

Table 14.2-11: SAR Values (LTE Band2 - Head)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2 °C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
19100	1900	1RB_Low	Left	Touch	/	23.24	23.5	0.276	0.29	0.410	0.44	0.08
19100	1900	1RB_Low	Left	Tilt	/	23.24	23.5	0.127	0.14	0.212	0.22	0.02
19100	1900	1RB_Low	Right	Touch	Fig.11	23.24	23.5	0.423	0.45	0.659	0.70	-0.02
19100	1900	1RB_Low	Right	Tilt	/	23.24	23.5	0.155	0.16	0.236	0.25	0.18
19100	1900	50RB_Low	Left	Touch	/	22.26	22.5	0.222	0.24	0.332	0.35	0.06
19100	1900	50RB_Low	Left	Tilt	/	22.26	22.5	0.095	0.10	0.158	0.17	0.05
19100	1900	50RB_Low	Right	Touch	/	22.26	22.5	0.326	0.34	0.504	0.53	0.18
19100	1900	50RB_Low	Right	Tilt	/	22.26	22.5	0.116	0.12	0.180	0.19	0.15
19100	1900	1RB_Low	Right	Touch	B1	23.24	23.5	0.358	0.38	0.609	0.65	0.02
19100	1900	1RB_Low	Right	Touch	B2	23.24	23.5	0.358	0.38	0.601	0.64	0.03
19100	1900	1RB_Low	Right	Touch	S1	23.24	23.5	0.383	0.41	0.656	0.70	-0.17

Note1: The LTE mode is QPSK_20MHz.

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

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C					
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
19100	1900	1RB_Low	Front	/	23.24	23.5	0.413	0.44	0.663	0.70	-0.01
19100	1900	1RB_Low	Rear	Fig.12	23.24	23.5	0.536	0.57	0.856	0.91	0.05
18900	1880	1RB_High	Rear	/	23.22	23.5	0.502	0.54	0.833	0.89	0.05
18700	1860	1RB_High	Rear	/	22.80	23.5	0.468	0.55	0.755	0.89	0.07
19100	1900	1RB_Low	Left	/	23.24	23.5	0.184	0.20	0.333	0.35	0.13
19100	1900	1RB_Low	Right	/	23.24	23.5	0.299	0.32	0.545	0.58	-0.02
19100	1900	1RB_Low	Bottom	/	23.24	23.5	0.252	0.27	0.477	0.51	0.04
19100	1900	50RB_Low	Front	/	22.26	22.5	0.385	0.41	0.682	0.72	-0.01
19100	1900	50RB_Low	Rear	/	22.26	22.5	0.401	0.42	0.683	0.72	-0.04
19100	1900	50RB_Low	Left	/	22.26	22.5	0.142	0.15	0.257	0.27	0.06
19100	1900	50RB_Low	Right	/	22.26	22.5	0.239	0.25	0.433	0.46	0.08
19100	1900	50RB_Low	Bottom	/	22.26	22.5	0.214	0.23	0.407	0.43	0.02
19100	1900	100RB	Rear	/	22.20	22.5	0.432	0.46	0.723	0.77	0.03
19100	1900	1RB_Low	Rear	B2	23.24	23.5	0.489	0.52	0.840	0.89	0.02
19100	1900	1RB_Low	Rear	B3	23.24	23.5	0.467	0.50	0.766	0.81	0.11
19100	1900	1RB_Low	Rear	S2	23.24	23.5	0.511	0.54	0.851	0.90	0.16

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

Note2: The LTE mode is QPSK_20MHz.

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

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2 °C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conduct ed Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
20300	1745	1RB_High	Left	Touch	/	23.65	24	0.199	0.22	0.298	0.32	0.03
20300	1745	1RB_High	Left	Tilt	/	23.65	24	0.136	0.15	0.209	0.23	-0.01
20300	1745	1RB_High	Right	Touch	Fig.13	23.65	24	0.355	0.38	0.556	0.60	0.01
20300	1745	1RB_High	Right	Tilt	/	23.65	24	0.155	0.17	0.238	0.26	0.15
20300	1745	50RB_High	Left	Touch	/	22.64	23	0.168	0.18	0.252	0.27	0.18
20300	1745	50RB_High	Left	Tilt	/	22.64	23	0.102	0.11	0.156	0.17	0.08
20300	1745	50RB_High	Right	Touch	/	22.64	23	0.306	0.33	0.479	0.52	0.03
20300	1745	50RB_High	Right	Tilt	/	22.64	23	0.110	0.12	0.171	0.19	0.02
20300	1745	1RB_High	Right	Touch	B1	23.65	24	0.336	0.36	0.546	0.59	0.08
20300	1745	1RB_High	Right	Touch	B2	23.65	24	0.327	0.35	0.533	0.58	0.06
20300	1745	1RB_High	Right	Touch	S1	23.65	24	0.347	0.38	0.548	0.59	0.08

Note1: The LTE mode is QPSK_20MHz.

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

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C					
Frequency		Mode	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
20300	1745	1RB_High	Front	/	23.65	24	0.451	0.49	0.693	0.75	0.08
20300	1745	1RB_High	Rear	Fig.14	23.65	24	0.534	0.58	0.820	0.89	0.11
20175	1732.5	1RB_High	Rear	/	23.57	24	0.485	0.54	0.762	0.84	0.07
20050	1720	1RB_High	Rear	/	23.28	24	0.473	0.56	0.747	0.88	0.08
20300	1745	1RB_High	Left	/	23.65	24	0.094	0.10	0.163	0.18	-0.01
20300	1745	1RB_High	Right	/	23.65	24	0.267	0.29	0.453	0.49	0.04
20300	1745	1RB_High	Bottom	/	23.65	24	0.181	0.20	0.324	0.35	-0.12
20300	1745	50RB_High	Front	/	22.64	23	0.349	0.38	0.539	0.59	0.07
20300	1745	50RB_High	Rear	/	22.64	23	0.420	0.46	0.650	0.71	0.09
20300	1745	50RB_High	Left	/	22.64	23	0.067	0.07	0.117	0.13	-0.09
20300	1745	50RB_High	Right	/	22.64	23	0.213	0.23	0.362	0.39	-0.03
20300	1745	50RB_High	Bottom	/	22.64	23	0.139	0.15	0.246	0.27	0.06
20300	1745	100RB	Rear	/	22.61	23	0.383	0.42	0.602	0.66	0.14
20300	1745	1RB_High	Rear	B2	23.65	24	0.520	0.56	0.809	0.88	-0.09
20300	1745	1RB_High	Rear	B3	23.65	24	0.512	0.56	0.783	0.85	0.18
20300	1745	1RB_High	Rear	S2	23.65	24	0.517	0.56	0.803	0.87	0.04

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 Band5 - Head)

Ambient Temperature: 22.4°C						Liquid Temperature: 22.2°C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
20450	829	1RB_High	Left	Touch	Fig.15	23.72	24	0.318	0.34	0.418	0.45	0.13
20450	829	1RB_High	Left	Tilt	/	23.72	24	0.148	0.16	0.191	0.20	0.04
20450	829	1RB_High	Right	Touch	/	23.72	24	0.243	0.26	0.312	0.33	0.11
20450	829	1RB_High	Right	Tilt	/	23.72	24	0.157	0.17	0.200	0.21	0.07
20450	829	25RB_High	Left	Touch	/	22.46	23	0.237	0.27	0.312	0.35	-0.09
20450	829	25RB_High	Left	Tilt	/	22.46	23	0.108	0.12	0.142	0.16	0.02
20450	829	25RB_High	Right	Touch	/	22.46	23	0.185	0.21	0.239	0.27	0.13
20450	829	25RB_High	Right	Tilt	/	22.46	23	0.119	0.13	0.151	0.17	-0.12
20450	829	1RB_High	Left	Touch	B1	23.72	24	0.286	0.31	0.388	0.41	0.08
20450	829	1RB_High	Left	Touch	B2	23.72	24	0.303	0.32	0.400	0.43	-0.04
20450	829	1RB_High	Left	Touch	S1	23.72	24	0.308	0.33	0.405	0.43	-0.07

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-16: 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)
Ch.	MHz										
20450	829	1RB_High	Front	/	23.72	24	0.319	0.34	0.475	0.51	0.01
20450	829	1RB_High	Rear	Fig.16	23.72	24	0.487	0.52	0.663	0.71	0.03
20450	829	1RB_High	Left	/	23.72	24	0.253	0.27	0.382	0.41	0.07
20450	829	1RB_High	Right	/	23.72	24	0.151	0.16	0.228	0.24	0.01
20450	829	1RB_High	Bottom	/	23.72	24	0.083	0.09	0.166	0.18	0.09
20450	829	25RB_High	Front	/	22.46	23	0.234	0.26	0.350	0.40	0.15
20450	829	25RB_High	Rear	/	22.46	23	0.324	0.37	0.469	0.53	0.18
20450	829	25RB_High	Left	/	22.46	23	0.160	0.18	0.240	0.27	0.08
20450	829	25RB_High	Right	/	22.46	23	0.091	0.10	0.138	0.16	0.03
20450	829	25RB_High	Bottom	/	22.46	23	0.064	0.07	0.128	0.14	0.02
20450	829	1RB_High	Rear	B2	23.72	24	0.424	0.45	0.620	0.66	0.06
20450	829	1RB_High	Rear	B3	23.72	24	0.416	0.44	0.602	0.64	0.08
20450	829	1RB_High	Rear	S2	23.72	24	0.404	0.43	0.575	0.61	0.13

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-17: SAR Values (LTE Band7 - Head)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conduct ed Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
21350	2560	1RB_High	Left	Touch	/	23.05	23.5	0.209	0.23	0.378	0.42	0.11
21350	2560	1RB_High	Left	Tilt	/	23.05	23.5	0.095	0.11	0.181	0.20	0.09
21350	2560	1RB_High	Right	Touch	Fig.17	23.05	23.5	0.444	0.49	0.861	0.95	0.04
21100	2535	1RB_Low	Right	Touch		22.84	23.5	0.302	0.35	0.598	0.70	0.08
20850	2510	1RB_High	Right	Touch		22.92	23.5	0.283	0.32	0.543	0.62	-0.11
21350	2560	1RB_High	Right	Tilt	/	23.05	23.5	0.127	0.14	0.252	0.28	0.18
20850	2510	50RB_High	Left	Touch	/	22.00	22.5	0.103	0.12	0.184	0.21	0.01
20850	2510	50RB_High	Left	Tilt	/	22.00	22.5	0.027	0.03	0.050	0.06	-0.12
20850	2510	50RB_High	Right	Touch	/	22.00	22.5	0.205	0.23	0.393	0.44	-0.05
20850	2510	50RB_High	Right	Tilt	/	22.00	22.5	0.071	0.08	0.128	0.14	0.07
21350	2560	100RB	Right	Touch	/	21.86	22.5	0.331	0.38	0.640	0.74	0.02
21350	2560	1RB_High	Right	Touch	B1	23.05	23.5	0.393	0.44	0.810	0.90	0.13
21350	2560	1RB_High	Right	Touch	B2	23.05	23.5	0.401	0.44	0.828	0.92	0.06
21350	2560	1RB_High	Right	Touch	S1	23.05	23.5	0.353	0.39	0.709	0.79	0.09

Note1: The LTE mode is QPSK_20MHz.

Table 14.2-18: SAR Values (LTE Band7 - Body)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C					
Frequency		Mode	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
21350	2560	1RB_High	Front	/	23.05	23.5	0.319	0.35	0.589	0.65	0.12
21350	2560	1RB_High	Rear	/	23.05	23.5	0.315	0.35	0.692	0.77	0.04
21350	2560	1RB_High	Left	/	23.05	23.5	0.026	0.03	0.050	0.06	0.11
21350	2560	1RB_High	Right	/	23.05	23.5	0.258	0.29	0.501	0.56	0.07
21350	2560	1RB_High	Bottom	/	23.05	23.5	0.372	0.41	0.806	0.89	-0.09
21100	2535	1RB_Low	Bottom	Fig.18	22.84	23.5	0.436	0.51	0.950	1.11	0.02
20850	2510	1RB_High	Bottom	/	22.92	23.5	0.434	0.50	0.945	1.08	0.13
20850	2510	50RB_High	Front	/	22.00	22.5	0.162	0.18	0.325	0.36	-0.12
20850	2510	50RB_High	Rear	/	22.00	22.5	0.234	0.26	0.485	0.54	0.08
20850	2510	50RB_High	Left	/	22.00	22.5	0.008	0.01	0.014	0.02	0.11
20850	2510	50RB_High	Right	/	22.00	22.5	0.138	0.15	0.267	0.30	0.03
20850	2510	50RB_High	Bottom	/	22.00	22.5	0.316	0.35	0.677	0.76	0.18
21350	2560	100RB	Bottom	/	21.86	22.5	0.296	0.34	0.636	0.74	-0.12
21100	2535	1RB_Low	Bottom	B2	22.84	23.5	0.417	0.49	0.918	1.07	0.02
21100	2535	1RB_Low	Bottom	B3	22.84	23.5	0.391	0.46	0.897	1.04	0.17
21100	2535	1RB_Low	Bottom	S2	22.84	23.5	0.405	0.47	0.905	1.05	0.01

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

Table 14.2-19: SAR Values (LTE Band12 - Head)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
23060	704	1RB_Low	Left	Touch	Fig.19	23.70	24	0.127	0.14	0.160	0.17	0.06
23060	704	1RB_Low	Left	Tilt	/	23.70	24	0.097	0.10	0.120	0.13	0.07
23060	704	1RB_Low	Right	Touch	/	23.70	24	0.108	0.12	0.135	0.14	0.04
23060	704	1RB_Low	Right	Tilt	/	23.70	24	0.076	0.08	0.094	0.10	-0.05
23060	704	25RB_Low	Left	Touch	/	22.55	23	0.092	0.10	0.115	0.13	0.08
23060	704	25RB_Low	Left	Tilt	/	22.55	23	0.068	0.08	0.083	0.09	0.03
23060	704	25RB_Low	Right	Touch	/	22.55	23	0.086	0.10	0.108	0.12	0.02
23060	704	25RB_Low	Right	Tilt	/	22.55	23	0.065	0.07	0.082	0.09	-0.09
23060	704	1RB_Low	Left	Touch	B1	23.70	24	0.112	0.12	0.139	0.15	0.02
23060	704	1RB_Low	Left	Touch	B2	23.70	24	0.103	0.11	0.130	0.14	0.13
23060	704	1RB_Low	Left	Touch	S1	23.70	24	0.119	0.13	0.150	0.16	-0.12

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-20: SAR Values (LTE Band12 - Body)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C					
Frequency		Mode	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
23060	704	1RB_Low	Front	/	23.70	24	0.134	0.14	0.184	0.20	0.03
23060	704	1RB_Low	Rear	Fig.20	23.70	24	0.251	0.27	0.329	0.35	-0.01
23060	704	1RB_Low	Left	/	23.70	24	0.120	0.13	0.180	0.19	0.08
23060	704	1RB_Low	Right	/	23.70	24	0.120	0.13	0.181	0.19	0.12
23060	704	1RB_Low	Bottom	/	23.70	24	0.018	0.02	0.035	0.04	0.07
23060	704	25RB_Low	Front	/	22.55	23	0.100	0.11	0.137	0.15	0.04
23060	704	25RB_Low	Rear	/	22.55	23	0.166	0.18	0.235	0.26	-0.05
23060	704	25RB_Low	Left	/	22.55	23	0.084	0.09	0.126	0.14	0.18
23060	704	25RB_Low	Right	/	22.55	23	0.087	0.10	0.132	0.15	0.03
23060	704	25RB_Low	Bottom	/	22.55	23	0.011	0.01	0.019	0.02	0.04
23060	704	1RB_Low	Rear	B2	23.70	24	0.213	0.23	0.302	0.32	0.04
23060	704	1RB_Low	Rear	B3	23.70	24	0.212	0.23	0.298	0.32	-0.17
23060	704	1RB_Low	Rear	S2	23.70	24	0.203	0.22	0.292	0.31	0.01

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.2-21: SAR Values (LTE Band13 - Head)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
23230	782	1RB_Mid	Left	Touch	Fig.21	23.63	24	0.166	0.18	0.217	0.24	0.11
23230	782	1RB_Mid	Left	Tilt	/	23.63	24	0.117	0.13	0.148	0.16	-0.09
23230	782	1RB_Mid	Right	Touch	/	23.63	24	0.130	0.14	0.166	0.18	0.02
23230	782	1RB_Mid	Right	Tilt	/	23.63	24	0.109	0.12	0.138	0.15	0.13
23230	782	25RB_High	Left	Touch	/	22.64	23	0.129	0.14	0.170	0.18	-0.12
23230	782	25RB_High	Left	Tilt	/	22.64	23	0.095	0.10	0.120	0.13	0.08
23230	782	25RB_High	Right	Touch	/	22.64	23	0.116	0.13	0.147	0.16	0.11
23230	782	25RB_High	Right	Tilt	/	22.64	23	0.099	0.11	0.124	0.13	0.03
23230	782	1RB_Mid	Left	Touch	B1	23.63	24	0.146	0.16	0.199	0.22	0.18
23230	782	1RB_Mid	Left	Touch	B2	23.63	24	0.154	0.17	0.208	0.23	-0.12
23230	782	1RB_Mid	Left	Touch	S1	23.63	24	0.159	0.17	0.213	0.23	0.02

Note1: The LTE mode is QPSK_10MHz.

Table 14.2-22: SAR Values (LTE Band13 - Body)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C					
Frequency		Mode	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
23230	782	1RB_Mid	Front	/	23.63	24	0.230	0.25	0.322	0.35	0.04
23230	782	1RB_Mid	Rear	Fig.22	23.63	24	0.400	0.44	0.511	0.56	-0.14
23230	782	1RB_Mid	Left	/	23.63	24	0.221	0.24	0.334	0.36	0.02
23230	782	1RB_Mid	Right	/	23.63	24	0.162	0.18	0.245	0.27	-0.08
23230	782	1RB_Mid	Bottom	/	23.63	24	0.043	0.05	0.093	0.10	-0.01
23230	782	25RB_High	Front	/	22.64	23	0.186	0.20	0.261	0.28	0.08
23230	782	25RB_High	Rear	/	22.64	23	0.283	0.31	0.399	0.43	0.03
23230	782	25RB_High	Left	/	22.64	23	0.177	0.19	0.269	0.29	0.18
23230	782	25RB_High	Right	/	22.64	23	0.118	0.13	0.179	0.19	0.14
23230	782	25RB_High	Bottom	/	22.64	23	0.038	0.04	0.082	0.09	0.06
23230	782	1RB_Mid	Rear	B2	23.63	24	0.348	0.38	0.478	0.52	0.08
23230	782	1RB_Mid	Rear	B3	23.63	24	0.345	0.38	0.471	0.51	-0.03
23230	782	1RB_Mid	Rear	S2	23.63	24	0.351	0.38	0.491	0.53	0.06

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

Note2: The LTE mode is QPSK_10MHz.

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: 22.4 °C						Liquid Temperature: 22.2°C					
Frequency		Side	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
128	824.2	Left	Touch	Fig.1	32.49	33.3	0.204	0.25	0.267	0.32	-0.06

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

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C					
Frequency		Mode (number of timeslots)	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
251	848.8	GPRS (1)	Rear	Fig.2	32.50	33.3	0.355	0.43	0.476	0.57	0.07

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: 22.4 °C						Liquid Temperature: 22.2°C					
Frequency		Side	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
512	1850.2	Right	Touch	Fig.3	29.47	30.3	0.285	0.35	0.448	0.54	0.11

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

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C					
Frequency		Mode (number of timeslots)	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
512	1850.2	GPRS (4)	Rear	Fig.4	24.26	25	0.413	0.49	0.675	0.80	0.02

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: 22.4 °C						Liquid Temperature: 22.2°C					
Frequency		Side	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
4233	846.6	Left	Touch	Fig.5	22.45	24	0.437	0.62	0.576	0.82	-0.08

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

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C				
Frequency		Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
4233	846.6	Rear	Fig.6	22.45	24	0.574	0.82	0.768	1.10	0.05

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

Table 14.3-7: SAR Values (WCDMA 1700 MHz Band - Head)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C					
Frequency		Side	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
1738	1752.6	Right	Touch	Fig.7	23.64	24	0.352	0.38	0.553	0.60	0.02

Table 14.3-8: SAR Values (WCDMA 1700 MHz Band - Body)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C				
Frequency		Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
1738	1752.6	Rear	Fig.8	23.64	24	0.529	0.57	0.831	0.90	0.14

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

Table 14.3-9: SAR Values(WCDMA 1900 MHz Band - Head)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C					
Frequency		Side	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
9938	1907.6	Right	Touch	Fig.9	23.48	24	0.362	0.41	0.577	0.65	-0.04

Table 14.3-10: SAR Values (WCDMA 1900 MHz Band - Body)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C				
Frequency		Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
9800	1880	Rear	Fig.10	23.31	24	0.382	0.45	0.607	0.71	-0.02

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

Table 14.3-11: SAR Values (LTE Band2 - Head)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
19100	1900	1RB_Low	Right	Touch	Fig.11	23.24	23.5	0.423	0.45	0.659	0.70	-0.02

Note1: The LTE mode is QPSK_20MHz.

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

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C					
Frequency		Mode	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
19100	1900	1RB_Low	Rear	Fig.12	23.24	23.5	0.536	0.57	0.856	0.91	0.05

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

Note2: The LTE mode is QPSK_20MHz.

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

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conduct ed Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Powe r Drift (dB)
Ch.	MHz											
20300	1745	1RB_High	Right	Touch	Fig.13	23.65	24	0.355	0.38	0.556	0.60	0.01

Note1: The LTE mode is QPSK_20MHz.

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

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C					
Frequency		Mode	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
20300	1745	1RB_High	Rear	Fig.14	23.65	24	0.534	0.58	0.820	0.89	0.11

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 Band5 - Head)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
20450	829	1RB_High	Left	Touch	Fig.15	23.72	24	0.318	0.34	0.418	0.45	0.13

Note1: The LTE mode is QPSK_10MHz.

Table 14.3-16: 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)
Ch.	MHz										
20450	829	1RB_High	Rear	Fig.16	23.72	24	0.487	0.52	0.663	0.71	0.03

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 Band7 - Head)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2 °C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conduct ed Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
21350	2560	1RB_High	Right	Touch	Fig.17	23.05	23.5	0.444	0.49	0.861	0.95	0.04

Note1: The LTE mode is QPSK_20MHz.

Table 14.3-18: SAR Values (LTE Band7 - Body)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C					
Frequency		Mode	Test Position	Figure No./Note	Conducte d 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_Low	Bottom	Fig.18	22.84	23.5	0.436	0.51	0.950	1.11	0.02

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 Band12 - Head)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
23060	704	1RB_Low	Left	Touch	Fig.19	23.70	24	0.127	0.14	0.160	0.17	0.06

Note1: The LTE mode is QPSK_10MHz.

Table 14.3-20: SAR Values (LTE Band12 - Body)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C					
Frequency		Mode	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
23060	704	1RB_Low	Rear	Fig.20	23.70	24	0.251	0.27	0.329	0.35	-0.01

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

Note2: The LTE mode is QPSK_10MHz.

