

Second antenna – Main Modem												
Frequency		Mode	Test Position	D (mm)	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.											
2645	41140	1RB_Mid	Front	10	/	18.52	19.5	0.063	0.08	0.117	0.15	0.06
2645	41140	1RB_Mid	Rear	10	Fig.26	18.52	19.5	0.071	0.09	0.139	0.17	0.14
2645	41140	1RB_Mid	Left	10	/	18.52	19.5	0.067	0.08	0.128	0.16	0.02
2645	41140	1RB_Mid	Top	10	/	18.52	19.5	0.038	0.05	0.083	0.10	0.01
2605	40740	50RB_Low	Front	10	/	18.34	18.5	0.058	0.06	0.108	0.11	0.10
2605	40740	50RB_Low	Rear	10	/	18.34	18.5	0.064	0.07	0.123	0.13	-0.12
2605	40740	50RB_Low	Left	10	/	18.34	18.5	0.063	0.07	0.122	0.13	0.04
2605	40740	50RB_Low	Top	10	/	18.34	18.5	0.032	0.03	0.070	0.07	0.08
2645	41140	1RB_Mid	Rear	10	Note1	18.52	19.5	0.070	0.09	0.133	0.17	-0.06
2645	41140	1RB_Mid	Rear	10	Note2	18.52	19.5	0.058	0.07	0.112	0.14	0.10
2645	41140	1RB_Mid	Front	15	/	23.21	24	0.027	0.03	0.051	0.06	0.10
2645	41140	1RB_Mid	Rear	15	/	23.21	24	0.029	0.04	0.055	0.07	0.08
2645	41140	50RB_Mid	Front	15	/	23.17	23.5	0.026	0.03	0.048	0.05	-0.04
2645	41140	50RB_Mid	Rear	15	/	23.17	23.5	0.028	0.03	0.048	0.05	0.09
2645	41140	1RB_Mid	Rear	15	Note1	23.21	24	0.028	0.03	0.052	0.06	-0.12
2645	41140	1RB_Mid	Rear	15	Note2	23.21	24	0.024	0.03	0.042	0.05	0.04

Note1: SAR Values For Battery of HB366481ECW ((sony) Huizhou Desay Battery Co., Ltd.).

Note2: SAR Values For Battery of HB366481ECW ((ATL) 650 SCUD (Fujian) Electronics Co.,Ltd).

Note3: dynamic antenna tuning is not working.

14.2 WLAN2.4G Evaluation

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

Head Evaluation

Table 14.2-1: SAR Values (WLAN - Head) – 802.11b 1Mbps

Full Power											
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	/	17.52	18	0.657	0.68	1.35	1.51	0.14
2462	11	Left	Tilt	/	17.52	18	0.609	0.63	1.4	1.56	0.17
2462	11	Right	Touch	/	17.52	18	0.138	0.14	0.268	0.30	-0.05
2462	11	Right	Tilt	/	17.52	18	0.125	0.13	0.254	0.28	0.07
Power Reduction with Simultaneous transmission of Main antenna+ WLAN antenna											
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	/	15.48	15.5	0.328	0.33	0.665	0.67	0.14
2462	11	Left	Tilt	/	15.48	15.5	0.283	0.28	0.627	0.63	0.16
2462	11	Right	Touch	/	15.48	15.5	0.111	0.11	0.193	0.19	-0.01
2462	11	Right	Tilt	/	15.48	15.5	0.091	0.09	0.172	0.17	-0.11
Power Reduction with Simultaneous transmission of Main antenna+Second antenna+WLAN antenna											
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	/	14.32	14.5	0.190	0.19	0.400	0.42	0.17
2462	11	Left	Tilt	/	14.32	14.5	0.210	0.21	0.434	0.45	0.11
2462	11	Right	Touch	/	14.32	14.5	0.061	0.06	0.115	0.12	0.08
2462	11	Right	Tilt	/	14.32	14.5	0.056	0.06	0.114	0.12	0.17

As shown above table, the initial test position for head is “Left Touch” for Simultaneous transmission of Main antenna+ WLAN antenna and “Left Tilt” for others. So the head SAR of WLAN is presented as below:

Table 14.2-2: SAR Values (WLAN - Head) – 802.11b 1Mbps (Full SAR)

Full Power											
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	Tilt	Fig.28	17.52	18	0.481	0.50	1.23	1.37	0.07
2462	11	Left	Touch	/	17.52	18	0.520	0.54	1.13	1.26	0.14
2462	11	Right	Touch	/	17.52	18	0.126	0.13	0.266	0.30	-0.05
2412	1	Left	Tilt	/	17.18	18	0.390	0.41	0.999	1.21	0.16
2437	6	Left	Tilt	/	16.99	18	0.475	0.51	1.08	1.36	0.09
2412	1	Left	Touch	/	17.18	18	0.433	0.45	0.944	1.14	0.07

Power Reduction with Simultaneous transmission of Main antenna+ WLAN antenna

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	/	15.48	15.5	0.303	0.30	0.671	0.67	0.14
2462	11	Left	Tilt	/	15.48	15.5	0.300	0.30	0.640	0.64	0.16

Power Reduction with Simultaneous transmission of Main antenna+Second antenna+WLAN antenna

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	Tilt	/	14.32	14.5	0.178	0.18	0.436	0.45	0.11
2462	11	Left	Touch	/	14.32	14.5	0.173	0.17	0.379	0.40	0.17

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 14.2-3: SAR Values (WLAN - Head) – 802.11b 1Mbps (Scaled Reported SAR)

Full Power							
Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.						
2462	11	Left	Tilt	98.96%	100%	1.37	1.39
2462	11	Left	Touch	98.96%	100%	1.26	1.28
2462	11	Right	Touch	98.96%	100%	0.30	0.30
2412	1	Left	Tilt	98.96%	100%	1.21	1.22
2437	6	Left	Tilt	98.96%	100%	1.36	1.38
2412	1	Left	Touch	98.96%	100%	1.14	1.15
2462	11	Left	Touch	98.96%	100%	0.67	0.68
2462	11	Left	Tilt	98.96%	100%	0.64	0.65
2462	11	Left	Tilt	98.96%	100%	0.45	0.46
2462	11	Left	Touch	98.96%	100%	0.40	0.40

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

Body Evaluation

Table 14.2-4: SAR Values (WLAN - Body) – 802.11b 1Mbps

Full Power											
Frequency		Test Position	D (mm)	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	10	/	17.52	18	0.115	0.12	0.204	0.23	0.03
2462	11	Rear	10	/	17.52	18	0.136	0.14	0.246	0.27	0.09
2462	11	Right	10	/	17.52	18	0.128	0.13	0.241	0.27	0.11
2462	11	Top	10	/	17.52	18	0.056	0.06	0.123	0.14	-0.08
2462	11	Front	15	/	17.52	18	0.057	0.06	0.099	0.11	-0.01
2462	11	Rear	15	/	17.52	18	0.060	0.06	0.105	0.12	-0.14
Power Reduction with Simultaneous transmission of Main antenna+ WLAN antenna											
Frequency		Test Position	D (mm)	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	10	/	15.48	15.5	0.044	0.04	0.079	0.08	0.02
2462	11	Rear	10	/	15.48	15.5	0.054	0.05	0.103	0.10	0.11
2462	11	Right	10	/	15.48	15.5	0.054	0.05	0.104	0.10	-0.03
2462	11	Top	10	/	15.48	15.5	0.024	0.02	0.052	0.05	0.11
2462	11	Front	15	/	15.48	15.5	0.026	0.03	0.047	0.05	0.02
2462	11	Rear	15	/	15.48	15.5	0.029	0.03	0.054	0.05	0.06
Power Reduction with Simultaneous transmission of Main antenna+Second antenna+WLAN antenna											
Frequency		Test Position	D (mm)	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	10	/	14.32	14.5	0.046	0.05	0.081	0.08	0.01
2462	11	Rear	10	/	14.32	14.5	0.058	0.06	0.108	0.11	0.05
2462	11	Right	10	/	14.32	14.5	0.053	0.05	0.098	0.10	-0.11
2462	11	Top	10	/	14.32	14.5	0.027	0.03	0.056	0.06	-0.01
2462	11	Front	15	/	14.32	14.5	0.025	0.02	0.045	0.05	0.02
2462	11	Rear	15	/	14.32	14.5	0.030	0.03	0.054	0.06	0.18

As shown above table, the initial test position for body is “Right” for Simultaneous transmission of Main antenna+ WLAN antenna and “Rear” for others. So the body SAR of WLAN is presented as below:

Table 14.2-5: SAR Values (WLAN - Body) – 802.11b 1Mbps (Full SAR)

Full Power										
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	Rear 10mm	Fig.29	17.52	18	0.132	0.13	0.255	0.28	0.09
2462	11	Rear 15mm	Fig.30	17.52	18	0.063	0.06	0.113	0.13	-0.14

Power Reduction with Simultaneous transmission of Main antenna+ WLAN antenna										
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	Right	/	15.48	15.5	0.055	0.05	0.108	0.11	-0.03
Power Reduction with Simultaneous transmission of Main antenna+Second antenna+WLAN antenna										
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	Rear	/	14.32	14.5	0.060	0.06	0.115	0.12	0.05

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

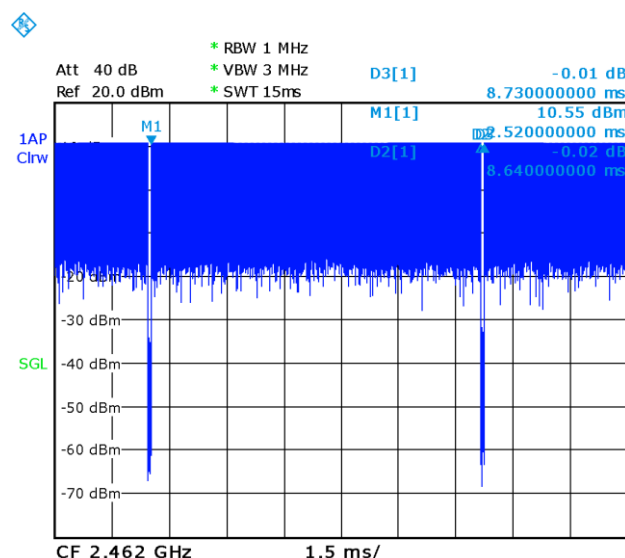
Note2: For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel until the reported SAR is $\leq$ 1.2 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 14.2-6: SAR Values (WLAN - Body) – 802.11b 1Mbps (Scaled Reported SAR)

Ambient Temperature: 22.5 °C Liquid Temperature: 22.0 °C						
Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.					
2462	11	Rear	98.96%	100%	0.28	0.29
2462	11	Rear	98.96%	100%	0.11	0.11
2462	11	Rear	98.96%	100%	0.12	0.12

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



Picture 14.1 The plot of duty factor for 802.11b

14.3 WLAN5G Evaluation

Full Power

Table 14.3-1: OFDM mode specified maximum output power of WLAN antenna

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	X		X	X	X	X	X	
U-NII-2A	X		X	X	X	X	X	
U-NII-2C	X		X	X	X	X	X	
U-NII-3	X		X	X	X	X	X	
§ 15.247 (5.8 GHz)								

X: maximum(conducted) output power(mW), including tolerance, specified for production units

Table 14.3-2: Maximum output power specified of WLAN antenna

802.11 mode	a	g	n		ac			
Ch. BW(MHz)	20	20	20	40	20	40	80	160
U-NII-1	35		25	18	20	20	16	
U-NII-2A	40		25	18	20	20	16	
U-NII-2C	40		35	18	20	20	16	
U-NII-3	32		25	18	20	20	16	
§ 15.247 (5.8 GHz)								

- The maximum output power specified for production units is the same for all channels, modulations and data rates in each channel bandwidth configuration of the 802.11a/g/n/ac modes.
- The blue highlighted cells represent highest output configurations in each standalone or aggregated frequency band, with tune-up tolerance included.
- For SAR test reduction in the 2.4GHz band, the maximum output specified for production units is 63mW for 802.11b and the highest reported SAR for DSSS is 1.39 W/kg for head, 0.29 W/kg for body.

Table 14.3-3: Maximum output power measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 30/29/30/30	36/40/44/48 Lower power	38/46 Lower power	36/40/44/48 Lower power	38/46 Lower power	42 Lower power
U-NII-2A	52/56/60/64 34/36/38/37	52/56/60/64 Lower power	54/62 Lower power	52/56/60/64 Lower power	54/62 Lower power	58 Lower power
U-NII-2C	100/104/108/112 36/37/36/34 116/132/136/140 34/29/29/28	100/104/108/112 116/132/136/140 Lower power	102/110/134 Lower power	100/104/108/112 116/132/136/140 Lower power	102/110/134 Lower power	106 Lower power
U-NII-3	149/153/157/161 /165 31/29/25/24/23	149/153/157/161 /165 Lower power	151/159 Lower power	149/153/157/161 /165 Lower power	151/159 Lower power	155 Lower power

- Channels with measured maximum power within 0.25dB are considered to have the same measured output. Channels selected for initial test configuration are highlighted in yellow.

Table 14.3-4: Reported SAR of initial test configuration for head

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 U-NII-2A exclusion applied	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 0.78	52/56/60/64	54/62	52/56/60/64	54/62	58
U-NII-2C	100/104/108/112 116/132/136/140 1.37	100/104/108/112 116/132/136/140	102/110/118/ 126/134	100/104/108/112 116/132/136/140	102/110/134	106
U-NII-3	149/153/157/161/165 1.19	149/153/157/161 /165	151/159	149/153/157/161 /165	151/159	155

U-NII-1 and U-NII-2A bands have the same specified maximum output and tolerance; SAR is measured for U-NII-2A band first. Adjusted SAR of U-NII-2A band is $\leq 1.2\text{W/kg}$, SAR is not required for U-NII-1 band.

Table 14.3-5: Reported SAR of next highest measured output channel in initial test configuration for head

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 U-NII-2A exclusion applied	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 0.78	52/56/60/64	54/62	52/56/60/64	54/62	58
U-NII-2C	100/104/108/112 116/132/136/140 1.37 / 1.16	100/104/108/112 116/132/136/140	102/110/118/ 126/134	100/104/108/112 116/132/136/140	102/110/134	106
U-NII-3	149/153/157/161/165 1.19 / 0.77	149/153/157/161 /165	151/159	149/153/157/161 /165	151/159	155

- The green highlighted channels are next highest measured output channel in the initial test configuration. Highest measured output power channel tested initially are in yellow highlight.
- Initial test configuration SAR for U-NII-2C band is $> 0.8\text{ W/kg}$, SAR is required for next highest output channel in initial test configuration. The next highest output channel SAR is $\leq 1.2\text{ W/kg}$, SAR is not required for subsequent next highest output channel. Similar circumstances apply to U-NII-3 band.
- Adjusted SAR according to the ratio of the specified maximum output power of subsequent test configuration to initial test configuration is $\leq 1.2\text{ W/kg}$. Therefore, subsequent test configuration SAR is not required.

Table 14.3-6: Reported SAR of initial test configuration for body

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 0.13	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 0.05	52/56/60/64	54/62	52/56/60/64	54/62	58
U-NII-2C	100/104/108/112 116/132/136/140 0.09	100/104/108/112 116/132/136/140	102/110/118/ 126/134	100/104/108/112 116/132/136/140	102/110/134	106
U-NII-3	149/153/157/161/165 0.20	149/153/157/161 /165	151/159	149/153/157/161 /165	151/159	155

The Hotspot mode is not supported by U-NII-2A and U-NII-2C, so U-NII-2A and U-NII-2C should not be considered with the Hotspot mode and the U-NII-1 should be considered with the Hotspot mode.

Power Reduction with Simultaneous transmission of Main antenna+ WLAN antenna or Second antenna+WLAN antenna

Table 14.3-7: Maximum output power measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 18/17/17/17	36/40/44/48 Lower power	38/46 Lower power	36/40/44/48 Lower power	38/46 Lower power	42 Lower power
U-NII-2A	52/56/60/64 20/21/21/22	52/56/60/64 Lower power	54/62 Lower power	52/56/60/64 Lower power	54/62 Lower power	58 Lower power
U-NII-2C	100/104/108/112 20/21/20/20 116/132/136/140 18/17/16/16	100/104/108/112 116/132/136/140 Lower power	102/110/134 Lower power	100/104/108/112 116/132/136/140 Lower power	102/110/134 Lower power	106 Lower power
U-NII-3	149/153/157/161/ 165 18/17/17/16/16	149/153/157/161 /165 Lower power	151/159 Lower power	149/153/157/161 /165 Lower power	151/159 Lower power	155 Lower power

- Channels with measured maximum power within 0.25dB are considered to have the same measured output. Channels selected for initial test configuration are highlighted in yellow.

Table 14.3-8: Reported SAR of initial test configuration for head

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 U-NII-2A exclusion applied	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 0.41	52/56/60/64	54/62	52/56/60/64	54/62	58
U-NII-2C	100/104/108/112 116/132/136/140 0.75	100/104/108/112 116/132/136/140	102/110/118/ 126/134	100/104/108/112 116/132/136/140	102/110/134	106
U-NII-3	149/153/157/161/165 0.58	149/153/157/161 /165	151/159	149/153/157/161 /165	151/159	155

U-NII-1 and U-NII-2A bands have the same specified maximum output and tolerance; SAR is measured for U-NII-2A band first. Adjusted SAR of U-NII-2A band is $\leq 1.2\text{W/kg}$, SAR is not required for U-NII-1 band.

Table 14.3-9: Reported SAR of initial test configuration for body

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 0.04	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 0.03	52/56/60/64	54/62	52/56/60/64	54/62	58
U-NII-2C	100/104/108/112 116/132/136/140 0.05	100/104/108/112 116/132/136/140	102/110/118/ 126/134	100/104/108/112 116/132/136/140	102/110/134	106
U-NII-3	149/153/157/161/165 0.09	149/153/157/161 /165	151/159	149/153/157/161 /165	151/159	155

The Hotspot mode is not supported by U-NII-2A and U-NII-2C, so U-NII-2A and U-NII-2C should not be considered with the Hotspot mode and the U-NII-1 should be considered with the Hotspot mode.

Power Reduction with Simultaneous transmission of Main antenna+Second antenna+WLAN antenna

Table 14.3-10: Maximum output power measured of WLAN antenna, for the applicable OFDM configurations according to the default power measurement procedures for selection initial test configurations

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 12/12/13/13	36/40/44/48 Lower power	38/46 Lower power	36/40/44/48 Lower power	38/46 Lower power	42 Lower power
U-NII-2A	52/56/60/64 15/17/18/17	52/56/60/64 Lower power	54/62 Lower power	52/56/60/64 Lower power	54/62 Lower power	58 Lower power
U-NII-2C	100/104/108/112 18/18/18/17 116/132/136/140 17/16/17/17	100/104/108/112 116/132/136/140 Lower power	102/110/134 Lower power	100/104/108/112 116/132/136/140 Lower power	102/110/134 Lower power	106 Lower power
U-NII-3	149/153/157/161/ 165 14/13/13/13/12	149/153/157/161 /165 Lower power	151/159 Lower power	149/153/157/161 /165 Lower power	151/159 Lower power	155 Lower power
Channels with measured maximum power within 0.25dB are considered to have the same measured output. Channels selected for initial test configuration are highlighted in yellow.						

Table 14.3-11: Reported SAR of initial test configuration for head

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 U-NII-2A exclusion applied	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 0.33	52/56/60/64	54/62	52/56/60/64	54/62	58
U-NII-2C	100/104/108/112 116/132/136/140 0.54	100/104/108/112 116/132/136/140	102/110/118/ 126/134	100/104/108/112 116/132/136/140	102/110/134	106
U-NII-3	149/153/157/161/165 0.52	149/153/157/161 /165	151/159	149/153/157/161 /165	151/159	155
U-NII-1 and U-NII-2A bands have the same specified maximum output and tolerance; SAR is measured for U-NII-2A band first. Adjusted SAR of U-NII-2A band is $\leq 1.2\text{W/kg}$, SAR is not required for U-NII-1 band.						

Table 14.3-12: Reported SAR of initial test configuration for body

802.11 mode	a	n		ac		
BW(MHz)	20	20	40	20	40	80
U-NII-1	36/40/44/48 0.07	36/40/44/48	38/46	36/40/44/48	38/46	42
U-NII-2A	52/56/60/64 0.03	52/56/60/64	54/62	52/56/60/64	54/62	58
U-NII-2C	100/104/108/112 116/132/136/140 0.04	100/104/108/112 116/132/136/140	102/110/118/ 126/134	100/104/108/112 116/132/136/140	102/110/134	106
U-NII-3	149/153/157/161/165 0.08	149/153/157/161 /165	151/159	149/153/157/161 /165	151/159	155

The Hotspot mode is not supported by U-NII-2A and U-NII-2C, so U-NII-2A and U-NII-2C should not be considered with the Hotspot mode and the U-NII-1 should be considered with the Hotspot mode.

Table 14.3-13: SAR Values (WLAN - Head) – 802.11a 6Mbps

Full Power											
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.										
5300	60	Left	Touch	/	15.78	16	0.206	0.21	0.695	0.73	0.08
5300	60	Left	Tilt	/	15.78	16	0.177	0.18	0.608	0.64	0.13
5300	60	Right	Touch	/	15.78	16	0.133	0.13	0.400	0.42	-0.11
5300	60	Right	Tilt	/	15.78	16	0.124	0.12	0.375	0.39	0.12
5520	104	Left	Touch	Fig.31	15.73	16	0.340	0.35	1.20	1.28	0.08
5520	104	Left	Tilt	/	15.73	16	0.235	0.24	0.863	0.92	0.09
5520	104	Right	Touch	/	15.73	16	0.235	0.24	0.779	0.83	0.10
5520	104	Right	Tilt	/	15.73	16	0.158	0.16	0.491	0.52	0.07
5745	149	Left	Touch	/	14.93	15	0.300	0.30	1.09	1.11	0.01
5745	149	Left	Tilt	/	14.93	15	0.216	0.22	0.809	0.82	0.10
5745	149	Right	Touch	/	14.93	15	0.112	0.11	0.334	0.34	-0.13
5745	149	Right	Tilt	/	14.93	15	0.113	0.11	0.347	0.35	0.12
5540	108	Left	Touch	/	15.54	16	0.283	0.29	0.975	1.08	0.08
5765	153	Left	Touch	/	14.6	15	0.192	0.19	0.660	0.72	-0.07

Power Reduction with Simultaneous transmission of Main antenna+ WLAN antenna or Second antenna+WLAN antenna											
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.										
5320	64	Left	Touch	/	13.42	13.5	0.109	0.11	0.378	0.39	0.09
5320	64	Left	Tilt	/	13.42	13.5	0.090	0.09	0.254	0.26	0.12
5320	64	Right	Touch	/	13.42	13.5	0.056	0.06	0.169	0.17	-0.04
5320	64	Right	Tilt	/	13.42	13.5	0.061	0.06	0.182	0.19	0.04
5520	104	Left	Touch	/	13.15	13.5	0.179	0.18	0.643	0.70	0.12
5520	104	Left	Tilt	/	13.15	13.5	0.145	0.15	0.375	0.41	0.08
5520	104	Right	Touch	/	13.15	13.5	0.072	0.07	0.202	0.22	0.04
5520	104	Right	Tilt	/	13.15	13.5	0.069	0.07	0.200	0.22	-0.01
5745	149	Left	Touch	/	12.48	12.5	0.156	0.16	0.543	0.55	-0.12
5745	149	Left	Tilt	/	12.48	12.5	0.089	0.09	0.280	0.28	0.08
5745	149	Right	Touch	/	12.48	12.5	0.058	0.06	0.169	0.17	0.06
5745	149	Right	Tilt	/	12.48	12.5	0.048	0.05	0.156	0.16	0.11
Power Reduction with Simultaneous transmission of Main antenna+Second antenna+WLAN antenna											
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.										
5300	60	Left	Touch	/	12.46	12.5	0.087	0.09	0.306	0.31	0.15
5300	60	Left	Tilt	/	12.46	12.5	0.070	0.07	0.226	0.23	0.11
5300	60	Right	Touch	/	12.46	12.5	0.049	0.05	0.161	0.16	-0.10
5300	60	Right	Tilt	/	12.46	12.5	0.474	0.47	0.151	0.15	-0.09
5540	108	Left	Touch	/	12.45	12.5	0.148	0.15	0.500	0.51	0.00
5540	108	Left	Tilt	/	12.45	12.5	0.109	0.11	0.359	0.36	0.01
5540	108	Right	Touch	/	12.45	12.5	0.076	0.08	0.214	0.22	-0.10
5540	108	Right	Tilt	/	12.45	12.5	0.070	0.07	0.197	0.20	0.00
5745	149	Left	Touch	/	11.43	11.5	0.130	0.13	0.479	0.49	0.08
5745	149	Left	Tilt	/	11.43	11.5	0.083	0.08	0.220	0.22	-0.04
5745	149	Right	Touch	/	11.43	11.5	0.066	0.07	0.216	0.22	0.15
5745	149	Right	Tilt	/	11.43	11.5	0.057	0.06	0.184	0.19	0.10

As shown above table, the initial test position for head is “Left Touch”.

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 14.3-14: SAR Values (WLAN - Head) – 802.11a 6Mbps (Scaled Reported SAR)

Full Power							
Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.						
5300	60	Left	Touch	93.46%	100%	0.73	0.78
5520	104	Left	Touch	93.33%	100%	1.28	1.37
5745	149	Left	Touch	93.42%	100%	1.11	1.19
5540	108	Left	Touch	93.33%	100%	1.08	1.16
5765	153	Left	Touch	93.42%	100%	0.72	0.77
Power Reduction with Simultaneous transmission of Main antenna+ WLAN antenna or Second antenna+WLAN antenna							
5320	64	Left	Touch	93.46%	100%	0.39	0.41
5520	104	Left	Touch	93.33%	100%	0.70	0.75
5745	149	Left	Touch	93.42%	100%	0.55	0.58
5520	104	Left	Tilt	93.33%	100%	0.41	0.44
5520	104	Right	Touch	93.33%	100%	0.22	0.23
Power Reduction with Simultaneous transmission of Main antenna+Second antenna+WLAN antenna							
5300	60	Left	Touch	93.46%	100%	0.31	0.33
5540	108	Left	Touch	93.33%	100%	0.51	0.54
5745	149	Left	Touch	93.42%	100%	0.49	0.52
5540	108	Left	Tilt	93.33%	100%	0.36	0.39
5745	149	Right	Touch	93.42%	100%	0.22	0.23

Table 14.3-15: SAR Values (WLAN - Body) – 802.11a 6Mbps

Full Power											
Frequency		Test Position	D (mm)	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.										
5220	44	Front	10	/	14.71	15.5	0.025	0.02	0.060	0.07	0.15
5220	44	Rear	10	/	14.71	15.5	0.022	0.02	0.055	0.07	-0.09
5220	44	Right	10	/	14.71	15.5	0.034	0.04	0.091	0.12	0.05
5220	44	Top	10	/	14.71	15.5	0.014	0.01	0.033	0.04	0.05
5745	149	Front	10	/	14.93	15	0.058	0.06	0.150	0.15	0.07
5745	149	Rear	10	/	14.93	15	0.037	0.04	0.095	0.10	0.07
5745	149	Right	10	Fig.32	14.93	15	0.067	0.07	0.190	0.19	0.09
5745	149	Top	10	/	14.93	15	0.021	0.02	0.048	0.05	0.13
5300	60	Front	15	/	15.78	16	0.017	0.02	0.045	0.05	-0.15
5300	60	Rear	15	/	15.78	16	0.018	0.02	0.044	0.05	0.12
5520	104	Front	15	/	15.63	16	0.027	0.03	0.073	0.08	0.08
5520	104	Rear	15	/	15.63	16	0.025	0.03	0.065	0.07	-0.02

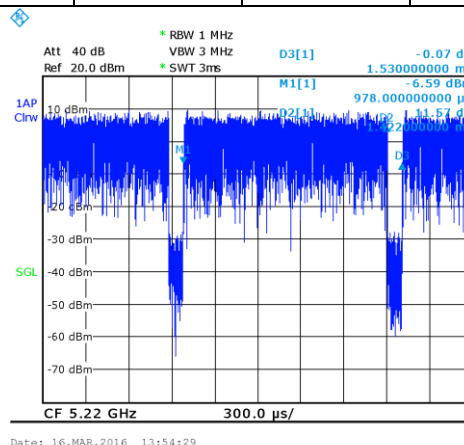
5745	149	Front	15	Fig.33	14.93	15	0.042	0.04	0.111	0.11	0.11
5745	149	Rear	15	/	14.93	15	0.028	0.03	0.074	0.08	0.00
Power Reduction with Simultaneous transmission of Main antenna+ WLAN antenna or Second antenna+WLAN antenna											
Frequency		Test Position	D (mm)	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
MHz	Ch.										
5180	36	Front	10	/	12.47	13	0.010	0.01	0.033	0.04	-0.02
5180	36	Rear	10	/	12.47	13	0.012	0.01	0.030	0.03	-0.06
5180	36	Right	10	/	12.47	13	0.012	0.01	0.033	0.04	0.11
5180	36	Top	10	/	12.47	13	0.006	0.01	0.016	0.02	-0.04
5745	149	Front	10	/	12.48	12.5	0.025	0.02	0.069	0.07	0.08
5745	149	Rear	10	/	12.48	12.5	0.020	0.02	0.060	0.06	-0.13
5745	149	Right	10	/	12.48	12.5	0.030	0.03	0.087	0.09	0.11
5745	149	Top	10	/	12.48	12.5	0.013	0.01	0.041	0.04	0.14
5320	64	Front	15	/	13.42	13.5	0.009	0.01	0.025	0.03	0.00
5320	64	Rear	15	/	13.42	13.5	0.009	0.01	0.025	0.03	-0.01
5520	104	Front	15	/	13.15	13.5	0.015	0.01	0.041	0.04	-0.10
5520	104	Rear	15	/	13.15	13.5	0.011	0.01	0.040	0.04	-0.03
5745	149	Front	15	/	12.48	12.5	0.023	0.02	0.066	0.07	-0.18
5745	149	Rear	15	/	12.48	12.5	0.016	0.02	0.049	0.05	0.01
Power Reduction with Simultaneous transmission of Main antenna+Second antenna+WLAN antenna											
Frequency		Test Position	D (mm)	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.										
5220	44	Front	10	/	11.11	12	0.013	0.01	0.037	0.05	-0.09
5220	44	Rear	10	/	11.11	12	0.008	0.01	0.026	0.03	-0.08
5220	44	Right	10	/	11.11	12	0.018	0.02	0.052	0.06	-0.19
5220	44	Top	10	/	11.11	12	0.006	0.01	0.018	0.02	0.07
5745	149	Front	10	/	11.43	11.5	0.025	0.03	0.067	0.07	0.12
5745	149	Rear	10	/	11.43	11.5	0.019	0.02	0.053	0.05	0.09
5745	149	Right	10	/	11.43	11.5	0.026	0.03	0.074	0.08	0.07
5745	149	Top	10	/	11.43	11.5	0.011	0.01	0.027	0.03	0.09
5300	60	Front	15	/	12.46	12.5	0.009	0.01	0.023	0.02	0.18
5300	60	Rear	15	/	12.46	12.5	0.008	0.01	0.020	0.02	0.16
5540	108	Front	15	/	12.45	12.5	0.014	0.01	0.039	0.04	-0.14
5540	108	Rear	15	/	12.45	12.5	0.015	0.01	0.037	0.04	0.16
5745	149	Front	15	/	11.43	11.5	0.019	0.02	0.051	0.05	0.14
5745	149	Rear	15	/	11.43	11.5	0.016	0.02	0.045	0.05	0.13

As shown above table, the initial test position for body is “Right” with U-NII-1&U-NII-3 and “Front” with U-NII-2A&U-NII-2C.

