	Fig.16	23.37	24.30	0.263	**0.33**	0.372	**0.46**	0.07
23130	711	1RB-Mid	Right	/	23.37	24.30	0.081	**0.10**	0.113	**0.14**	-0.08
23130	711	1RB-Mid	Top	/	23.37	24.30	0.17	**0.21**	0.326	**0.40**	0.07
23060	704	25RB-Middle	Front	/	22.51	23.30	0.109	**0.13**	0.176	**0.21**	-0.1
23060	704	25RB-Middle	Rear	/	22.51	23.30	0.153	**0.18**	0.25	**0.30**	-0.19
23060	704	25RB-Middle	Left	/	22.51	23.30	0.198	**0.24**	0.282	**0.34**	0.03
23060	704	25RB-Middle	Right	/	22.51	23.30	0.062	**0.07**	0.087	**0.10**	0.1
23060	704	25RB-Middle	Top	/	22.51	23.30	0.124	**0.15**	0.238	**0.29**	-0.13

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.1-17: SAR Values (LTE Band66 - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
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											
132322	1745	1RB-High	Left	Cheek	/	20.52	22.00	0.147	**0.21**	0.246	**0.35**	0.11
132322	1745	1RB-High	Left	Tilt	/	20.52	22.00	0.113	**0.16**	0.196	**0.28**	0.05
132322	1745	1RB-High	Right	Cheek	Fig.17	20.52	22.00	0.315	**0.44**	0.646	**0.91**	0.04
132572	1770	1RB-High	Right	Cheek	/	20.38	22.00	0.306	**0.44**	0.621	**0.90**	0.02
132072	1720	1RB-High	Right	Cheek	/	20.51	22.00	0.278	**0.39**	0.571	**0.80**	0.13
132322	1745	1RB-High	Right	Tilt	/	20.52	22.00	0.116	**0.16**	0.214	**0.30**	-0.06
132072	1720	50RB-Mid	Left	Cheek	/	20.58	22.00	0.145	**0.20**	0.245	**0.34**	-0.18
132072	1720	50RB-Mid	Left	Tilt	/	20.58	22.00	0.112	**0.16**	0.193	**0.27**	0.04
132072	1720	50RB-Mid	Right	Cheek	/	20.58	22.00	0.276	**0.38**	0.558	**0.77**	0.19
132072	1720	50RB-Mid	Right	Tilt	/	20.58	22.00	0.105	**0.15**	0.189	**0.26**	0.02
132072	1720	100RB	Right	Cheek	/	20.58	22.00	0.311	**0.43**	0.637	**0.88**	0.08

Note1: The LTE mode is QPSK_20MHz.

Table 14.1-18: SAR Values (LTE Band66 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
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										
132322	1745	1RB-Low	Front	/	23.62	24.00	0.124	**0.14**	0.225	**0.25**	-0.14
132322	1745	1RB-Low	Rear	/	23.62	24.00	0.340	**0.37**	0.611	**0.67**	0.06
132322	1745	1RB-Low	Left	Fig.18	23.62	24.00	0.372	**0.41**	0.728	**0.79**	0.13
132322	1745	1RB-Low	Right	/	23.62	24.00	<0.01	<0.01	<0.01	<0.01	0.12
132322	1745	1RB-Low	Top	/	23.62	24.00	0.082	**0.09**	0.136	**0.15**	-0.02
132322	1745	50RB-High	Front	/	22.60	23.00	0.101	**0.11**	0.182	**0.20**	-0.14
132322	1745	50RB-High	Rear	/	22.60	23.00	0.288	**0.32**	0.523	**0.57**	-0.08
132322	1745	50RB-High	Left	/	22.60	23.00	0.349	**0.38**	0.68	**0.75**	0.07
132322	1745	50RB-High	Right	/	22.60	23.00	<0.01	<0.01	<0.01	<0.01	-0.01
132322	1745	50RB-High	Top	/	22.60	23.00	0.069	**0.08**	0.116	**0.13**	-0.09

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.1-19: SAR Values (LTE Band5 - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
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											
20450	829	1RB-High	Left	Cheek	/	18.42	20.00	0.146	**0.15**	0.278	**0.40**	-0.02
20450	829	1RB-High	Left	Tilt	/	18.42	20.00	0.143	**0.15**	0.293	**0.42**	0.03
20450	829	1RB-High	Right	Cheek	/	18.42	20.00	0.182	**0.19**	0.342	**0.49**	0.04
20450	829	1RB-High	Right	Tilt	/	18.42	20.00	0.184	**0.19**	0.376	**0.54**	-0.13
20450	829	25RB-Mid	Left	Cheek	/	18.52	20.00	0.149	**0.15**	0.28	**0.39**	-0.17
20450	829	25RB-Mid	Left	Tilt	/	18.52	20.00	0.142	**0.15**	0.292	**0.41**	0.00
20450	829	25RB-Mid	Right	Cheek	/	18.52	20.00	0.184	**0.19**	0.35	**0.49**	0.04
20450	829	25RB-Mid	Right	Tilt	Fig.19	18.52	20.00	0.189	**0.20**	0.385	**0.54**	0.08

Note1: The distance between the EUT and the phantom bottom is10mm.

Note2: The LTE mode is QPSK_10MHz.

Note3: The data is used for CA &ENDC.

Table 14.1-20: SAR Values (LTE Band66 – Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
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											
132322	1745	1RB-High	Left	Cheek	/	18.41	20.00	0.107	**0.11**	0.191	**0.28**	-0.11
132322	1745	1RB-High	Left	Tilt	/	18.41	20.00	0.066	**0.07**	0.115	**0.17**	0.1
132322	1745	1RB-High	Right	Cheek	Fig.20	18.41	20.00	0.181	**0.19**	0.372	**0.54**	0.13
132322	1745	1RB-High	Right	Tilt	/	18.41	20.00	0.066	**0.07**	0.123	**0.18**	-0.09
132072	1720	50RB-Mid	Left	Cheek	/	18.55	20.00	0.08	**0.08**	0.131	**0.18**	-0.15
132072	1720	50RB-Mid	Left	Tilt	/	18.55	20.00	0.066	**0.07**	0.111	**0.15**	-0.19
132072	1720	50RB-Mid	Right	Cheek	/	18.55	20.00	0.162	**0.17**	0.329	**0.46**	-0.15
132072	1720	50RB-Mid	Right	Tilt	/	18.55	20.00	0.059	**0.06**	0.107	**0.15**	-0.09

Note1: The LTE mode is QPSK_20MHz.

Note2: The data is used for CA &ENDC.

Table 14.1-21: SAR Values (LTE Band66 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
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										
132322	1745	1RB-Low	Front	/	20.50	22.00	0.077	**0.08**	0.144	**0.20**	-0.07
132322	1745	1RB-Low	Rear	/	20.50	22.00	0.197	**0.20**	0.372	**0.53**	-0.04
132322	1745	1RB-Low	Left	/	20.50	22.00	0.216	**0.22**	0.428	**0.60**	0.13
132322	1745	1RB-Low	Right	/	20.50	22.00	<0.01	<0.01	<0.01	<0.01	/
132322	1745	1RB-Low	Top	/	20.50	22.00	0.049	**0.05**	0.086	**0.12**	-0.09
132322	1745	50RB-High	Front	/	20.56	22.00	0.079	**0.08**	0.151	**0.21**	0.09
132322	1745	50RB-High	Rear	/	20.56	22.00	0.202	**0.21**	0.384	**0.53**	-0.09
132322	1745	50RB-High	Left	Fig.21	20.56	22.00	0.223	**0.23**	0.443	**0.62**	0.08
132322	1745	50RB-High	Right	/	20.56	22.00	<0.01	<0.01	<0.01	<0.01	/
132322	1745	50RB-High	Top	/	20.56	22.00	0.055	**0.06**	0.097	**0.14**	0.17

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

Note2: The LTE mode is QPSK_20MHz.

Note3: The data is used for CA &ENDC.

14.2 SAR results for 5G NR N7

Table 14.2-1: SAR Values (NR5G n7 -Antenna2-Head)

Ambient Temperature: 22.2 ℃ Liquid Temperature: 22 ℃											
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										
507000	2535	Left	Cheek	/	24.70	25.00	0.088	**0.09**	0.17	**0.18**	-0.16
507000	2535	Left	Tilt	/	24.70	25.00	0.035	**0.04**	0.066	**0.07**	0.01
507000	2535	Right	Cheek	Fig.22	24.70	25.00	0.161	**0.17**	0.357	**0.38**	0.09
507000	2535	Right	Tilt	/	24.70	25.00	0.069	**0.07**	0.142	**0.15**	0.07

Table 14.2-2: SAR Values (NR5G n7 -Antenna2-Body)

Ambient Temperature: 22.2 ℃ Liquid Temperature: 22 ℃										
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									
507000	2535	Front	/	18.64	19.00	0.017	**0.02**	0.036	**0.04**	-0.15
507000	2535	Rear	Fig.23	18.64	19.00	0.155	**0.17**	0.354	**0.38**	-0.09
507000	2535	Left	/	18.64	19.00	0.09	**0.10**	0.19	**0.21**	-0.01
507000	2535	Right	/	18.64	19.00	<0.01	<0.01	<0.01	<0.01	/
507000	2535	Bottom	/	18.64	19.00	<0.01	<0.01	<0.01	<0.01	/
507000	2535	Top	/	18.64	19.00	<0.01	<0.01	<0.01	<0.01	/

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

Table 14.2-3: SAR Values (NR5G n7 -Antenna1-Head)

Ambient Temperature: 22.2 ℃ Liquid Temperature: 22 ℃											
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										
507000	2535	Left	Cheek	Fig.24	24.68	25.00	0.053	**0.06**	0.097	**0.10**	0.03
507000	2535	Left	Tilt	/	24.68	25.00	0.023	**0.02**	0.044	**0.05**	0.00
507000	2535	Right	Cheek	/	24.68	25.00	0.026	**0.03**	0.048	**0.05**	-0.14
507000	2535	Right	Tilt	/	24.68	25.00	0.025	**0.03**	0.047	**0.05**	0.03

Table 14.2-2: SAR Values (NR5G n7 -Antenna1-Body)

Ambient Temperature: 22.2 ℃ Liquid Temperature: 22 ℃										
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									
507000	2535	Front	Fig.25	23.88	24.00	0.135	**0.14**	0.253	**0.26**	0.04
507000	2535	Rear	/	23.88	24.00	0.108	**0.11**	0.199	**0.20**	-0.12
507000	2535	Left	/	23.88	24.00	0.048	**0.05**	0.081	**0.08**	-0.13
507000	2535	Right	/	23.88	24.00	0.012	**0.01**	0.029	**0.03**	-0.08
507000	2535	Bottom	/	23.88	24.00	0.07	**0.07**	0.13	**0.13**	0.05
507000	2535	Top	/	23.88	24.00	<0.01	<0.01	<0.01	<0.01	/

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

14.3 SAR results for Standard procedure

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

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

Ambient Temperature: 22.9 ℃ 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)
Ch.	MHz										
190	836.6	Right	Tilt	Fig.1	28.95	30.5	0.21	**0.30**	0.404	**0.58**	0.14

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

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
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	27.64	28.2	0.196	**0.22**	0.341	**0.39**	0.00

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

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

Ambient Temperature: 22.9 ℃ 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)
Ch.	MHz										
810	1909.8	Right	Cheek	Fig.3	29.23	30	0.456	**0.54**	0.92	**1.10**	0.04

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

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
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(3)	Rear	Fig.4	25.20	26	0.252	**0.30**	0.508	**0.61**	0.07

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

Table 14.3-5: SAR Values (WCDMA 1900 MHz Band - Head)

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)
Ch.	MHz										
9538	1907.6	Right	Cheek	Fig.5	19.35	21.00	0.334	**0.49**	0.683	**1.00**	0.07

Table 14.3-6: SAR Values (WCDMA 1900 MHz Band - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
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									
9538	1907.6	Left	Fig.6	21.21	22.50	0.235	**0.32**	0.473	**0.64**	-0.04

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

Table 14.3-7: SAR Values (WCDMA 850 MHz Band - Head)

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)
Ch.	MHz										
4183	836.6	Right	Tilt	Fig.7	20.44	22	0.171	**0.24**	0.323	**0.46**	-0.01

Table 14.3-8: SAR Values (WCDMA 850 MHz Band - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
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	Top	Fig.8	23.38	24	0.141	**0.16**	0.272	**0.31**	-0.01

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

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

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
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											
19100	1900	50RB-High	Right	Cheek	Fig.9	19.47	21.00	0.440	**0.63**	0.871	**1.24**	0.05

Note1: The LTE mode is QPSK_20MHz.

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

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
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										
19100	1900	1RB-High	Rear	Fig.10	20.80	22.50	0.392	**0.58**	0.798	**1.18**	0.18

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.3-11: SAR Values (LTE Band5 - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
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											
20600	844	25RB-Mid	Right	Tilt	Fig.11	21.06	22.40	0.447	**0.61**	0.845	**1.15**	-0.04

Note1: The LTE mode is QPSK_10MHz.

Table 14.3-12: SAR Values (LTE Band5 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
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										
20450	829	1RB-High	Top	Fig.12	23.46	24.40	0.204	**0.25**	0.393	**0.49**	0.17

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

Note2: The LTE mode is QPSK_10MHz.

Note3: The data is used for CA &ENDC.

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

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
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											
21100	2535	1RB-Mid	Right	Cheek	Fig.13	23.59	24.00	0.206	**0.23**	0.474	**0.52**	0.1

Note1: The LTE mode is QPSK_20MHz.

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

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
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										
21100	2535	1RB-High	Rear	Fig.14	16.71	18.00	0.13	**0.17**	0.295	**0.40**	0.15

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.3-15: SAR Values (LTE Band12 - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
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											
23130	711	1RB-Low	Right	Tilt	Fig.15	20.76	22.30	0.287	**0.41**	0.578	**0.82**	-0.09

Note1: The LTE mode is QPSK_10MHz.

Table 14.3-16: SAR Values (LTE Band12 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
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										
23130	711	1RB-Mid	Left	Fig.16	23.37	24.30	0.263	**0.33**	0.372	**0.46**	0.07

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.3-17: SAR Values (LTE Band66 - Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
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											
132322	1745	1RB-High	Right	Cheek	Fig.17	20.52	22.00	0.315	**0.44**	0.646	**0.91**	0.04

Note1: The LTE mode is QPSK_20MHz.

Table 14.3-18: SAR Values (LTE Band66 - Body)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃											
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										
132322	1745	1RB-Low	Left	Fig.18	23.62	24.00	0.372	**0.41**	0.728	**0.79**	0.13

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

Note2: The LTE mode is QPSK_20MHz.

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

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
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											
20450	829	25RB-Mid	Right	Tilt	Fig.19	18.52	20.00	0.189	**0.20**	0.385	**0.54**	0.08

Note1: The distance between the EUT and the phantom bottom is10mm.

Note2: The LTE mode is QPSK_10MHz.

Note3: The data is used for CA &ENDC.

Table 14.3-20: SAR Values (LTE Band66 – Head)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃												
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											
132322	1745	1RB-High	Right	Cheek	Fig.20	18.41	20.00	0.181	**0.19**	0.372	**0.54**	0.13
132322	1745	1RB-High	Right	Tilt	/	18.41	20.00	0.066	**0.07**	0.123	**0.18**	-0.09

Note1: The LTE mode is QPSK_20MHz.

Note2: The data is used for CA &ENDC.

Table 14.3-21: SAR Values (LTE Band66 - Body)

Ambient Temperature: 22.9℃ Liquid Temperature: 22.5℃											
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										
132322	1745	50RB-High	Left	Fig.21	20.56	22.00	0.223	**0.23**	0.443	**0.62**	0.08

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

Note2: The LTE mode is QPSK_20MHz.

