

Table 14.2-12: SAR Values (LTE Band2 - Body) –AP OFF

		Ambient Temperature: 22.9 °C			Liquid Temperature: 22.5 °C						
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
1880	18900	1RB_High	Front	/	23.44	24	0.156	0.18	0.27	0.31	-0.11
1880	18900	1RB_High	Rear	Fig.12	23.44	24	0.298	0.34	0.511	0.58	0.15
1860	18700	50RB_Low	Front	/	22.22	23	0.137	0.16	0.235	0.28	0.08
1860	18700	50RB_Low	Rear	/	22.22	23	0.232	0.28	0.41	0.49	0.01

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.2-13: SAR Values (LTE Band4 - Head)

		Ambient Temperature: 22.9 °C			Liquid Temperature: 22.5 °C							
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
1732.5	20175	1RB_Mid	Left	Touch	/	23.65	24	0.116	0.13	0.217	0.24	-0.02
1732.5	20175	1RB_Mid	Left	Tilt	/	23.65	24	0.088	0.10	0.156	0.17	0.06
1732.5	20175	1RB_Mid	Right	Touch	Fig.13	23.65	24	0.149	0.16	0.246	0.27	-0.11
1732.5	20175	1RB_Mid	Right	Tilt	/	23.65	24	0.095	0.10	0.18	0.20	0.08
1720	20050	50RB_Low	Left	Touch	/	22.40	23	0.102	0.12	0.209	0.24	0.12
1720	20050	50RB_Low	Left	Tilt	/	22.40	23	0.055	0.06	0.094	0.11	0.03
1720	20050	50RB_Low	Right	Touch	/	22.40	23	0.127	0.15	0.222	0.25	0.04
1720	20050	50RB_Low	Right	Tilt	/	22.40	23	0.056	0.06	0.105	0.12	0.13

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-14: SAR Values (LTE Band4 - Body)

		Ambient Temperature: 22.9 °C			Liquid Temperature: 22.5 °C							
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)	
MHz	Ch.											
1732.5	20175	1RB_Mid	Front	/	23.65	24	0.289	0.31	0.487	0.53	0.06	
1745	20300	1RB_Mid	Rear	Fig.14	23.21	24	0.542	0.65	0.983	1.18	-0.01	
1732.5	20175	1RB_Mid	Rear	/	23.65	24	0.493	0.53	0.886	0.96	0.07	
1720	20050	1RB_Mid	Rear	/	23.60	24	0.515	0.56	0.926	1.02	-0.06	
1732.5	20175	1RB_Mid	Left	/	23.65	24	0.0935	0.10	0.156	0.17	0.14	
1732.5	20175	1RB_Mid	Right	/	23.65	24	0.0769	0.08	0.126	0.14	0.08	
1745	20300	1RB_Mid	Bottom	/	23.21	24	0.427	0.51	0.798	0.96	-0.08	
1732.5	20175	1RB_Mid	Bottom	/	23.65	24	0.401	0.43	0.751	0.81	0.01	
1720	20050	1RB_Mid	Bottom	/	23.60	24	0.365	0.40	0.683	0.75	-0.09	

1720	20050	50RB_Low	Front	/	22.40	23	0.227	0.26	0.389	0.45	0.12
1720	20050	50RB_Low	Rear	/	22.40	23	0.29	0.33	0.553	0.63	0.05
1720	20050	50RB_Low	Left	/	22.40	23	0.071	0.08	0.12	0.14	0.04
1720	20050	50RB_Low	Right	/	22.40	23	0.08	0.09	0.134	0.15	0.16
1720	20050	50RB_Low	Bottom	/	22.40	23	0.312	0.36	0.593	0.68	0.03
1720	20050	100RB	Rear	/	22.30	23	0.32	0.38	0.557	0.65	-0.10
1720	20050	100RB	Bottom	/	22.30	23	0.308	0.36	0.577	0.68	-0.16

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.2-15: SAR Values (LTE Band7 - Head)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
2560	21350	1RB_Mid	Left	Touch	Fig.15	23.54	24	0.242	0.27	0.475	0.53	0.16
2560	21350	1RB_Mid	Left	Tilt	/	23.54	24	0.098	0.11	0.183	0.20	-0.06
2560	21350	1RB_Mid	Right	Touch	/	23.54	24	0.114	0.13	0.2	0.22	0.11
2560	21350	1RB_Mid	Right	Tilt	/	23.54	24	0.095	0.11	0.178	0.20	0.12
2510	20850	50RB_Low	Left	Touch	/	22.36	23	0.225	0.26	0.435	0.50	0.09
2510	20850	50RB_Low	Left	Tilt	/	22.36	23	0.074	0.09	0.135	0.16	0.06
2510	20850	50RB_Low	Right	Touch	/	22.36	23	0.102	0.12	0.179	0.21	0.13
2510	20850	50RB_Low	Right	Tilt	/	22.36	23	0.075	0.09	0.14	0.16	0.16

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-16: SAR Values (LTE Band7 - Body)

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C					
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
2560	21350	1RB_Mid	Front	/	23.54	24	0.35	0.39	0.61	0.68	0.13
2560	21350	1RB_Mid	Rear	Fig.16	23.54	24	0.32	0.36	0.727	0.81	0.04
2535	21100	1RB_Mid	Rear	/	23.40	24	0.265	0.30	0.581	0.67	0.14
2510	20850	1RB_Mid	Rear	/	23.12	24	0.245	0.30	0.54	0.66	0.15
2560	21350	1RB_Mid	Left	/	23.54	24	0.29	0.32	0.553	0.61	0.03
2560	21350	1RB_Mid	Right	/	23.54	24	0.0266	0.03	0.052	0.06	0.09
2560	21350	1RB_Mid	Bottom	/	23.54	24	0.231	0.26	0.48	0.53	-0.12
2510	20850	50RB_Low	Front	/	22.36	23	0.209	0.24	0.387	0.45	-0.01
2510	20850	50RB_Low	Rear	/	22.36	23	0.184	0.21	0.419	0.49	0.15
2510	20850	50RB_Low	Left	/	22.36	23	0.162	0.19	0.303	0.35	0.08
2510	20850	50RB_Low	Right	/	22.36	23	0.024	0.03	0.044	0.05	-0.11

2510	20850	50RB_Low	Bottom	/	22.36	23	0.146	0.17	0.301	0.35	0.12
2510	20850	100RB	Rear	/	22.30	23	0.244	0.29	0.537	0.63	0.12

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.2-17: SAR Values (LTE Band17 - Head)

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C								
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
711	23800	1RB_Mid	Left	Touch	/	23.76	24.3	0.114	0.13	0.168	0.19	-0.08
711	23800	1RB_Mid	Left	Tilt	/	23.76	24.3	0.077	0.09	0.11	0.12	0.08
711	23800	1RB_Mid	Right	Touch	Fig.17	23.76	24.3	0.148	0.17	0.186	0.21	0.12
711	23800	1RB_Mid	Right	Tilt	/	23.76	24.3	0.082	0.09	0.12	0.14	-0.04
709	23780	25RB_Low	Left	Touch	/	22.68	23.3	0.087	0.10	0.129	0.15	0.06
709	23780	25RB_Low	Left	Tilt	/	22.68	23.3	0.055	0.06	0.078	0.09	0.04
709	23780	25RB_Low	Right	Touch	/	22.68	23.3	0.108	0.12	0.163	0.19	-0.07
709	23780	25RB_Low	Right	Tilt	/	22.68	23.3	0.059	0.07	0.085	0.10	0.04

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-18: SAR Values (LTE Band17 - Body)

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C							
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
711	23800	1RB_Mid	Front	/	23.76	24.3	0.147	0.17	0.198	0.22	0.03
711	23800	1RB_Mid	Rear	Fig.18	23.76	24.3	0.256	0.29	0.324	0.37	0.13
711	23800	1RB_Mid	Left	/	23.76	24.3	0.043	0.05	0.064	0.07	0.11
711	23800	1RB_Mid	Right	/	23.76	24.3	0.045	0.05	0.07	0.08	-0.14
711	23800	1RB_Mid	Bottom	/	23.76	24.3	0.034	0.04	0.057	0.06	0.13
709	23780	25RB_Low	Front	/	22.68	23.3	0.109	0.13	0.147	0.17	-0.05
709	23780	25RB_Low	Rear	/	22.68	23.3	0.173	0.20	0.237	0.27	0.08
709	23780	25RB_Low	Left	/	22.68	23.3	0.04	0.05	0.058	0.07	0.09
709	23780	25RB_Low	Right	/	22.68	23.3	0.05	0.06	0.072	0.08	0.16
709	23780	25RB_Low	Bottom	/	22.68	23.3	0.024	0.03	0.041	0.05	-0.13

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-19: SAR Values (WCDMA 1700 MHz Band - 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.										
1732.4	1412	Left	Touch	/	21.88	22.7	0.085	0.10	0.145	0.18	0.12
1732.4	1412	Left	Tilt	/	21.88	22.7	0.038	0.05	0.067	0.08	0.11
1752.6	1513	Right	Touch	/	21.76	22.7	0.098	0.12	0.173	0.21	0.11
1732.4	1412	Right	Touch	/	21.88	22.7	0.123	0.15	0.211	0.25	0.10
1712.4	1312	Right	Touch	Fig.19	21.81	22.7	0.148	0.18	0.237	0.29	0.13
1732.4	1412	Right	Tilt	/	21.88	22.7	0.045	0.05	0.085	0.10	0.02

Table 14.2-20: SAR Values (WCDMA 1700 MHz Band - 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.									
1752.6	1513	Front	/	21.76	22.7	0.430	0.53	0.759	0.94	0.12
1732.4	1412	Front	/	21.88	22.7	0.434	0.52	0.770	0.93	0.06
1712.4	1312	Front	Fig.20	21.81	22.7	0.446	0.55	0.827	1.02	-0.03
1732.4	1412	Rear	/	21.88	22.7	0.206	0.25	0.446	0.54	0.11
1732.4	1412	Left	/	21.88	22.7	0.064	0.08	0.108	0.13	0.16
1732.4	1412	Right	/	21.88	22.7	0.073	0.09	0.120	0.14	0.06
1732.4	1412	Bottom	/	21.88	22.7	0.303	0.37	0.581	0.70	0.11

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

Table 14.2-21: SAR Values (LTE Band5 - Head)

Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
829	20450	1RB_Mid	Left	Touch	/	23.64	24	0.191	0.21	0.278	0.30	0.04
829	20450	1RB_Mid	Left	Tilt	/	23.64	24	0.173	0.19	0.246	0.27	-0.01
829	20450	1RB_Mid	Right	Touch	Fig.21	23.64	24	0.265	0.29	0.347	0.38	0.02
829	20450	1RB_Mid	Right	Tilt	/	23.64	24	0.19	0.21	0.278	0.30	0.07
829	20450	25RB_Mid	Left	Touch	/	22.71	23	0.157	0.17	0.23	0.25	-0.02
829	20450	25RB_Mid	Left	Tilt	/	22.71	23	0.133	0.14	0.188	0.20	-0.03
829	20450	25RB_Mid	Right	Touch	/	22.71	23	0.201	0.21	0.301	0.32	0.02
829	20450	25RB_Mid	Right	Tilt	/	22.71	23	0.155	0.17	0.224	0.24	-0.05

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-22: SAR Values (LTE Band5 - Body)

		Ambient Temperature: 22.5 °C			Liquid Temperature: 22.0 °C						
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
829	20450	1RB_Mid	Front	/	23.64	24	0.195	0.21	0.266	0.29	-0.03
829	20450	1RB_Mid	Rear	Fig.22	23.64	24	0.332	0.36	0.431	0.47	0.13
829	20450	1RB_Mid	Left	/	23.64	24	0.125	0.14	0.187	0.20	0.02
829	20450	1RB_Mid	Right	/	23.64	24	0.202	0.22	0.3	0.33	-0.05
829	20450	1RB_Mid	Bottom	/	23.64	24	0.073	0.08	0.129	0.14	0.03
829	20450	25RB_Mid	Front	/	22.71	23	0.153	0.16	0.206	0.22	0.07
829	20450	25RB_Mid	Rear	/	22.71	23	0.227	0.24	0.312	0.33	0.07
829	20450	25RB_Mid	Left	/	22.71	23	0.103	0.11	0.155	0.17	-0.04
829	20450	25RB_Mid	Right	/	22.71	23	0.16	0.17	0.239	0.26	-0.01
829	20450	25RB_Mid	Bottom	/	22.71	23	0.059	0.06	0.104	0.11	0.03