Table 14.3-21: SAR Values (LTE Band13 - Head)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C						
Frequency		Mode	Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
23230	782	1RB_Mid	Left	Touch	Fig.21	23.63	24	0.166	0.18	0.217	0.24	0.11

Note1: The LTE mode is QPSK_10MHz.

Table 14.3-22: SAR Values (LTE Band13 - Body)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C					
Frequency		Mode	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
23230	782	1RB_Mid	Rear	Fig.22	23.63	24	0.400	0.44	0.511	0.56	-0.14

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 2Mbps (Fast SAR)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C					
Frequency		Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
MHz	Ch.										
2437	6	Left	Touch	/	16.38	16.5	0.131	0.13	0.250	0.26	-0.09
2437	6	Left	Tilt	/	16.38	16.5	0.122	0.13	0.233	0.24	0.05
2437	6	Right	Touch	/	16.38	16.5	0.243	0.25	0.460	0.47	0.08
2437	6	Right	Tilt	/	16.38	16.5	0.180	0.19	0.358	0.37	0.10
2437	6	Right	Touch	B1	16.38	16.5	0.189	0.19	0.360	0.37	0.08
2437	6	Right	Touch	B2	16.38	16.5	0.177	0.18	0.337	0.35	0.11
2437	6	Right	Touch	S1	16.38	16.5	0.222	0.23	0.412	0.42	-0.03

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 2Mbps (Full SAR)

Ambient Temperature: 22.4 °C						Liquid Temperature: 22.2°C					
Frequency		Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
MHz	Ch.										
2437	6	Right	Touch	Fig.23	16.38	16.5	0.243	0.25	0.489	0.50	0.08
2437	6	Right	Tilt	/	16.38	16.5	0.174	0.18	0.380	0.39	0.10

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

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

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

Table 14.4-3: SAR Values (WLAN - Head) – 802.11b 2Mbps (Scaled Reported SAR)

Ambient Temperature: 22.4 °C					Liquid Temperature: 22.2°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	99.08%	100%	0.50	0.50

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

Body Evaluation

Table 14.4-4: SAR Values(WLAN - Body)– 802.11b 2Mbps (Fast SAR)

Ambient Temperature: 22.4°C						Liquid Temperature: 22.2°C				
Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
MHz	Ch.									
2437	6	Front	/	16.38	16.5	0.049	0.05	0.091	0.09	0.07
2437	6	Rear	/	16.38	16.5	0.034	0.04	0.063	0.06	0.06
2437	6	Left	/	16.38	16.5	0.013	0.01	0.024	0.02	0.08
2437	6	Top	/	16.38	16.5	0.035	0.04	0.069	0.07	-0.10
2437	6	Front	B2	16.38	16.5	0.034	0.03	0.066	0.07	0.14
2437	6	Front	B3	16.38	16.5	0.047	0.05	0.086	0.09	0.11
2437	6	Front	S2	16.38	16.5	0.049	0.05	0.087	0.09	-0.08

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

Table 14.4-5: SAR Values(WLAN - Body)– 802.11b 2Mbps (Full SAR)

Ambient Temperature: 22.4°C					Liquid Temperature: 22.2°C					
Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Power Drift (dB)
MHz	Ch.									
2437	6	Front	Fig.24	16.38	16.5	0.051	0.05	0.092	0.09	0.07

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.

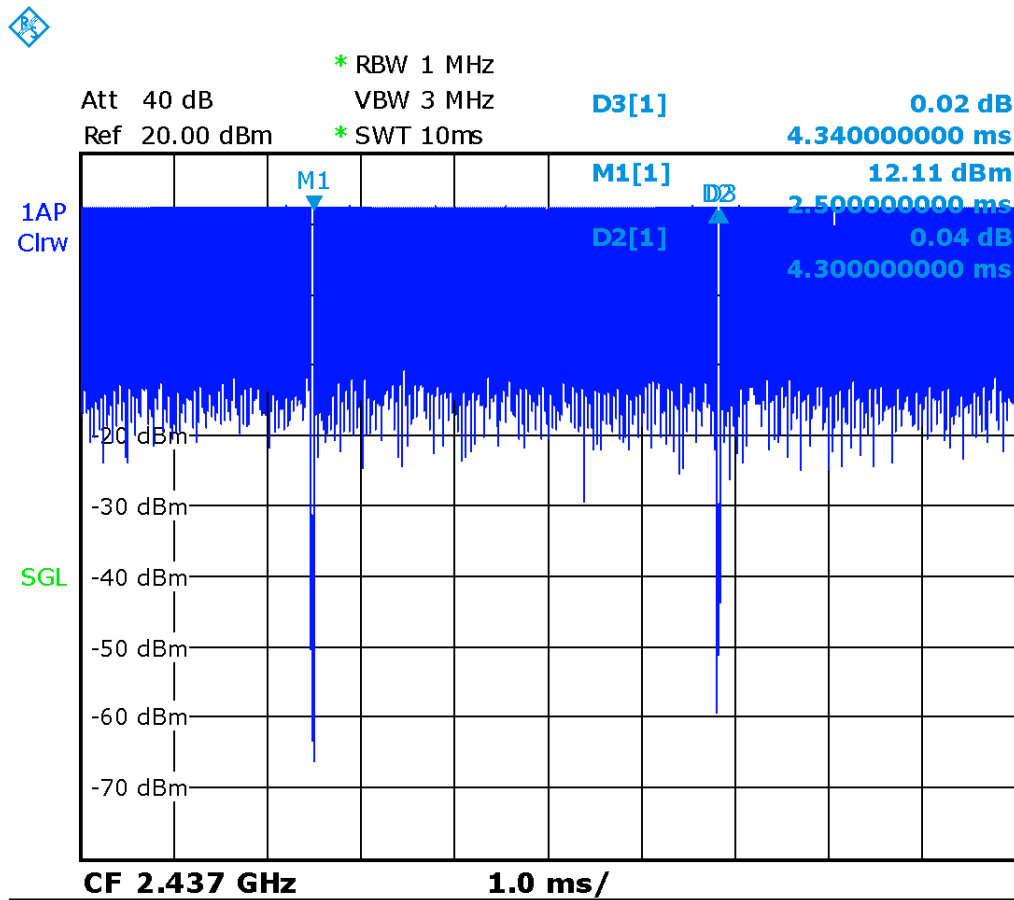
Note2: For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel until the reported SAR is ≤ 1.2 W/kg 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 5.5Mbps (Scaled Reported SAR)

Ambient Temperature: 22.4 °C				Liquid Temperature: 22.2°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	Front	99.08%	100%	0.09	0.09
2437	6	Rear	99.08%	100%	0.06	0.06

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



Picture 14.1 Duty factor plot

15 SAR Measurement Variability

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

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

- 1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
- 3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg ($\sim 10\%$ 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 W1700 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
1738	1752.6	Rear	10	0.831	0.814	1.02	/

Table 15.2: SAR Measurement Variability for Body LTE B2 (1g)

Frequency		Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
19100	1900	1RB_Low	Rear	10	0.856	0.844	1.01	/

Table 15.3: SAR Measurement Variability for Body LTE B4 (1g)

Frequency		Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
20300	1745	1RB_High	Rear	10	0.820	0.811	1.01	/

Table 15.4: SAR Measurement Variability for Head LTE B7 (1g)

Frequency		Mode	Side	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
21350	2560	1RB_High	Right	Touch	0.861	0.849	1.01	/

Table 15.5: SAR Measurement Variability for Body LTE B7 (1g)

Frequency		Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz							
21110	2535	1RB_Low	Bottom	10	0.950	0.939	1.01	/

16 Measurement Uncertainty

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

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.0	N	1	1	1	6.0	6.0	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	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	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	$u_c' = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$					9.55	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	$\sqrt{3}$	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	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		$u_c' = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$						10.7	10.6	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						21.4	21.1	

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

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.0	N	1	1	1	6.0	6.0	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RFambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. Restrictions	B	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	∞
12	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
14	Fast SAR z-Approximation	B	7.0	R	$\sqrt{3}$	1	1	4.0	4.0	∞
Test sample related										
15	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
16	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
17	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞

Phantom and set-up										
18	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
20	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
21	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
22	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u'_c = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						10.4	10.3	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						20.8	20.6	

16.4 Measurement Uncertainty for Fast SAR Tests (3~6GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.55	N	1	1	1	6.55	6.55	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	2.0	R	$\sqrt{3}$	1	1	1.2	1.2	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RFambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. Restrictions	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
12	Probe positioning with respect to phantom shell	B	6.7	R	$\sqrt{3}$	1	1	3.9	3.9	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
14	Fast SAR z-Approximation	B	14.0	R	$\sqrt{3}$	1	1	8.1	8.1	∞

Test sample related										
15	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
16	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
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	E5071C	MY46110673	January 26, 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 01,2016	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	7307	February19, 2016	One year
09	DAE	SPEAG DAE4	1331	January 21, 2016	One year
10	Dipole Validation Kit	SPEAG D750V3	1017	July 20,2016	One year
11	Dipole Validation Kit	SPEAG D835V2	4d069	July 20,2016	One year
12	Dipole Validation Kit	SPEAG D1750V2	1003	July 21,2016	One year
13	Dipole Validation Kit	SPEAG D1900V2	5d101	July 28,2016	One year
14	Dipole Validation Kit	SPEAG D2450V2	853	July 25,2016	One year
15	Dipole Validation Kit	SPEAG D2600V2	1012	July 25,2016	One year

END OF REPORT BODY

ANNEX A Graph Results

850 Left Cheek Low

Date: 2017-1-1

Electronics: DAE4 Sn1331

Medium: Head 850 MHz

Medium parameters used: $f = 825$ MHz; $\sigma = 0.873$ mho/m; $\epsilon_r = 41.36$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

Communication System: GSM 850 Frequency: 824.2 MHz Duty Cycle: 1:8.3

Probe: EX3DV4 – SN7307 ConvF(10.01, 10.01, 10.01)

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

Maximum value of SAR (interpolated) = 0.301 W/kg

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

Reference Value = 6.083 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.340 W/kg

SAR(1 g) = 0.267 W/kg; SAR(10 g) = 0.204 W/kg

Maximum value of SAR (measured) = 0.288 W/kg

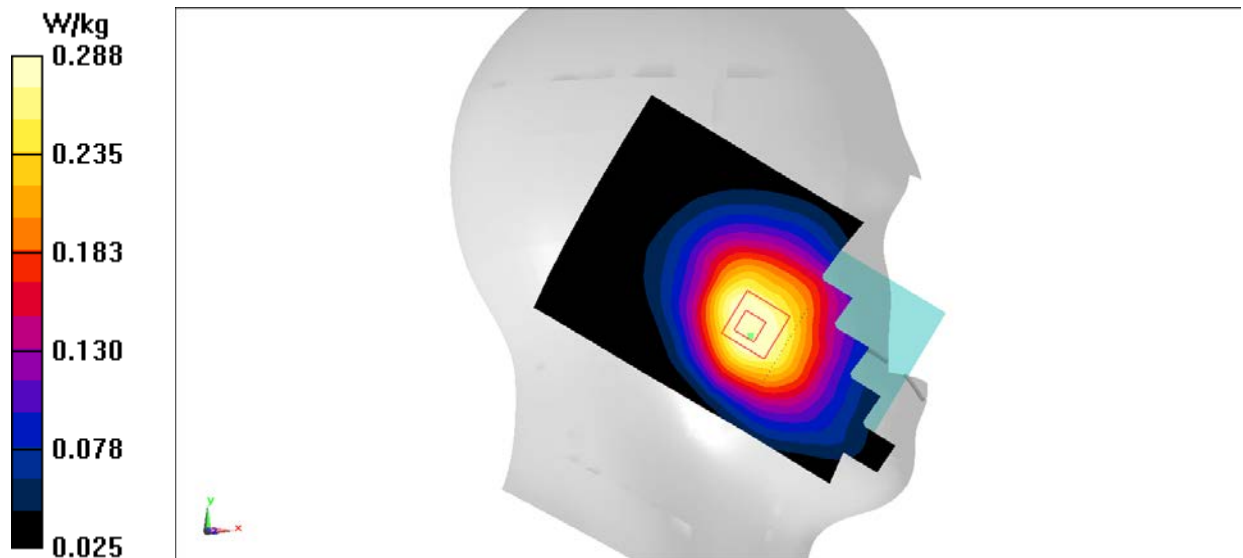


Fig.1 850MHz

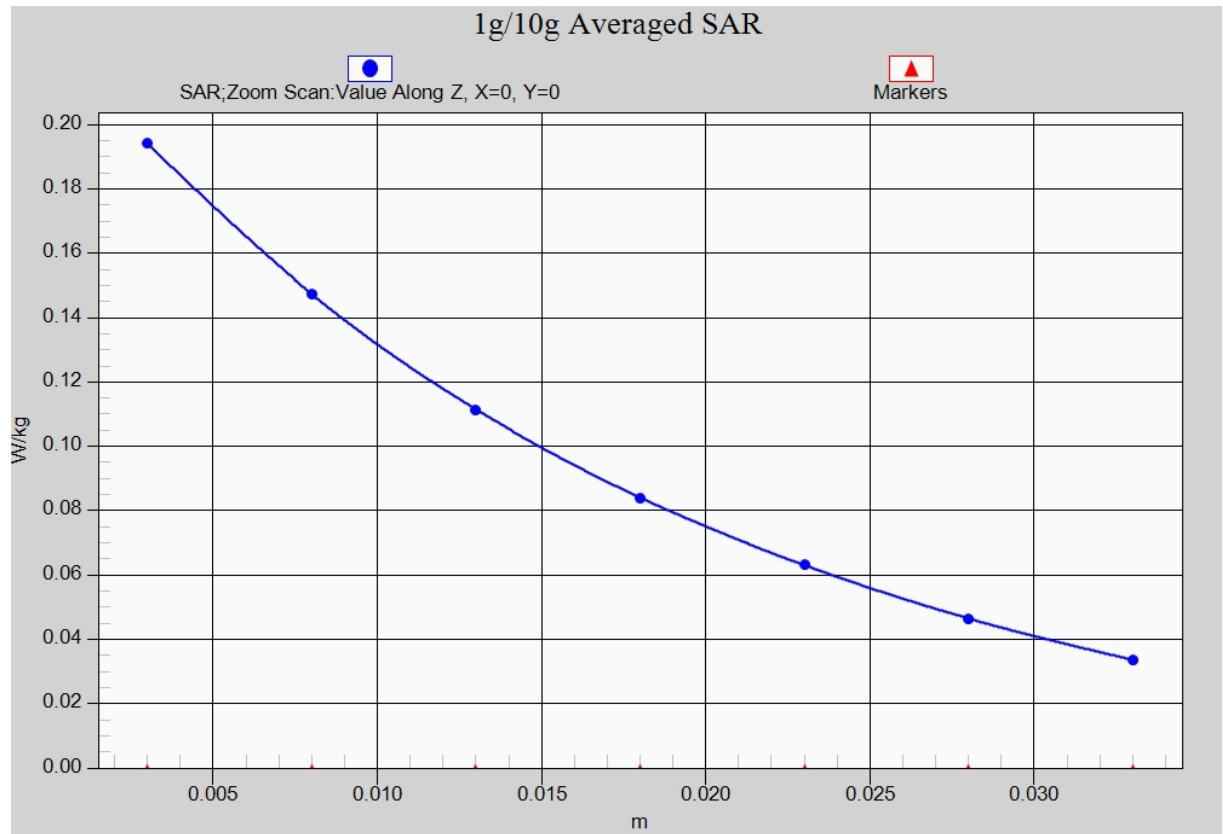


Fig. 1-1 Z-Scan at power reference point (850 MHz)

850 Body Rear High

Date: 2017-1-1

Electronics: DAE4 Sn1331

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.982$ mho/m; $\epsilon_r = 54.25$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

Communication System: GSM 850 GPRS Frequency: 848.8 MHz Duty Cycle: 1:8.3

Probe: EX3DV4 – SN7307 ConvF(9.83, 9.83, 9.83)

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

Maximum value of SAR (interpolated) = 0.543 W/kg

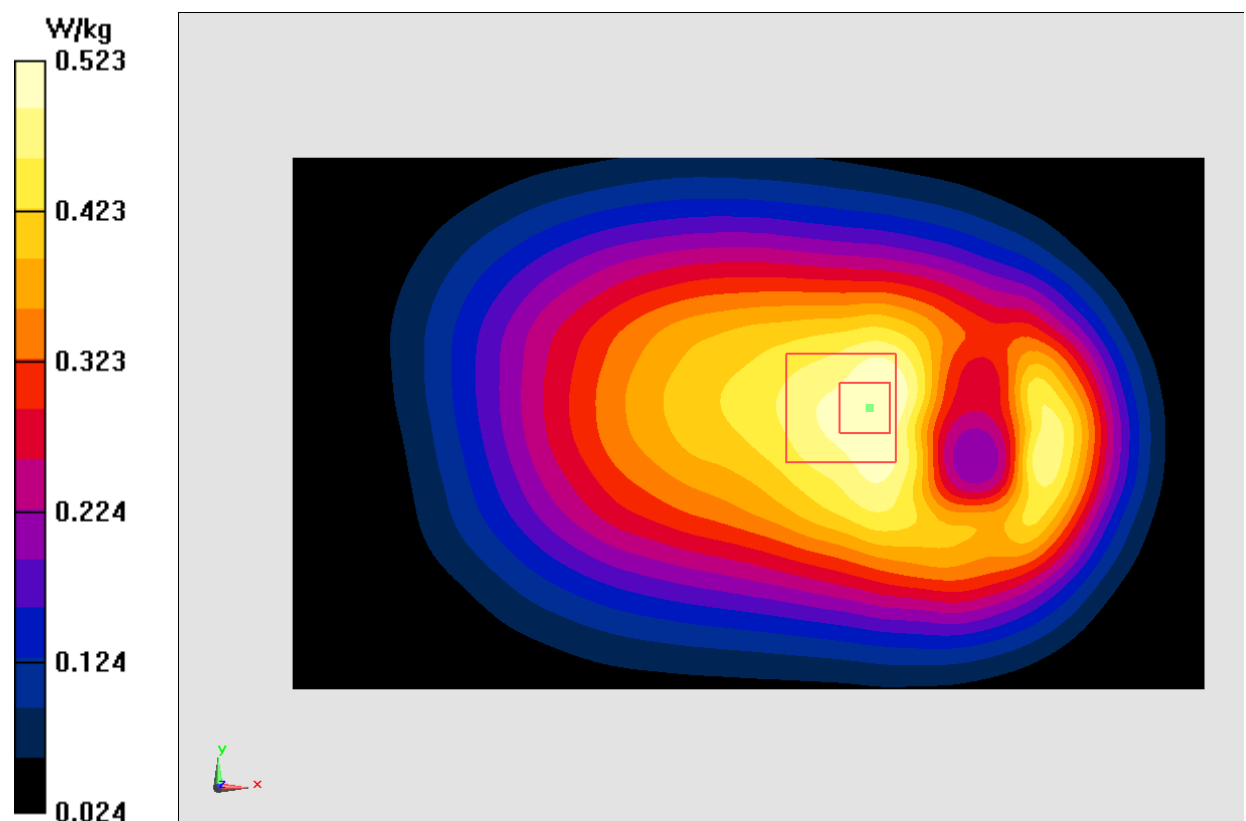
Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 20.02 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.617 W/kg

SAR(1 g) = 0.476 W/kg; SAR(10 g) = 0.355 W/kg

Maximum value of SAR (measured) = 0.523 W/kg

**Fig.2 850 MHz**

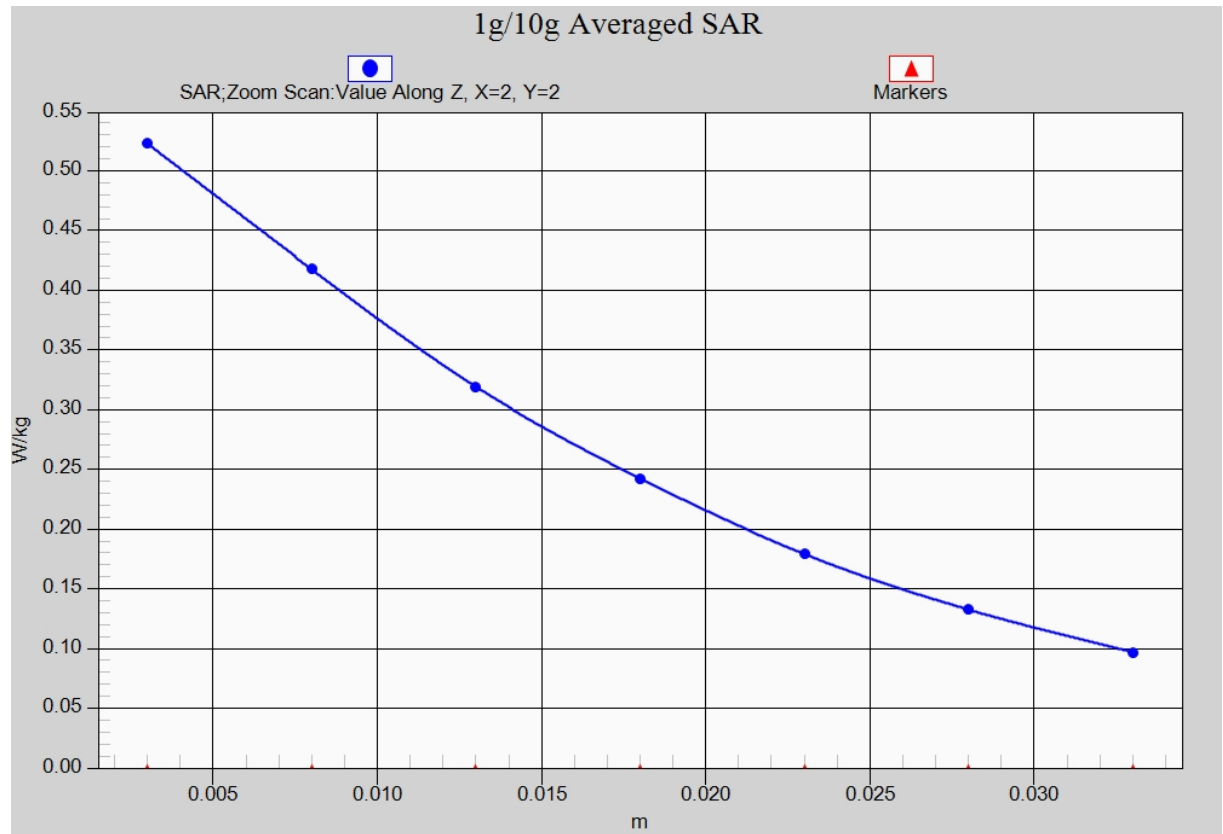


Fig. 2-1Z-Scan at power reference point (850 MHz)

1900 Right Cheek Low

Date: 2017-1-2

Electronics: DAE4 Sn1331

Medium: Head 1900 MHz

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.396$ mho/m; $\epsilon_r = 40.79$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