Note3: The data is used for CA &ENDC.

Table 14.3-22: SAR Values (NR5G n7 -Antenna2-Head)

Ambient Temperature: 22.2℃ Liquid Temperature: 22℃											
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										
507000	2535	Right	Cheek	Fig.22	24.7	25.00	0.161	**0.17**	0.357	**0.38**	0.09

Table 14.3-23: SAR Values (NR5G n7 -Antenna2-Body)

Ambient Temperature: 22.2℃ Liquid Temperature: 22℃										
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									
507000	2535	Rear	Fig.23	18.64	19.00	0.155	**0.17**	0.354	**0.38**	-0.09

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

Table 14.3-24: SAR Values (NR5G n7 -Antenna1-Head)

Ambient Temperature: 22.2℃ Liquid Temperature: 22℃											
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										
507000	2535	Left	Cheek	Fig.24	24.68	25.00	0.053	**0.06**	0.097	**0.10**	0.03

Table 14.3-25: SAR Values (NR5G n7 -Antenna1-Body)

Ambient Temperature: 22.2℃ Liquid Temperature: 22℃										
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									
507000	2535	Front	Fig.25	23.88	24.00	0.135	**0.14**	0.253	**0.26**	0.04

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

14.4 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.

Note：Antenna 4 for 2.4G supports SISO and MIMO.

Antenna 5 for 2.4G doesn't support SISO, only supports MIMO.

Antenna 4 for 5G doesn't support SISO, only supports MIMO.

Antenna 5 for 5G supports SISO and MIMO.

Normal Power

Head Evaluation- SISO antenna4

Table 14.4-1: 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)
Ch.	MHz										
6	2437	Left	Cheek	/	18.26	18.50	0.033	**0.03**	0.088	**0.09**	0.13
6	2437	Left	Tilt	/	18.26	18.50	0.043	**0.05**	0.116	**0.12**	0.12
6	2437	Right	Cheek	/	18.26	18.50	0.018	**0.02**	0.046	**0.05**	-0.19
6	2437	Right	Tilt	/	18.26	18.50	0.026	**0.03**	0.068	**0.07**	0.05

As shown above table, the initial test position for head is "Left Tilt". So the head SAR of WLAN is presented as below:

Table 14.4-2: 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.										
2437	6	Left	Tilt	Fig.26	18.26	18.50	0.07	**0.07**	0.153	**0.16**	0.05
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 14.4-3: SAR Values (WLAN - Head) – 802.11b (Scaled Reported SAR)

Ambient Temperature: 22.9℃ Liquid Temperature: 22.5℃							
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	Left	Tilt	98.97%	100%	**0.16**	**0.16**

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

Body Evaluation- SISO antenna4

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

Ambient Temperature: 22.9℃ Liquid Temperature: 22.5℃										
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.									
2437	6	Front	/	18.26	18.50	<0.01	<0.01	<0.01	<0.01	/
2437	6	Rear	/	18.26	18.50	0.146	**0.15**	0.347	**0.37**	-0.04
2437	6	Right	/	18.26	18.50	0.026	**0.03**	0.054	**0.06**	0.01
2437	6	Top	/	18.26	18.50	0.064	**0.07**	0.133	**0.14**	0.01

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

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

Ambient Temperature: 22.9℃ Liquid Temperature: 22.5℃										
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.									
2437	6	Rear	Fig.27	18.26	18.50	0.151	**0.16**	0.382	**0.40**	-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.

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

presented as below.

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

Ambient Temperature: 22.9℃ Liquid Temperature: 22.5℃						
Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
MHz	Ch.					
2437	6	Rear	98.97%	100%	**0.40**	**0.40**

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

Head Evaluation- MIMO

Table 14.4-7: 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.										
2462	11	Left	Cheek	/	21.6	22.00	0.174	**0.19**	0.381	**0.42**	0.08
2462	11	Left	Tilt	/	21.6	22.00	0.084	**0.09**	0.163	**0.18**	0.14
2462	11	Right	Cheek	/	21.6	22.00	0.044	**0.05**	0.078	**0.09**	0.03
2462	11	Right	Tilt	/	21.6	22.00	0.054	**0.06**	0.104	**0.11**	0.12

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

Table 14.4-8: 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.										
2462	11	Left	Cheek	Fig.28	21.6	22.00	0.161	**0.18**	0.365	**0.40**	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.											

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 14.4-9: SAR Values (WLAN - Head) – 802.11b (Scaled Reported SAR)

Ambient Temperature: 22.9℃ Liquid Temperature: 22.5℃							
Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
MHz	Ch.						
2462	11	Left	Cheek	99.52%	100%	**0.40**	**0.40**

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

Body Evaluation- MIMO

Table 14.4-10: SAR Values (WLAN - Body)– 802.11b (Fast SAR)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
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.									
2462	11	Front	/	21.6	22.00	0.049	**0.05**	0.111	**0.12**	-0.19
2462	11	Rear	/	21.6	22.00	0.142	**0.16**	0.324	**0.36**	0.02
2462	11	Right	/	21.6	22.00	0.09	**0.10**	0.213	**0.23**	-0.01
2462	11	Top	/	21.6	22.00	0.075	**0.08**	0.163	**0.18**	-0.18

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

Table 14.4-11: SAR Values (WLAN - Body)– 802.11b (Full SAR)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
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.									
2462	11	Rear	Fig.29	21.6	22.00	0.144	**0.16**	0.349	**0.38**	0.02

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 14.4-12: SAR Values (WLAN - Body) – 802.11b (Scaled Reported SAR)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃						
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	99.52%	100%	**0.38**	**0.38**

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

Low Power

Body Evaluation- SISO antenna4

Table 14.4-13: SAR Values (WLAN - Body)– 802.11b (Fast SAR)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
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.									
2437	6	Front	/	14.27	15.00	<0.01	<0.01	<0.01	<0.01	/
2437	6	Rear	/	14.27	15.00	0.053	**0.06**	0.122	**0.14**	-0.09
2437	6	Right	/	14.27	15.00	<0.01	<0.01	<0.01	<0.01	/
2437	6	Top	/	14.27	15.00	0.019	**0.02**	0.035	**0.04**	0.06

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

Table 14.4-14: SAR Values (WLAN - Body)– 802.11b (Full SAR)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃										
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.									
2437	6	Rear	Fig.30	14.27	15.00	0.057	**0.07**	0.144	**0.17**	-0.09

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.

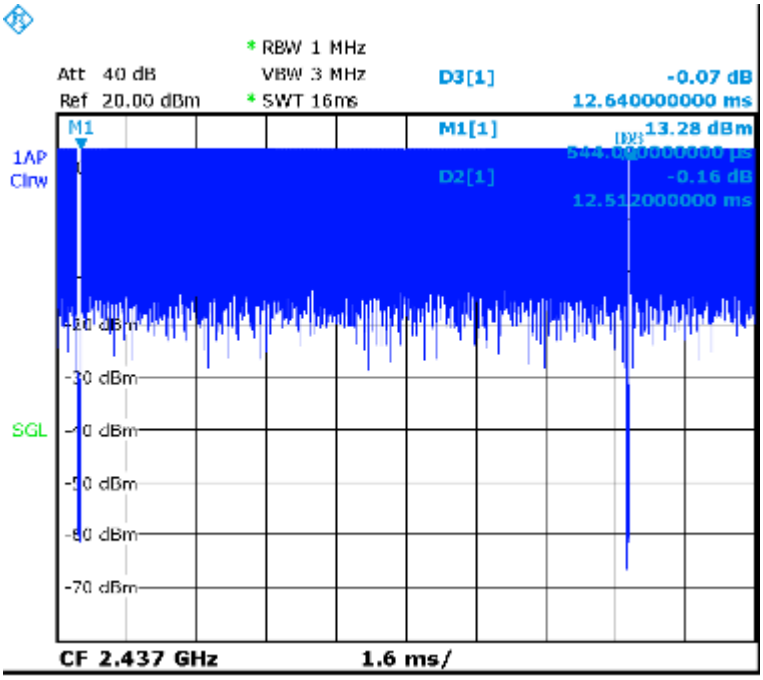
Note2: For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel until the reported SAR is ≤ 1.2 W/kg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

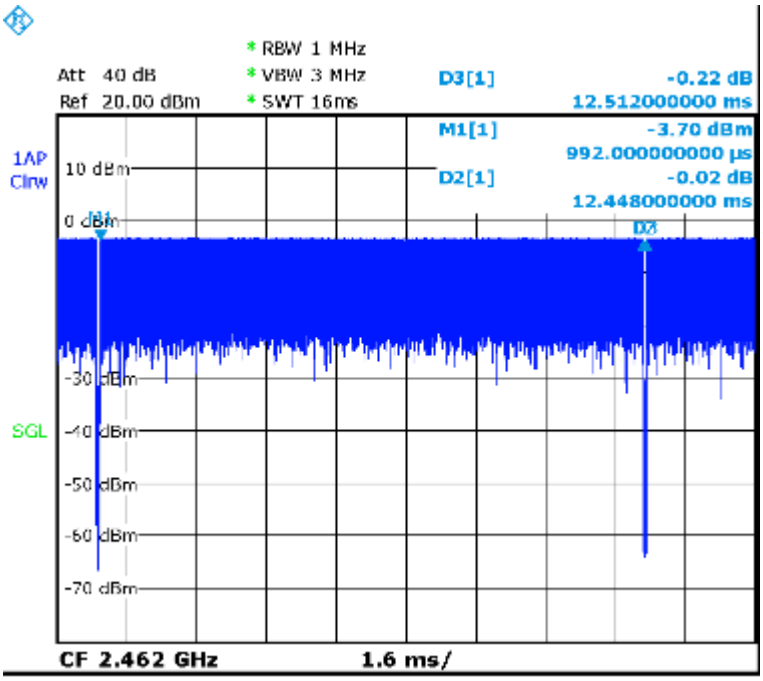
Table 14.4-15: SAR Values (WLAN - Body) – 802.11b (Scaled Reported SAR)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃						
Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
MHz	Ch.					
2437	6	Rear	98.97%	100%	**0.17**	**0.17**

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



Picture 14.1 Duty factor plot for SISO (head and body)



Picture 14.2 Duty factor plot for MIMO (head and body)

14.5 WLAN Evaluation For 5G

Table 14.5-1: 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 14.5-2: Maximum output power specified of WLAN antenna for Normal Power SISO antenna5

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	63		45	35	35	35	22	
U-NII-2A	50		35	28	28	28	18	
U-NII-2C	45		32	25	25	25	16	
U-NII-3	50		35	28	28	28	18	
§ 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 14.5-3: Maximum output power specified of WLAN antenna for Normal Power MIMO

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	126		89	71	71	71	45	
U-NII-2A	100		71	56	56	56	35	
U-NII-2C	100		63	50	50	50	32	
U-NII-3	100		71	56	56	56	35	
§ 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 14.5-4: Maximum output power specified of WLAN antenna for Low Power SISO antenna5

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	28		28	25	28	25	22	
U-NII-2A	28		28	25	28	25	18	
U-NII-2C	28		28	25	28	25	16	
U-NII-3	28		28	25	28	25	18	
§ 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 14.5-5: Maximum output power specified of WLAN antenna for Low Power MIMO

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	63		63	63	63	63	45	
U-NII-2A	56		50	50	50	50	35	
U-NII-2C	50		50	50	50	50	32	
U-NII-3	50		50	50	50	50	35	
§ 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 14.5-6: Maximum output power measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations - Normal Power SISO antenna5

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 **48/50/47/42**	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 **37/35/33/35**	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 **40/40/37/37** 116/120/124/128 **37/38/45/46** 132/136/140/144	100/104/108/112 116/132/136/140 Lower power	102/110/134 Lower power	100/104/108/112 116/132/136/140 Lower	102/110/134 Lower power	106 Lower power

	42//41/42			power		
U-NII-3	149/153/157/161/165 **41/40/36/36/32**	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 14.5-7: Maximum output power measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations - Normal Power MIMO

802.11 mode	**a**	**n**		**ac**		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 **95/95/79/79**	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 **70/72/73/78**	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 **76/72/68/73** 116/120/124/128 **76/80/88/90** 132/136/140/144 **78/77/78/79**	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 **84/78/73/68/65**	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 14.5-8: 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 SISO antenna5

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 **24/25/23/21**	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 **18/18/18/18**	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 **20/19/18/18/18/** 116/120/124/128 **18/19/21/25** 132/136/140/144 **23/23/22/22**	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 **22/22/21/19/18**	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 14.5-9: 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 MIMO

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 **47/46/46/43**	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 **37/36/36/38**	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 **38/36/33/36** 116/120/124/128 **38/40/44/47**	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 **47/47/45/44**	Lower power		Lower power		
U-NII-3	149/153/157/161/165 **44/42/41/40/34**	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 14.5-10: Reported SAR of initial test configuration for Normal Power SISO antenna5

Head

802.11 mode	**a**	**n**		**ac**		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 **0.08**	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 **0.07**	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 **0.11**	100/104/108/112116/132/136/140	102/110/118/126/134	100/104/108/112116/132/136/140	102/110/134	106
U-NII-3	149/153/157/161/165 **0.16**	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 14.5-11: Reported SAR of initial test configuration for Normal Power SISO antenna5

Body

802.11 mode	**a**	**n**		**ac**		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 **0.39**	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 **0.38**	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**	100/104/108/112116/132/136/140	102/110/118/126/134	100/104/108/112116/132/136/140	102/110/134	106
U-NII-3	149/153/157/161/165 **0.37**	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 14.5-12: Reported SAR of initial test configuration for Normal Power MIMO Head

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 **0.12**	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 **0.07**	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 **0.14**	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 **0.20**	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 14.5-13: Reported SAR of initial test configuration for Normal Power MIMO Body

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 **0.35**	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 **0.27**	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 **0.35**	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 **0.56**	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 14.5-14: Reported SAR of initial test configuration for Low Power SISO antenna5 Body

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 0.20	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 **0.18**	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 **0.16**	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 **0.17**	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 14.5-15: Reported SAR of initial test configuration for Low Power MIMO Body

802.11 mode	a	n		ac		
BW(MHz)	**20**	**20**	**40**	**20**	**40**	**80**
U-NII-1	36/40/44/48 **0.22**	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 **0.14**	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 **0.21**	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 **0.20**	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 14.5-16: SAR Values (WLAN - Normal Power SISO antenna5 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.										
5200	40	Left	Cheek	/	16.98	18.00	0.019	**0.02**	0.062	**0.08**	-0.16
5200	40	Left	Tilt	/	16.98	18.00	0.015	**0.02**	0.045	**0.06**	0.01
5200	40	Right	Cheek	/	16.98	18.00	0.01	**0.01**	0.029	**0.04**	0.03
5200	40	Right	Tilt	/	16.98	18.00	0.005	**0.01**	0.019	**0.02**	-0.05
5260	52	Left	Cheek	/	15.65	17.00	0.018	**0.02**	0.054	**0.07**	-0.04
5260	52	Left	Tilt	/	15.65	17.00	0.015	**0.02**	0.047	**0.06**	0.16
5260	52	Right	Cheek	/	15.65	17.00	0.012	**0.02**	0.042	**0.06**	-0.03
5260	52	Right	Tilt	/	15.65	17.00	0.009	**0.01**	0.031	**0.04**	0.02
5640	128	Left	Cheek	/	16.66	17.00	0.035	**0.04**	0.104	**0.11**	-0.01
5640	128	Left	Tilt	/	16.66	17.00	0.031	**0.03**	0.093	**0.10**	0.16
5640	128	Right	Cheek	/	16.66	17.00	0.021	**0.02**	0.06	**0.06**	-0.18
5640	128	Right	Tilt	/	16.66	17.00	0.019	**0.02**	0.052	**0.06**	0.04
5745	149	Left	Cheek	Fig.31	16.15	17.00	0.039	**0.05**	0.132	**0.16**	-0.19
5745	149	Left	Tilt	/	16.15	17.00	0.036	**0.04**	0.12	**0.15**	0.16
5745	149	Right	Cheek	/	16.15	17.00	0.02	**0.02**	0.061	**0.07**	0.15
5745	149	Right	Tilt	/	16.15	17.00	0.018	**0.02**	0.059	**0.07**	-0.03