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-23: SAR Values (LTE Band12 - Head)

		Ambient Temperature: 23.0 °C			Liquid Temperature: 22.5 °C							
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
711	23130	1RB_Mid	Left	Touch	/	23.11	24	0.11	0.14	0.16	0.20	-0.09
711	23130	1RB_Mid	Left	Tilt	/	23.11	24	0.07	0.08	0.09	0.12	0.17
711	23130	1RB_Mid	Right	Touch	Fig.23	23.11	24	0.15	0.18	0.18	0.22	-0.05
711	23130	1RB_Mid	Right	Tilt	/	23.11	24	0.07	0.08	0.09	0.12	0.02
711	23130	25RB_High	Left	Touch	/	21.9	23	0.09	0.11	0.12	0.16	0.04
711	23130	25RB_High	Left	Tilt	/	21.9	23	0.06	0.07	0.08	0.10	0.08
711	23130	25RB_High	Right	Touch	/	21.9	23	0.09	0.12	0.13	0.17	0.09
711	23130	25RB_High	Right	Tilt	/	21.9	23	0.05	0.07	0.07	0.09	0.18

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-24: SAR Values (LTE Band12 - Body)

Ambient Temperature: 23.0 °C				Liquid Temperature: 22.5 °C							
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
711	23130	1RB_Mid	Front	/	23.11	24	0.12	0.15	0.17	0.21	-0.01
711	23130	1RB_Mid	Rear	Fig.24	23.11	24	0.29	0.35	0.36	0.44	-0.01
711	23130	1RB_Mid	Left	/	23.11	24	0.03	0.04	0.05	0.06	0.05
711	23130	1RB_Mid	Right	/	23.11	24	0.08	0.10	0.11	0.14	0.03
711	23130	1RB_Mid	Bottom	/	23.11	24	0.03	0.04	0.05	0.06	0.03
711	23130	25RB_High	Front	/	21.9	23	0.13	0.16	0.17	0.22	-0.05
711	23130	25RB_High	Rear	/	21.9	23	0.20	0.25	0.27	0.35	0.04
711	23130	25RB_High	Left	/	21.9	23	0.11	0.14	0.16	0.21	-0.03
711	23130	25RB_High	Right	/	21.9	23	0.13	0.17	0.19	0.25	0.01
711	23130	25RB_High	Bottom	/	21.9	23	0.02	0.03	0.04	0.05	0.01

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-25: SAR Values (LTE Band7 - Head) –battery CAC2500037C2

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C								
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
2560	21350	1RB_Mid	Left	Touch	/	23.54	24	0.224	0.25	0.422	0.47	0.03

Table 14.2-26: SAR Values (LTE Band4 - Body) –battery CAC2500035C1

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C								
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)	
MHz	Ch.											
1745	20300	1RB_Mid	Rear	/	23.21	24	0.401	0.48	0.714	0.86	0.02	

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

Note2: The LTE mode is QPSK_20MHz.

14.3 SAR results for Standard procedure

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

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

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C							
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
836.6	190	Right	Touch	Fig.1	32.78	33.5	0.263	0.31	0.34	0.40	-0.02

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

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C							
Frequency		Mode (number of timeslots)	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
824.2	128	GPRS (4)	Rear	Fig.2	28.05	29	0.515	0.64	0.66	0.82	-0.02

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

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

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C							
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
1850.2	512	Right	Touch	Fig.3	29.49	30	0.0549	0.06	0.0872	0.10	0.13

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

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C							
Frequency		Mode (number of timeslots)	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
1909.8	810	GPRS (4)	Bottom	Fig.4	28.04	29	0.436	0.54	0.81	1.01	-0.11

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

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

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C							
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
846.6	4233	Right	Touch	Fig.5	23.32	23.5	0.249	0.26	0.324	0.34	0.06

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

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C						
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
826.4	4132	Rear	Fig.6	23.30	23.5	0.303	0.32	0.39	0.41	0.10

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

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

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C							
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
1852.4	9262	Right	Touch	Fig.7	22.63	22.7	0.0994	0.10	0.157	0.16	0.16

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

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C							
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)	
MHz	Ch.										
1907.6	9538	Bottom	Fig.8	21.30	21.5	0.385	0.40	0.71	0.74	0.07	

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

Table 14.3-9: SAR Values (WCDMA 1900 MHz Band - Body) –AP OFF

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C							
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)	
MHz	Ch.										
1852.4	9262	Rear	Fig.9	22.63	22.7	0.278	0.28	0.47	0.48	0.02	

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

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

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C								
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
1880	18900	1RB_High	Right	Touch	Fig.10	23.44	24	0.0988	0.11	0.156	0.18	0.07

Note1: The LTE mode is QPSK_20MHz.

Table 14.3-11: SAR Values (LTE Band2 - Body) –AP ON

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C							
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
1900	19100	1RB_Mid	Bottom	Fig.11	22.11	22.6	0.405	0.45	0.74	0.83	-0.04

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.3-12: SAR Values (LTE Band2 - Body) –AP OFF

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C							
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
1880	18900	1RB_High	Rear	Fig.12	23.44	24	0.298	0.34	0.511	0.58	0.15

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.3-13: SAR Values (LTE Band4 - Head)

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C								
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
1732.5	20175	1RB_Mid	Right	Touch	Fig.13	23.65	24	0.149	0.16	0.246	0.27	-0.11

Note1: The LTE mode is QPSK_20MHz.

Table 14.3-14: SAR Values (LTE Band4 - Body)

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C							
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
1745	20300	1RB_Mid	Rear	Fig.14	23.21	24	0.542	0.65	0.983	1.18	-0.01

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 Band7 - Head)

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C								
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
2560	21350	1RB_Mid	Left	Touch	Fig.15	23.54	24	0.242	0.27	0.475	0.53	0.16

Note1: The LTE mode is QPSK_20MHz.

Table 14.3-16: SAR Values (LTE Band7 - Body)

		Ambient Temperature: 22.9 °C			Liquid Temperature: 22.5 °C						
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
2560	21350	1RB_Mid	Rear	Fig.16	23.54	24	0.32	0.36	0.727	0.81	0.04

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

Note2: The LTE mode is QPSK_20MHz.

Table 14.3-17: SAR Values (LTE Band17 - Head)

		Ambient Temperature: 22.9 °C			Liquid Temperature: 22.5 °C							
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
711	23800	1RB_Mid	Right	Touch	Fig.19	23.76	24.3	0.148	0.17	0.186	0.21	0.12

Note1: The LTE mode is QPSK_10MHz.

Table 14.3-18: SAR Values (LTE Band17 - Body)

		Ambient Temperature: 22.9 °C			Liquid Temperature: 22.5 °C							
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)	
MHz	Ch.											
711	23800	1RB_Mid	Rear	Fig.20	23.76	24.3	0.256	0.29	0.324	0.37	0.13	

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.3-19: SAR Values (WCDMA 1700 MHz Band - Head)

		Ambient Temperature: 22.5 °C			Liquid Temperature: 22.0 °C							
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)	
MHz	Ch.											
1712.4	1312	Right	Touch	Fig.19	21.81	22.7	0.148	0.18	0.237	0.29	0.13	

Table 14.3-20: SAR Values (WCDMA 1700 MHz Band - Body)

		Ambient Temperature: 22.5 °C			Liquid Temperature: 22.0 °C					
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
1712.4	1312	Front	Fig.20	21.81	22.7	0.446	0.55	0.827	1.02	-0.03

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

Table 14.3-21: SAR Values (LTE Band5 - Head)

Ambient Temperature: 22.5 °C				Liquid Temperature: 22.0 °C								
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
829	20450	1RB_Mid	Right	Touch	Fig.21	23.64	24	0.265	0.29	0.347	0.38	0.02

Note1: The LTE mode is QPSK_10MHz.

Table 14.3-22: SAR Values (LTE Band5 - Body)

Ambient Temperature: 22.5 °C				Liquid Temperature: 22.0 °C							
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
829	20450	1RB_Mid	Rear	Fig.22	23.64	24	0.332	0.36	0.431	0.47	0.13

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.3-23: SAR Values (LTE Band12 - Head)

Ambient Temperature: 23.0 °C				Liquid Temperature: 22.5 °C								
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.											
711	23130	1RB_Mid	Right	Touch	Fig.23	23.11	24	0.15	0.18	0.18	0.22	-0.05

Note1: The LTE mode is QPSK_10MHz.

Table 14.3-24: SAR Values (LTE Band12 - Body)

Ambient Temperature: 23.0 °C				Liquid Temperature: 22.5 °C							
Frequency		Mode	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
711	23130	1RB_Mid	Rear	Fig.24	23.11	24	0.29	0.35	0.36	0.44	-0.01

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

Note2: The LTE mode is QPSK_10MHz.

14.4 WLAN Evaluation

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

Head Evaluation

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

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C							
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
2437	6	Left	Touch	/	19.43	19.5	0.0618	0.06	0.114	0.12	0.17
2437	6	Left	Tilt	/	19.43	19.5	0.05	0.05	0.099	0.10	0.08
2437	6	Right	Touch	/	19.43	19.5	0.182	0.18	0.376	0.38	0.11
2437	6	Right	Tilt	/	19.43	19.5	0.105	0.11	0.218	0.22	0.19

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

Table 14.4-2: SAR Values (WLAN - Head) – 802.11b 1Mbps (Full SAR)

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C							
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
2437	6	Right	Touch	Fig.25	19.43	19.5	0.172	0.17	0.36	0.37	0.11
2437	6	Left	Touch	/	19.43	19.5	0.0596	0.06	0.108	0.11	0.01

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

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

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

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

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C			
Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.						
2437	6	Right	Touch	97.86%	100%	0.37	0.38
2437	6	Left	Touch	97.86%	100%	0.11	0.11

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

Body Evaluation
Table 14.4-4: SAR Values (WLAN - Body) – 802.11b 1Mbps (Fast SAR)

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C						
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
2437	6	Front	/	19.43	19.5	0.0643	0.07	0.146	0.15	0.11
2437	6	Rear	/	19.43	19.5	0.302	0.31	0.723	0.73	0.15
2437	6	Left	/	19.43	19.5	0.211	0.21	0.465	0.47	0.11
2437	6	Top	/	19.43	19.5	0.0324	0.03	0.0579	0.06	-0.17

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 1Mbps (Full SAR)

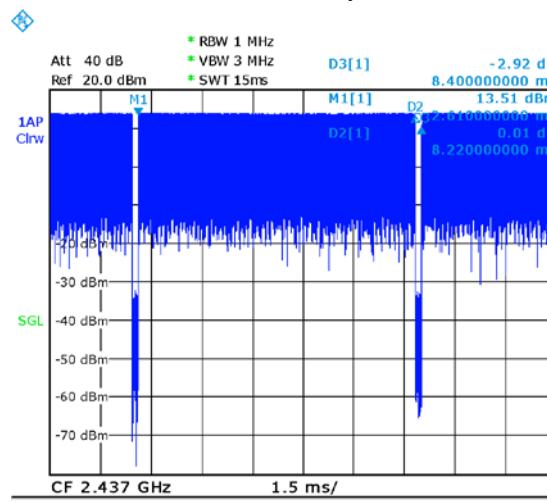
Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C						
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.									
2437	6	Rear	Fig.26	19.43	19.5	0.352	0.36	0.837	0.85	0.15
2437	6	Left	/	19.43	19.5	0.22	0.22	0.467	0.47	0.11
2412	1	Rear	/	18.82	19.5	0.218	0.25	0.497	0.58	-0.19

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

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

Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5 °C					
Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)			
MHz	Ch.								
2437	6	Rear	97.86%	100%	0.85	0.87			

