

<Second antenna>

Table 13.21: SAR Values (LTE Band 7 - Head)

Frequency		Test Mode	Test Position	Figure No. / Note	Ambient Temperature: 22.5°C		Liquid Temperature: 22.0°C		
MHz	Ch.				Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift(dB)
2535	21100	1RB_Mid	Left Touch	/	12.24	13	0.230	0.274	0.01
2535	21100	50RB_Mid	Left Touch	/	11.96	13	0.231	0.294	0.18
2535	21100	1RB_Mid	Left Tilt	/	12.24	13	0.199	0.237	0.07
2535	21100	50RB_Mid	Left Tilt	/	11.96	13	0.181	0.230	0.08
2535	21100	1RB_Mid	Right Touch	/	12.24	13	0.554	0.660	0.06
2535	21100	50RB_Mid	Right Touch	/	11.96	13	0.513	0.652	0.07
2535	21100	1RB_Mid	Right Tilt	/	12.24	13	0.432	0.515	0.05
2535	21100	50RB_Mid	Right Tilt	/	11.96	13	0.419	0.532	0.04
2535	21100	1RB_Mid	Right Touch	B2	12.24	13	0.550	0.655	0.01
2535	21100	1RB_Mid	Right Touch	Fig.19/B3	12.24	13	0.602	0.717	0.02

Table 13.22: SAR Values (LTE Band 7 - Body)

Frequency		Test Mode	Test Position	Figure No. / Note	Ambient Temperature: 22.7°C		Liquid Temperature: 22.2°C		
MHz	Ch.				Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift(dB)
Hotspot Test Data (10mm)									
2535	21100	1RB_Mid	Front	/	10.13	11.4	0.045	0.060	0.04
2535	21100	50RB_Mid	Front	/	9.88	11.4	0.064	0.091	0.06
2535	21100	1RB_Mid	Rear	/	10.13	11.4	0.045	0.060	0.02
2535	21100	50RB_Mid	Rear	/	9.88	11.4	0.044	0.062	0.02
2535	21100	1RB_Mid	Left	/	10.13	11.4	0.020	0.027	0.04
2535	21100	50RB_Mid	Left	/	9.88	11.4	0.053	0.075	0.02
2535	21100	1RB_Mid	Top	/	10.13	11.4	0.009	0.012	0.03
2535	21100	50RB_Mid	Top	/	9.88	11.4	0.009	0.013	0.07
Body worn Test Data (15mm)									
2535	21100	1RB_Mid	Front	Fig.20	20.75	21.5	0.286	0.340	0.08
2535	21100	50RB_Mid	Front	/	20.13	21.5	0.248	0.340	-0.06
2535	21100	1RB_Mid	Rear	/	20.75	21.5	0.261	0.310	0.05
2535	21100	50RB_Mid	Rear	/	20.13	21.5	0.221	0.303	0.08
2535	21100	1RB_Mid	Front	B2	20.75	21.5	0.256	0.304	0.01
2535	21100	1RB_Mid	Front	B3	20.13	21.5	0.260	0.356	-0.10

<Main antenna>

Table 13.23: SAR Values (LTE Band 41 - Head)

Frequency		Test Mode	Test Position	Figure No. / Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift(dB)
MHz	Ch.								
		Ambient Temperature: 22.5°C			Liquid Temperature: 22.0°C				
2570	40390	1RB_Mid	Left Touch	/	22.62	23	0.041	0.045	-0.06
2570	40390	50RB_Mid	Left Touch	/	21.36	22.5	0.028	0.036	0.02
2570	40390	1RB_Mid	Left Tilt	/	22.62	23	0.059	0.064	0.09
2570	40390	50RB_Mid	Left Tilt	/	21.36	22.5	0.040	0.052	0.04
2570	40390	1RB_Mid	Right Touch	Fig.21	22.62	23	0.146	0.159	0.02
2570	40390	50RB_Mid	Right Touch	/	21.36	22.5	0.118	0.153	0.04
2570	40390	1RB_Mid	Right Tilt	/	22.62	23	0.067	0.073	0.05
2570	40390	50RB_Mid	Right Tilt	/	21.36	22.5	0.068	0.088	0.06
2570	40390	1RB_Mid	Right Touch	B2	22.62	23	0.093	0.102	0.06
2570	40390	50RB_Mid	Right Touch	B3	22.62	23	0.118	0.129	0.05

Table 13.24: SAR Values (LTE Band 41 - Body)

Frequency		Test Mode	Test Position	Figure No. / Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift(dB)
MHz	Ch.								
Ambient Temperature: 22.7°C Liquid Temperature: 22.2°C									
Hotspot Test Data (10mm)									
2570	40390	1RB_Mid	Front	/	19.74	20	0.186	0.197	-0.04
2570	40390	50RB_Mid	Front	/	18.56	19.5	0.150	0.186	-0.01
2570	40390	1RB_Mid	Rear	/	19.74	20	0.223	0.237	0.02
2570	40390	50RB_Mid	Rear	/	18.56	19.5	0.173	0.215	0.04
2570	40390	1RB_Mid	Left	/	19.74	20	0.042	0.045	0.07
2570	40390	50RB_Mid	Left	/	18.56	19.5	0.032	0.040	-0.06
2570	40390	1RB_Mid	Right	/	19.74	20	0.129	0.137	-0.07
2570	40390	50RB_Mid	Right	/	18.56	19.5	0.098	0.122	-0.02
2570	40390	1RB_Mid	Bottom	/	19.74	20	0.293	0.311	-0.08
2570	40390	50RB_Mid	Bottom	/	18.56	19.5	0.202	0.251	-0.07
2570	40390	1RB_Mid	Bottom	B2	19.74	20	0.230	0.244	0.08
2570	40390	1RB_Mid	Bottom	Fig.22/B3	19.74	20	0.331	0.351	0.02
Body worn Test Data (15mm)									
2570	40390	1RB_Mid	Front	/	19.74	20	0.079	0.084	0.03
2570	40390	50RB_Mid	Front	/	18.56	19.5	0.072	0.089	-0.01
2570	40390	1RB_Mid	Rear	/	19.74	20	0.130	0.138	-0.05
2570	40390	50RB_Mid	Rear	/	18.56	19.5	0.088	0.109	-0.09
Hotspot Test Data (17mm)									
2570	40390	1RB_Mid	Front	/	22.62	23	0.108	0.118	-0.01
2570	40390	50RB_Mid	Front	/	21.36	22.5	0.082	0.107	-0.06
2570	40390	1RB_Mid	Rear	/	22.62	23	0.170	0.186	0.09
2570	40390	50RB_Mid	Rear	/	21.36	22.5	0.132	0.172	0.03
2570	40390	1RB_Mid	Bottom	/	22.62	23	0.279	0.305	-0.03
2570	40390	50RB_Mid	Bottom	/	21.36	22.5	0.192	0.250	-0.03
Body worn Test Data (17mm)									
2570	40390	1RB_Mid	Front	/	22.62	23	0.096	0.105	-0.07
2570	40390	50RB_Mid	Front	/	21.36	22.5	0.088	0.114	0.06
2570	40390	1RB_Mid	Rear	/	22.62	23	0.214	0.234	0.03
2570	40390	50RB_Mid	Rear	/	21.36	22.5	0.153	0.199	0.03

<Second antenna>

Table 13.25: SAR Values (LTE Band 41 - Head)

Frequency		Test Mode	Test Position	Figure No. / Note	Ambient Temperature: 22.5°C		Liquid Temperature: 22.0°C		
MHz	Ch.				Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift(dB)
2570	40390	1RB_Mid	Left Touch	/	14.70	15.5	0.207	0.249	0.05
2570	40390	50RB_Mid	Left Touch	/	14.58	15.5	0.200	0.247	0.05
2570	40390	1RB_Mid	Left Tilt	/	14.70	15.5	0.157	0.189	0.05
2570	40390	50RB_Mid	Left Tilt	/	14.58	15.5	0.155	0.192	0.02
2570	40390	1RB_Mid	Right Touch	/	14.70	15.5	0.440	0.529	0.04
2570	40390	50RB_Mid	Right Touch	/	14.58	15.5	0.410	0.507	0.03
2570	40390	1RB_Mid	Right Tilt	/	14.70	15.5	0.340	0.409	0.12
2570	40390	50RB_Mid	Right Tilt	/	14.58	15.5	0.335	0.414	0.03
2570	40390	1RB_Mid	Right Touch	Fig.23/B2	14.70	15.5	0.483	0.581	0.03
2570	40390	1RB_Mid	Right Touch	B3	14.70	15.5	0.476	0.572	-0.10

Table 13.26: SAR Values (LTE Band 41 - Body)

Frequency		Test Mode	Test Position	Figure No. / Note	Ambient Temperature: 22.7°C		Liquid Temperature: 22.2°C		
MHz	Ch.				Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift(dB)
Hotspot Test Data (10mm)									
2570	40390	1RB_Mid	Front	/	12.94	13.5	0.065	0.074	0.09
2570	40390	50RB_Mid	Front	/	12.76	13.5	0.044	0.052	-0.06
2570	40390	1RB_Mid	Rear	/	12.94	13.5	0.070	0.080	0.06
2570	40390	50RB_Mid	Rear	/	12.76	13.5	0.043	0.051	0.08
2570	40390	1RB_Mid	Left	/	12.94	13.5	0.048	0.055	0.04
2570	40390	50RB_Mid	Left	/	12.76	13.5	0.025	0.030	0.03
2570	40390	1RB_Mid	Top	/	12.94	13.5	0.035	0.040	-0.09
2570	40390	50RB_Mid	Top	/	12.76	13.5	0.030	0.036	-0.01
Body worn Test Data (15mm)									
2570	40390	1RB_Mid	Front	/	20.34	21	0.113	0.132	-0.02
2570	40390	50RB_Mid	Front	/	20.25	21	0.111	0.132	-0.04
2570	40390	1RB_Mid	Rear	/	20.34	21	0.125	0.146	-0.04
2570	40390	50RB_Mid	Rear	/	20.25	21	0.122	0.145	-0.01
2570	40390	1RB_Mid	Rear	Fig.24/B2	20.34	21	0.138	0.161	0.06
2570	40390	1RB_Mid	Rear	B3	20.25	21	0.100	0.119	0.07

Table 13.27: SAR Values (BT - Head)

