

Table 14.6: SAR Values (GSM 1900 MHz Band - Head) – CAB1700001C1

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.											
		Ambient Temperature: 22.1 °C					Liquid Temperature: 21.6 °C					
1909.8	810	Left	Touch	/	29.50	30.5	0.086	0.11	0.135	0.17	0.04	
1880	661	Left	Touch	/	29.24	30.5	0.065	0.09	0.108	0.14	0.13	
1850.2	512	Left	Touch	/	29.21	30.5	0.058	0.08	0.095	0.13	0.06	
1909.8	810	Left	Tilt	/	29.50	30.5	0.043	0.05	0.080	0.10	0.19	
1880	661	Left	Tilt	/	29.24	30.5	0.033	0.04	0.062	0.08	0.10	
1850.2	512	Left	Tilt	/	29.21	30.5	0.035	0.05	0.064	0.09	0.16	
1909.8	810	Right	Touch	Fig.3	29.50	30.5	0.112	0.14	0.184	0.23	0.17	
1880	661	Right	Touch	/	29.24	30.5	0.084	0.11	0.145	0.19	0.15	
1850.2	512	Right	Touch	/	29.21	30.5	0.073	0.10	0.124	0.17	0.17	
1909.8	810	Right	Tilt	/	29.50	30.5	0.046	0.06	0.091	0.11	-0.11	
1880	661	Right	Tilt	/	29.24	30.5	0.035	0.05	0.068	0.09	-0.12	
1850.2	512	Right	Tilt	/	29.21	30.5	0.030	0.04	0.065	0.09	0.13	

Table 14.7: SAR Values (GSM 1900 MHz Band - Body) – CAB1700001C1

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.											
		Ambient Temperature: 22.1 °C					Liquid Temperature: 21.6 °C					
1880	661	GPRS (2)	Front	/	27.00	28	0.291	0.37	0.485	0.61	-0.01	
1909.8	810	GPRS (2)	Rear	Fig.4	27.24	28	0.413	0.49	0.670	0.80	0.02	
1880	661	GPRS (2)	Rear	/	27.00	28	0.393	0.49	0.639	0.80	-0.05	
1850.2	512	GPRS (2)	Rear	/	26.94	28	0.387	0.49	0.623	0.80	0.05	
1880	661	GPRS (2)	Left	/	27.00	28	0.074	0.09	0.132	0.17	-0.10	
1880	661	GPRS (2)	Bottom	/	27.00	28	0.223	0.28	0.401	0.50	-0.13	
1909.8	810	EGPRS (2)	Rear	/	27.24	28	0.413	0.49	0.662	0.79	0.01	
1909.8	810	Speech	Rear Headset1	/	29.50	30.5	0.347	0.44	0.573	0.72	-0.01	
1909.8	810	Speech	Rear Headset2	/	29.50	30.5	0.345	0.43	0.578	0.73	-0.01	

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

Note2: The Headset1 is CCB3160A15C1, the Headset2 is CCB3160A15C4.

Table 14.8: SAR Values (WCDMA 850 MHz Band - Head) – CAB1700001C1

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.										
Ambient Temperature: 22.1 °C Liquid Temperature: 21.6 °C											
846.6	4233	Left	Touch	Fig.5	23.16	24	0.339	0.41	0.459	0.56	0.07
836.4	4182	Left	Touch	/	23.15	24	0.210	0.26	0.308	0.37	0.10
826.4	4132	Left	Touch	/	22.95	24	0.189	0.24	0.276	0.35	0.05
846.6	4233	Left	Tilt	/	23.16	24	0.196	0.24	0.283	0.34	-0.03
836.4	4182	Left	Tilt	/	23.15	24	0.163	0.20	0.235	0.29	-0.00
826.4	4132	Left	Tilt	/	22.95	24	0.140	0.18	0.201	0.26	0.09
846.6	4233	Right	Touch	/	23.16	24	0.269	0.33	0.358	0.43	0.14
836.4	4182	Right	Touch	/	23.15	24	0.184	0.22	0.269	0.33	0.06
826.4	4132	Right	Touch	/	22.95	24	0.162	0.21	0.237	0.30	0.12
846.6	4233	Right	Tilt	/	23.16	24	0.176	0.21	0.254	0.31	0.01
836.4	4182	Right	Tilt	/	23.15	24	0.152	0.18	0.219	0.27	0.03
826.4	4132	Right	Tilt	/	22.95	24	0.136	0.17	0.196	0.25	0.06

Table 14.9: SAR Values (WCDMA 850 MHz Band - Body) – CAB1700001C1

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.									
Ambient Temperature: 22.1 °C Liquid Temperature: 21.6 °C										
836.4	4182	Front	/	23.15	24	0.354	0.43	0.504	0.61	-0.08
846.6	4233	Rear	Fig.6	23.16	24	0.482	0.58	0.622	0.75	-0.07
836.4	4182	Rear	/	23.15	24	0.422	0.51	0.603	0.73	0.06
826.4	4132	Rear	/	22.95	24	0.327	0.42	0.465	0.59	-0.02
836.4	4182	Left	/	23.15	24	0.401	0.49	0.572	0.70	-0.13
836.4	4182	Bottom	/	23.15	24	0.154	0.19	0.260	0.32	0.04
846.6	4233	Rear Headset1	/	23.16	24	0.298	0.36	0.425	0.52	-0.05
846.6	4233	Rear Headset2	/	23.16	24	0.265	0.32	0.377	0.46	-0.09

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

Note2: The Headset1 is CCB3160A15C1, the Headset2 is CCB3160A15C4.

Table 14.10: SAR Values (WCDMA 1900 MHz Band - Head) – CAB1700001C1

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.											
		Ambient Temperature: 22.1 °C						Liquid Temperature: 21.6 °C				
1907.6	9538	Left	Touch	/	22.85	23.3	0.174	0.19	0.271	0.30	-0.17	
1880	9400	Left	Touch	/	23.05	23.3	0.141	0.15	0.233	0.25	0.10	
1852.4	9262	Left	Touch	/	22.94	23.3	0.115	0.12	0.190	0.21	0.19	
1907.6	9538	Left	Tilt	/	22.85	23.3	0.117	0.13	0.220	0.24	-0.00	
1880	9400	Left	Tilt	/	23.05	23.3	0.109	0.12	0.204	0.22	0.07	
1852.4	9262	Left	Tilt	/	22.94	23.3	0.088	0.10	0.165	0.18	-0.04	
1907.6	9538	Right	Touch	/	22.85	23.3	0.207	0.23	0.357	0.40	0.11	
1880	9400	Right	Touch	Fig.7	23.05	23.3	0.273	0.29	0.447	0.47	0.13	
1852.4	9262	Right	Touch	/	22.94	23.3	0.195	0.21	0.336	0.37	0.12	
1907.6	9538	Right	Tilt	/	22.85	23.3	0.095	0.11	0.179	0.20	0.05	
1880	9400	Right	Tilt	/	23.05	23.3	0.094	0.10	0.177	0.19	-0.06	
1852.4	9262	Right	Tilt	/	22.94	23.3	0.081	0.09	0.150	0.16	0.05	

Table 14.11: SAR Values (WCDMA 1900 MHz Band - Body) – CAB1700001C1

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.										
		Ambient Temperature: 22.1 °C						Liquid Temperature: 21.6 °C			
1880	9400	Front	/	23.05	23.3	0.460	0.49	0.779	0.83	-0.02	
1907.6	9538	Rear	Fig.8	22.85	23.3	0.618	0.69	1	1.11	0.05	
1880	9400	Rear	/	23.05	23.3	0.610	0.65	0.990	1.05	0.04	
1852.4	9262	Rear	/	22.94	23.3	0.540	0.59	0.870	0.95	0.06	
1880	9400	Left	/	23.05	23.3	0.148	0.16	0.280	0.30	-0.12	
1880	9400	Bottom	/	23.05	23.3	0.392	0.42	0.711	0.75	-0.18	
1907.6	9538	Rear Headset1	/	22.85	23.3	0.376	0.42	0.626	0.69	0.16	
1907.6	9538	Rear Headset2	/	22.85	23.3	0.353	0.39	0.598	0.66	0.09	

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

Note2: The Headset1 is CCB3160A15C1, the Headset2 is CCB3160A15C4.

Table 14.12: SAR Values (Wi-Fi 802.11b - Head) – CAB1700001C1

Ambient Temperature: 22.3 °C Liquid Temperature: 21.8 °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.										
2462	11	Left	Touch	Fig.9	17.92	18	0.432	0.44	0.960	0.98	-0.01
2437	6	Left	Touch	/	17.55	18	0.403	0.45	0.859	0.95	-0.19
2412	1	Left	Touch	/	16.44	18	0.321	0.46	0.687	0.98	-0.02
2462	11	Left	Tilt	/	17.92	18	0.296	0.30	0.613	0.62	-0.05
2462	11	Right	Touch	/	17.92	18	0.292	0.30	0.520	0.53	-0.19
2462	11	Right	Tilt	/	17.92	18	0.320	0.33	0.650	0.66	0.03

Table 14.13: SAR Values (Wi-Fi 802.11b - Body) – CAB1700001C1

Ambient Temperature: 22.3 °C Liquid Temperature: 21.8 °C											
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)	
MHz	Ch.										
2462	11	Front	/	17.92	18	0.190	0.19	0.330	0.34	-0.19	
2462	11	Rear	/	17.92	18	0.137	0.14	0.291	0.30	0.05	
2462	11	Right	/	17.92	18	0.111	0.11	0.220	0.22	0.03	
2462	11	Top	Fig.10	17.92	18	0.205	0.21	0.381	0.39	0.06	

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

Table 14.14: SAR Values (Wi-Fi 802.11b - Head) – CAB1700003C2

Ambient Temperature: 22.3 °C Liquid Temperature: 21.8 °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.										
2462	11	Left	Touch	/	17.92	18	0.393	0.40	0.943	0.96	0.10

Table 14.15: SAR Values (WCDMA 1900 MHz Band - Body) – CAB1700003C2

Ambient Temperature: 22.1 °C Liquid Temperature: 21.6 °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	Rear	/	22.85	23.3	0.611	0.68	0.991	1.10	-0.08	

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

14.2 SAR results for Standard procedure

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

Table 14.16: SAR Values (GSM 850 MHz Band - Head) – CAB1700001C1

Ambient Temperature: 22.1 °C Liquid Temperature: 21.6 °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.										
824.2	128	Left	Touch	Fig.1	33.04	33.5	0.254	0.28	0.338	0.38	0.03

Table 14.17: SAR Values (GSM 850 MHz Band - Body) – CAB1700001C1

Ambient Temperature: 22.1 °C Liquid Temperature: 21.6 °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.										
848.8	251	GPRS (2)	Rear	Fig.2	30.69	31.5	0.519	0.63	0.668	0.80	0.03