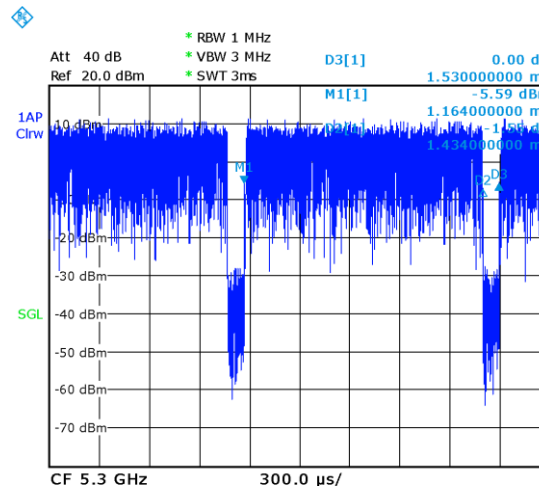
According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. The scaled reported SAR is presented as below.

Table 14.3-16: SAR Values (WLAN - Body) – 802.11a 6Mbps (Scaled Reported SAR)

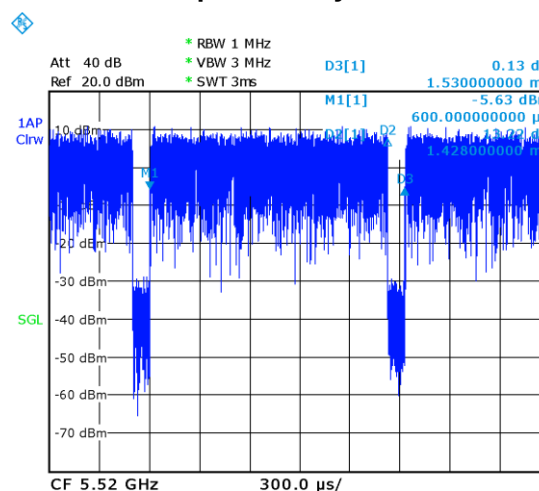
Full Power						
Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.					
5220	44	Right 10mm	92.94%	100%	0.12	0.13
5300	60	Front 10mm	93.46%	100%	0.05	0.05
5520	104	Front 10mm	93.33%	100%	0.08	0.09
5745	149	Right 10mm	93.42%	100%	0.19	0.20
Power Reduction with Simultaneous transmission of Main antenna+ WLAN antenna or Second antenna+WLAN antenna						
Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.					
5180	36	Right 10mm	92.94%	100%	0.04	0.04
5320	64	Front 10mm	93.46%	100%	0.03	0.03
5520	104	Front 10mm	93.33%	100%	0.04	0.05
5745	149	Right 10mm	93.42%	100%	0.09	0.09
5745	149	Rear 10mm	93.42%	100%	0.06	0.06
5745	149	Rear 15mm	93.42%	100%	0.05	0.05
Power Reduction with Simultaneous transmission of Main antenna+Second antenna+WLAN antenna						
Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.					
5220	44	Right 10mm	92.94%	100%	0.06	0.07
5300	60	Front 10mm	93.46%	100%	0.02	0.03
5540	108	Front 10mm	93.33%	100%	0.04	0.04
5745	149	Right 10mm	93.42%	100%	0.08	0.08
5745	149	Rear 10mm	93.42%	100%	0.05	0.06
5745	149	Rear 15mm	93.42%	100%	0.05	0.06



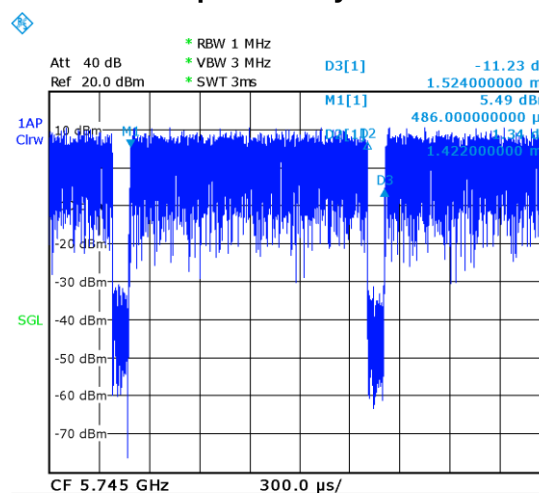
Picture 14.2 The plot of duty factor for UNII-1



Picture 14.3 The plot of duty factor for UNII-2A



Picture 14.4 The plot of duty factor for UNII-2C



Picture 14.5 The plot of duty factor for UNII-3

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 Head GSM 850 (1g)

Second antenna – Second Modem							
Frequency		Side	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
848.8	251	Right	Touch	1.15	1.14	1.01	/

Table 15.2: SAR Measurement Variability for Body GSM 850 (1g)

Second antenna – Second Modem							
Frequency		Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
848.8	251	Rear	10	0.903	0.887	1.02	/

Table 15.3: SAR Measurement Variability for Head GSM 1900 (1g)

Second antenna – Second Modem							
Frequency		Side	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
1909.8	810	Right	Touch	1.21	1.19	1.02	/

Table 15.4: SAR Measurement Variability for Head WCDMA 850 (1g)

Second antenna – Main Modem							
Frequency		Side	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
846.6	4233	Right	Touch	1.11	1.09	1.02	/

Table 15.5: SAR Measurement Variability for Head WCDMA 1700 (1g)

Second antenna – Main Modem							
Frequency		Side	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
1732.4	1637	Right	Touch	1.25	1.24	1.01	/

Table 15.6: SAR Measurement Variability for Head WCDMA 1900 (1g)

Second antenna – Main Modem							
Frequency		Side	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
1907.6	9938	Right	Touch	1.03	1.01	1.02	/

Table 15.7: SAR Measurement Variability for Head LTE Band 4 (1g)

Second antenna – Main Modem							
Frequency		Side	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
1732.5	20175	Right	Touch	1.1	1.09	1.01	/

Table 15.8: SAR Measurement Variability for Head LTE Band 7 (1g)

Second antenna – Main Modem							
Frequency		Side	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
2535	21100	Right	Touch	1.09	1.09	1.00	/

Table 15.9: SAR Measurement Variability for Head WLAN-2.4G (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	Tilt	1.23	1.20	1.03	/

Table 15.10: SAR Measurement Variability for Head WLAN-5G (1g)

Frequency		Side	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
MHz	Ch.						
5520	104	Left	Touch	1.20	1.18	1.02	/

16 Measurement Uncertainty

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

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

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

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

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.5	N	1	1	1	6.5	6.5	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	2.0	R	$\sqrt{3}$	1	1	1.2	1.2	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RF ambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
12	Probe positioning with respect to phantom shell	B	6.7	R	$\sqrt{3}$	1	1	3.9	3.9	∞
13	Post-processing	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
Test sample related										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
17	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43

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

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

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

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

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

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	6.5	N	1	1	1	6.5	6.5	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	2.0	R	$\sqrt{3}$	1	1	1.2	1.2	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RF ambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. Restrictions	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
12	Probe positioning with respect to phantom shell	B	6.7	R	$\sqrt{3}$	1	1	3.9	3.9	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
14	Fast SAR z-Approximation	B	14.0	R	$\sqrt{3}$	1	1	8.1	8.1	∞
Test sample related										

15	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
16	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
17	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
18	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
20	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
21	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
22	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c' = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						13.3	13.2	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						26.6	26.4	

17 MAIN TEST INSTRUMENTS

Table 17.1: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	E5071C	MY46110673	January 26, 2016	One year
02	Dielectric Probe Kit	85070E	Agilent	No Calibration Requested	
03	Power meter	NRVD	102196	March 03, 2015	One year
04	Power sensor	NRV-Z5	100596		
05	Power sensor	NRV-Z5	100595	September 16, 2015	One year
06	Signal Generator	E4438C	MY49071430	February 01, 2016	One year
07	Amplifier	60S1G4	0331848	No Calibration Requested	
08	Directional Coupler	778D	MY48220584	No Calibration Requested	
09	Directional Coupler	772D	MY46151265	No Calibration Requested	
10	BTS	E5515C	MY50263375	January 30, 2016	One year
11	BTS	CMW500	129942	March 03, 2015	One year
12	E-field Probe	SPEAG EX3DV4	3617	August 26, 2015	One year
13	DAE	SPEAG DAE4	777	August 26, 2015	One year
14	Dipole Validation Kit	SPEAG D835V2	4d069	July 23, 2015	One year
15	Dipole Validation Kit	SPEAG D1750V2	1003	July 16, 2015	One year
16	Dipole Validation Kit	SPEAG D1900V2	5d101	July 23, 2015	One year
17	Dipole Validation Kit	SPEAG D2450V2	853	July 24, 2015	One year
18	Dipole Validation Kit	SPEAG D2600V2	1012	July 24, 2015	One year
19	Dipole Validation Kit	SPEAG D5GHzV2	1060	July 27, 2015	One year

END OF REPORT BODY

ANNEX A Graph Results

850 Right Cheek High

Date: 2016-2-19

Electronics: DAE4 Sn777

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.933$ mho/m; $\epsilon_r = 40.958$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

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

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

Maximum value of SAR (interpolated) = 1.44 W/kg

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

Reference Value = 20.05 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 2.70 W/kg

SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.586 W/kg

Maximum value of SAR (measured) = 1.41 W/kg

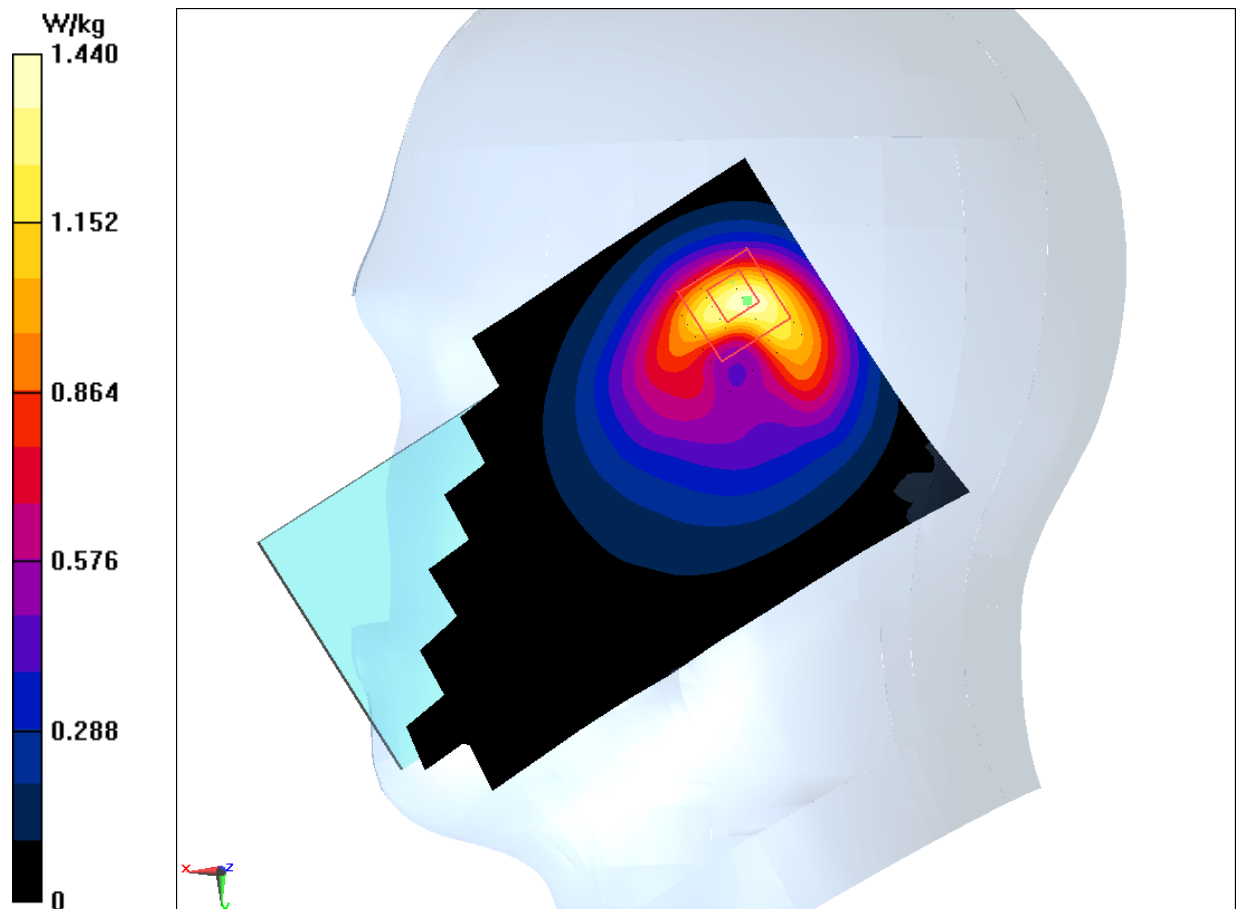


Fig.1 850MHz

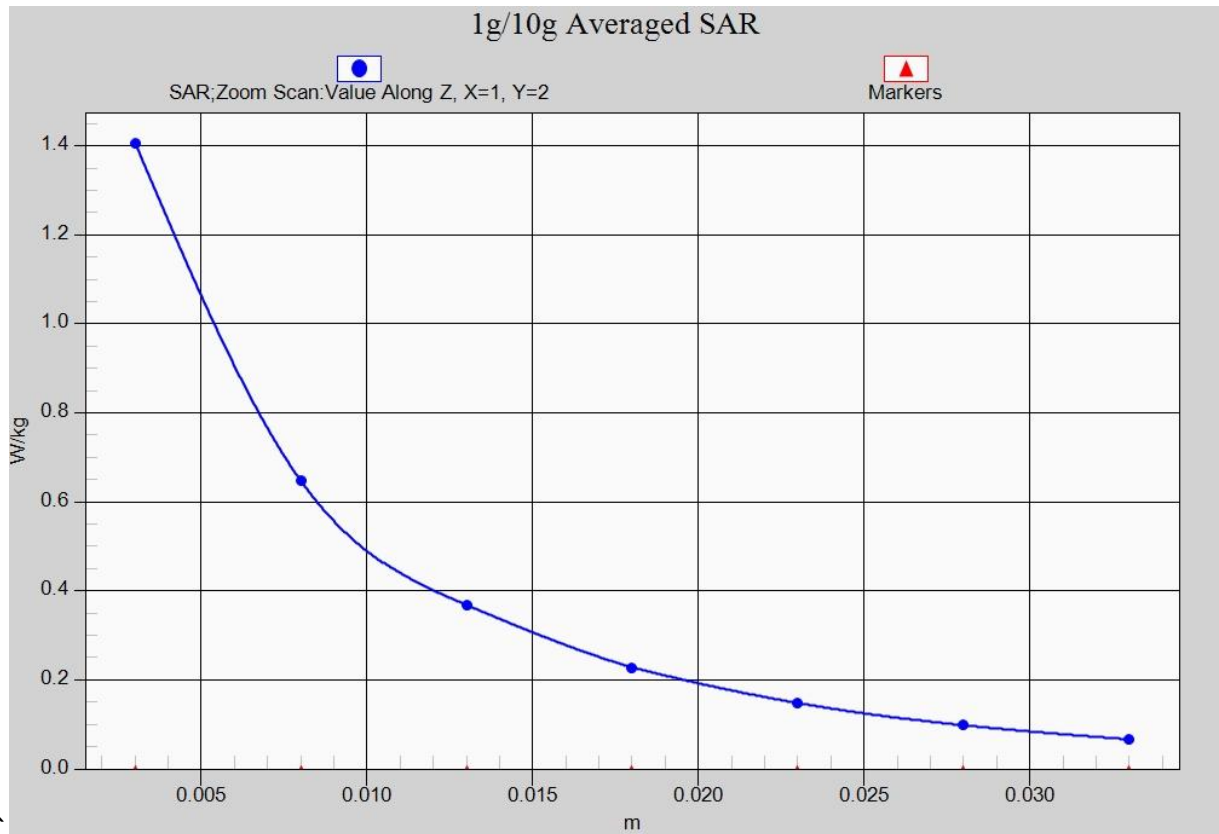


Fig. 1-1 Z-Scan at power reference point (850 MHz)

850 Body Rear High – 10mm

Date: 2016-2-19

Electronics: DAE4 Sn777

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.987$ mho/m; $\epsilon_r = 56.06$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

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

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

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

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

Reference Value = 16.70 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 1.64 W/kg

SAR(1 g) = 0.903 W/kg; SAR(10 g) = 0.500 W/kg

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

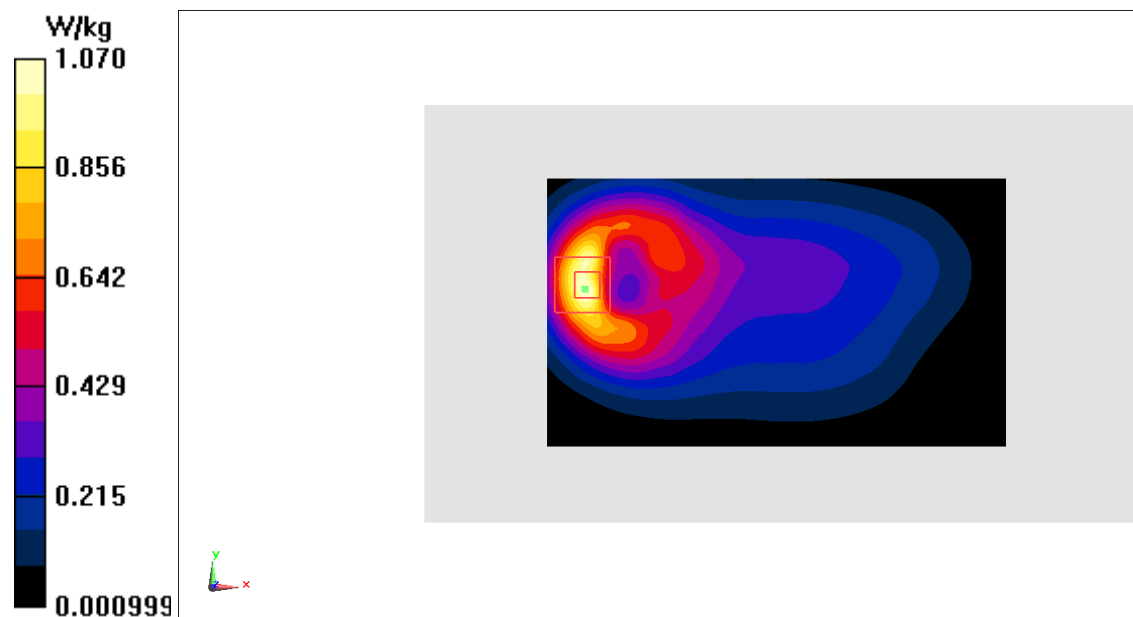


Fig.2 850 MHz

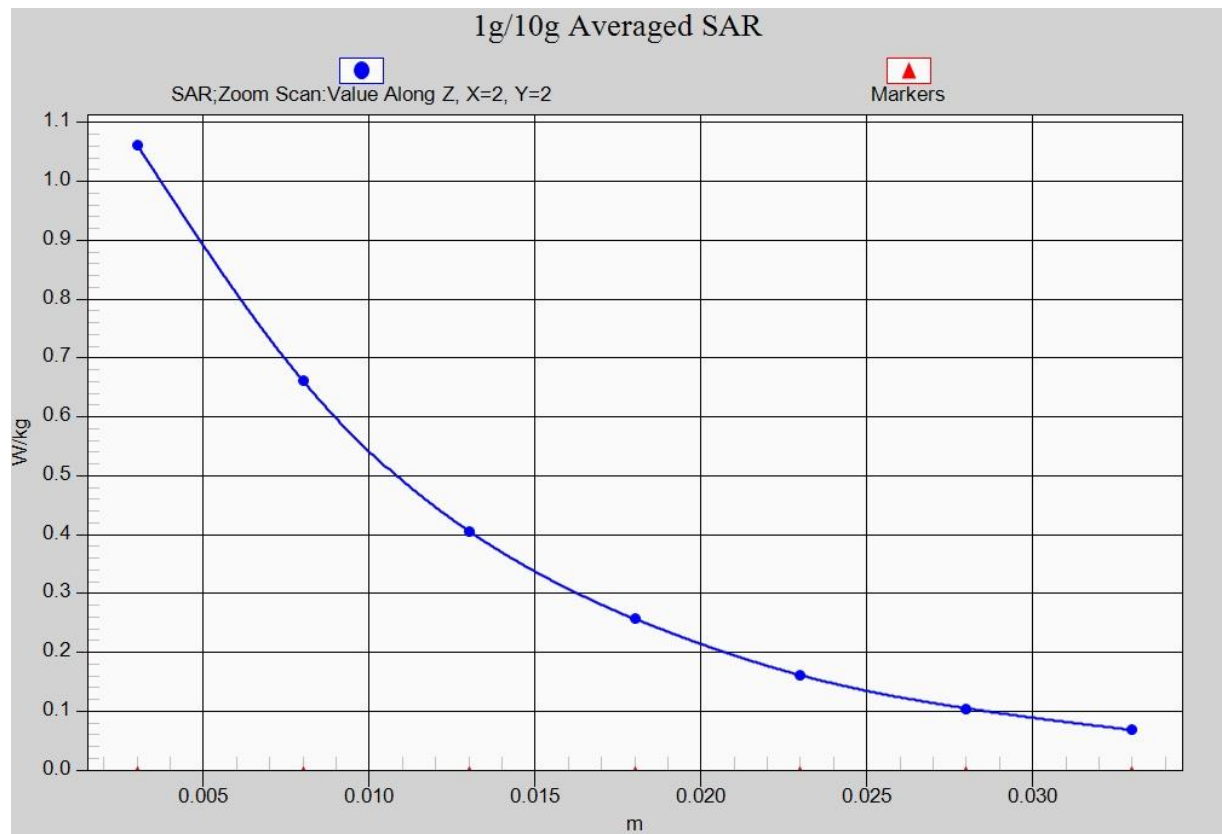


Fig. 2-1 Z-Scan at power reference point (850 MHz)

850 Body Rear High – 15mm

Date: 2016-2-19

Electronics: DAE4 Sn777

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.987$ mho/m; $\epsilon_r = 56.06$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

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

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

Maximum value of SAR (interpolated) = 0.406 W/kg

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

Reference Value = 16.48 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.590 W/kg

SAR(1 g) = 0.355 W/kg; SAR(10 g) = 0.211 W/kg

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

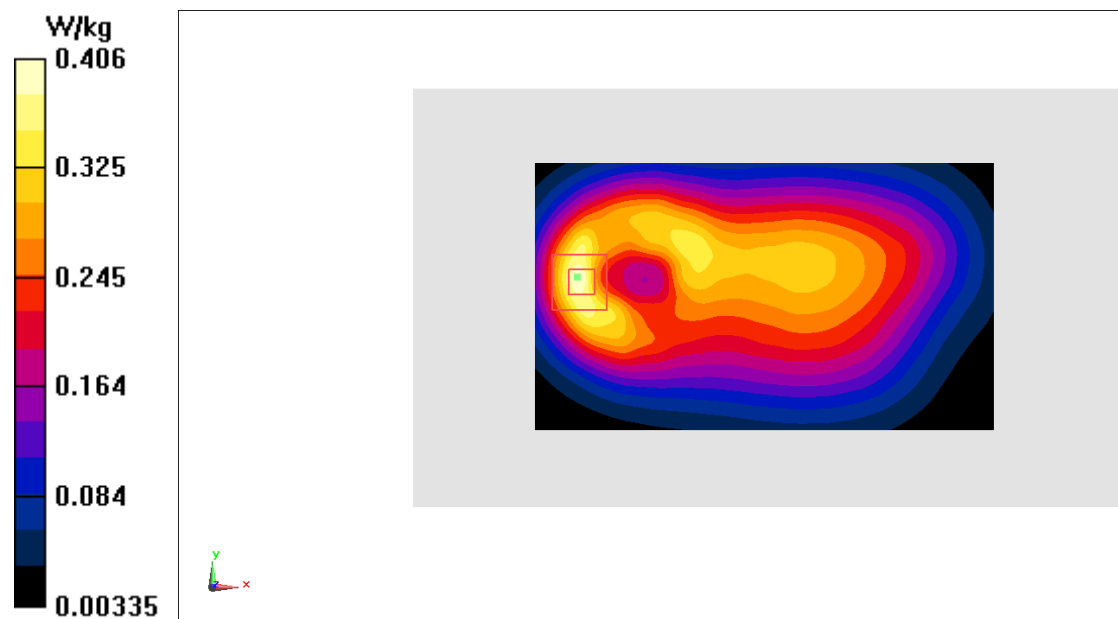


Fig.3 850 MHz

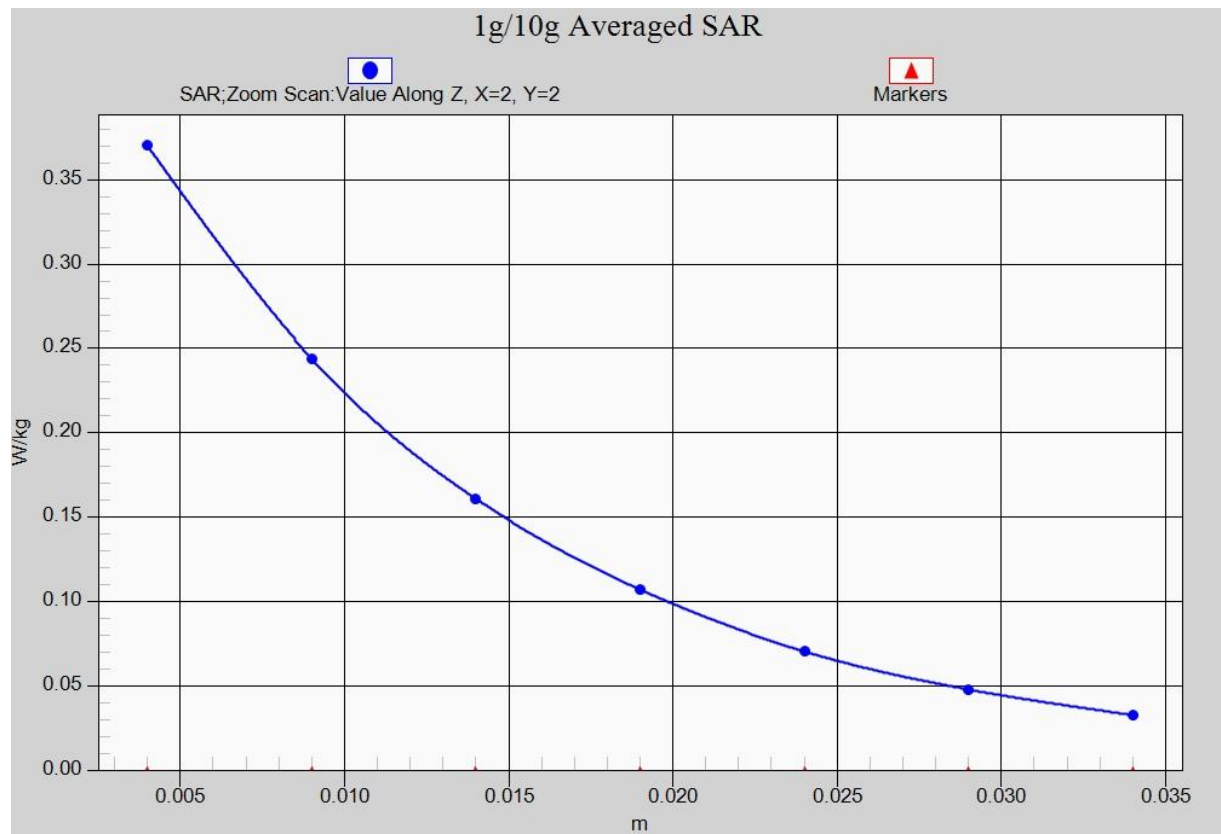


Fig. 3-1 Z-Scan at power reference point (850 MHz)