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


Picture 14.1 Duty factor plot

15 SAR Measurement Variability

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

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

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

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

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
1909.8	810	Bottom	10	0.81	0.804	1.01	/

Table 15.2: SAR Measurement Variability for Body LTE Band 4 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
1745	20300	Rear	10	0.983	0.978	1.01	/

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

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
2437	6	Rear	10	0.837	0.829	1.01	/

Table 15.4: SAR Measurement Variability for Body WCDMA1700 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
1712.4	1312	Front	10	0.827	0.820	1.01	/

16 Measurement Uncertainty

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

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

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

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

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
-----	-------------------	------	-------------------	-----------------------	------	------------	-------------	----------------------	-----------------------	-------------------

Measurement system

1	Probe calibration	B	6.5	N	1	1	1	6.5	6.5	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	2.0	R	$\sqrt{3}$	1	1	1.2	1.2	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RF ambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
12	Probe positioning with respect to phantom shell	B	6.7	R	$\sqrt{3}$	1	1	3.9	3.9	∞
13	Post-processing	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞

Test sample related

14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞

Phantom and set-up

17	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43

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

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

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

Phantom and set-up										
18	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
20	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
21	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
22	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						10.1	9.95	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						20.2	19.9	

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	6.5	N	1	1	1	6.5	6.5	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	2.0	R	$\sqrt{3}$	1	1	1.2	1.2	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RF ambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. Restrictions	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
12	Probe positioning with respect to phantom shell	B	6.7	R	$\sqrt{3}$	1	1	3.9	3.9	∞
13	Post-processing	B	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		$u_c = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						13.3	13.2	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						26.6	26.4	

17 MAIN TEST INSTRUMENTS

Table 17.1: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	E5071C	MY46110673	February 03, 2016	One year
02	Power meter	NRVD	102196	March 03, 2016	One year
03	Power sensor	NRV-Z5	100596		
04	Signal Generator	E4438C	MY49071430	February 02, 2016	One Year
05	Amplifier	60S1G4	0331848	No Calibration Requested	
06	BTS	E5515C	MY50263375	January 30, 2016	One year
07	BTS	CMW500	129942	March 03, 2016	One year
08	E-field Probe	SPEAG EX3DV4	3617	August 26, 2015	One year
09	DAE	SPEAG DAE4	777	August 26, 2015	One year
10	Dipole Validation Kit	SPEAG D750V3	1017	July 23, 2015	One year
11	Dipole Validation Kit	SPEAG D835V2	4d069	July 23, 2015	One year
12	Dipole Validation Kit	SPEAG D1750V2	1003	July 16, 2015	One year
13	Dipole Validation Kit	SPEAG D1900V2	5d101	July 23, 2015	One year
14	Dipole Validation Kit	SPEAG D2450V2	853	July 24, 2015	One year
15	Dipole Validation Kit	SPEAG D2600V2	1012	July 24, 2015	One year

END OF REPORT BODY

ANNEX A Graph Results

850 Right Cheek Middle

Date: 2016-1-21

Electronics: DAE4 Sn777

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.928$ mho/m; $\epsilon_r = 41.42$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: GSM 850 Frequency: 836.6 MHz Duty Cycle: 1:8.3

Probe: EX3DV4 - SN3617 ConvF(9.56, 9.56, 9.56)

Area Scan (71x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.396 W/kg

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

Reference Value = 7.088 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.431 W/kg

SAR(1 g) = 0.340 W/kg; SAR(10 g) = 0.263 W/kg

Maximum value of SAR (measured) = 0.373 W/kg

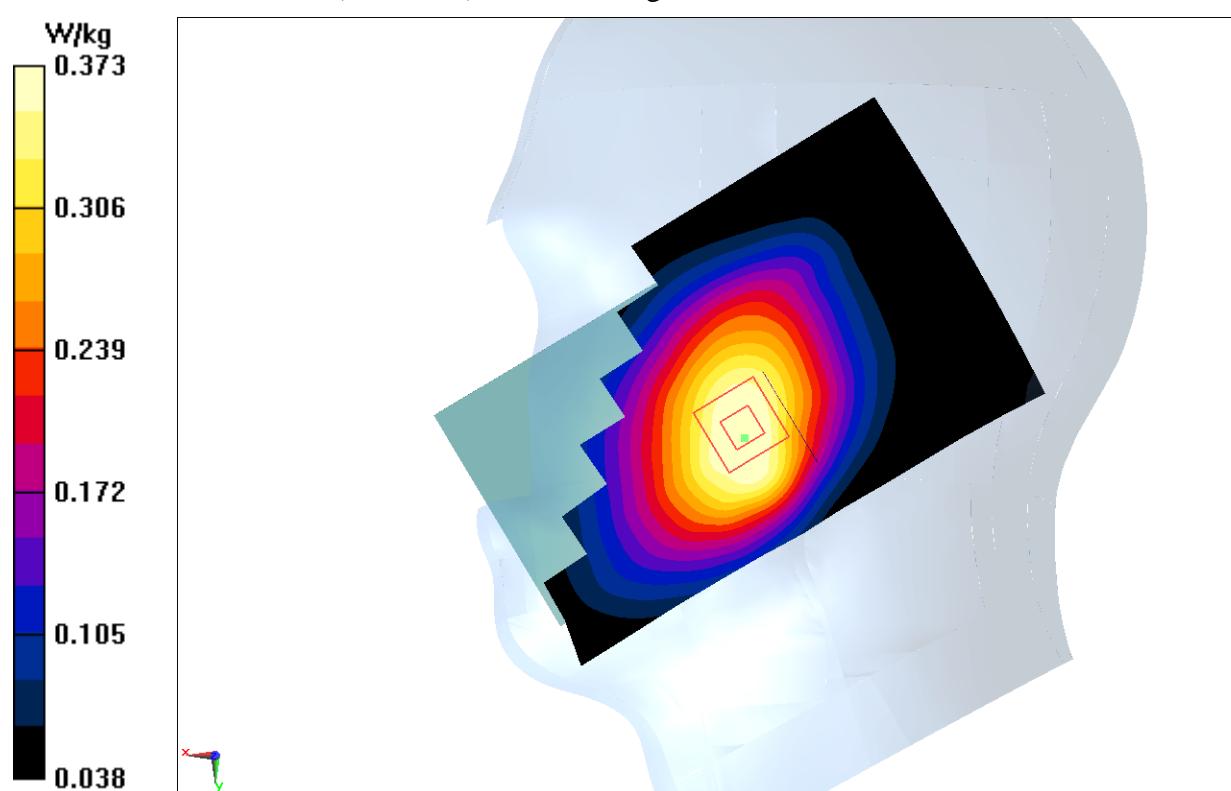


Fig.1 850MHz

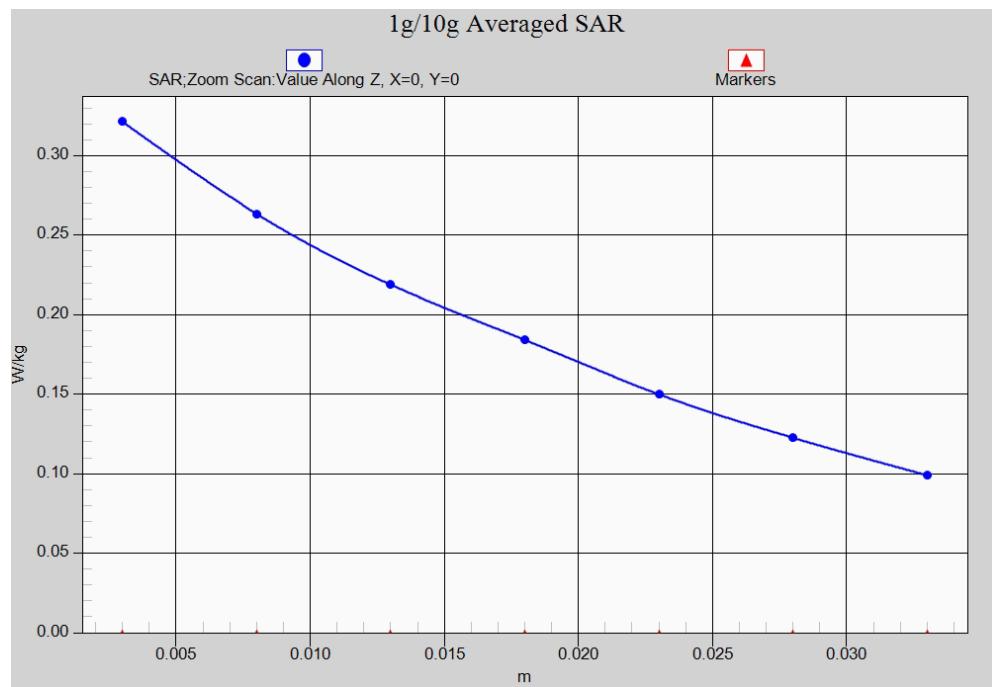


Fig. 1-1 Z-Scan at power reference point (850 MHz)

850 Body Rear Low

Date: 2016-1-21

Electronics: DAE4 Sn777

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.973$ mho/m; $\epsilon_r = 56.485$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:2

Probe: EX3DV4 - SN3617 ConvF(9.71, 9.71, 9.71)

Area Scan (121x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.776 W/kg

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

Reference Value = 25.97 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.835 W/kg

SAR(1 g) = 0.660 W/kg; SAR(10 g) = 0.515 W/kg

Maximum value of SAR (measured) = 0.685 W/kg

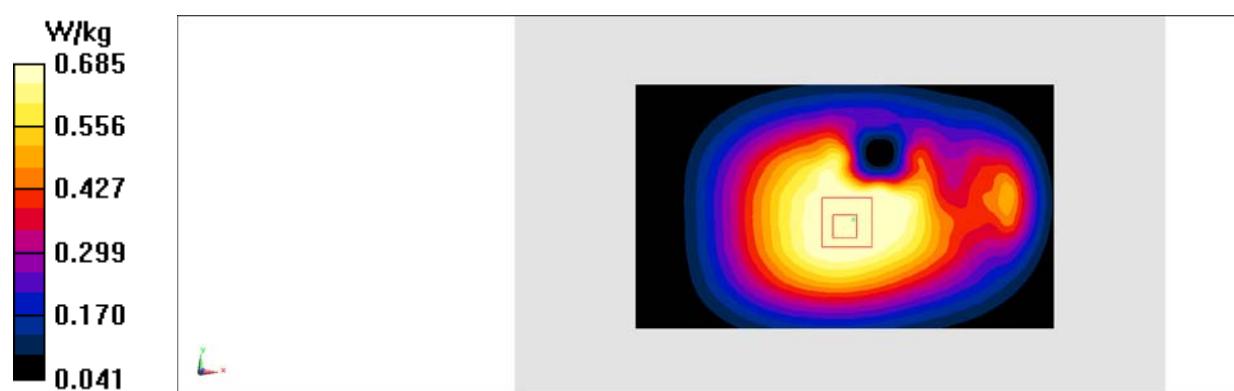


Fig.2 850 MHz

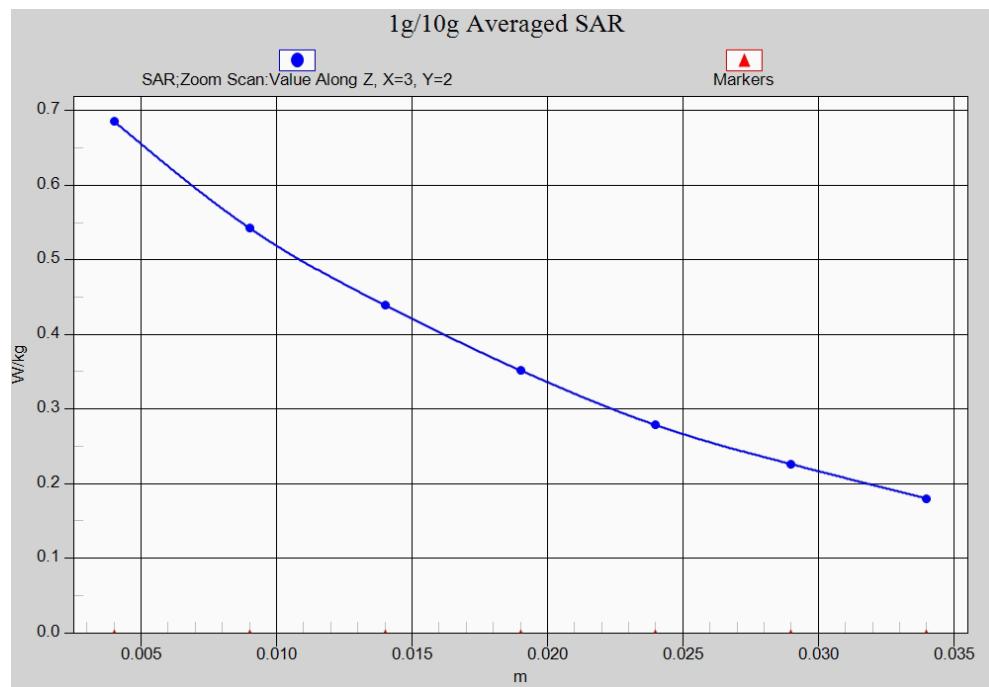


Fig. 2-1 Z-Scan at power reference point (850 MHz)