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

Table 14.18: SAR Values (GSM 1900 MHz Band - Head) – CAB1700001C1

Ambient Temperature: 22.1 °C Liquid Temperature: 21.6 °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.										
1909.8	810	Right	Touch	Fig.3	29.50	30.5	0.112	0.14	0.184	0.23	0.17

Table 14.19: SAR Values (GSM 1900 MHz Band - Body) – CAB1700001C1

Ambient Temperature: 22.1 °C Liquid Temperature: 21.6 °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 (2)	Rear	Fig.4	27.24	28	0.413	0.49	0.670	0.80	0.02

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

Table 14.20: SAR Values (WCDMA 850 MHz Band - Head) – CAB1700001C1

Ambient Temperature: 22.1 °C Liquid Temperature: 21.6 °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	Left	Touch	Fig.5	23.16	24	0.339	0.41	0.459	0.56	0.07

Table 14.21: SAR Values (WCDMA 850 MHz Band - Body) – CAB1700001C1

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.										
		Ambient Temperature: 22.1 °C				Liquid Temperature: 21.6 °C					
846.6	4233	Rear	Fig.6	23.16	24	0.482	0.58	0.622	0.75	-0.07	

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

Table 14.22: SAR Values (WCDMA 1900 MHz Band - Head) – CAB1700001C1

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.										
		Ambient Temperature: 22.1 °C				Liquid Temperature: 21.6 °C					
1880	9400	Right	Touch	Fig.7	23.05	23.3	0.273	0.29	0.447	0.47	0.13

Table 14.23: SAR Values (WCDMA 1900 MHz Band - Body) – CAB1700001C1

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.										
		Ambient Temperature: 22.1 °C				Liquid Temperature: 21.6 °C					
1907.6	9538	Rear	Fig.8	22.85	23.3	0.618	0.69	1	1.11	0.05	

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

Table 14.24: SAR Values (Wi-Fi 802.11b - Head) – CAB1700001C1

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.										
		Ambient Temperature: 22.3 °C				Liquid Temperature: 21.8 °C					
2462	11	Left	Touch	Fig.9	17.92	18	0.432	0.44	0.960	0.98	-0.01

Table 14.25: SAR Values (Wi-Fi 802.11b - Body) – CAB1700001C1

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.										
		Ambient Temperature: 22.3 °C				Liquid Temperature: 21.8 °C					
2462	11	Top	Fig.10	17.92	18	0.205	0.21	0.381	0.39	0.06	

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

15 SAR Measurement Variability

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

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

- 1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; 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 WCDMA 1900 (1g)

Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
1907.6	9538	Rear	10	1	0.995	1.01	/

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

Frequency		Side	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
2462	11	Left	Touch	0.960	0.949	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	A	3.3	N	1	1	1	3.3	3.3	71

	positioning									
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 15, 2014	One year
02	Power meter	NRVD	102083	September 11, 2013	One year
03	Power sensor	NRV-Z5	100542		
04	Signal Generator	E4438C	MY49070393	November 08, 2013	One Year
05	Amplifier	60S1G4	0331848	No Calibration Requested	
06	BTS	E5515C	MY50263375	January 30, 2014	One year
07	E-field Probe	SPEAG EX3DV4	3846	September 03, 2013	One year
08	DAE	SPEAG DAE4	771	November 12, 2013	One year
09	Dipole Validation Kit	SPEAG D835V2	443	August 29, 2013	One year
10	Dipole Validation Kit	SPEAG D1900V2	5d101	July 09, 2013	One year
11	Dipole Validation Kit	SPEAG D2450V2	853	July 08, 2013	One year

END OF REPORT BODY

ANNEX A Graph Results

850 Left Cheek Low

Date: 2014-2-15

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used: $f = 825$ MHz; $\sigma = 0.878$ S/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.1°C Liquid Temperature: 21.6°C

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

Probe: EX3DV4 - SN3846 ConvF(8.92, 8.92, 8.92)

Cheek Low/Area Scan (61x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.362 W/kg

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

Reference Value = 8.340 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.422 W/kg

SAR(1 g) = 0.338 W/kg; SAR(10 g) = 0.254 W/kg

Maximum value of SAR (measured) = 0.359 W/kg

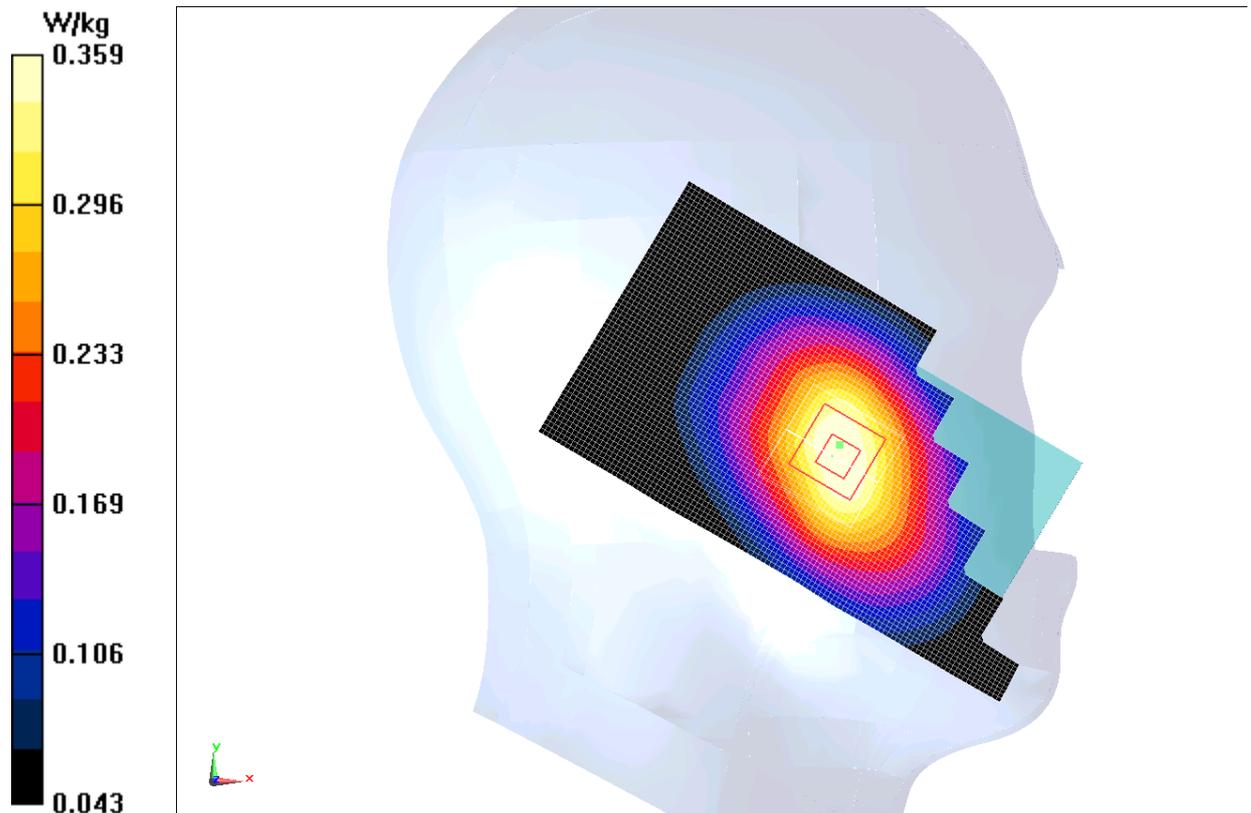


Fig.1 850MHz CH128

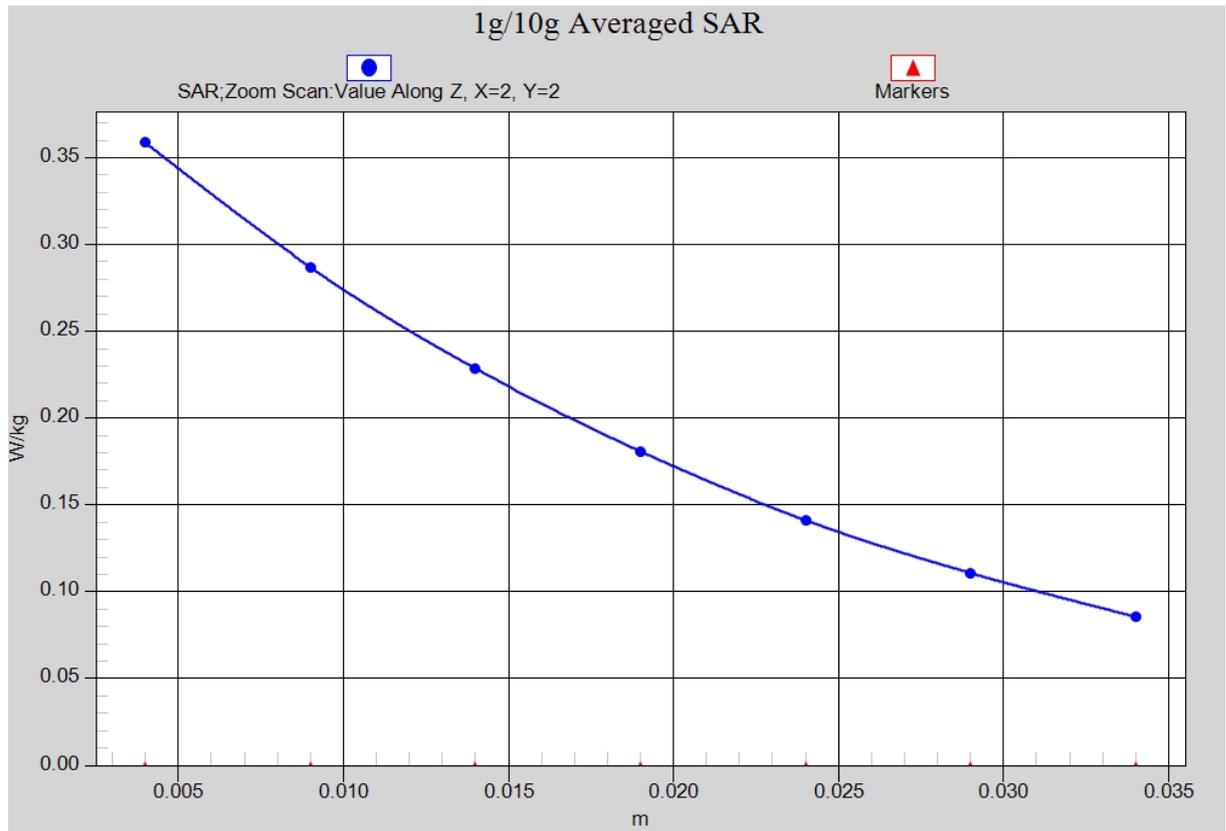


Fig. 1-1 Z-Scan at power reference point (850 MHz CH128)