Table 14.5-17: SAR Values (WLAN - Normal Power SISO antenna5 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.									
5200	40	Front	/	16.98	18.00	0.007	**0.01**	0.042	**0.05**	0.12
5200	40	Rear	Fig.32	16.98	18.00	0.083	**0.10**	0.305	**0.39**	-0.11
5200	40	Right	/	16.98	18.00	0.025	**0.03**	0.075	**0.09**	0.03
5200	40	Top	/	16.98	18.00	0.009	**0.01**	0.046	**0.06**	0.05
5260	52	Front	/	15.65	17.00	0.011	**0.02**	0.056	**0.08**	-0.15
5260	52	Rear	/	15.65	17.00	0.076	**0.10**	0.275	**0.38**	-0.09
5260	52	Right	/	15.65	17.00	0.042	**0.06**	0.138	**0.19**	0.11
5260	52	Top	/	15.65	17.00	0.011	**0.02**	0.054	**0.07**	0.08
5640	128	Front	/	16.66	17.00	0.007	**0.01**	0.029	**0.03**	-0.15
5640	128	Rear	/	16.66	17.00	0.089	**0.10**	0.259	**0.28**	-0.08
5640	128	Right	/	16.66	17.00	0.055	**0.06**	0.146	**0.16**	0.07
5640	128	Top	/	16.66	17.00	0.025	**0.03**	0.064	**0.07**	0.07
5745	149	Front	/	16.15	17.00	0.008	**0.01**	0.034	**0.04**	-0.08
5745	149	Rear	/	16.15	17.00	0.099	**0.12**	0.304	**0.37**	0.05
5745	149	Right	/	16.15	17.00	0.058	**0.07**	0.166	**0.20**	-0.03
5745	149	Top	/	16.15	17.00	0.026	**0.03**	0.072	**0.09**	0.02

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

Table 14.5-18: SAR Values (WLAN - Normal Power MIMO 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.										
5200	40	Left	Cheek	/	19.77	21.00	0.028	**0.04**	0.089	**0.12**	0.09
5200	40	Left	Tilt	/	19.77	21.00	0.022	**0.03**	0.072	**0.10**	0.01
5200	40	Right	Cheek	/	19.77	21.00	0.016	**0.02**	0.049	**0.07**	0.06
5200	40	Right	Tilt	/	19.77	21.00	0.017	**0.02**	0.049	**0.07**	-0.07
5320	64	Left	Cheek	/	18.94	20.00	0.025	**0.03**	0.052	**0.07**	-0.09
5320	64	Left	Tilt	/	18.94	20.00	0.022	**0.03**	0.048	**0.06**	0.08
5320	64	Right	Cheek	/	18.94	20.00	0.011	**0.01**	0.022	**0.03**	0.03
5320	64	Right	Tilt	/	18.94	20.00	0.013	**0.02**	0.025	**0.03**	0.12
5640	128	Left	Cheek	/	19.55	20.00	0.042	**0.05**	0.126	**0.14**	-0.03
5640	128	Left	Tilt	/	19.55	20.00	0.031	**0.03**	0.087	**0.10**	0.09
5640	128	Right	Cheek	/	19.55	20.00	0.013	**0.01**	0.036	**0.04**	0.13
5640	128	Right	Tilt	/	19.55	20.00	0.016	**0.02**	0.041	**0.05**	-0.12
5745	149	Left	Cheek	Fig.33	19.24	20.00	0.058	**0.07**	0.167	**0.20**	-0.17
5745	149	Left	Tilt	/	19.24	20.00	0.046	**0.05**	0.132	**0.16**	-0.16
5745	149	Right	Cheek	/	19.24	20.00	0.022	**0.03**	0.07	**0.08**	-0.16
5745	149	Right	Tilt	/	19.24	20.00	0.024	**0.03**	0.072	**0.09**	-0.08

Table 14.5-19: SAR Values (WLAN - Normal Power MIMO 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.									
5200	40	Front	/	19.77	21.00	0.007	**0.01**	0.033	**0.04**	0.01
5200	40	Rear	/	19.77	21.00	0.074	**0.10**	0.266	**0.35**	0.02
5200	40	Right	/	19.77	21.00	0.04	**0.05**	0.121	**0.16**	-0.03
5200	40	Top	/	19.77	21.00	0.024	**0.03**	0.067	**0.09**	0.05
5320	64	Front	/	18.94	20.00	0.024	**0.03**	0.077	**0.10**	0.18
5320	64	Rear	/	18.94	20.00	0.075	**0.10**	0.21	**0.27**	-0.14
5320	64	Right	/	18.94	20.00	0.057	**0.07**	0.118	**0.15**	0.17
5320	64	Top	/	18.94	20.00	0.044	**0.06**	0.086	**0.11**	0.14
5640	128	Front	/	19.55	20.00	0.021	**0.02**	0.053	**0.06**	-0.11
5640	128	Rear	/	19.55	20.00	0.123	**0.14**	0.32	**0.35**	-0.01
5640	128	Right	/	19.55	20.00	0.068	**0.08**	0.143	**0.16**	-0.18
5640	128	Top	/	19.55	20.00	0.047	**0.05**	0.097	**0.11**	0.06
5745	149	Front	/	19.24	20.00	0.018	**0.02**	0.087	**0.10**	0.06
5745	149	Rear	Fig.34	19.24	20.00	0.17	**0.20**	0.473	**0.56**	-0.09
5745	149	Right	/	19.24	20.00	0.091	**0.11**	0.211	**0.25**	0.05
5745	149	Top	/	19.24	20.00	0.062	**0.07**	0.138	**0.16**	-0.18

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

Table 14.5-20: SAR Values (WLAN - Low Power SISO antenna5 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.									
5200	40	Front	/	13.98	14.50	0.007	**0.01**	0.027	**0.03**	0.02
5200	40	Rear	Fig.35	13.98	14.50	0.047	**0.05**	0.173	**0.20**	-0.09
5200	40	Right	/	13.98	14.50	0.013	**0.01**	0.032	**0.04**	0.03
5200	40	Top	/	13.98	14.50	0.006	**0.01**	0.026	**0.03**	0.06
5300	60	Front	/	12.5	14.50	0.007	**0.01**	0.039	**0.06**	-0.08
5300	60	Rear	/	12.5	14.50	0.03	**0.05**	0.111	**0.18**	0.09
5300	60	Right	/	12.5	14.50	0.02	**0.03**	0.058	**0.09**	0.14
5300	60	Top	/	12.5	14.50	0.008	**0.01**	0.03	**0.05**	0.13
5640	128	Front	/	13.98	14.50	0.01	**0.01**	0.054	**0.06**	0.03
5640	128	Rear	/	13.98	14.50	0.041	**0.05**	0.126	**0.14**	0.05
5640	128	Right	/	13.98	14.50	0.022	**0.02**	0.068	**0.08**	0.08
5640	128	Top	/	13.98	14.50	0.009	**0.01**	0.045	**0.05**	-0.07
5765	153	Front	/	13.35	14.50	0.004	**0.01**	0.027	**0.04**	-0.15
5765	153	Rear	/	13.35	14.50	0.043	**0.06**	0.133	**0.17**	0.01
5765	153	Right	/	13.35	14.50	0.025	**0.03**	0.076	**0.10**	0.18
5765	153	Top	/	13.35	14.50	0.01	**0.01**	0.03	**0.04**	0.13

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

Table 14.5-21: SAR Values (WLAN - Lower Power MIMO 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.									
5180	36	Front	/	16.75	18.00	0.007	**0.01**	0.028	**0.04**	0.02
5180	36	Rear	Fig.36	16.75	18.00	0.044	**0.06**	0.164	**0.22**	-0.1
5180	36	Right	/	16.75	18.00	0.019	**0.03**	0.062	**0.08**	0.03
5180	36	Top	/	16.75	18.00	0.014	**0.02**	0.041	**0.05**	-0.05
5320	64	Front	/	15.8	17.50	0.011	**0.02**	0.035	**0.05**	0.02
5320	64	Rear	/	15.8	17.50	0.035	**0.05**	0.097	**0.14**	0.01
5320	64	Right	/	15.8	17.50	0.027	**0.04**	0.054	**0.08**	0.1
5320	64	Top	/	15.8	17.50	0.021	**0.03**	0.04	**0.06**	0.05
5640	128	Front	/	16.75	18.00	0.01	**0.01**	0.025	**0.03**	-0.12
5640	128	Rear	/	16.75	18.00	0.057	**0.08**	0.154	**0.21**	0.02
5640	128	Right	/	16.75	18.00	0.032	**0.04**	0.068	**0.09**	0.03
5640	128	Top	/	16.75	18.00	0.022	**0.03**	0.047	**0.06**	-0.15
5745	149	Front	/	16.45	17.00	0.007	**0.01**	0.032	**0.04**	0.15
5745	149	Rear	/	16.45	17.00	0.062	**0.07**	0.175	**0.20**	-0.03
5745	149	Right	/	16.45	17.00	0.033	**0.04**	0.078	**0.09**	-0.12
5745	149	Top	/	16.45	17.00	0.023	**0.03**	0.051	**0.06**	-0.09

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

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 14.5-22: SAR Values (WLAN - Normal Power SISO antenna5 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.						
5745	149	Left	Cheek	98.36%	100%	**0.16**	**0.16**

Table 14.5-23: SAR Values (WLAN - Normal Power SISO antenna5 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.						
5200	40	Rear	10	98.36%	100%	**0.39**	**0.40**

Table 14.5-24: SAR Values (WLAN - Normal Power MIMO 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.						
5745	149	Left	Cheek	98.36%	100%	**0.20**	**0.20**

Table 14.5-25: SAR Values (WLAN - Normal Power MIMO Body) – Scaled Reported SAR

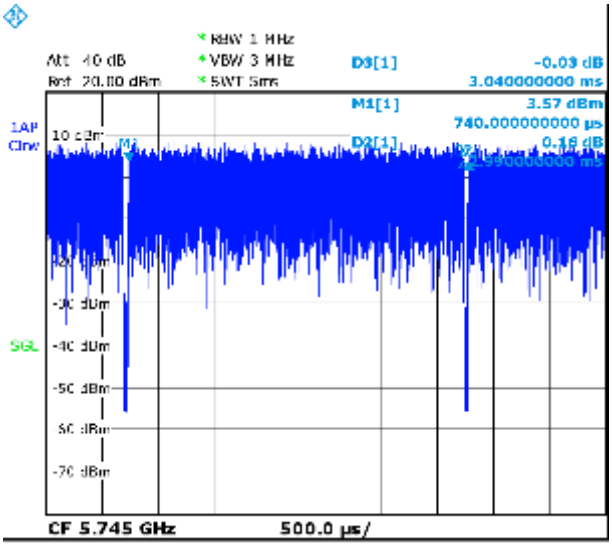
Frequency		Test Position	D (mm)	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.						
5745	149	Rear	10	98.36%	100%	**0.56**	**0.57**

Table 14.5-26: SAR Values (WLAN - Low Power SISO antenna5 Body) – Scaled Reported SAR

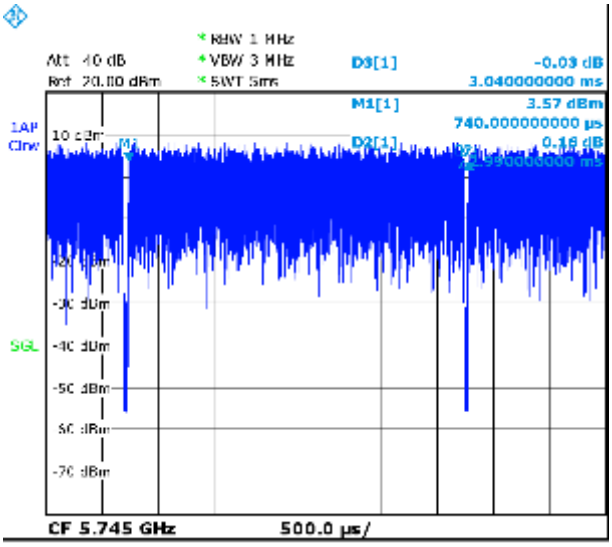
Frequency		Test Position	D (mm)	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.						
5200	40	Rear	10	98.36%	100%	**0.20**	**0.20**

Table 14.5-27: SAR Values (WLAN - Low Power MIMO Body) – Scaled Reported SAR

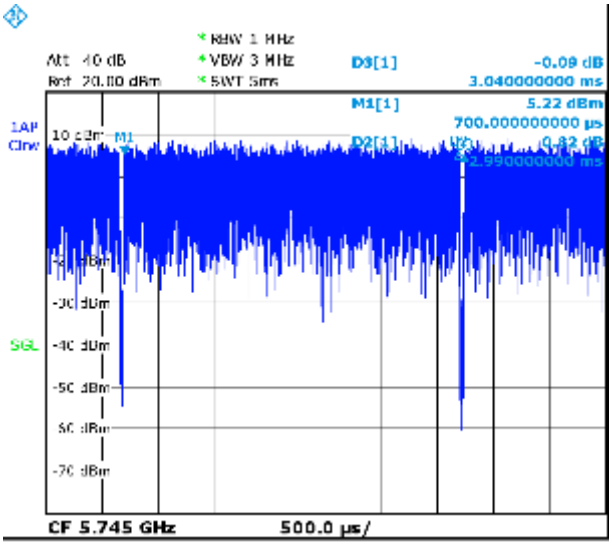
Frequency		Test Position	D (mm)	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.						
5180	36	Rear	10	98.68%	100%	**0.22**	**0.22**



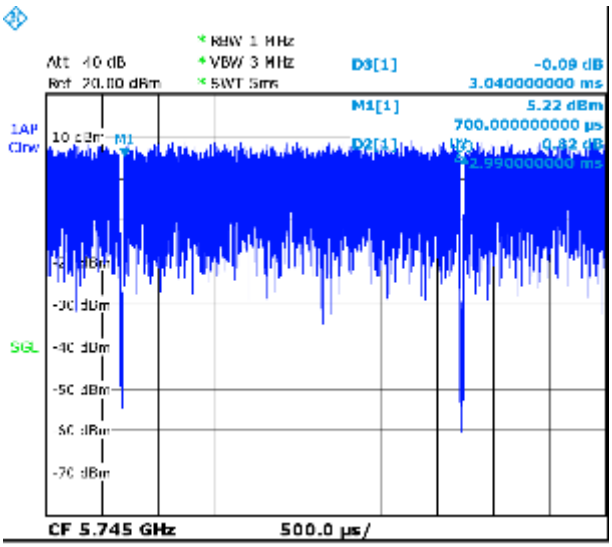
Picture 14.3 The plot of duty factor for Normal Power SISO antenna5 Head