1900 Right Cheek Low

Date: 2016-1-23

Electronics: DAE4 Sn777

Medium: Head 1900 MHz

Medium parameters used: $f = 1850.2 \text{ MHz}$; $\sigma = 1.289 \text{ mho/m}$; $\epsilon_r = 40.332$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz Frequency: 1850.2 MHz Duty Cycle: 1:8.3

Probe: EX3DV4 - SN3617 ConvF(8.07, 8.07, 8.07)

Area Scan (81x121x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.111 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 3.398 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.130 W/kg

SAR(1 g) = 0.087 W/kg; SAR(10 g) = 0.055 W/kg

Maximum value of SAR (measured) = 0.0956 W/kg

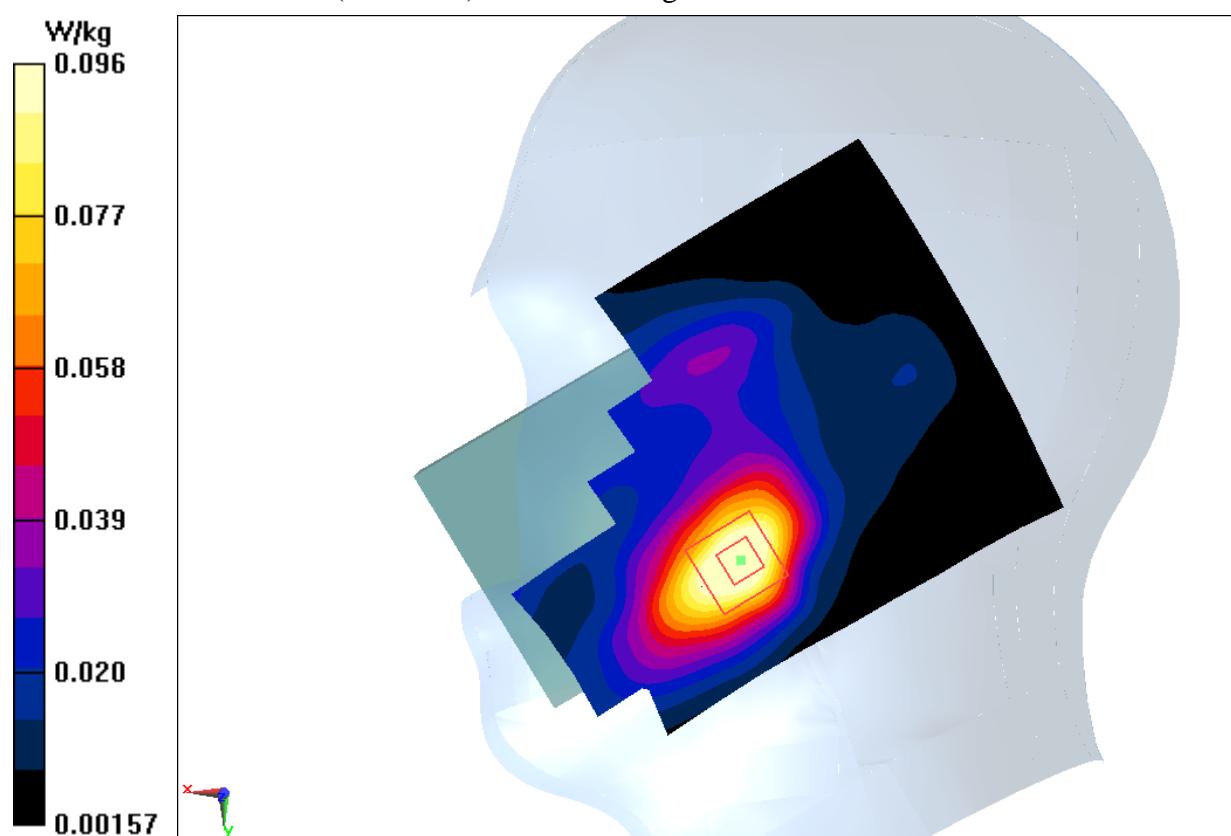


Fig.3 1900 MHz

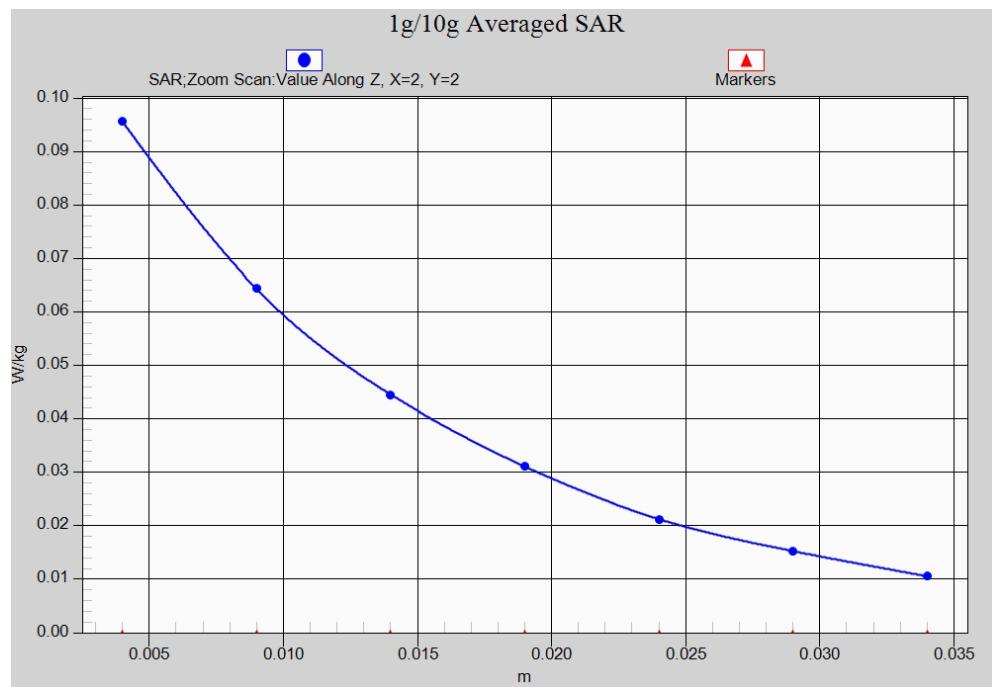


Fig. 3-1 Z-Scan at power reference point (1900 MHz)

1900 Body Bottom High

Date: 2016-1-23

Electronics: DAE4 Sn777

Medium: Body 1900 MHz

Medium parameters used: $f = 1910 \text{ MHz}$; $\sigma = 1.573 \text{ mho/m}$; $\epsilon_r = 53.215$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:4

Probe: EX3DV4 - SN3617 ConvF(7.74, 7.74, 7.74)

Area Scan (121x71x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.963 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 23.15 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 1.40 W/kg

SAR(1 g) = 0.810 W/kg; SAR(10 g) = 0.436 W/kg

Maximum value of SAR (measured) = 0.915 W/kg

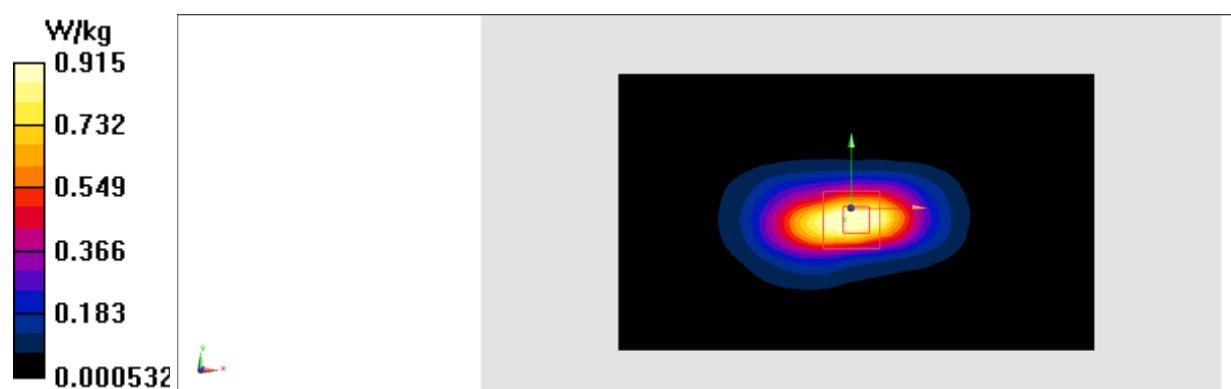


Fig.4 1900 MHz

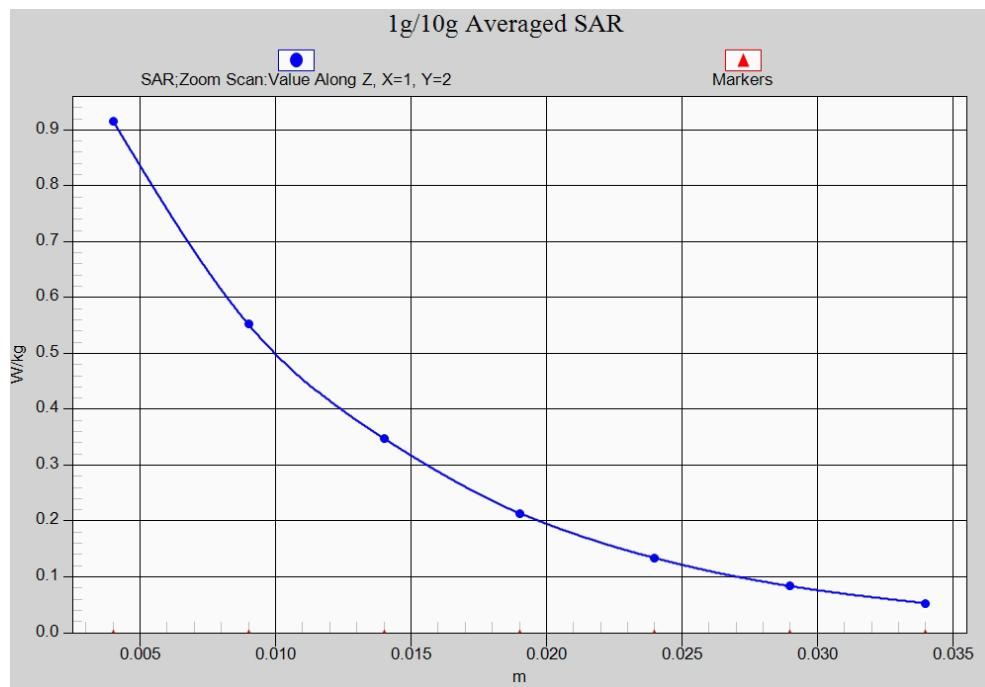


Fig. 4-1 Z-Scan at power reference point (1900 MHz)

WCDMA 850 Right Cheek High

Date: 2016-1-21

Electronics: DAE4 Sn777

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 846.6$ MHz; $\sigma = 0.911$ mho/m; $\epsilon_r = 40.995$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(9.56, 9.56, 9.56)

Area Scan (71x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.352 W/kg

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

Reference Value = 6.080 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.412 W/kg