850 Body Rear High

Date: 2014-2-15

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.971$ S/m; $\epsilon_r = 54.159$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.1°C Liquid Temperature: 21.6°C

Communication System: GSM 850 EGPRS Frequency: 848.8 MHz Duty Cycle: 1:4

Probe: EX3DV4 - SN3846 ConvF(8.73, 8.73, 8.73)

Rear High/Area Scan (61x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.706 W/kg

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

Reference Value = 24.068 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.819 W/kg

SAR(1 g) = 0.668 W/kg; SAR(10 g) = 0.519 W/kg

Maximum value of SAR (measured) = 0.715 W/kg

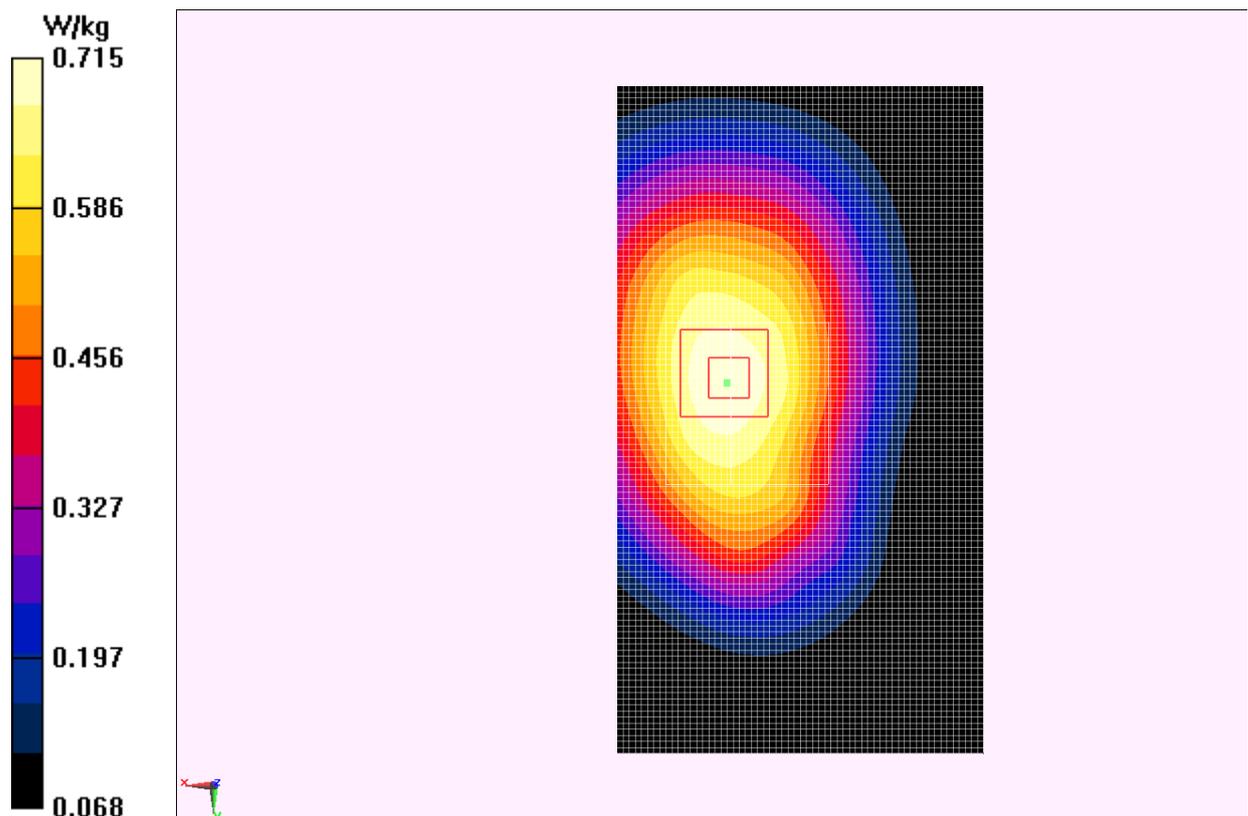


Fig.2 850 MHz CH251

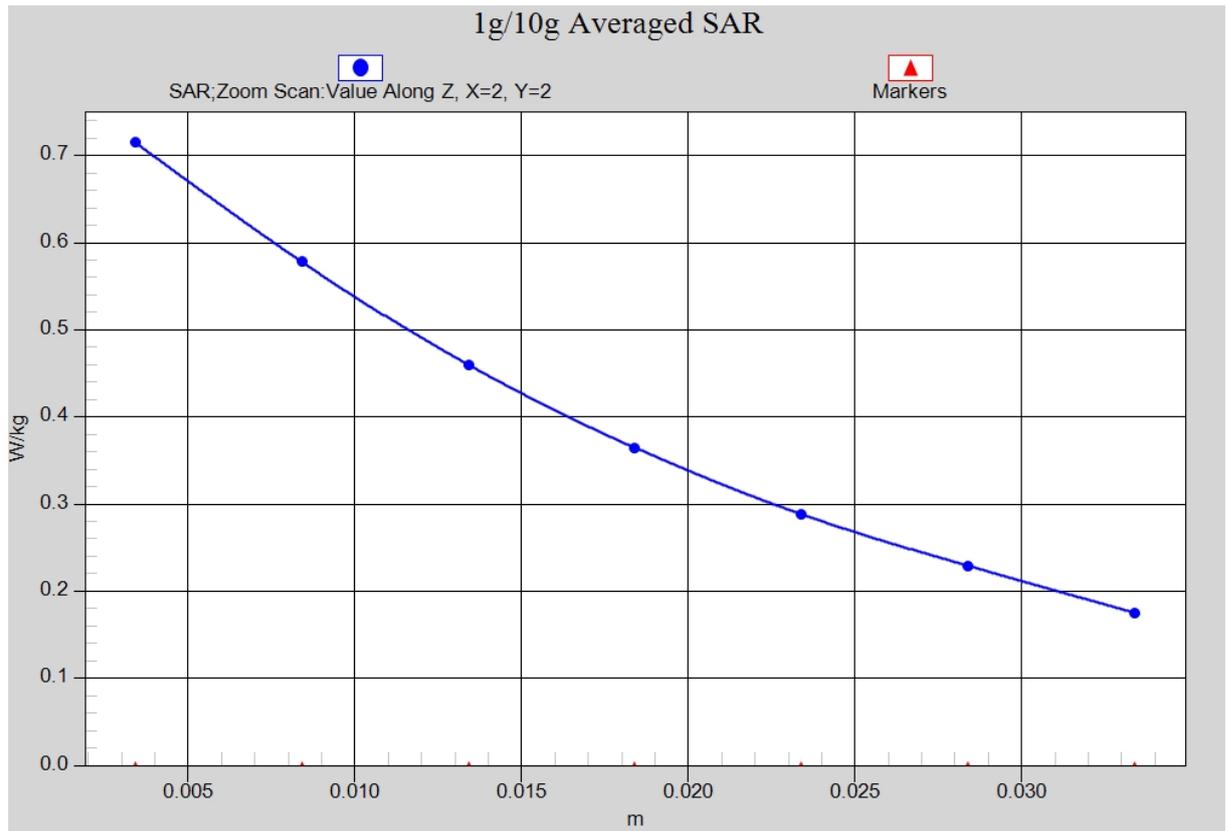


Fig. 2-1 Z-Scan at power reference point (850 MHz CH251)

GSM1900 Right Cheek High

Date: 2014-2-16

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.439$ S/m; $\epsilon_r = 39.424$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.1°C Liquid Temperature: 21.6°C

Communication System: GSM 1900MHz Frequency: 1909.8 MHz Duty Cycle: 1:8.3

Probe: EX3DV4 - SN3846 ConvF(7.57, 7.57, 7.57)

Cheek High/Area Scan (61x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.237 W/kg

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

Reference Value = 5.493 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.276 W/kg