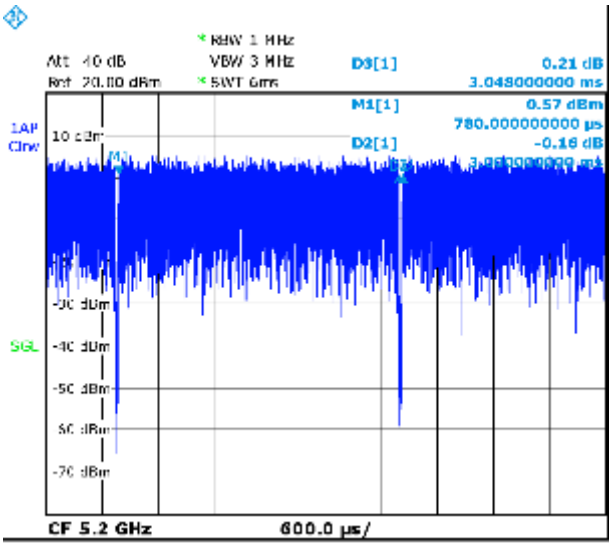
Picture 14.4 The plot of duty factor for Normal Power SISO antenna5 Body



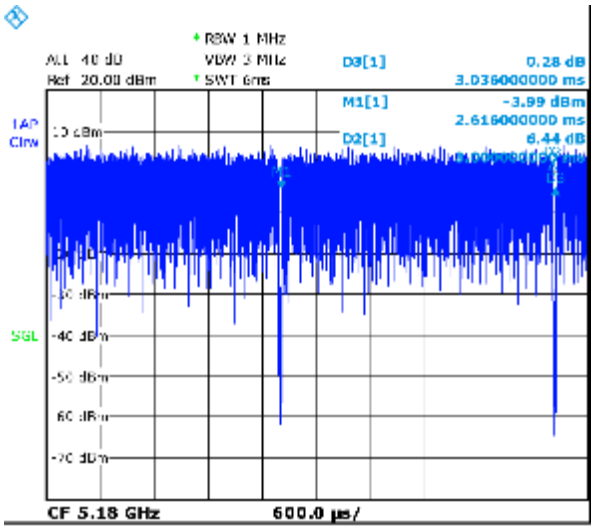
Picture 14.5 The plot of duty factor for Normal Power MIMO Head



Picture 14.6The plot of duty factor for Normal Power MIMO Body



Picture 14.7 The plot of duty factor for Lower Power SISO Body



Picture 14.8 The plot of duty factor for Lower Power MIMO Body

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										
39	2441	Left	Touch	/	11.40	12.0	< 0.01	**< 0.01**	< 0.01	**< 0.01**	/
39	2441	Left	Tilt	/	11.40	12.0	< 0.01	**< 0.01**	< 0.01	**< 0.01**	/
39	2441	Right	Touch0	/	11.40	12.0	< 0.01	**< 0.01**	< 0.01	**< 0.01**	/
39	2441	Right	Tilt	/	11.40	12.0	< 0.01	**< 0.01**	< 0.01	**< 0.01**	/

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

Ambient Temperature: 22.2 ℃ Liquid Temperature: 22 ℃										
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									
39	2441	Front	/	11.40	12.0	< 0.01	**< 0.01**	< 0.01	**< 0.01**	/
39	2441	Rear	/	11.40	12.0	< 0.01	**< 0.01**	< 0.01	**< 0.01**	/
39	2441	Left	/	11.40	12.0	< 0.01	**< 0.01**	< 0.01	**< 0.01**	/
39	2441	Right	/	11.40	12.0	< 0.01	**< 0.01**	< 0.01	**< 0.01**	/
39	2441	Bottom	/	11.40	12.0	< 0.01	**< 0.01**	< 0.01	**< 0.01**	/
39	2441	Top	/	11.40	12.0	< 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 Head GSM1900 (1g)

Frequency		Side	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
1909.8	810	Right	Cheek	0.92	0.913	1.01	/

Table 15.2: SAR Measurement Variability for Head LTEB2 (1g)

Frequency		Side	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
19100	1900	Right	Cheek	0.871	0.869	1.00	/

Table 15.3: SAR Measurement Variability for Head LTEB5 (1g)

Frequency		Side	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
20600	844	Right	Tilt	0.845	0.841	1.00	/

16 Measurement Uncertainty

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

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	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	N	1	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	∞
Test sample related										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
17	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
20	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
21	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521

Combined standard uncertainty	$u_c^{'} = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$					9.55	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	√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	$\sqrt{3}$	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

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		$u_c' = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						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	N5239A	MY46110673	January 24, 2020	One year
02	Power meter	NRP2	101919	May 12, 2020	One year
03	Power sensor	NRP-Z91	101547		
04	Signal Generator	E4438C	MY49070393	January 4, 2020	One Year
05	Amplifier	60S1G4	0331848	No Calibration Requested	
06	BTS	CMW500	129942	February 10, 2020	One year
07	E-field Probe	SPEAG EX3DV4	3617	Jan 30, 2020	One year
08	DAE	SPEAG DAE4	777	January 8, 2020	One year
09	Dipole Validation Kit	SPEAG D750V3	1017	July 24,2020	One year
10	Dipole Validation Kit	SPEAG D835V2	4d069	July 24,,2020	One year
11	Dipole Validation Kit	SPEAG D1750V2	1003	July 24, 2020	One year
12	Dipole Validation Kit	SPEAG D1900V2	5d101	July 28,2020	One year
13	Dipole Validation Kit	SPEAG D2450V2	853	July 21,2020	One year
14	Dipole Validation Kit	SPEAG D2600V2	1012	July 21,2020	One year
15	Dipole Validation Kit	SPEAG D5GHzV2	1060	July 27,2020	One year

END OF REPORT BODY

ANNEX A Graph Results

GSM850_CH190 Right Tilt

Date: 10/12/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used: f = 836.6MHz; σ = 0.892 mho/m; εr = 41.27; ρ = 1000 kg/m^3

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: GSM850 836.6 Duty Cycle: 1:8.3

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

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

Maximum value of SAR (interpolated) = 0.754 W/kg

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

Reference Value = 21.50 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.878 W/kg

SAR(1 g) = 0.404 W/kg; SAR(10 g) = 0.21 W/kg

Maximum value of SAR (measured) = 0.682 W/kg

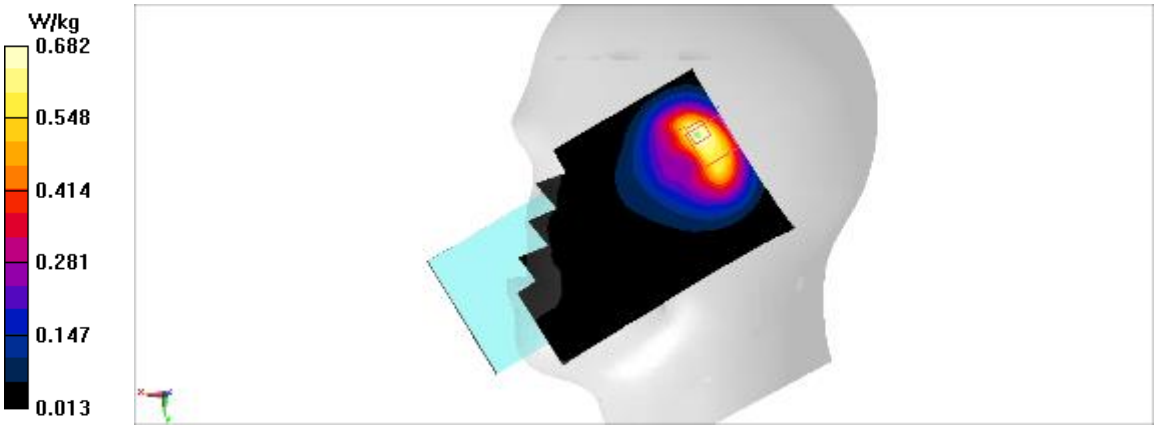


Fig A.1

GSM850_CH251 Rear GPRS 10mm

Date: 10/12/2020

Electronics: DAE4 Sn777

Medium: body 835 MHz

Medium parameters used: f = 848.8MHz; σ = 0.986 mho/m; εr = 56.01; ρ = 1000 kg/m^3

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: GSM850 848.8 Duty Cycle: 1:2.67

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

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

Maximum value of SAR (interpolated) = 0.450 W/kg

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

Reference Value = 11.36 V/m; Power Drift = 0 dB

Peak SAR (extrapolated) = 0.608 W/kg

SAR(1 g) = 0.341 W/kg; SAR(10 g) = 0.196 W/kg

Maximum value of SAR (measured) = 0.510 W/kg

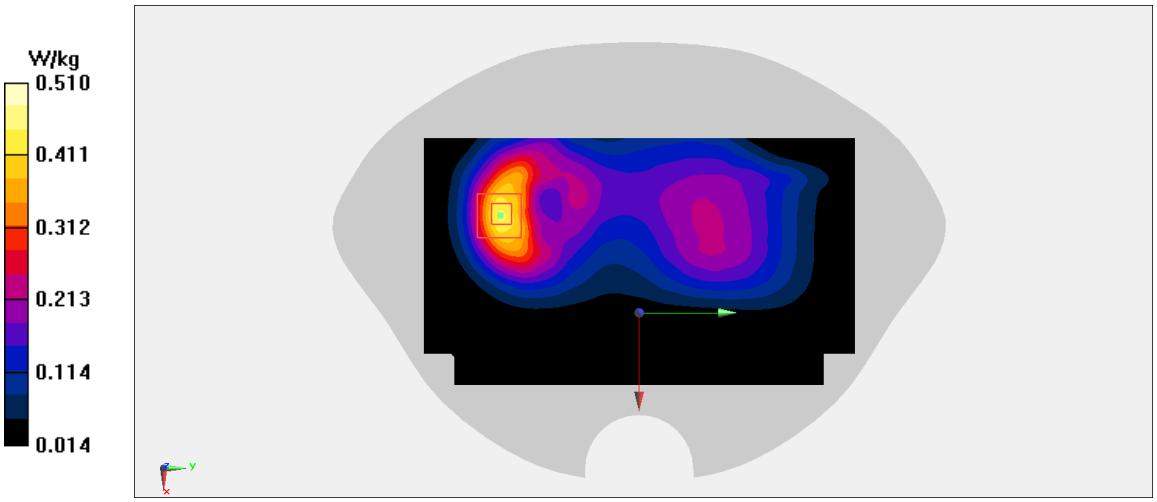


Fig A.2

PCS1900_CH810 Right Cheek

Date: 10/14/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used: f = 1909.8MHz; σ = 1.422 mho/m; εr = 39.76; ρ = 1000 kg/m^3

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: PCS1900 1909.8 Duty Cycle: 1:8.3

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

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

Maximum value of SAR (interpolated) = 1.60 W/kg

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

Reference Value = 10.48 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.83 W/kg

SAR(1 g) = 0.92 W/kg; SAR(10 g) = 0.456 W/kg

Maximum value of SAR (measured) = 1.37 W/kg

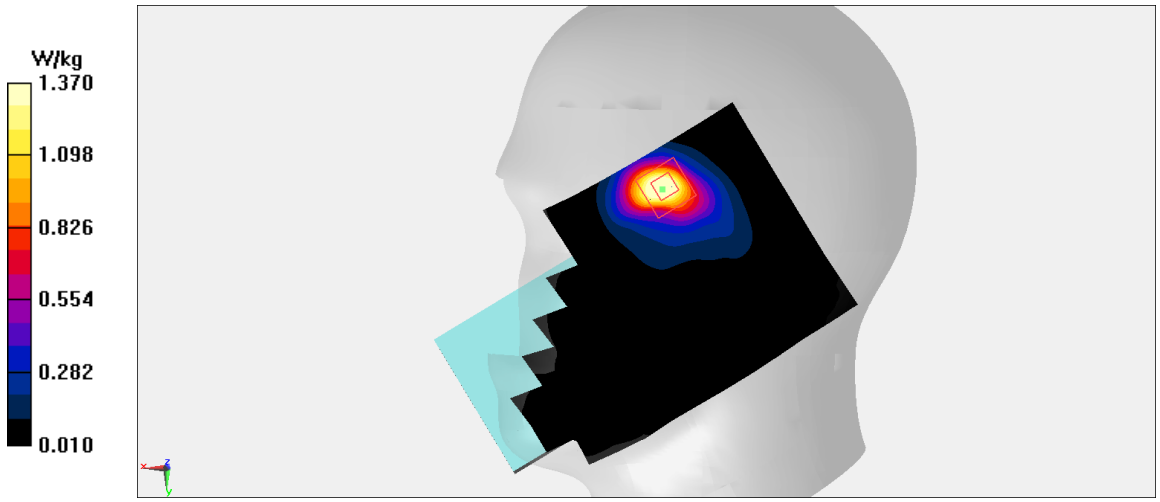


Fig A.3

PCS1900_CH810 Rear GPRS 10mm

Date: 10/14/2020

Electronics: DAE4 Sn777

Medium: body 1900 MHz

Medium parameters used: f = 1909.8MHz; σ = 1.516 mho/m; εr = 53.15; ρ = 1000 kg/m^3

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: PCS1900 1909.8 Duty Cycle: 1:2.67

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

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

Maximum value of SAR (interpolated) = 0.684 W/kg

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

Reference Value = 7.332 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.940 W/kg

SAR(1 g) = 0.508 W/kg; SAR(10 g) = 0.252 W/kg

Maximum value of SAR (measured) = 0.767 W/kg

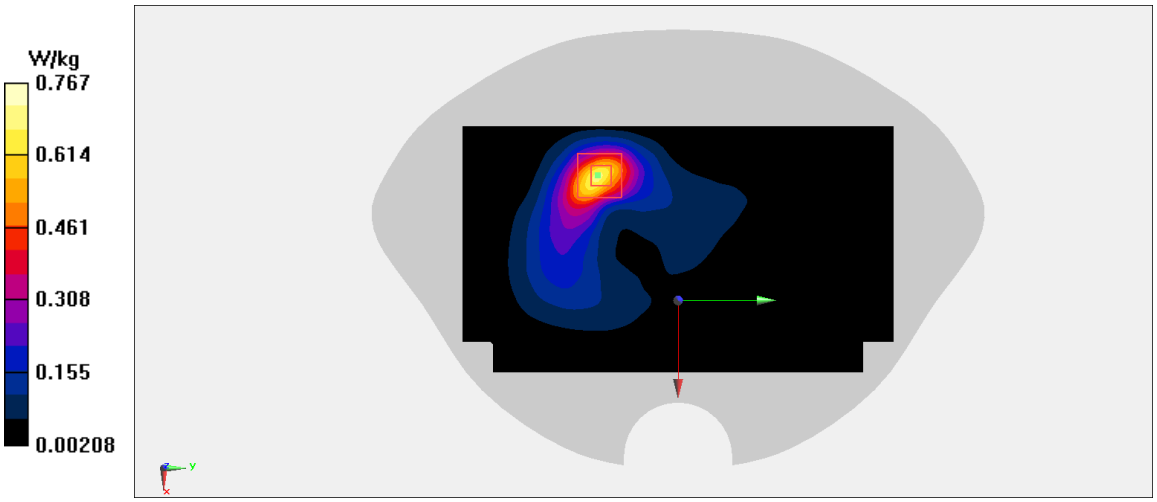


Fig A.4

WCDMA1900-BII_CH9538 Right Cheek

Date: 10/14/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used: f = 1907.6MHz; σ = 1.421 mho/m; εr = 39.76; ρ = 1000 kg/m^3

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1900-BII 1907.6 Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

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

Maximum value of SAR (interpolated) = 1.31 W/kg

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

Reference Value = 8.837 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.40 W/kg