Frequency		Test Mode	Test Position	Figure No. / Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift(dB)
MHz	Ch.								
Ambient Temperature: 22.2°C Liquid Temperature: 21.7°C									
2480	78	EDR2M-4_DQPSK	Left Touch	/	7.93	10.5	0.015	0.027	0.05
2480	78	EDR2M-4_DQPSK	Left Tilt	/	7.93	10.5	0.020	0.036	0.06
2480	78	EDR2M-4_DQPSK	Right Touch	/	7.93	10.5	0.005	0.009	0.09
2480	78	EDR2M-4_DQPSK	Right Tilt	/	7.93	10.5	0.001	0.002	0.00
2480	78	EDR2M-4_DQPSK	Left Tilt	B2	7.93	10.5	0.022	0.040	-0.03
2480	78	EDR2M-4_DQPSK	Left Tilt	Fig.25/B3	7.93	10.5	0.023	0.042	-0.07

**Table 13.28: SAR Values (Second antenna)
- The worst case with SIM2**

Ambient Temperature: 22.6°C Liquid Temperature: 22.1°C									
LTE Band 5									
Frequency		Test Mode	Test Position	Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift(dB)
MHz	Ch.								
836.5	20525	1RB_Mid	Right Touch	SIM1	18.09	19	0.640	0.789	-0.03
836.5	20525	1RB_Mid	Right Touch	SIM2	18.09	19	0.624	0.769	-0.08

13.2 WLAN Evaluation for 2.4G

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

Head Evaluation

Table 13.29: SAR Values (WLAN - Head)–802.11b 1Mbps

Frequency		Test Mode	Test Position	Figure No. / Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift(dB)
MHz	Ch.								
		Ambient Temperature: 22.2°C			Liquid Temperature: 21.7°C				
2437	6	802.11 b	Left Touch	/	9.45	11	0.295	0.422	0.04
2437	6	802.11 b	Left Tilt	/	9.45	11	0.227	0.324	0.03
2437	6	802.11 b	Right Touch	/	9.45	11	0.167	0.239	0.04
2437	6	802.11 b	Right Tilt	/	9.45	11	0.234	0.334	0.04
2437	6	802.11 b	Left Touch	B2	9.45	11	0.258	0.369	-0.04
2437	6	802.11 b	Left Touch	Fig.26/B3	9.45	11	0.393	0.562	0.05

Note1: 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. A maximum transmission duty factor of 99.33% is achievable for WLAN in this project and the scaled reported SAR is presented as below.

Table 13.30: SAR Values (WLAN - Head) – 802.11b 1Mbps (Scaled Reported SAR)

Frequency		Test Position	Actual duty factor	Maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
MHz	Ch.					
		Ambient Temperature: 22.2°C			Liquid Temperature: 21.7°C	
2437	6	Left Touch	99.33%	100%	0.562	0.566
2437	6	Right Touch	99.33%	100%	0.239	0.241

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

Body Evaluation

Table 13.31: SAR Values (WLAN - Body)– 802.11b 1Mbps

Frequency		Test Mode	Test Position	Figure No. / Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift(dB)
MHz	Ch.								
Ambient Temperature: 22.2°C Liquid Temperature: 21.7°C									
Hotspot Test Data (10mm)									
2412	1	802.11 b	Front	/	16.47	17.5	0.100	0.127	0.02
2412	1	802.11 b	Rear	/	16.47	17.5	0.081	0.103	0.07
2412	1	802.11 b	Right	/	16.47	17.5	0.035	0.044	0.06
2412	1	802.11 b	Top	/	16.47	17.5	0.105	0.133	-0.08
2412	1	802.11 b	Top	/	16.47	17.5	0.096	0.122	0.09
2412	1	802.11 b	Top	Fig.27/B3	16.47	17.5	0.108	0.137	-0.03
Body worn Test Data (15mm)									
2412	1	802.11 b	Front	/	16.47	17.5	0.055	0.070	0.06
2412	1	802.11 b	Rear	/	16.47	17.5	0.048	0.061	0.06

Note1: 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. A maximum transmission duty factor of 99.33% is achievable for WLAN in this project and the scaled reported SAR is presented as below.

Table 13.32: SAR Values (WLAN - Body) – 802.11b 1Mbps (Scaled Reported SAR)

Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
MHz	Ch.					
Ambient Temperature: 22.2°C Liquid Temperature: 21.7°C						
Hotspot Test Data (10mm)						
2412	1	Rear	99.33%	100%	0.103	0.104
2412	1	Top	99.33%	100%	0.137	0.138
Body worn Test Data (15mm)						
2412	1	Rear	99.33%	100%	0.061	0.061

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

14 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 .

15 Measurement Uncertainty

15.1 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	12	N	2	1	1	6.0	6.0	∞
2	Isotropy	B	7.4	R	$\sqrt{3}$	1	1	4.3	4.3	∞
3	Boundary effect	B	1.1	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	1.0	N	1	1	1	1.0	1.0	∞
7	Response time	B	0.0	R	$\sqrt{3}$	1	1	0.0	0.0	∞
8	Integration time	B	1.7	R	$\sqrt{3}$	1	1	1.0	1.0	∞
9	RF ambient conditions-noise	B	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
10	RF ambient conditions-reflection	B	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
11	Probe positioned mech. restrictions	B	0.35	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	5
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	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
18	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
19	Liquid conductivity (meas.)	A	1.3	N	1	0.64	0.43	0.83	0.56	9
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	0.96	0.78	9
Combined standard uncertainty		$u_c = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$						10.4	10.3	95.5
Expanded uncertainty (Confidence interval of 95 %)		$u_e = 2u_c$						20.8	20.6	

15.2 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	12	N	2	1	1	6.0	6.0	∞
2	Isotropy	B	7.4	R	$\sqrt{3}$	1	1	4.3	4.3	∞
3	Boundary effect	B	1.1	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	1.0	N	1	1	1	1.0	1.0	∞
7	Response time	B	0.0	R	$\sqrt{3}$	1	1	0.0	0.0	∞
8	Integration time	B	1.7	R	$\sqrt{3}$	1	1	1.0	1.0	∞
9	RF ambient conditions-noise	B	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
10	RF ambient conditions-reflection	B	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
11	Probe positioned mech. Restrictions	B	0.35	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	5
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	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
20	Liquid conductivity (meas.)	A	1.3	N	1	0.64	0.43	0.83	0.56	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	0.96	0.78	521
Combined standard uncertainty		$u_c = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						11.1	11.0	257
Expanded uncertainty (Confidence interval of 95 %)		$u_e = 2u_c$						22.2	22.0	

16 MAIN TEST INSTRUMENTS

Table 16.1: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	Agilent E5071C	MY46103759	2017-11-17	One year
02	Dielectric probe	85070E	MY44300317	/	
03	Power meter	NRP	102603	2017-01-06	One year
04	Power sensor	NRP-Z51	102211		
05	Power meter	NRP	101460	2017-02-06	One year
06	Power sensor	NRP-Z91	100553		
07	Signal Generator	E8257D	MY47461211	2017-06-06	One year
08	Amplifier	VTL5400	0404	/	
09	DAE	SPEAG DAE4	786	2017-11-22	One year
10	E-field Probe	SPEAG EX3DV4	3633	2017-01-23	One year
11	Dipole Validation Kit	SPEAG D835V2	4d057	2015-10-22	Three year
12	Dipole Validation Kit	SPEAG D1900V2	5d088	2015-11-04	Three year
13	Dipole Validation Kit	SPEAG D2450V2	873	2015-10-30	Three year
14	Dipole Validation Kit	SPEAG D2550V2	1010	2015-07-24	Three year
15	BTS	E5515C	GB47460389	2017-01-06	One year
16	Radio Communication Analyzer	Anristu MT8820C	6201563767	2017-01-06	One year

END OF REPORT BODY

ANNEX A Graph Results

GSM850 Head – Main antenna

Date: 2017-12-12

Electronics: DAE4 Sn786

Medium: Head 835 MHz

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.927$ S/m; $\epsilon_r = 40.831$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.6°C Liquid Temperature: 22.1°C

Communication System: UID 0, GSM (0) Frequency: 848.8 MHz Duty Cycle: 1:8.3

Probe: EX3DV4 - SN3633 ConvF (9.04, 9.04, 9.04);

Right Cheek Mid/Area Scan (61x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.169 W/kg

Right Cheek Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.057 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.192 W/kg

SAR(1 g) = 0.154 W/kg; SAR(10 g) = 0.118 W/kg

Maximum value of SAR (measured) = 0.162 W/kg

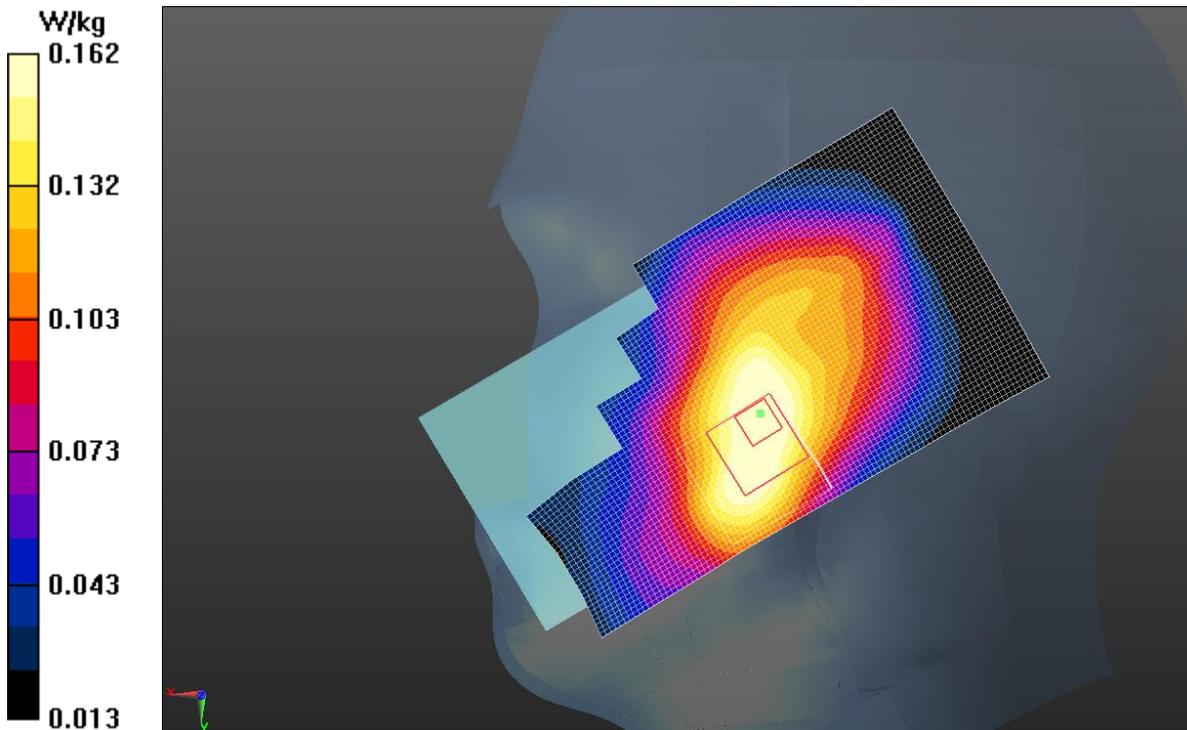


Fig.1 GSM 850MHz

GSM850 Body – Main antenna

Date: 2017-12-13

Electronics: DAE4 Sn786

Medium: Body 835 MHz

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.99$ S/m; $\epsilon_r = 53.671$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.6°C Liquid Temperature: 22.1°C