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

Probe: EX3DV4- SN7307 ConvF(8.10, 8.10, 8.10)

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

Maximum value of SAR (interpolated) = 0.492 W/kg

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

Reference Value = 5.578 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.676 W/kg

SAR(1 g) = 0.448 W/kg; SAR(10 g) = 0.285 W/kg

Maximum value of SAR (measured) = 0.519 W/kg

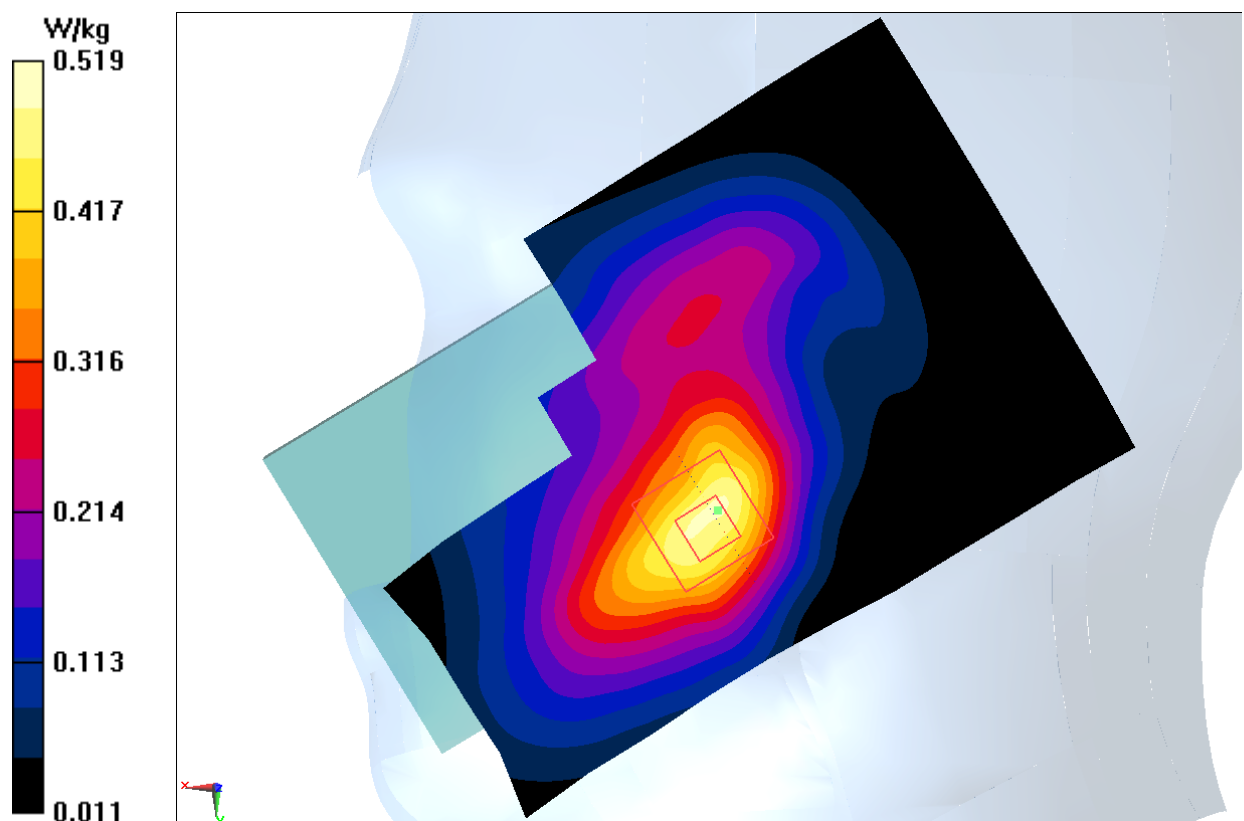


Fig.3 1900 MHz

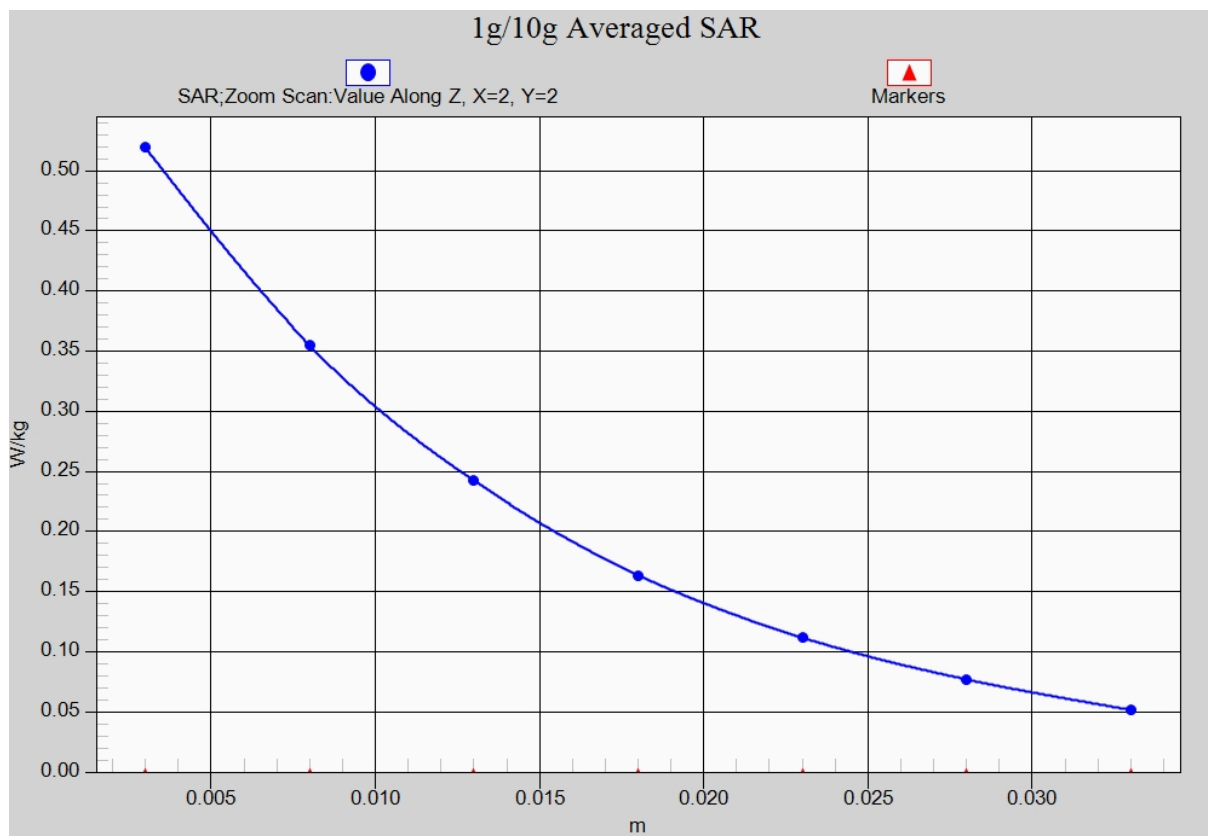


Fig. 3-1Z-Scan at power reference point (1900 MHz)

1900 Body Rear Low

Date: 2017-1-2

Electronics: DAE4 Sn1331

Medium: Body 1900 MHz

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.503$ mho/m; $\epsilon_r = 52.6$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

Communication System: GSM 1900MHz GPRS Frequency: 1850.2 MHz Duty Cycle: 1:2

Probe: EX3DV4- SN7307 ConvF(7.67, 7.67, 7.67)

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

Maximum value of SAR (interpolated) = 0.882 W/kg

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

Reference Value = 12.37 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.11 W/kg

SAR(1 g) = 0.675 W/kg; SAR(10 g) = 0.413 W/kg

Maximum value of SAR (measured) = 0.797 W/kg

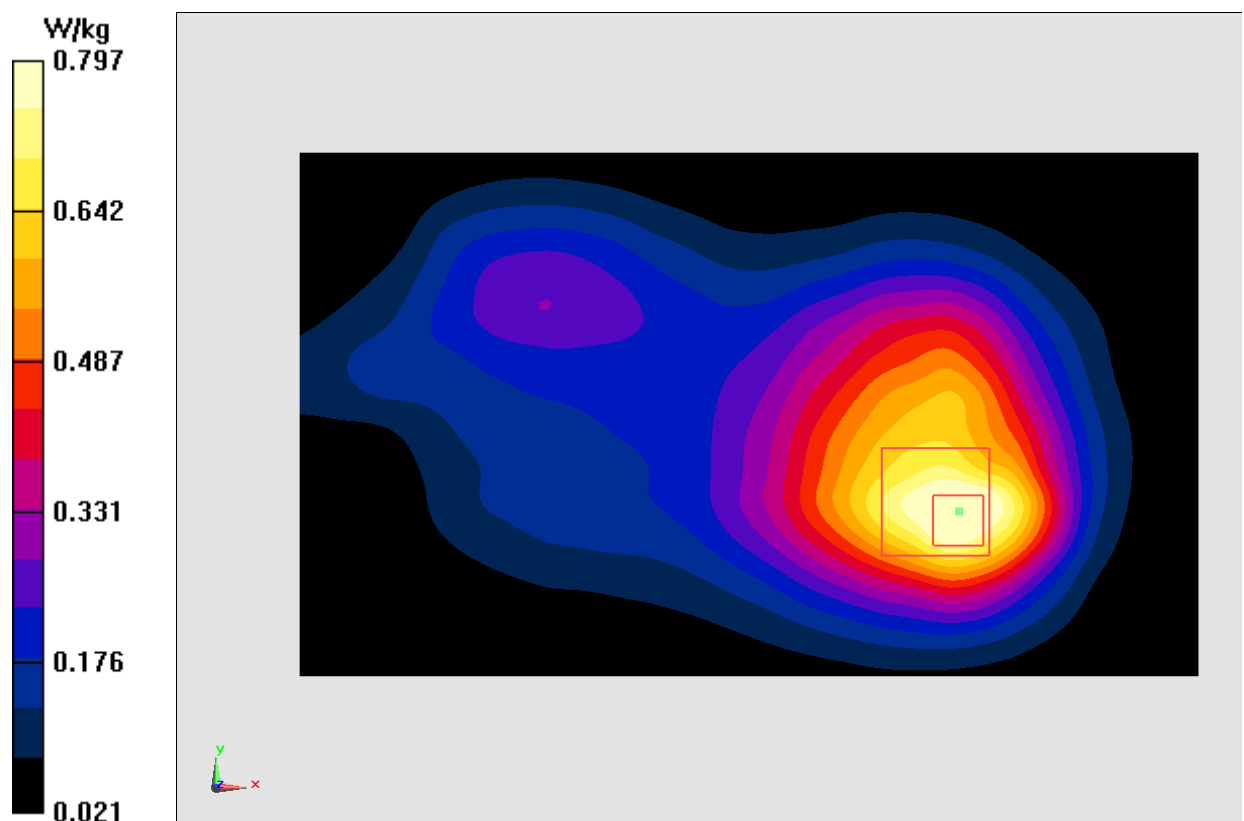


Fig.4 1900 MHz

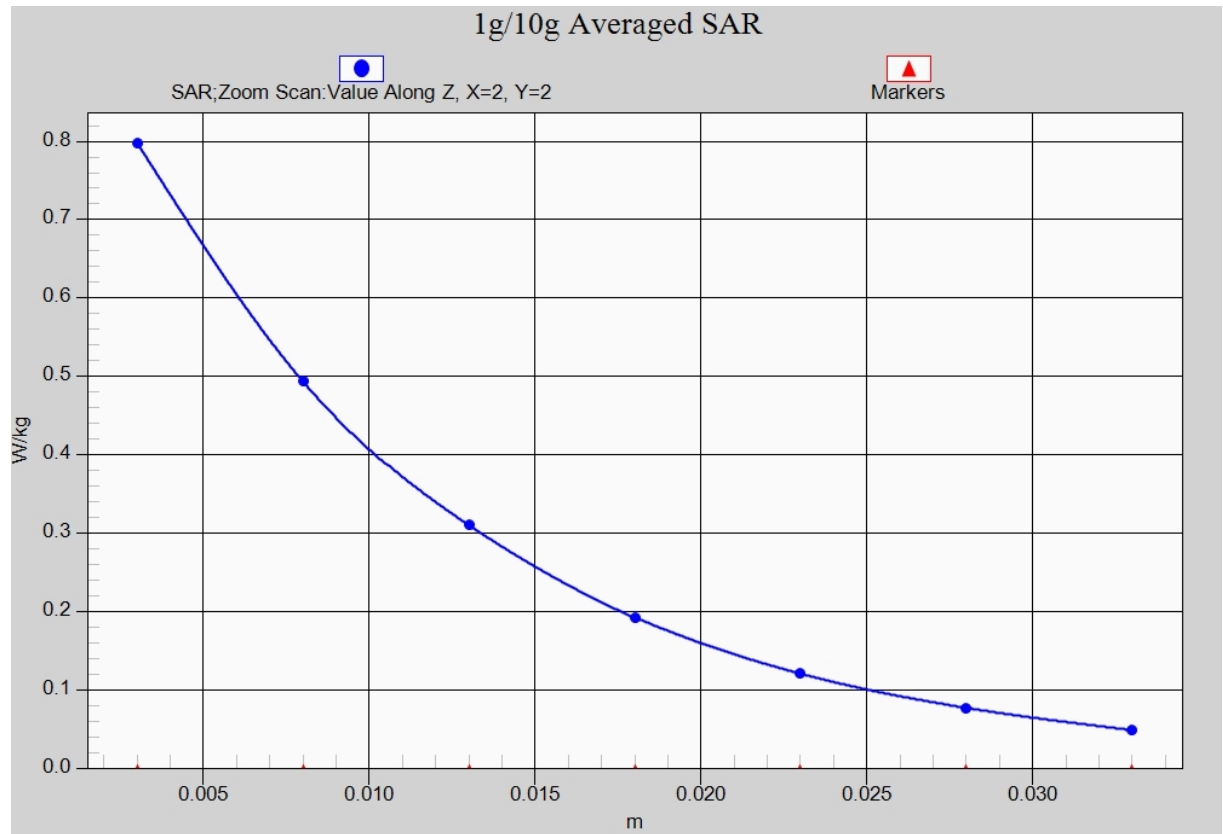


Fig. 4-1Z-Scan at power reference point (1900 MHz)

WCDMA 850 Left Cheek High

Date: 2017-1-1

Electronics: DAE4 Sn1331

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 846.6$ MHz; $\sigma = 0.893$ mho/m; $\epsilon_r = 41.065$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

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

Probe: EX3DV4 – SN7307ConvF(10.01, 10.01, 10.01)

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

Maximum value of SAR (interpolated) = 0.660 W/kg

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

Reference Value = 6.322 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.739 W/kg

SAR(1 g) = 0.576 W/kg; SAR(10 g) = 0.437 W/kg

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

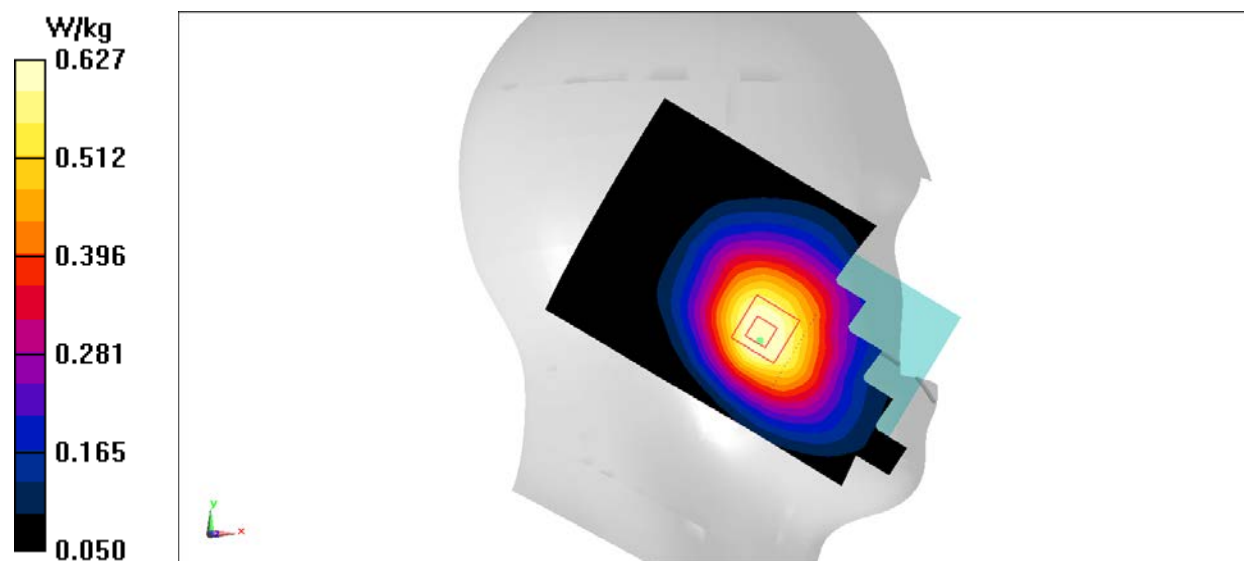


Fig.5 WCDMA 850

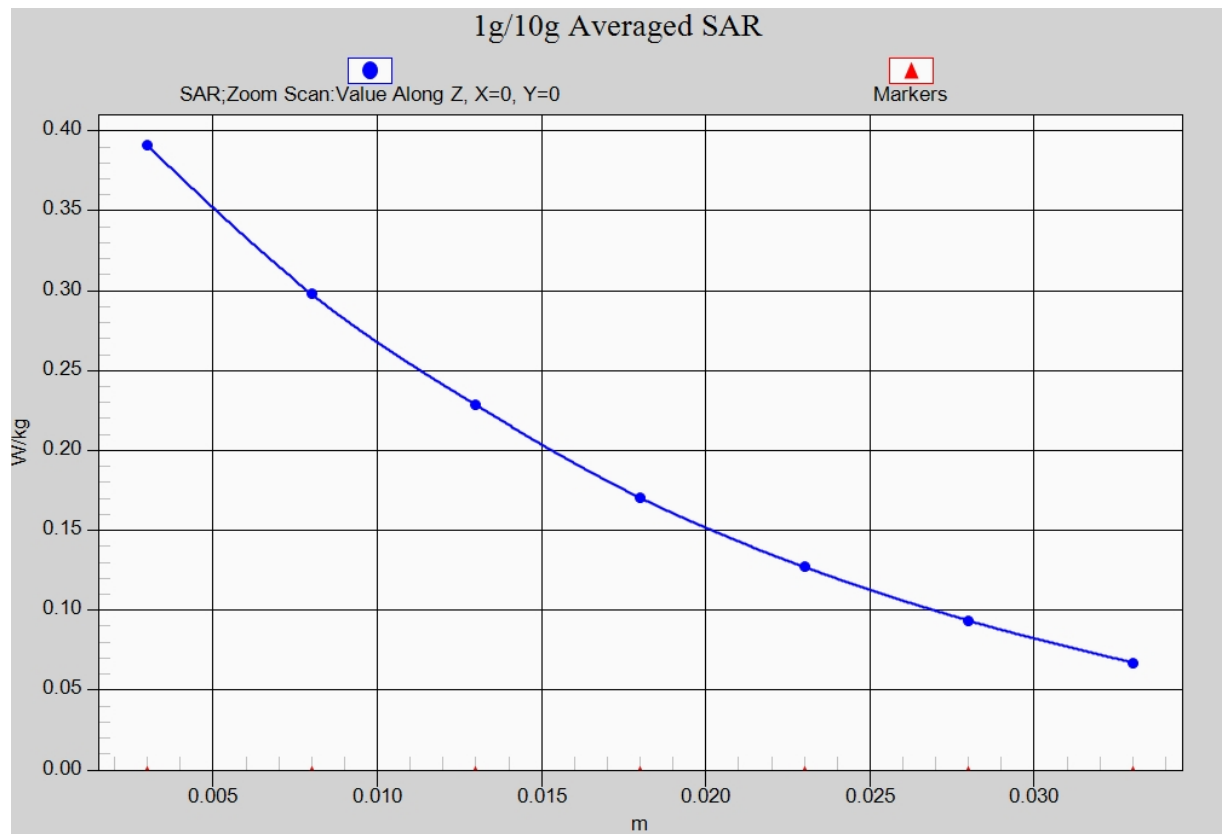


Fig. 5-1 Z-Scan at power reference point (850 MHz)

WCDMA 850 Body Rear High

Date: 2017-1-1

Electronics: DAE4 Sn1331

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 846.6$ MHz; $\sigma = 0.979$ mho/m; $\epsilon_r = 54.256$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

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

Probe: EX3DV4 – SN7307 ConvF(9.83, 9.83, 9.83)

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

Maximum value of SAR (interpolated) = 0.857 W/kg

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

Reference Value = 25.38 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.987 W/kg