SAR(1 g) = 0.683 W/kg; SAR(10 g) = 0.334 W/kg

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

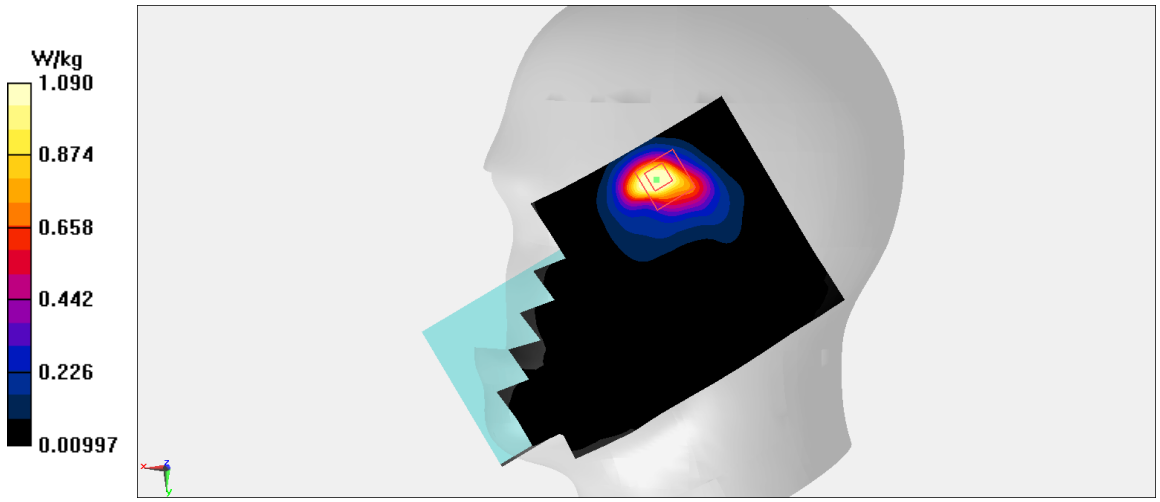


Fig A.5

WCDMA1900-BII_CH9538 Left Edge 10mm

Date: 10/14/2020

Electronics: DAE4 Sn777

Medium: body 1900 MHz

Medium parameters used: f = 1907.6; σ = 1.514 mho/m; εr = 53.15; ρ = 1000 kg/m^3

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1900-BII 1907.6 Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

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

Maximum value of SAR (interpolated) = 0.748 W/kg

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

Reference Value = 5.711 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.883 W/kg

SAR(1 g) = 0.473 W/kg; SAR(10 g) = 0.235 W/kg

Maximum value of SAR (measured) = 0.716 W/kg

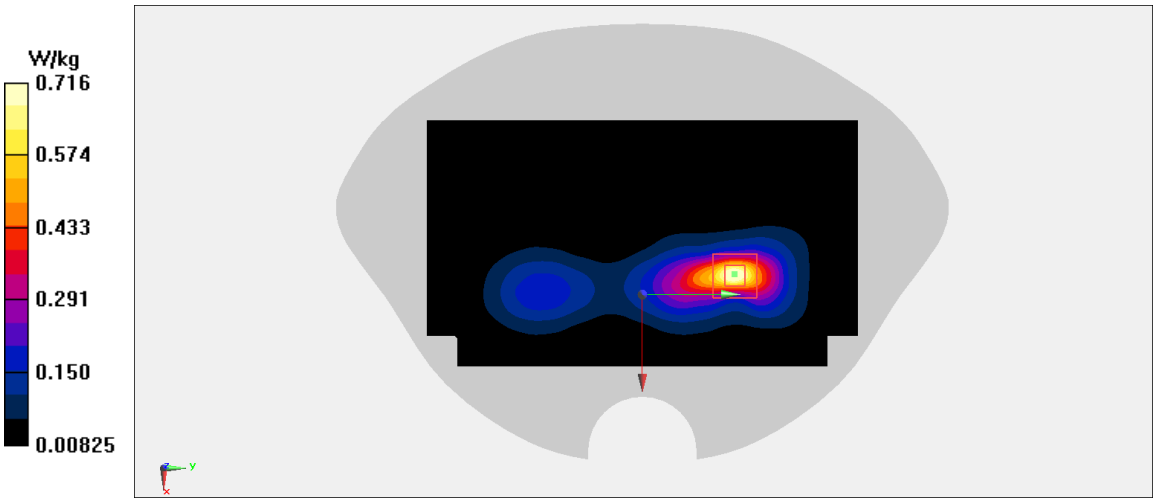


Fig A.6

WCDMA850-BV_CH4183 Right Tilt

Date: 10/12/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used: f = 836.6; σ = 0.892 mho/m; εr = 41.27; 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 – SN3617 ConvF(9.66,9.66,9.66)

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

Maximum value of SAR (interpolated) = 0.549 W/kg

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

Reference Value = 17.12 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.701 W/kg

SAR(1 g) = 0.323 W/kg; SAR(10 g) = 0.171 W/kg

Maximum value of SAR (measured) = 0.540W/kg

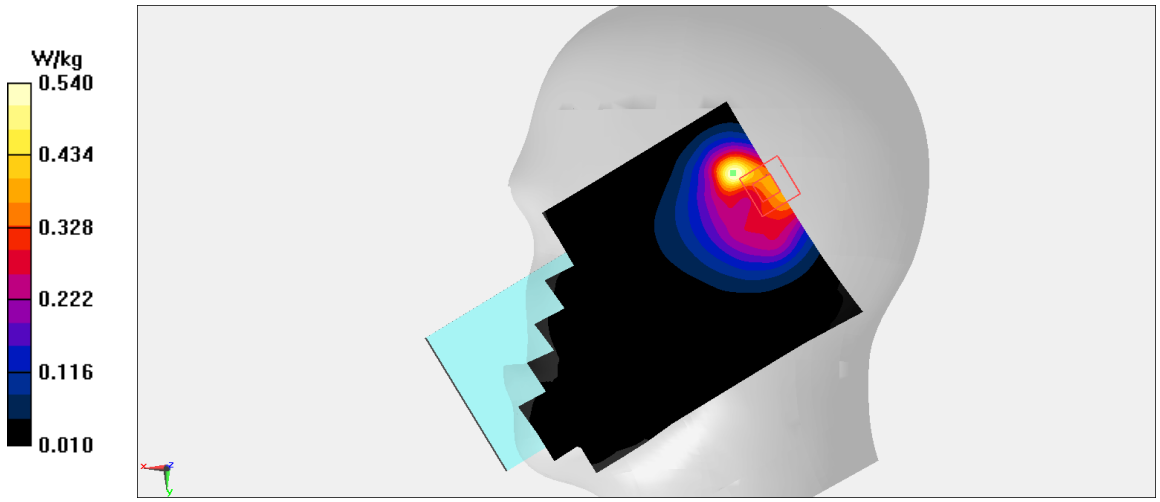


Fig A.7

WCDMA850-BV_CH4233 Top Edge 10mm

Date: 10/12/2020

Electronics: DAE4 Sn777

Medium: body 835 MHz

Medium parameters used: f = 846.6; σ = 0.984 mho/m; εr = 56.02; ρ = 1000 kg/m^3

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA850-BV 846.6 Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

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

Maximum value of SAR (interpolated) = 0.422 W/kg

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

Reference Value = 13.22 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.530 W/kg

SAR(1 g) = 0.272 W/kg; SAR(10 g) = 0.141 W/kg

Maximum value of SAR (measured) = 0.418 W/kg

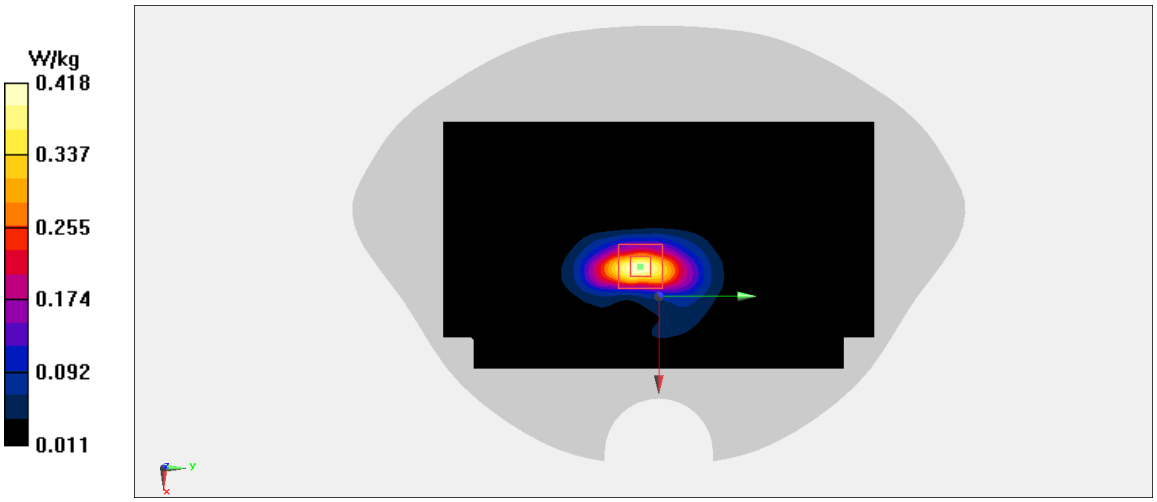


Fig A.8

LTE1900-FDD2_CH19100 Right Cheek 50RB-High

Date: 10/14/2020

Electronics: DAE4 Sn777

Medium: head 1900 MHz

Medium parameters used: f = 1900 MHz; σ = 1.413 mho/m; εr = 39.77; 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 – SN3617 ConvF(8.14,8.14,8.14)

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

Maximum value of SAR (interpolated) = 1.58 W/kg

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

Reference Value = 6.444 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.76 W/kg

SAR(1 g) = 0.871 W/kg; SAR(10 g) = 0.44 W/kg

Maximum value of SAR (measured) = 1.35 W/kg

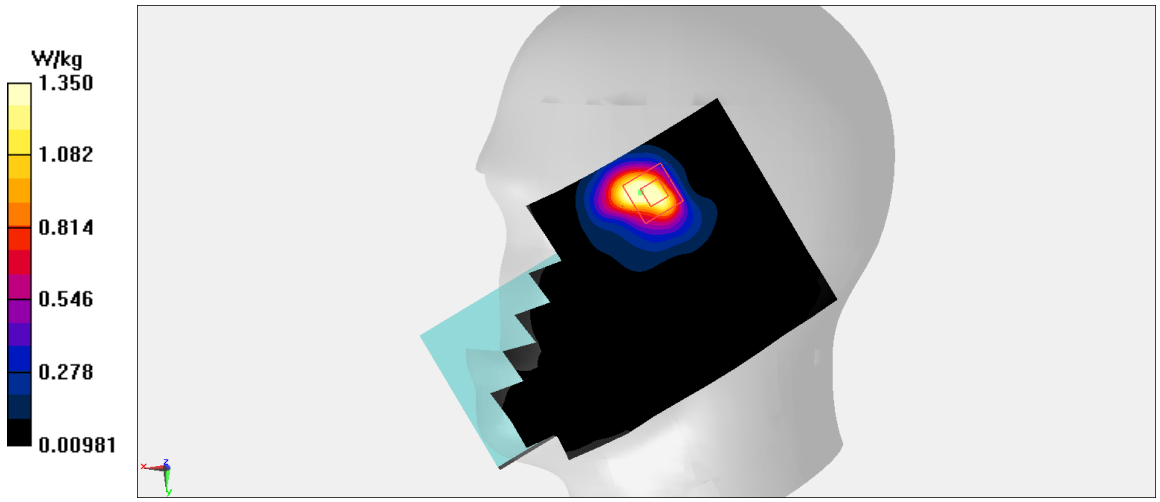


Fig A.9

LTE1900-FDD2_CH19100 1RB-High Rear 10mm

Date: 10/14/2020

Electronics: DAE4 Sn777

Medium: body 1900 MHz

Medium parameters used: f = 1900 MHz; σ = 1.506 mho/m; εr = 53.16; 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 – SN3617 ConvF(8.14,8.14,8.14)

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

Maximum value of SAR (interpolated) = 1.23 W/kg

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

Reference Value = 7.725 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 1.48 W/kg

SAR(1 g) = 0.798 W/kg; SAR(10 g) = 0.392 W/kg

Maximum value of SAR (measured) = 1.21 W/kg

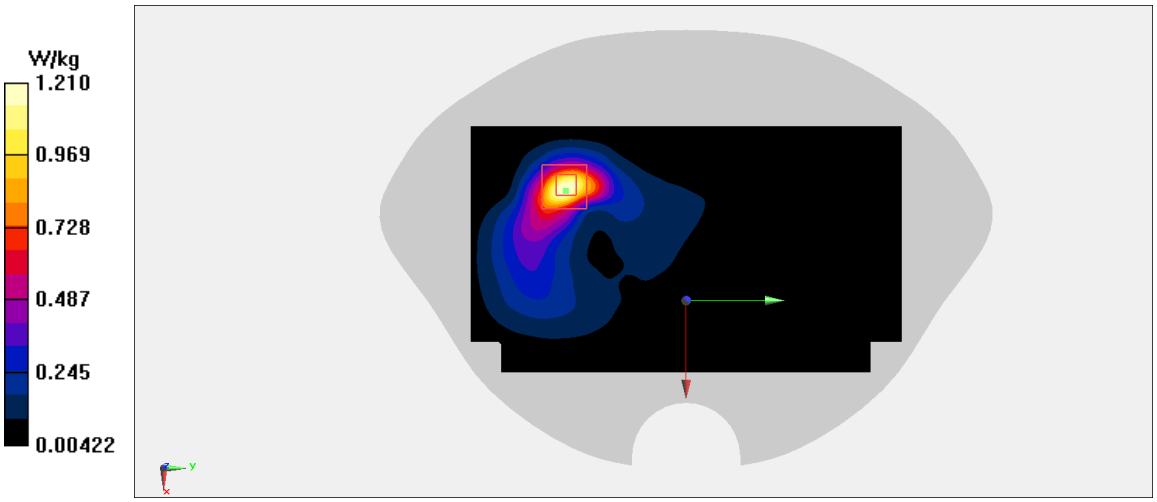


Fig A.10

LTE850-FDD5_CH20600 Right Tilt 25RB-Middle

Date: 10/12/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used: f = 844 MHz; σ = 0.899 mho/m; εr = 41.26; ρ = 1000 kg/m^3

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE850-FDD5 844 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

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

Maximum value of SAR (interpolated) = 1.46 W/kg

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

Reference Value = 32.75 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 2.06 W/kg

SAR(1 g) = 0.845 W/kg; SAR(10 g) = 0.447 W/kg

Maximum value of SAR (measured) = 1.48 W/kg

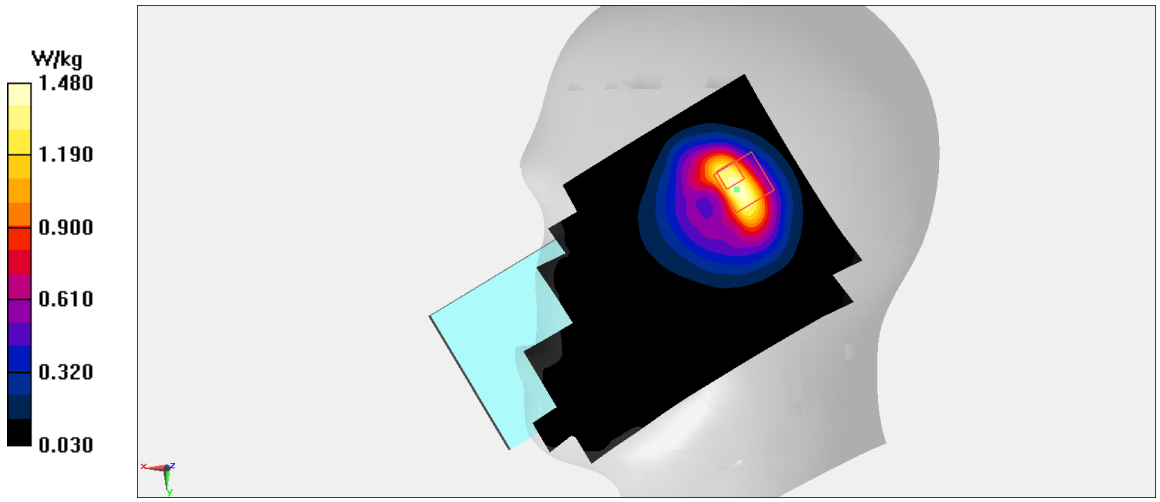


Fig A.11

LTE850-FDD5_CH20450 1RB-High Top Edge 10mm

Date: 10/12/2020

Electronics: DAE4 Sn777

Medium: body 835 MHz

Medium parameters used: f = 829 MHz; σ = 0.967 mho/m; εr = 56.04; 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 – SN3617 ConvF(9.66,9.66,9.66)