Communication System: UID 0, GPRS 1 Txslot (0) Frequency: 836.6 MHz Duty Cycle: 1:8.3

Probe: EX3DV4 - SN3633 ConvF (9.41, 9.41, 9.41);

Rear Side Mid/Area Scan (111x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.298 W/kg

DS-1aa/Rear Side Middle-0/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.94 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.349 W/kg

SAR(1 g) = 0.278 W/kg; SAR(10 g) = 0.215 W/kg

Maximum value of SAR (measured) = 0.291 W/kg

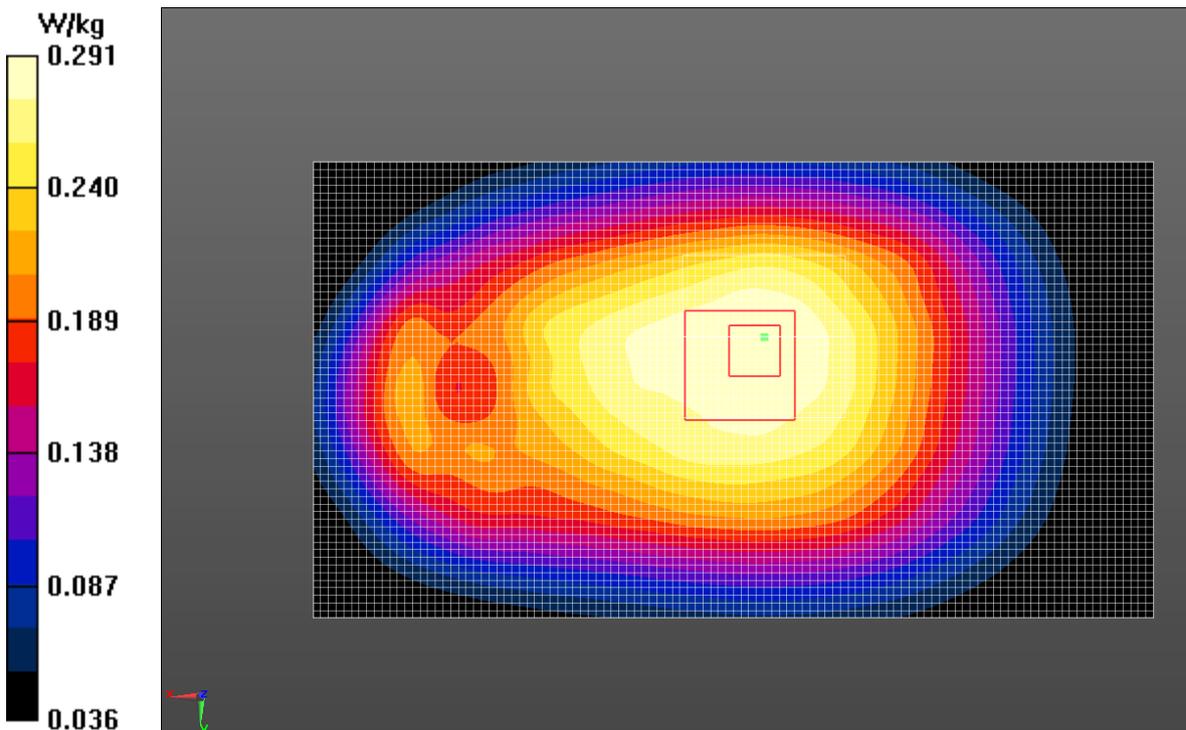


Fig.2 GSM 850 MHz

GSM850 Head – Second antenna

Date: 2017-12-12

Electronics: DAE4 Sn786

Medium: Head 835 MHz

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.927$ S/m; $\epsilon_r = 40.831$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C Liquid Temperature: 21.5°C

Communication System: UID 0, GSM (0) Frequency: 836.6 MHz Duty Cycle: 1:8.3

Probe: EX3DV4 - SN3633 ConvF (9.04, 9.04, 9.04);

Right Cheek Mid/Area Scan (61x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.575 W/kg

Right Cheek Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.45 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.48 W/kg

SAR(1 g) = 0.593 W/kg; SAR(10 g) = 0.279 W/kg

Maximum value of SAR (measured) = 0.699 W/kg

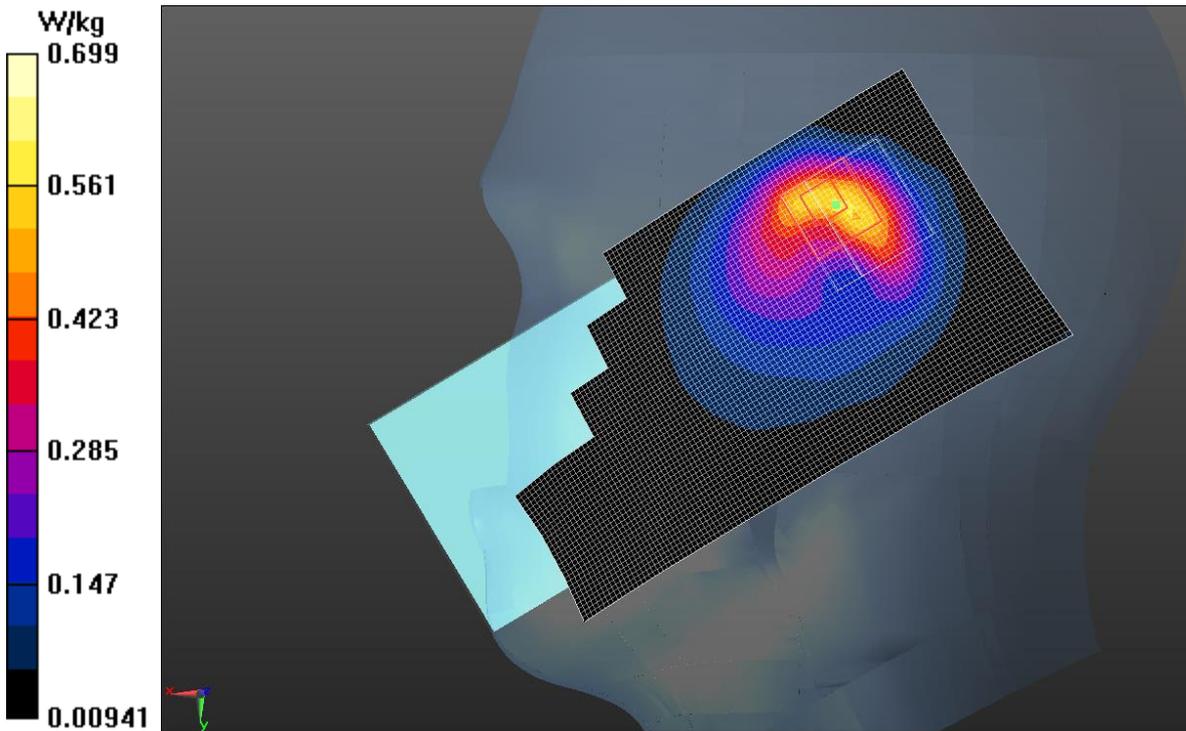


Fig.3 GSM 850 MHz

GSM850 Body – Second antenna

Date: 2017-12-13

Electronics: DAE4 Sn786

Medium: Body 835 MHz

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.99$ S/m; $\epsilon_r = 53.671$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C Liquid Temperature: 21.5°C

Communication System: UID 0, GPRS 1 Txslot (0) Frequency: 836.6 MHz Duty Cycle: 1:8.3

Probe: EX3DV4 - SN3633 ConvF (9.41, 9.41, 9.41);

Rear Side Mid/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.158 W/kg

Rear Side Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.91 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.269 W/kg

SAR(1 g) = 0.152 W/kg; SAR(10 g) = 0.091 W/kg

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

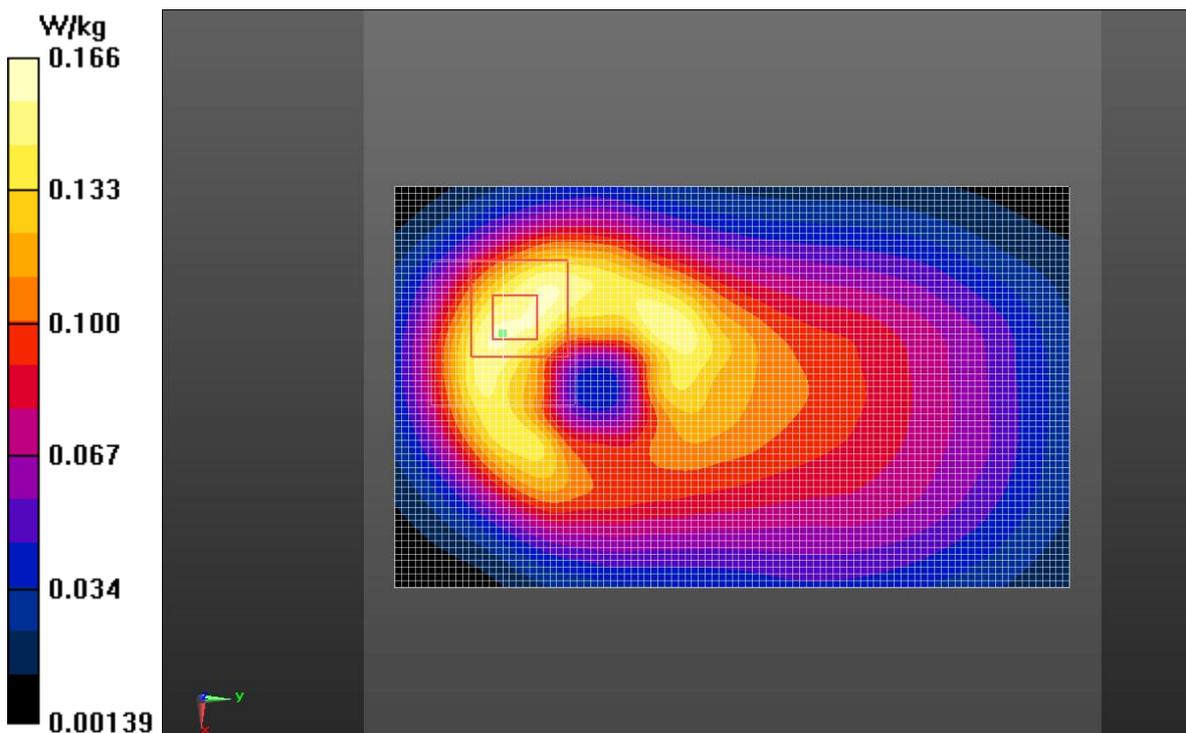


Fig.4 GSM 850 MHz

GSM1900 Head – Main antenna

Date: 2017-12-15

Electronics: DAE4 Sn786

Medium: Head 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.406$ S/m; $\epsilon_r = 39.302$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.2°C Liquid Temperature: 21.7°C