SAR(1 g) = 0.324 W/kg; SAR(10 g) = 0.249 W/kg

Maximum value of SAR (measured) = 0.358 W/kg

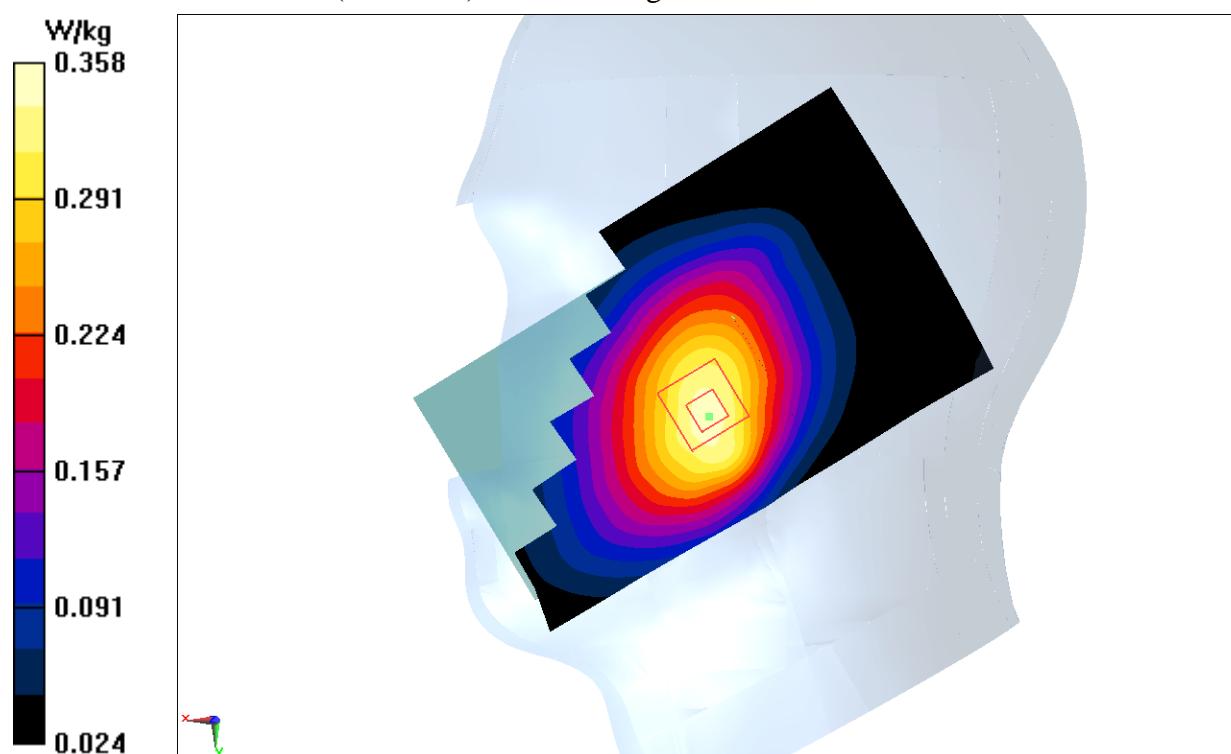


Fig.5 WCDMA 850

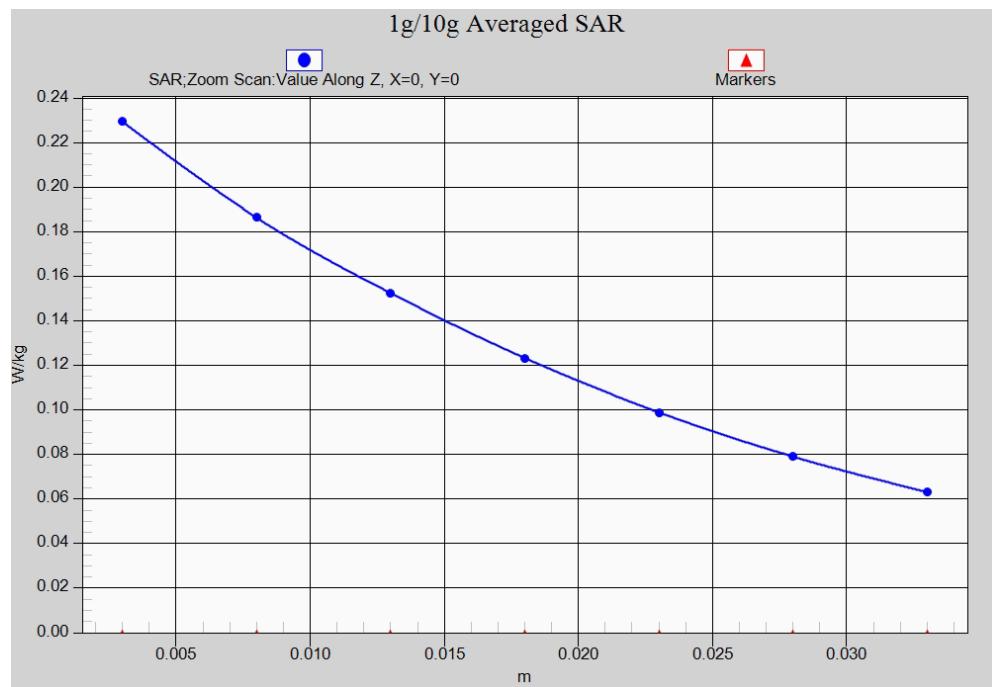


Fig. 5-1 Z-Scan at power reference point (1900 MHz)

WCDMA 850 Body Rear Low

Date: 2016-1-21

Electronics: DAE4 Sn777

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 826.4$ MHz; $\sigma = 0.962$ mho/m; $\epsilon_r = 56.053$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: WCDMA; Frequency: 826.4 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(9.71, 9.71, 9.71)

Area Scan (121x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.427 W/kg

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

Reference Value = 19.70 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.489 W/kg

SAR(1 g) = 0.390 W/kg; SAR(10 g) = 0.303 W/kg

Maximum value of SAR (measured) = 0.405 W/kg

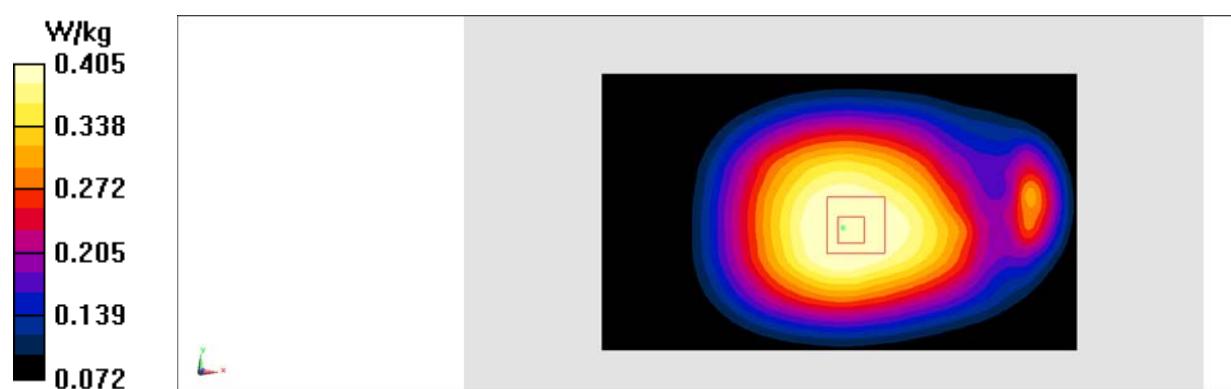


Fig.6 WCDMA 850

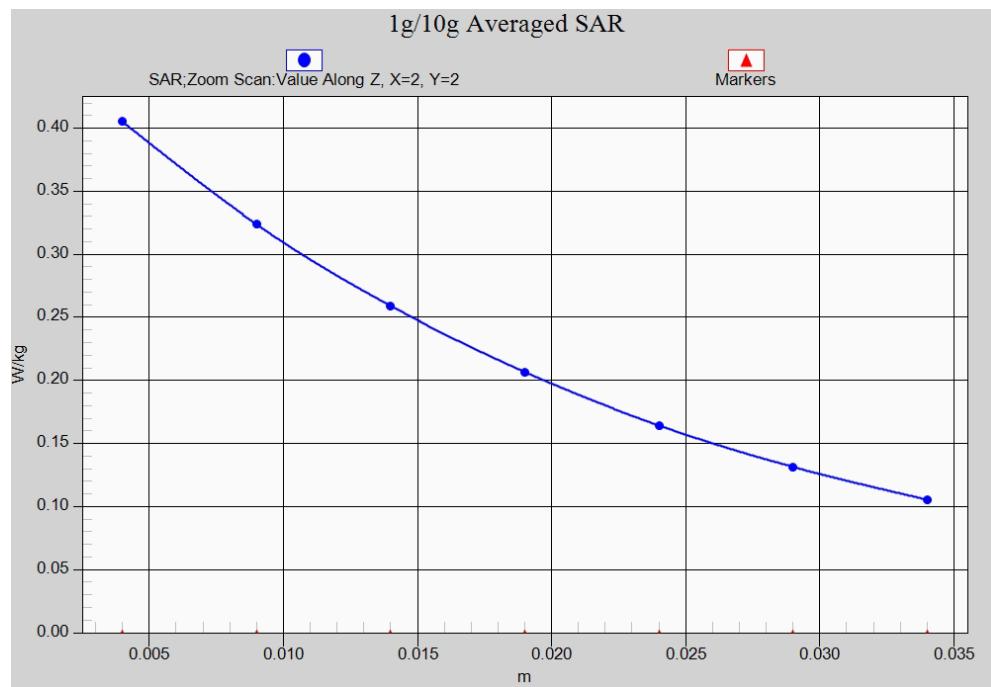


Fig. 6-1 Z-Scan at power reference point (WCDMA850)

WCDMA 1900 Right Cheek Low

Date: 2016-1-23

Electronics: DAE4 Sn777

Medium: Head 1900 MHz

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.378$ mho/m; $\epsilon_r = 39.895$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: WCDMA 1900 Frequency: 1852.4 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(8.07, 8.07, 8.07)

Area Scan (81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.199 W/kg

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

Reference Value = 4.450 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.234 W/kg