SAR(1 g) = 0.768 W/kg; SAR(10 g) = 0.574 W/kg

Maximum value of SAR (measured) = 0.838 W/kg

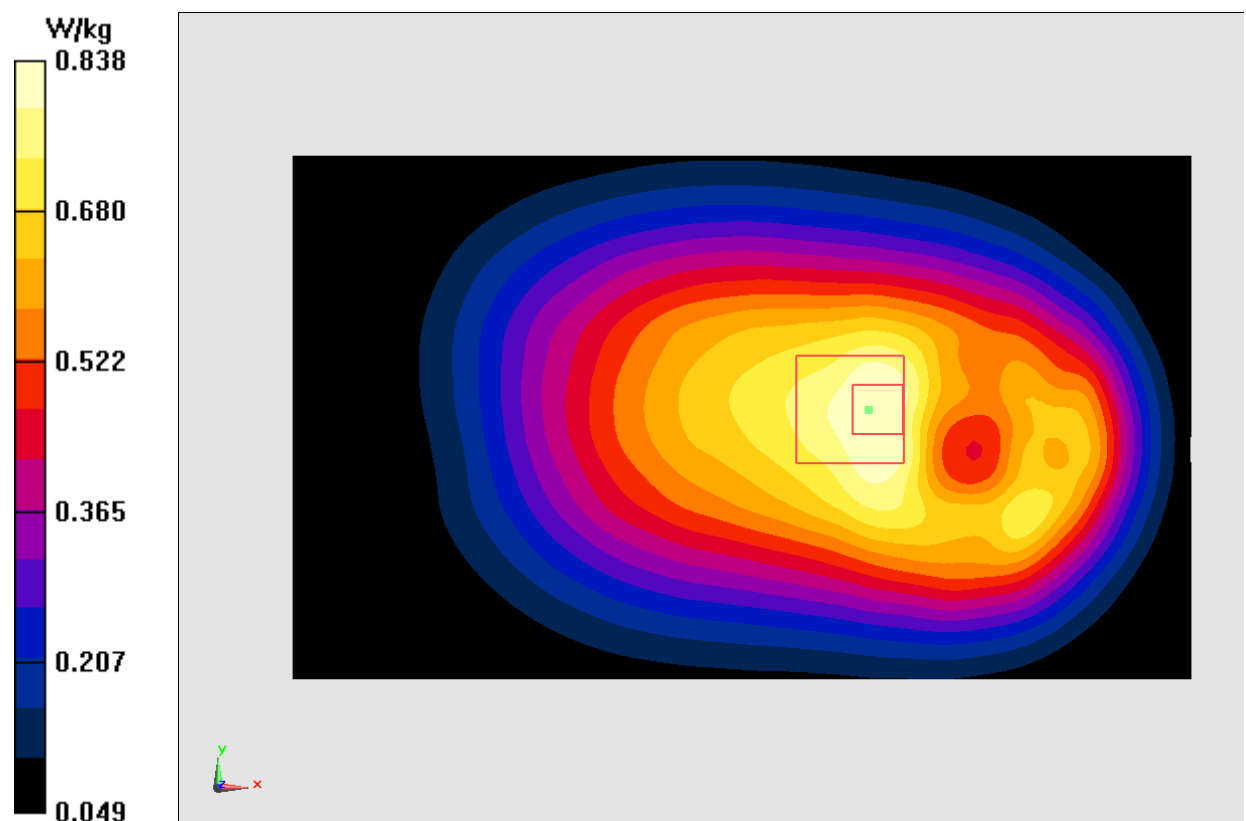


Fig.6 WCDMA 850

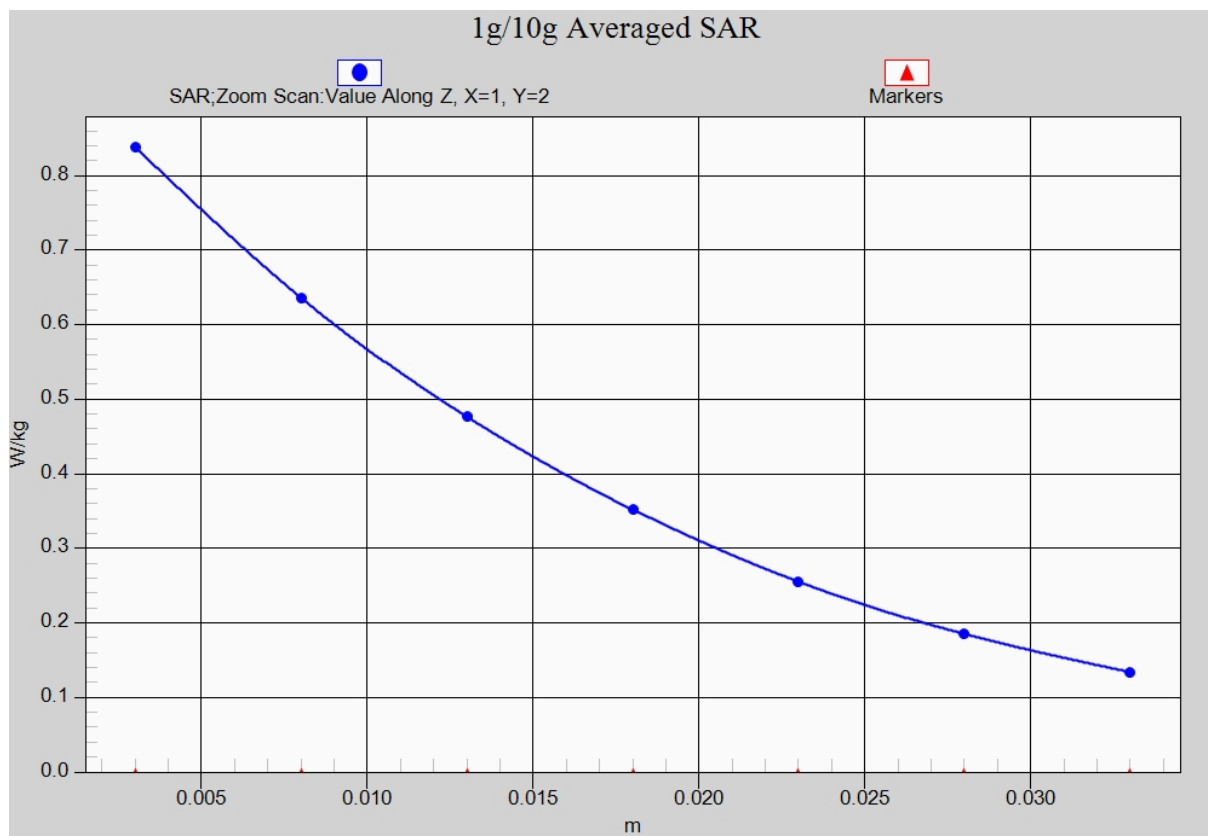


Fig. 6-1 Z-Scan at power reference point (WCDMA850)

WCDMA 1700 Right Cheek High

Date: 2016-12-31

Electronics: DAE4 Sn1331

Medium: Head 1750 MHz

Medium parameters used (interpolated): $f = 1752.6$ MHz; $\sigma = 1.388$ mho/m; $\epsilon_r = 39.137$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

Communication System: WCDMA 1750 Frequency: 1752.6 MHz Duty Cycle: 1:1

Probe: EX3DV4– SN7307 ConvF(8.37, 8.37, 8.37)

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

Maximum value of SAR (interpolated) = 0.675 W/kg

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

Reference Value = 6.281 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.843 W/kg

SAR(1 g) = 0.553 W/kg; SAR(10 g) = 0.352 W/kg

Maximum value of SAR (measured) = 0.642 W/kg

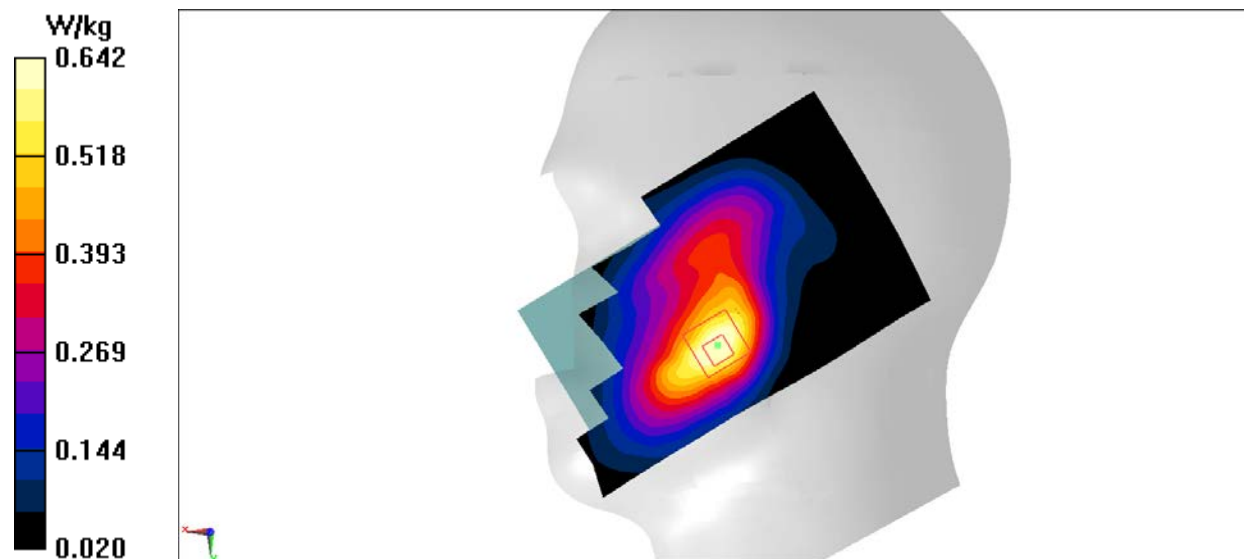


Fig.7 WCDMA1700

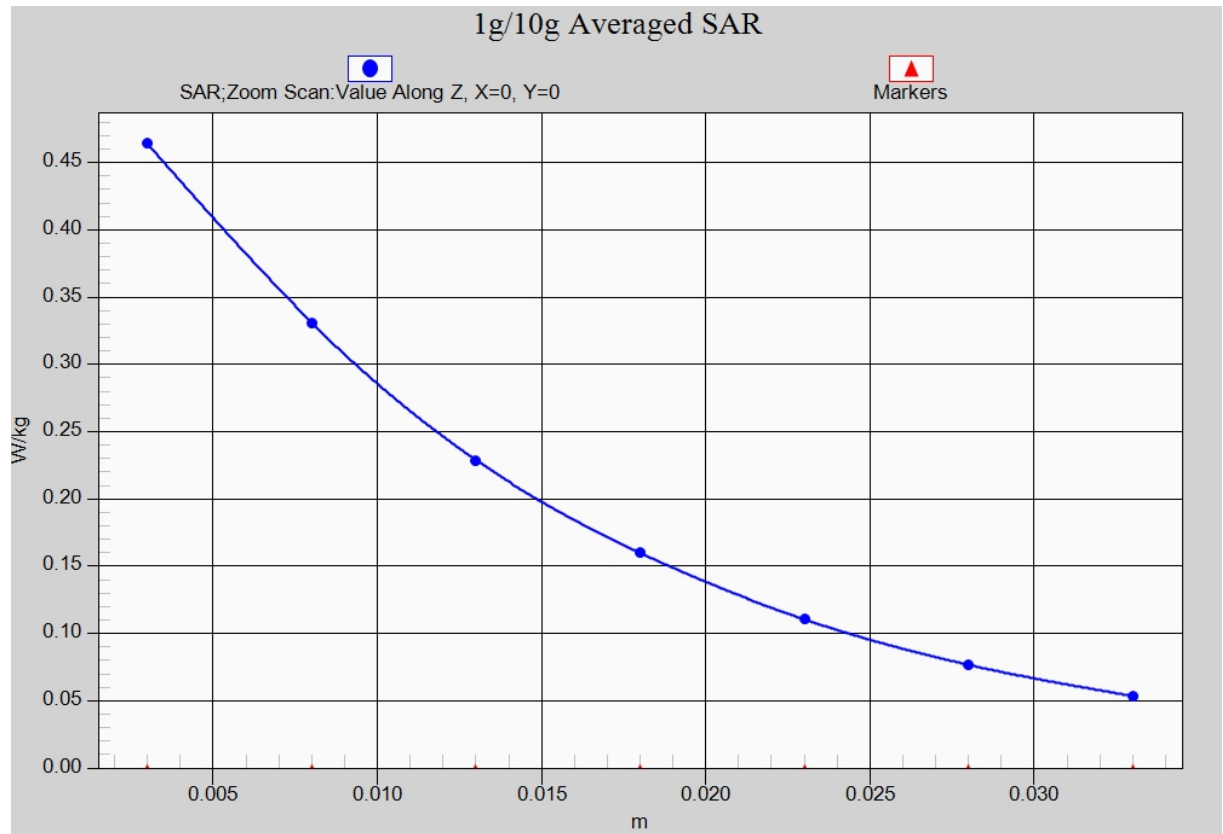


Fig. 7-1 Z-Scan at power reference point (WCDMA1700)

WCDMA 1700 Body Rear High

Date: 2016-12-31

Electronics: DAE4 Sn1331

Medium: Body 1750 MHz

Medium parameters used: $f = 1752.6$ MHz; $\sigma = 1.508$ mho/m; $\epsilon_r = 52.248$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

Communication System: WCDMA 1900 Frequency: 1752.6 MHz Duty Cycle: 1:1

Probe: EX3DV4- SN7307 ConvF(8.18, 8.18, 8.18)

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

Maximum value of SAR (interpolated) = 1.06 W/kg

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

Reference Value = 13.42 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 1.34 W/kg

SAR(1 g) = 0.831 W/kg; SAR(10 g) = 0.529 W/kg

Maximum value of SAR (measured) = 0.960 W/kg

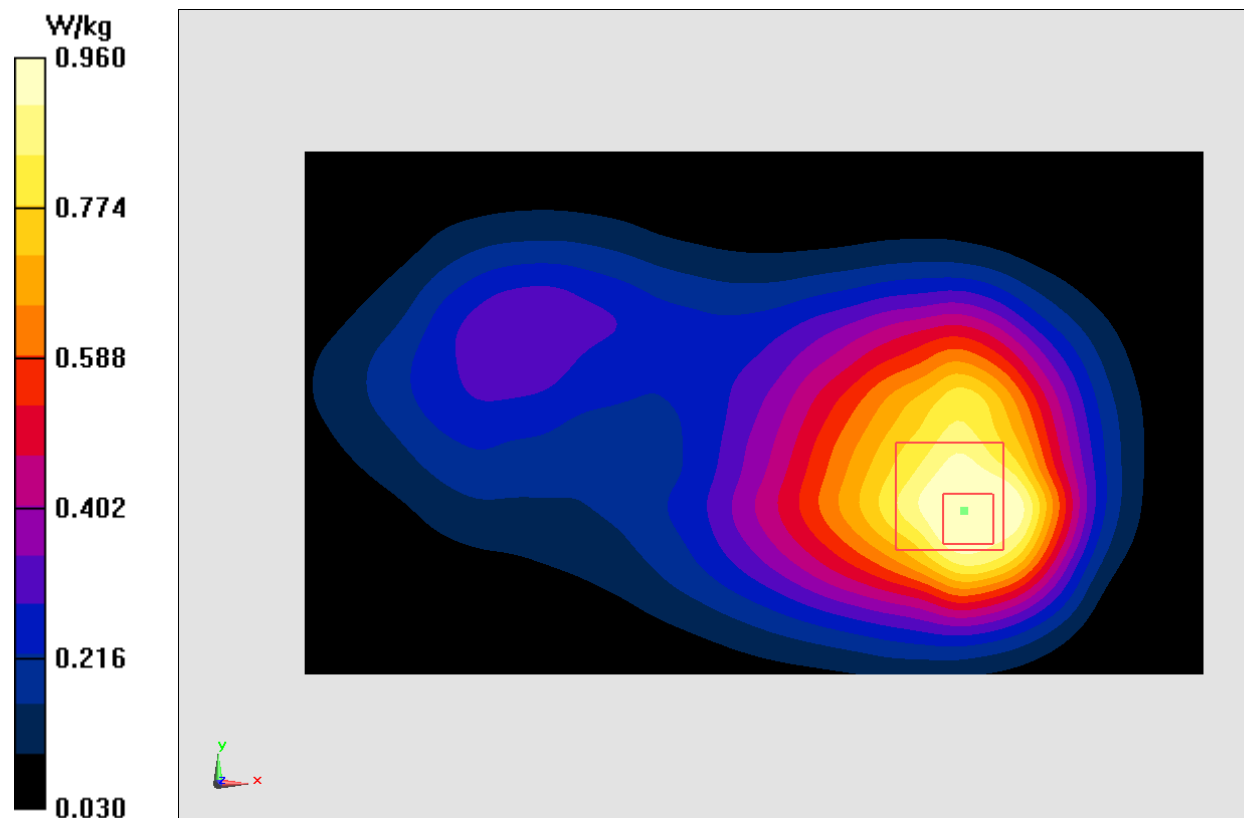


Fig.8 WCDMA1700

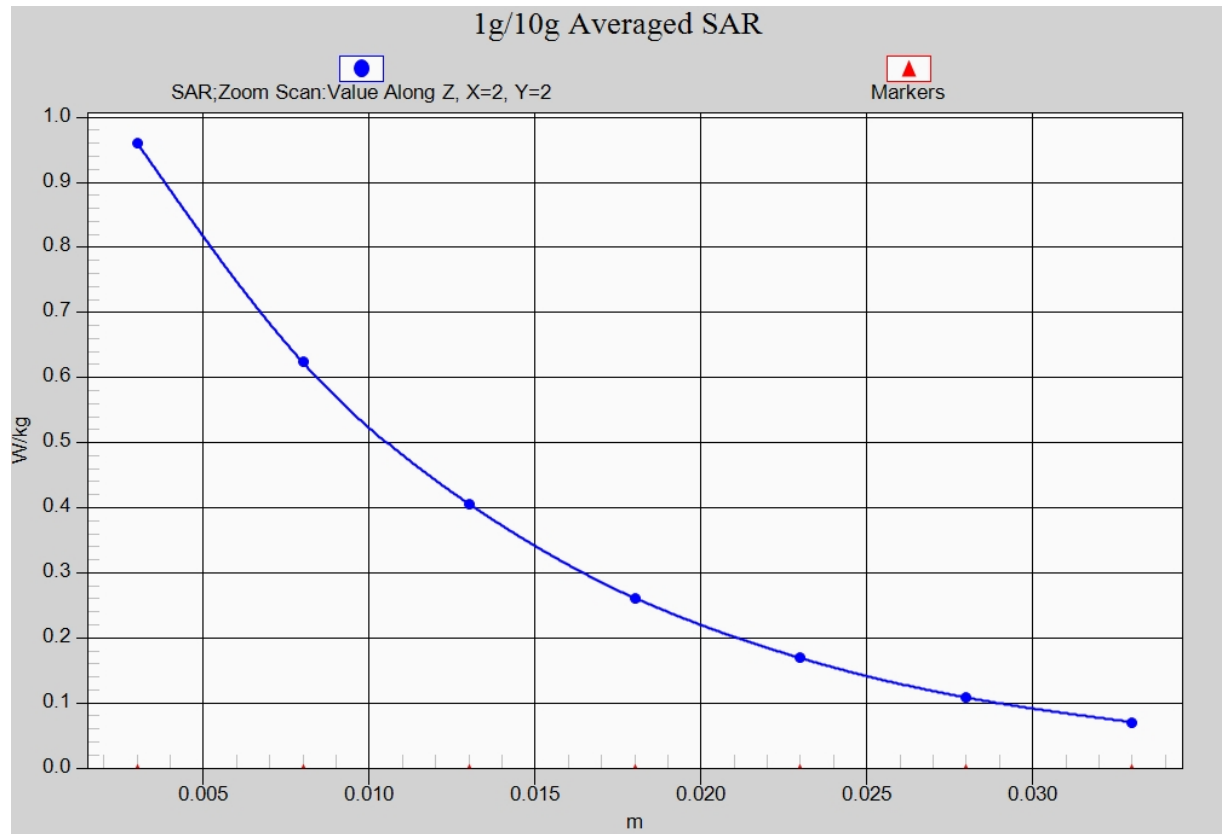


Fig. 8-1 Z-Scan at power reference point (WCDMA1700)

WCDMA 1900 Right Cheek High

Date: 2017-1-2

Electronics: DAE4 Sn1331

Medium: Head 1900 MHz

Medium parameters used (interpolated): $f = 1907.6$ MHz; $\sigma = 1.472$ mho/m; $\epsilon_r = 40.936$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

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

Probe: EX3DV4- SN7307 ConvF(8.10, 8.10, 8.10)

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

Maximum value of SAR (interpolated) = 0.640 W/kg

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

Reference Value = 6.626 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.901 W/kg

SAR(1 g) = 0.577 W/kg; SAR(10 g) = 0.362 W/kg

Maximum value of SAR (measured) = 0.681 W/kg

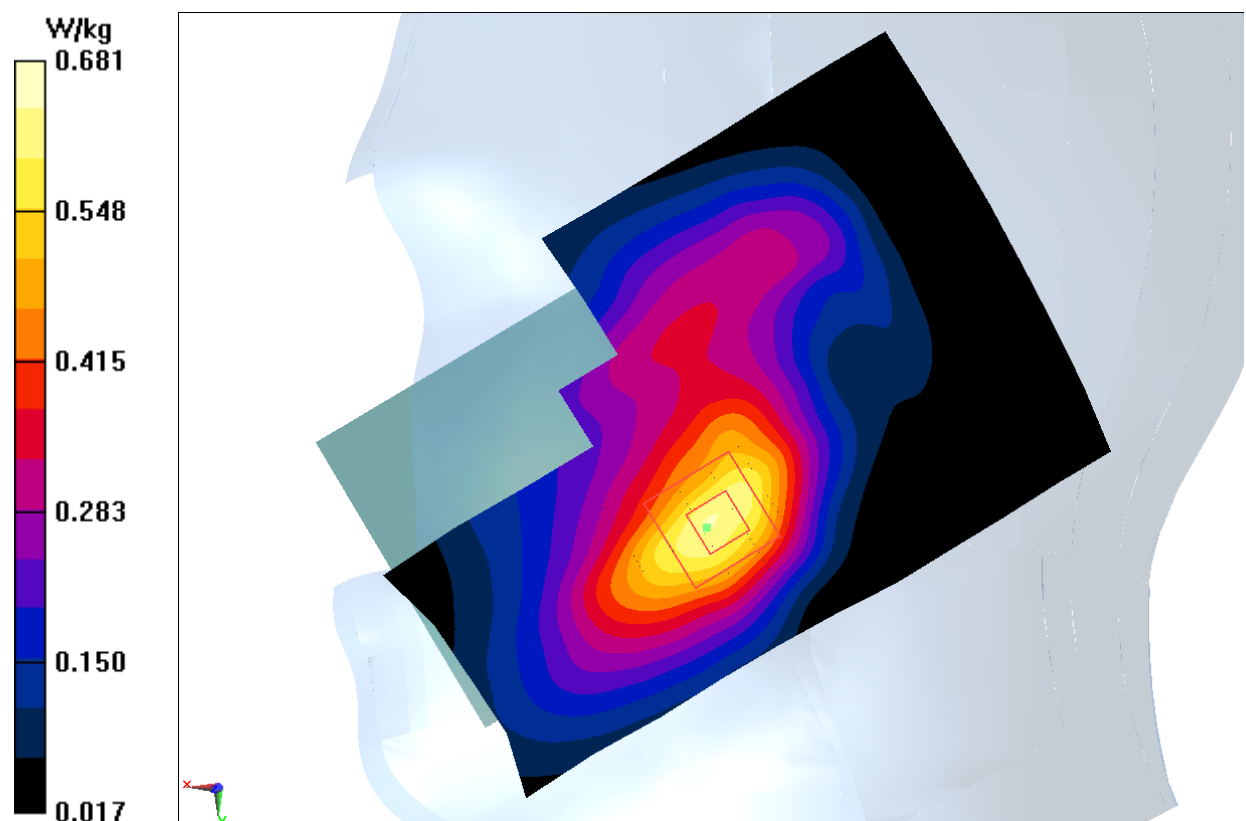


Fig.9 WCDMA1900

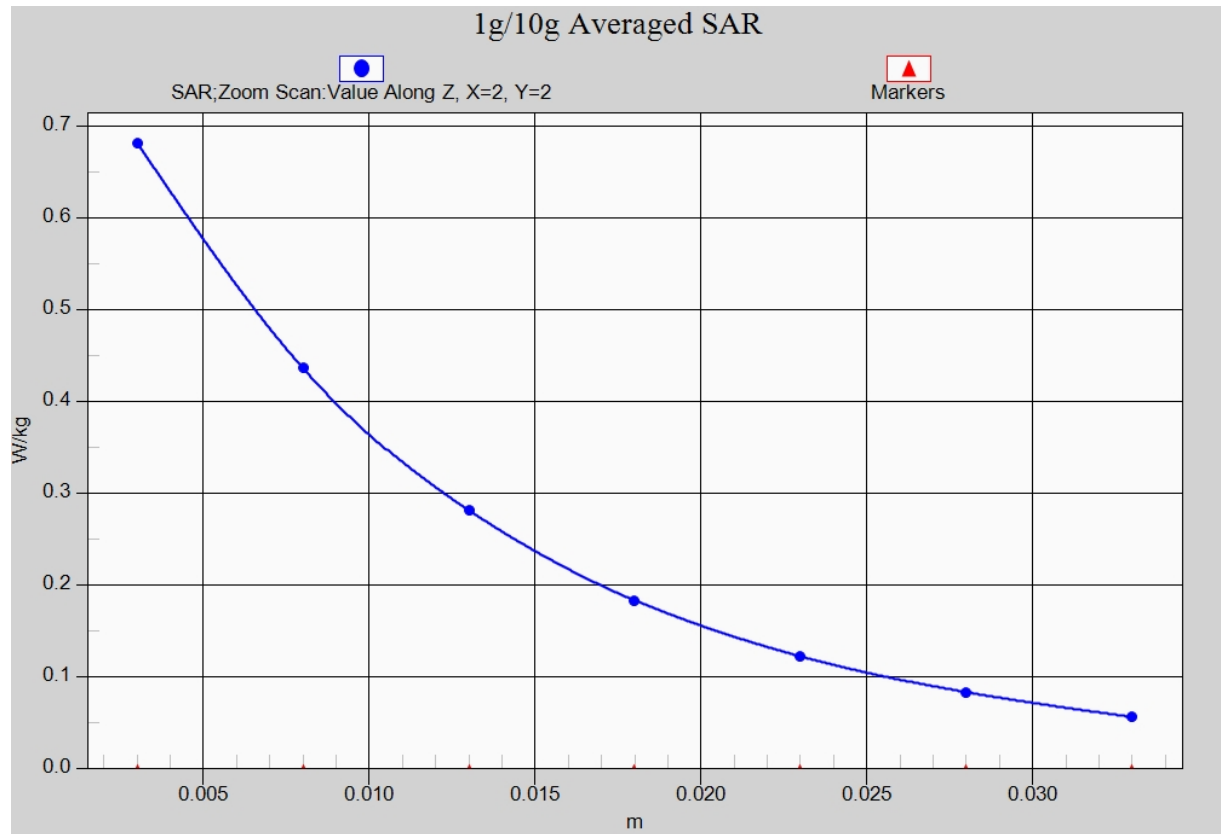


Fig. 9-1 Z-Scan at power reference point (WCDMA1900)