SAR(1 g) = 0.184 W/kg; SAR(10 g) = 0.112 W/kg

Maximum value of SAR (measured) = 0.229 W/kg

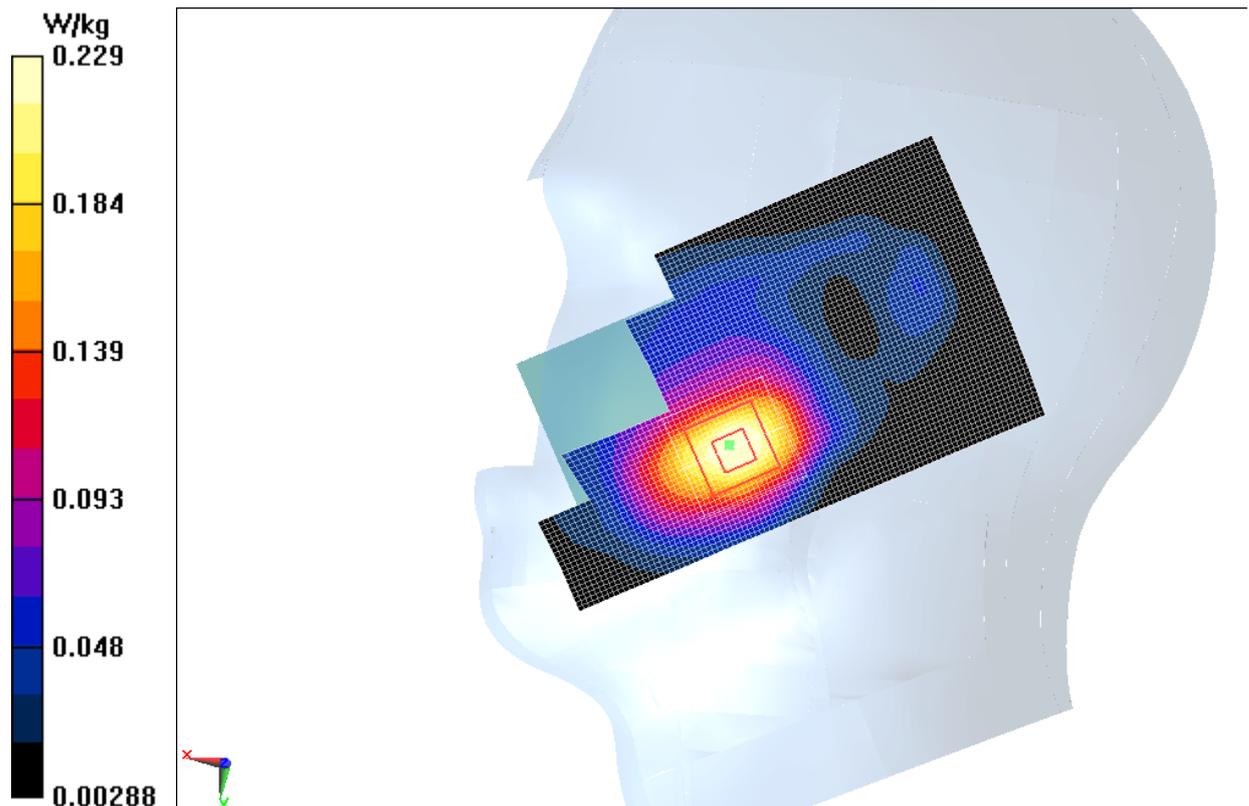


Fig.3 1900 MHz CH810

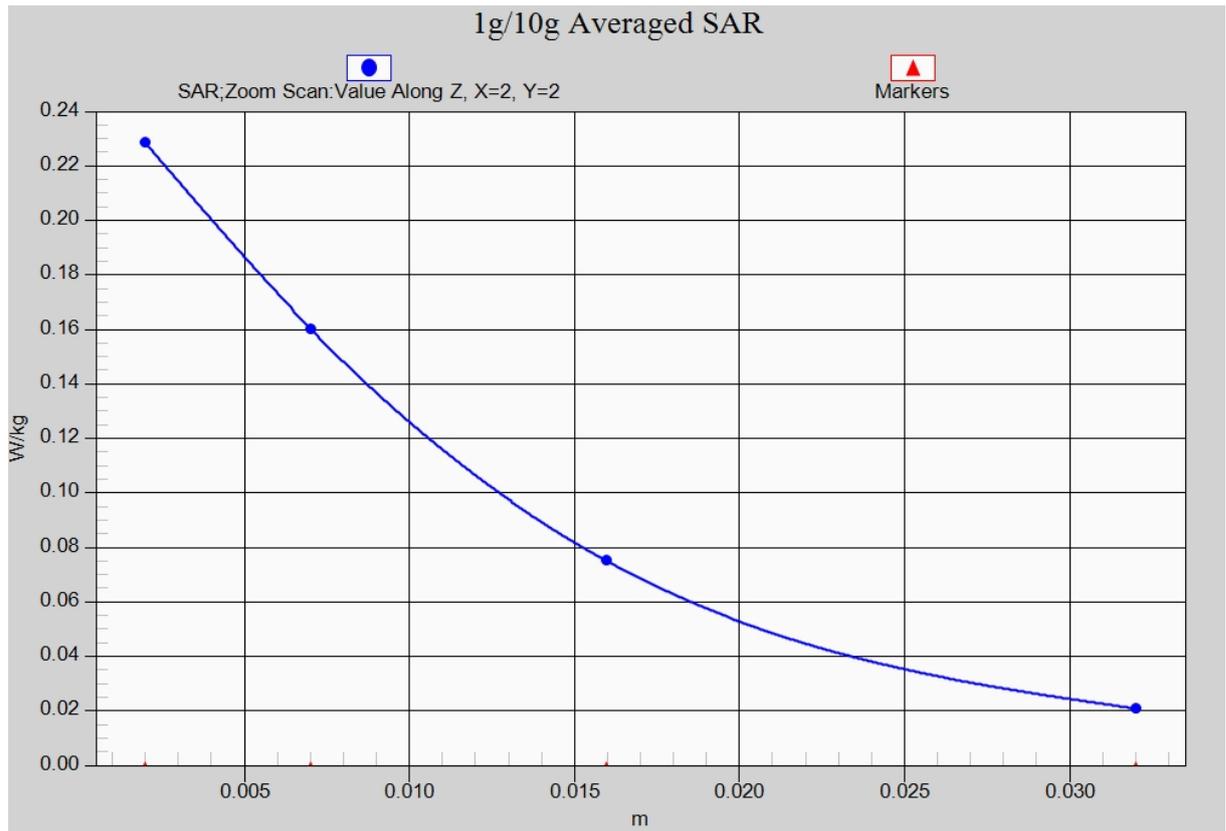


Fig. 3-1 Z-Scan at power reference point (1900 MHz CH810)

GSM1900 Body Rear High

Date: 2014-2-16

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.551$ S/m; $\epsilon_r = 53.847$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.1°C Liquid Temperature: 21.6°C

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

Probe: EX3DV4 - SN3846 ConvF(7.03, 7.03, 7.03)

Rear High/Area Scan (61x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.730 W/kg

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

Reference Value = 15.512 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.670 W/kg; SAR(10 g) = 0.413 W/kg

Maximum value of SAR (measured) = 0.756 W/kg

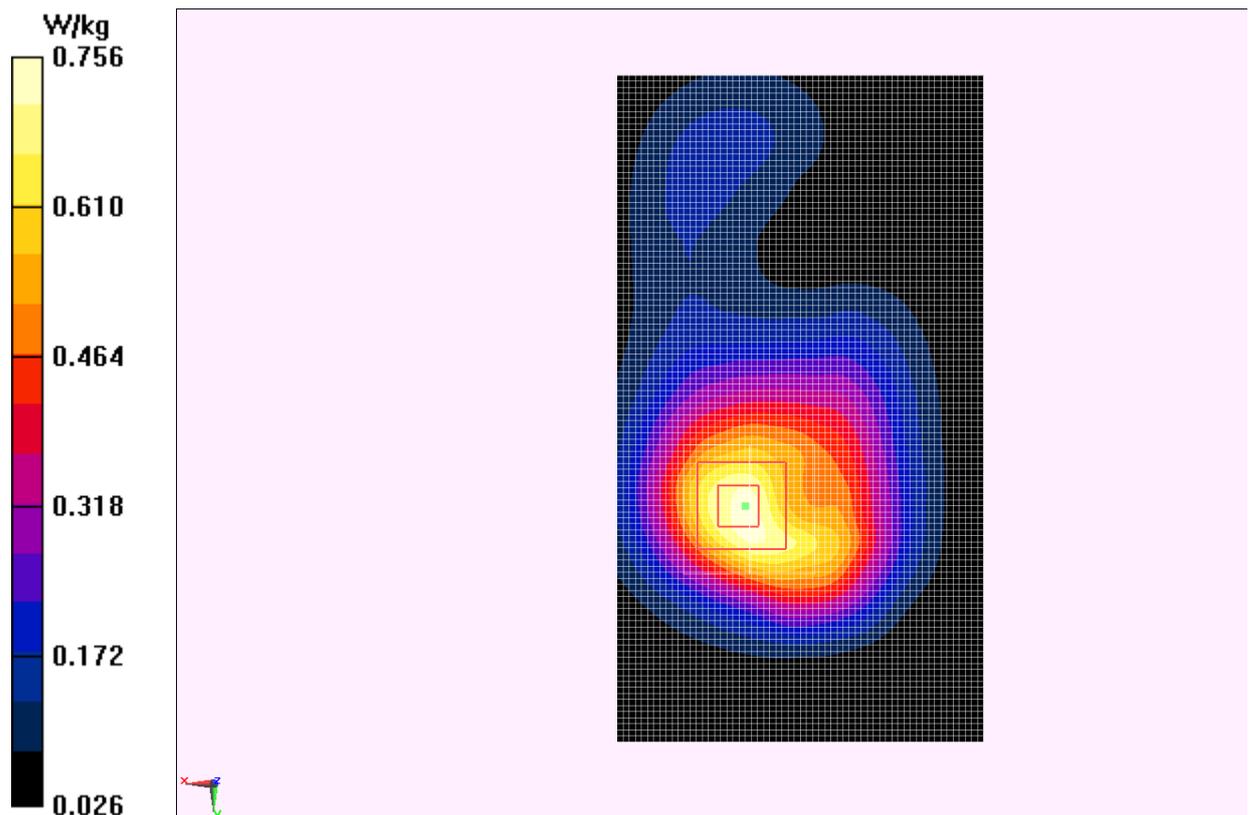


Fig.4 1900 MHz CH810

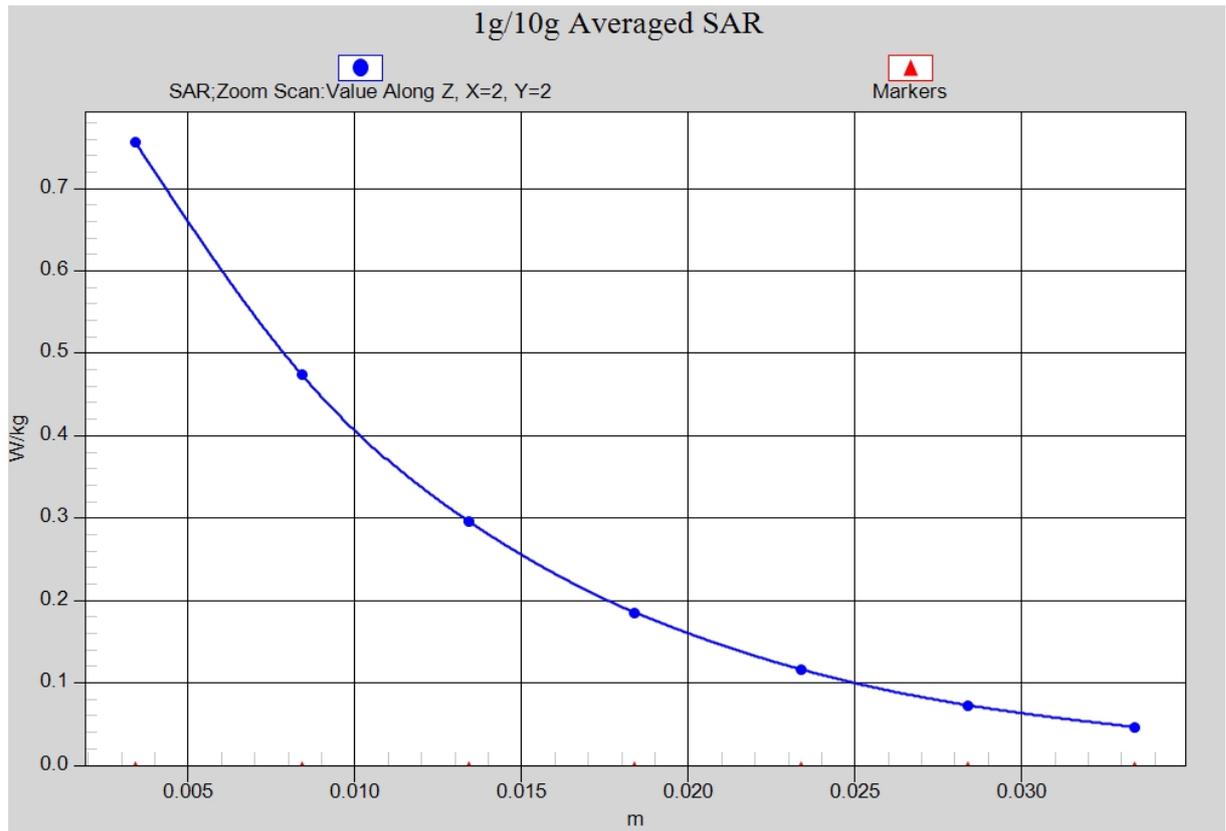


Fig.4-1 Z-Scan at power reference point (1900 MHz CH810)