Communication System: UID 0, GSM (0) Frequency: 1880 MHz Duty Cycle: 1:8.3

Probe: EX3DV4 - SN3633 ConvF (8, 8, 8)

Left Cheek Mid/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0941 W/kg

Left Cheek Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.584 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.103 W/kg

SAR(1 g) = 0.096 W/kg; SAR(10 g) = 0.070 W/kg

Maximum value of SAR (measured) = 0.117 W/kg

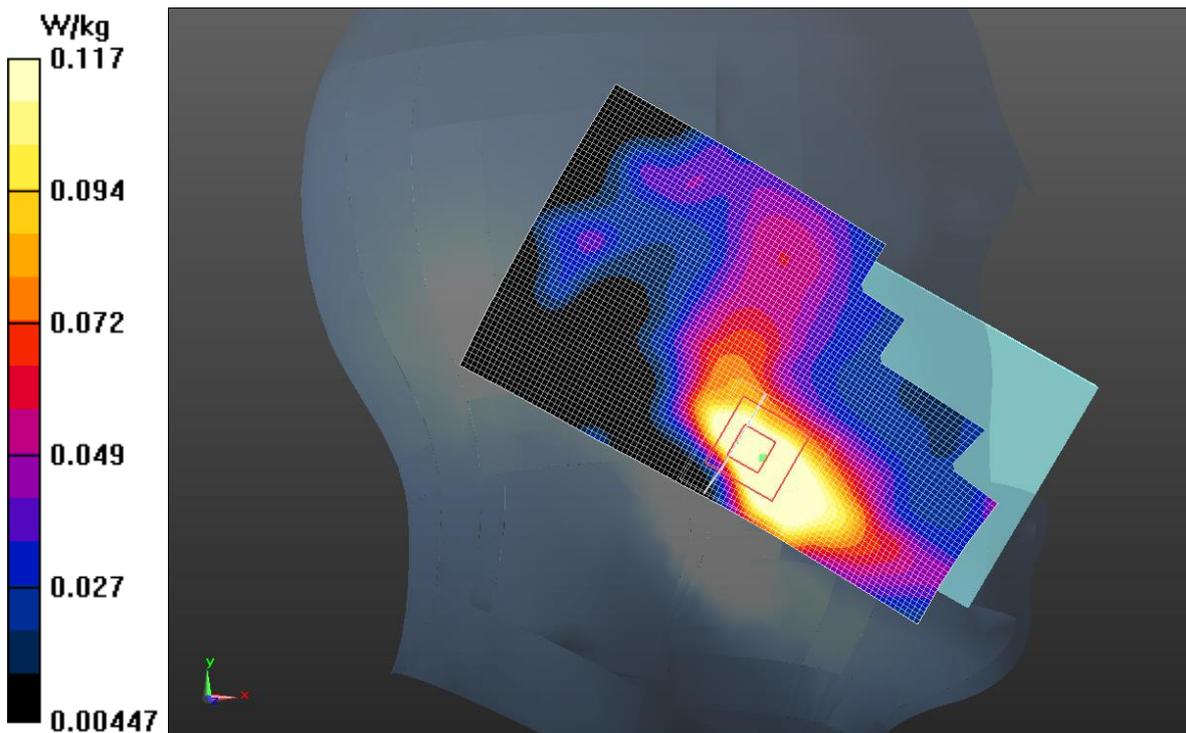


Fig.5 GSM 1900 MHz

GSM1900 Body – Main antenna

Date: 2017-12-15

Electronics: DAE4 Sn786

Medium: Body 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.557$ S/m; $\epsilon_r = 52.792$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.2°C Liquid Temperature: 21.7°C

Communication System: UID 0, GPRS 1 Txslot (0) Frequency: 1880 MHz Duty Cycle: 1:8.3

Probe: EX3DV4 - SN3633 ConvF (7.55, 7.55, 7.55);

Bottom Side Mid/Area Scan (51x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Bottom Side Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.88 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.942 W/kg

SAR(1 g) = 0.572 W/kg; SAR(10 g) = 0.303 W/kg

Maximum value of SAR (measured) = 0.608 W/kg

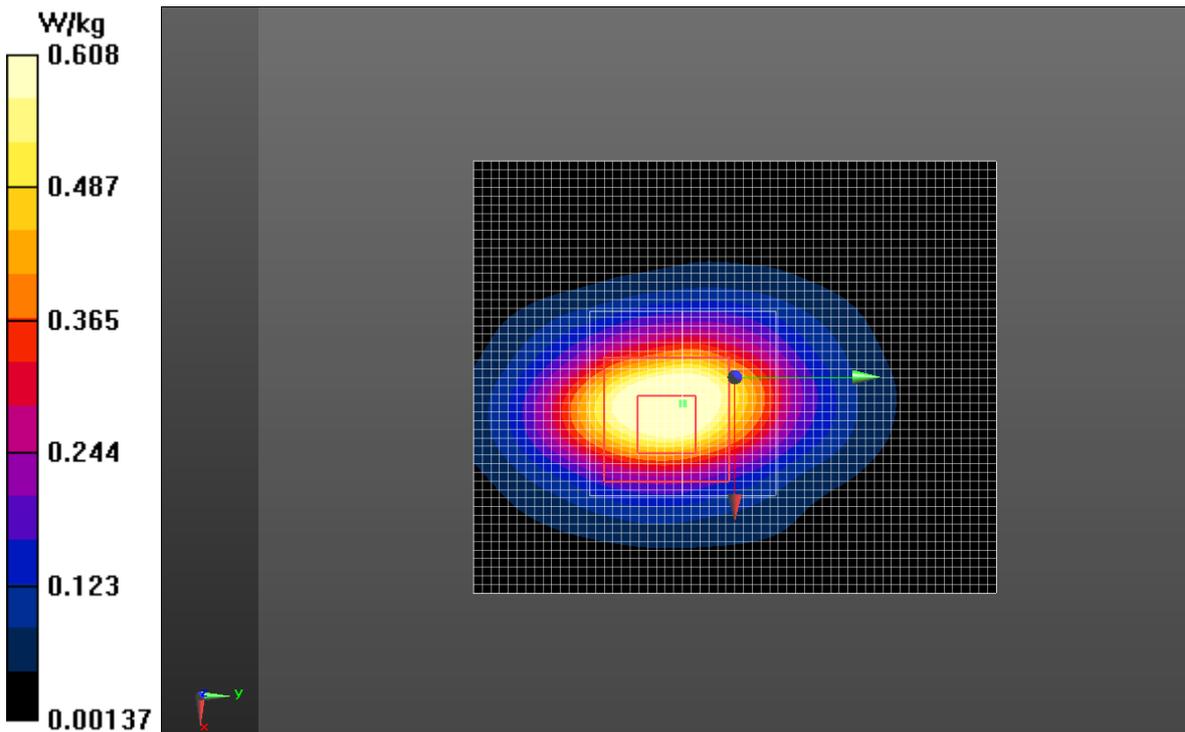


Fig.6 GSM 1900 MHz

GSM1900 Head – Second antenna

Date: 2017-12-15

Electronics: DAE4 Sn786

Medium: Head 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.406$ S/m; $\epsilon_r = 39.302$; $\rho = 1000$ kg/m³

Ambient Temperature: 21.8°C Liquid Temperature: 21.3°C

Communication System: UID 0, GSM (0) Frequency: 1880 MHz Duty Cycle: 1:8.3

Probe: EX3DV4 - SN3633 ConvF (8, 8, 8)

Right Cheek Mid/Area Scan (61x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.742 W/kg

Right Cheek Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.257 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.28 W/kg

SAR(1 g) = 0.634 W/kg; SAR(10 g) = 0.336 W/kg

Maximum value of SAR (measured) = 0.696 W/kg

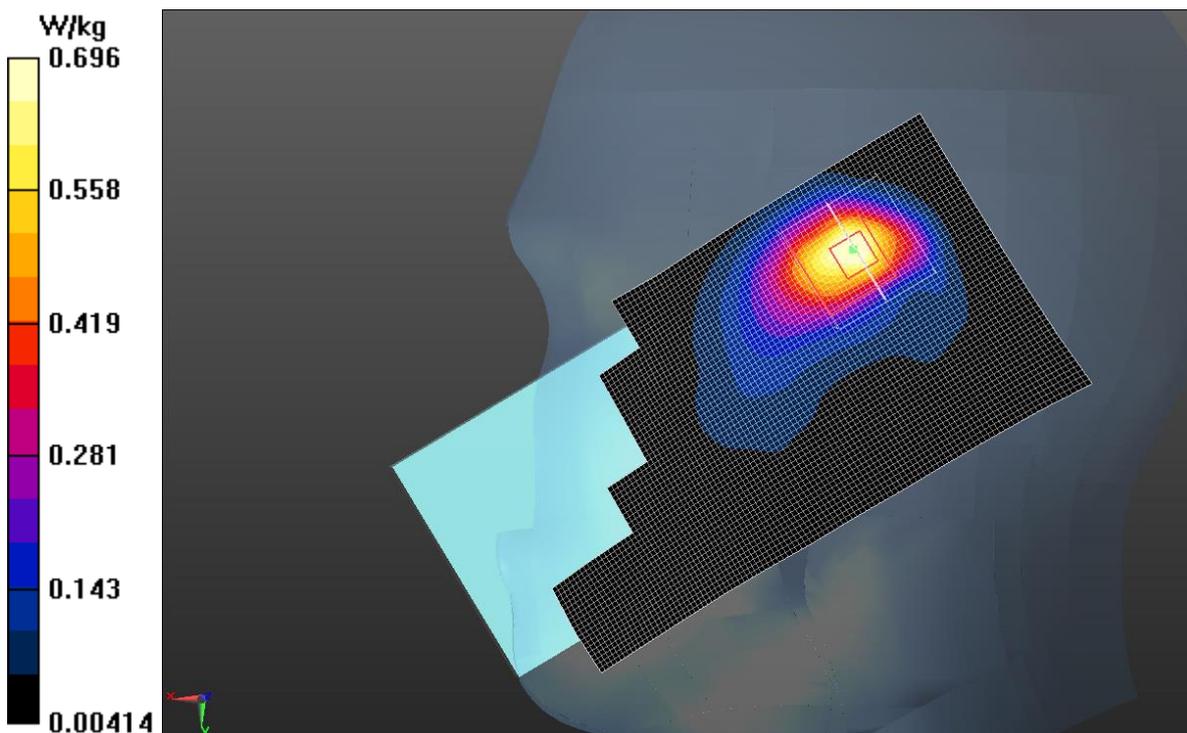


Fig.7 GSM 1900

GSM1900 Body – Second antenna

Date: 2017-12-15

Electronics: DAE4 Sn786

Medium: Body 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.557$ S/m; $\epsilon_r = 52.792$; $\rho = 1000$ kg/m³