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

Maximum value of SAR (interpolated) = 0.581 W/kg

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

Reference Value = 21.90 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.767 W/kg

SAR(1 g) = 0.393 W/kg; SAR(10 g) = 0.204 W/kg

Maximum value of SAR (measured) = 0.606 W/kg

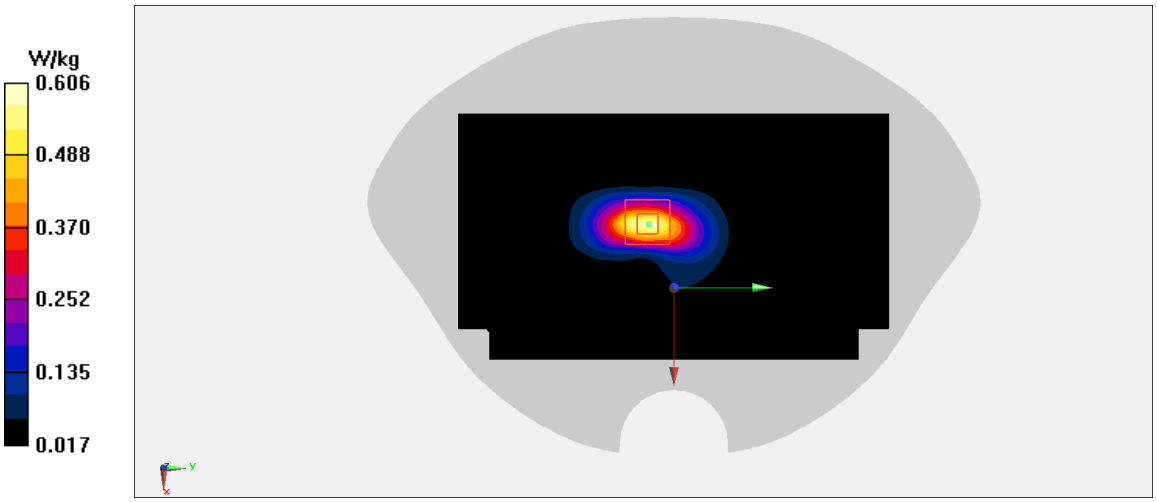


Fig A.12

LTE2500-FDD7_CH21100 Right Cheek 1RB-Mid

Date: 10/16/2020

Electronics: DAE4 Sn777

Medium: head 2600 MHz

Medium parameters used: f = 2535 MHz; σ = 1.912 mho/m; εr = 39.68; ρ = 1000 kg/m^3

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE2500-FDD7 2535 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(7.52,7.52,7.52)

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

Maximum value of SAR (interpolated) = 0.746 W/kg

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

Reference Value = 4.763 V/m; Power Drift = 0.1 dB

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.474 W/kg; SAR(10 g) = 0.206 W/kg

Maximum value of SAR (measured) = 0.814 W/kg

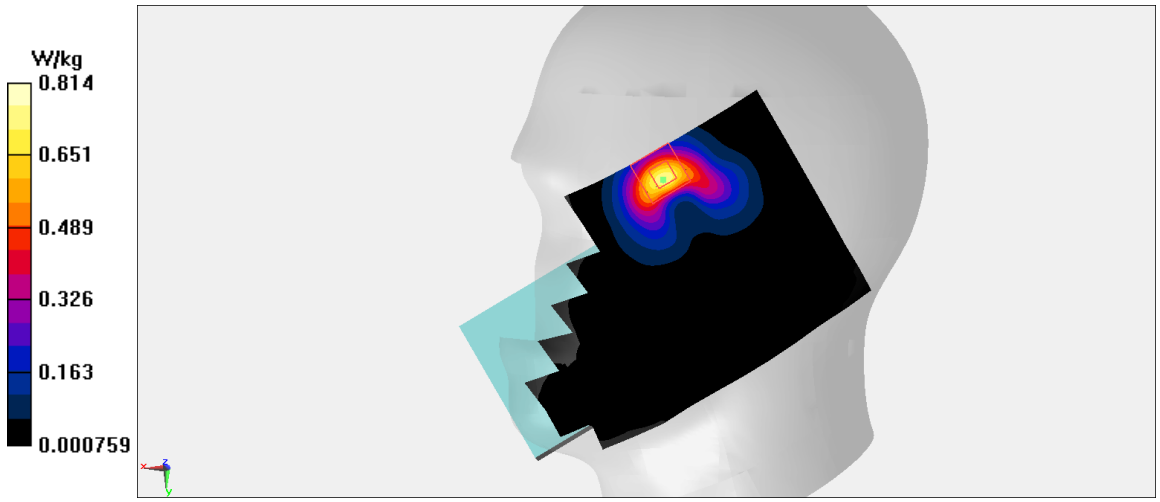


Fig A.13

LTE2500-FDD7_CH21100 1RB-High Rear 10mm

Date: 10/16/2020

Electronics: DAE4 Sn777

Medium: body 2600 MHz

Medium parameters used: f = 2535 MHz; σ = 2.133 mho/m; εr = 52.4; ρ = 1000 kg/m^3

Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC

Communication System: LTE2500-FDD7 2535 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(7.65,7.65,7.65)

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

Maximum value of SAR (interpolated) = 0.451 W/kg

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

Reference Value = 4.828 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.626 W/kg

SAR(1 g) = 0.295 W/kg; SAR(10 g) = 0.13 W/kg

Maximum value of SAR (measured) =0.499 W/kg

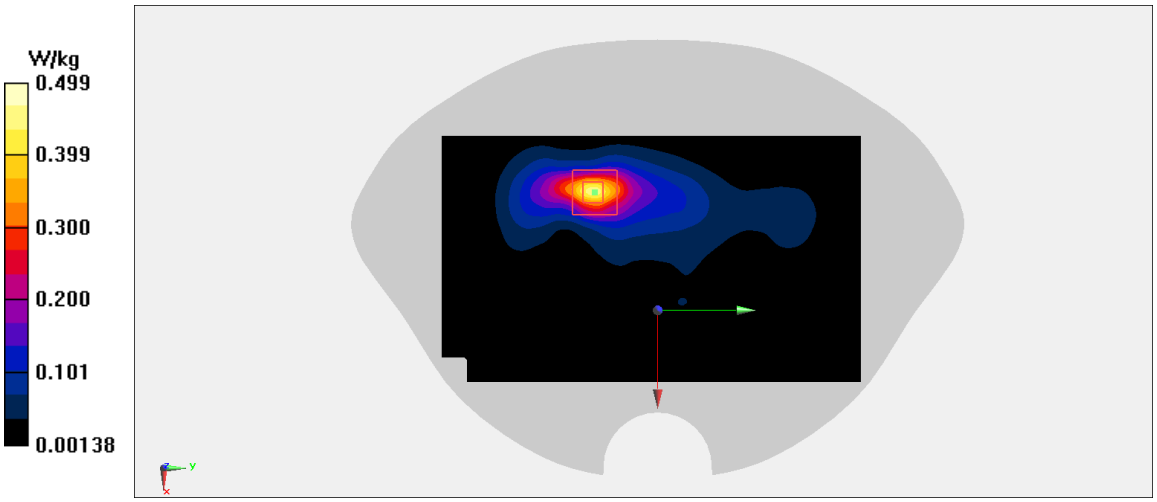


Fig A.14

LTE700-FDD12_CH23130 Right Tilt 1RB-Low

Date: 10/11/2020

Electronics: DAE4 Sn777

Medium: head 750 MHz

Medium parameters used: f = 711 MHz; σ = 0.871 mho/m; εr = 41.98; 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 – SN3617 ConvF(10.07,10.07,10.07)

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

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

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

Reference Value = 26.48 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 1.54 W/kg

SAR(1 g) = 0.578 W/kg; SAR(10 g) = 0.287 W/kg

Maximum value of SAR (measured) = 1.100 W/kg

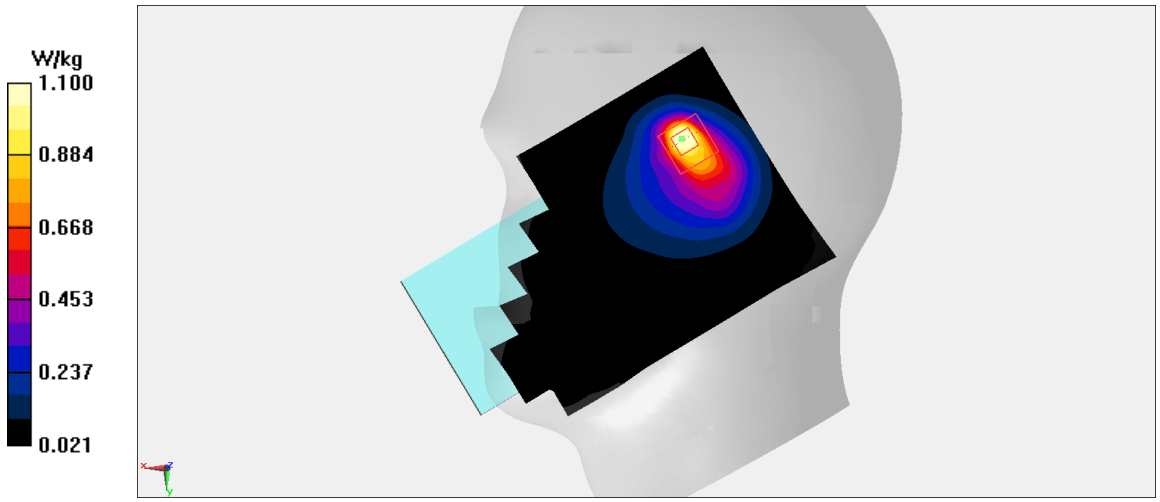


Fig A.15

LTE700-FDD12_CH23130 1RB-Mid Left Edge 10mm

Date: 10/11/2020

Electronics: DAE4 Sn777

Medium: body 750 MHz

Medium parameters used: f = 711 MHz; σ = 0.917 mho/m; εr = 55.36; 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 – SN3617 ConvF(10.07,10.07,10.07)

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

Maximum value of SAR (interpolated) = 0.470 W/kg

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

Reference Value = 23.86 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.541 W/kg

SAR(1 g) = 0.372 W/kg; SAR(10 g) = 0.263 W/kg

Maximum value of SAR (measured) = 0.481 W/kg

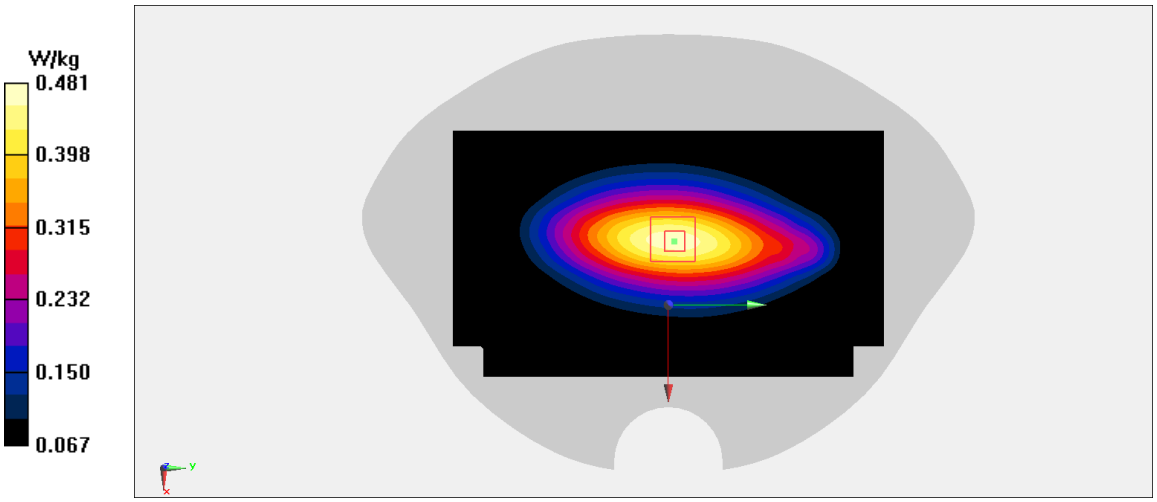


Fig A.16

LTE1700-FDD66_CH132322 Right Cheek 1RB-High

Date: 10/13/2020

Electronics: DAE4 Sn777

Medium: head 1750 MHz

Medium parameters used: f = 1745 MHz; σ =1.344 mho/m; εr = 40.15; ρ = 1000 kg/m^3

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1700-FDD66 49098 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.41,8.41,8.41)

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

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

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

Reference Value = 7.806 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.31 W/kg

SAR(1 g) = 0.646 W/kg; SAR(10 g) = 0.315 W/kg

Maximum value of SAR (measured) = 0.989 W/kg

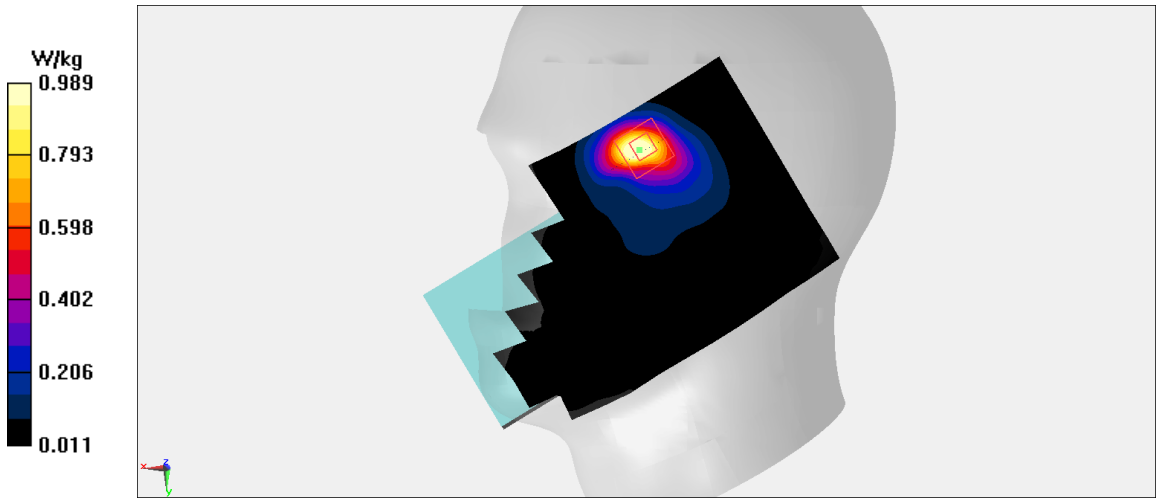


Fig A.17

LTE1700-FDD66_CH132322 1RB-Low Left Edge 10mm

Date: 10/13/2020

Electronics: DAE4 Sn777

Medium: head 1750 MHz

Medium parameters used: f = 1745 MHz; σ =1.344 mho/m; εr = 40.15; ρ = 1000 kg/m^3

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1700-FDD66 49098 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.41,8.41,8.41)

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

Maximum value of SAR (interpolated) = 1.03 W/kg

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

Reference Value = 9.312 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 1.33 W/kg