WCDMA 850 Left Cheek High

Date: 2014-2-15

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 846.6$ MHz; $\sigma = 0.896$ S/m; $\epsilon_r = 39.986$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.1°C Liquid Temperature: 21.6°C

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

Probe: EX3DV4 - SN3846 ConvF(8.92, 8.92, 8.92)

Cheek High/Area Scan (61x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.490 W/kg

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

Reference Value = 8.601 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.597 W/kg

SAR(1 g) = 0.459 W/kg; SAR(10 g) = 0.339 W/kg

Maximum value of SAR (measured) = 0.483 W/kg

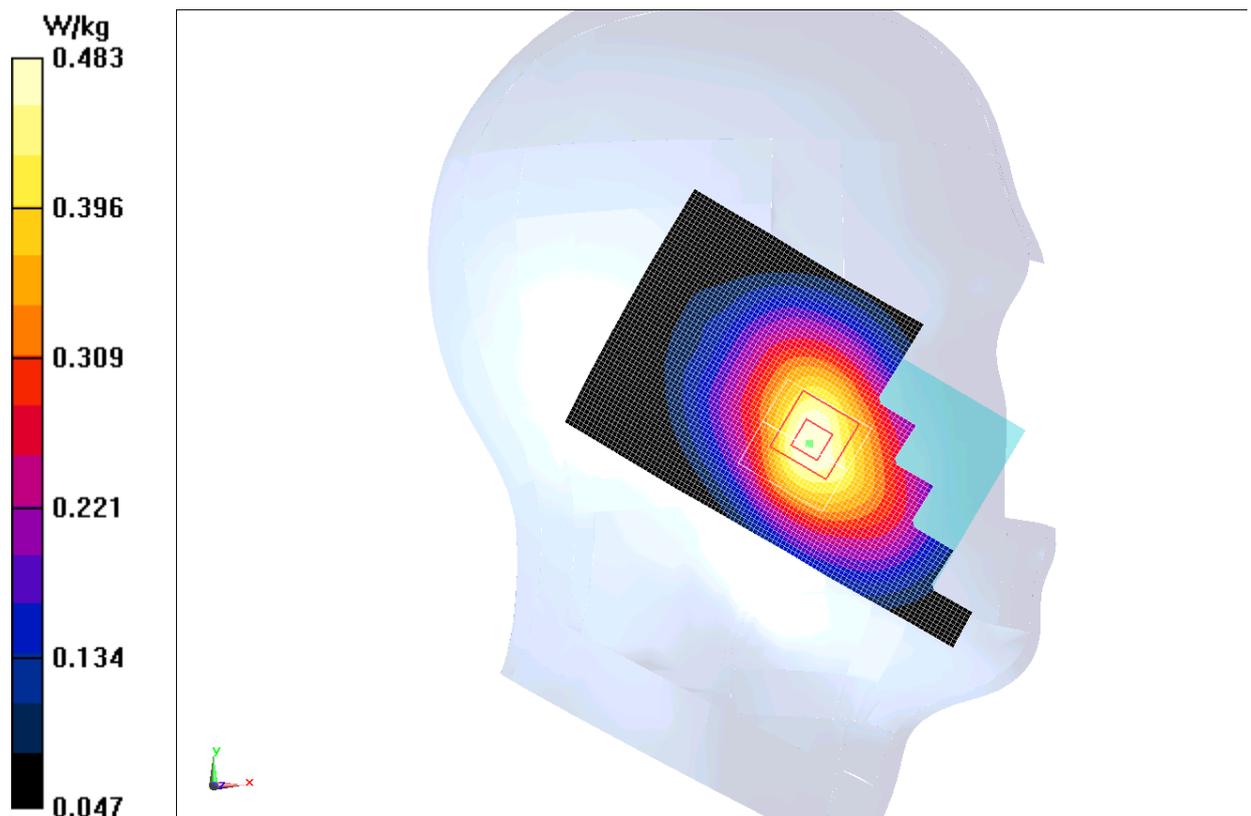


Fig.5 WCDMA 850 CH4233

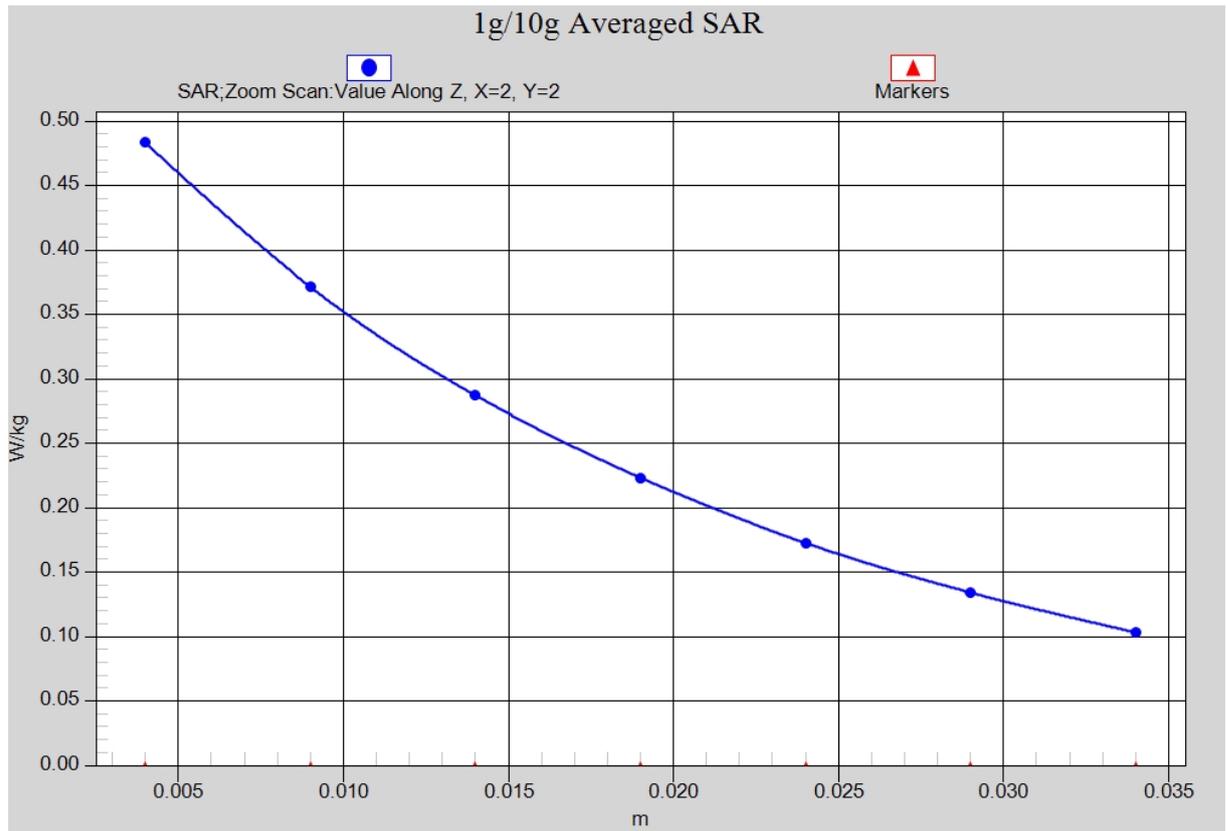


Fig. 5-1 Z-Scan at power reference point (WCDMA 850 CH4233)

WCDMA 850 Body Rear High

Date: 2014-2-15

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 846.6$ MHz; $\sigma = 0.969$ S/m; $\epsilon_r = 54.186$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.1°C Liquid Temperature: 21.6°C

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

Probe: EX3DV4 - SN3846 ConvF(8.73, 8.73, 8.73)

Rear High/Area Scan (61x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.658 W/kg

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

Reference Value = 23.126 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.772 W/kg