1900 Right Cheek High

Date: 2016-2-21

Electronics: DAE4 Sn777

Medium: Head 1900 MHz

Medium parameters use (interpolated): $f = 1909.8$ MHz; $\sigma = 1.436$ mho/m; $\epsilon_r = 39.8$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

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

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

Maximum value of SAR (interpolated) = 1.51 W/kg

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

Reference Value = 20.05 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 2.51 W/kg

SAR(1 g) = 1.21 W/kg; SAR(10 g) = 0.647 W/kg

Maximum value of SAR (measured) = 1.39 W/kg

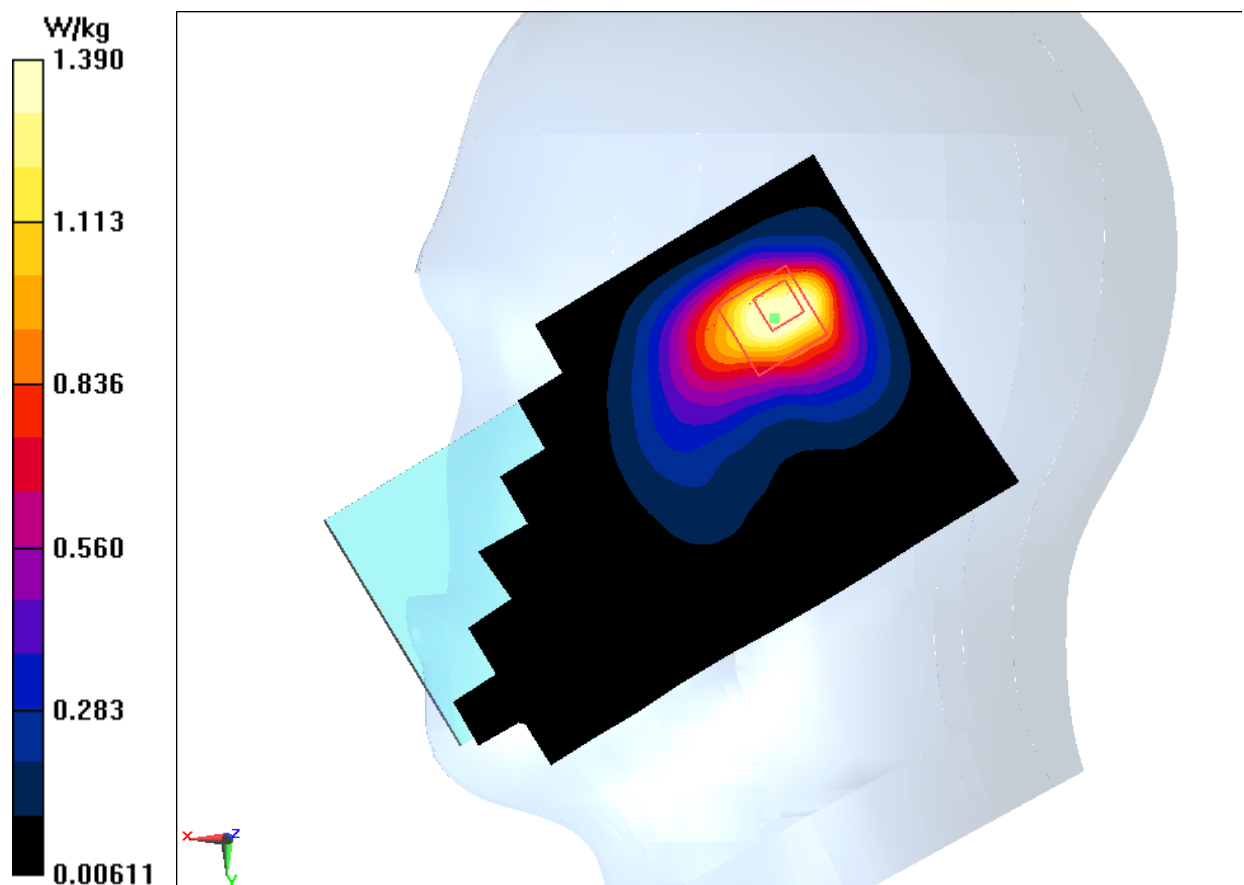


Fig.4 1900 MHz

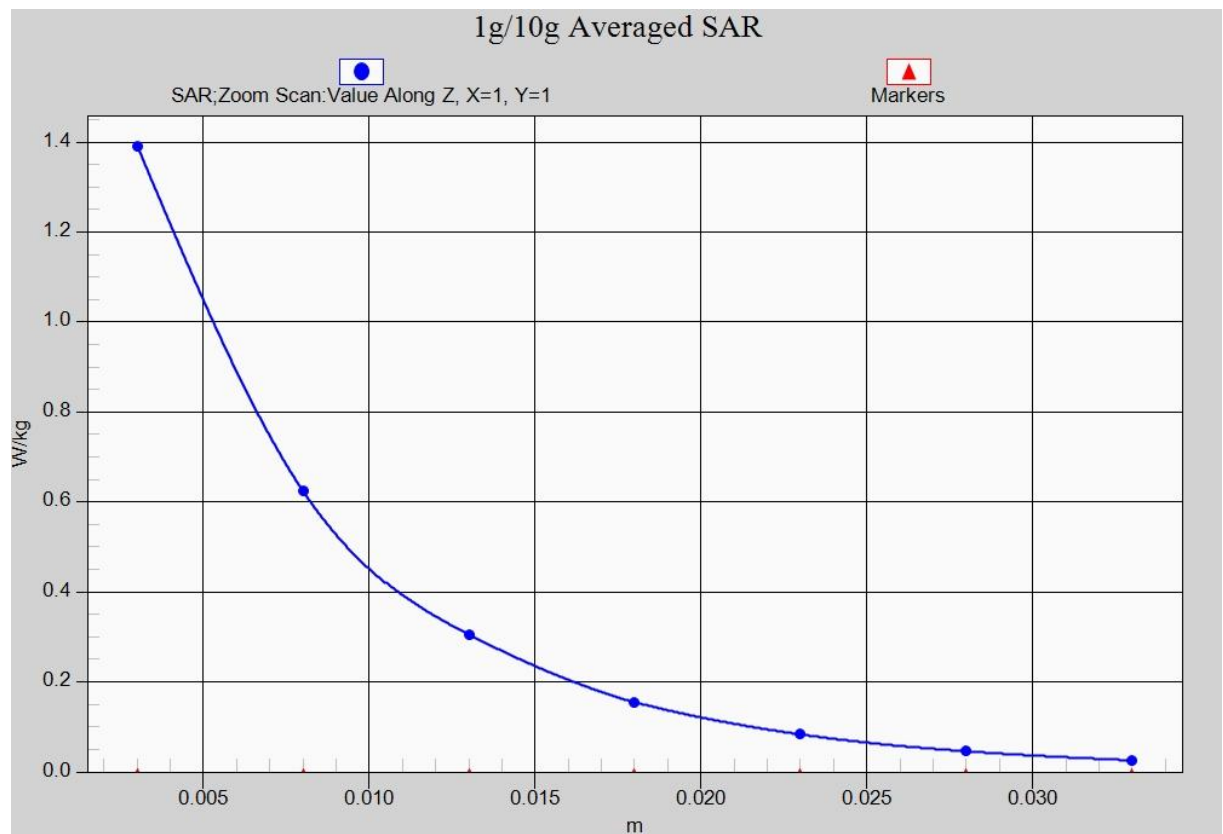


Fig. 4-1 Z-Scan at power reference point (1900 MHz)

1900 Body Rear High – 10mm

Date: 2016-2-21

Electronics: DAE4 Sn777

Medium: Body 1900 MHz

Medium parameters used (interpolated): $f = 1909.8$ MHz; $\sigma = 1.555$ mho/m; $\epsilon_r = 54.06$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:2

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

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

Maximum value of SAR (interpolated) = 0.841 W/kg

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

Reference Value = 5.564 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.26 W/kg

SAR(1 g) = 0.695 W/kg; SAR(10 g) = 0.348 W/kg

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

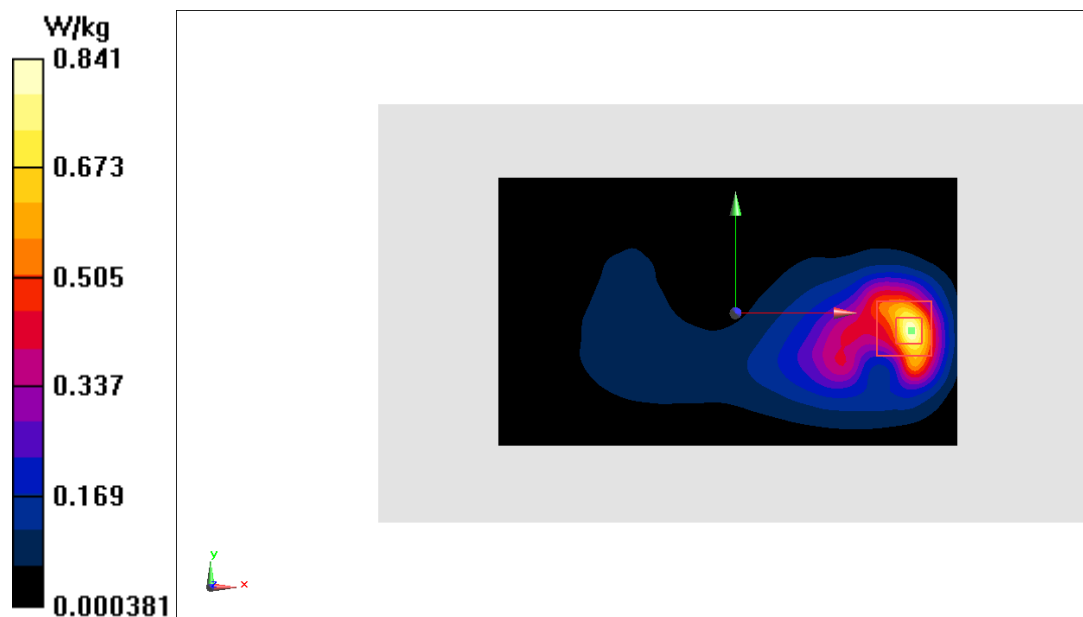


Fig.5 1900 MHz

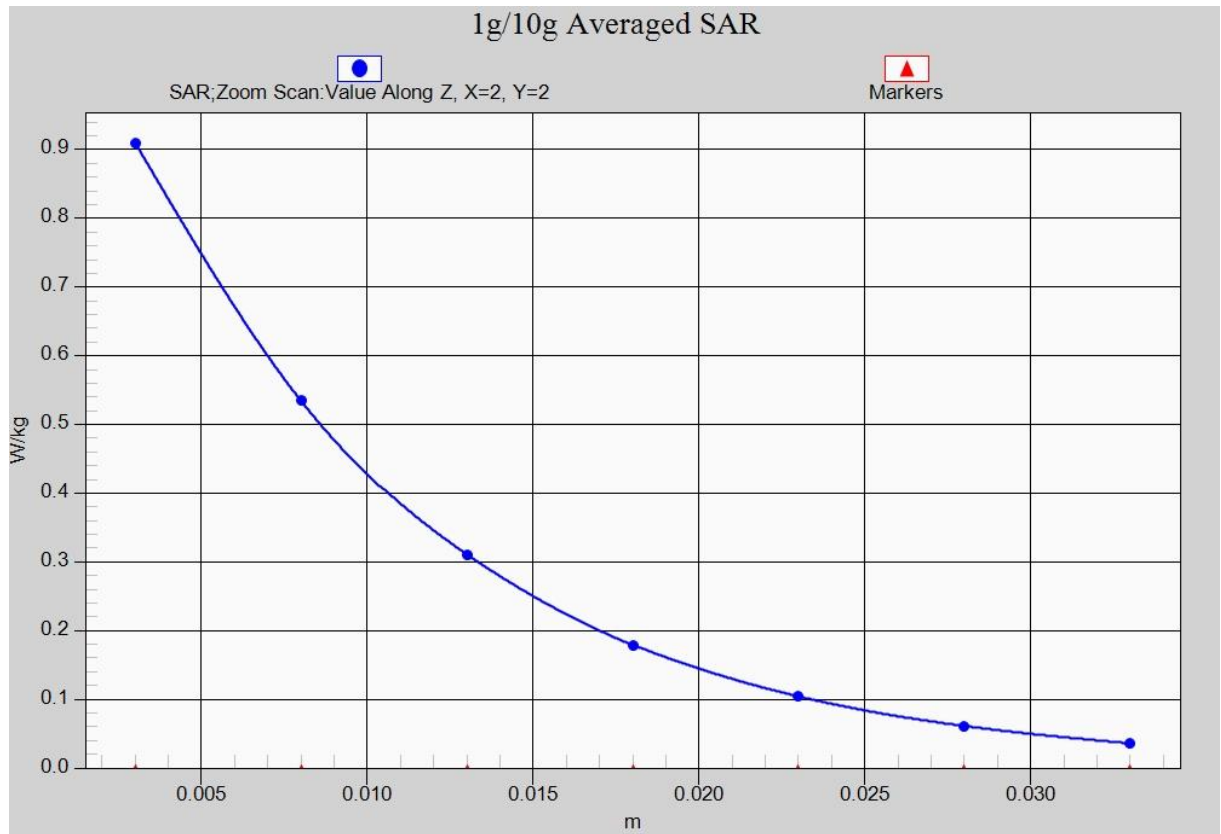


Fig.5-1 Z-Scan at power reference point (1900 MHz)

1900 Body Rear Low – 15mm

Date: 2016-2-21

Electronics: DAE4 Sn777

Medium: Body 1900 MHz

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.511$ mho/m; $\epsilon_r = 54.24$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

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

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

Maximum value of SAR (interpolated) = 0.317 W/kg

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

Reference Value = 4.643 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.415 W/kg

SAR(1 g) = 0.255 W/kg; SAR(10 g) = 0.145 W/kg

Maximum value of SAR (measured) = 0.314 W/kg

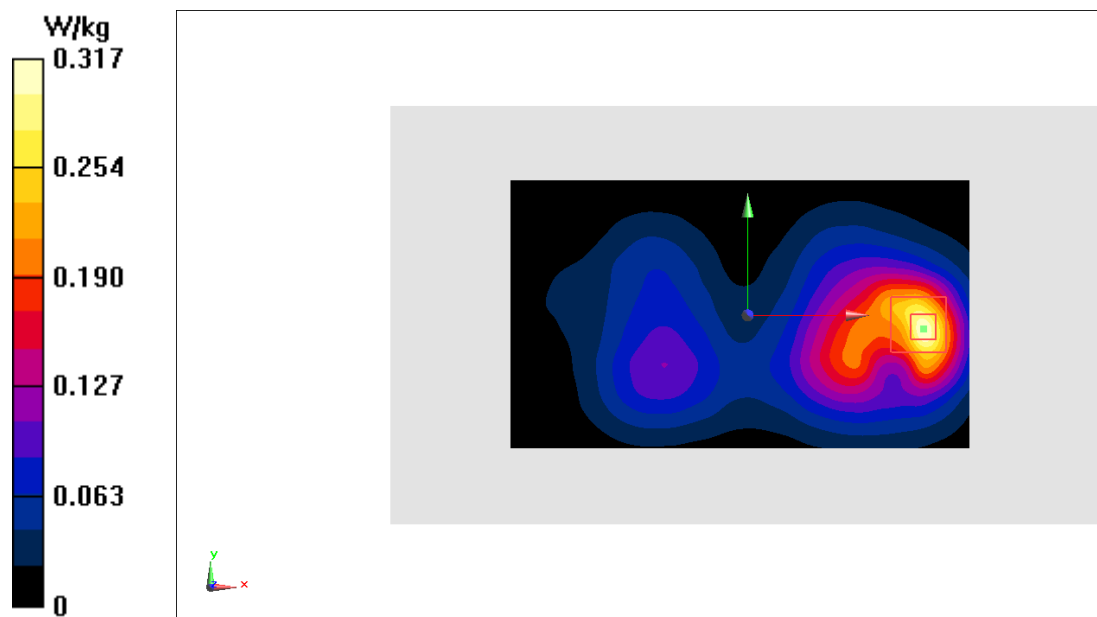


Fig.6 1900 MHz

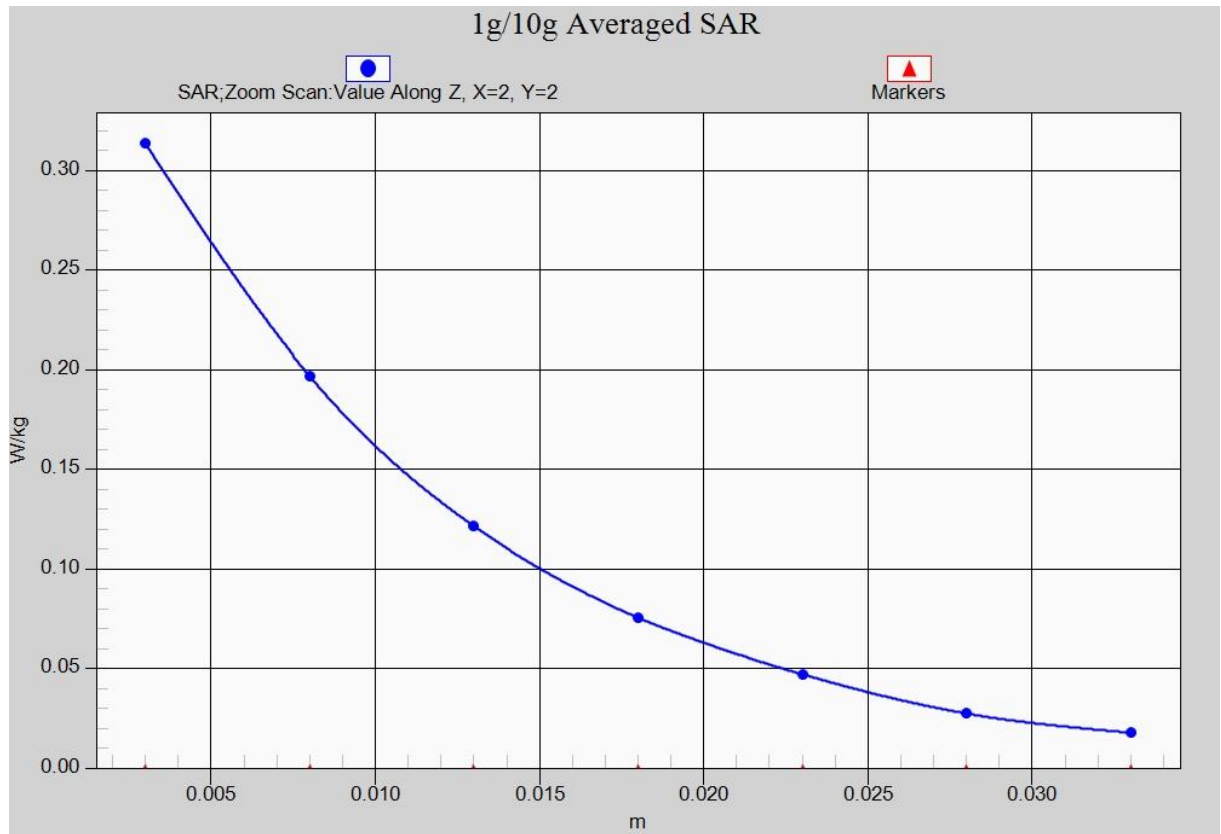


Fig.6-1 Z-Scan at power reference point (1900 MHz)

WCDMA 850 Right Cheek High

Date: 2016-2-19

Electronics: DAE4 Sn777

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 846.6$ MHz; $\sigma = 0.931$ mho/m; $\epsilon_r = 40.983$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

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

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

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

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

Reference Value = 21.76 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 2.47 W/kg

SAR(1 g) = 1.11 W/kg; SAR(10 g) = 0.574 W/kg

Maximum value of SAR (measured) = 1.40 W/kg

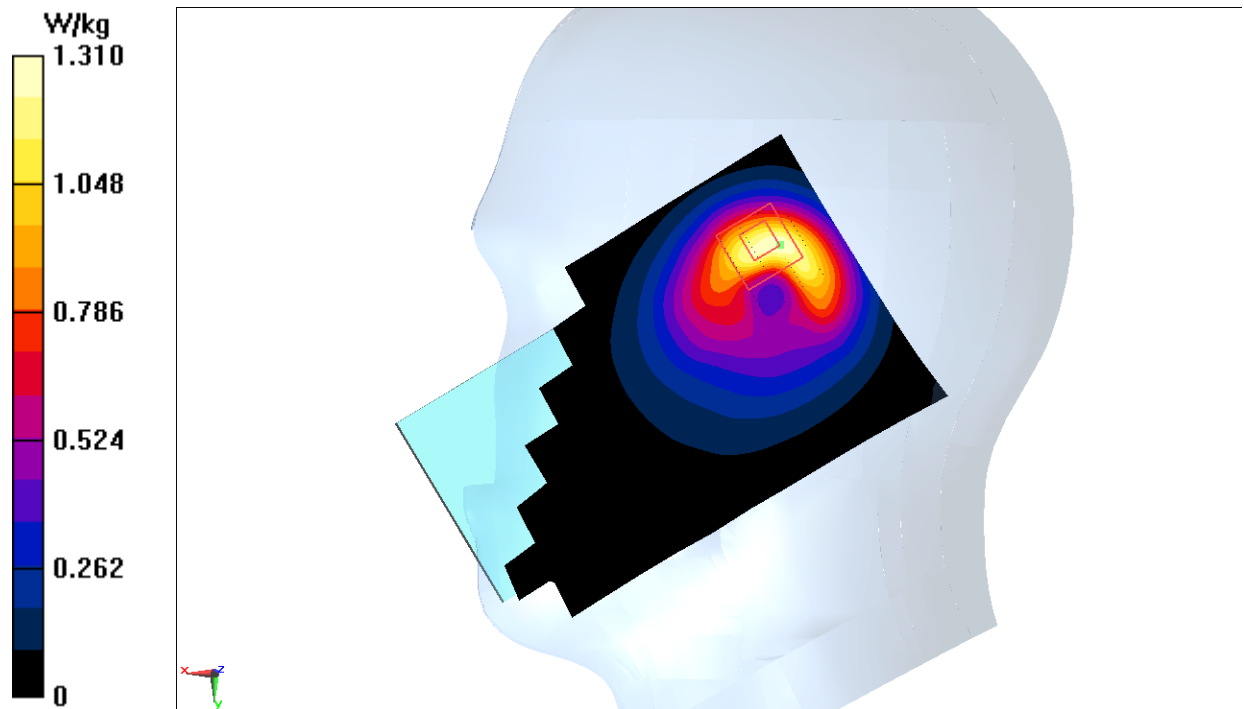


Fig.7 WCDMA 850

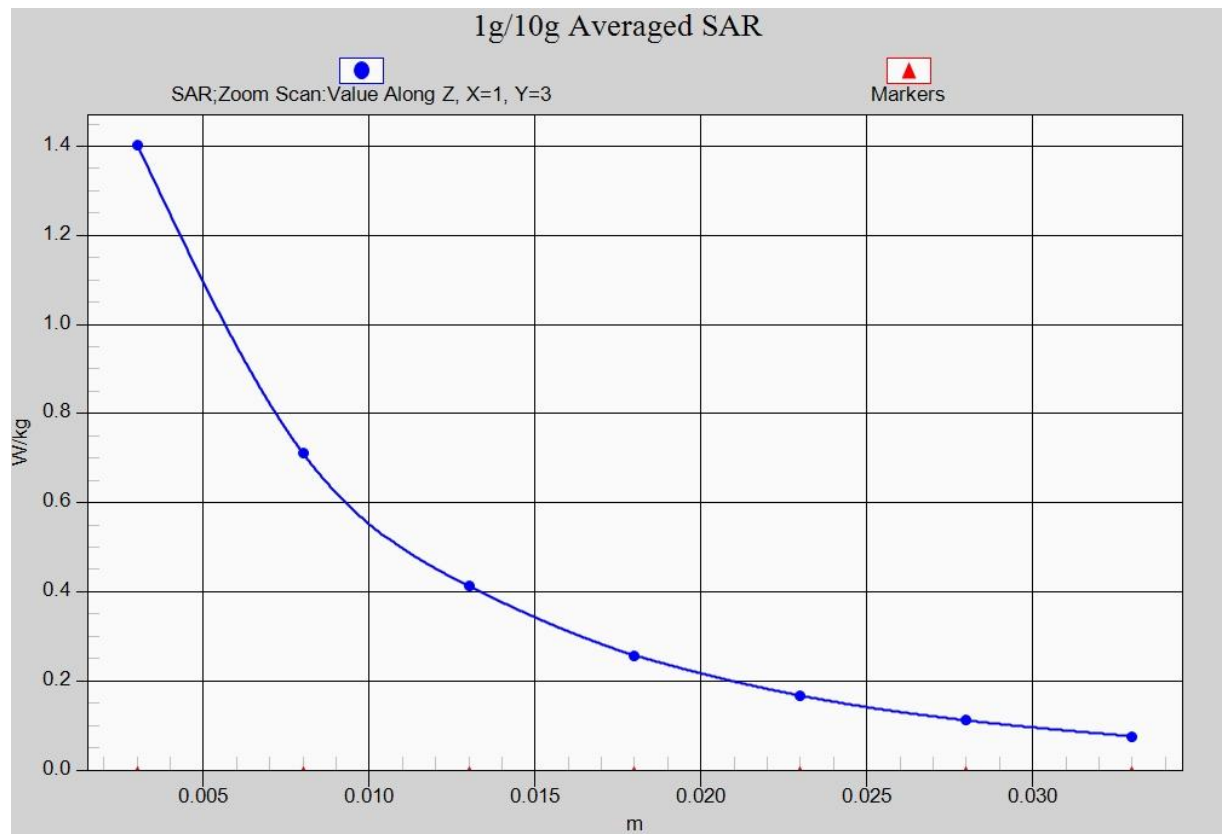


Fig. 7-1 Z-Scan at power reference point (WCDMA 850)

WCDMA 850 Body Rear High – 10mm

Date: 2016-2-19

Electronics: DAE4 Sn777

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 846.6$ MHz; $\sigma = 0.984$ mho/m; $\epsilon_r = 56.087$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

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

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

Maximum value of SAR (interpolated) = 0.389 W/kg

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

Reference Value = 12.66 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.640 W/kg