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

Communication System: UID 0, GPRS 1 Txslot Frequency: 1880 MHz Duty Cycle: 1:8.3

Probe: EX3DV4 - SN3633 ConvF (7.55, 7.55, 7.55);

Rear Side Mid/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0680 W/kg

Rear Side Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.065 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.0980 W/kg

SAR(1 g) = 0.074 W/kg; SAR(10 g) = 0.045 W/kg

Maximum value of SAR (measured) = 0.0680 W/kg

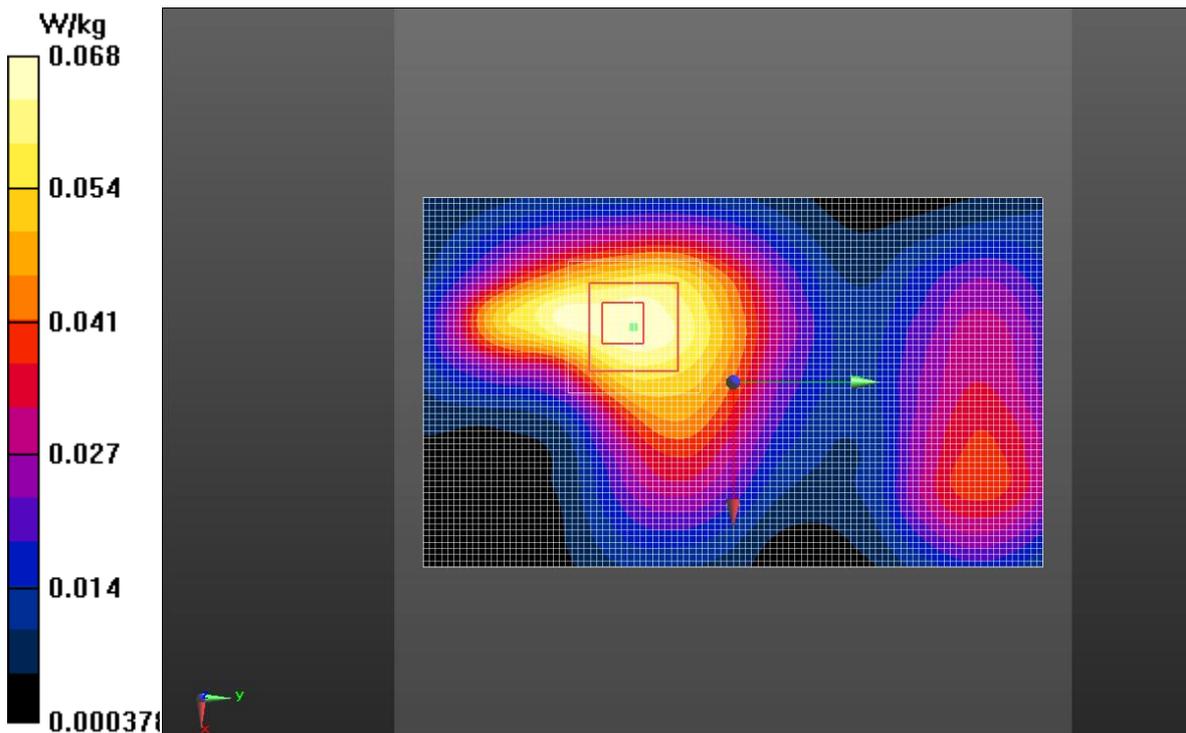


Fig.8 GSM 1900

WCDMA850 Head – Main antenna

Date: 2017-12-12

Electronics: DAE4 Sn786

Medium: Head 835 MHz

Medium parameters used (interpolated): $f = 836.4$ MHz; $\sigma = 0.927$ S/m; $\epsilon_r = 40.833$; $\rho = 1000$ kg/m³

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

Communication System: UID 0, WCDMA (0) Frequency: 836.4 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3633 ConvF (9.04, 9.04, 9.04);

Right Cheek Mid/Area Scan (61x101x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.211 W/kg

Right Cheek Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 8.726 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.239 W/kg

SAR(1 g) = 0.197 W/kg; SAR(10 g) = 0.136 W/kg

Maximum value of SAR (measured) = 0.201 W/kg

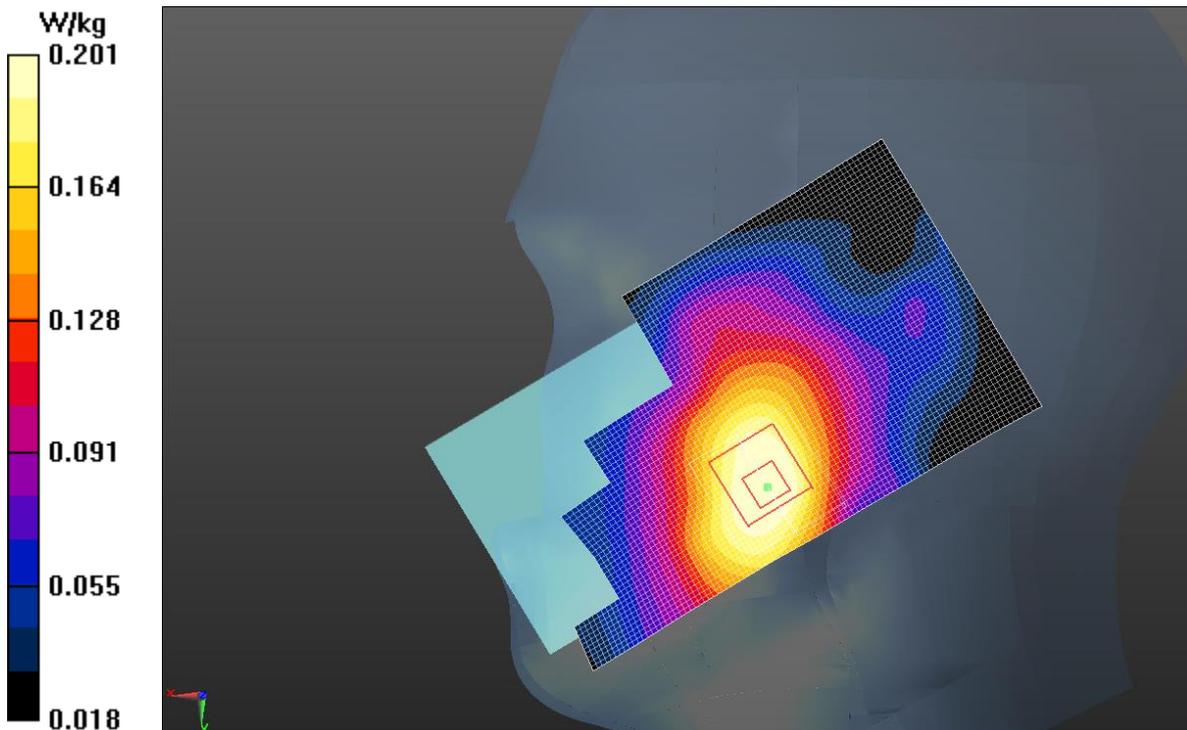


Fig.9 WCDMA 850

WCDMA850 Body – Main antenna

Date: 2017-12-13

Electronics: DAE4 Sn786

Medium: Body 835 MHz

Medium parameters used (interpolated): $f = 836.4$ MHz; $\sigma = 0.99$ S/m; $\epsilon_r = 53.673$; $\rho = 1000$ kg/m³

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

Communication System: UID 0, WCDMA (0) Frequency: 836.4 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3633 ConvF (9.41, 9.41, 9.41);

Rear Side Mid/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.340 W/kg

Rear Side Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.01 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.405 W/kg