SAR(1 g) = 0.622 W/kg; SAR(10 g) = 0.482 W/kg

Maximum value of SAR (measured) = 0.667 W/kg

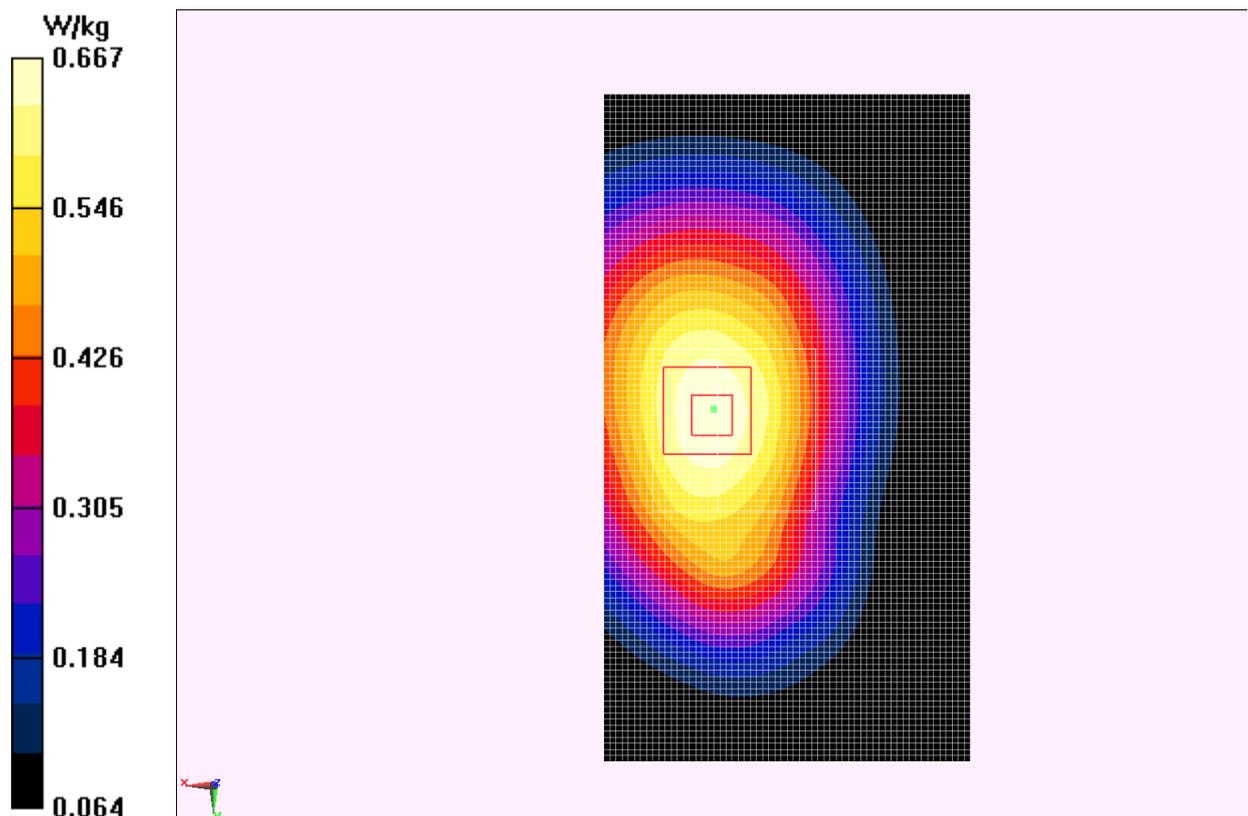


Fig.6 WCDMA 850 CH4233

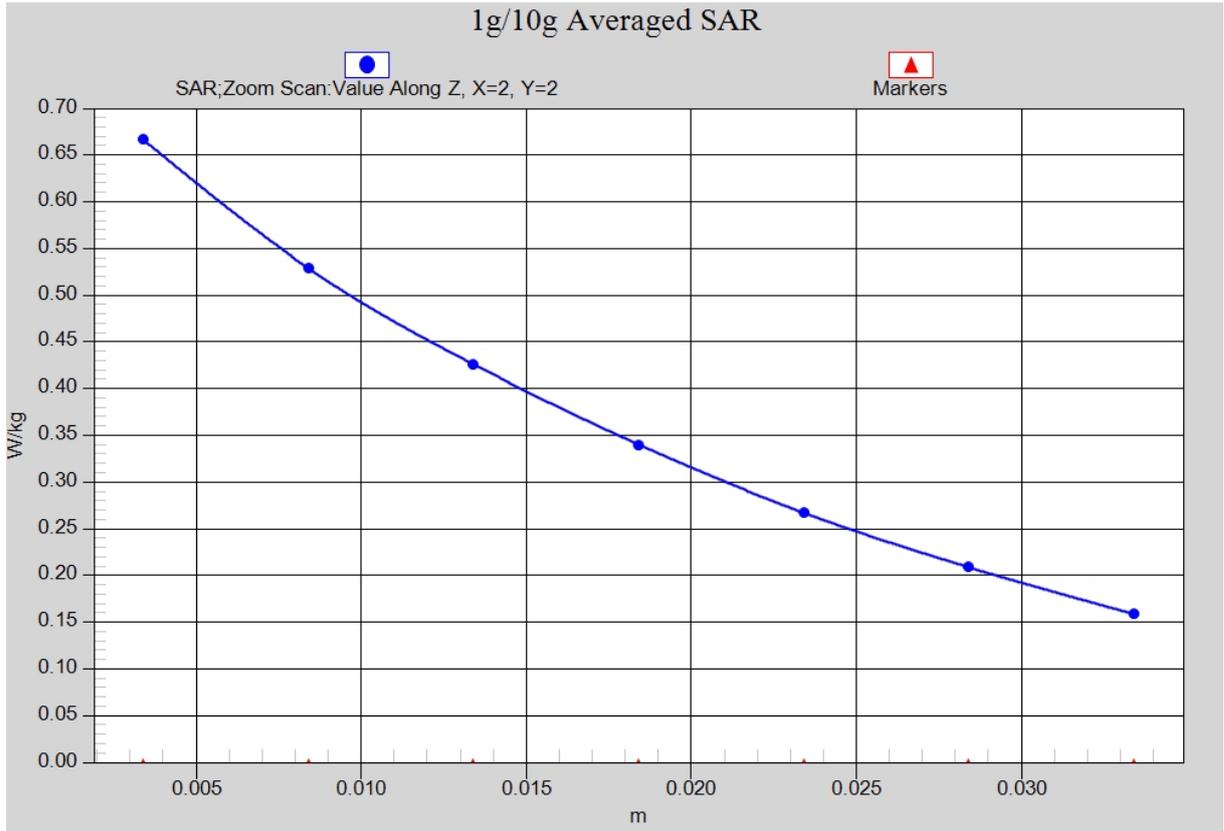


Fig. 6-1 Z-Scan at power reference point (WCDMA850 CH4233)

WCDMA 1900 Right Cheek Middle

Date: 2014-2-16

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.412$ S/m; $\epsilon_r = 39.576$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.1°C Liquid Temperature: 21.6°C

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

Probe: EX3DV4 - SN3846 ConvF(7.57, 7.57, 7.57)

Cheek Middle/Area Scan (61x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.539 W/kg

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

Reference Value = 8.217 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.656 W/kg

SAR(1 g) = 0.447 W/kg; SAR(10 g) = 0.273 W/kg

Maximum value of SAR (measured) = 0.571 W/kg

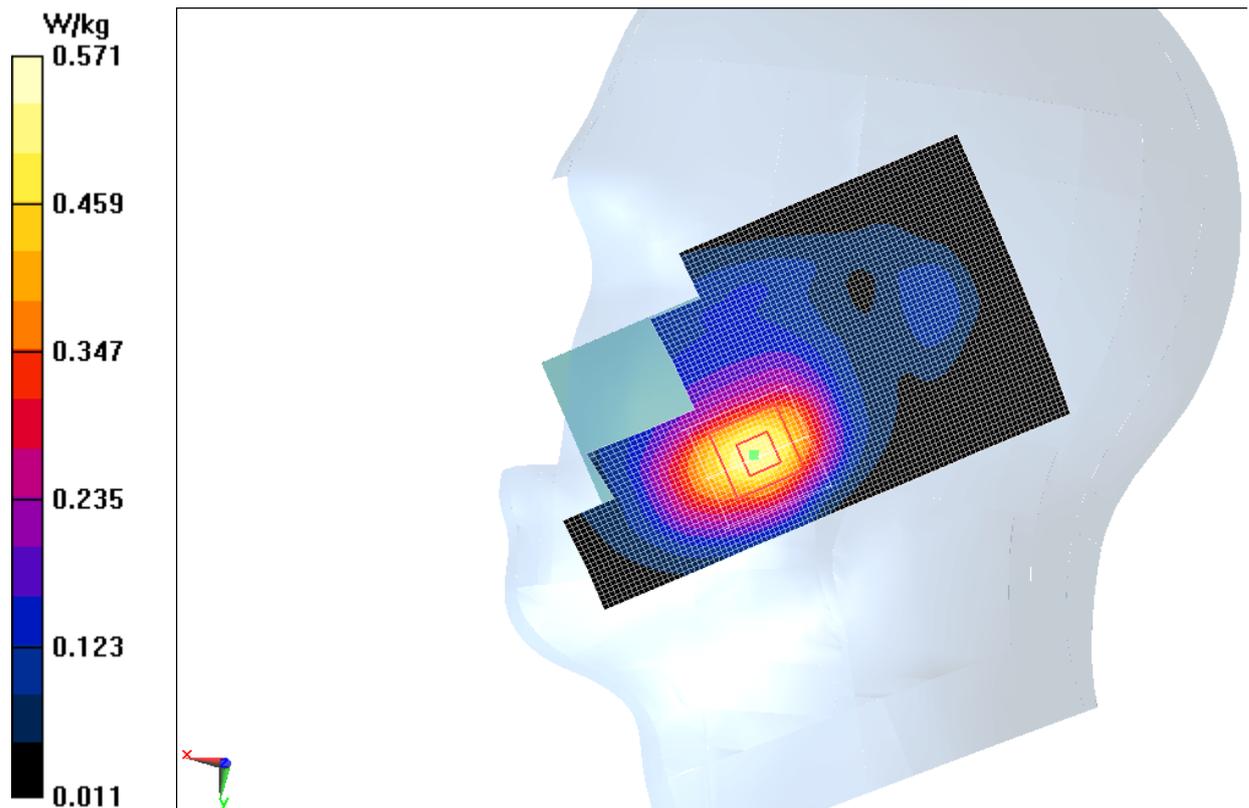


Fig.7 WCDMA1900 CH9400

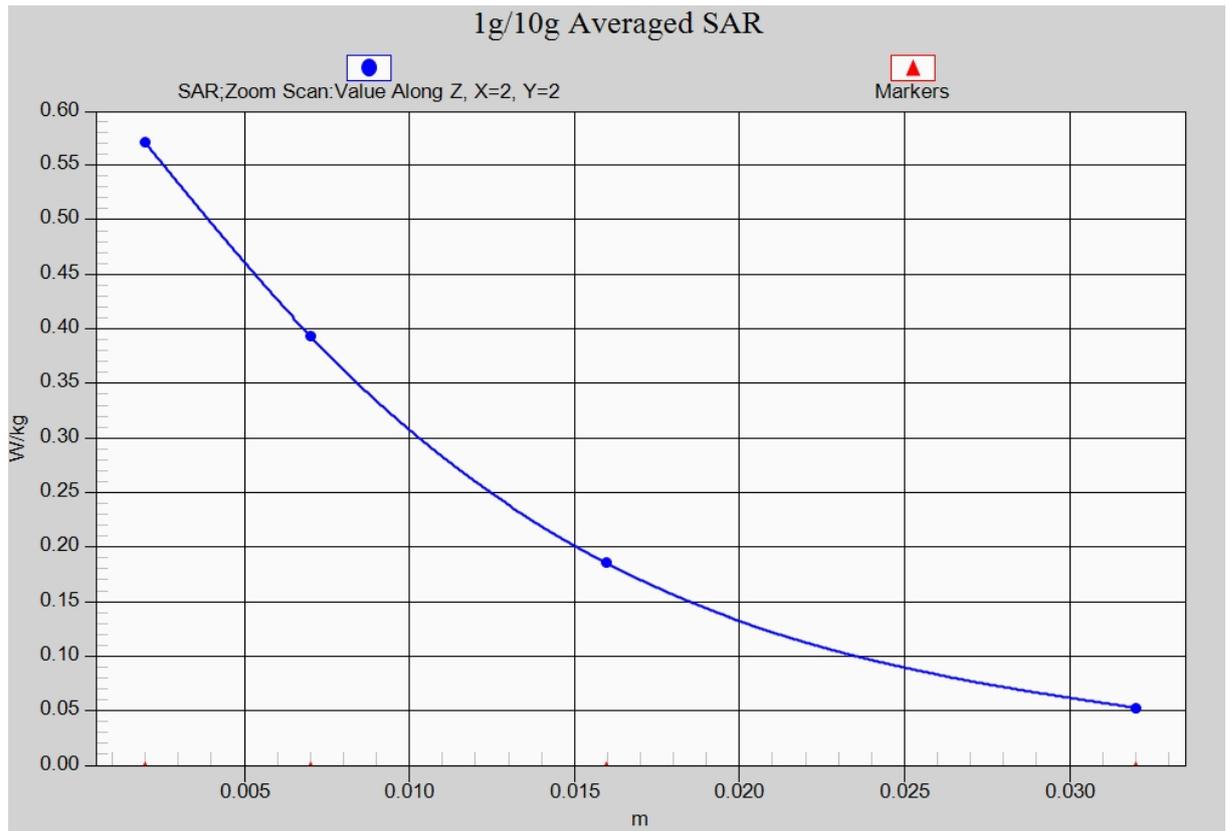


Fig. 7-1 Z-Scan at power reference point (WCDMA1900 CH9400)