WCDMA 1900 Body Rear Middle

Date: 2017-1-2

Electronics: DAE4 Sn1331

Medium: Body 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.519$ mho/m; $\epsilon_r = 52.85$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

Communication System: WCDMA 1900 Frequency: 1880 MHz Duty Cycle: 1:1

Probe: EX3DV4- SN7307 ConvF(7.67, 7.67, 7.67)

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

Maximum value of SAR (interpolated) = 0.778 W/kg

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

Reference Value = 11.68 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.994 W/kg

SAR(1 g) = 0.607 W/kg; SAR(10 g) = 0.382 W/kg

Maximum value of SAR (measured) = 0.714 W/kg

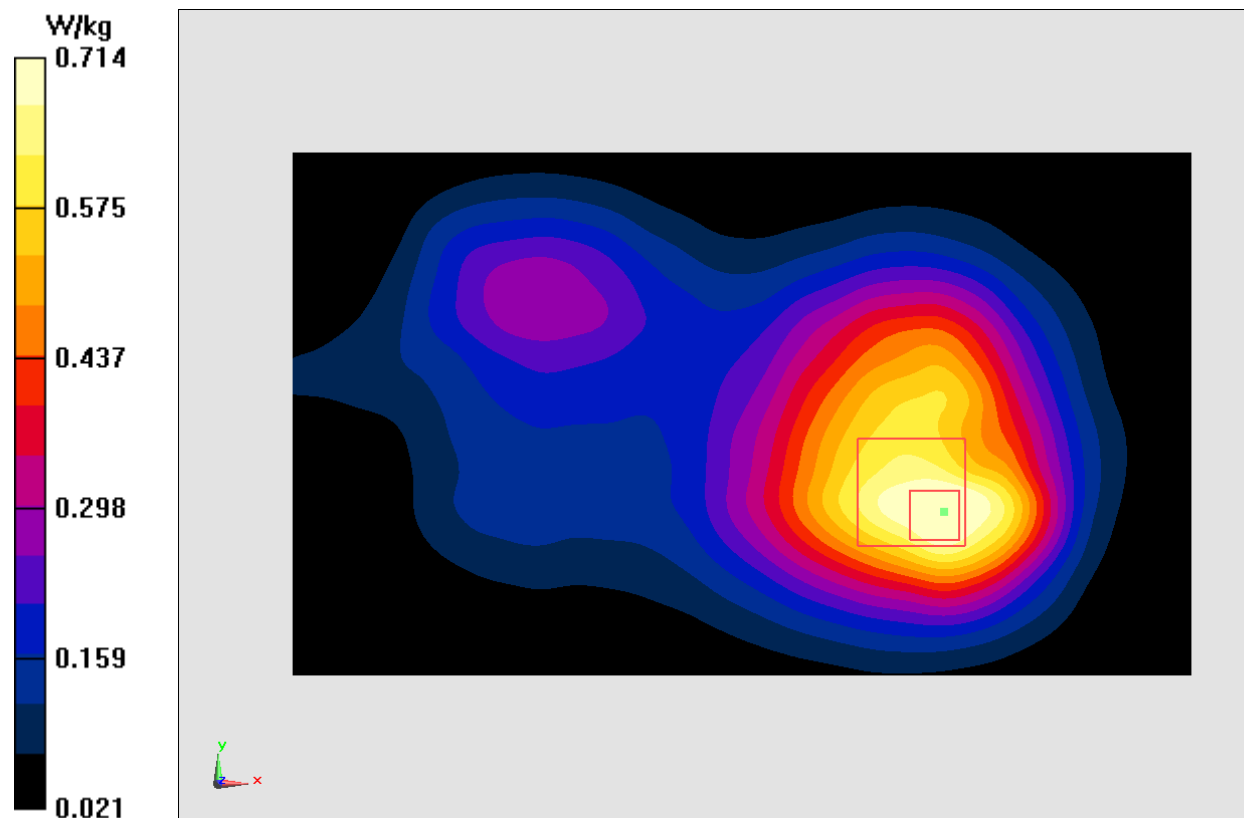


Fig.10 WCDMA1900

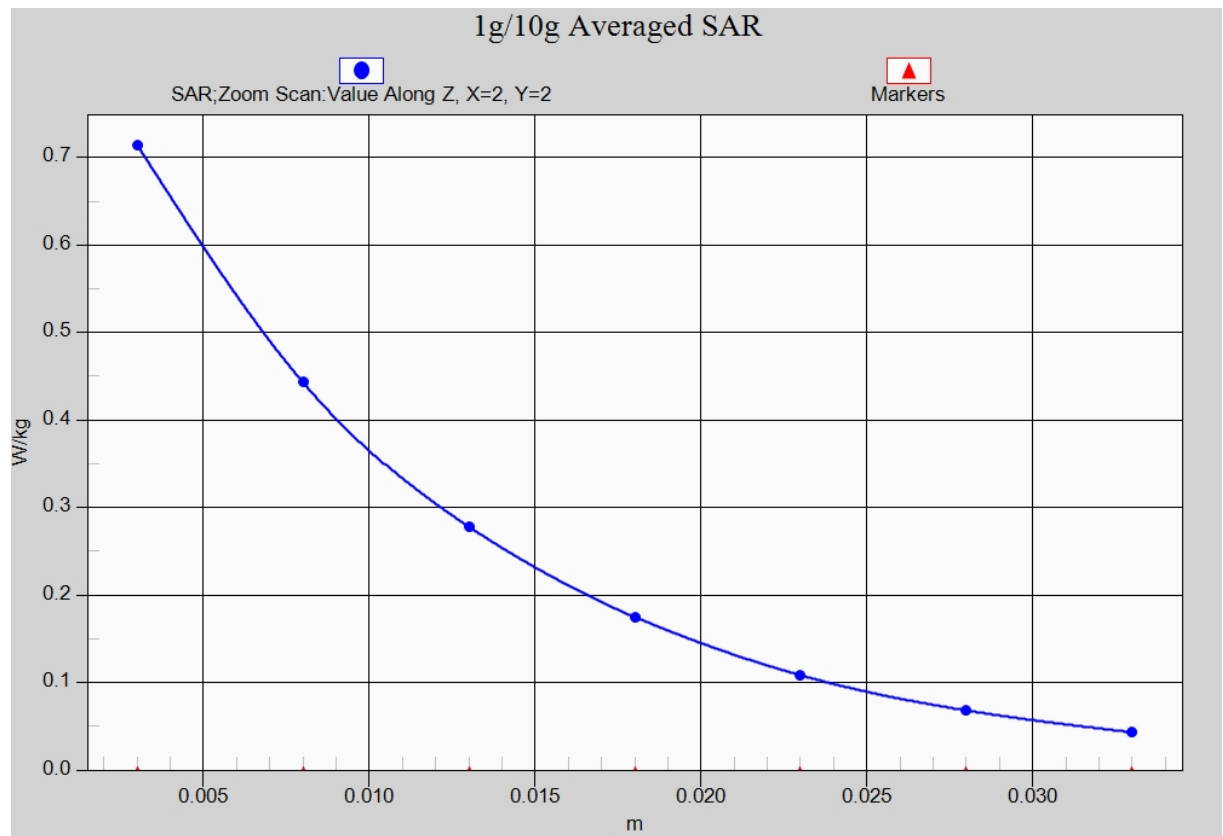


Fig. 10-1 Z-Scan at power reference point (WCDMA1900)

LTE Band2 Right Cheek High with QPSK_20M_1RB_Low

Date: 2017-1-2

Electronics: DAE4 Sn1331

Medium: Head 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.496$ mho/m; $\epsilon_r = 40.054$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

Communication System: LTE Band2 Frequency: 1900 MHz Duty Cycle: 1:1

Probe: EX3DV4- SN7307 ConvF(8.10, 8.10, 8.10)

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

Maximum value of SAR (interpolated) = 0.740 W/kg

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

Reference Value = 6.946 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.993 W/kg

SAR(1 g) = 0.659 W/kg; SAR(10 g) = 0.423 W/kg

Maximum value of SAR (measured) = 0.761 W/kg

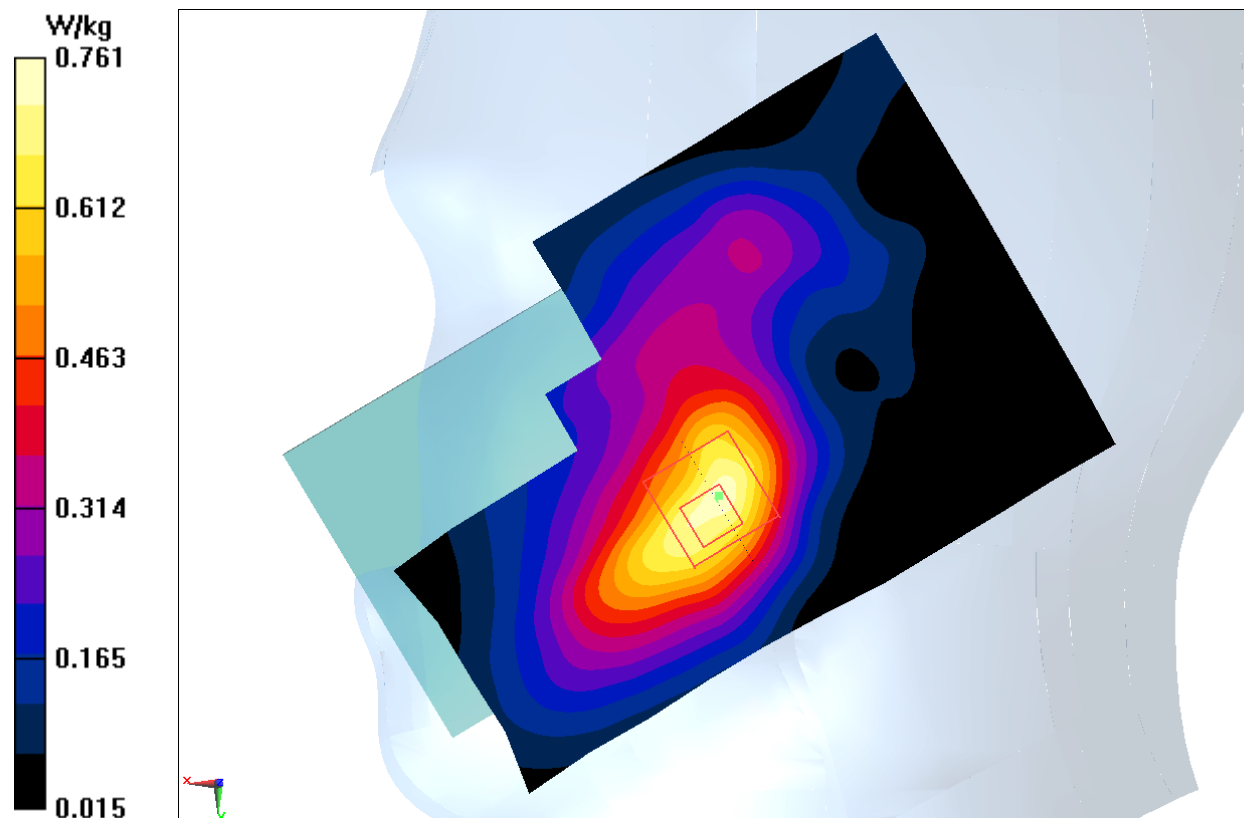


Fig.11 LTE Band2

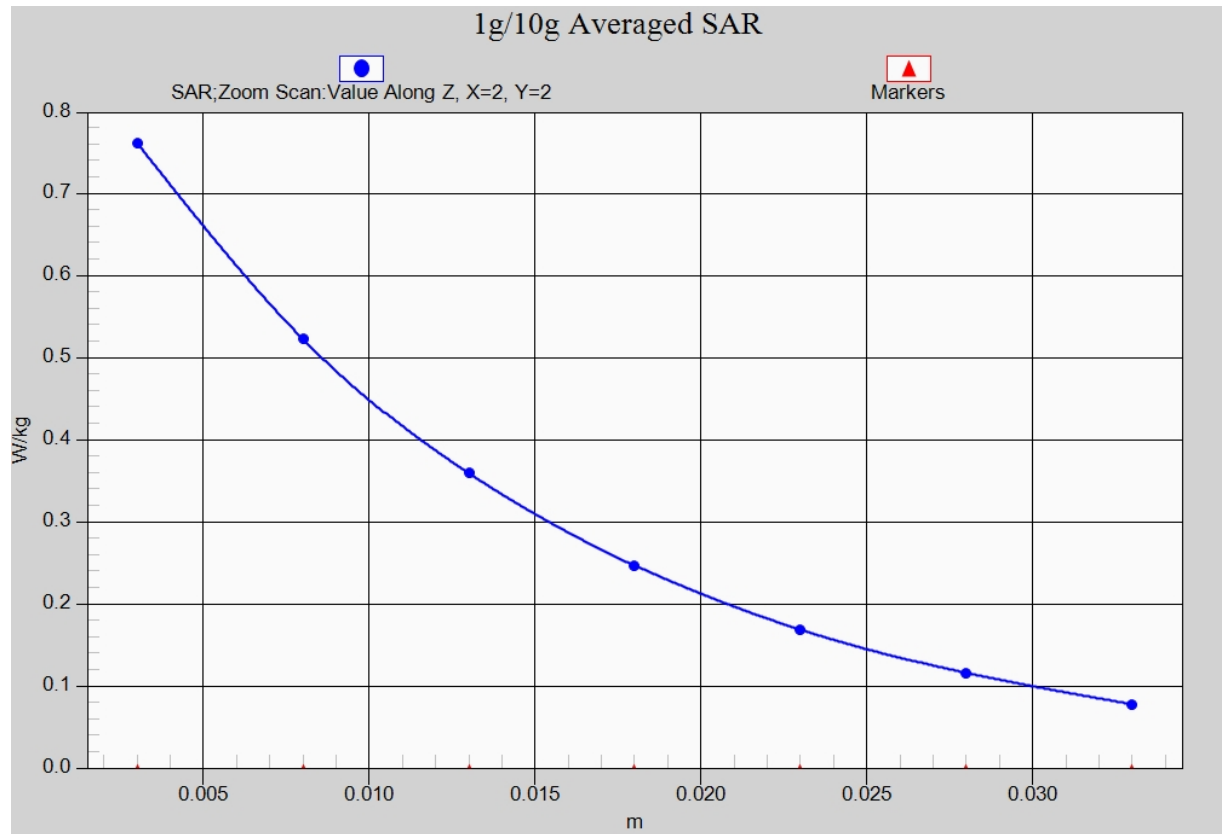


Fig. 11-1 Z-Scan at power reference point (LTE Band2)

LTE Band2 Body Rear High with QPSK_20M_1RB_Low

Date: 2017-1-2

Electronics: DAE4 Sn1331

Medium: Body 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.538$ mho/m; $\epsilon_r = 52.79$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

Communication System: LTE Band2 Frequency: 1900 MHz Duty Cycle: 1:1

Probe: EX3DV4- SN7307 ConvF(7.67, 7.67, 7.67)

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

Maximum value of SAR (interpolated) = 1.05 W/kg

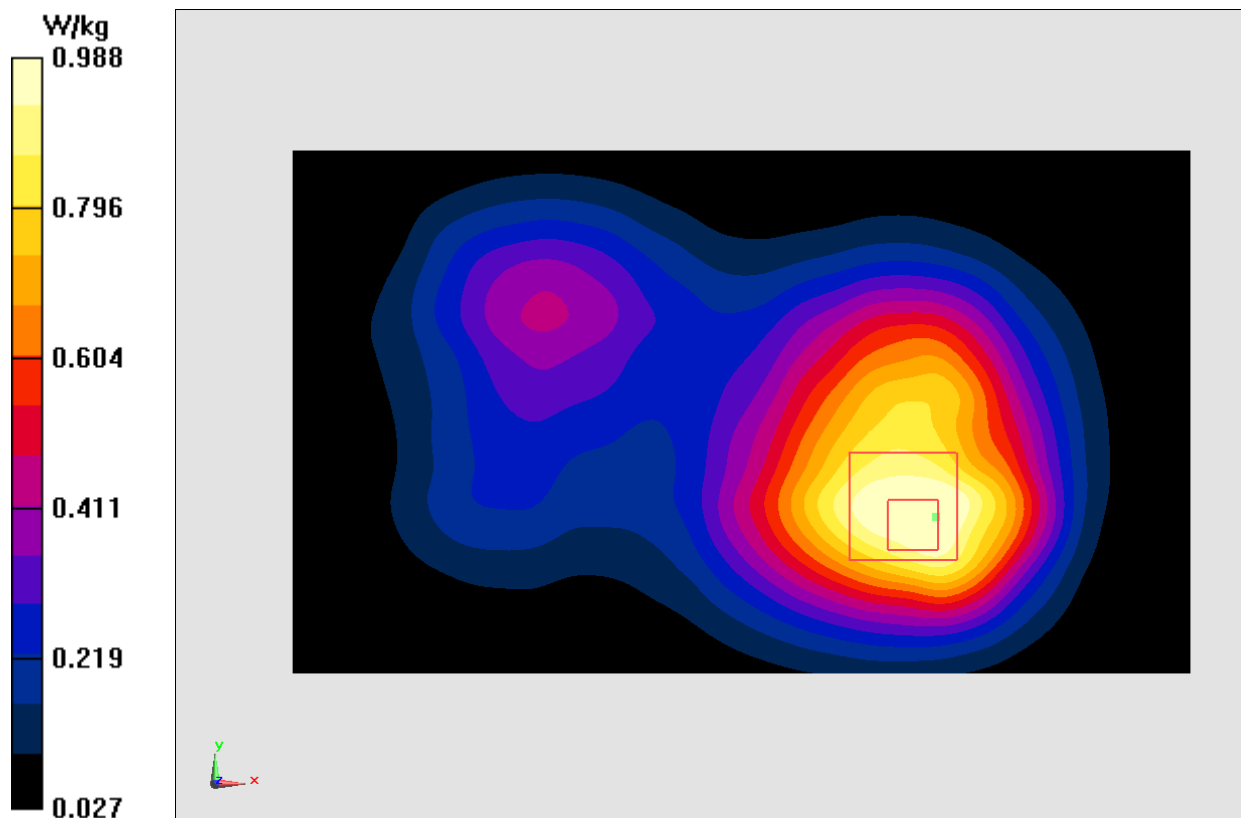
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.17 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.41 W/kg

SAR(1 g) = 0.856 W/kg; SAR(10 g) = 0.536 W/kg

Maximum value of SAR (measured) = 0.988 W/kg

**Fig.12 LTE Band2**

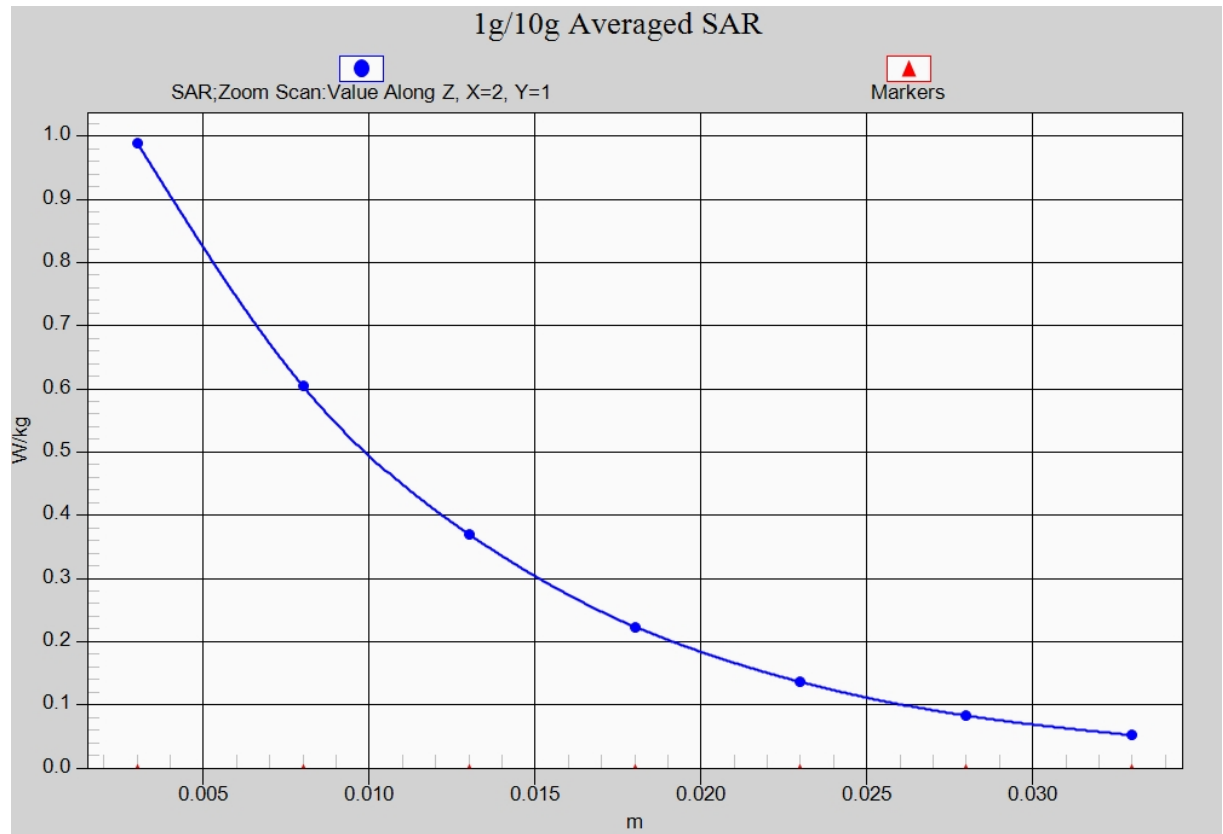


Fig. 12-1 Z-Scan at power reference point (LTE Band2)