SAR(1 g) = 0.728 W/kg; SAR(10 g) = 0.372 W/kg

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

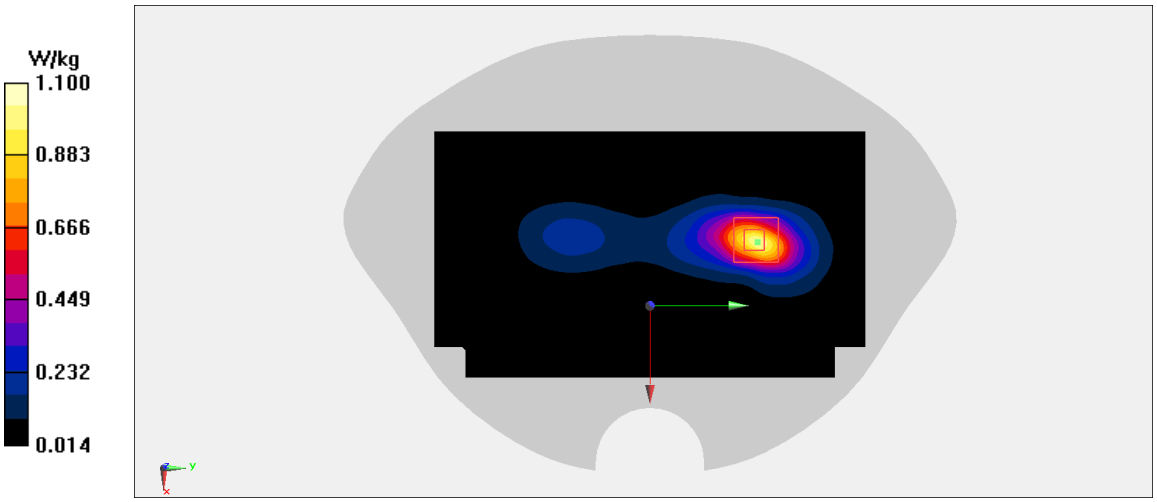


Fig A.18

LTE850-FDD5_CH20450 Right Tilt 25RB-Middle
Date: 10/12/2020
Electronics: DAE4 Sn777
Medium: head 835 MHz
Medium parameters used: f = 829 MHz; σ = 0.884 mho/m; εr = 41.28; 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 – SN3617 ConvF(9.66,9.66,9.66)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.738 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.43 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 1.10 W/kg
SAR(1 g) = 0.385 W/kg; SAR(10 g) = 0.189 W/kg
Maximum value of SAR (measured) =0.768 W/kg

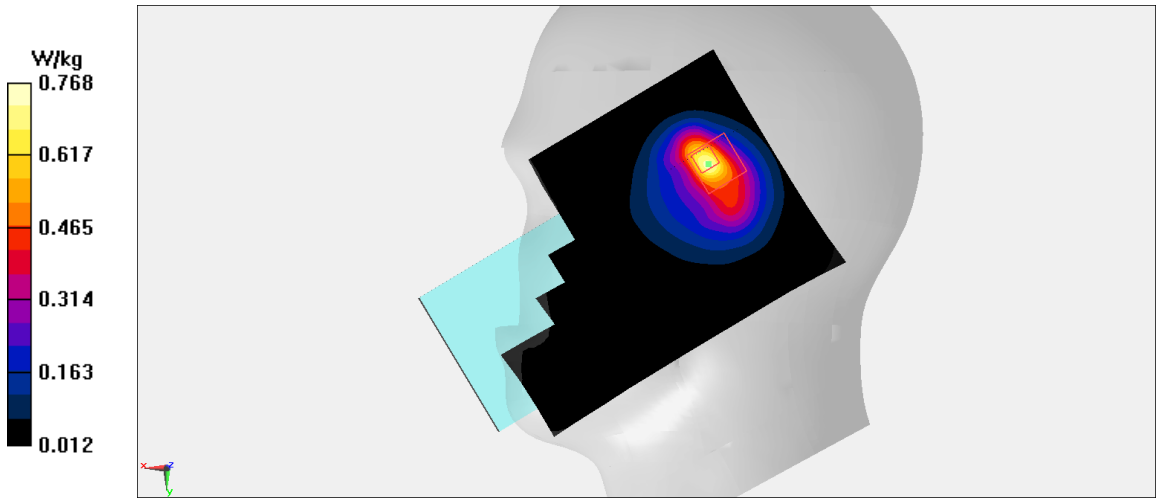


Fig A.19

LTE1700-FDD66_CH132322 Right Cheek 1RB-High

Date: 10/13/2020

Electronics: DAE4 Sn777

Medium: head 1750 MHz

Medium parameters used: f = 1745 MHz; σ =1.344 mho/m; εr = 40.15; ρ = 1000 kg/m^3

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1700-FDD66 49098 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.41,8.41,8.41)

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

Maximum value of SAR (interpolated) = 0.627 W/kg

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

Reference Value = 7.063 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.760 W/kg

SAR(1 g) = 0.372 W/kg; SAR(10 g) = 0.181 W/kg

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

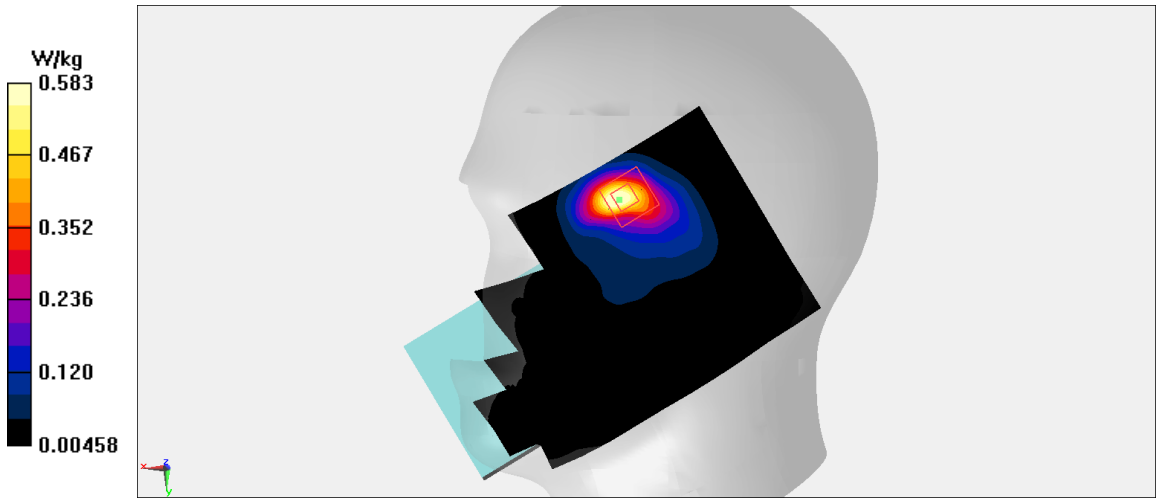


Fig A.20

LTE1700-FDD66_CH132322 50RB-High Left Edge 10mm

Date: 10/13/2020

Electronics: DAE4 Sn777

Medium: head 1750 MHz

Medium parameters used: f = 1745 MHz; σ =1.344 mho/m; εr = 40.15; ρ = 1000 kg/m^3

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1700-FDD66 49098 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(8.41,8.41,8.41)

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

Maximum value of SAR (interpolated) = 0.669 W/kg

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

Reference Value = 8.790 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.826 W/kg

SAR(1 g) = 0.443 W/kg; SAR(10 g) = 0.223 W/kg

Maximum value of SAR (measured) = 0.691 W/kg

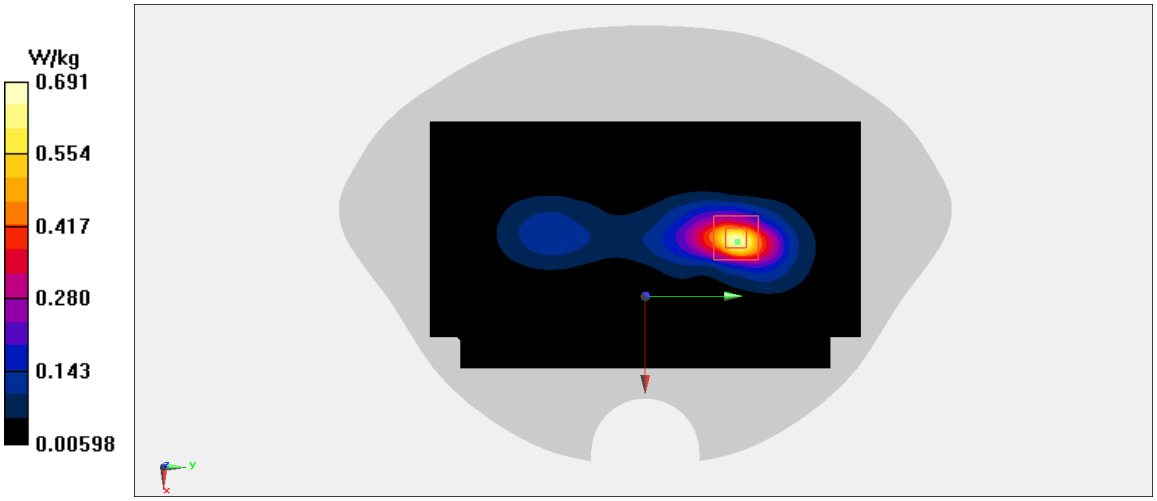


Fig A.21

N7- Anten2 Right Cheek

Date: 10/16/2020

Electronics: DAE4 Sn777

Medium: head 2600 MHz

Medium parameters used: f = 2535 MHz; σ = 2.133 mho/m; εr = 52.4; ρ = 1000 kg/m^3

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE2500-FDD7 2535 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(7.65,7.65,7.65)

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

Maximum value of SAR (interpolated) = 0.500 W/kg

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

Reference Value = 3.922 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.785 W/kg

SAR(1 g) = 0.357 W/kg; SAR(10 g) = 0.161 W/kg

Maximum value of SAR (measured) =0.621 W/kg

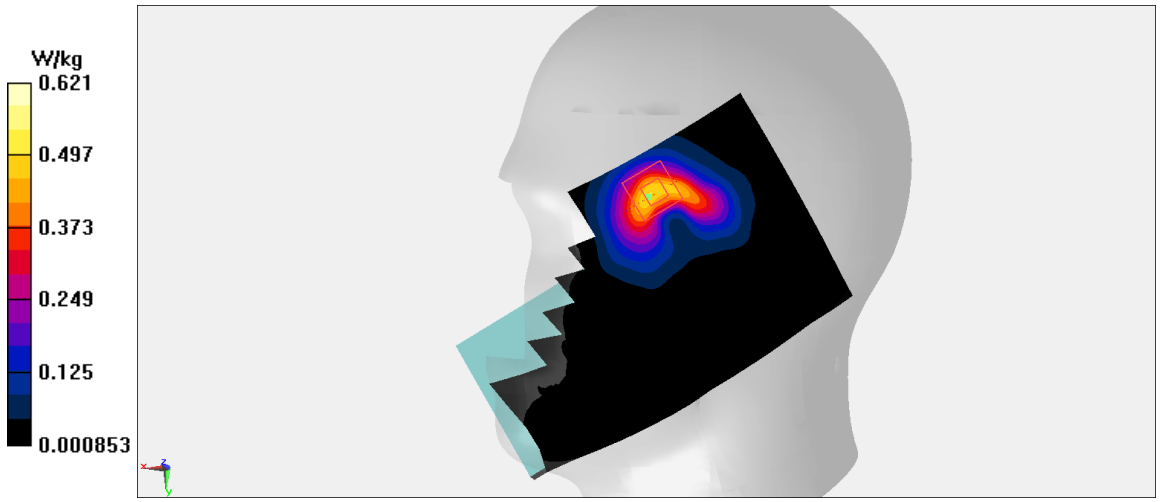


Fig A.22

N7- Anten2 Rear 10mm

Date: 10/16/2020

Electronics: DAE4 Sn777

Medium: head 2600 MHz

Medium parameters used: f = 2535 MHz; σ = 2.133 mho/m; εr = 52.4; ρ = 1000 kg/m^3

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE2500-FDD7 2535 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(7.65,7.65,7.65)

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

Maximum value of SAR (interpolated) = 0.595 W/kg

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

Reference Value = 5.666 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.748 W/kg

SAR(1 g) = 0.354 W/kg; SAR(10 g) = 0.155 W/kg

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

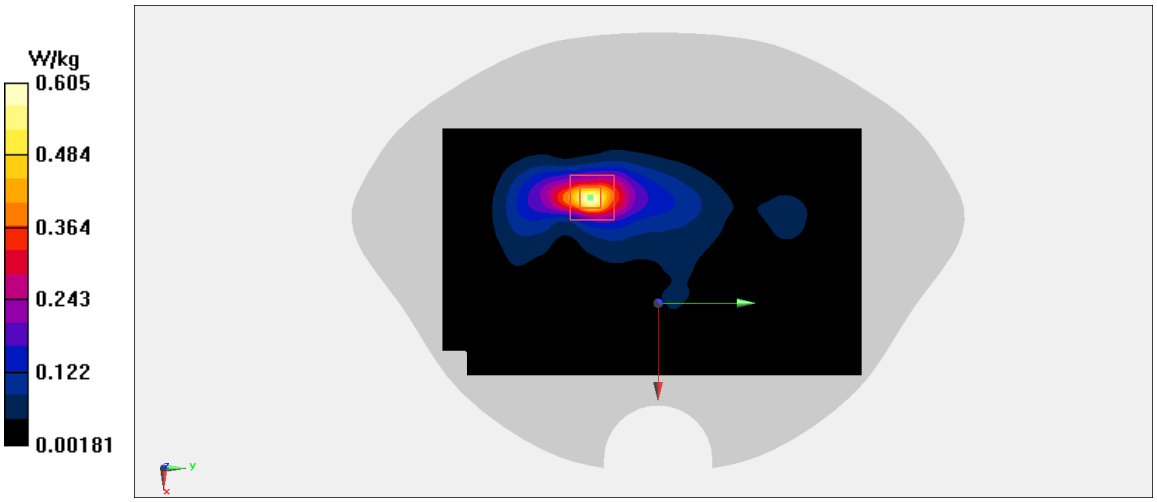


Fig A.23

N7- Anten1 Right Cheek
Date: 10/16/2020
Electronics: DAE4 Sn777
Medium: head 2600 MHz
Medium parameters used: f = 2535 MHz; σ = 2.133 mho/m; εr = 52.4; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: LTE2500-FDD7 2535 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(7.65,7.65,7.65)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.143 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.375 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.173 W/kg
SAR(1 g) = 0.097 W/kg; SAR(10 g) = 0.053 W/kg
Maximum value of SAR (measured) = 0.143 W/kg