SAR(1 g) = 0.157 W/kg; SAR(10 g) = 0.099 W/kg

Maximum value of SAR (measured) = 0.169 W/kg

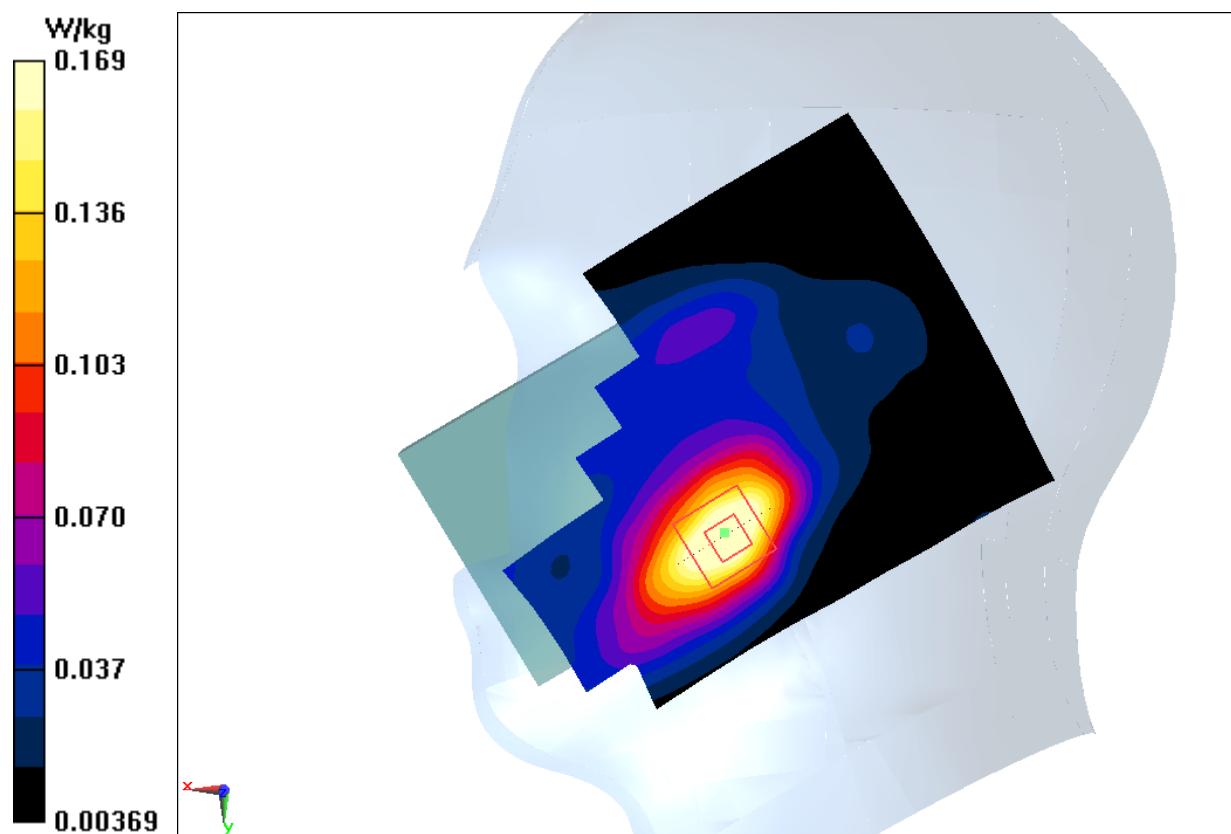


Fig.7 WCDMA1900

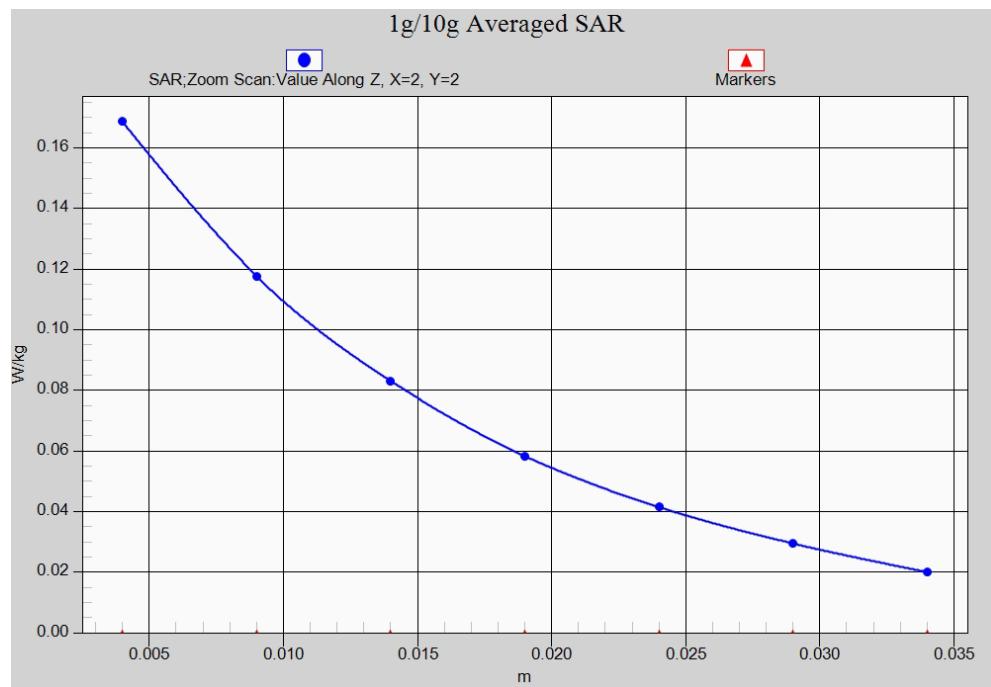


Fig. 7-1 Z-Scan at power reference point (WCDMA850)

WCDMA 1900 Body Bottom High – AP ON

Date: 2016-1-23

Electronics: DAE4 Sn777

Medium: Body 1900 MHz

Medium parameters used: $f = 1907.6 \text{ MHz}$; $\sigma = 1.567 \text{ mho/m}$; $\epsilon_r = 52.732$; $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: WCDMA 1900 Frequency: 1907.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.74, 7.74, 7.74)

Area Scan (131x81x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.879 W/kg

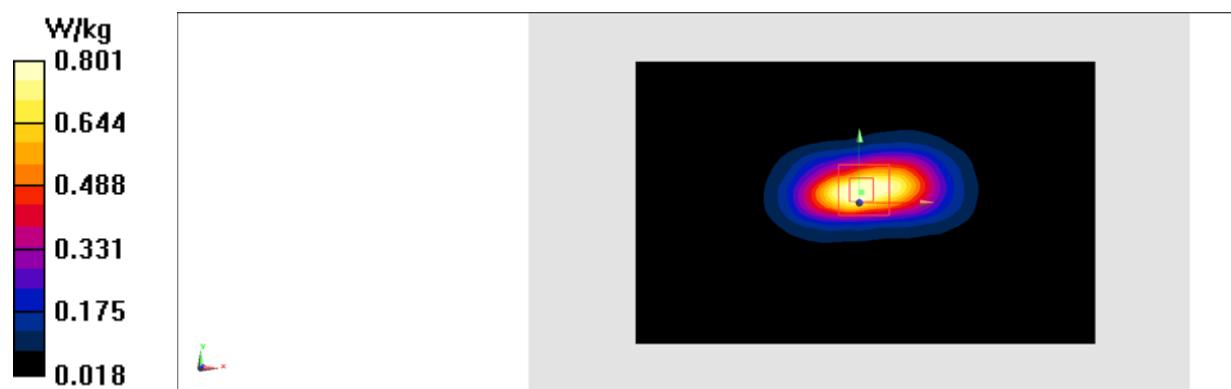
Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 20.86 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.21 W/kg

SAR(1 g) = 0.710 W/kg; SAR(10 g) = 0.385 W/kg

Maximum value of SAR (measured) = 0.801 W/kg

**Fig.8 WCDMA1900**

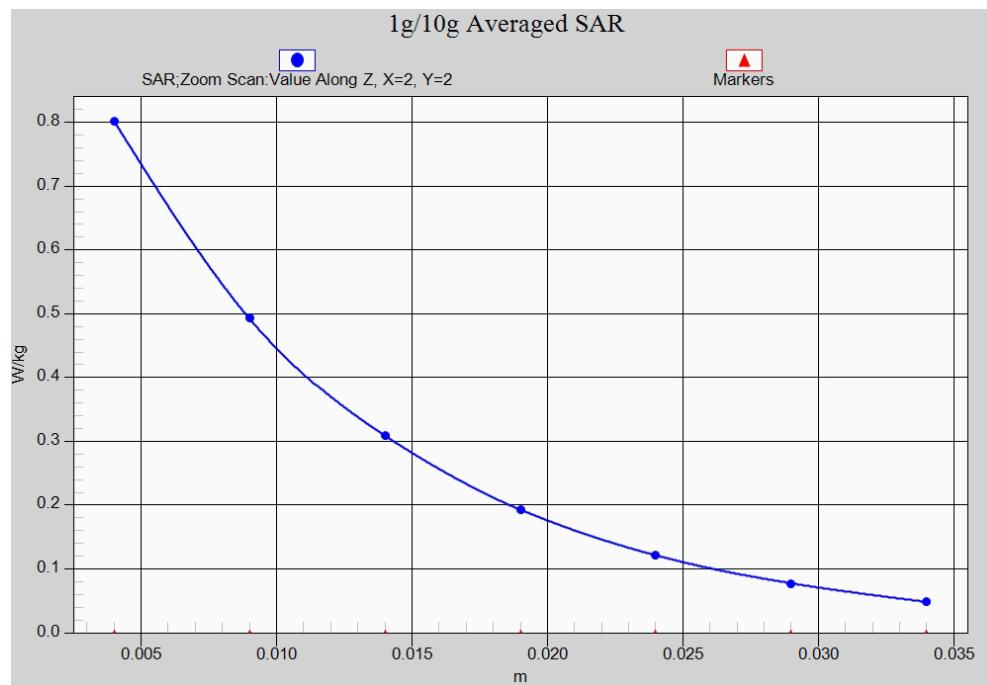


Fig. 8-1 Z-Scan at power reference point (WCDMA1900)

WCDMA 1900 Body Rear Low – AP OFF

Date: 2016-1-23

Electronics: DAE4 Sn777

Medium: Body 1900 MHz

Medium parameters used: $f = 1852.4 \text{ MHz}$; $\sigma = 1.446 \text{ mho/m}$; $\epsilon_r = 52.583$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: WCDMA 1900 Frequency: 1852.4 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.74, 7.74, 7.74)

Area Scan (131x81x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

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

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.838 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.743 W/kg

SAR(1 g) = 0.470 W/kg; SAR(10 g) = 0.278 W/kg.

Maximum value of SAR (measured) = 0.520 W/kg

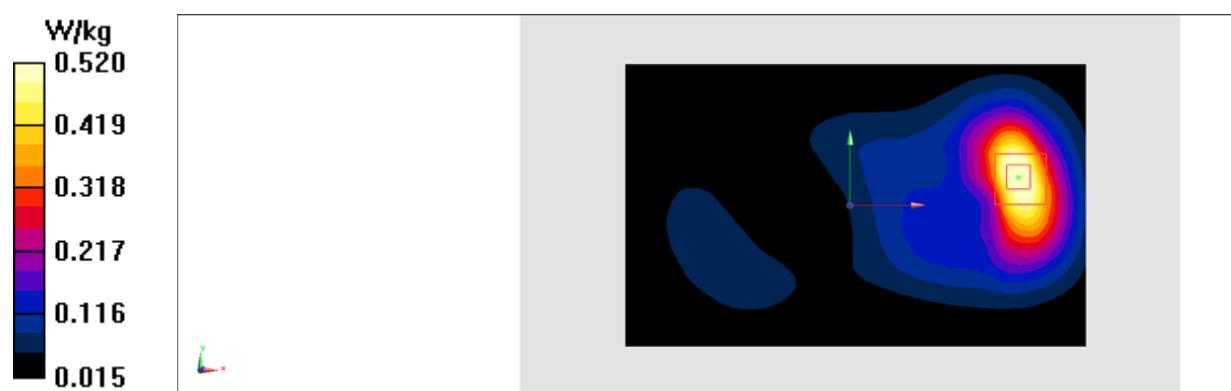


Fig.9 WCDMA1900

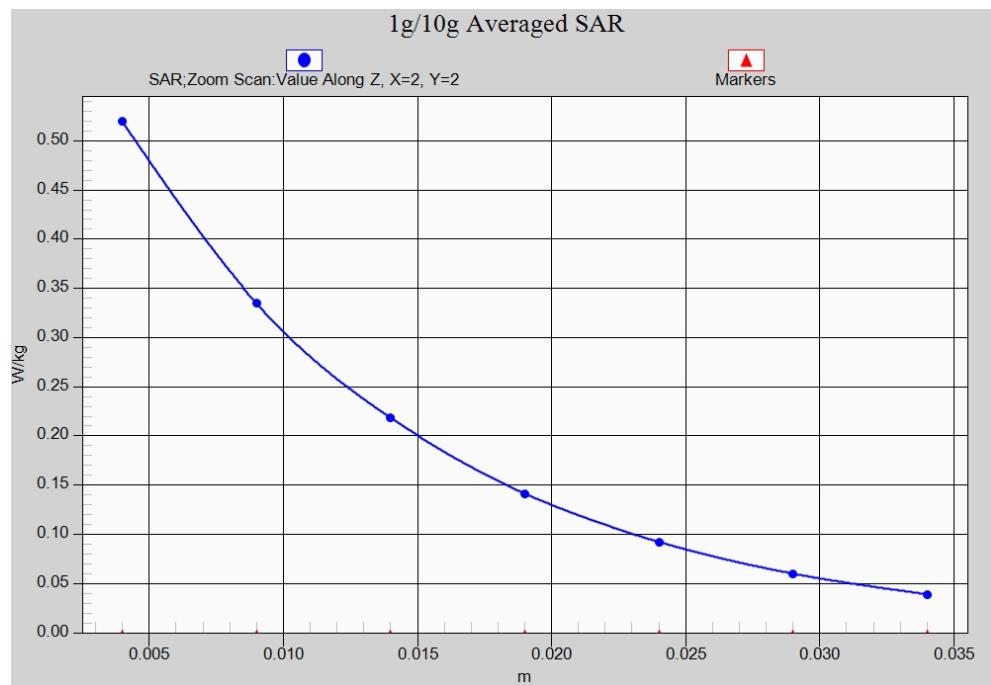


Fig. 9-1 Z-Scan at power reference point (WCDMA1900)