LTE Band4 Right Cheek High with QPSK_20M_1RB_High

Date: 2016-12-31

Electronics: DAE4 Sn1331

Medium: Head 1750 MHz

Medium parameters used $f = 1745$ MHz; $\sigma = 1.364$ mho/m; $\epsilon_r = 39.117$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

Communication System: LTE Band4 Frequency: 174MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7307 ConvF(8.37, 8.37, 8.37)

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 = 7.028 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.848 W/kg

SAR(1 g) = 0.556 W/kg; SAR(10 g) = 0.355 W/kg

Maximum value of SAR (measured) = 0.648 W/kg

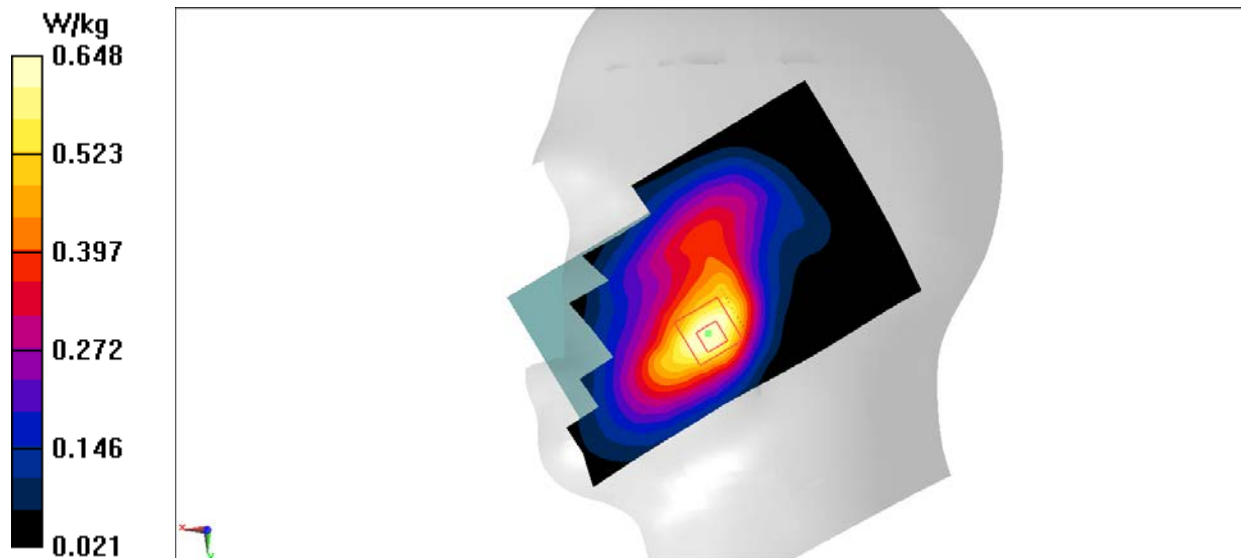


Fig.13 LTE Band4

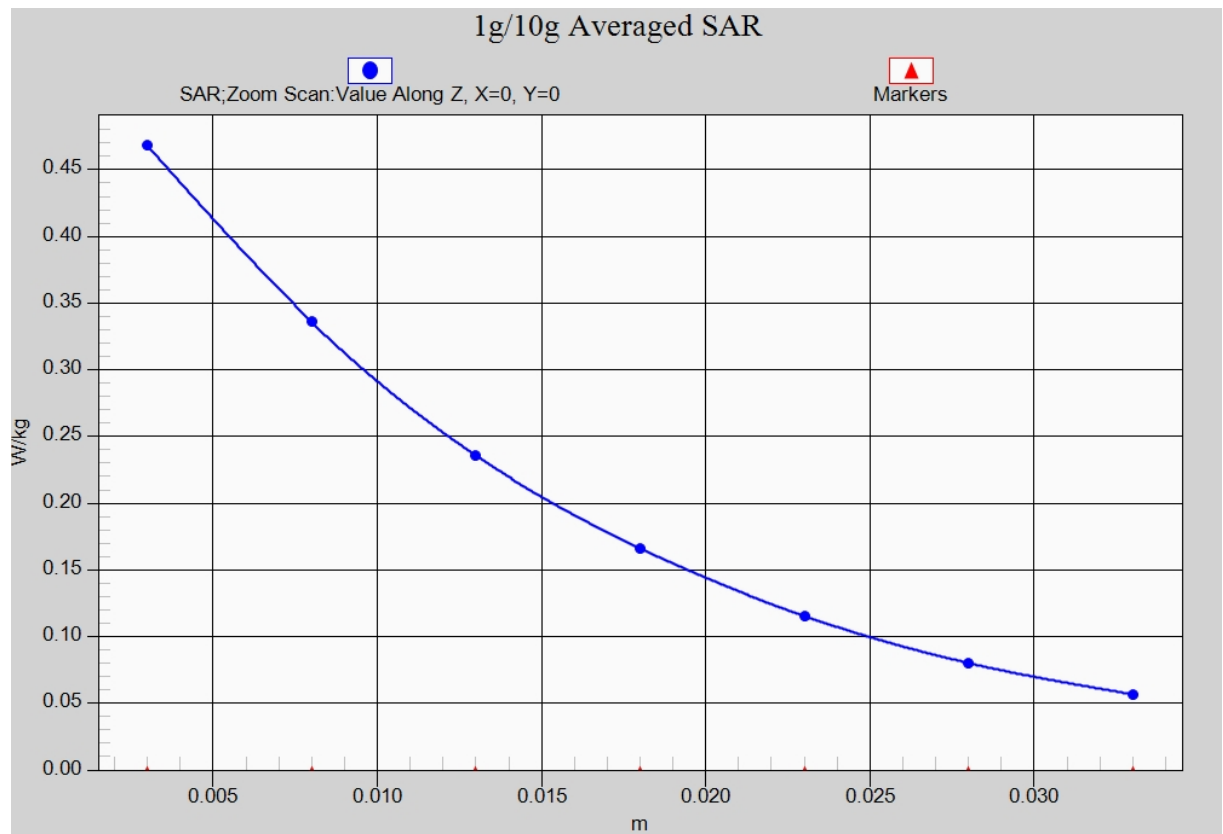


Fig. 13-1 Z-Scan at power reference point (LTE Band4)

LTE Band4 Body Rear High with QPSK_20M_1RB_High

Date: 2016-12-31

Electronics: DAE4 Sn1331

Medium: Body 1750 MHz

Medium parameters used: $f = 1745$ MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 52.159$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

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

Probe: EX3DV4 – SN7307 ConvF(8.18, 8.18, 8.18)

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

Maximum value of SAR (interpolated) = 1.01 W/kg

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

Reference Value = 13.17 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 1.29 W/kg

SAR(1 g) = 0.820 W/kg; SAR(10 g) = 0.534 W/kg

Maximum value of SAR (measured) = 0.957 W/kg

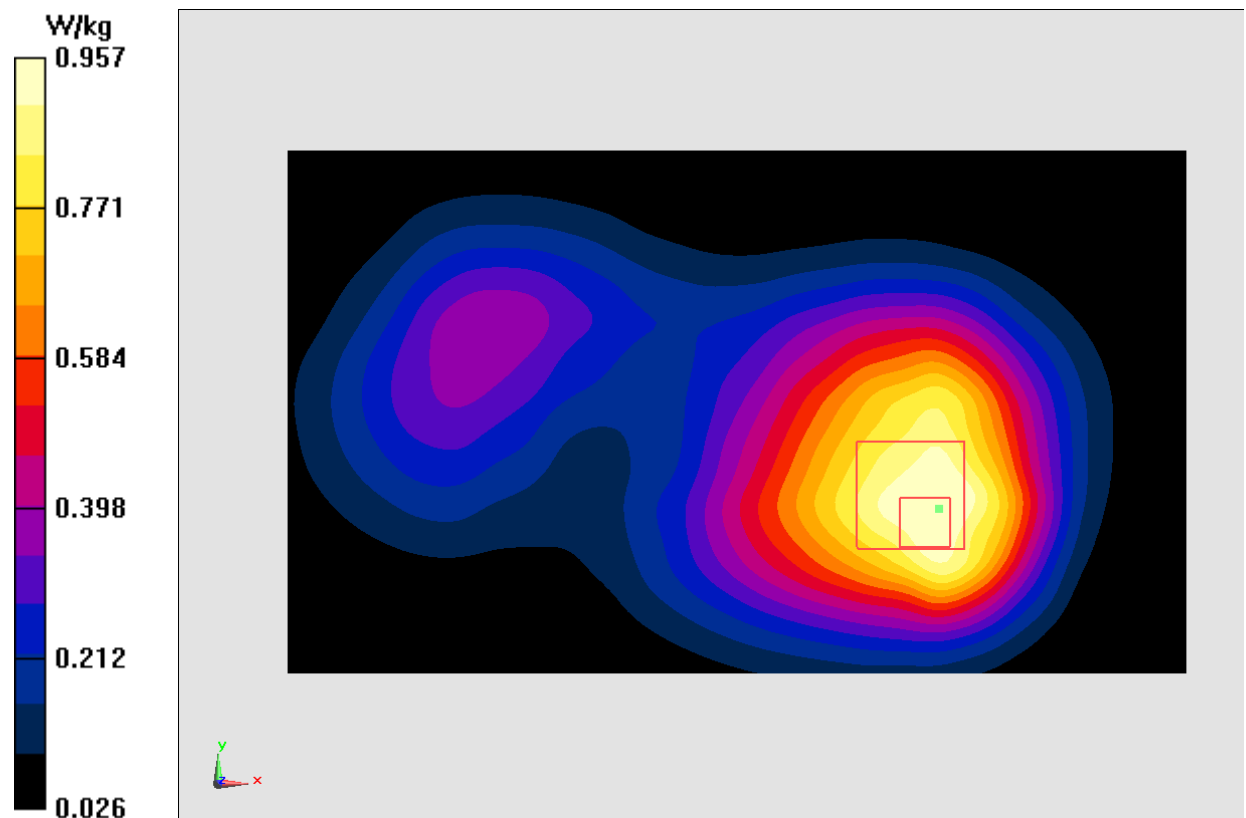


Fig.14 LTE Band4

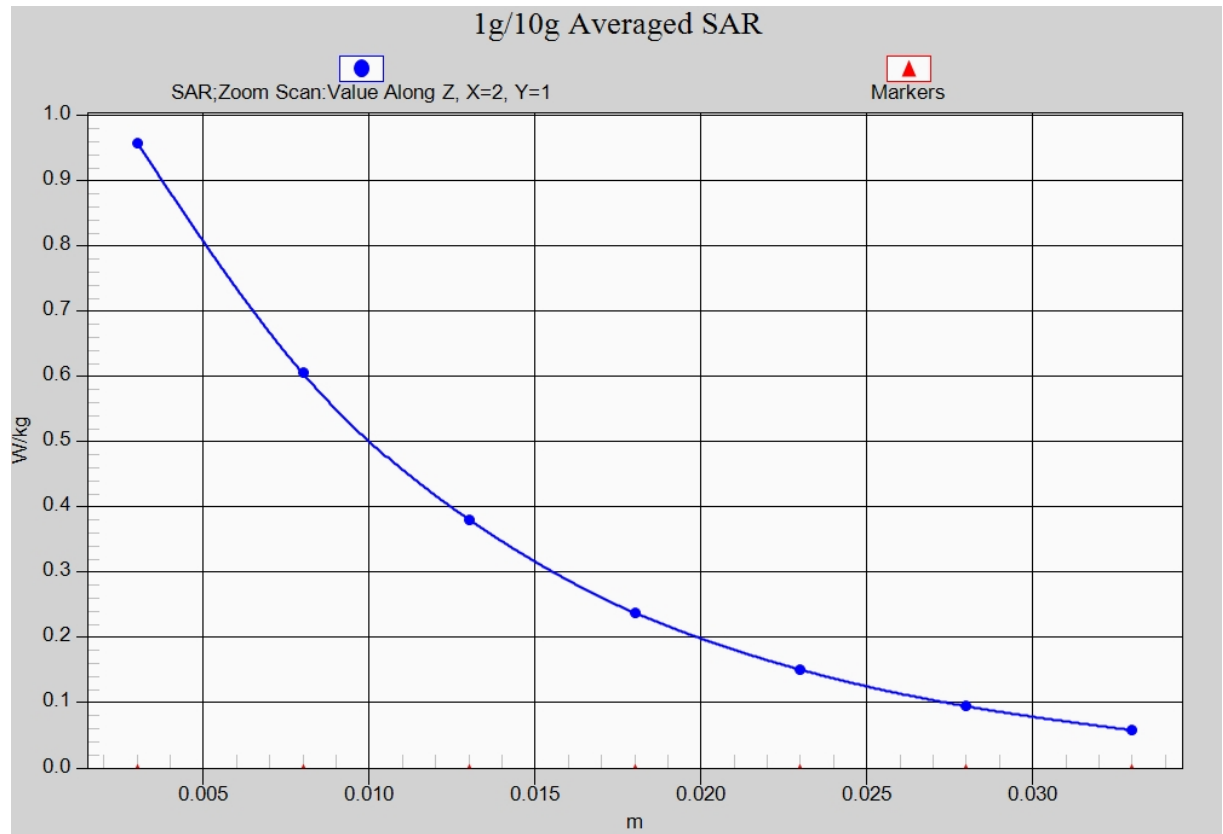


Fig. 14-1 Z-Scan at power reference point (LTE Band4)

LTE Band5 Left Cheek Low with QPSK_10M_1RB_High

Date: 2017-1-1

Electronics: DAE4 Sn1331

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 829$ MHz; $\sigma = 0.888$ mho/m; $\epsilon_r = 41.191$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

Communication System: LTE Band5 Frequency: 829 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7307 ConvF(10.01, 10.01, 10.01)

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

Maximum value of SAR (interpolated) = 0.468 W/kg

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

Reference Value = 5.881 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.538 W/kg

SAR(1 g) = 0.418 W/kg; SAR(10 g) = 0.318 W/kg

Maximum value of SAR (measured) = 0.455 W/kg

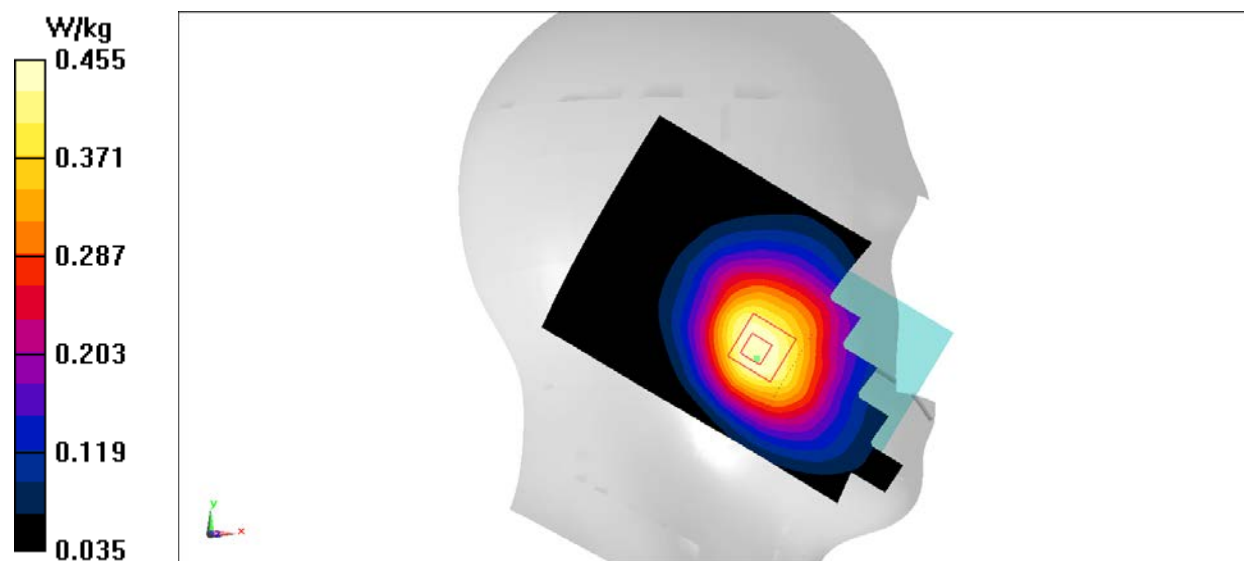


Fig.15 LTE Band5

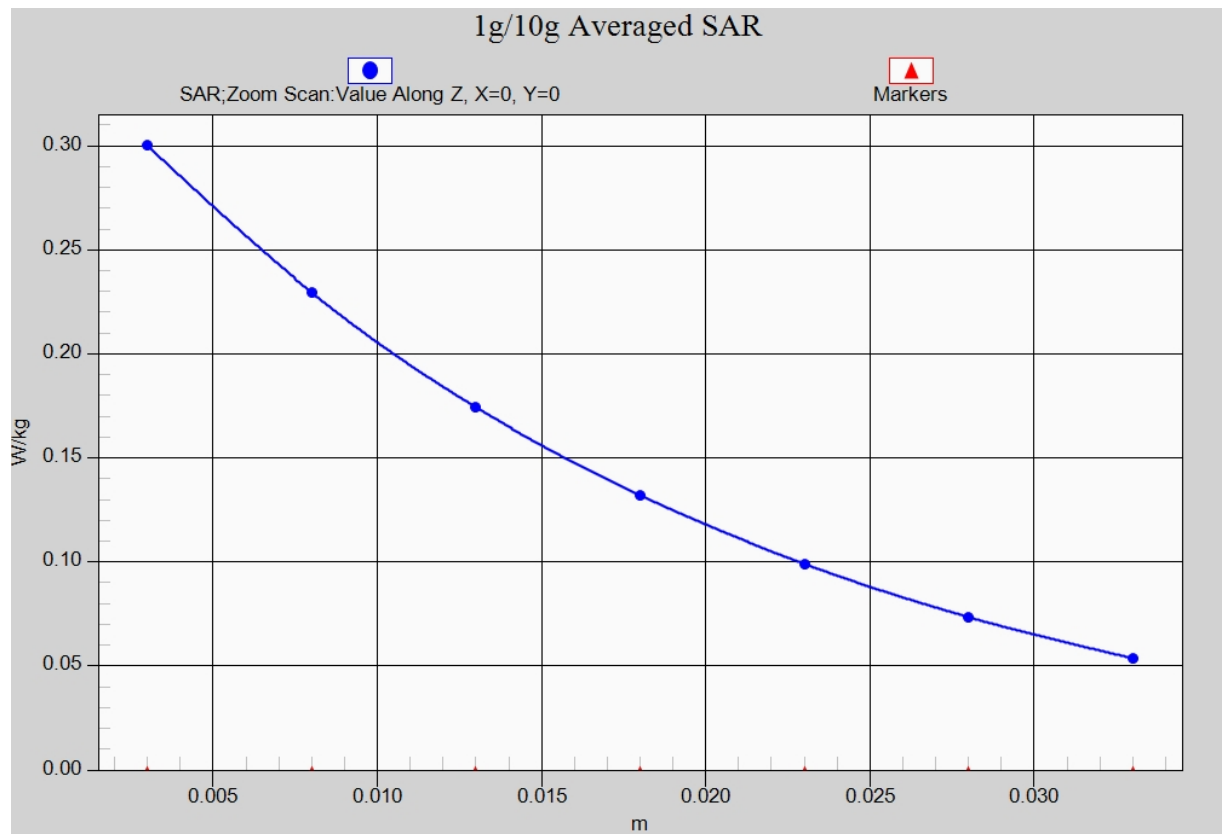


Fig. 15-1 Z-Scan at power reference point (LTE Band5)

LTE Band5 Body Rear Low with QPSK_10M_1RB_High

Date: 2017-1-1

Electronics: DAE4 Sn1331

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 829$ MHz; $\sigma = 1.021$ mho/m; $\epsilon_r = 54.074$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

Communication System: LTE Band5 Frequency: 829 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7307 ConvF(9.83, 9.83, 9.83)

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

Maximum value of SAR (interpolated) = 0.747 W/kg

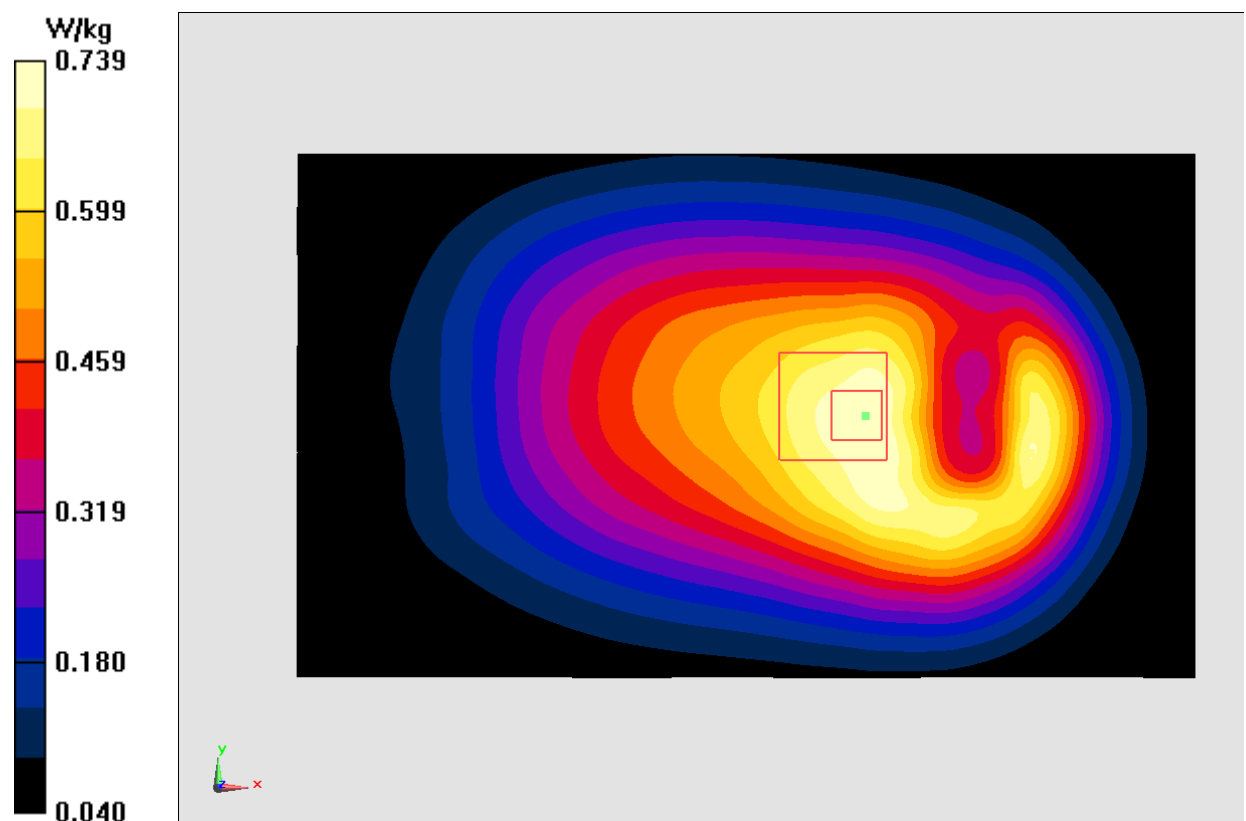
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 23.21 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.896 W/kg