WCDMA 1900 Body Rear High

Date: 2014-2-16

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): $f = 1907.6$ MHz; $\sigma = 1.55$ S/m; $\epsilon_r = 53.861$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.1°C Liquid Temperature: 21.6°C

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

Probe: EX3DV4 - SN3846 ConvF(7.03, 7.03, 7.03)

Rear High/Area Scan (61x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

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

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

Reference Value = 16.895 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.59 W/kg

SAR(1 g) = 1 W/kg; SAR(10 g) = 0.618 W/kg

Maximum value of SAR (measured) = 1.14 W/kg

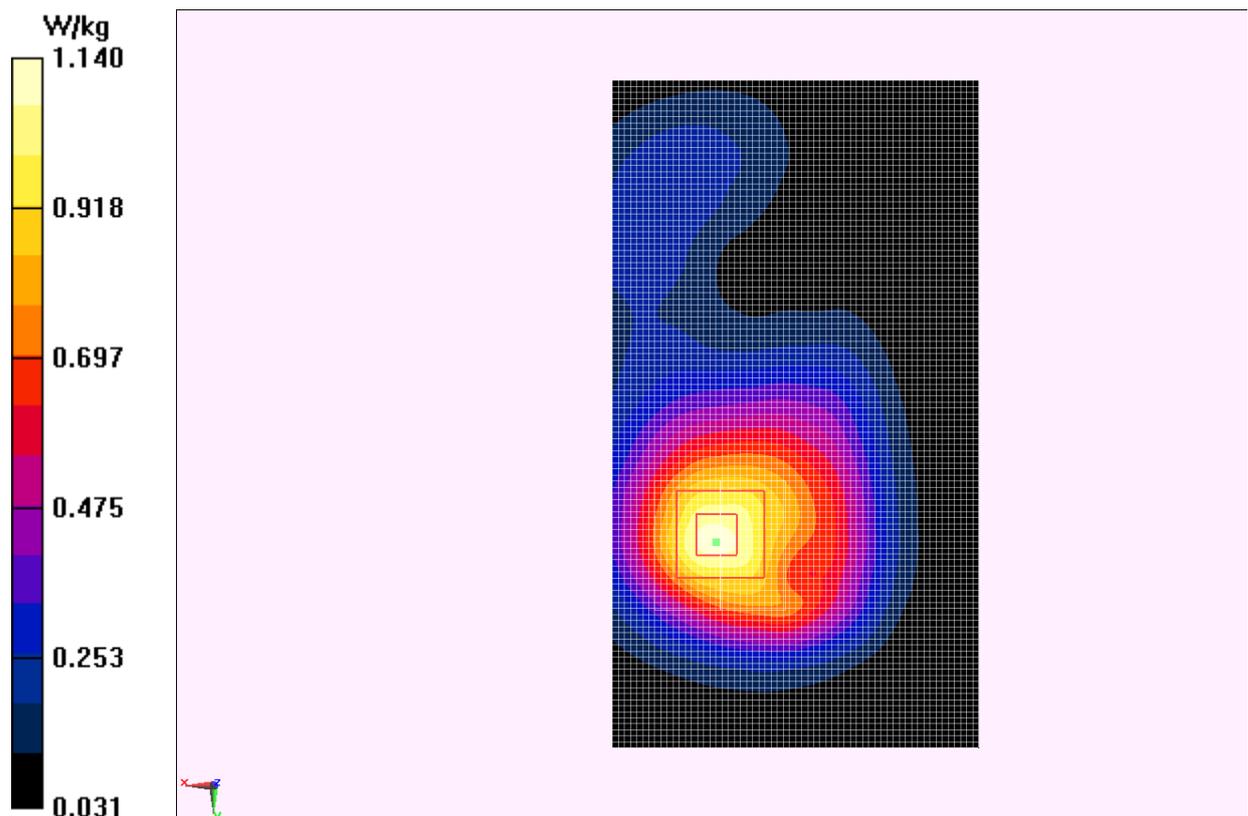


Fig.8 WCDMA1900 CH9538

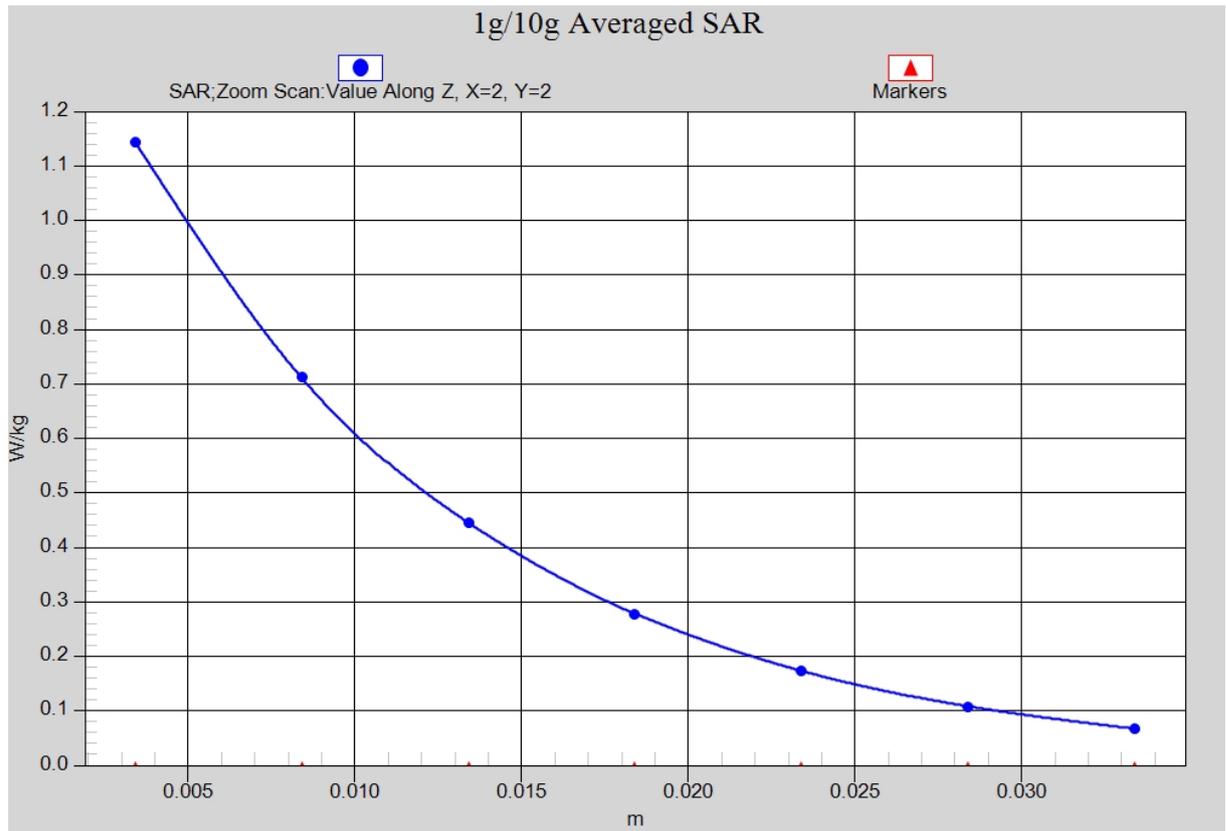


Fig. 8-1 Z-Scan at power reference point (WCDMA1900 CH9538)

Wifi 802.11b Left Cheek Channel 11

Date: 2014-3-24

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): $f = 2462$ MHz; $\sigma = 1.851$ S/m; $\epsilon_r = 38.381$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3°C Liquid Temperature: 21.8°C

Communication System: WLAN 2450 Frequency: 2462 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(6.78, 6.78, 6.78)

Cheek High/Area Scan (61x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.19 W/kg

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

Reference Value = 14.549 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 2.08 W/kg