SAR(1 g) = 0.352 W/kg; SAR(10 g) = 0.196 W/kg

Maximum value of SAR (measured) = 0.376 W/kg

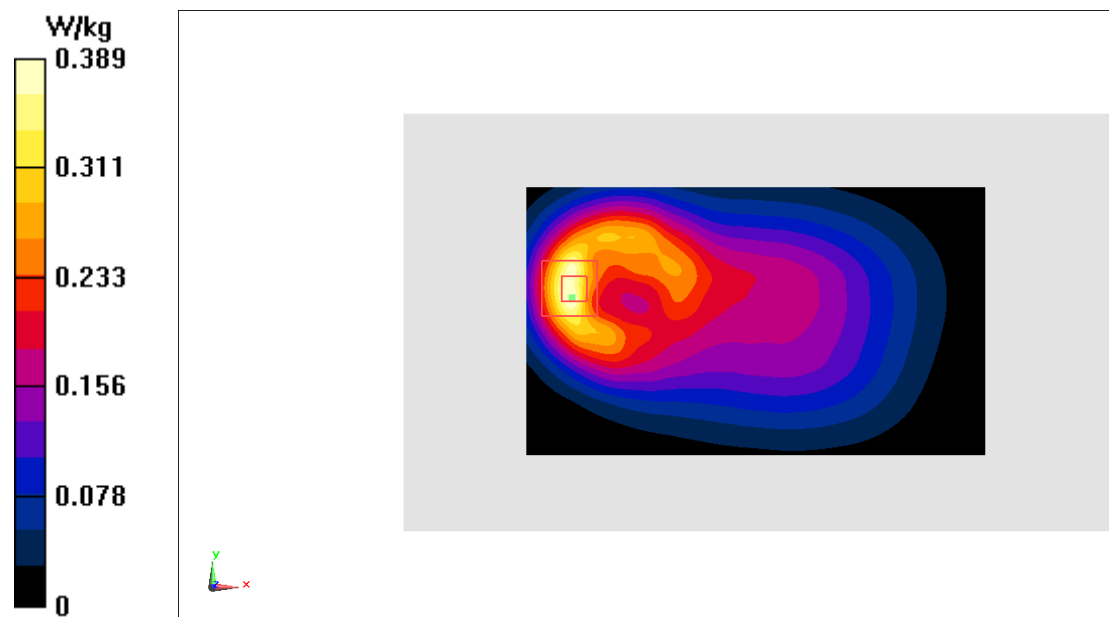


Fig.8 WCDMA 850

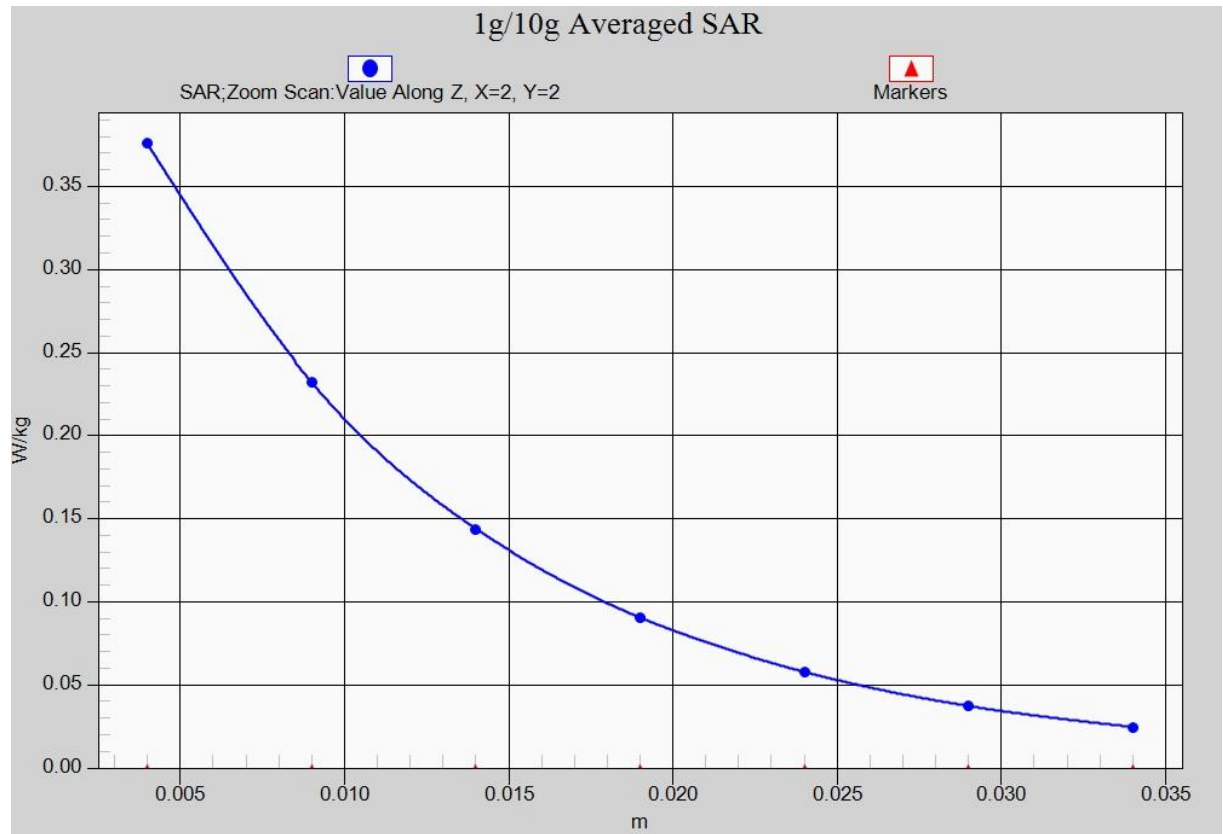


Fig. 8-1 Z-Scan at power reference point (WCDMA850)

WCDMA 850 Body Rear Low – 15mm

Date: 2016-2-19

Electronics: DAE4 Sn777

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 826.4$ MHz; $\sigma = 0.964$ mho/m; $\epsilon_r = 56.327$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

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

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

Maximum value of SAR (interpolated) = 0.225 W/kg

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

Reference Value = 14.14 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.251 W/kg

SAR(1 g) = 0.194 W/kg; SAR(10 g) = 0.150 W/kg

Maximum value of SAR (measured) = 0.224 W/kg

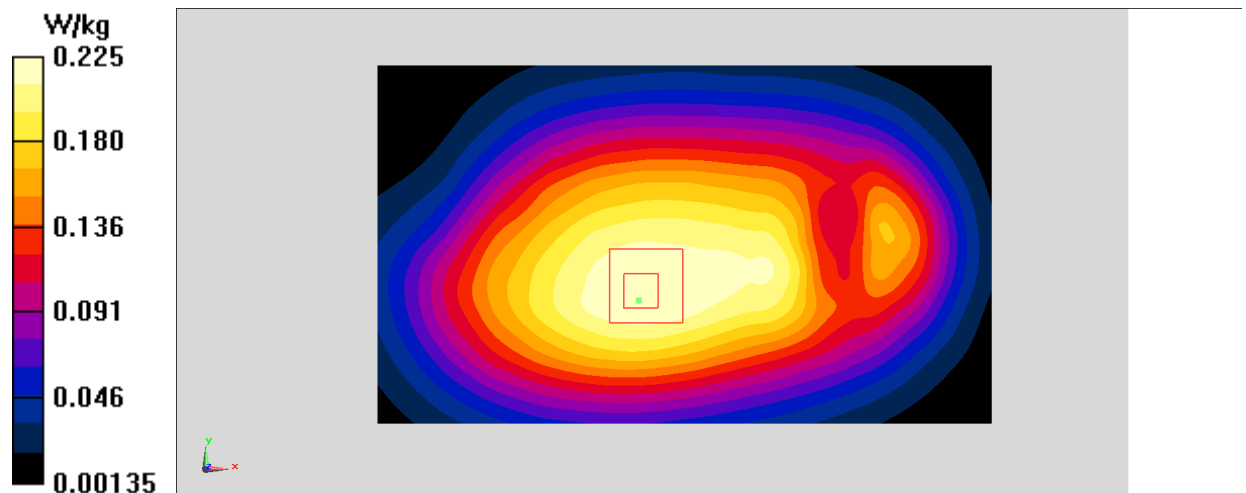


Fig.9 WCDMA 850

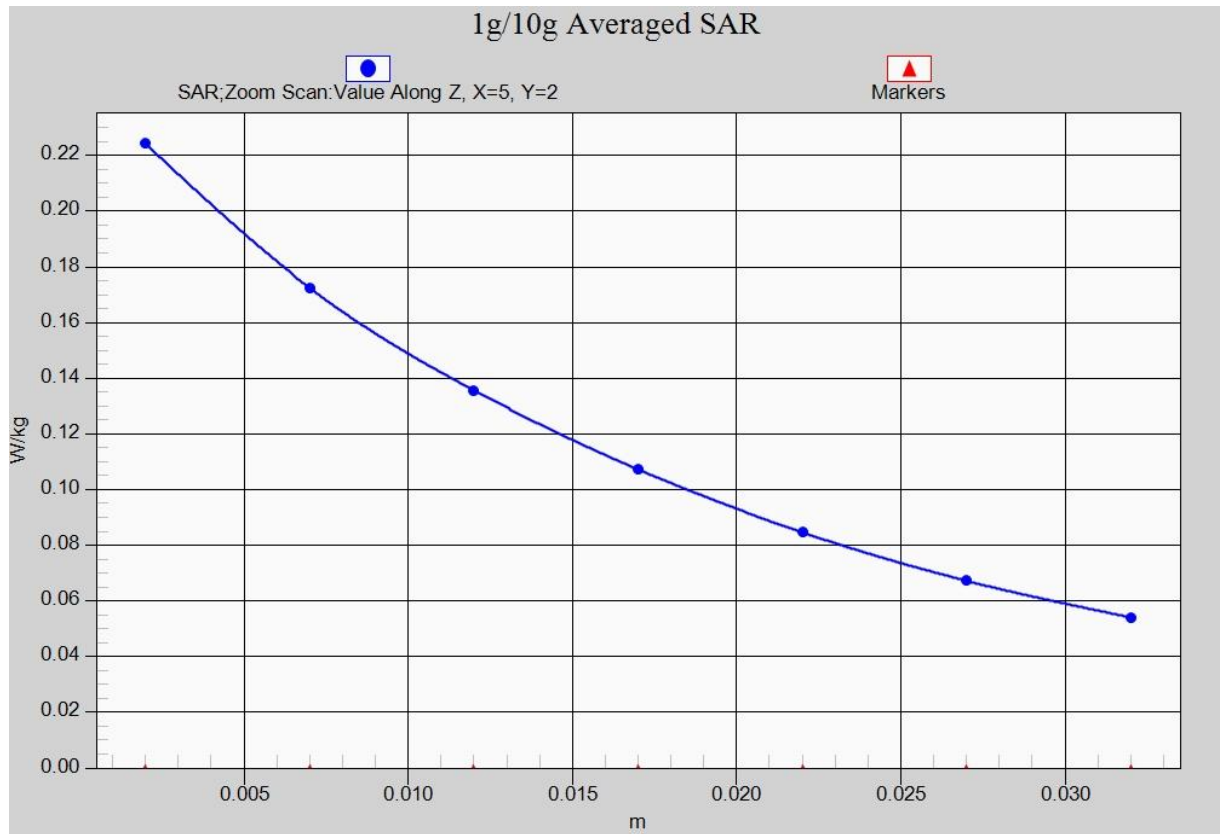


Fig. 9-1 Z-Scan at power reference point (WCDMA850)

WCDMA 1700 Right Cheek Middle

Date: 2016-2-20

Electronics: DAE4 Sn777

Medium: Head 1750 MHz

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.345$ mho/m; $\epsilon_r = 39.59$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

Communication System: WCDMA 1700 Frequency: 1732.4 MHz Duty Cycle: 1:1

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

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

Maximum value of SAR (interpolated) = 2.02 W/kg

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

Reference Value = 18.67 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 2.31 W/kg

SAR(1 g) = 1.25 W/kg; SAR(10 g) = 0.724 W/kg

Maximum value of SAR (measured) = 1.63 W/kg

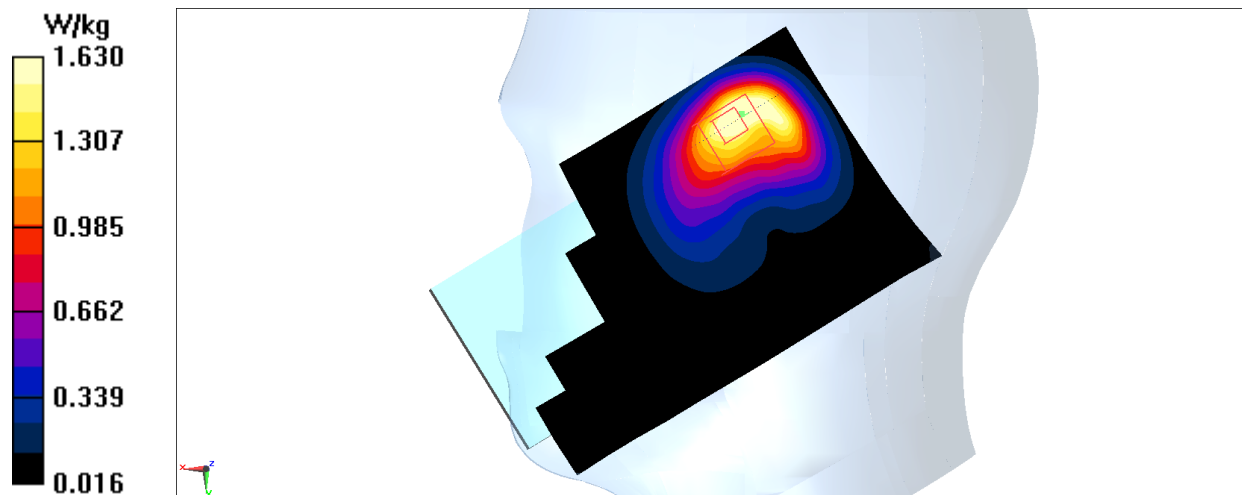


Fig.10 1700MHz

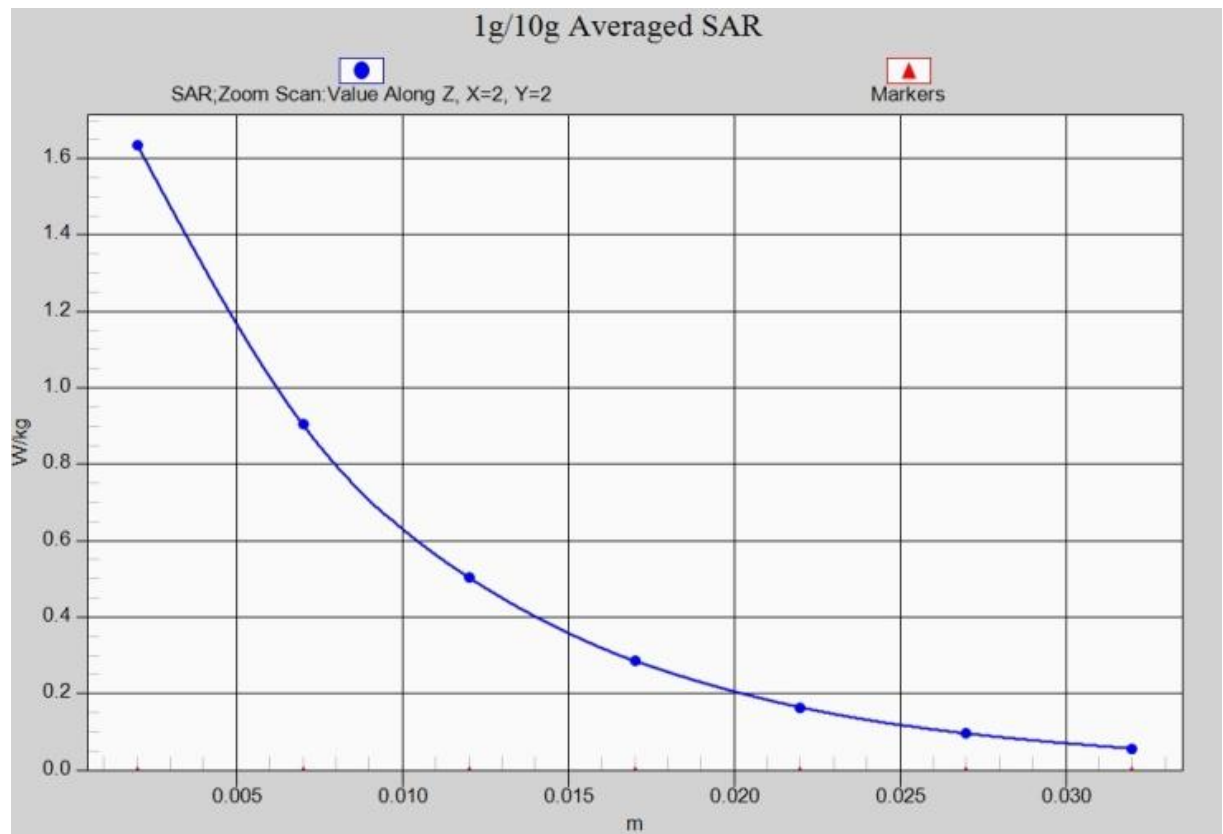


Fig. 10-1 Z-Scan at power reference point (1700 MHz)

WCDMA 1700 Body Rear Middle – 10mm

Date: 2016-2-20

Electronics: DAE4 Sn777

Medium: Body 1750 MHz

Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.454$ mho/m; $\epsilon_r = 52.73$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

Communication System: WCDMA 1700 Frequency: 1732.4 MHz Duty Cycle: 1:1

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

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

Maximum value of SAR (interpolated) = 0.721 W/kg

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

Reference Value = 9.057 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.868 W/kg

SAR(1 g) = 0.521 W/kg; SAR(10 g) = 0.296 W/kg

Maximum value of SAR (measured) = 0.653 W/kg

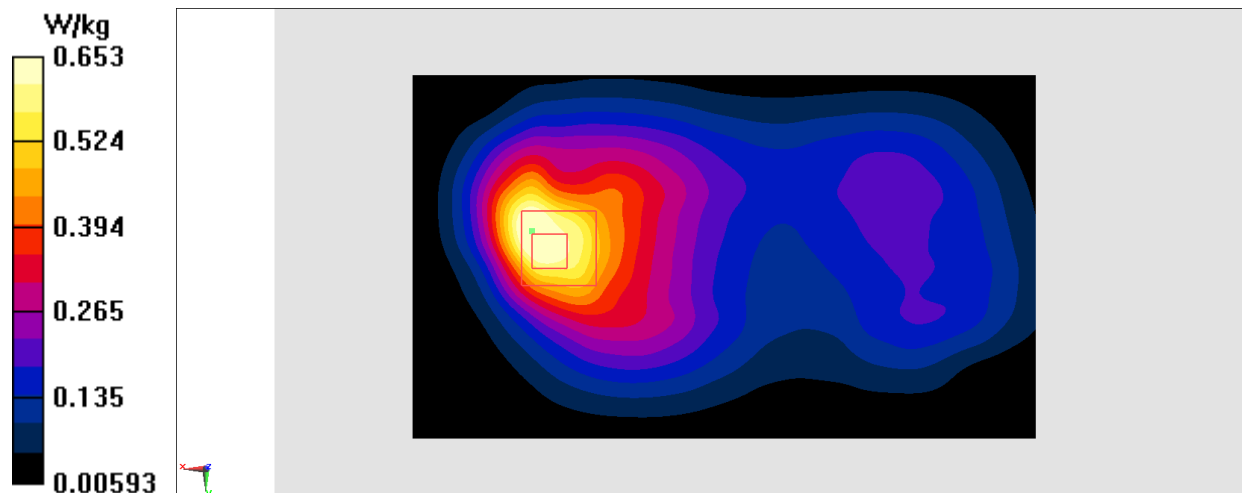


Fig.11 1700 MHz

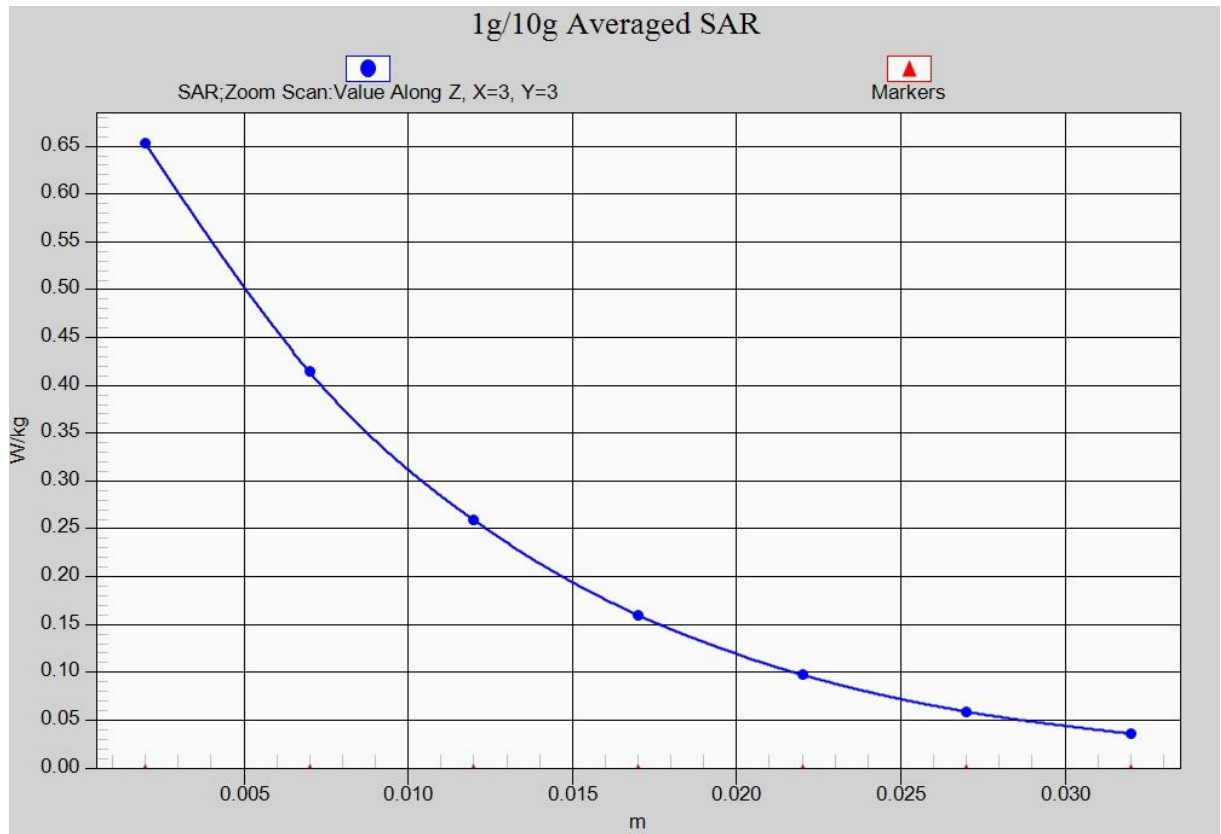


Fig. 11-1 Z-Scan at power reference point (1700 MHz)

WCDMA 1700 Body Rear High – 15mm

Date: 2016-2-20

Electronics: DAE4 Sn777

Medium: Body 1750 MHz

Medium parameters used (interpolated): $f = 1752.6$ MHz; $\sigma = 1.485$ mho/m; $\epsilon_r = 52.69$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

Communication System: WCDMA 1700 Frequency: 1752.6 MHz Duty Cycle: 1:1

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

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

Maximum value of SAR (interpolated) = 0.385 W/kg

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

Reference Value = 7.416 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.470 W/kg

SAR(1 g) = 0.287 W/kg; SAR(10 g) = 0.167 W/kg

Maximum value of SAR (measured) = 0.372 W/kg

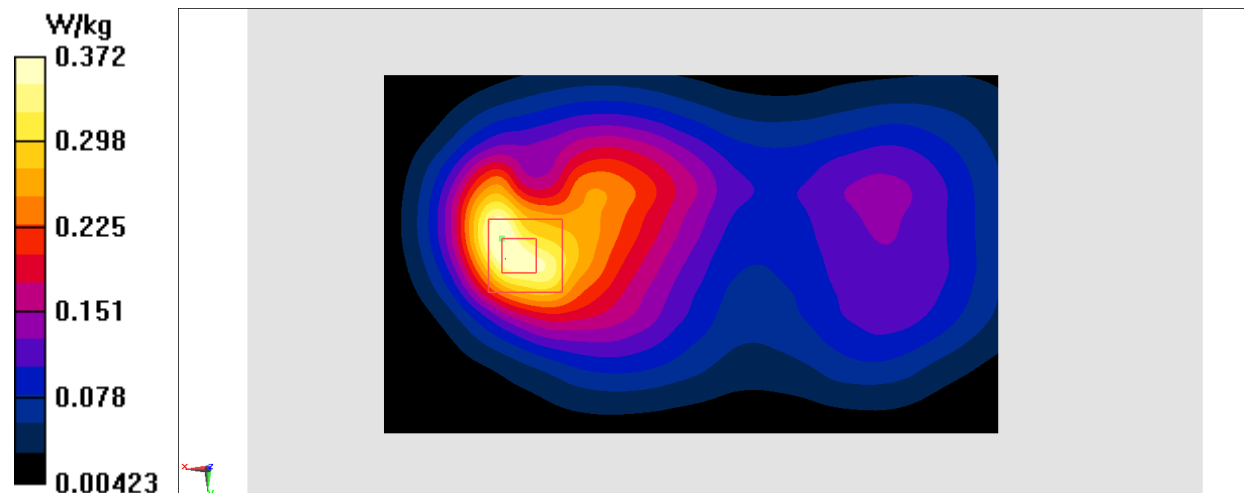


Fig.12 1700 MHz

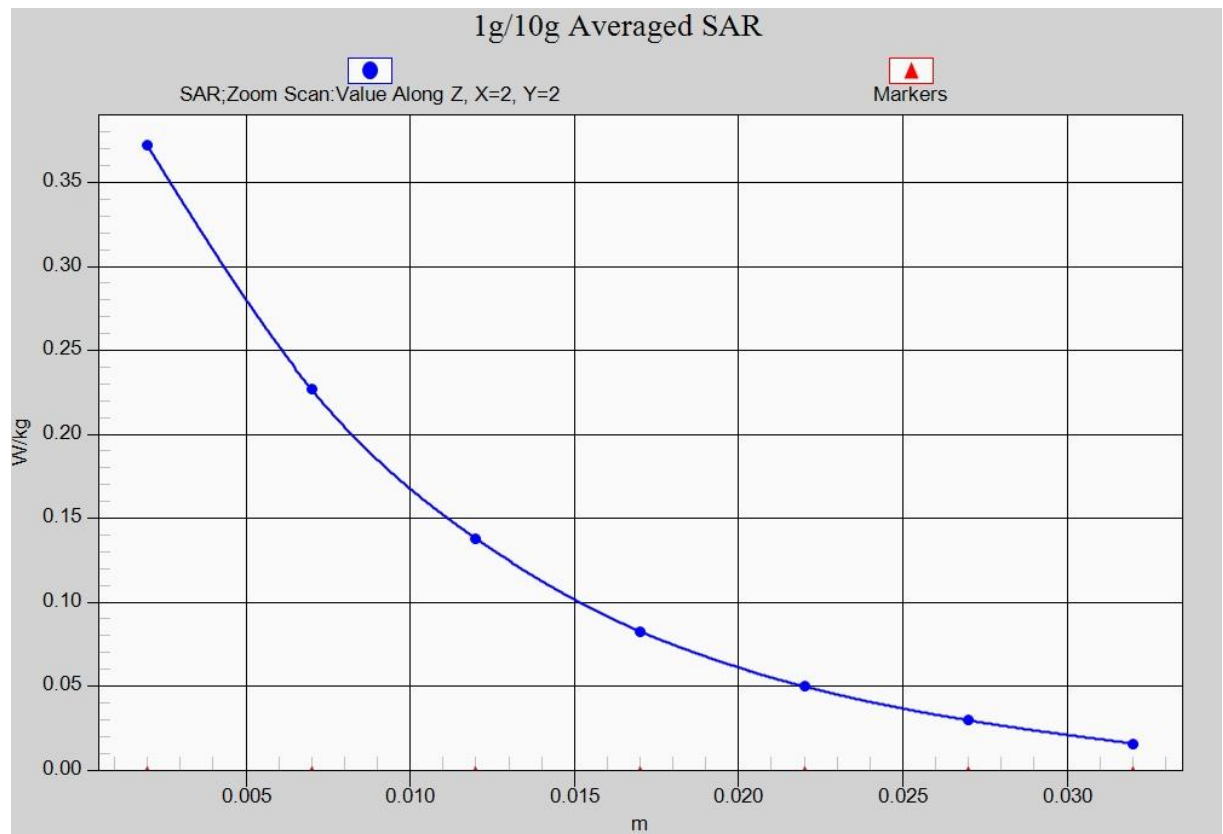


Fig. 12-1 Z-Scan at power reference point (1700 MHz)

WCDMA 1900 Right Cheek High

Date: 2016-2-21

Electronics: DAE4 Sn777

Medium: Head 1900 MHz

Medium parameters used (interpolated): $f = 1907.6$ MHz; $\sigma = 1.436$ mho/m; $\epsilon_r = 39.82$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

Probe: EX3DV4 - SN3617ConvF(8.07, 8.07, 8.07)

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

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

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

Reference Value = 15.77 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 1.98 W/kg