SAR(1 g) = 0.663 W/kg; SAR(10 g) = 0.487 W/kg

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

**Fig.16 LTE Band5**

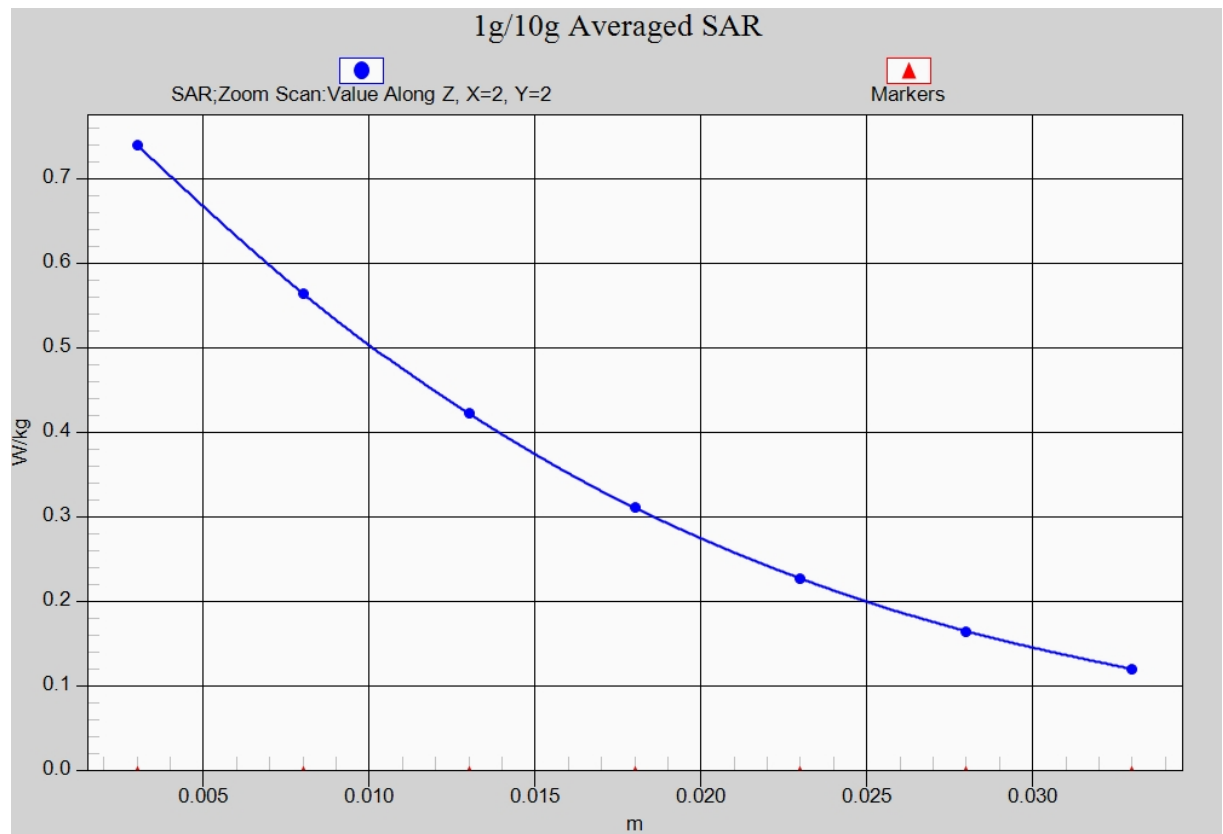


Fig. 16-1 Z-Scan at power reference point (LTE Band5)

LTE Band7 Right Cheek High with QPSK_20M_1RB_High

Date: 2017-1-4

Electronics: DAE4 Sn1331

Medium: Head2600 MHz

Medium parameters used: $f = 2560$ MHz; $\sigma = 1.962$ mho/m; $\epsilon_r = 38.66$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

Communication System: LTE Band7 Frequency: 2560 MHz Duty Cycle: 1:1

Probe: EX3DV4- SN7307 ConvF(7.21, 7.21, 7.21)

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: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 6.663 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.64 W/kg

SAR(1 g) = 0.861 W/kg; SAR(10 g) = 0.444 W/kg

Maximum value of SAR (measured) = 1.07 W/kg

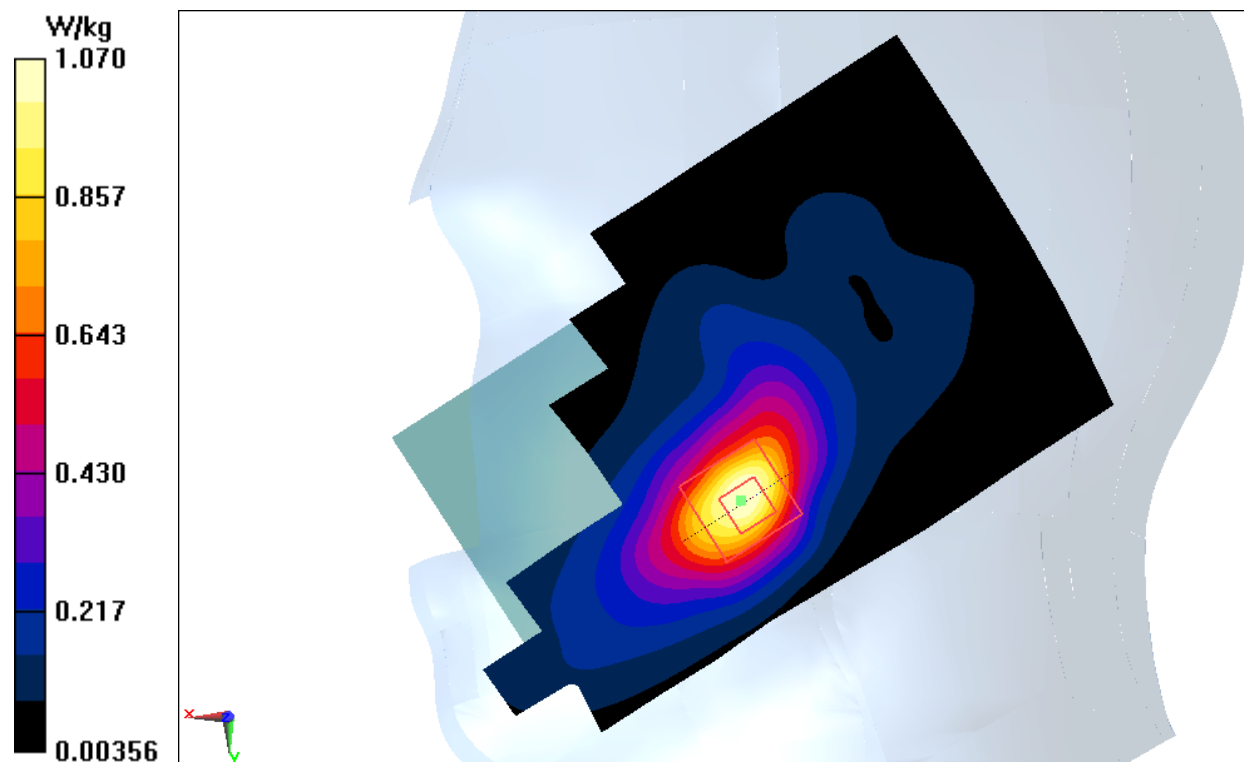


Fig.17 LTE Band7

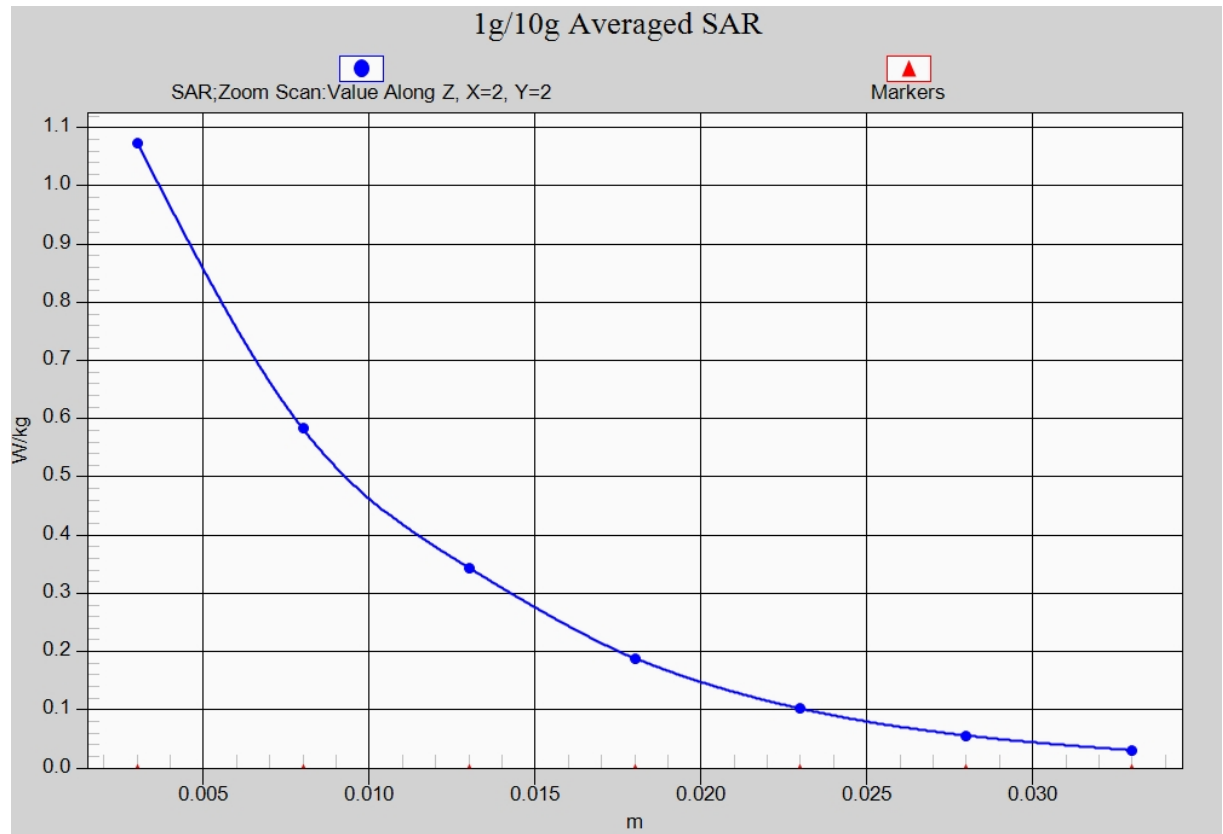


Fig. 17-1 Z-Scan at power reference point (LTE Band7)

LTE Band7 Body Bottom Middle with QPSK_20M_1RB_Low

Date: 2017-1-4

Electronics: DAE4 Sn1331

Medium: Body2600 MHz

Medium parameters used: $f = 2535$ MHz; $\sigma = 2.145$ mho/m; $\epsilon_r = 53.29$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

Communication System: LTE Band7 Frequency: 2535 MHz Duty Cycle: 1:1

Probe: EX3DV4- SN7307 ConvF(7.03, 7.03, 7.03)

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

Maximum value of SAR (interpolated) = 1.25 W/kg

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

Reference Value = 17.63 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.97 W/kg

SAR(1 g) = 0.950 W/kg; SAR(10 g) = 0.436 W/kg

Maximum value of SAR (measured) = 1.26 W/kg

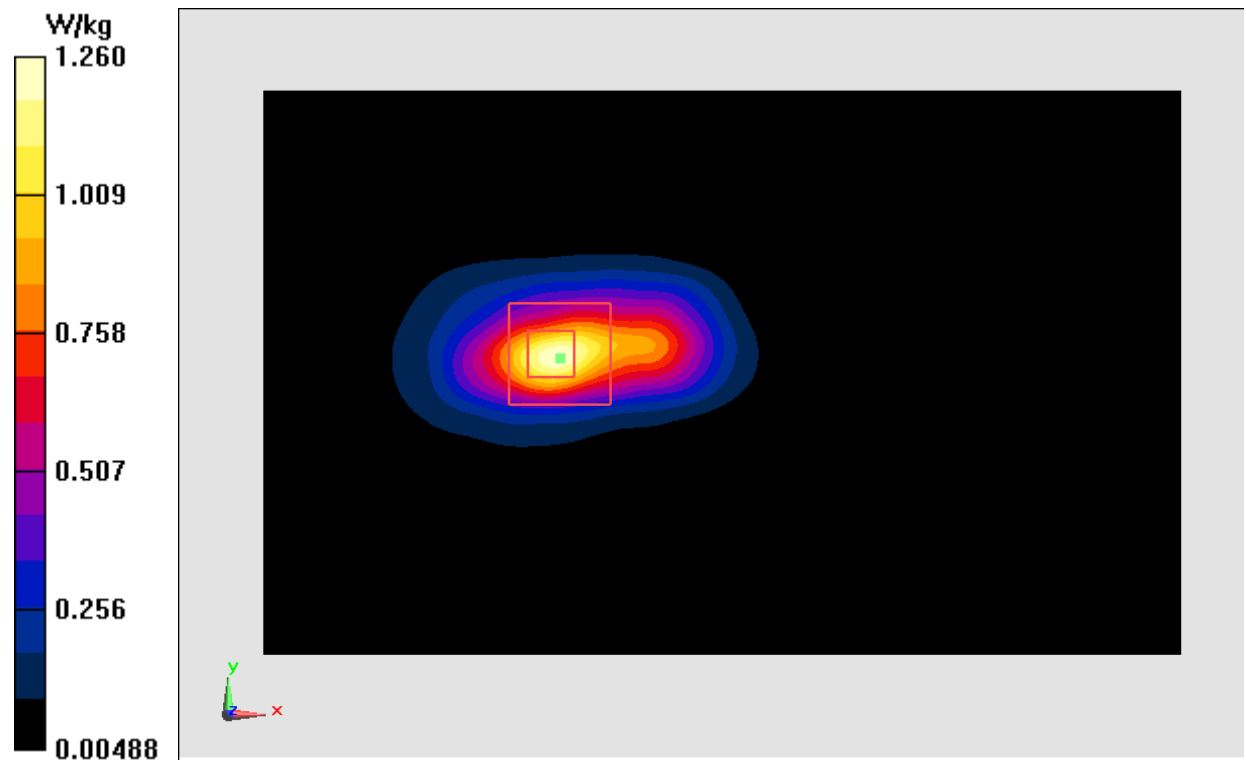


Fig.18 LTE Band7

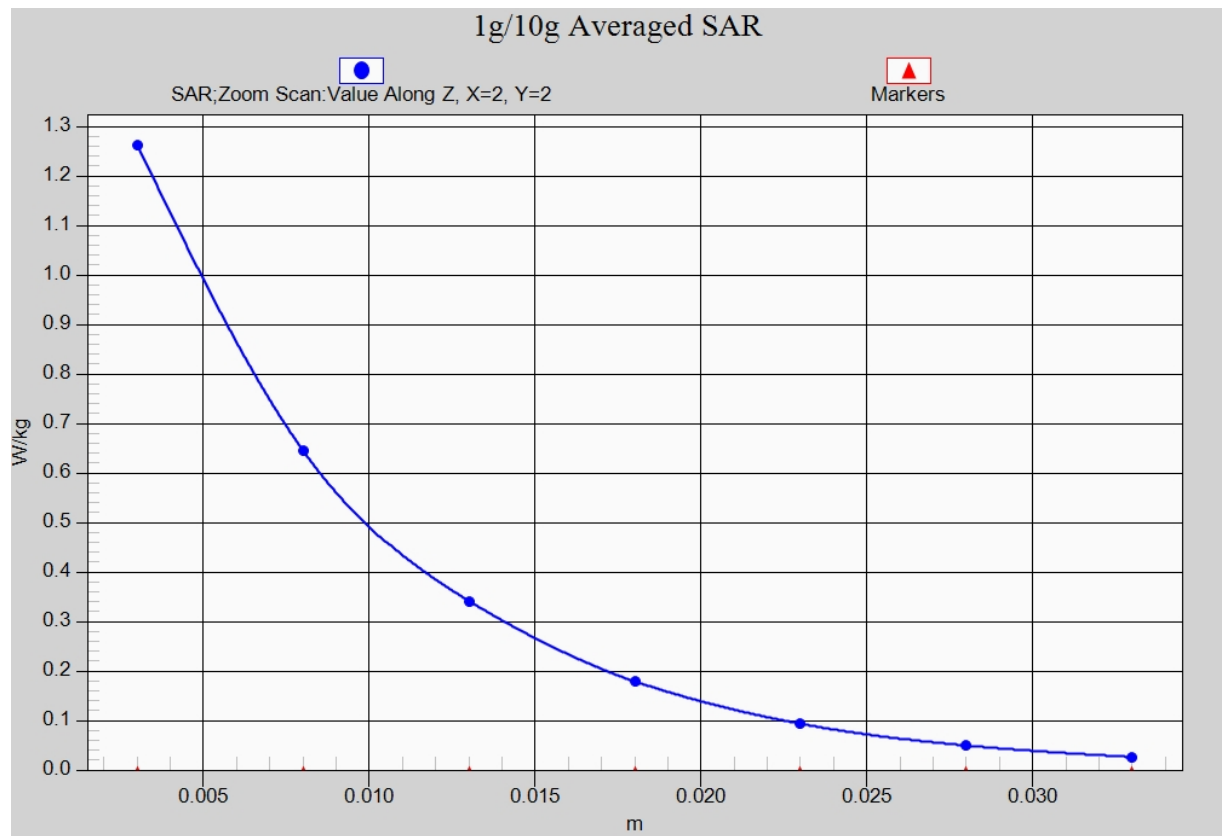


Fig. 18-1 Z-Scan at power reference point (LTE Band7)

LTE Band12 Left Cheek Low with QPSK_10M_1RB_Low

Date: 2016-12-30

Electronics: DAE4 Sn1331

Medium: Head750 MHz

Medium parameters used (interpolated): $f = 704$ MHz; $\sigma = 0.856$ mho/m; $\epsilon_r = 42.83$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

Communication System: LTE Band12 Frequency: 704 MHz Duty Cycle: 1:1

Probe: EX3DV4- SN7307 ConvF(10.47,10.47, 10.47)

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

Maximum value of SAR (interpolated) = 0.173 W/kg

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

Reference Value = 4.868 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.191 W/kg

SAR(1 g) = 0.160 W/kg; SAR(10 g) = 0.127 W/kg

Maximum value of SAR (measured) = 0.173 W/kg

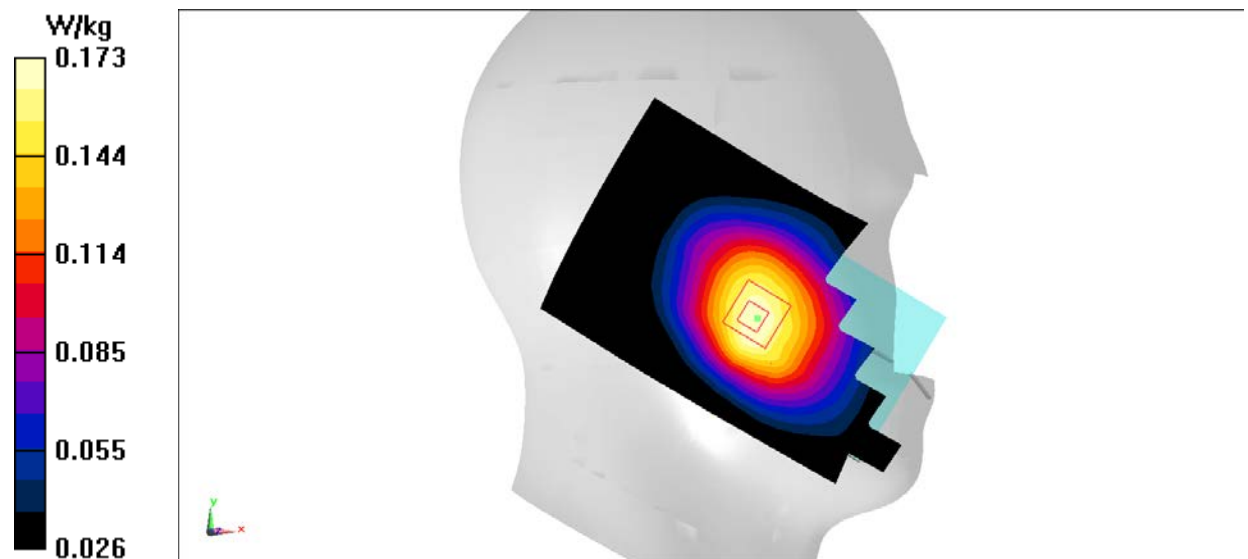


Fig.19 LTE Band12

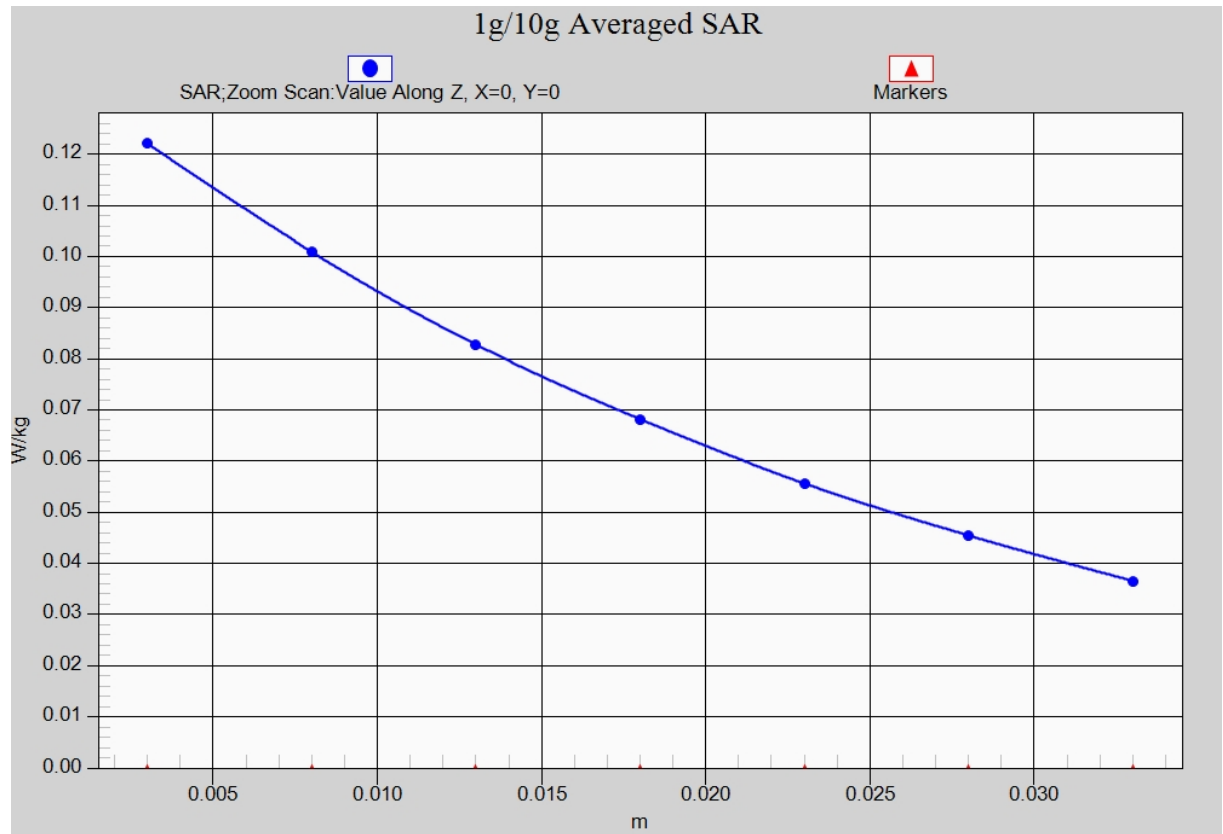


Fig. 19-1 Z-Scan at power reference point (LTE Band12)