LTE Band2 Right Cheek Low with QPSK_20M_1RB_High

Date: 2016-1-23

Electronics: DAE4 Sn777

Medium: Head 1900 MHz

Medium parameters used: $f = 1860$ MHz; $\sigma = 1.385$ mho/m; $\epsilon_r = 40.484$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band2 Frequency: 1860 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(8.07, 8.07, 8.07)

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

Maximum value of SAR (interpolated) = 0.184 W/kg

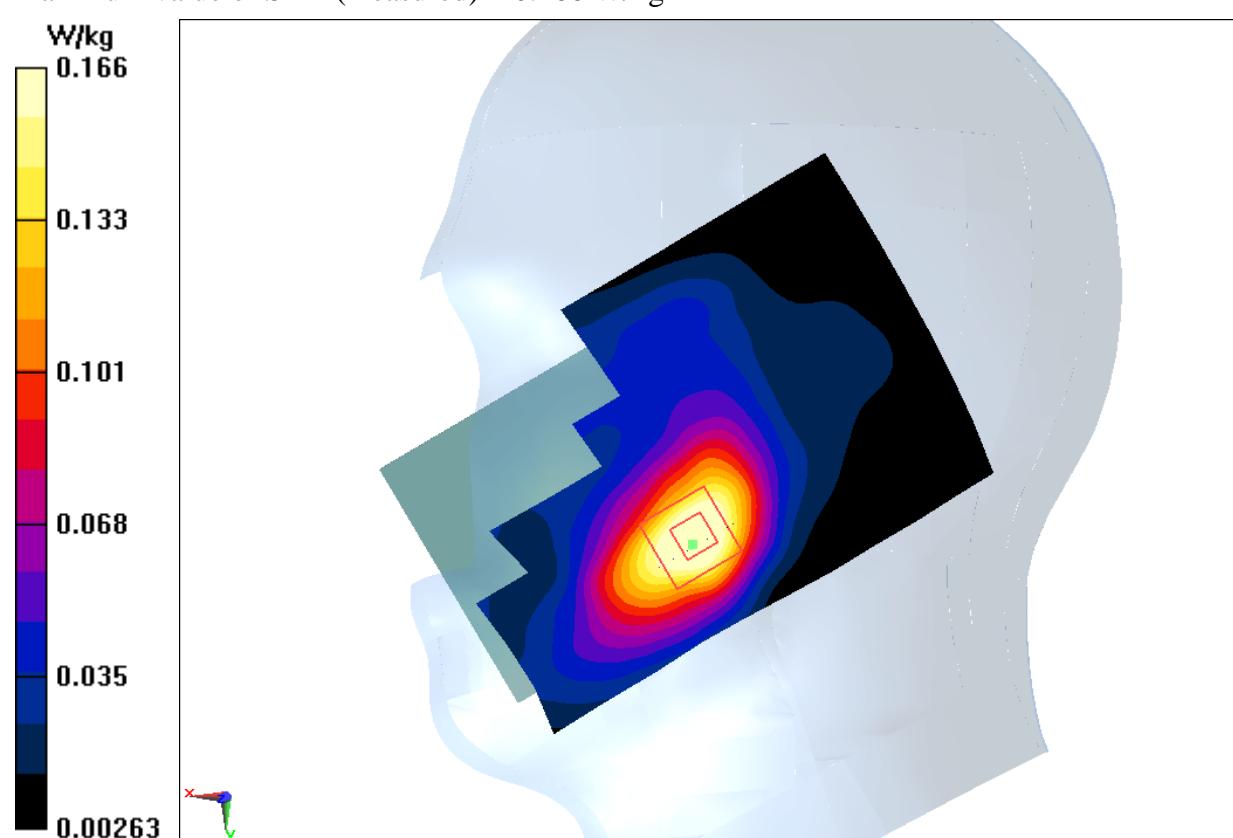
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.253 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.226 W/kg

SAR(1 g) = 0.156 W/kg; SAR(10 g) = 0.099 W/kg

Maximum value of SAR (measured) = 0.166 W/kg

**Fig.10 LTE Band2**

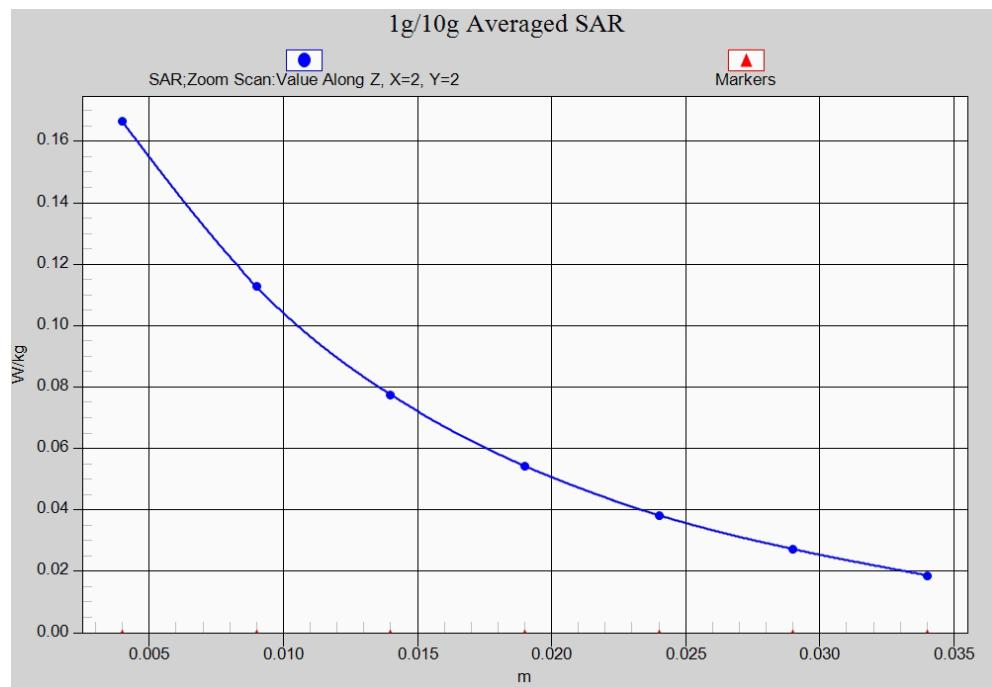


Fig. 10-1 Z-Scan at power reference point (LTE Band2)

LTE Band2 Body Bottom High with QPSK_20M_1RB_Middle – AP ON

Date: 2016-1-23

Electronics: DAE4 Sn777

Medium: Body 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.557$ mho/m; $\epsilon_r = 52.93$; $\rho = 1000$ kg/m 3

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band4 Frequency: 1900 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.74, 7.74, 7.74)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.909 W/kg

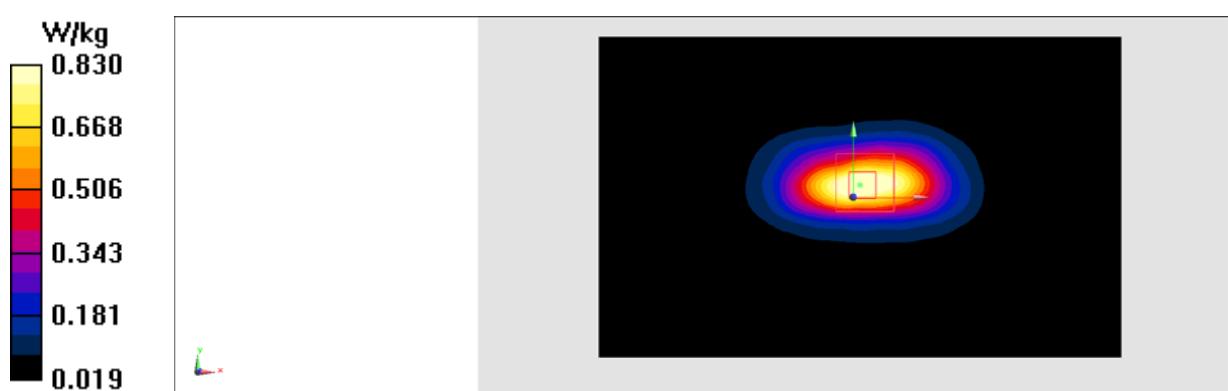
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.75 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.24 W/kg

SAR(1 g) = 0.740 W/kg; SAR(10 g) = 0.405 W/kg

Maximum value of SAR (measured) = 0.830 W/kg

**Fig.11 LTE Band2**

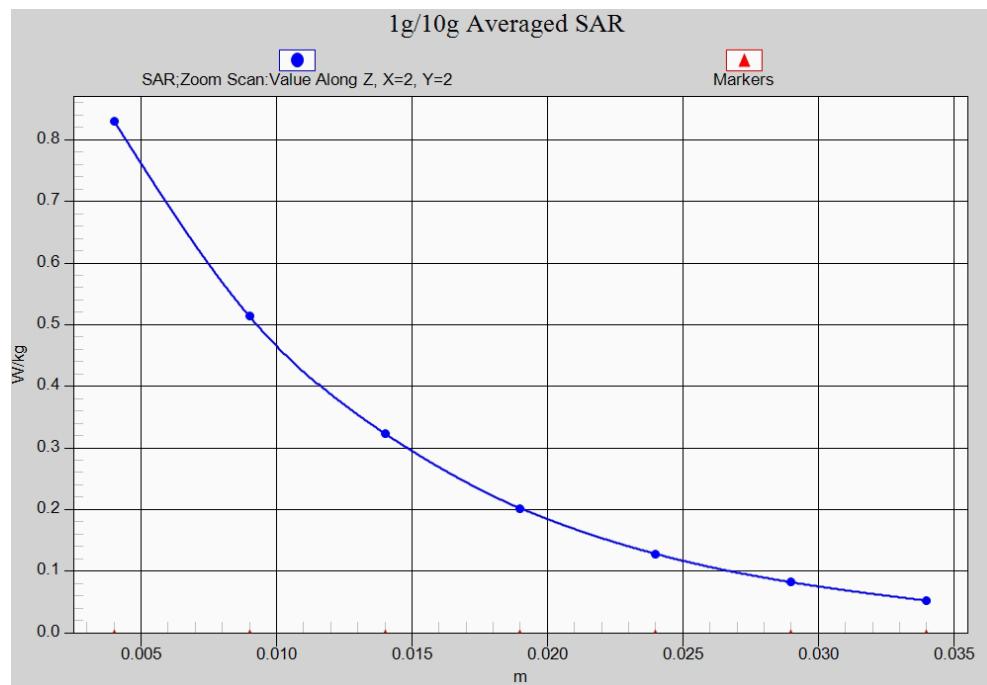


Fig. 11-1 Z-Scan at power reference point (LTE Band2)

LTE Band2 Body Rear High with QPSK_20M_1RB_Middle – AP OFF

Date: 2016-1-23

Electronics: DAE4 Sn777

Medium: Body 1900 MHz

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.557 \text{ mho/m}$; $\epsilon_r = 52.93$; $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band4 Frequency: 1900 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.74, 7.74, 7.74)

Area Scan (131x81x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) = 0.584 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 5.249 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.833 W/kg