SAR(1 g) = 0.323 W/kg; SAR(10 g) = 0.247 W/kg

Maximum value of SAR (measured) = 0.338 W/kg

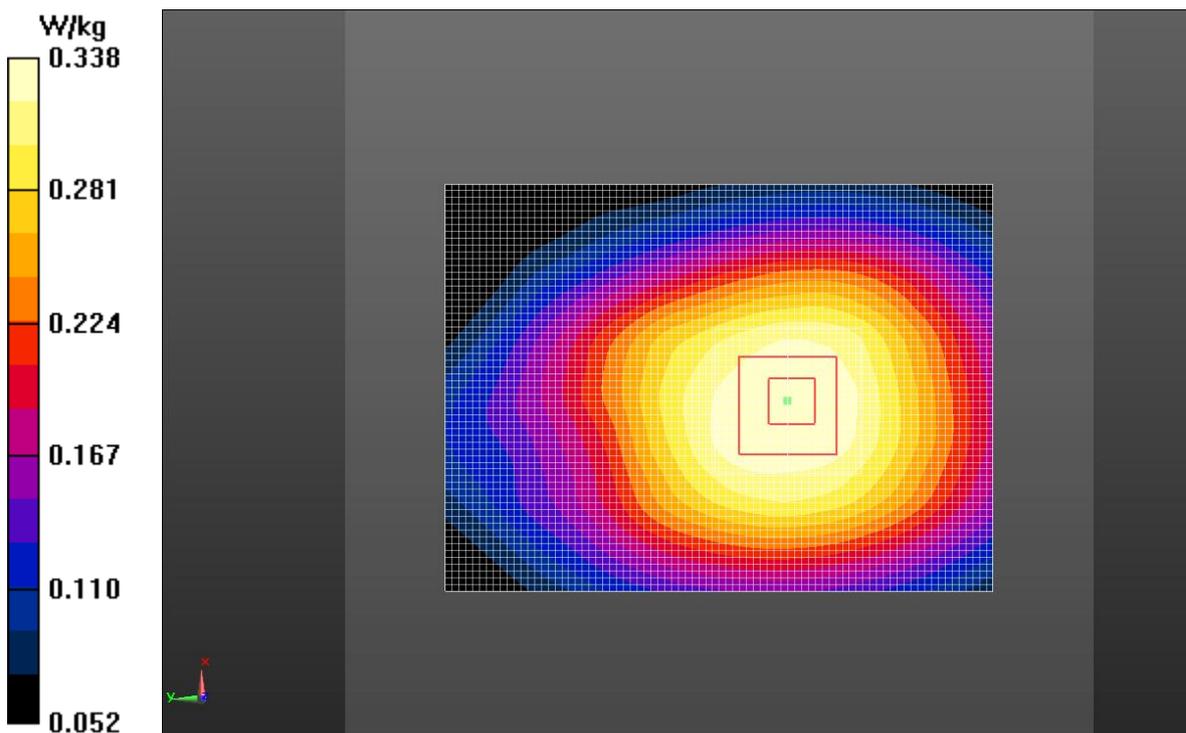


Fig.10 WCDMA 850

WCDMA850 Head – Second antenna

Date: 2017-12-12

Electronics: DAE4 Sn786

Medium: Head 835 MHz

Medium parameters used (interpolated): $f = 836.4$ MHz; $\sigma = 0.927$ S/m; $\epsilon_r = 40.833$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.7°C Liquid Temperature: 22.2°C

Communication System: UID 0, WCDMA (0) Frequency: 836.4 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3633 ConvF (9.04, 9.04, 9.04);

Right Cheek Mid/Area Scan (61x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.504 W/kg

Right Cheek Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.61 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.22 W/kg

SAR(1 g) = 0.495 W/kg; SAR(10 g) = 0.235 W/kg

Maximum value of SAR (measured) = 0.553 W/kg

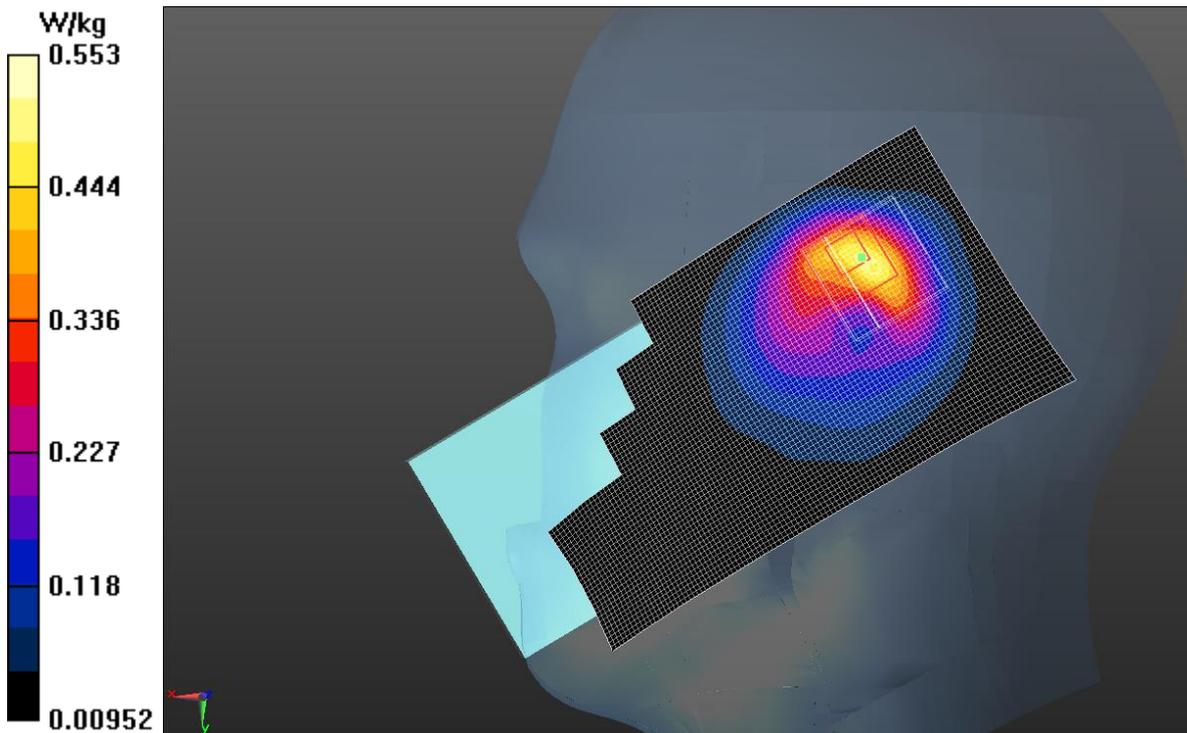


Fig.11 WCDMA 850

WCDMA850 Body – Second antenna

Date: 2017-12-13

Electronics: DAE4 Sn786

Medium: Body 835 MHz

Medium parameters used (interpolated): $f = 836.4$ MHz; $\sigma = 0.99$ S/m; $\epsilon_r = 53.673$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.6°C Liquid Temperature: 22.1°C

Communication System: UID 0, WCDMA (0) Frequency: 836.4 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3633 ConvF (9.41, 9.41, 9.41);

Rear Side Mid/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.168 W/kg

Rear Side Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.990 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.290 W/kg

SAR(1 g) = 0.163 W/kg; SAR(10 g) = 0.094 W/kg

Maximum value of SAR (measured) = 0.171 W/kg

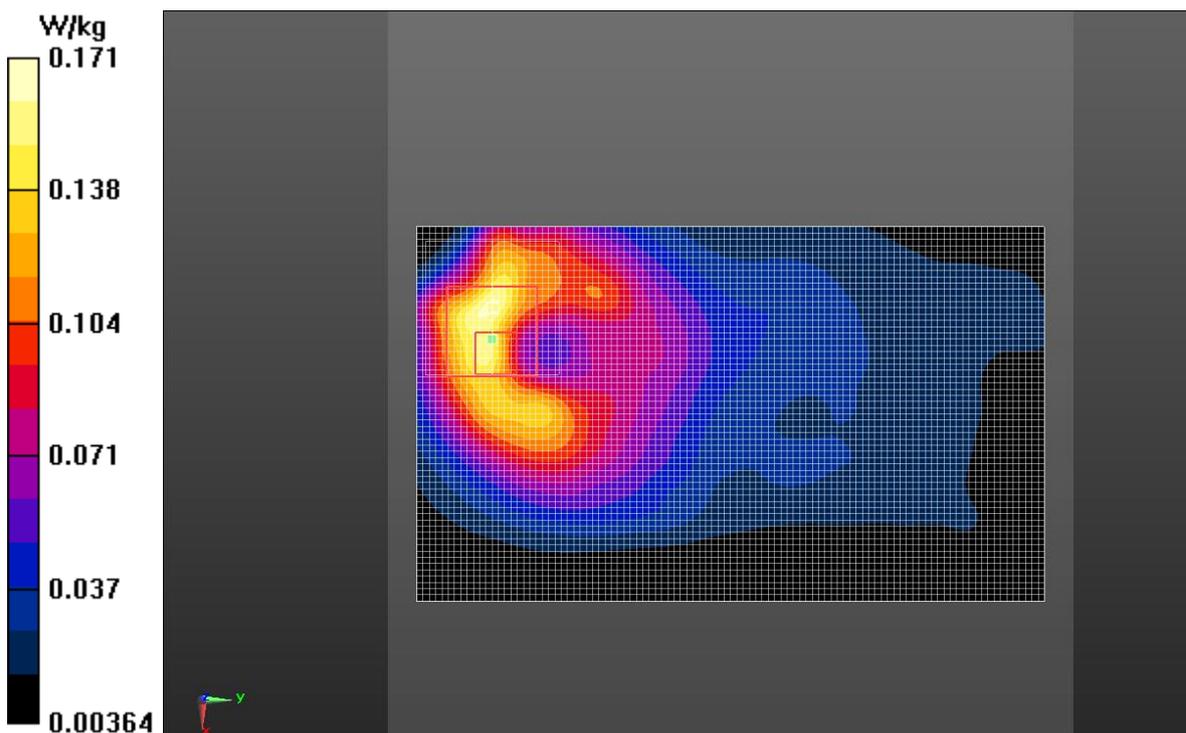


Fig.12 WCDMA 850

LTE Band 5 Head – Main antenna

Date: 2017-12-12

Electronics: DAE4 Sn786

Medium: Head 835 MHz

Medium parameters used (interpolated): $f = 836.4$ MHz; $\sigma = 0.927$ S/m; $\epsilon_r = 40.832$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C Liquid Temperature: 21.5°C

Communication System: UID 0, LTE_FDD (0) Frequency: 836.5 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3633 ConvF (9.04, 9.04, 9.04);

Right Cheek Mid 1RB_Mid/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Right Cheek Mid 1RB_Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.532 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.232 W/kg