LTE Band12 Body Rear Low with QPSK_10M_1RB_Low

Date: 2016-12-30

Electronics: DAE4 Sn1331

Medium: Body750 MHz

Medium parameters used (interpolated): $f = 704$ MHz; $\sigma = 0.929$ mho/m; $\epsilon_r = 54.43$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

Communication System: LTE Band12 Frequency: 704 MHz Duty Cycle: 1:1

Probe: EX3DV4– SN7307 ConvF(9.93, 9.93, 9.93)

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

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

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

Reference Value = 18.65 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.427 W/kg

SAR(1 g) = 0.329 W/kg; SAR(10 g) = 0.251 W/kg

Maximum value of SAR (measured) = 0.363 W/kg

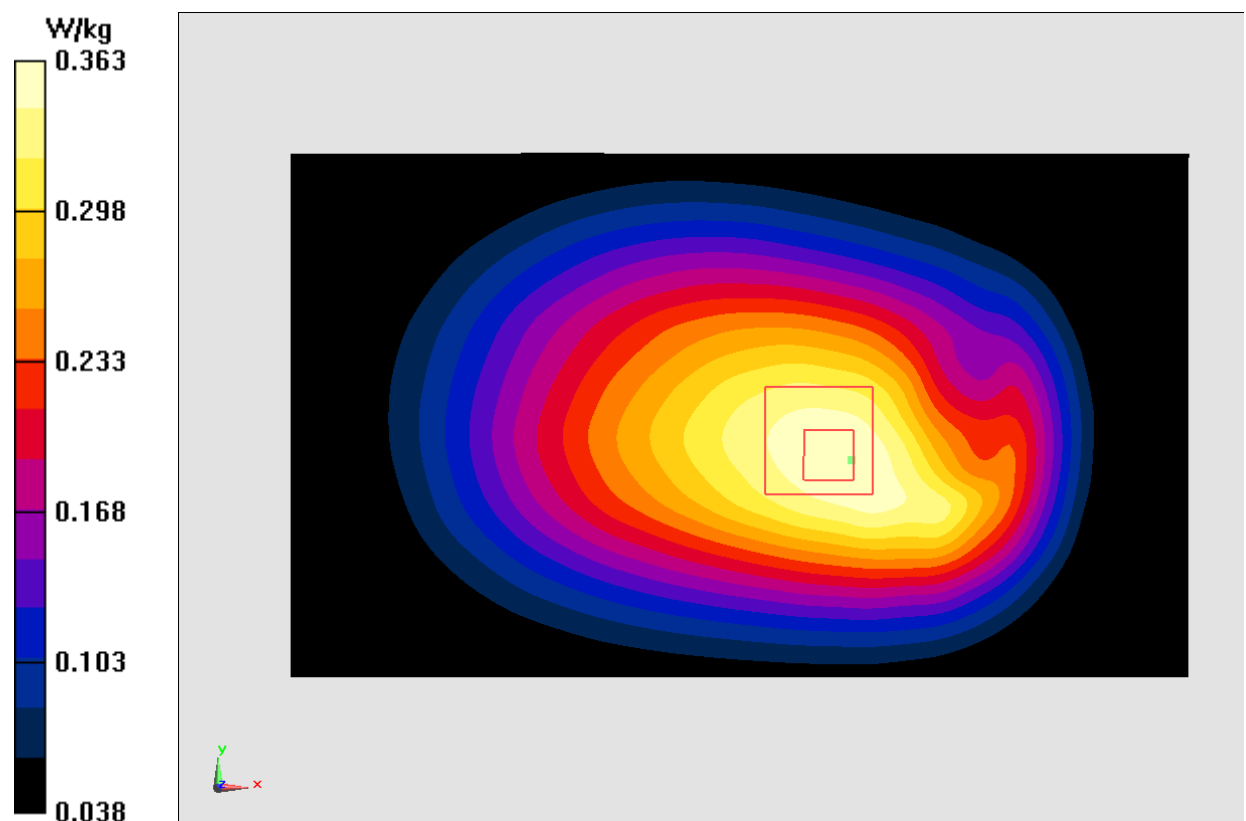


Fig.20 LTE Band12

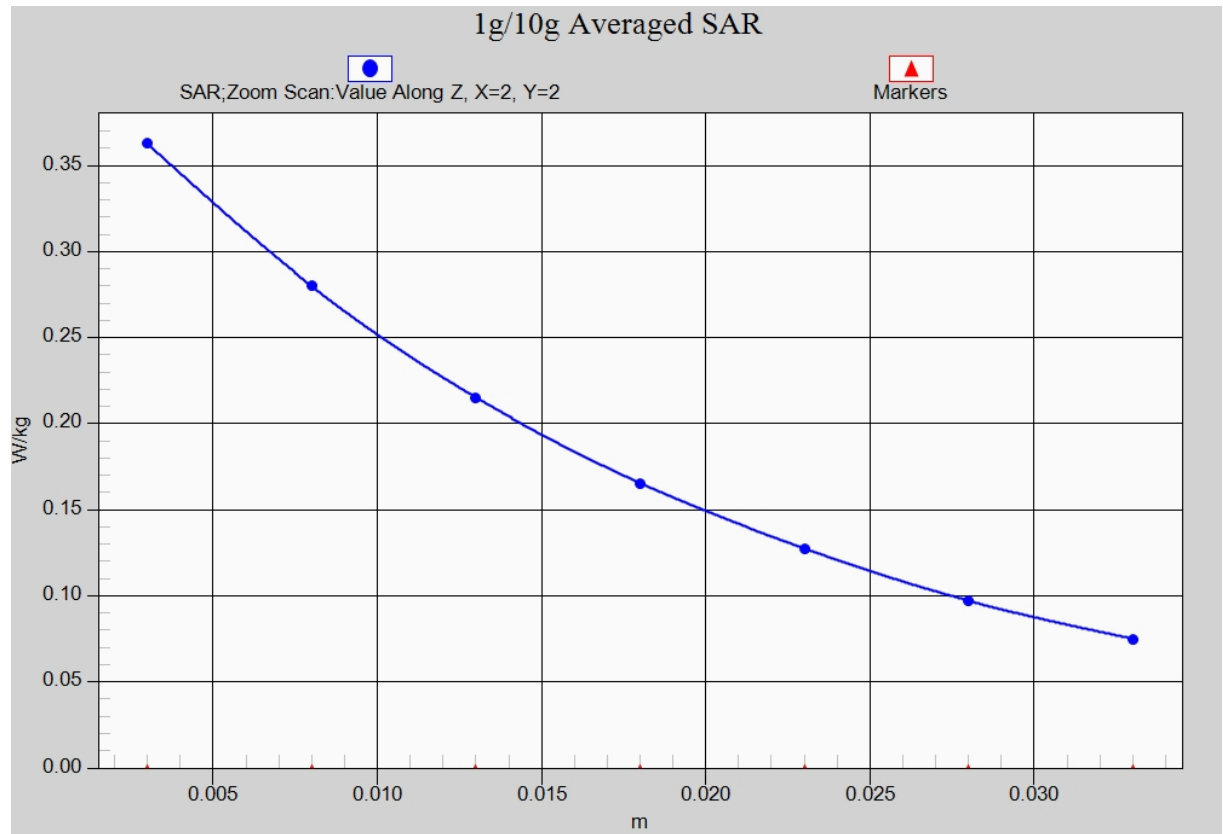


Fig. 20-1 Z-Scan at power reference point (LTE Band12)

LTE Band13 Left Cheek with QPSK_10M_1RB_Middle

Date: 2016-12-30

Electronics: DAE4 Sn1331

Medium: Head750 MHz

Medium parameters used (interpolated): $f = 782$ MHz; $\sigma = 0.899$ mho/m; $\epsilon_r = 42.77$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

Communication System: LTE Band13 Frequency: 782 MHz Duty Cycle: 1:1

Probe: EX3DV4- SN7307 ConvF(10.47, 10.47, 10.47)

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

Maximum value of SAR (interpolated) = 0.240 W/kg

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

Reference Value = 5.668 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.272 W/kg

SAR(1 g) = 0.217 W/kg; SAR(10 g) = 0.166 W/kg

Maximum value of SAR (measured) = 0.235 W/kg

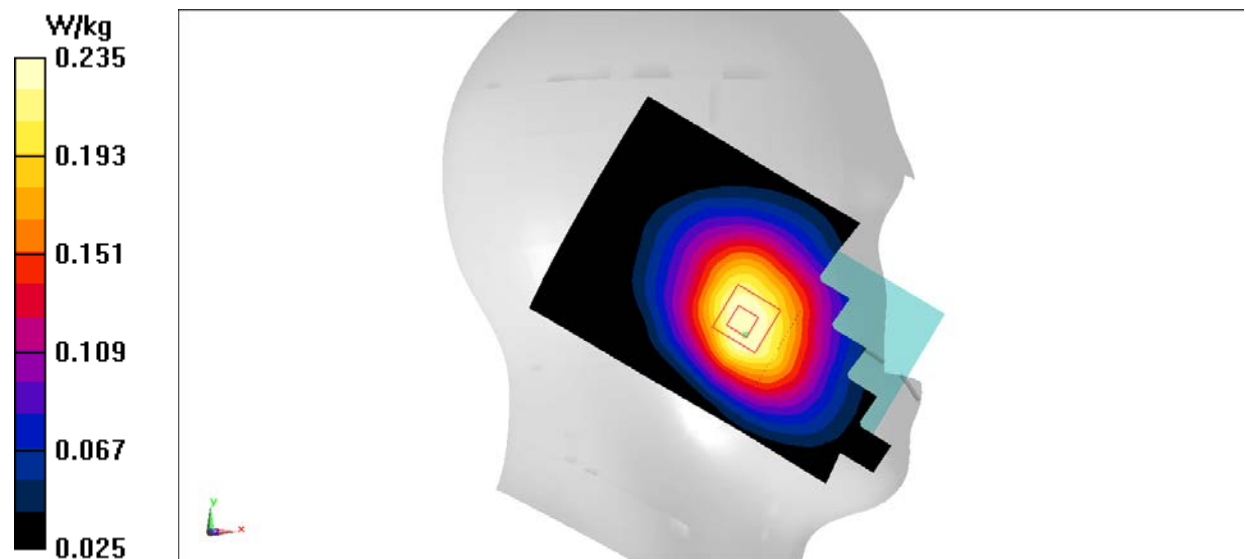


Fig.21 LTE Band13

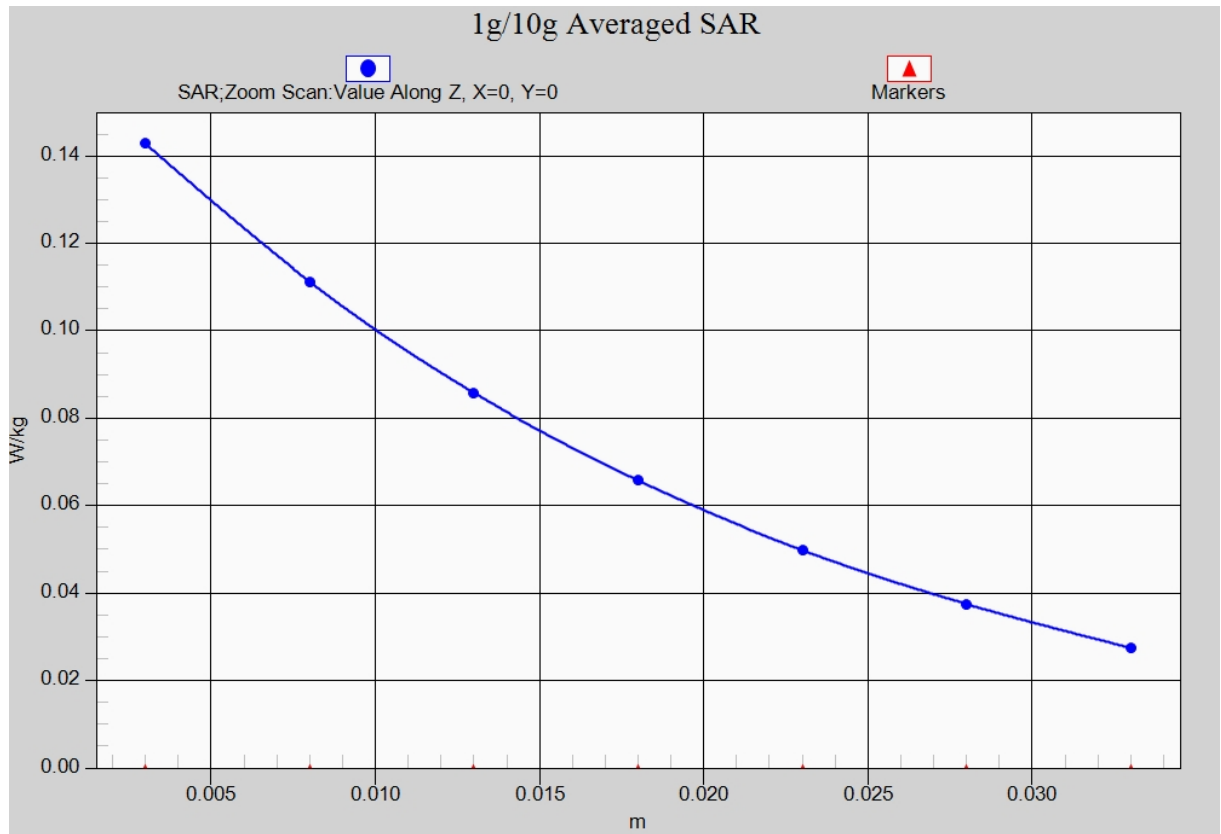


Fig. 21-1 Z-Scan at power reference point (LTE Band13)

LTE Band13 Body Rear with QPSK_10M_1RB_Middle

Date: 2016-12-30

Electronics: DAE4 Sn1331

Medium: Body750 MHz

Medium parameters used (interpolated): $f = 782$ MHz; $\sigma = 0.958$ mho/m; $\epsilon_r = 54.28$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 22.2°C

Communication System: LTE Band13 Frequency: 782 MHz Duty Cycle: 1:1

Probe: EX3DV4– SN7307 ConvF(9.93, 9.93, 9.93)

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

Maximum value of SAR (interpolated) = 0.566 W/kg

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

Reference Value = 23.84 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.629 W/kg

SAR(1 g) = 0.511 W/kg; SAR(10 g) = 0.400 W/kg

Maximum value of SAR (measured) = 0.552 W/kg

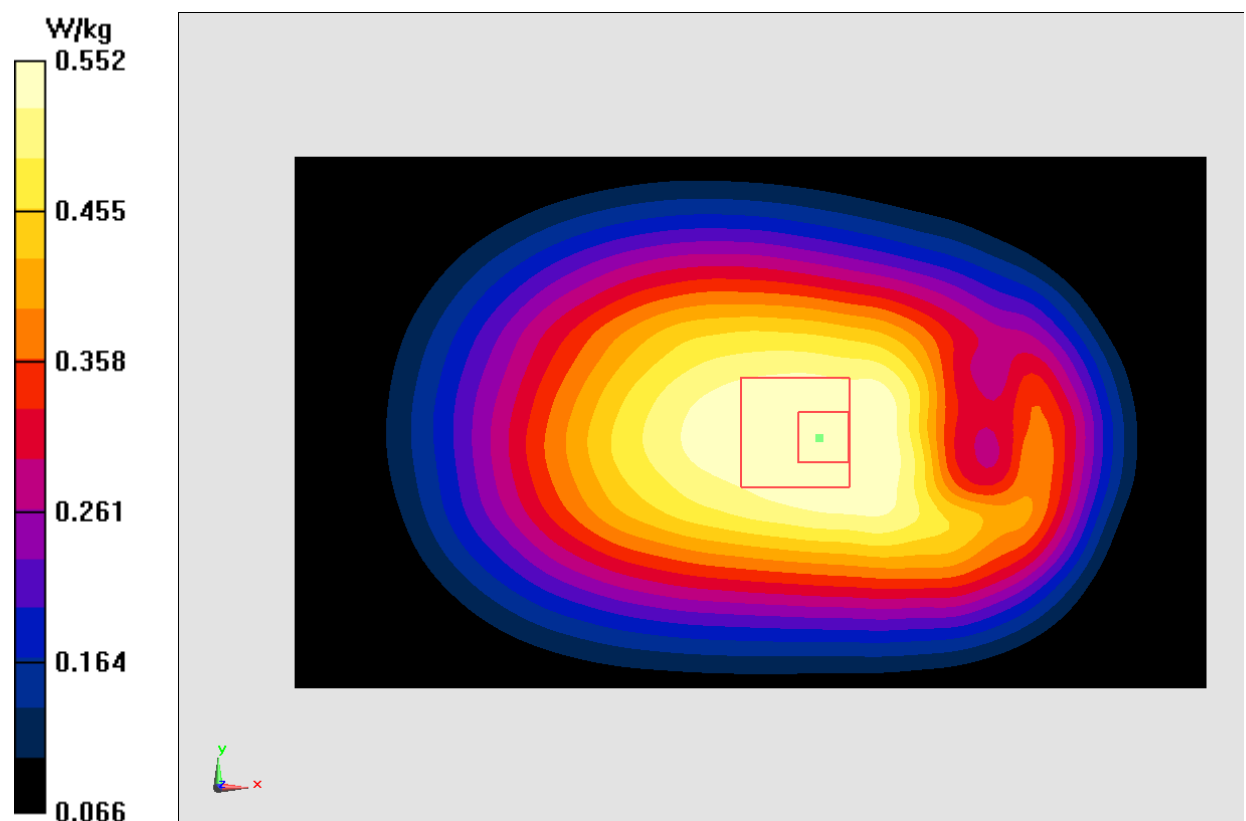


Fig.22 LTE Band13

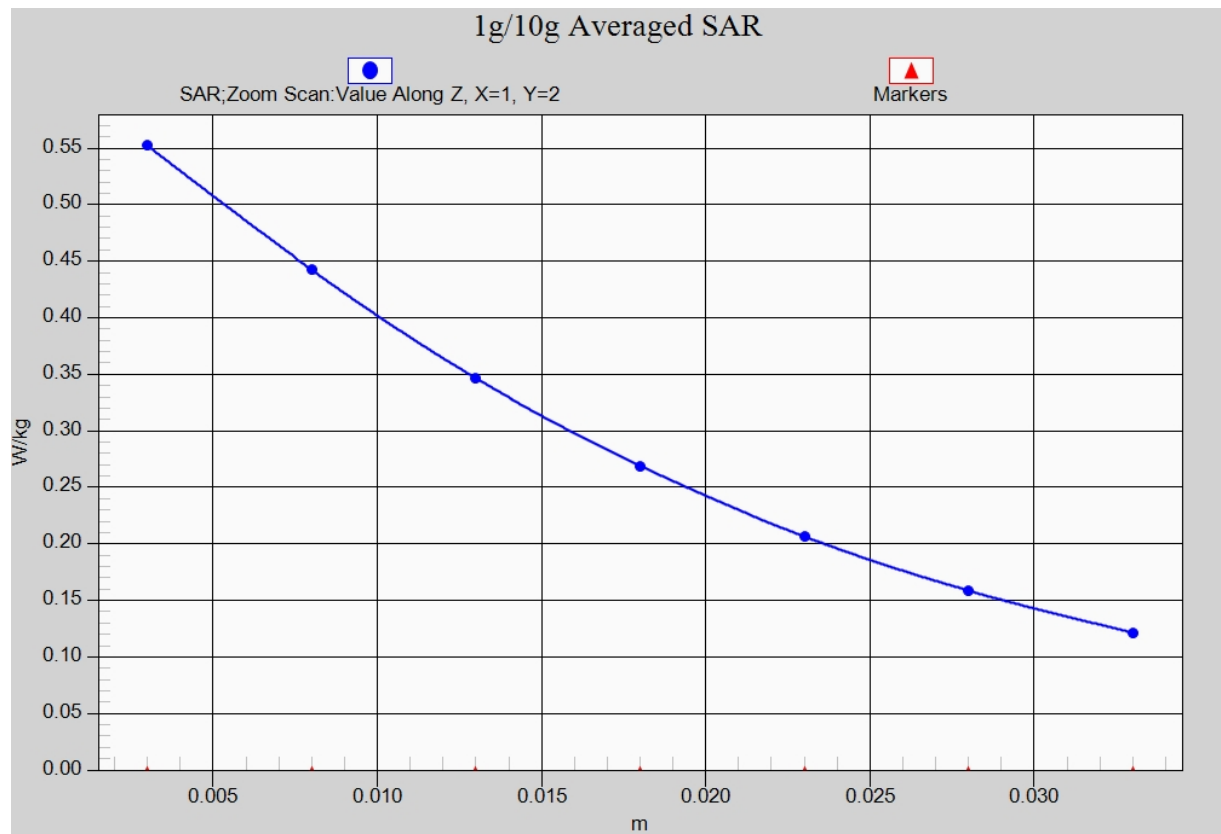


Fig. 22-1 Z-Scan at power reference point (LTE Band13)