SAR(1 g) = 1.03 W/kg; SAR(10 g) = 0.561 W/kg

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

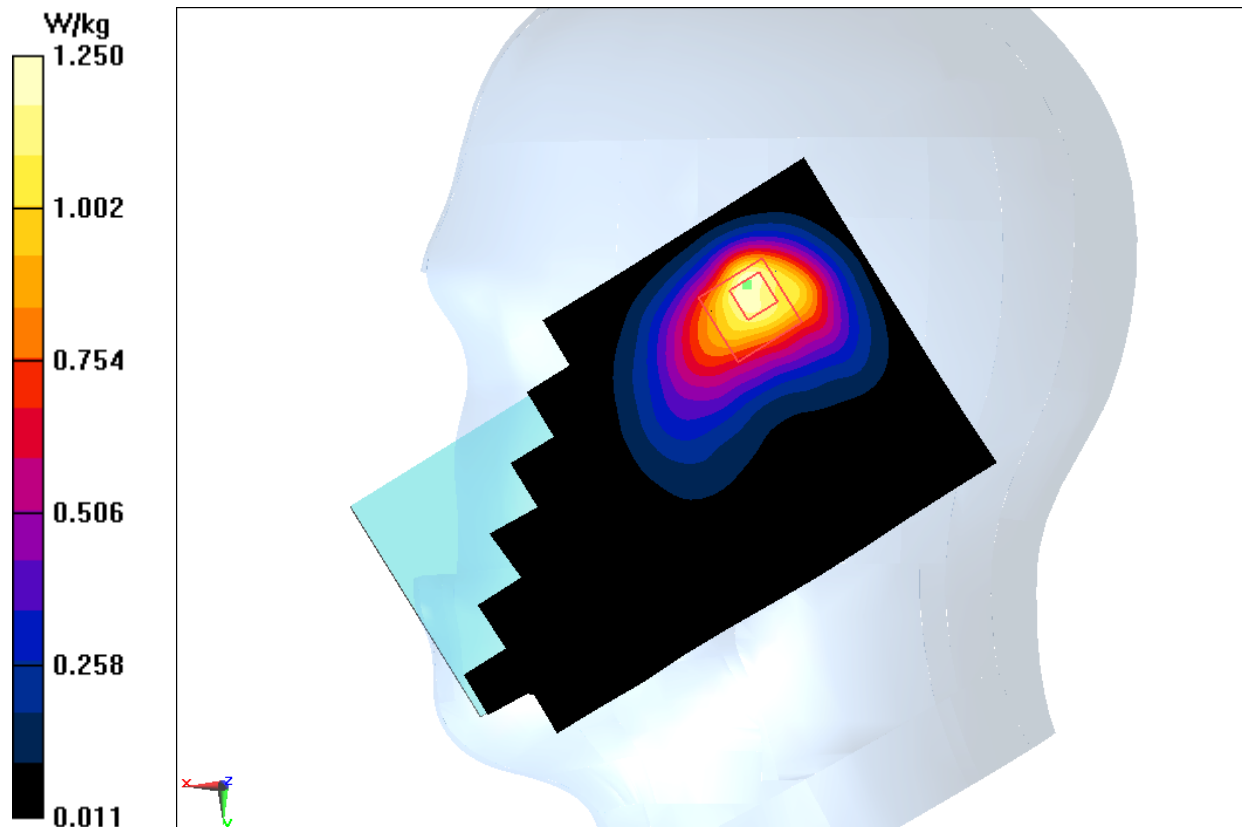


Fig.13 WCDMA1900

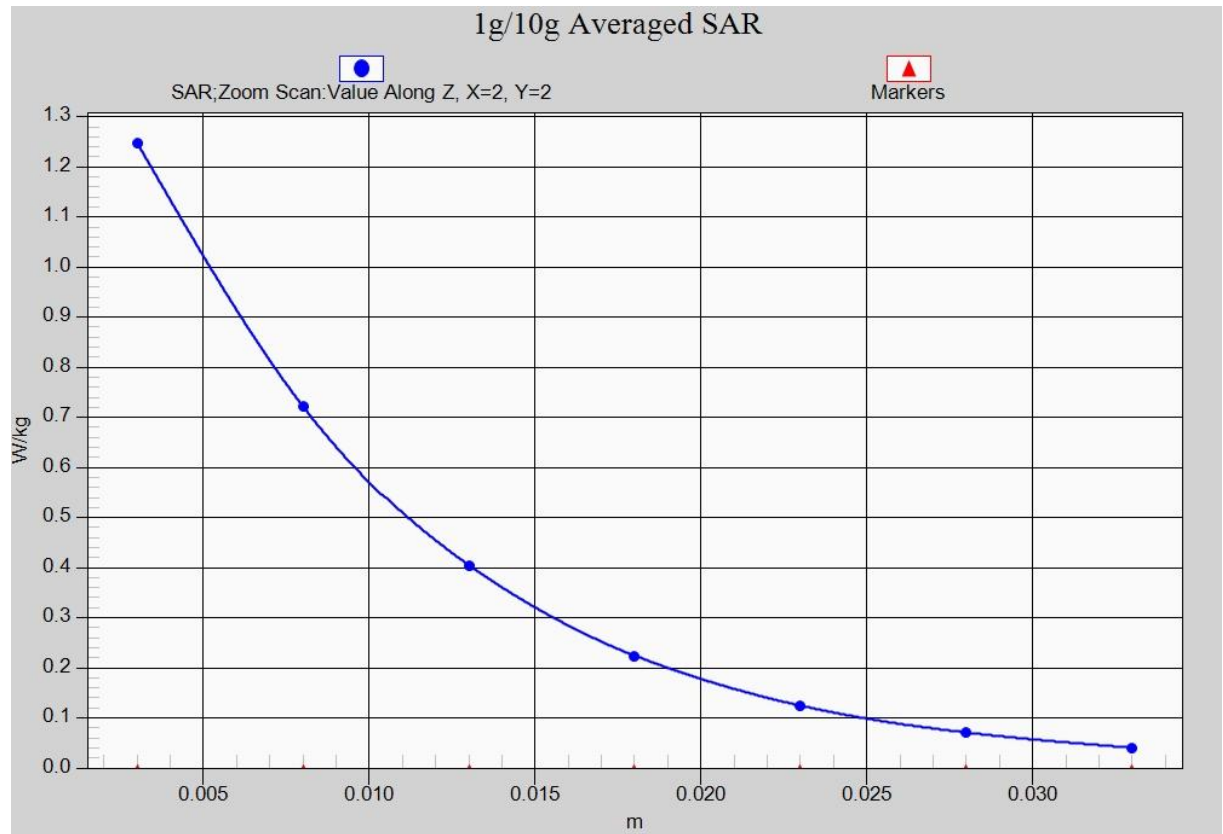


Fig. 13-1 Z-Scan at power reference point (WCDMA1900)

WCDMA 1900 Body Rear Middle – 10mm

Date: 2016-2-21

Electronics: DAE4 Sn777

Medium: Body 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.534$ mho/m; $\epsilon_r = 53.96$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

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

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

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

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

Reference Value = 7.878 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.996 W/kg

SAR(1 g) = 0.550 W/kg; SAR(10 g) = 0.281 W/kg

Maximum value of SAR (measured) = 0.768 W/kg

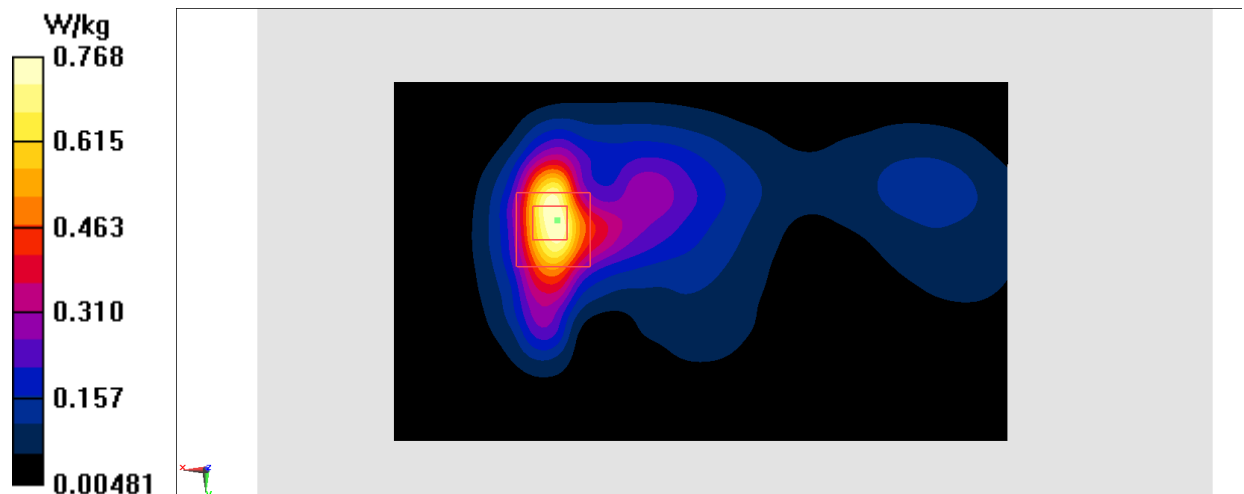


Fig.14 WCDMA1900

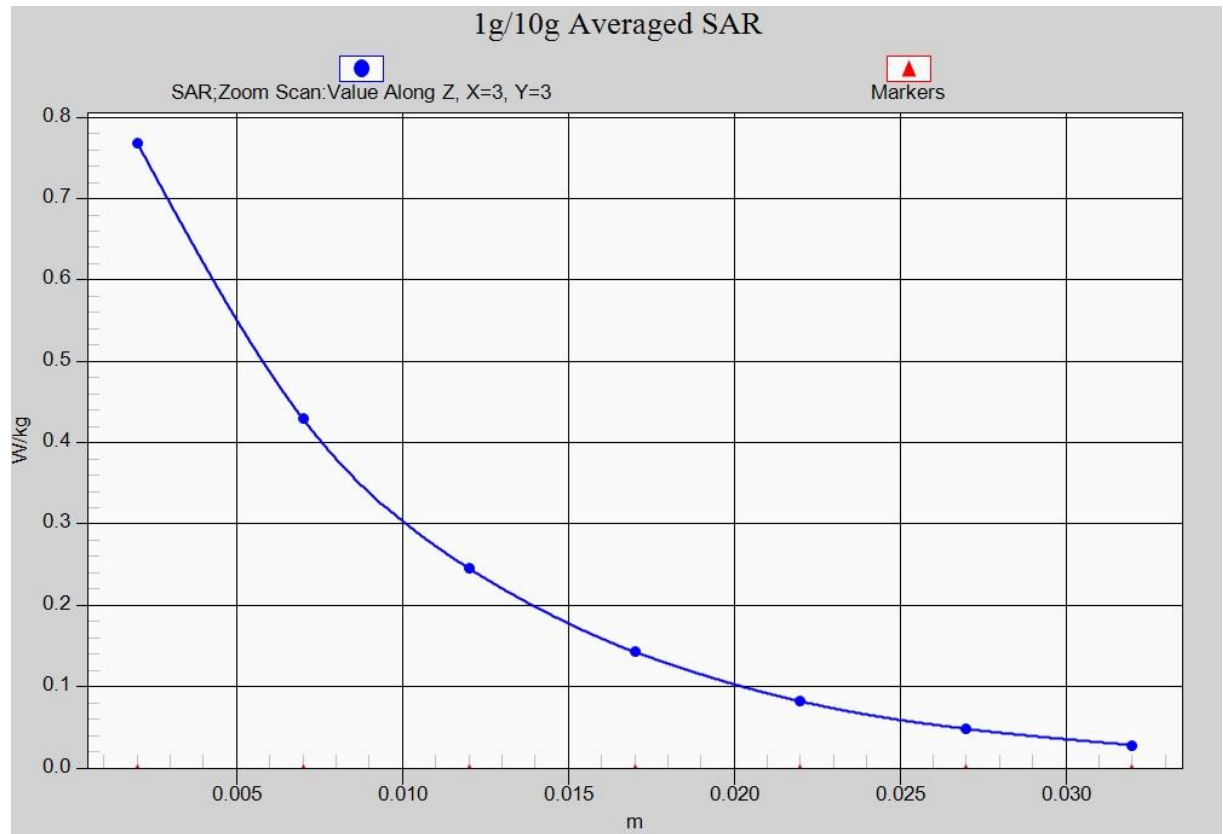


Fig. 14-1 Z-Scan at power reference point (WCDMA1900)

WCDMA 1900 Body Rear High – 15mm

Date: 2016-2-21

Electronics: DAE4 Sn777

Medium: Body 1900 MHz

Medium parameters used (interpolated): $f = 1907.6$ MHz; $\sigma = 1.557$ mho/m; $\epsilon_r = 54.01$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

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

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

Maximum value of SAR (interpolated) = 0.548 W/kg

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

Reference Value = 4.748 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.749 W/kg

SAR(1 g) = 0.442 W/kg; SAR(10 g) = 0.238 W/kg

Maximum value of SAR (measured) = 0.598 W/kg

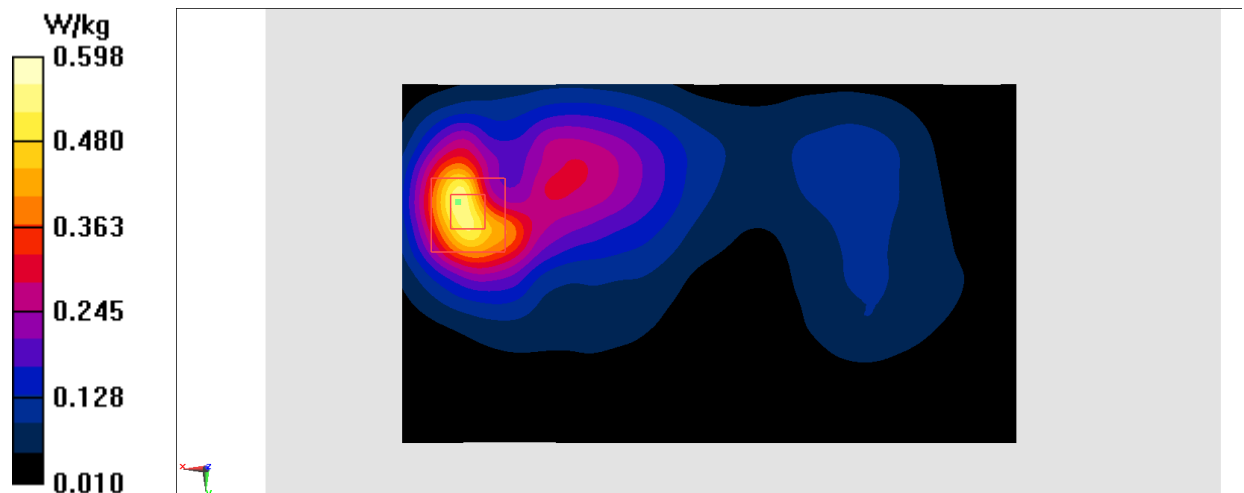


Fig.15 WCDMA1900

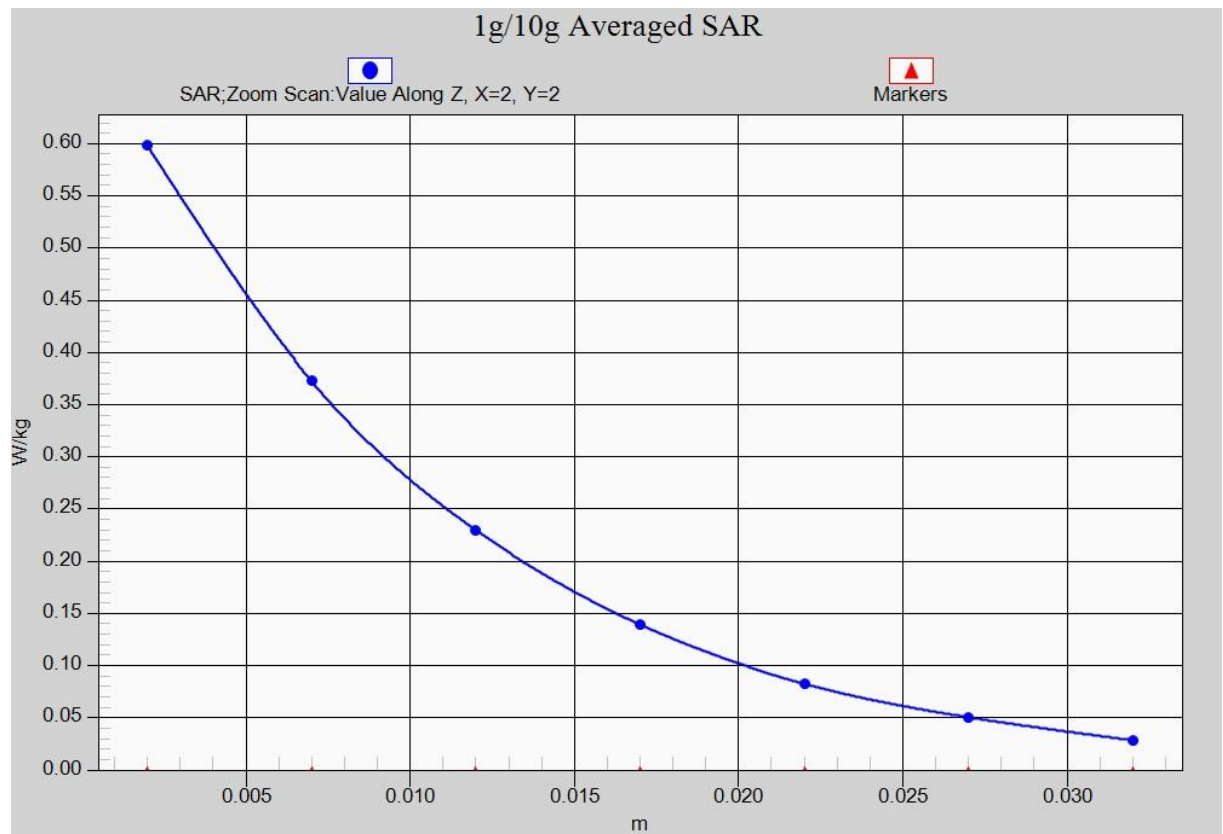


Fig. 15-1 Z-Scan at power reference point (WCDMA1900)

LTE Band4 Right Cheek Middle with QPSK_20M_1RB_Middle

Date: 2016-2-20

Electronics: DAE4 Sn777

Medium: Head 1750 MHz

Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.342$ mho/m; $\epsilon_r = 39.63$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

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

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

Maximum value of SAR (interpolated) = 1.74 W/kg

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

Reference Value = 18.11 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 2.19 W/kg

SAR(1 g) = 1.1 W/kg; SAR(10 g) = 0.634 W/kg

Maximum value of SAR (measured) = 1.56 W/kg

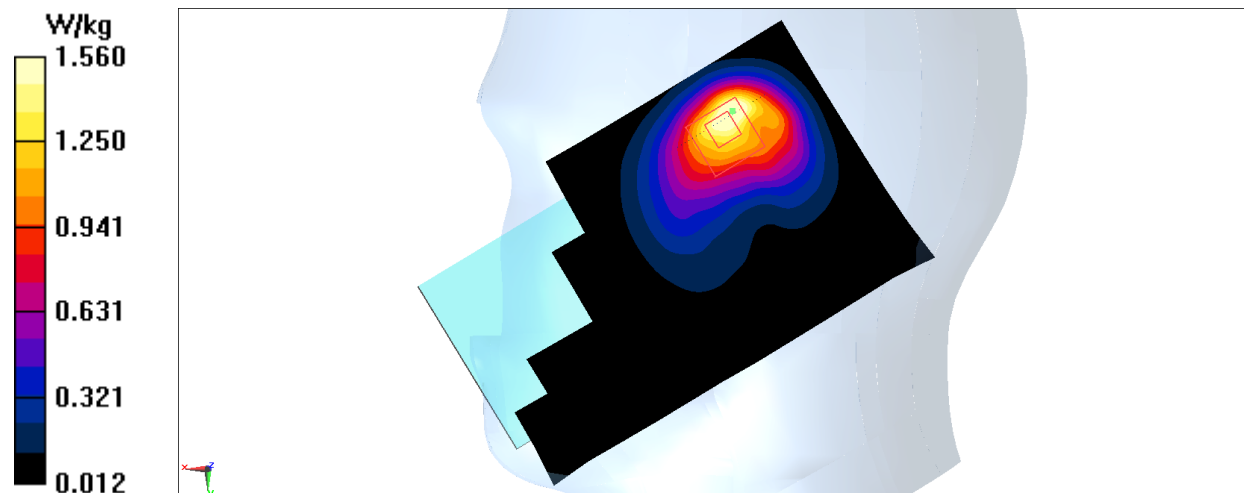


Fig.16 LTE Band4

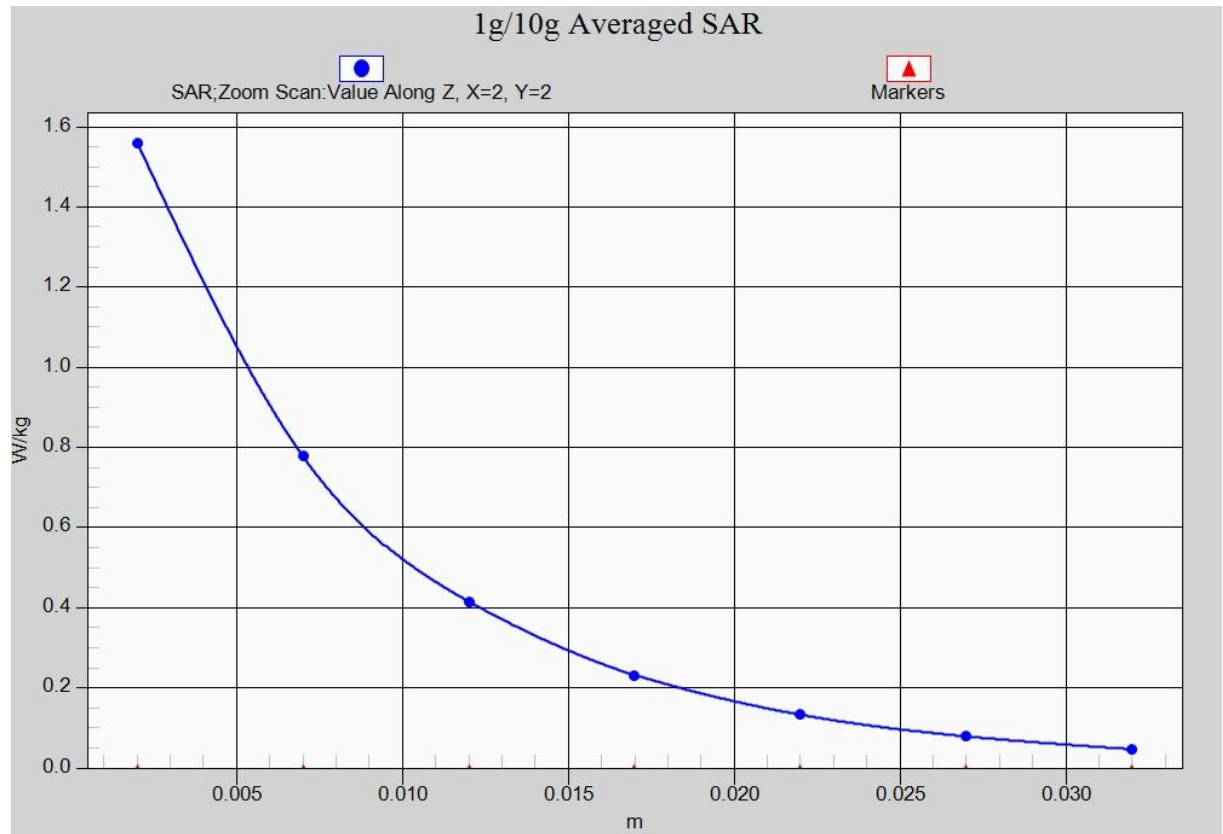


Fig. 16-1 Z-Scan at power reference point (LTE Band4)

LTE Band4 Body Rear Middle with QPSK_20M_1RB_Middle – 10mm

Date: 2016-2-20

Electronics: DAE4 Sn777

Medium: Body 1750 MHz

Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.454$ mho/m; $\epsilon_r = 52.73$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

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

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

Maximum value of SAR (interpolated) = 0.542 W/kg

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

Reference Value = 7.772 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.684 W/kg

SAR(1 g) = 0.417 W/kg; SAR(10 g) = 0.241 W/kg

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

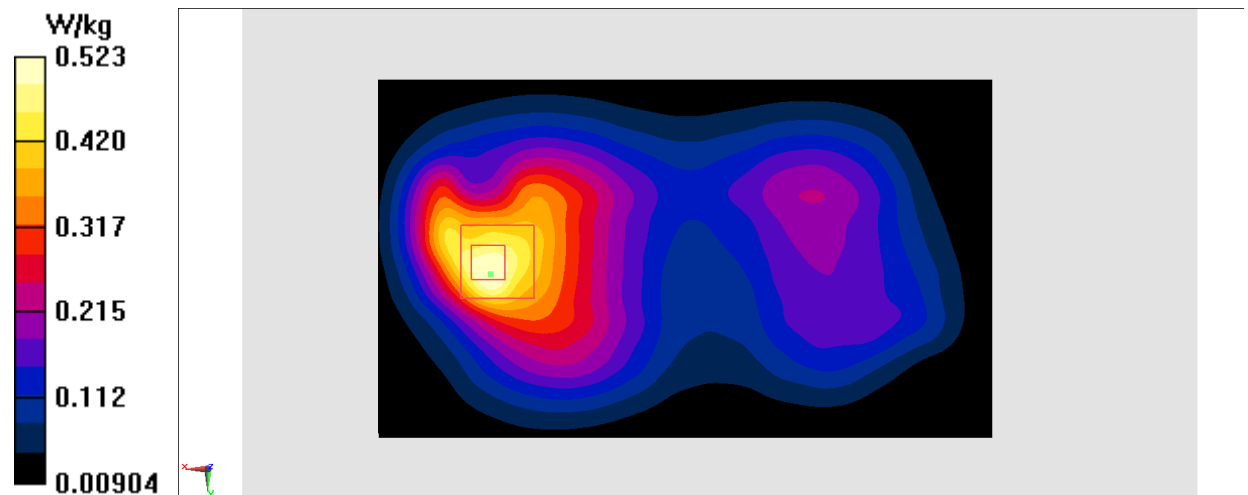


Fig.17 LTE Band4

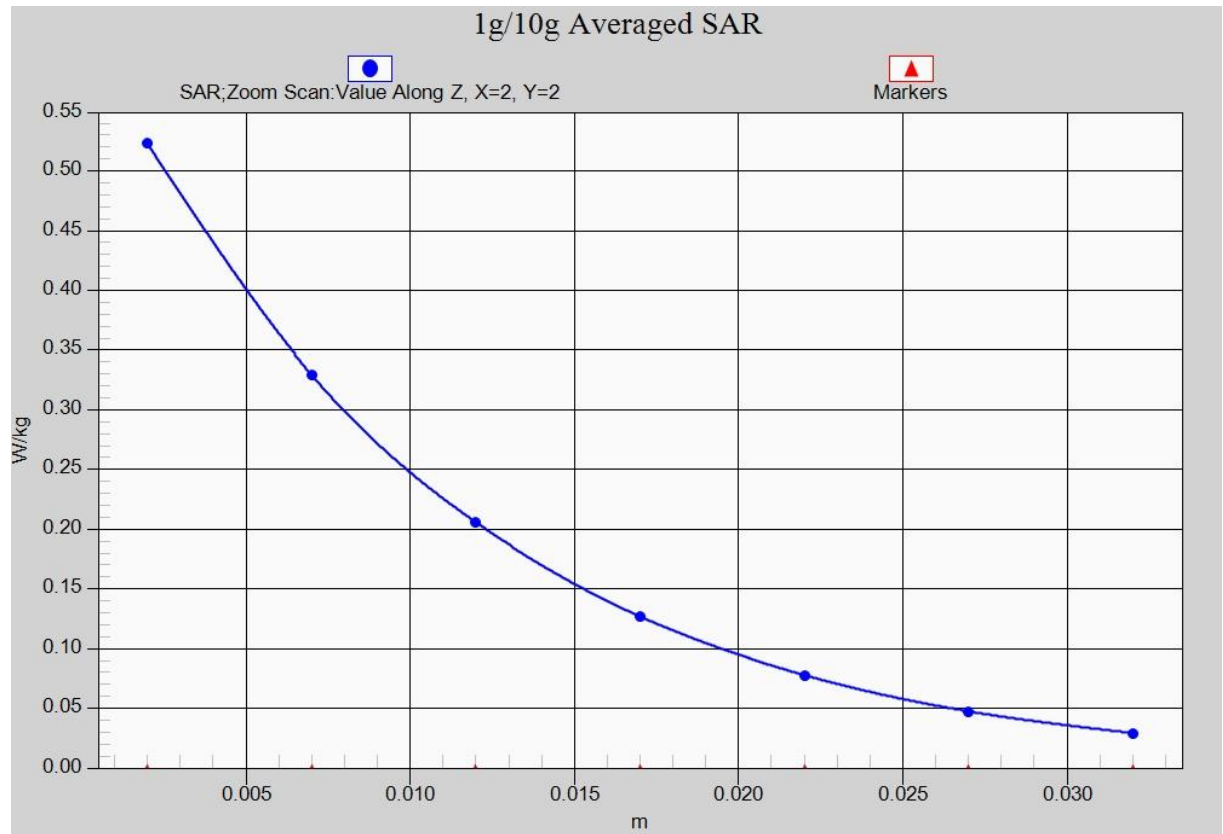


Fig. 17-1 Z-Scan at power reference point (LTE Band4)