SAR(1 g) = 0.180 W/kg; SAR(10 g) = 0.139 W/kg

Maximum value of SAR (measured) = 0.189 W/kg

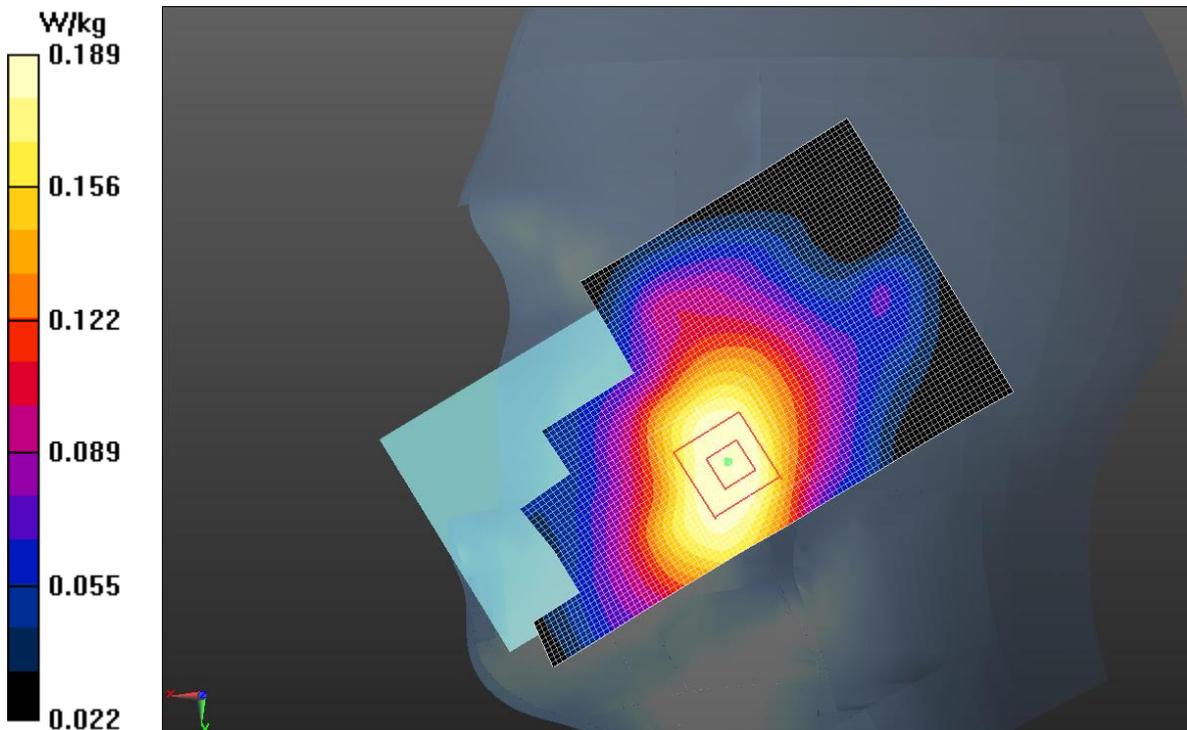


Fig.13 LTE Band 5

LTE Band 5 Body – Main antenna

Date: 2017-12-13

Electronics: DAE4 Sn786

Medium: Body 835 MHz

Medium parameters used (interpolated): $f = 836.5$ MHz; $\sigma = 0.99$ S/m; $\epsilon_r = 53.671$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.4°C Liquid Temperature: 21.9°C

Communication System: UID 0, LTE_FDD (0) Frequency: 836.5 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3633 ConvF (9.41, 9.41, 9.41);

Rear Side Mid 1RB_Mid/Area Scan (71x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.349 W/kg

Rear Side Mid 1RB_Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.25 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.423 W/kg

SAR(1 g) = 0.371 W/kg; SAR(10 g) = 0.259 W/kg

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

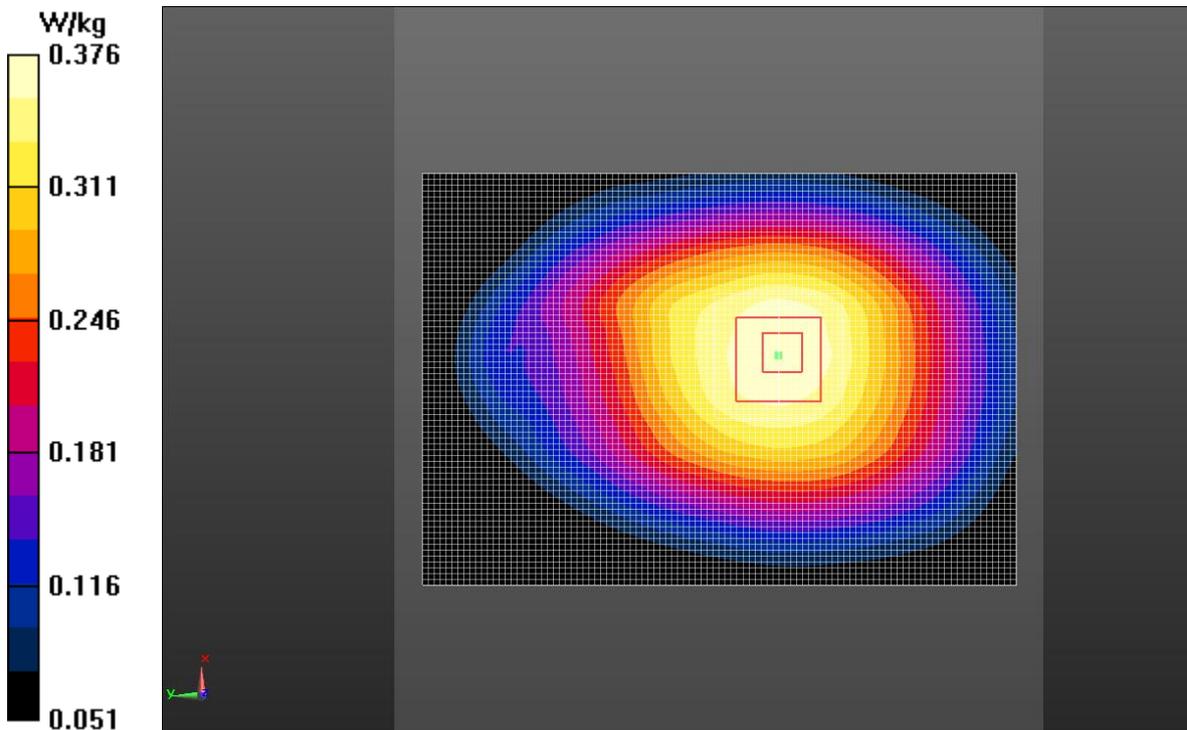


Fig.14 LTE Band 5

LTE Band 5 Head – Second antenna

Date: 2017-12-12

Electronics: DAE4 Sn786

Medium: Head 835 MHz

Medium parameters used (interpolated): $f = 836.4$ MHz; $\sigma = 0.927$ S/m; $\epsilon_r = 40.832$; $\rho = 1000$ kg/m³

Ambient Temperature: 21.5°C Liquid Temperature: 21.0°C

Communication System: UID 0, LTE_FDD (0) Frequency: 836.5 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3633 ConvF (9.04, 9.04, 9.04);

Right Cheek Mid 1RB_Mid/Area Scan (61x111x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.623 W/kg

Right Cheek Mid 1RB_Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.21 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.57 W/kg

SAR(1 g) = 0.640 W/kg; SAR(10 g) = 0.305 W/kg

Maximum value of SAR (measured) = 0.725 W/kg

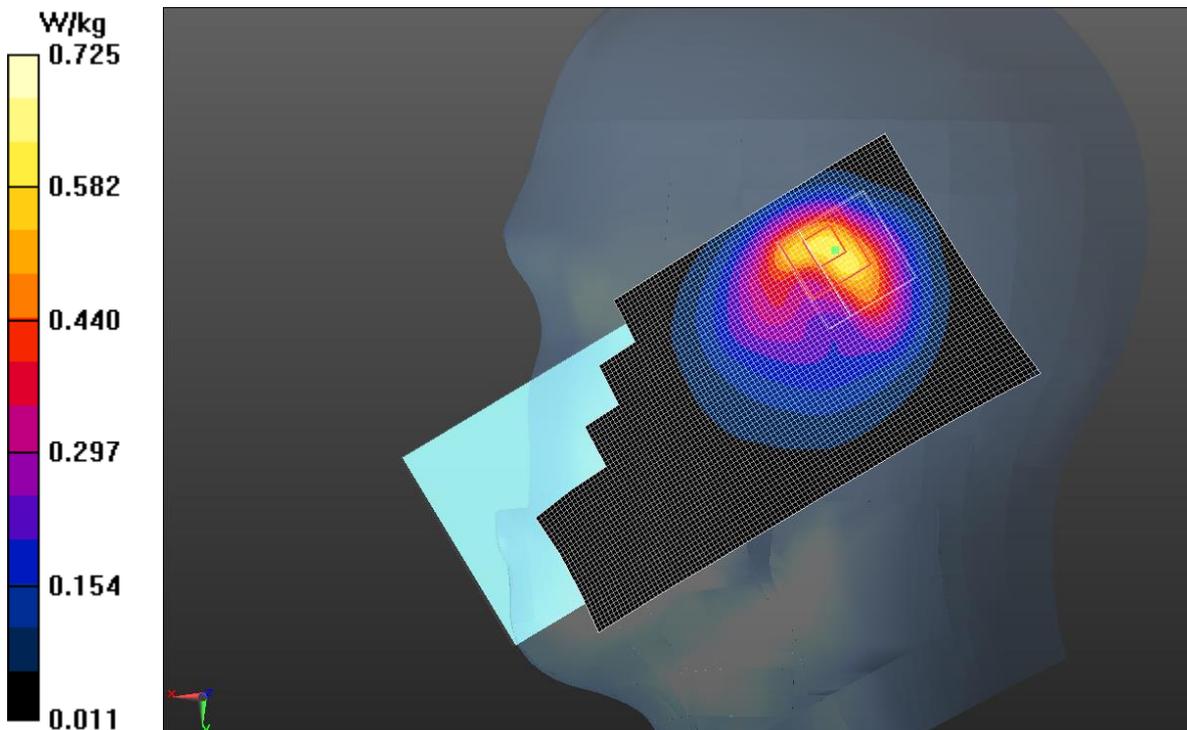


Fig.15 LTE Band 5

LTE Band 5 Body – Second antenna

Date: 2017-12-13

Electronics: DAE4 Sn786

Medium: Body 835 MHz

Medium parameters used (interpolated): $f = 836.5$ MHz; $\sigma = 0.99$ S/m; $\epsilon_r = 53.671$; $\rho = 1000$ kg/m³

Ambient Temperature: 21.8°C Liquid Temperature: 21.3°C

Communication System: UID 0, LTE_FDD (0) Frequency: 836.5 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3633 ConvF (9.41, 9.41, 9.41);

Rear Side Mid 1RB_Mid/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Rear Side Mid 1RB_Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.89 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.555 W/kg