SAR(1 g) = 0.960 W/kg; SAR(10 g) = 0.432 W/kg

Maximum value of SAR (measured) = 1.27 W/kg

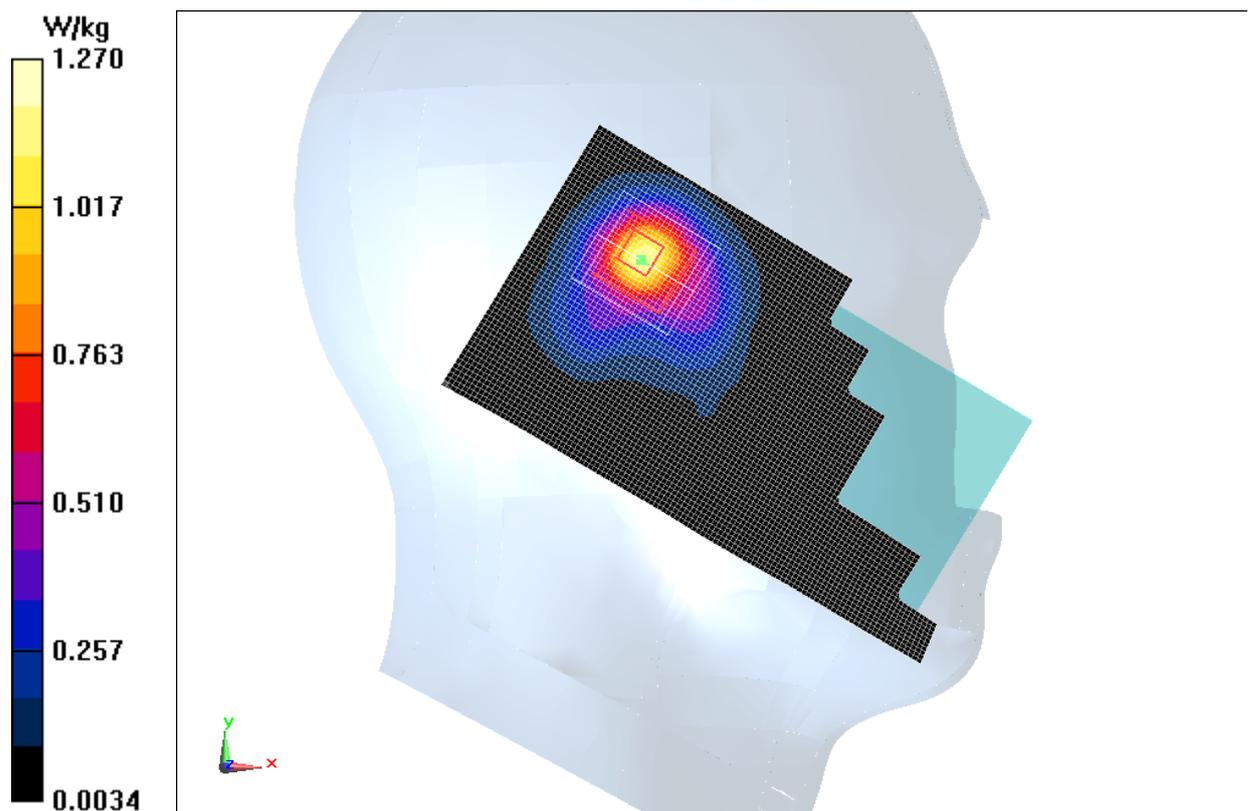


Fig.9 2450 MHz CH11

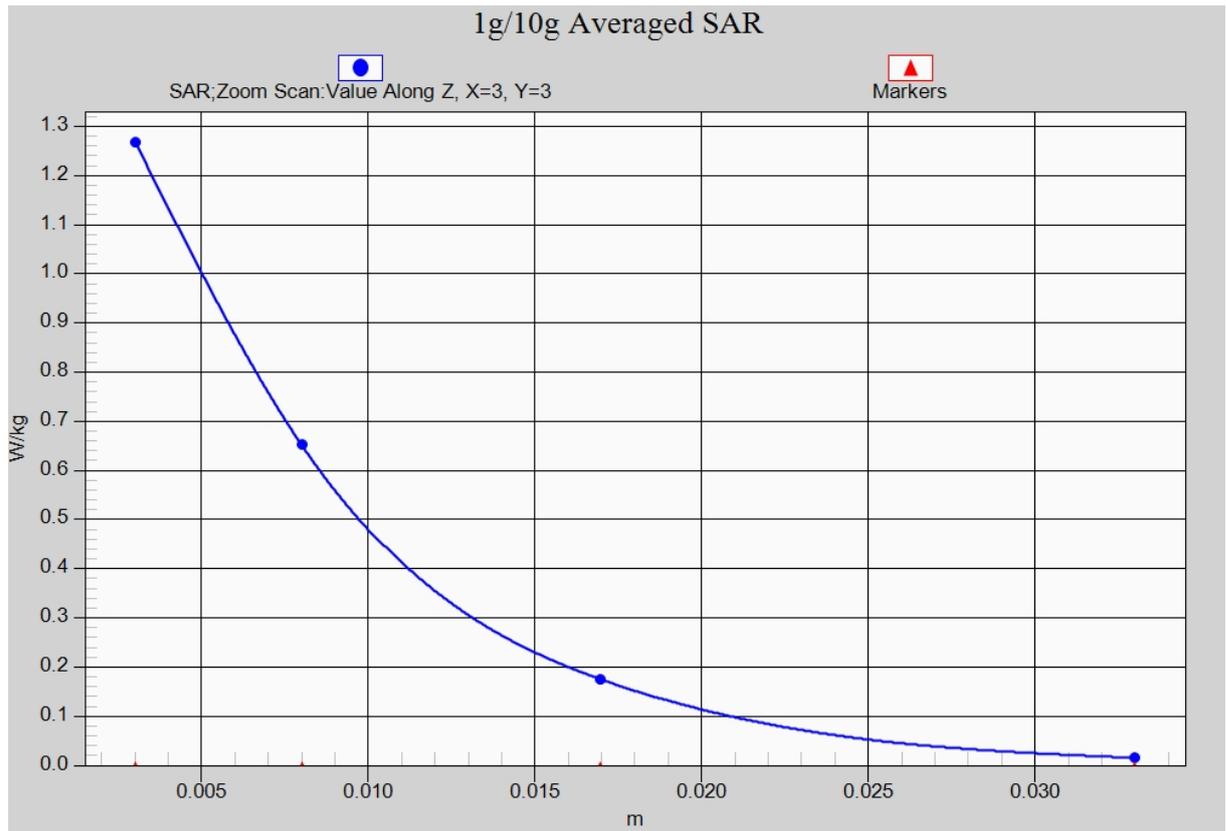


Fig. 9-1 Z-Scan at power reference point (2450 MHz CH11)

Wifi 802.11b Body Top Edge Channel 11

Date: 2014-3-24

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): $f = 2462$ MHz; $\sigma = 1.945$ S/m; $\epsilon_r = 53.563$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3°C Liquid Temperature: 21.8°C

Communication System: WLAN 2450 Frequency: 2462 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(6.73, 6.73, 6.73)

Top Edge High/Area Scan (61x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.432 W/kg

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

Reference Value = 13.196 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.705 W/kg

SAR(1 g) = 0.381 W/kg; SAR(10 g) = 0.205 W/kg

Maximum value of SAR (measured) = 0.475 W/kg

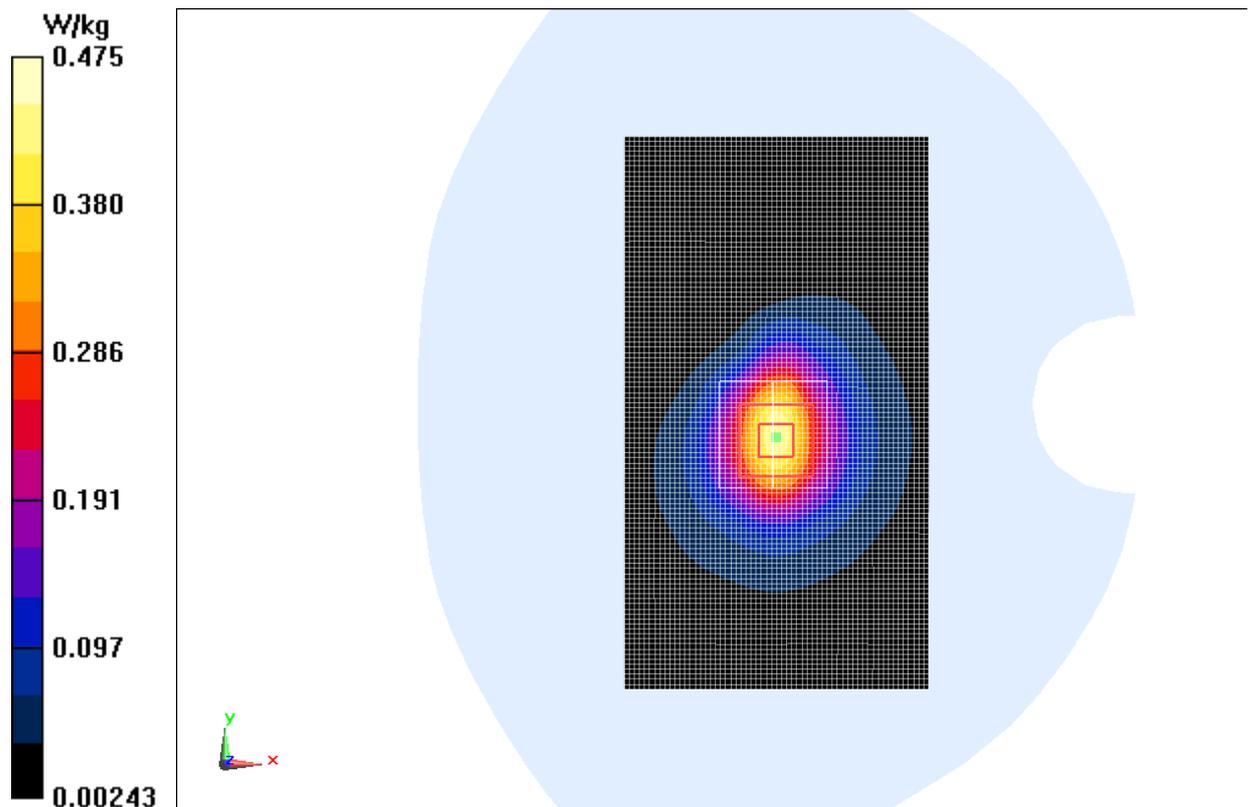


Fig.10 2450 MHz CH11

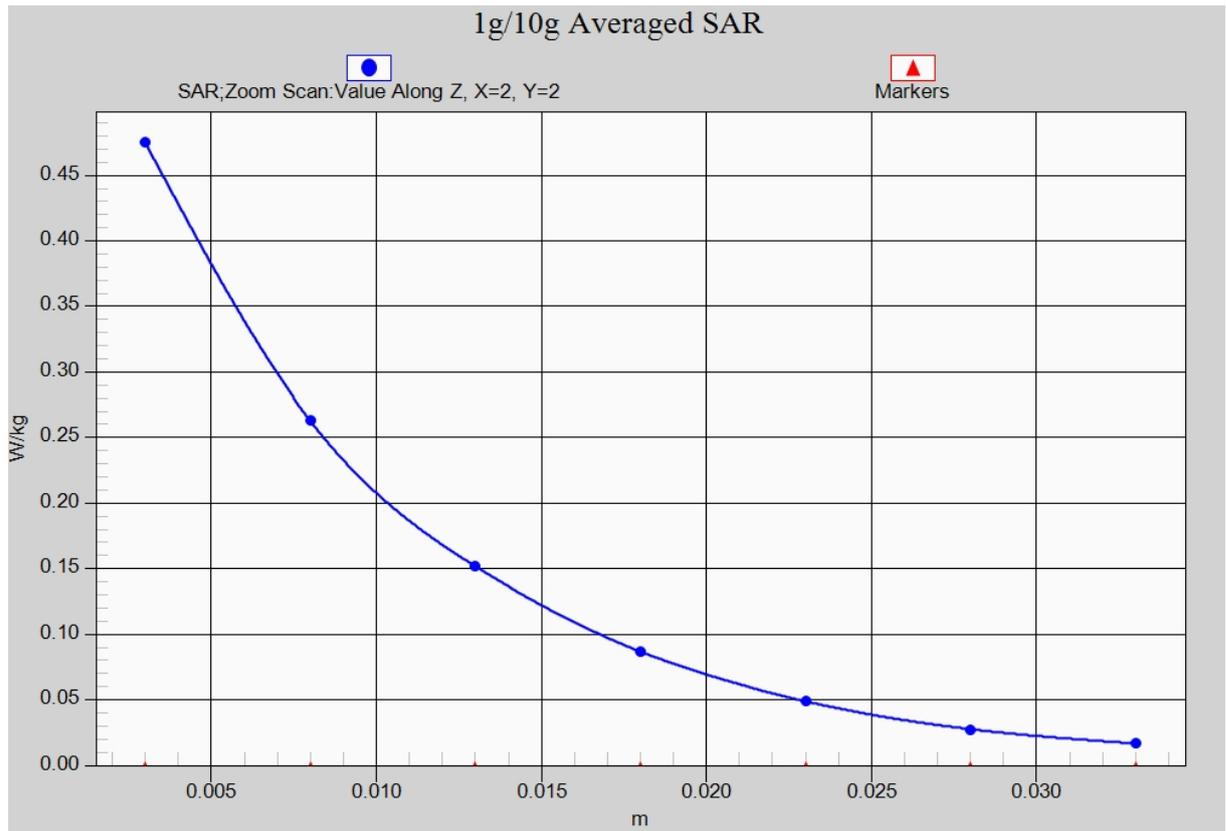


Fig. 10-1 Z-Scan at power reference point (2450 MHz CH11)