LTE Band4 Body Rear Middle with QPSK_20M_1RB_Middle – 15mm

Date: 2016-2-20

Electronics: DAE4 Sn777

Medium: Body 1750 MHz

Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.454$ mho/m; $\epsilon_r = 52.73$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

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

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

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

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

Reference Value = 7.650 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 0.564 W/kg

SAR(1 g) = 0.351 W/kg; SAR(10 g) = 0.209 W/kg

Maximum value of SAR (measured) = 0.462 W/kg

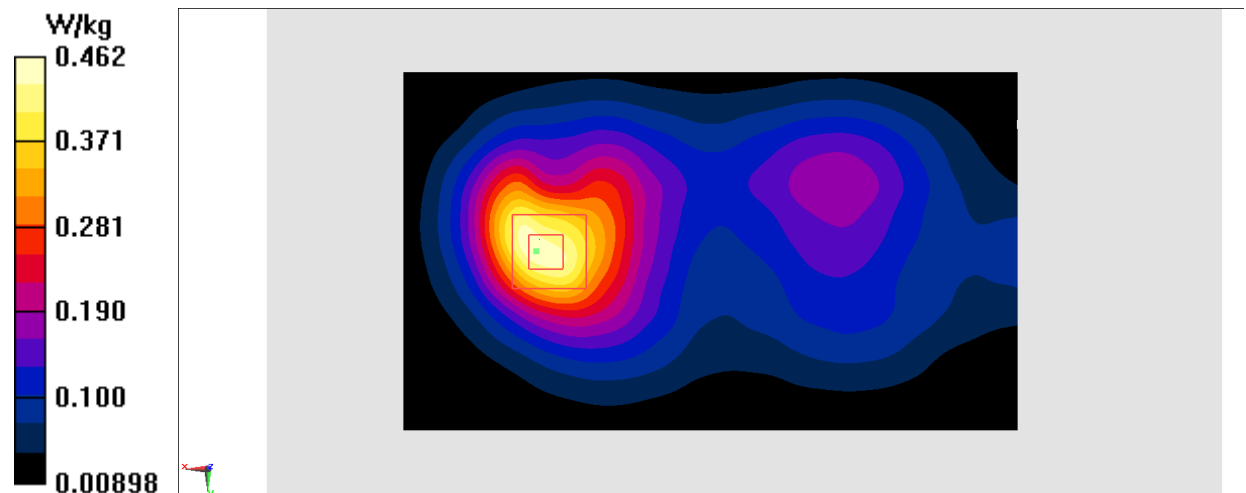


Fig.18 LTE Band4

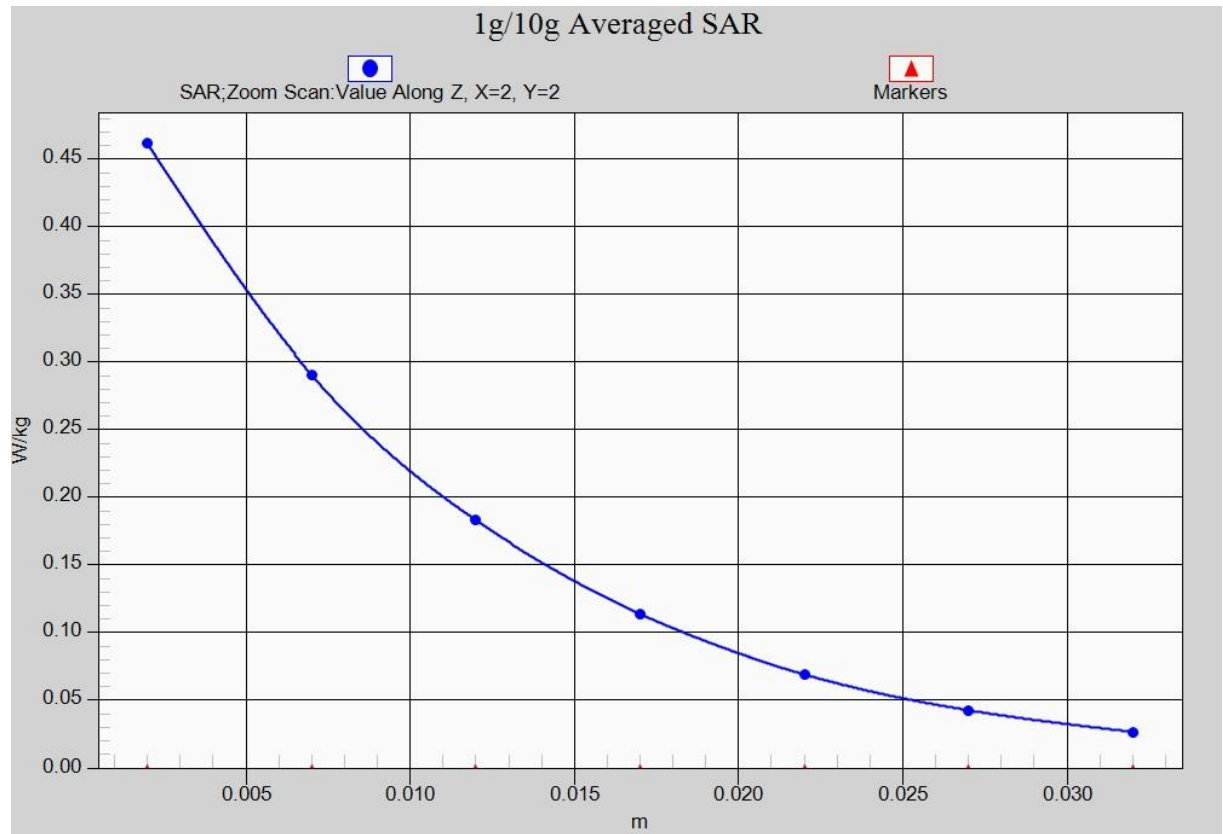


Fig. 18-1 Z-Scan at power reference point (LTE Band4)

LTE Band7 Right Cheek Middle with QPSK_20M_1RB_Middle

Date: 2016-2-23

Electronics: DAE4 Sn777

Medium: Head 2600 MHz

Medium parameters used: $f = 2535$ MHz; $\sigma = 1.892$ mho/m; $\epsilon_r = 39.14$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

Probe: EX3DV4 - SN3617 ConvF(7.21, 7.21, 7.21)

Area Scan (81x141x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 1.72 W/kg

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

Reference Value = 6.730 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 2.70 W/kg

SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.504 W/kg

Maximum value of SAR (measured) = 1.42 W/kg

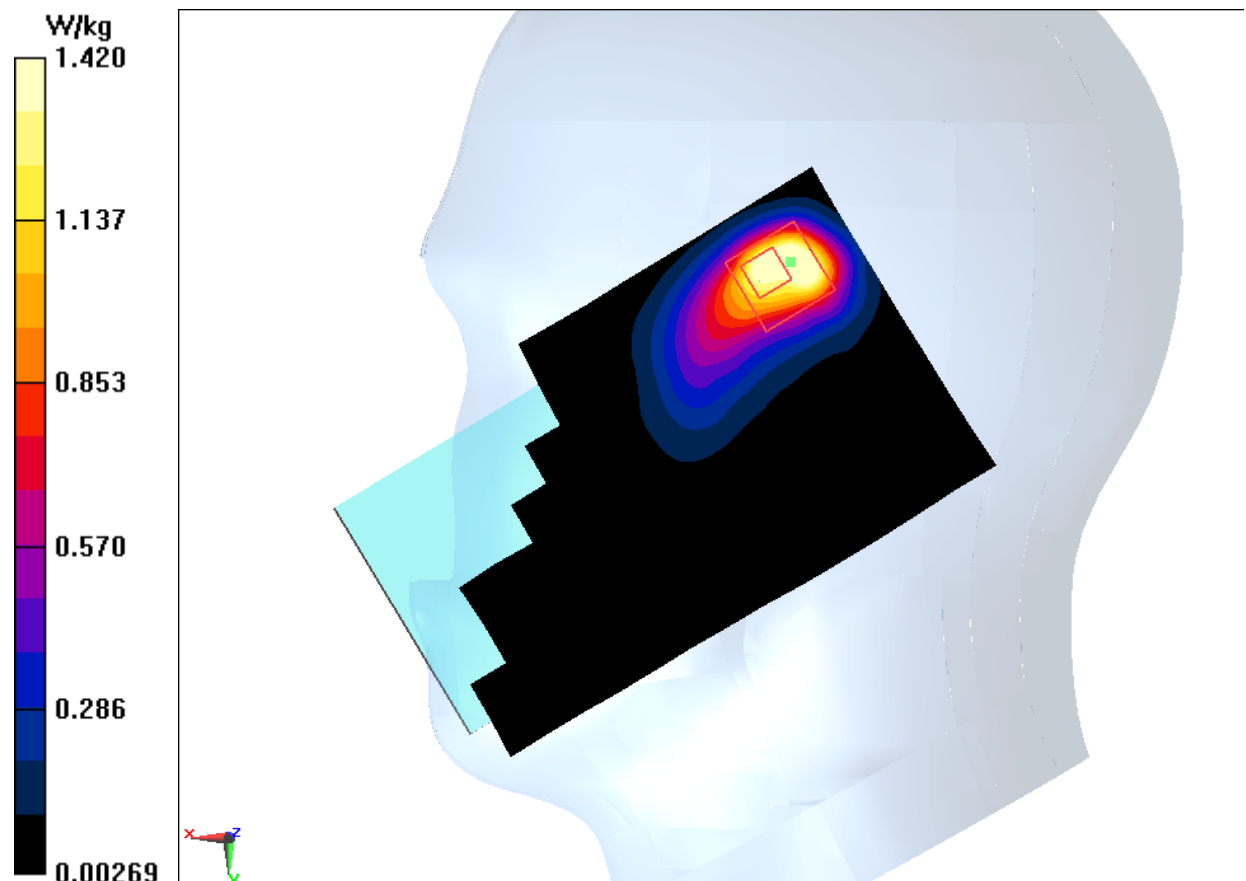


Fig.19 LTE Band7

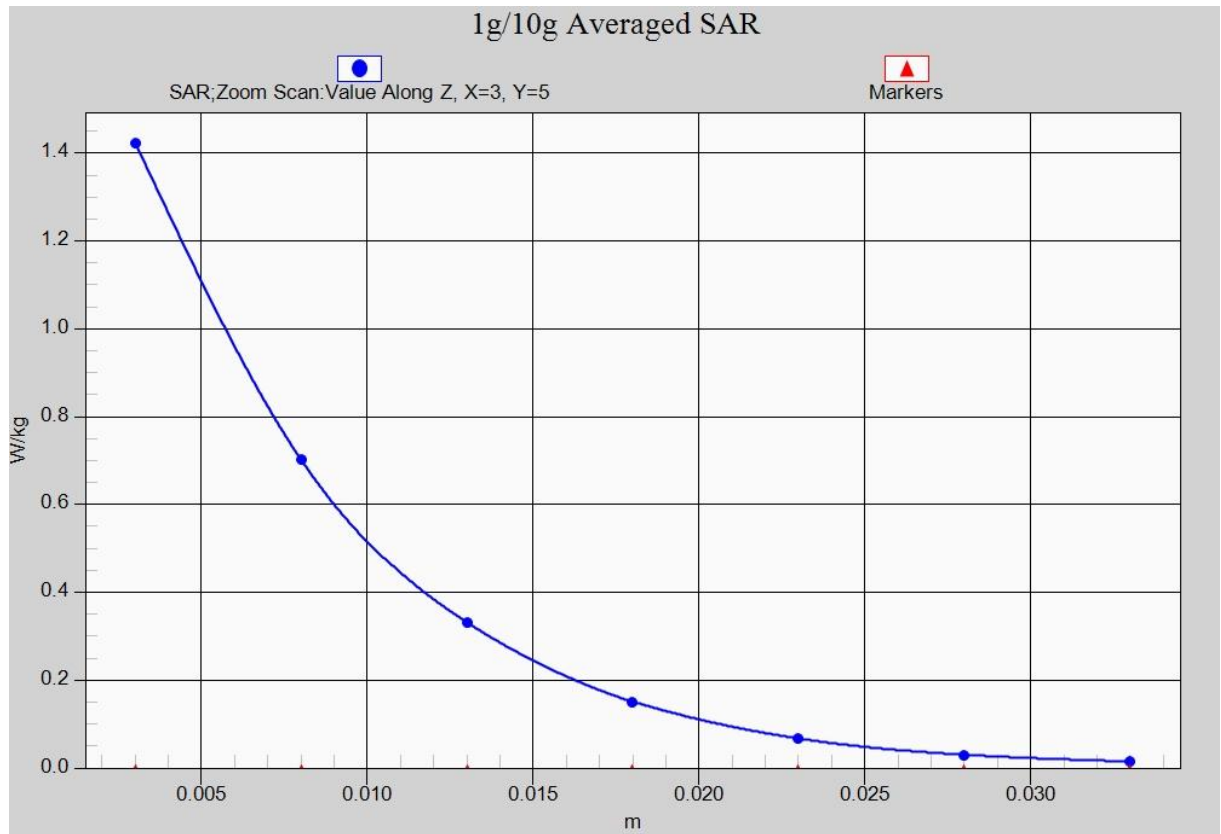


Fig. 19-1 Z-Scan at power reference point (LTE Band7)

LTE Band7 Body Rear High with QPSK_20M_1RB_Middle – 10mm

Date: 2016-2-23

Electronics: DAE4 Sn777

Medium: Body 2600 MHz

Medium parameters used: $f = 2560$ MHz; $\sigma = 2.097$ mho/m; $\epsilon_r = 51.31$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

Probe: EX3DV4 - SN3617 ConvF(7.20, 7.20, 7.20)

Area Scan (141x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.348 W/kg

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

Reference Value = 3.836 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.458 W/kg

SAR(1 g) = 0.236 W/kg; SAR(10 g) = 0.128 W/kg

Maximum value of SAR (measured) = 0.297 W/kg

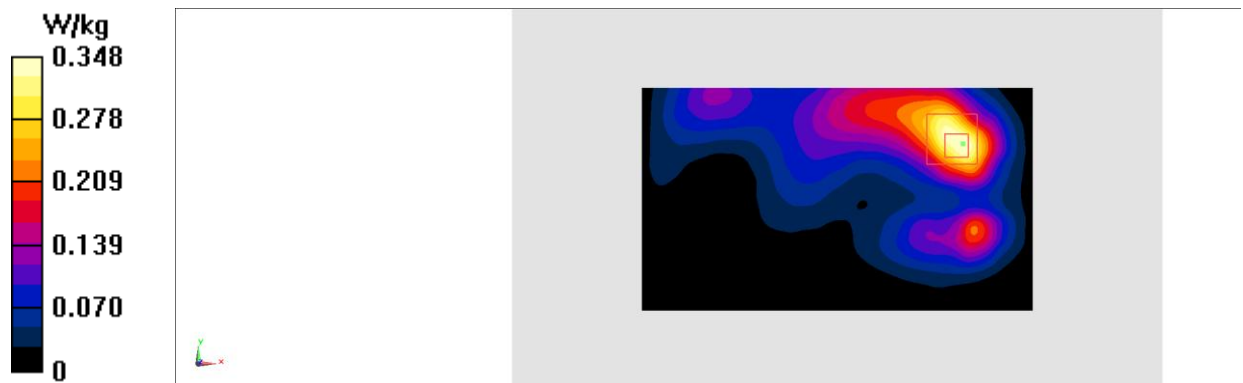


Fig.20 LTE Band7

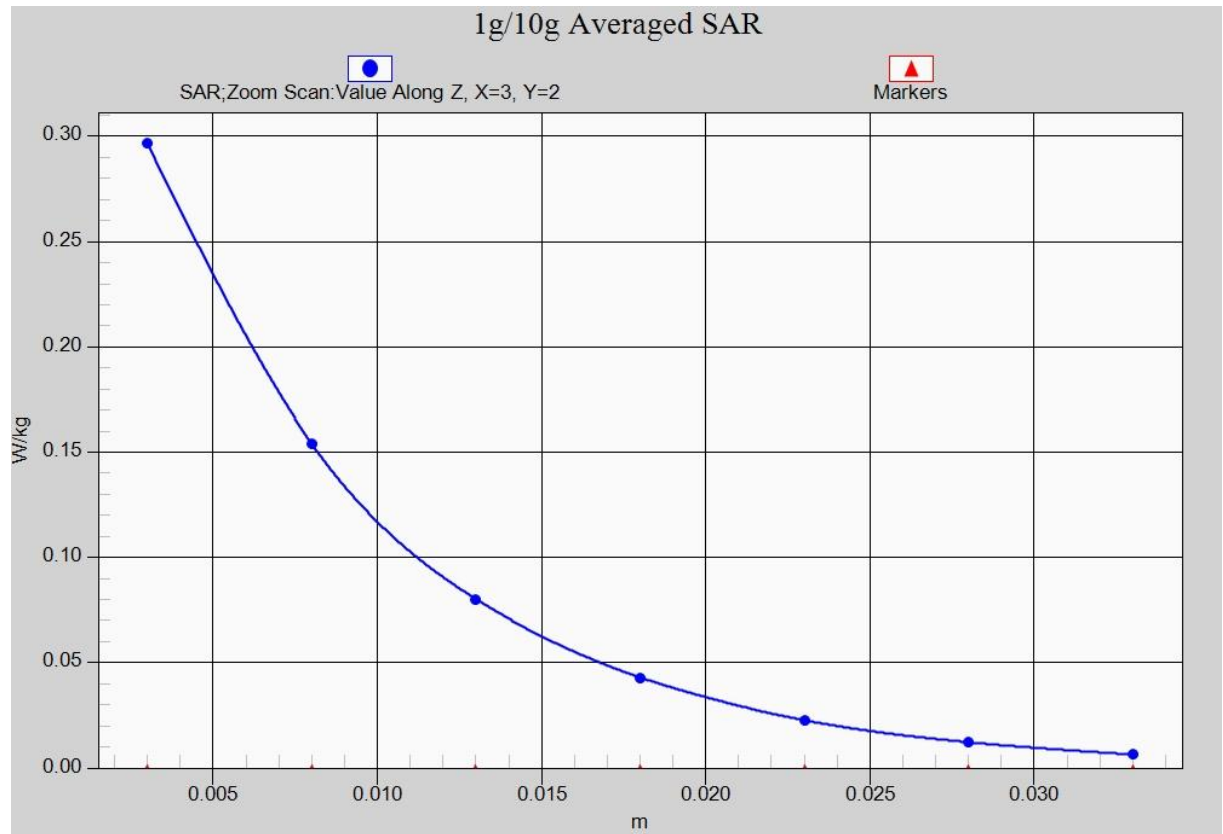


Fig. 20-1 Z-Scan at power reference point (LTE Band7)

LTE Band7 Body Rear Middle with QPSK_20M_1RB_Middle – 15mm

Date: 2016-2-23

Electronics: DAE4 Sn777

Medium: Body 2600 MHz

Medium parameters used: $f = 2535$ MHz; $\sigma = 2.081$ mho/m; $\epsilon_r = 51.46$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

Probe: EX3DV4 - SN3617 ConvF(7.20, 7.20, 7.20)

Area Scan (141x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.258 W/kg

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

Reference Value = 5.242 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.306 W/kg

SAR(1 g) = 0.169 W/kg; SAR(10 g) = 0.093 W/kg

Maximum value of SAR (measured) = 0.207 W/kg

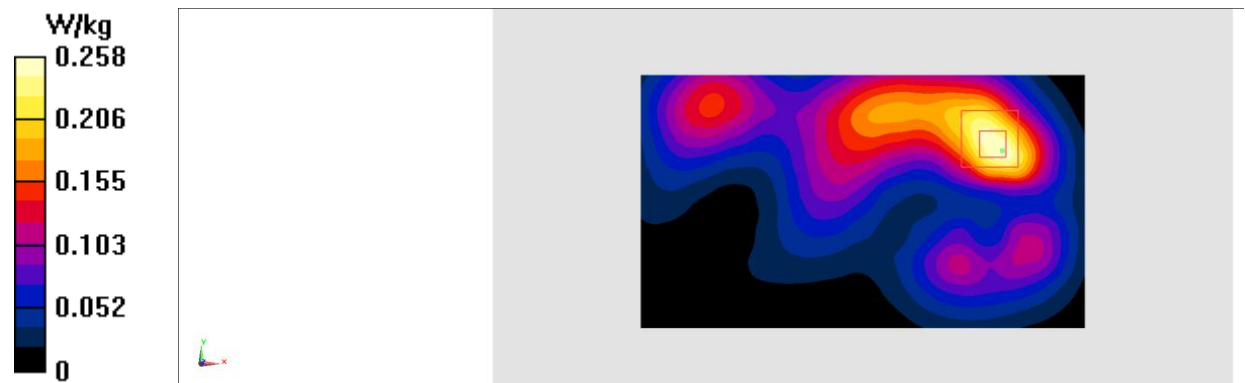


Fig.21 LTE Band7

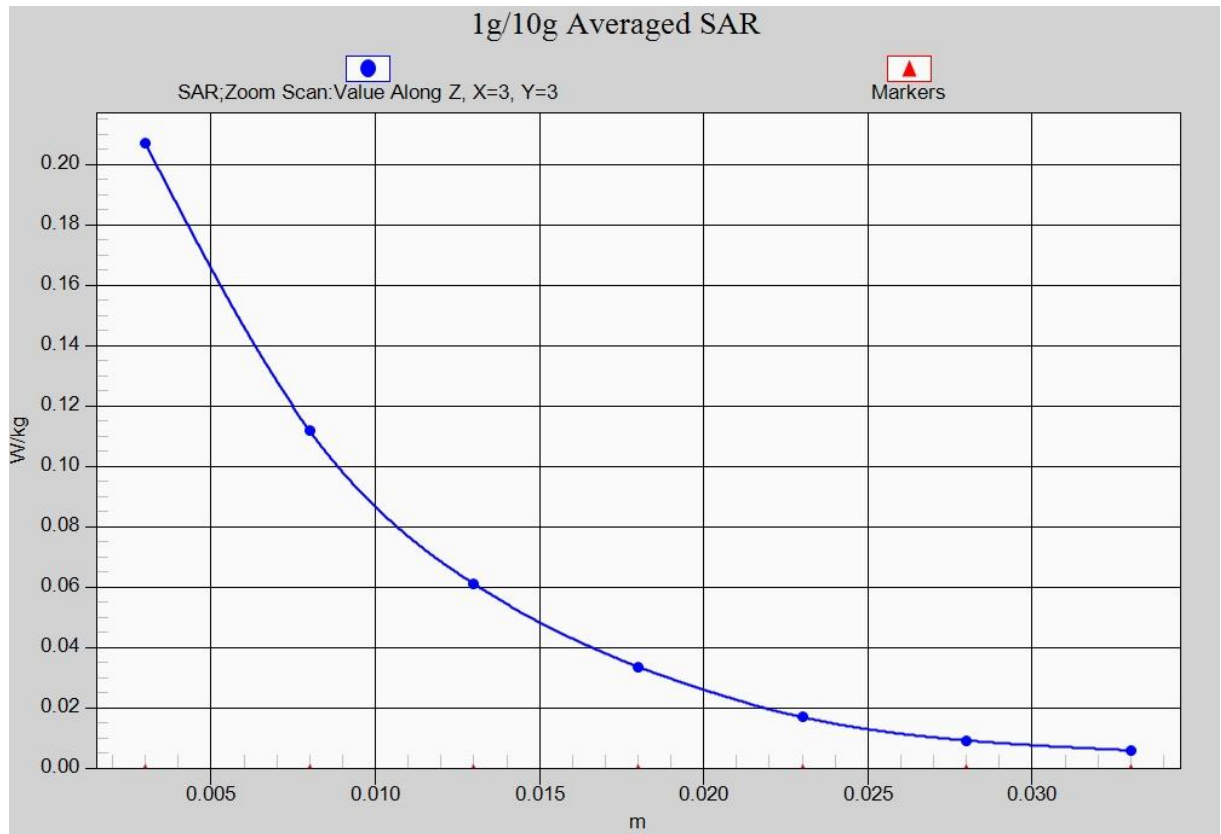


Fig. 21-1 Z-Scan at power reference point (LTE Band7)

LTE Band38 Right Cheek Middle with QPSK_20M_1RB_Middle

Date: 2016-2-23

Electronics: DAE4 Sn777

Medium: Head 2600 MHz

Medium parameters used: $f = 2595$ MHz; $\sigma = 1.959$ mho/m; $\epsilon_r = 38.88$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

Communication System: LTE Band7 Frequency: 2595 MHz Duty Cycle: 1:1.58

Probe: EX3DV4 - SN3617 ConvF(7.21, 7.21, 7.21)

Area Scan (81x141x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

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

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

Reference Value = 6.300 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 1.75 W/kg

SAR(1 g) = 0.702 W/kg; SAR(10 g) = 0.327 W/kg

Maximum value of SAR (measured) = 0.942 W/kg

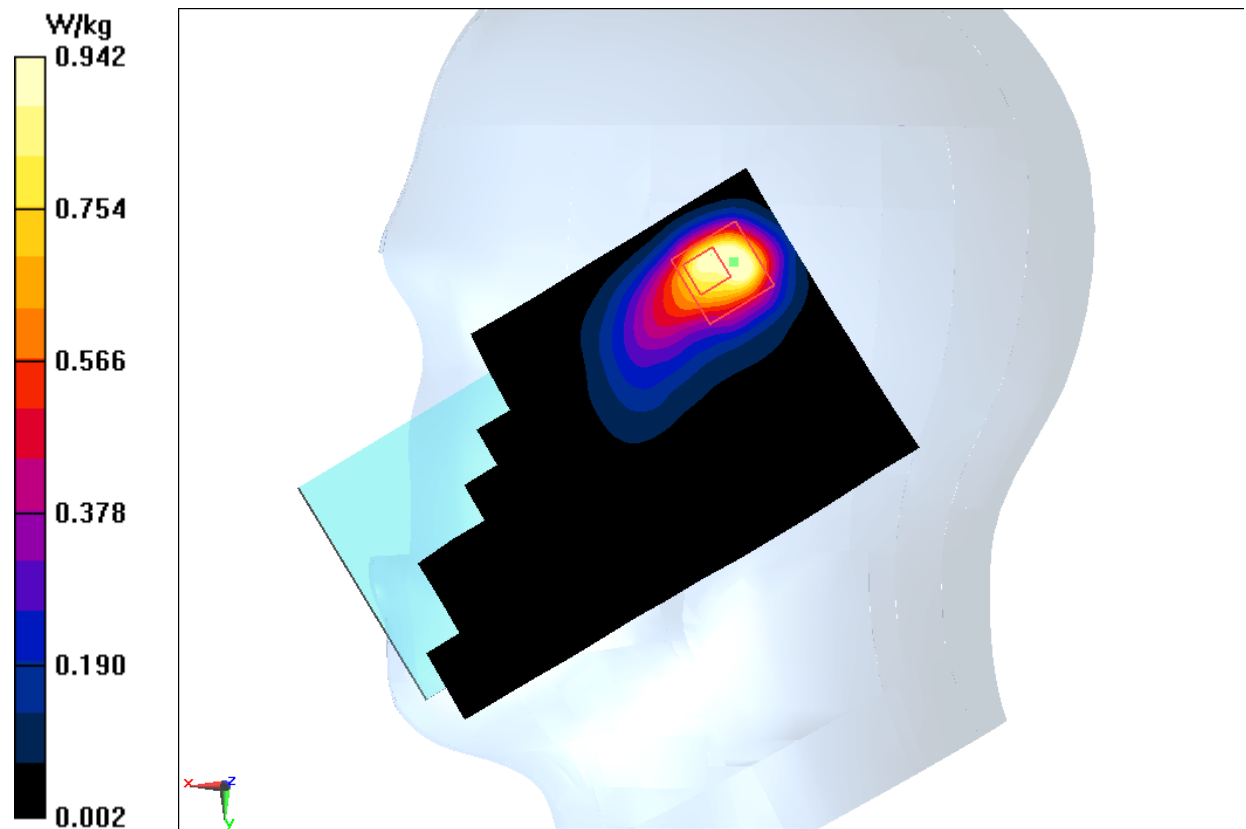


Fig.22 LTE Band38

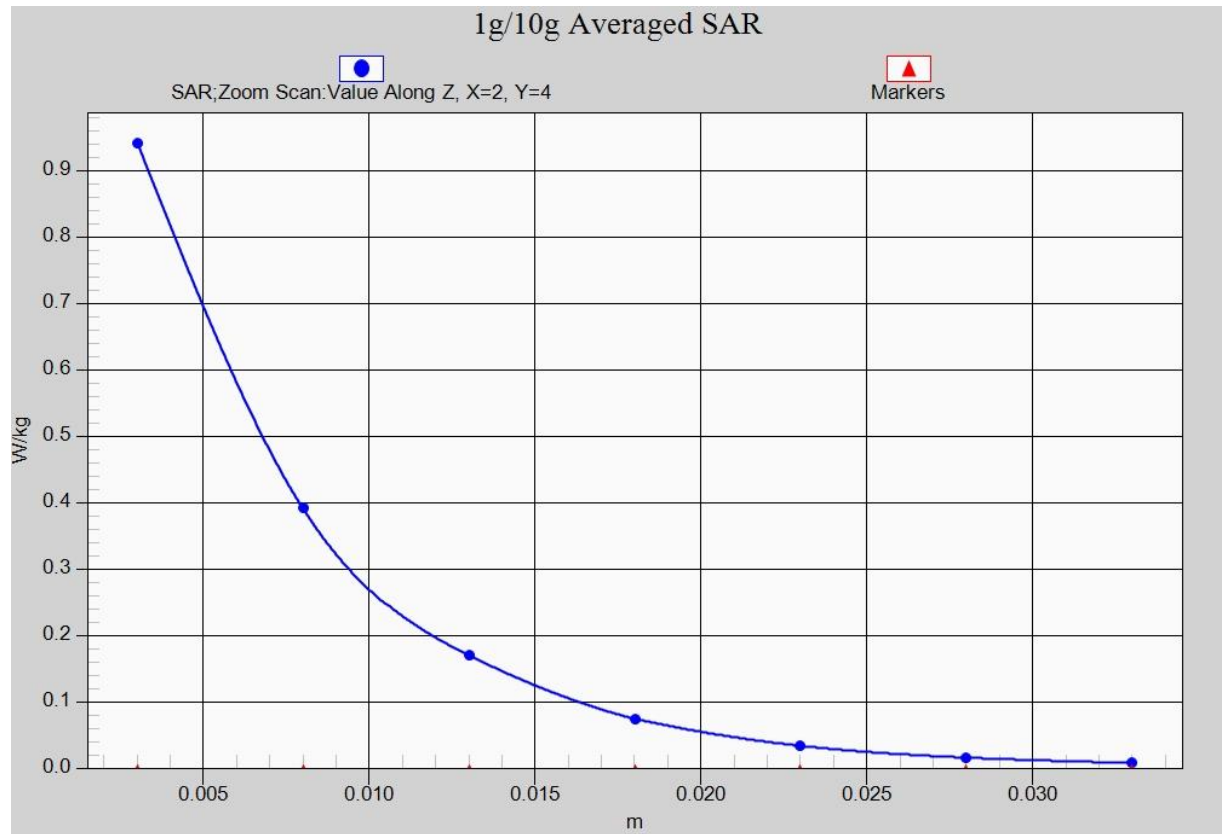


Fig. 22-1 Z-Scan at power reference point (LTE Band38)