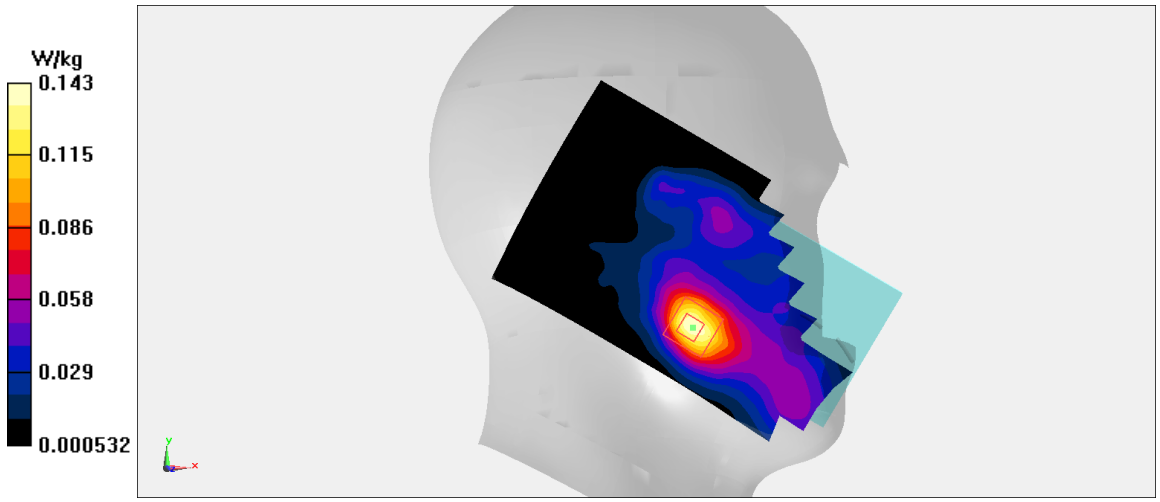


Fig A.24

N7- Anten1 Front 10mm

Date: 10/16/2020

Electronics: DAE4 Sn777

Medium: head 2600 MHz

Medium parameters used: f = 2535 MHz; σ = 2.133 mho/m; εr = 52.4; ρ = 1000 kg/m^3

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE2500-FDD7 2535 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(7.65,7.65,7.65)

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

Maximum value of SAR (interpolated) = 0.370 W/kg

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

Reference Value = 4.996 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.446 W/kg

SAR(1 g) = 0.253 W/kg; SAR(10 g) = 0.135 W/kg

Maximum value of SAR (measured) = 0.375 W/kg

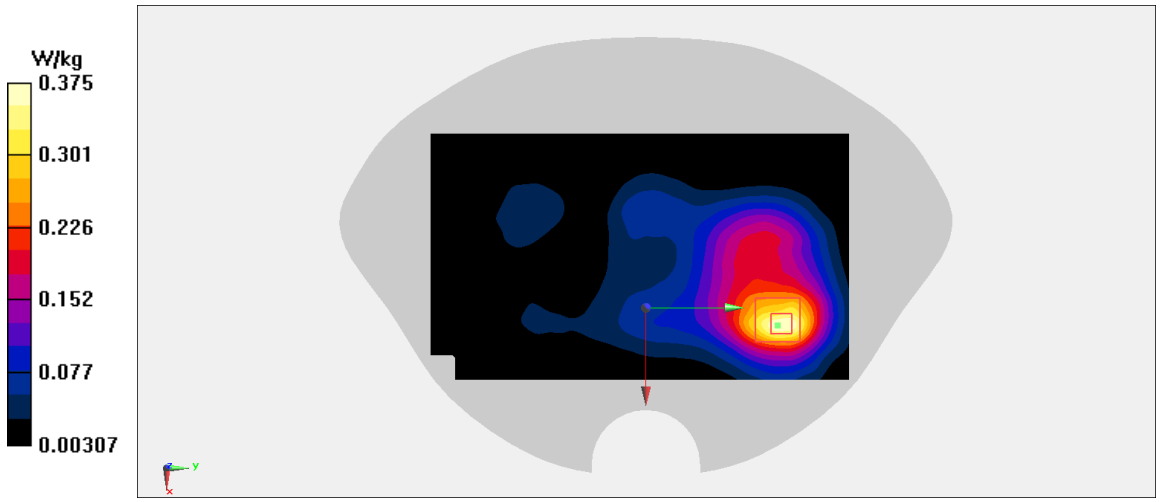


Fig A.25

WLAN2450_CH6 Left Tilt SISO antenna4

Date: 10/15/2020

Electronics: DAE4 Sn777

Medium: head 2450 MHz

Medium parameters used: f = 2437; σ = 1.789 mho/m; εr = 39.31; ρ = 1000 kg/m^3

Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC

Communication System: WLAN2450 2437 Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(7.65,7.65,7.65)

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

Maximum value of SAR (interpolated) = 0.254 W/kg

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

Reference Value = 4.060 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.336 W/kg

SAR(1 g) = 0.153 W/kg; SAR(10 g) = 0.07 W/kg

Maximum value of SAR (measured) = 0.246 W/kg

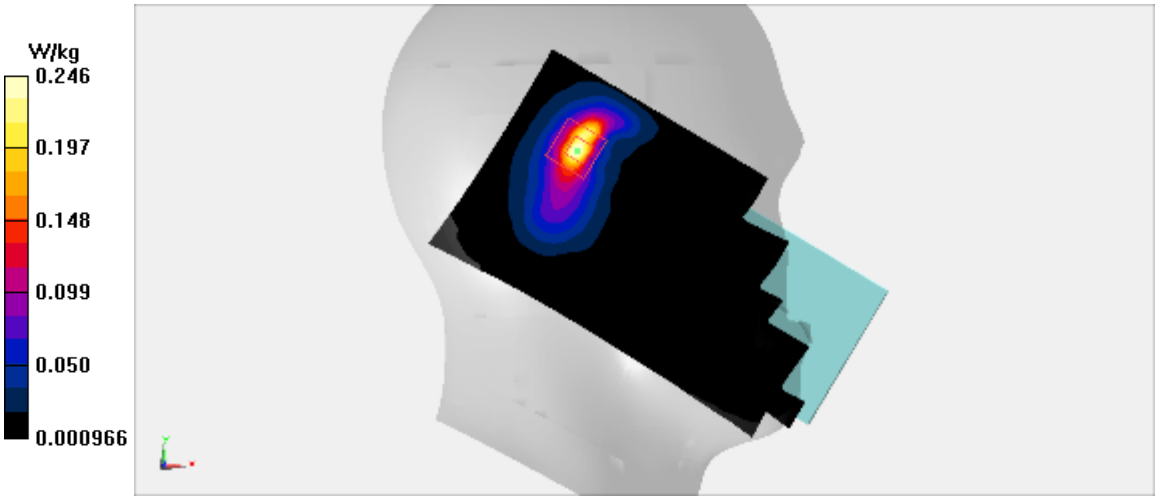


Fig A.26

WLAN2450_CH6 SISO antenna4 Rear 10mm

Date: 10/15/2020

Electronics: DAE4 Sn777

Medium: body 2450 MHz

Medium parameters used: f = 2437; σ = 1.974 mho/m; εr = 53.58; ρ = 1000 kg/m^3

Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC

Communication System: WLAN2450 2437 Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(7.65,7.65,7.65)

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

Maximum value of SAR (interpolated) = 0.630 W/kg

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

Reference Value = 2.070 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.873 W/kg

SAR(1 g) = 0.382 W/kg; SAR(10 g) = 0.151 W/kg

Maximum value of SAR (measured) = 0.679W/kg

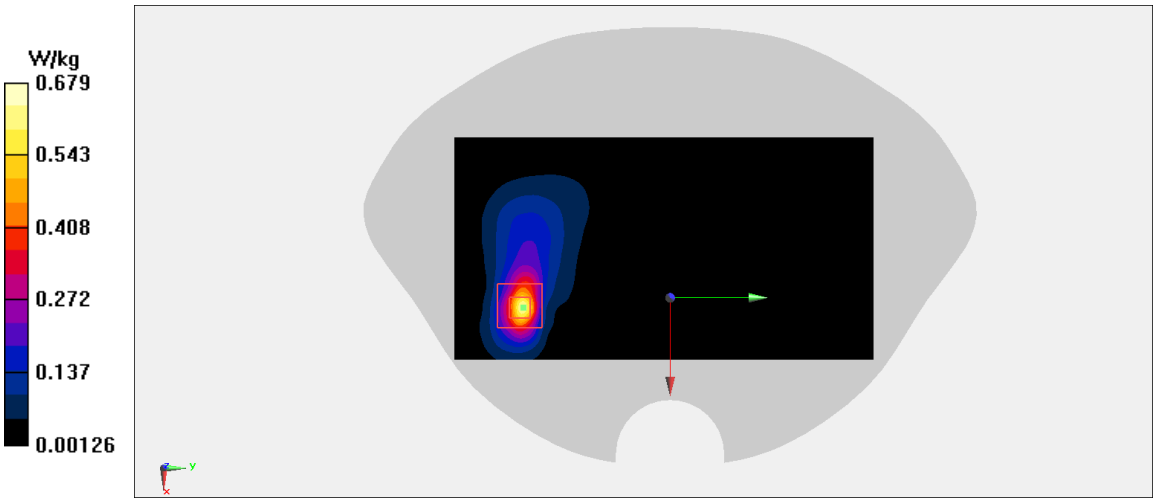


Fig A.27

2.4G WIFI MIMO Left Cheek

Date: 10/12/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used: f =2462MHz; σ = 1.849 mho/m; εr =39.203; ρ = 1000 kg/m^3

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: 2462MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(7.65,7.65,7.65)

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

Maximum value of SAR (interpolated) = 0.739 W/kg

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

Reference Value = 7.425 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.884 W/kg

SAR(1 g) = 0.365 W/kg; SAR(10 g) = 0.161 W/kg

Maximum value of SAR (measured) = 0.693 W/kg

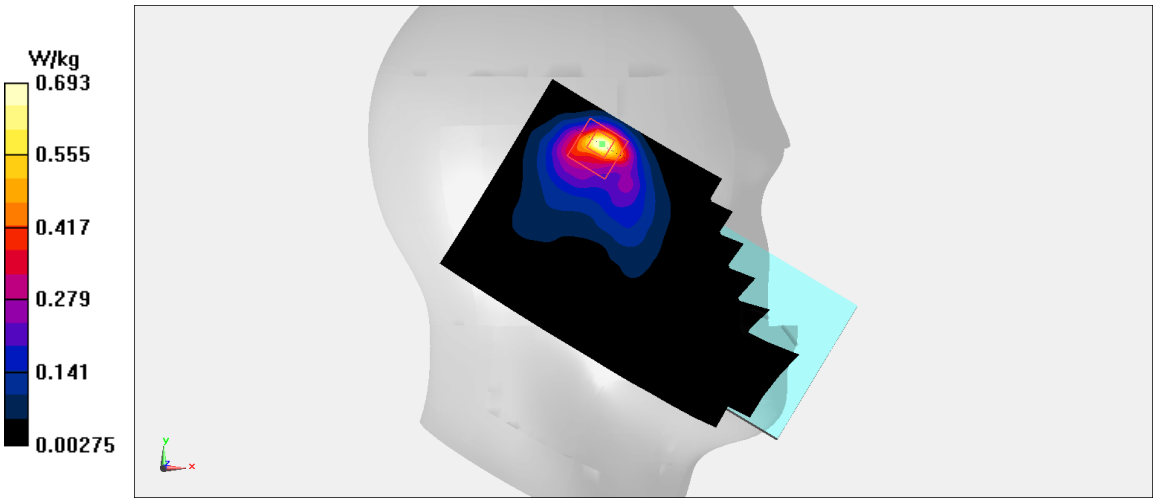


Fig A.28

2.4G WIFI MIMO Rear
Date: 10/15/2020
Electronics: DAE4 Sn777
Medium: head 835 MHz
Medium parameters used: f =2462MHz; σ = 1.849 mho/m; εr =39.203; ρ = 1000 kg/m^3
Ambient Temperature: 22.5ºC, Liquid Temperature: 22.3ºC
Communication System: 2462MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(7.65,7.65,7.65)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.579 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.128 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.783 W/kg
SAR(1 g) = 0.349 W/kg; SAR(10 g) = 0.144 W/kg
Maximum value of SAR (measured) = 0.592 W/kg

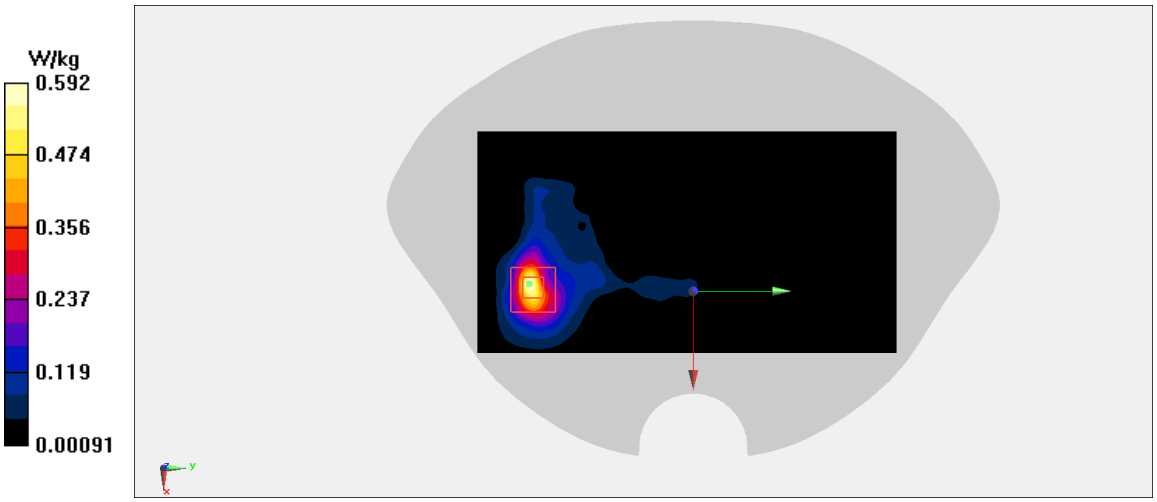


Fig A.29

WLAN2450_CH6 SISO antenna4 Low power Rear 10mm
Date: 10/15/2020
Electronics: DAE4 Sn777
Medium: body 2450 MHz
Medium parameters used: f = 2437; σ = 1.974 mho/m; εr = 53.58; ρ = 1000 kg/m^3
Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C
Communication System: WLAN2450 2437 Duty Cycle: 1:1
Probe: EX3DV4 – SN3617 ConvF(7.65,7.65,7.65)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.218 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.5330 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 0.332 W/kg
SAR(1 g) = 0.144 W/kg; SAR(10 g) = 0.057 W/kg
Maximum value of SAR (measured) = 0.262W/kg

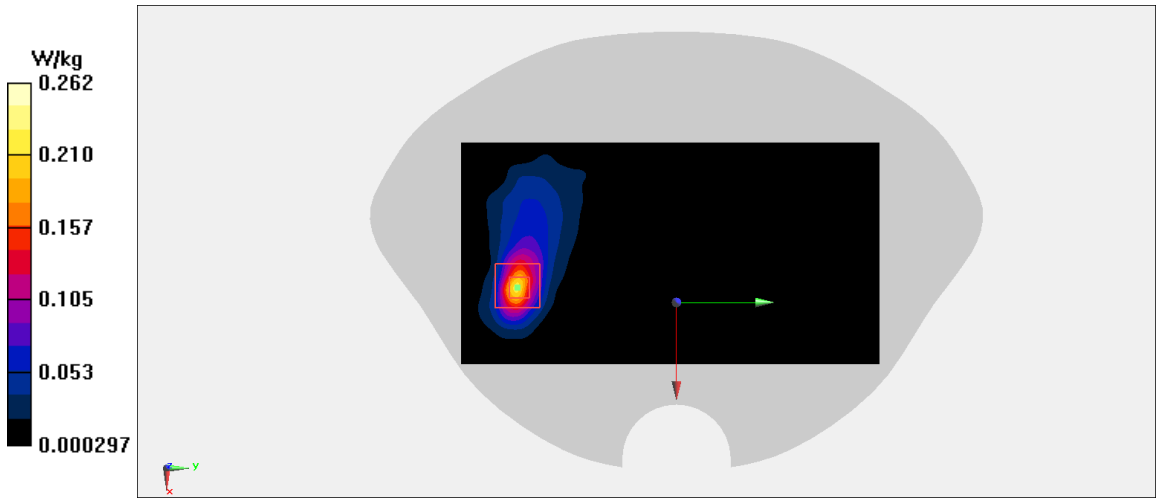


Fig A.30