SAR(1 g) = 0.511 W/kg; SAR(10 g) = 0.298 W/kg

Maximum value of SAR (measured) = 0.565 W/kg

**Fig.12 LTE Band2**

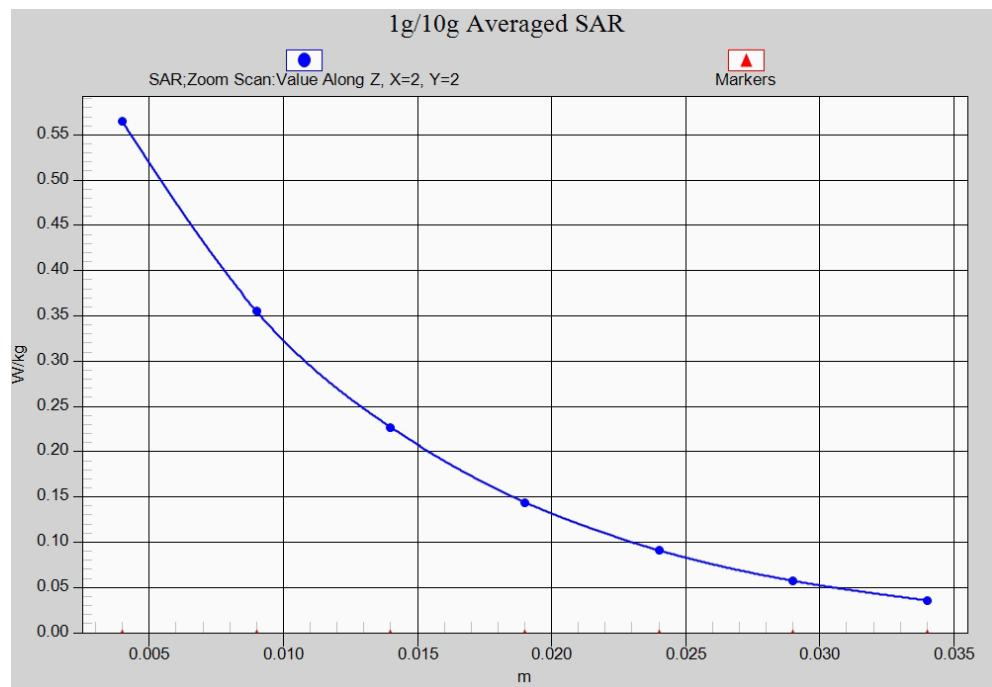


Fig. 12-1 Z-Scan at power reference point (LTE Band2)

LTE Band4 Right Cheek Middle with QPSK_20M_1RB_Middle

Date: 2016-1-22

Electronics: DAE4 Sn777

Medium: Head 1750 MHz

Medium parameters used: $f = 1732.5$ MHz; $\sigma = 1.423$ mho/m; $\epsilon_r = 39.583$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band4 Frequency: 1732.5 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(8.34, 8.34, 8.34)

Area Scan (71x131x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.322 W/kg

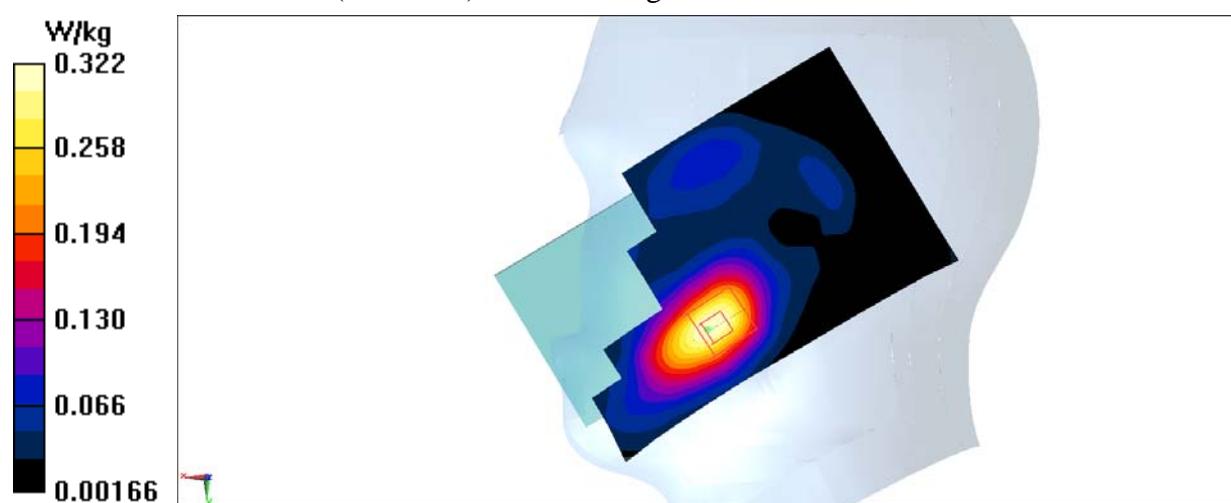
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.849 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.392 W/kg

SAR(1 g) = 0.246 W/kg; SAR(10 g) = 0.149 W/kg

Maximum value of SAR (measured) = 0.322 W/kg

**Fig.13 LTE Band4**

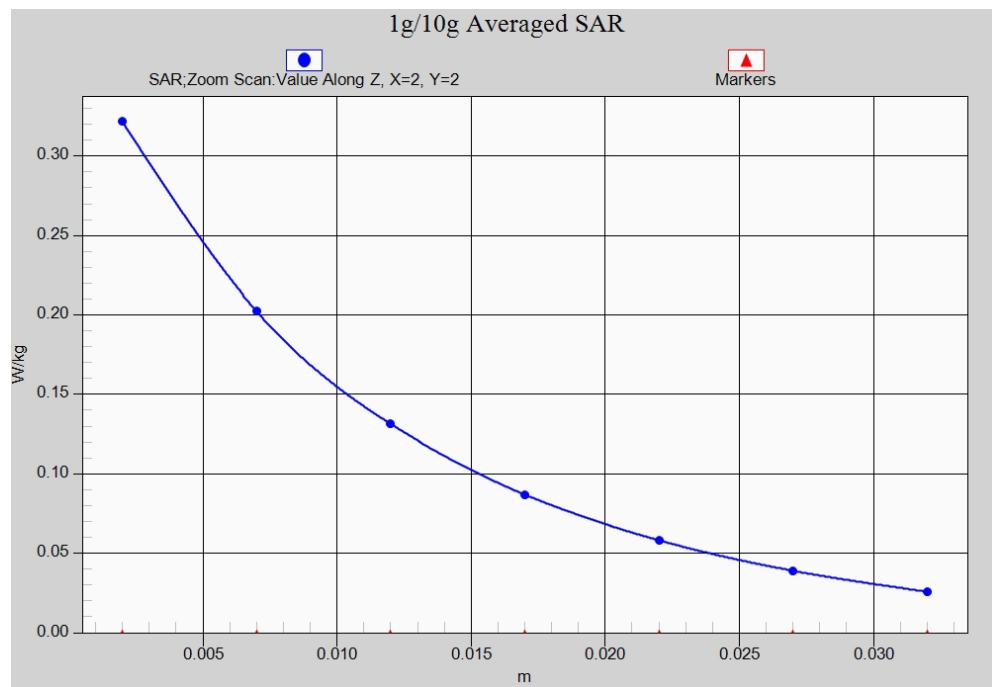


Fig. 13-1 Z-Scan at power reference point (LTE Band4)

LTE Band4 Body Rear High with QPSK_20M_1RB_Middle

Date: 2016-1-22

Electronics: DAE4 Sn777

Medium: Body 1750 MHz

Medium parameters used: $f = 1745$ MHz; $\sigma = 1.493$ mho/m; $\epsilon_r = 52.885$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band4 Frequency: 1745 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.96, 7.96, 7.96)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.15 W/kg

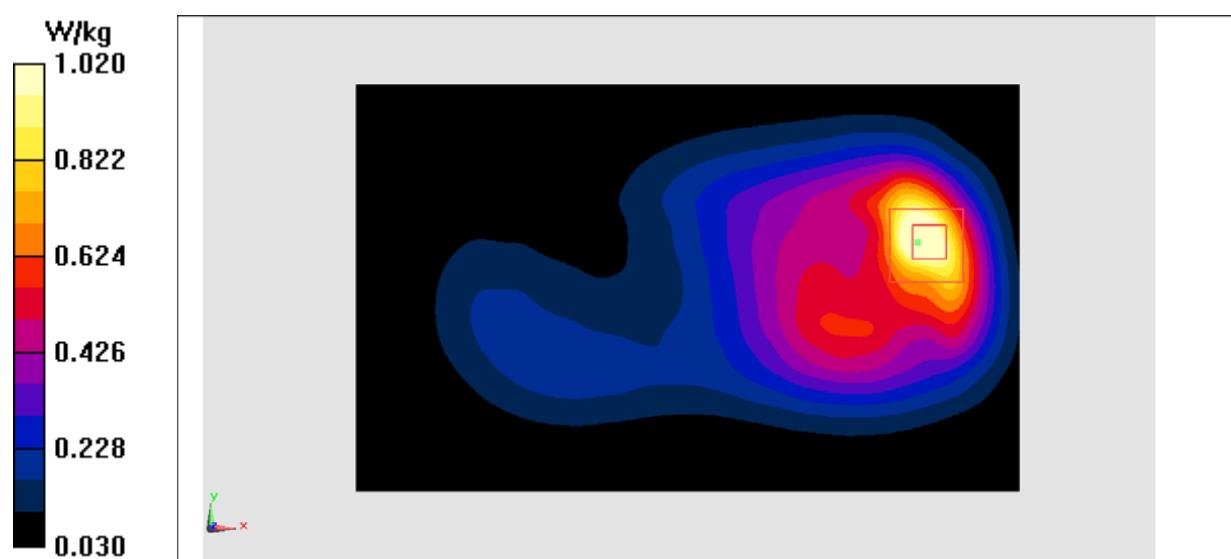
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.981 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.67 W/kg

SAR(1 g) = 0.983 W/kg; SAR(10 g) = 0.542 W/kg

Maximum value of SAR (measured) = 1.02 W/kg

**Fig.14 LTE Band4**

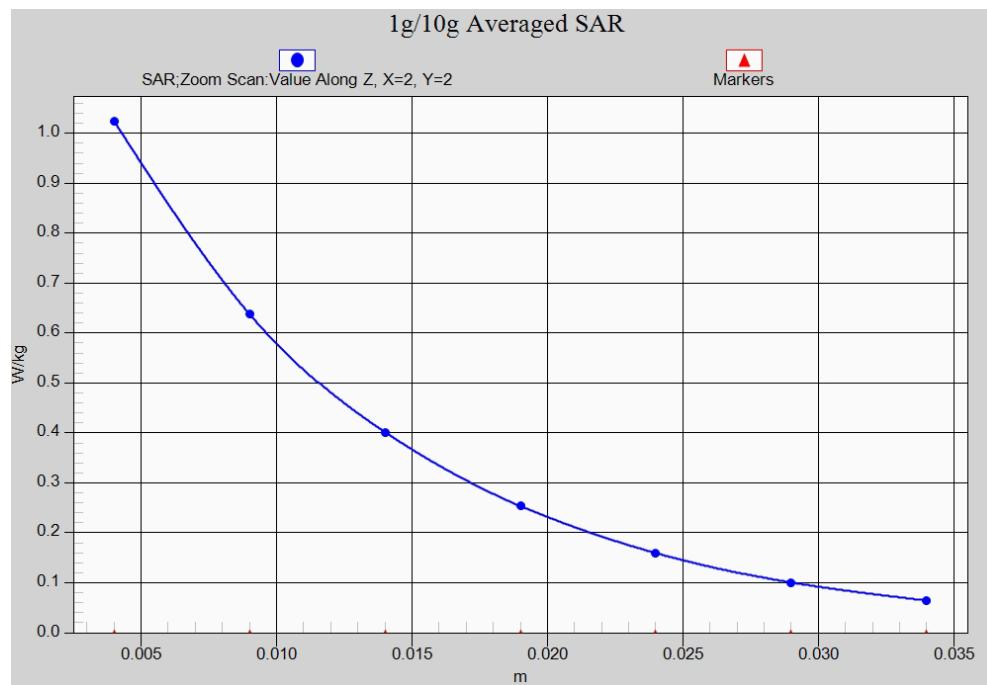


Fig. 14-1 Z-Scan at power reference point (LTE Band4)