LTE Band38 Body Rear Middle with QPSK_20M_1RB_Middle – 10mm

Date: 2016-2-23

Electronics: DAE4 Sn777

Medium: Body 2600 MHz

Medium parameters used: $f = 2595$ MHz; $\sigma = 2.157$ mho/m; $\epsilon_r = 51.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

Communication System: LTE Band7 Frequency: 2595 MHz Duty Cycle: 1:1.58

Probe: EX3DV4 - SN3617 ConvF(7.20, 7.20, 7.20)

Area Scan (141x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.197 W/kg

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

Reference Value = 2.579 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.255 W/kg

SAR(1 g) = 0.141 W/kg; SAR(10 g) = 0.075 W/kg

Maximum value of SAR (measured) = 0.177 W/kg

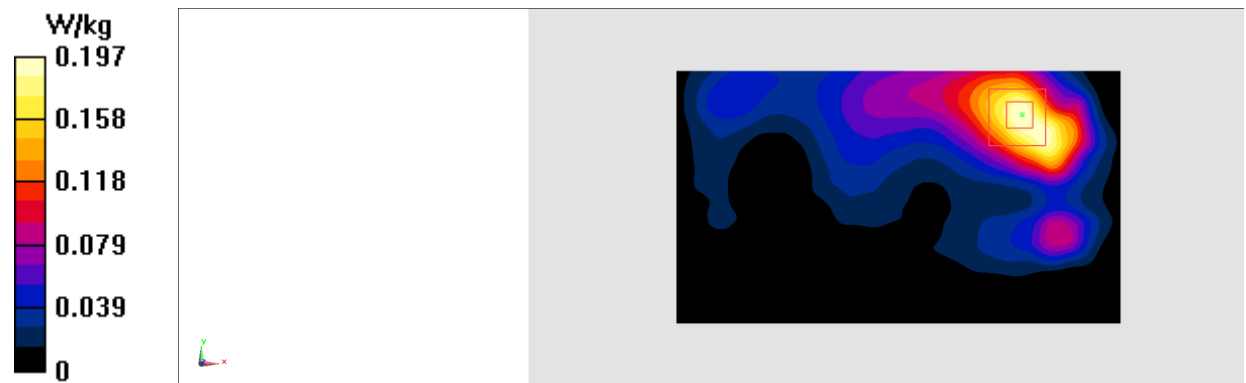


Fig.23 LTE Band38

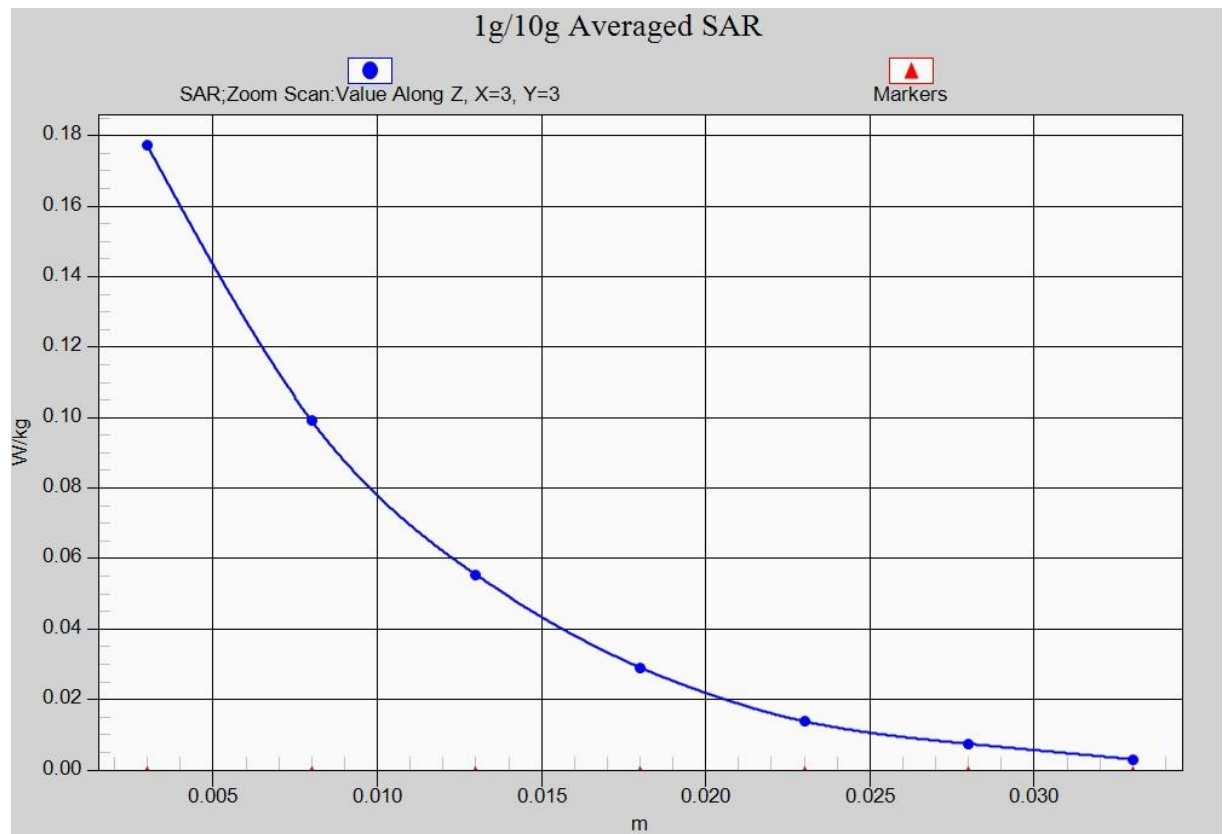


Fig. 23-1 Z-Scan at power reference point (LTE Band38)

LTE Band38 Body Rear High with QPSK_20M_1RB_Middle – 15mm

Date: 2016-2-23

Electronics: DAE4 Sn777

Medium: Body 2600 MHz

Medium parameters used: $f = 2610$ MHz; $\sigma = 2.18$ mho/m; $\epsilon_r = 51.09$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

Communication System: LTE Band7 Frequency: 2610 MHz Duty Cycle: 1:1.58

Probe: EX3DV4 - SN3617 ConvF(7.20, 7.20, 7.20)

Area Scan (141x81x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.137 W/kg

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

Reference Value = 2.343 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.176 W/kg

SAR(1 g) = 0.098 W/kg; SAR(10 g) = 0.054 W/kg

Maximum value of SAR (measured) = 0.122 W/kg

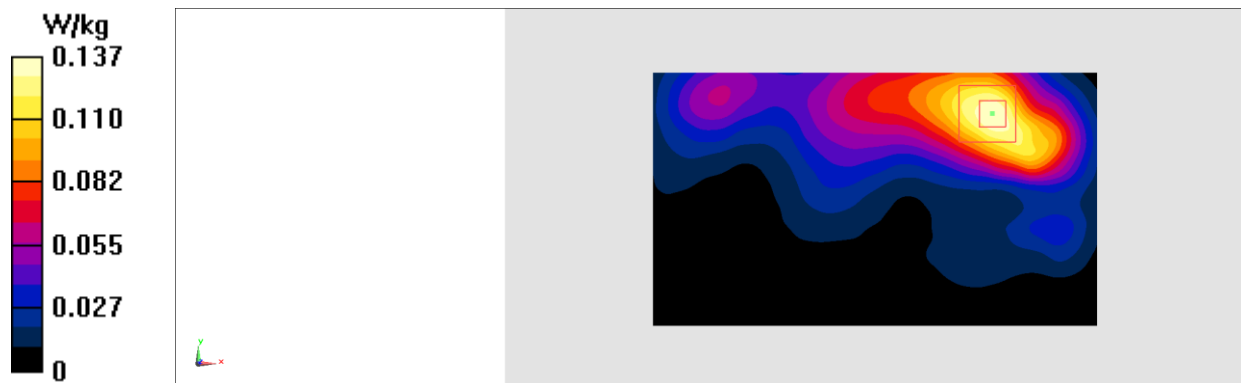


Fig.24 LTE Band38

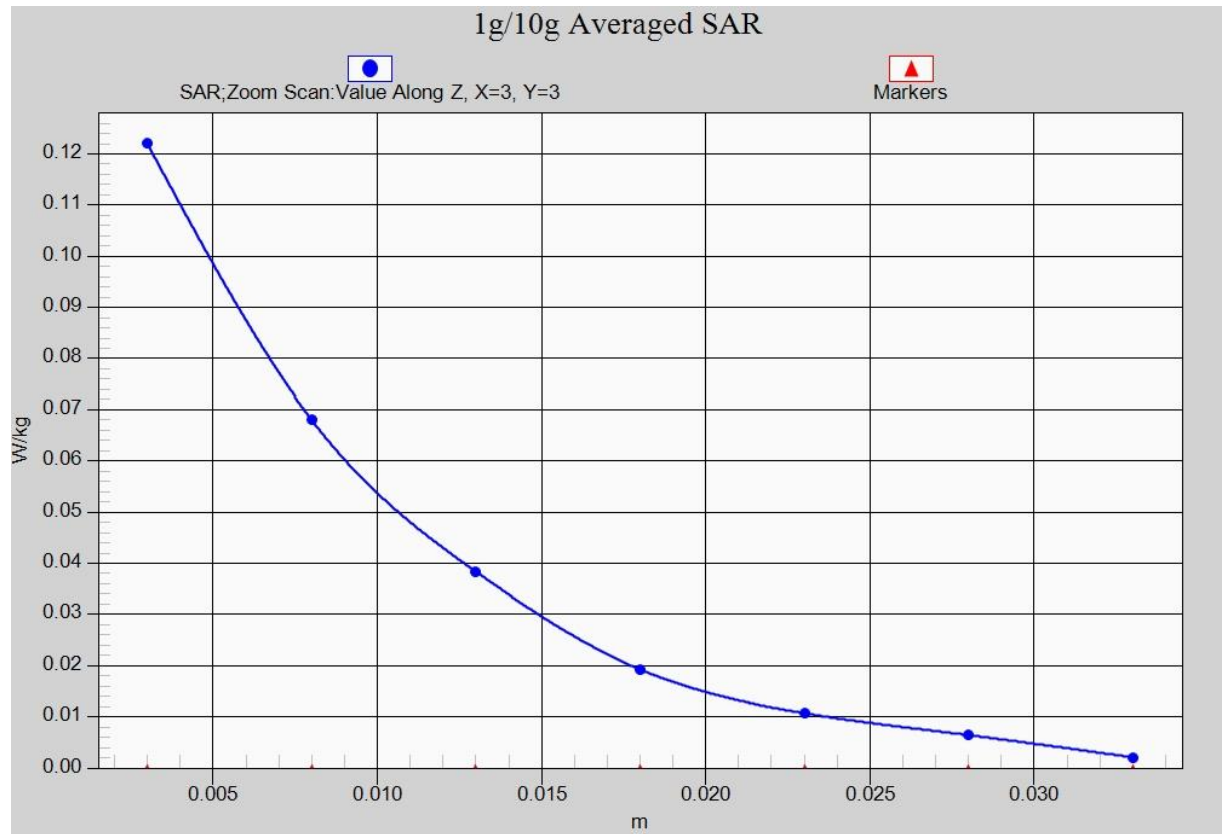


Fig. 24-1 Z-Scan at power reference point (LTE Band38)

LTE Band41 Right Cheek High with QPSK_20M_1RB_Middle

Date: 2016-2-23

Electronics: DAE4 Sn777

Medium: Head 2600 MHz

Medium parameters used: $f = 2645$ MHz; $\sigma = 2.016$ mho/m; $\epsilon_r = 38.77$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

Communication System: LTE Band7 Frequency: 2645 MHz Duty Cycle: 1:1.58

Probe: EX3DV4 - SN3617 ConvF(7.21, 7.21, 7.21)

Area Scan (81x141x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 1.30 W/kg

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

Reference Value = 4.565 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 1.92 W/kg

SAR(1 g) = 0.680 W/kg; SAR(10 g) = 0.325 W/kg

Maximum value of SAR (measured) = 0.878 W/kg

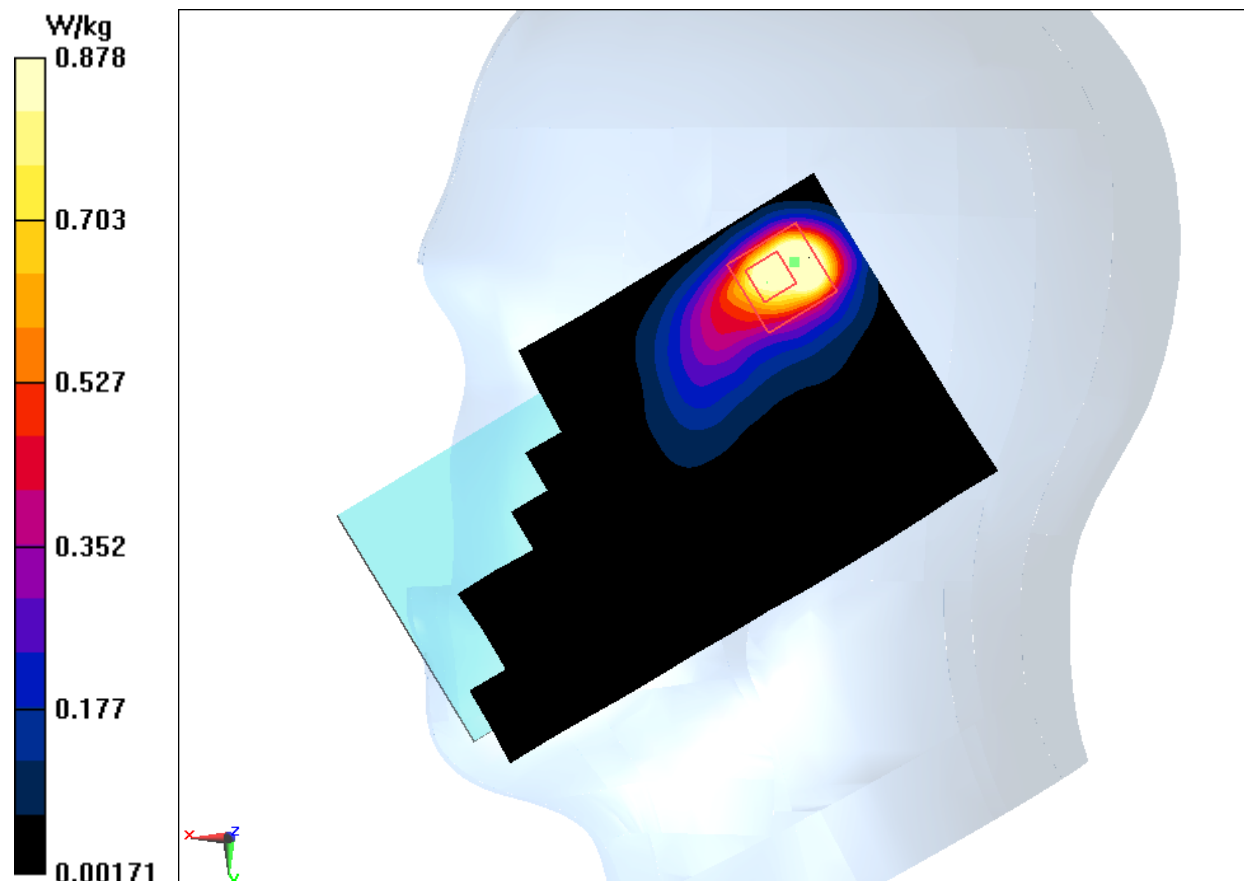


Fig.25 LTE Band41

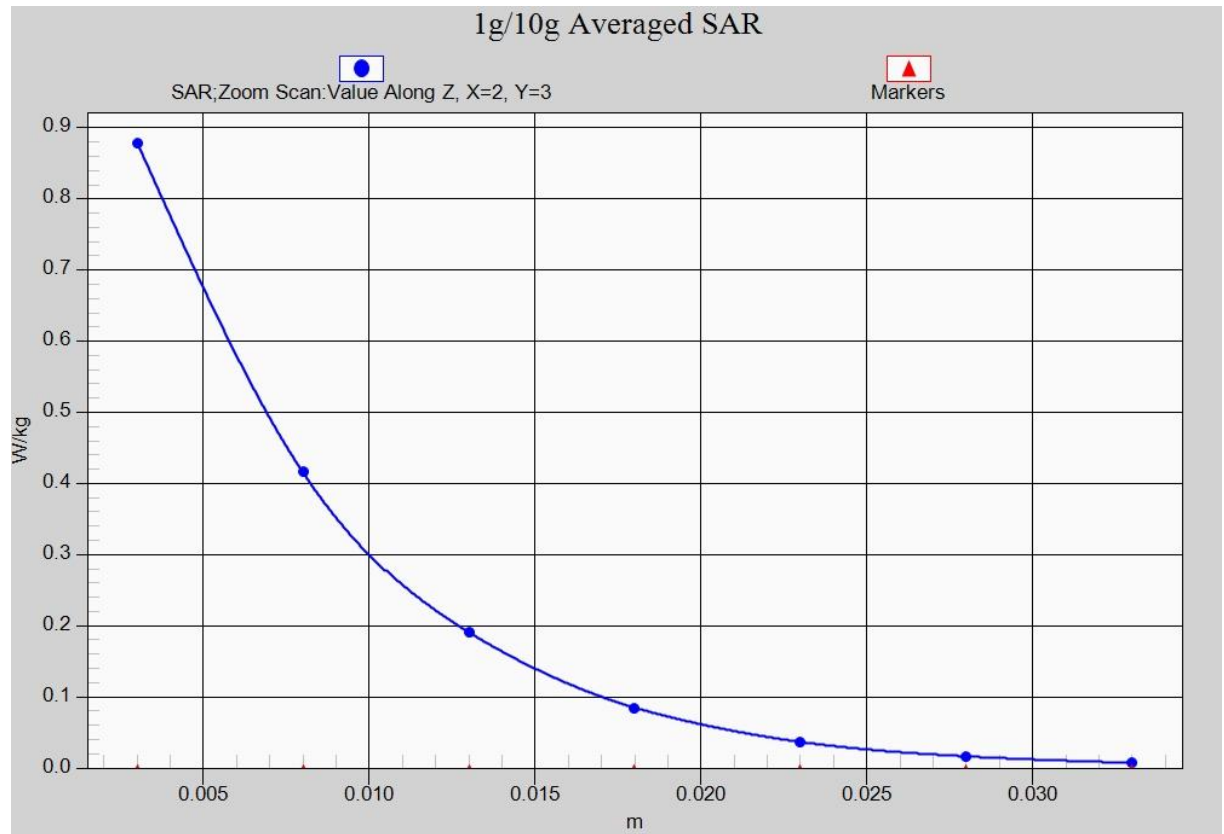


Fig. 25-1 Z-Scan at power reference point (LTE Band41)

LTE Band41 Body Rear High with QPSK_20M_1RB_Middle – 10mm

Date: 2016-2-23

Electronics: DAE4 Sn777

Medium: Body 2600 MHz

Medium parameters used: $f = 2645$ MHz; $\sigma = 2.22$ mho/m; $\epsilon_r = 51.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

Communication System: LTE Band7 Frequency: 2645 MHz Duty Cycle: 1:1.58

Probe: EX3DV4 - SN3617 ConvF(7.20, 7.20, 7.20)

Area Scan (151x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.269 W/kg

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

Reference Value = 3.814 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.312 W/kg

SAR(1 g) = 0.139 W/kg; SAR(10 g) = 0.071 W/kg

Maximum value of SAR (measured) = 0.213 W/kg

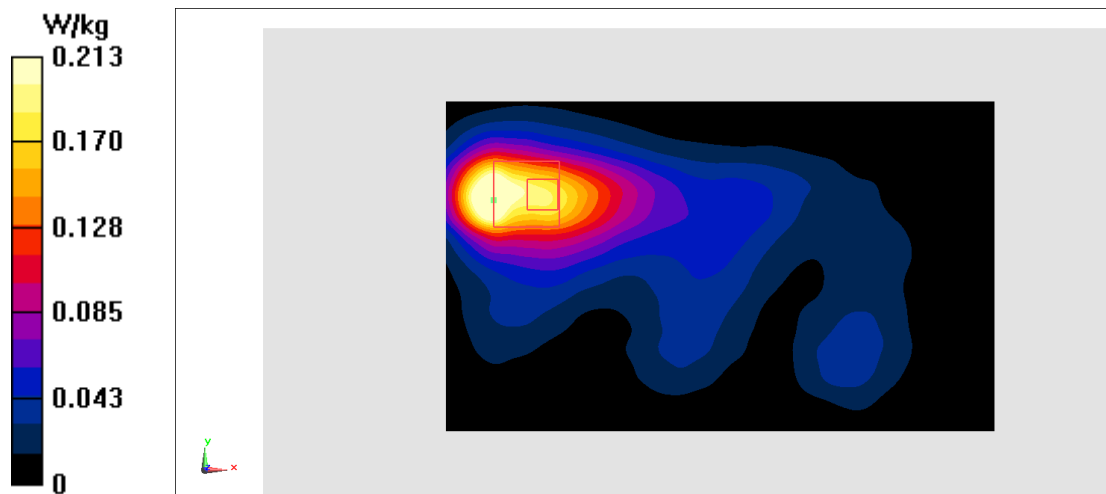


Fig.26 LTE Band41

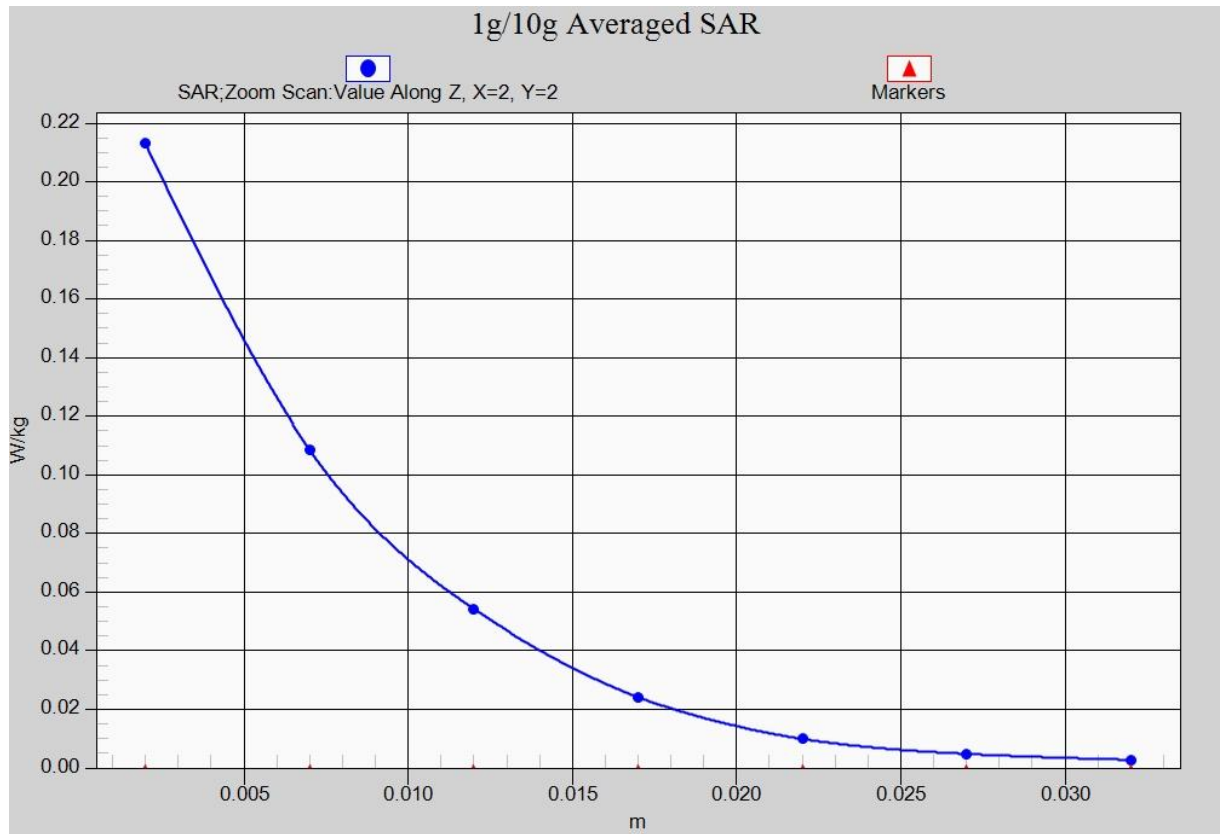


Fig. 26-1 Z-Scan at power reference point (LTE Band41)

LTE Band41 Body Rear High with QPSK_20M_1RB_Middle – 15mm

Date: 2016-2-23

Electronics: DAE4 Sn777

Medium: Body 2600 MHz

Medium parameters used: $f = 2645$ MHz; $\sigma = 2.22$ mho/m; $\epsilon_r = 51.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

Communication System: LTE Band7 Frequency: 2645 MHz Duty Cycle: 1:1.58

Probe: EX3DV4 - SN3617 ConvF(7.20, 7.20, 7.20)

Area Scan (151x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.122 W/kg

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

Reference Value = 3.142 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.162 W/kg

SAR(1 g) = 0.086 W/kg; SAR(10 g) = 0.046 W/kg

Maximum value of SAR (measured) = 0.120 W/kg

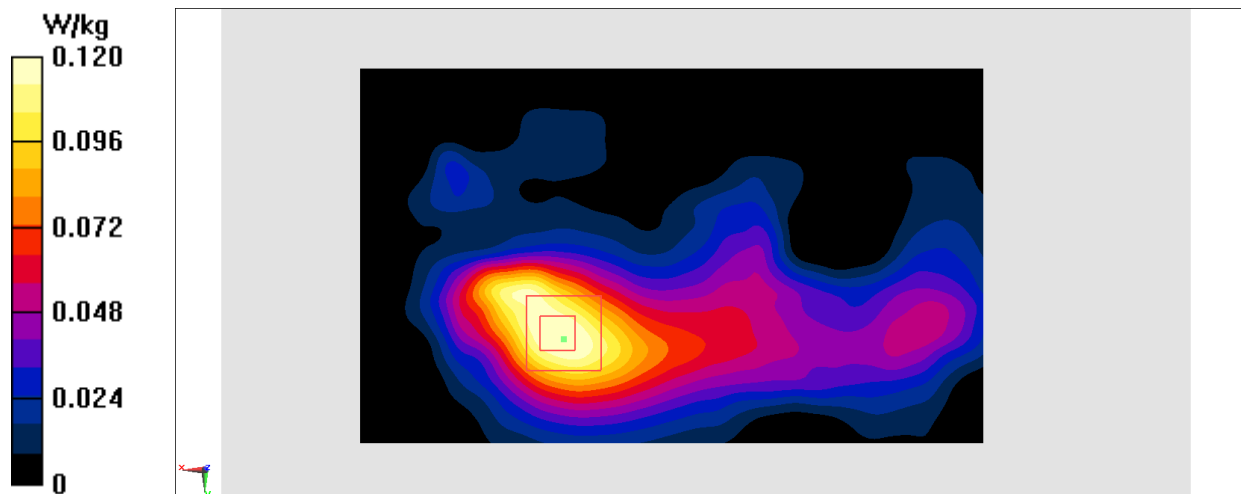


Fig.27 LTE Band41

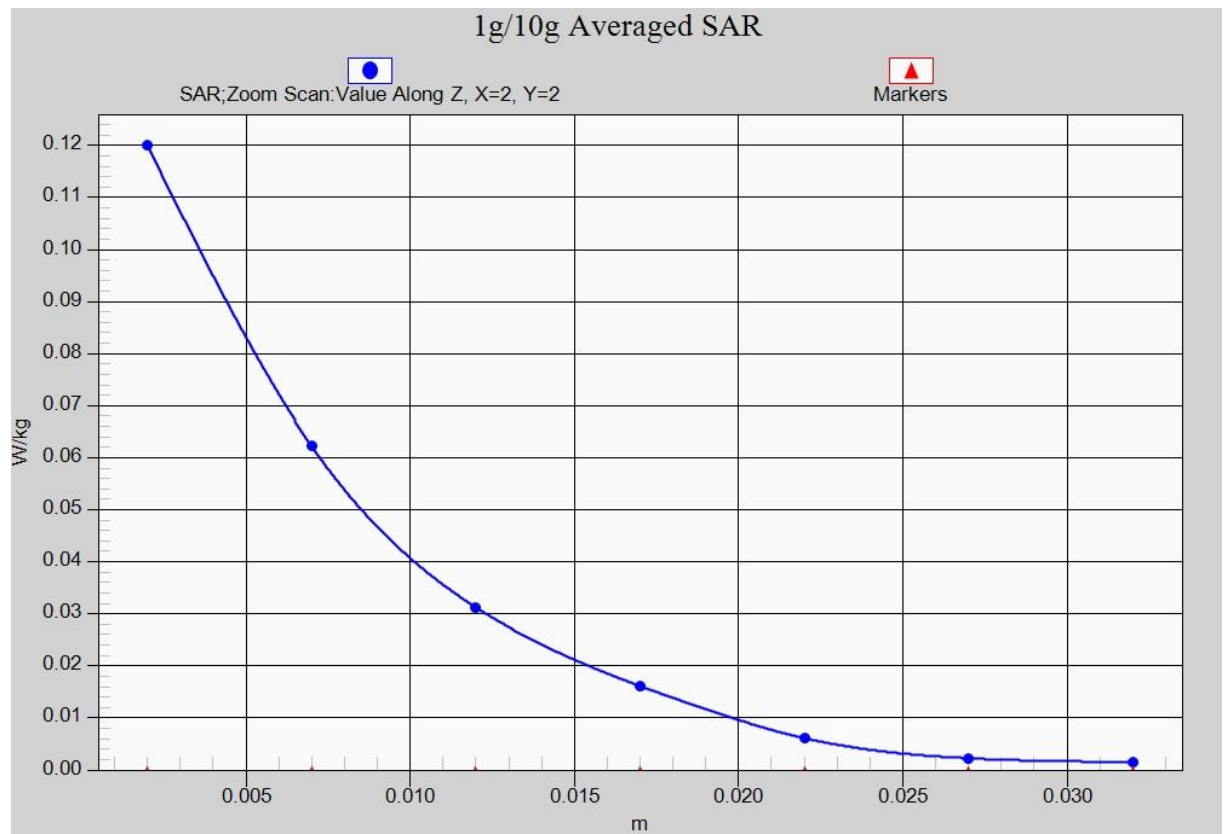


Fig. 27-1 Z-Scan at power reference point (LTE Band41)

Wifi 802.11b Left Tilt Channel 11

Date: 2016-2-22

Electronics: DAE4 Sn777

Medium: Head 2450 MHz

Medium parameters used (interpolated): $f = 2462$ MHz; $\sigma = 1.843$ mho/m; $\epsilon_r = 37.97$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

Probe: EX3DV4 - SN3617 ConvF(7.24, 7.24, 7.24)

Area Scan (81x141x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 2.56 W/kg

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

Reference Value = 8.424 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 3.92 W/kg

SAR(1 g) = 1.23 W/kg; SAR(10 g) = 0.481 W/kg

Maximum value of SAR (measured) = 2.29 W/kg

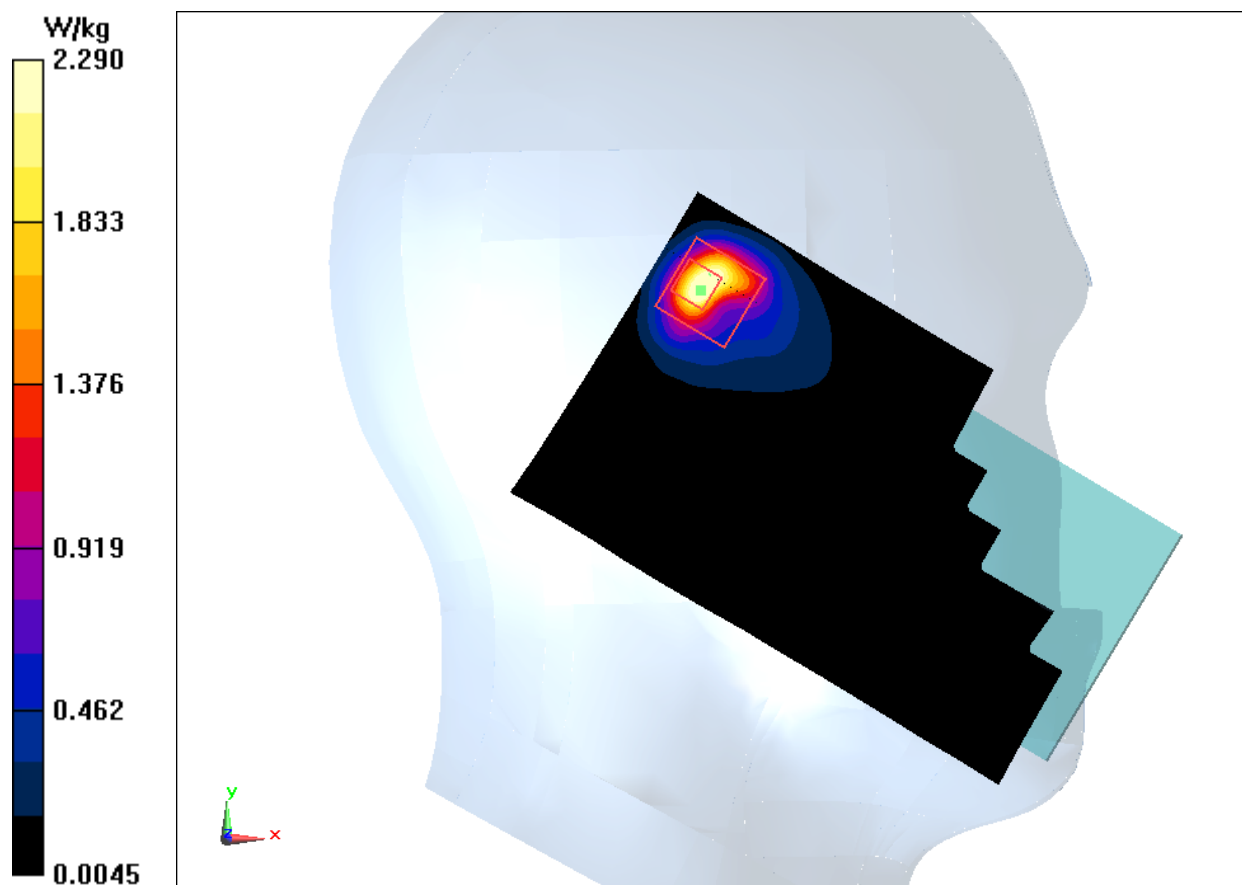


Fig.28 2450 MHz

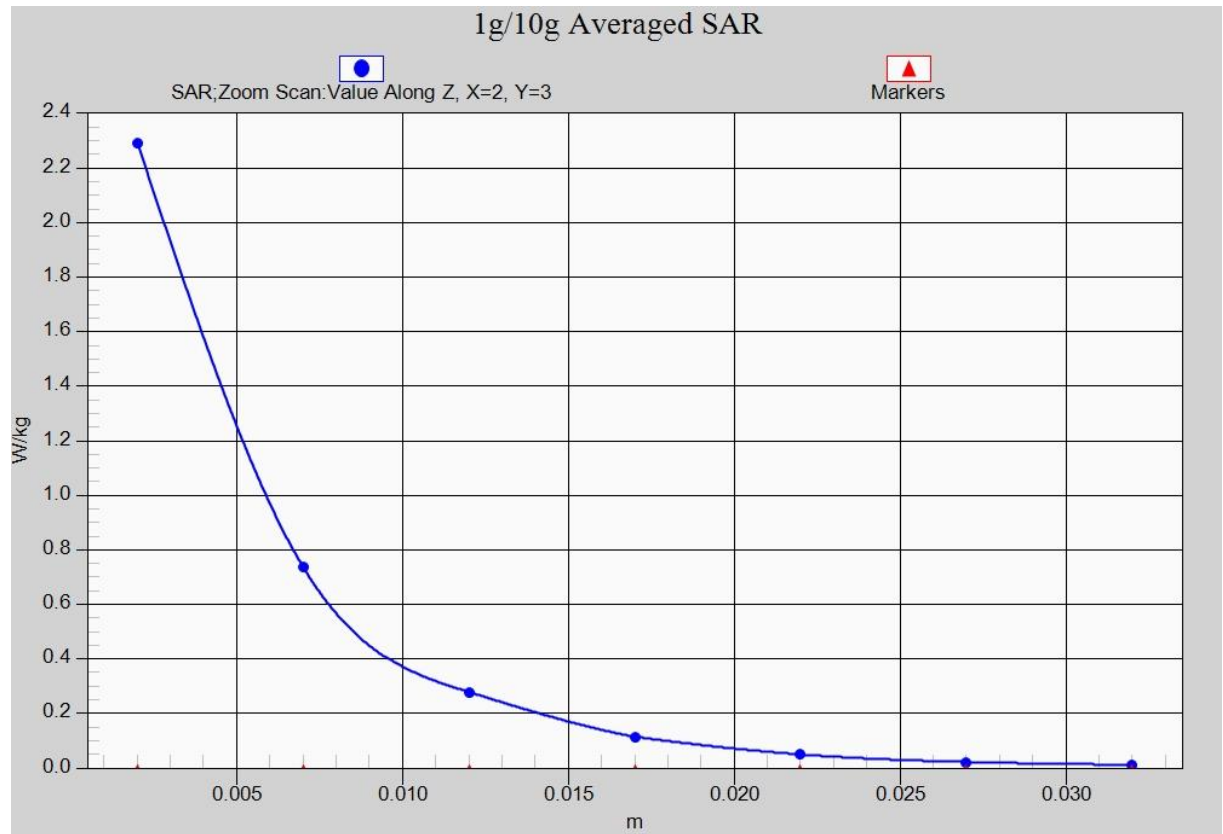


Fig. 28-1 Z-Scan at power reference point (2450 MHz)

Wifi 802.11b Body Rear Channel 11 – 10mm

Date: 2016-2-22

Electronics: DAE4 Sn777

Medium: Body 2450 MHz

Medium parameters used (interpolated): $f = 2462$ MHz; $\sigma = 1.984$ mho/m; $\epsilon_r = 51.59$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

Probe: EX3DV4 - SN3617 ConvF(7.35, 7.35, 7.35)

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

Maximum value of SAR (interpolated) = 0.313 W/kg

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

Reference Value = 6.537 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.475 W/kg

SAR(1 g) = 0.255 W/kg; SAR(10 g) = 0.132 W/kg

Maximum value of SAR (measured) = 0.319 W/kg

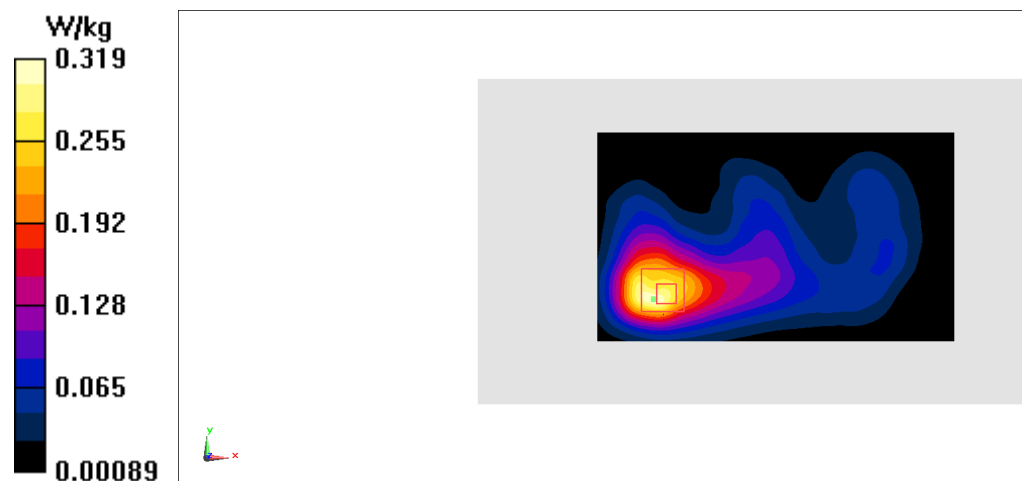


Fig.29 2450 MHz

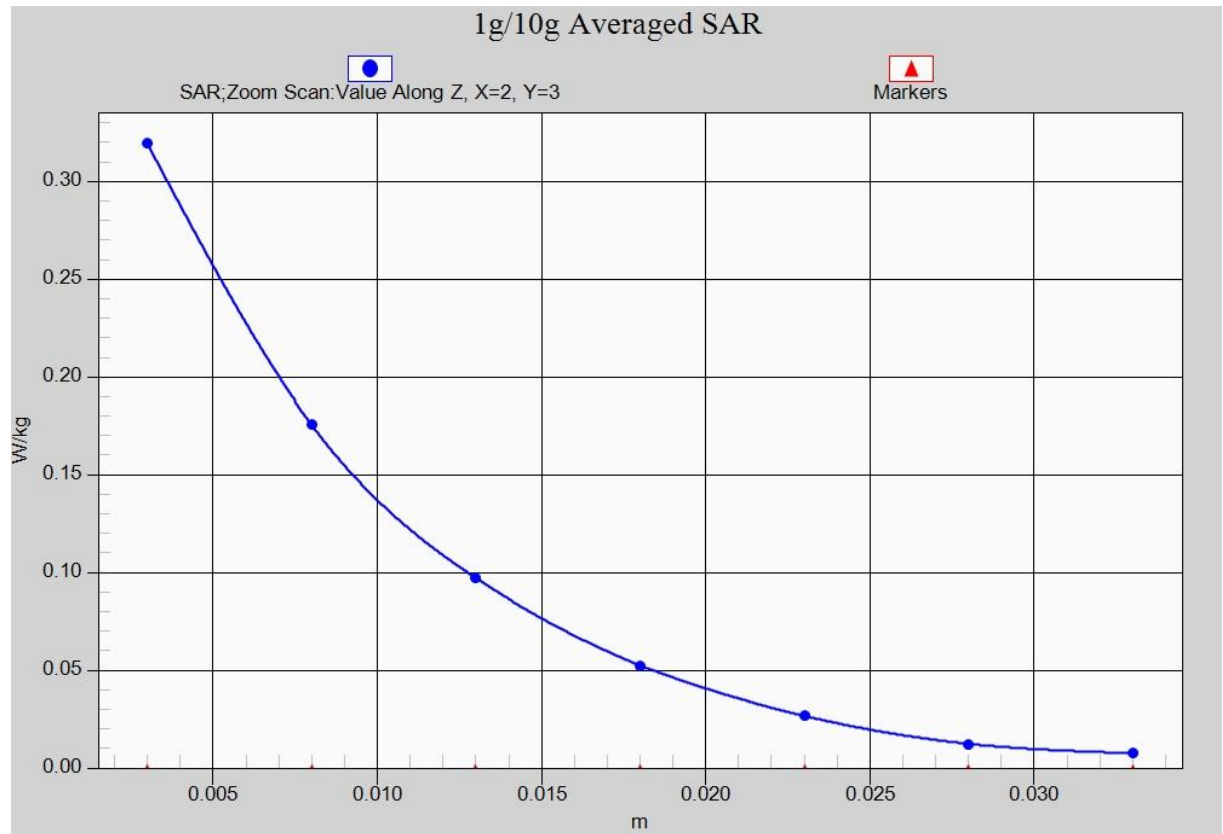


Fig. 29-1 Z-Scan at power reference point (2450 MHz)

Wifi 802.11b Body Rear Channel 11 – 15mm

Date: 2016-2-22

Electronics: DAE4 Sn777

Medium: Body 2450 MHz

Medium parameters used (interpolated): $f = 2462$ MHz; $\sigma = 1.984$ mho/m; $\epsilon_r = 51.59$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

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

Probe: EX3DV4 - SN3617 ConvF(7.35, 7.35, 7.35)

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

Maximum value of SAR (interpolated) = 0.129 W/kg

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

Reference Value = 5.540 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.202 W/kg

SAR(1 g) = 0.113 W/kg; SAR(10 g) = 0.063 W/kg

Maximum value of SAR (measured) = 0.138 W/kg

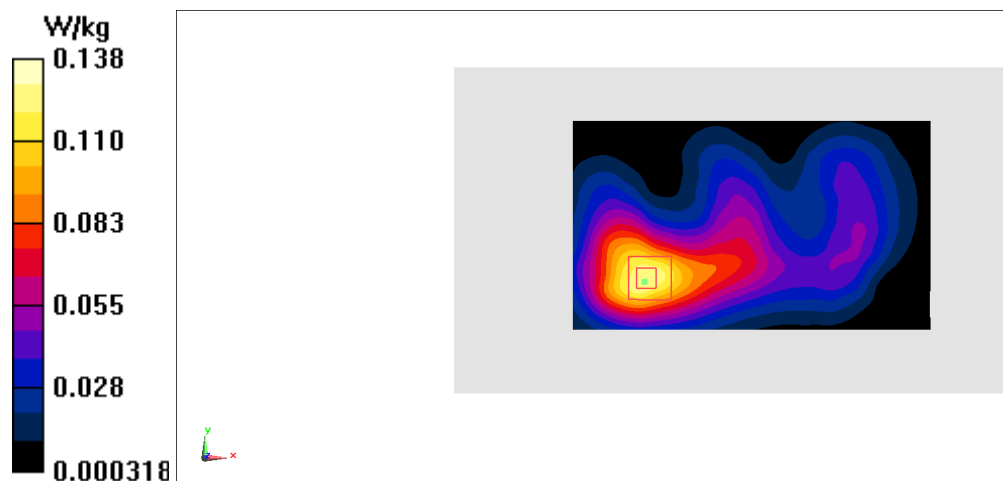


Fig.30 2450 MHz

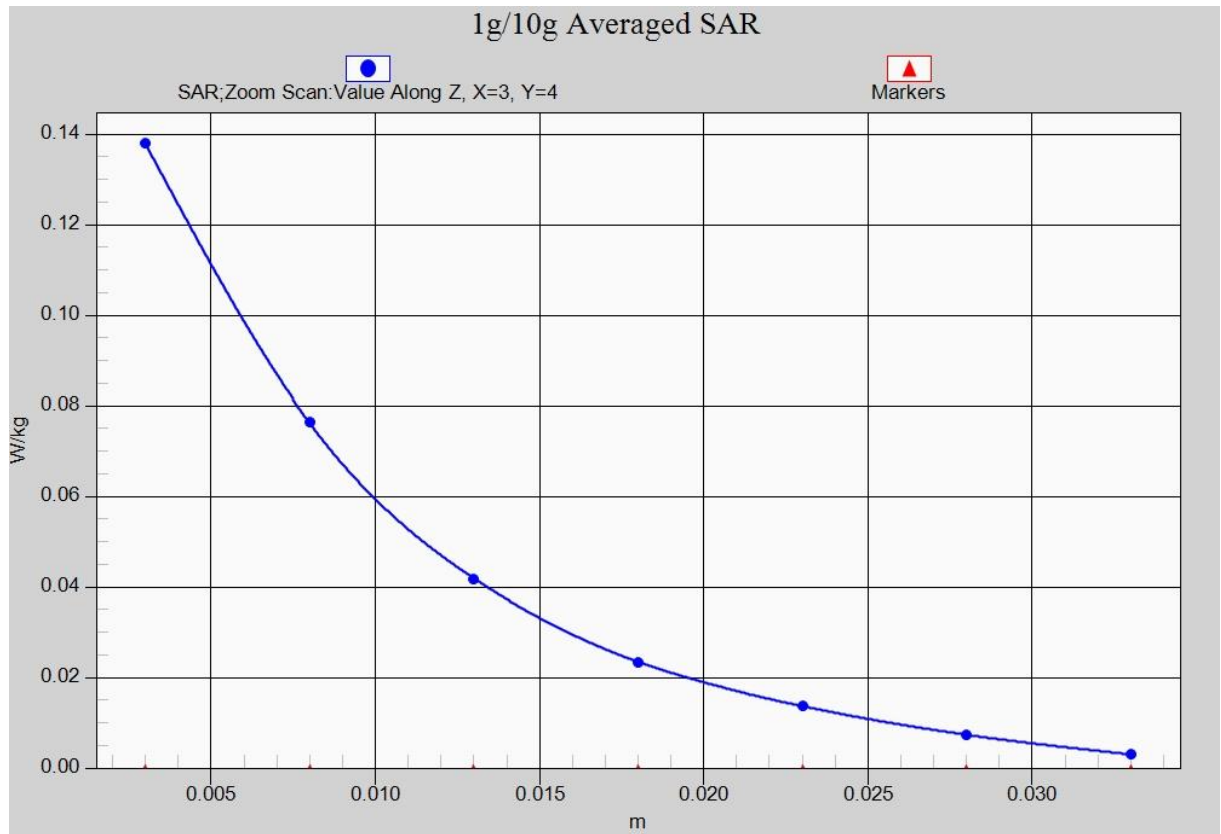


Fig. 30-1 Z-Scan at power reference point (2450 MHz)

Wifi 802.11a Left Cheek Channel 104

Date: 2016-2-24

Electronics: DAE4 Sn777

Medium: Head 5 GHz

Medium parameters used: $f = 5520$ MHz; $\sigma = 5.095$ mho/m; $\epsilon_r = 36.14$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.0°C

Communication System: Wlan 5G Frequency: 5520 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(4.75, 4.75, 4.75)

Area Scan (81x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 2.05 W/kg

Zoom Scan (10x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 3.937 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 6.67 W/kg

SAR(1 g) = 1.2 W/kg; SAR(10 g) = 0.340 W/kg

Maximum value of SAR (measured) = 3.46 W/kg

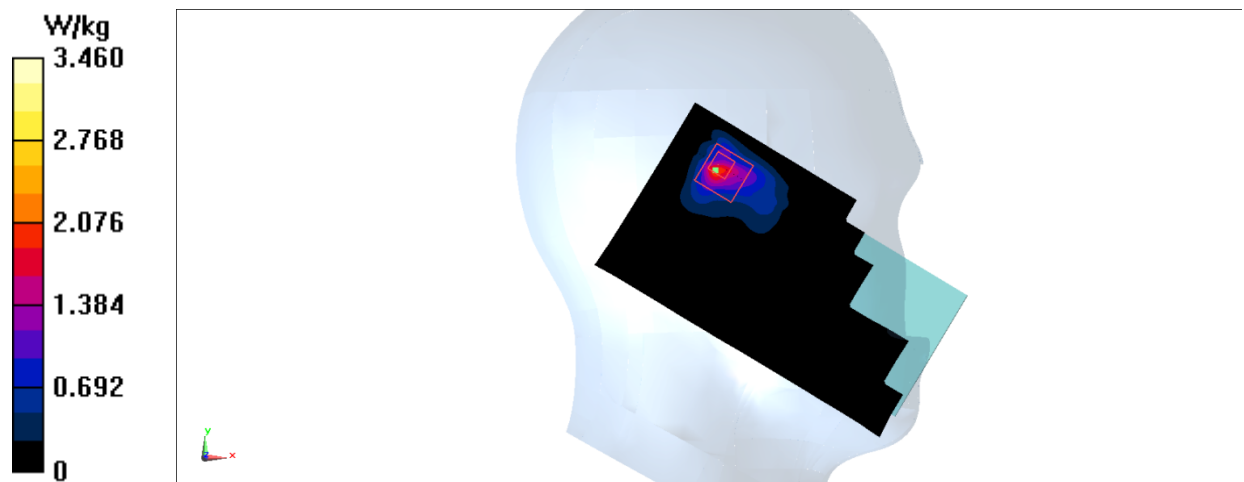


Fig.31 5GHz

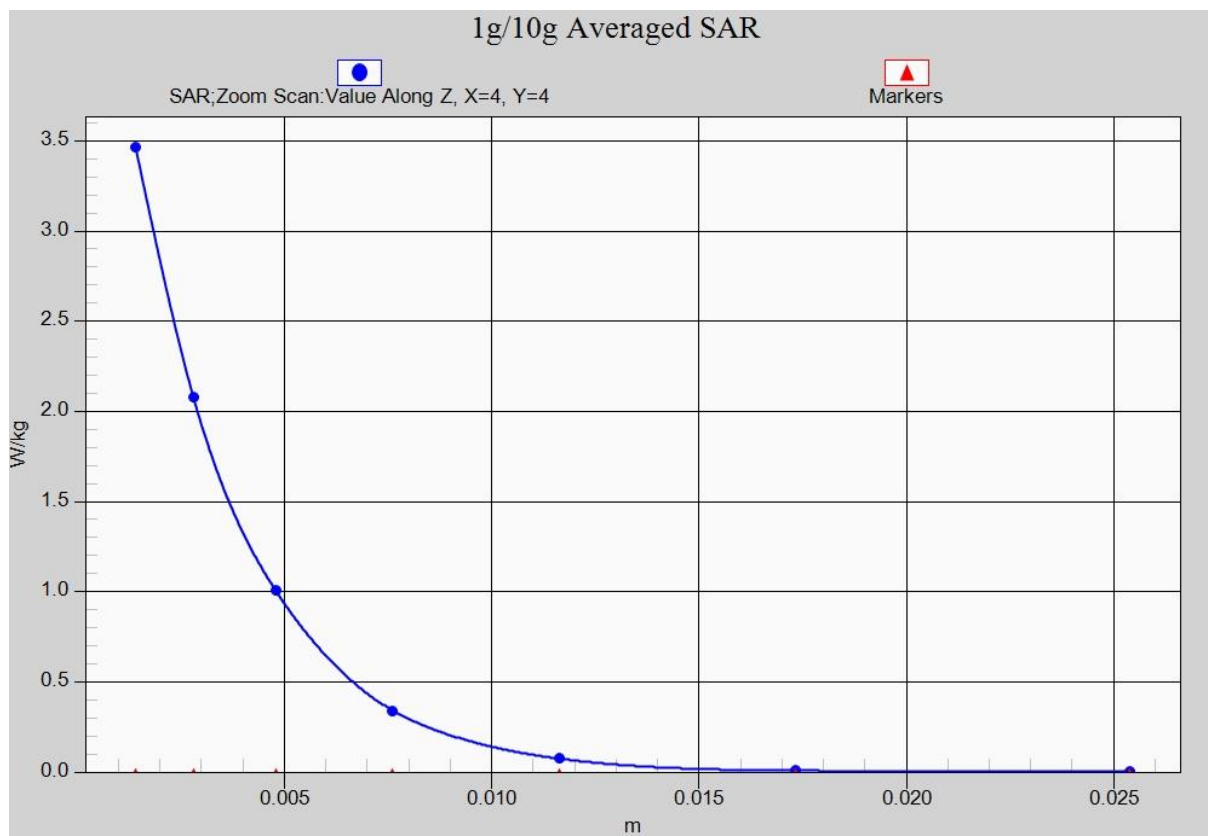


Fig. 31-1 Z-Scan at power reference point (5GHz)