SAR(1 g) = 0.299 W/kg; SAR(10 g) = 0.229 W/kg

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

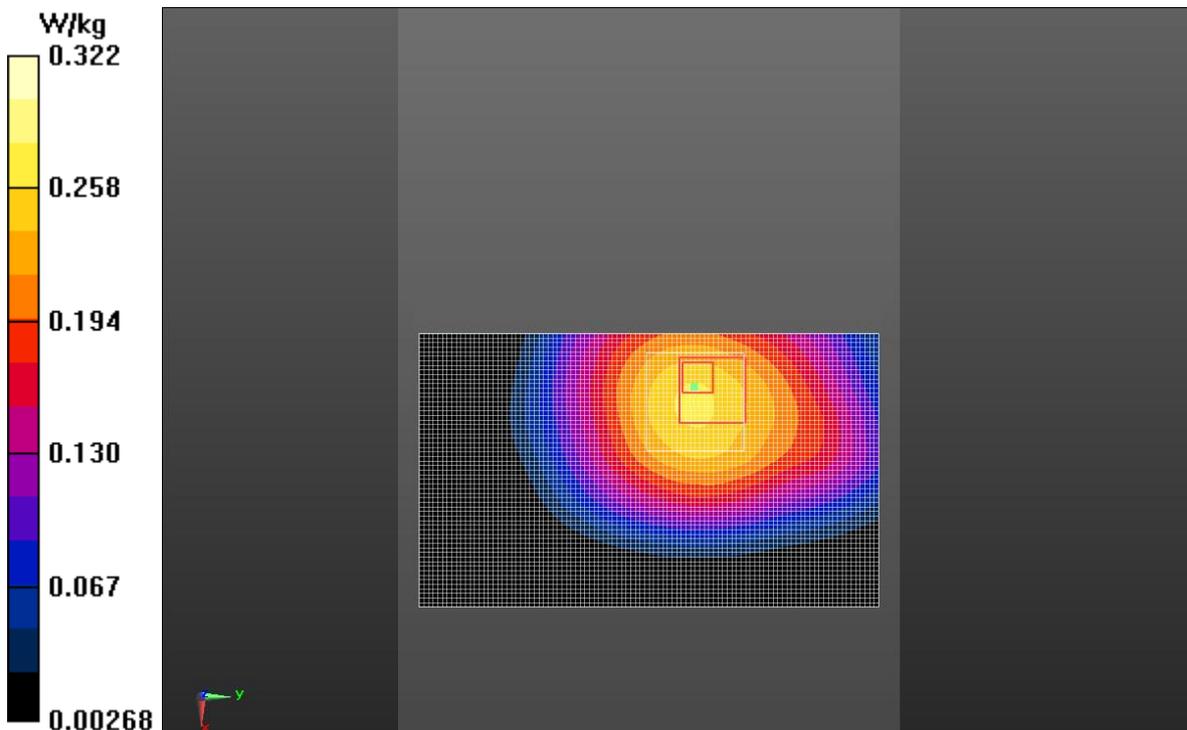


Fig.16 LTE Band 5

LTE Band 7 Head – Main antenna

Date: 2017-12-18

Electronics: DAE4 Sn786

Medium: Head 2550 MHz

Medium parameters used (interpolated): $f = 2535$ MHz; $\sigma = 1.933$ S/m; $\epsilon_r = 38.517$; $\rho = 1000$ kg/m³

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

Communication System: UID 0, LTE_FDD (0) Frequency: 2535 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3633 ConvF (7.4, 7.4, 7.4);

Right Cheek Mid 1RB_Mid/Area Scan (71x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.284 W/kg

Right Cheek Mid 1RB_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.347 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.415 W/kg

SAR(1 g) = 0.242 W/kg; SAR(10 g) = 0.128 W/kg

Maximum value of SAR (measured) = 0.274 W/kg

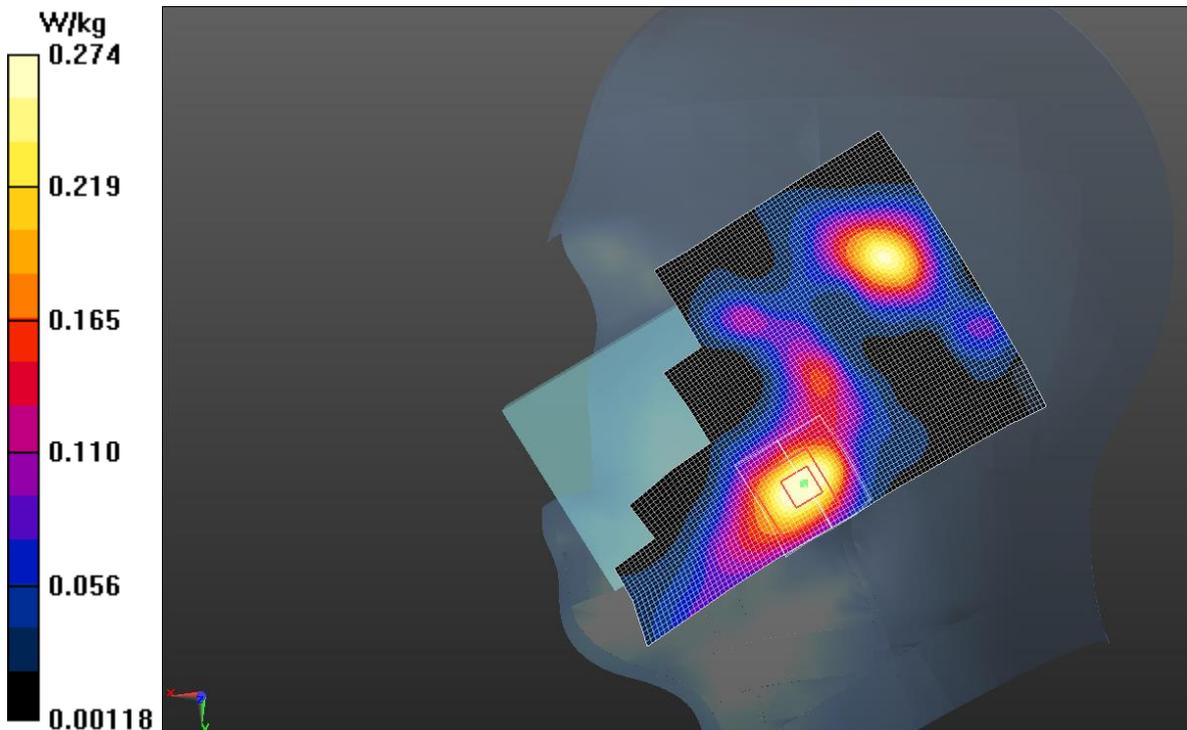


Fig.17 LTE Band 7

LTE Band 7 Body – Main antenna

Date: 2017-12-19

Electronics: DAE4 Sn786

Medium: Body 2550 MHz

Medium parameters used (interpolated): $f = 2535$ MHz; $\sigma = 2.034$ S/m; $\epsilon_r = 51.265$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.7°C Liquid Temperature: 22.2°C

Communication System: UID 0, 4G_LTE_FDD (0) Frequency: 2535 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3633 ConvF (7.37, 7.37, 7.37);

Rear Side Mid 1RB_Mid/Area Scan (71x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.502 W/kg

Rear Side Mid 1RB_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.571 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.02 W/kg

SAR(1 g) = 0.466 W/kg; SAR(10 g) = 0.193 W/kg

Maximum value of SAR (measured) = 0.504 W/kg

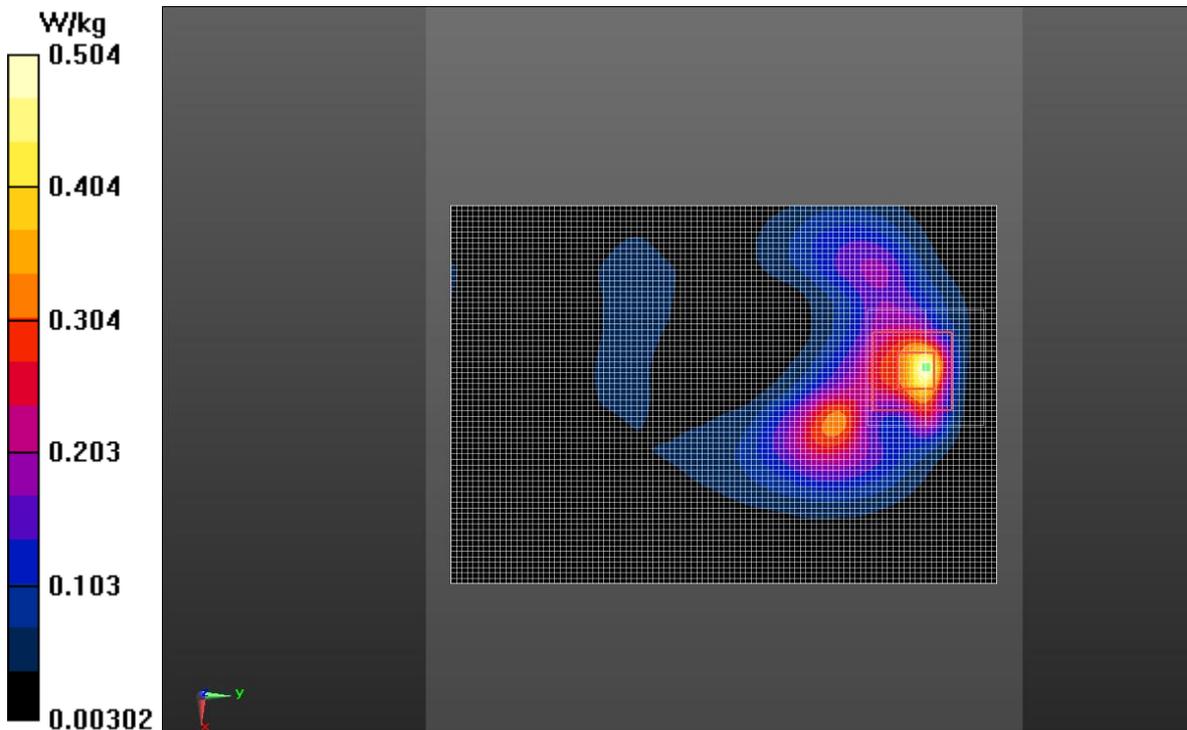


Fig.18 LTE Band 7

LTE Band 7 Head – Second antenna

Date: 2017-12-18

Electronics: DAE4 Sn786

Medium: Head 2550 MHz

Medium parameters used (interpolated): $f = 2535$ MHz; $\sigma = 1.933$ S/m; $\epsilon_r = 38.517$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.2°C Liquid Temperature: 21.7°C

Communication System: UID 0, LTE_FDD (0) Frequency: 2535 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3633 ConvF (7.4, 7.4, 7.4);

Right Cheek Mid 1RB_Mid/Area Scan (61x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

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

Right Cheek Mid 1RB_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.34 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.15 W/kg

SAR(1 g) = 0.602W/kg; SAR(10 g) = 0.277 W/kg

Maximum value of SAR (measured) = 0.755 W/kg

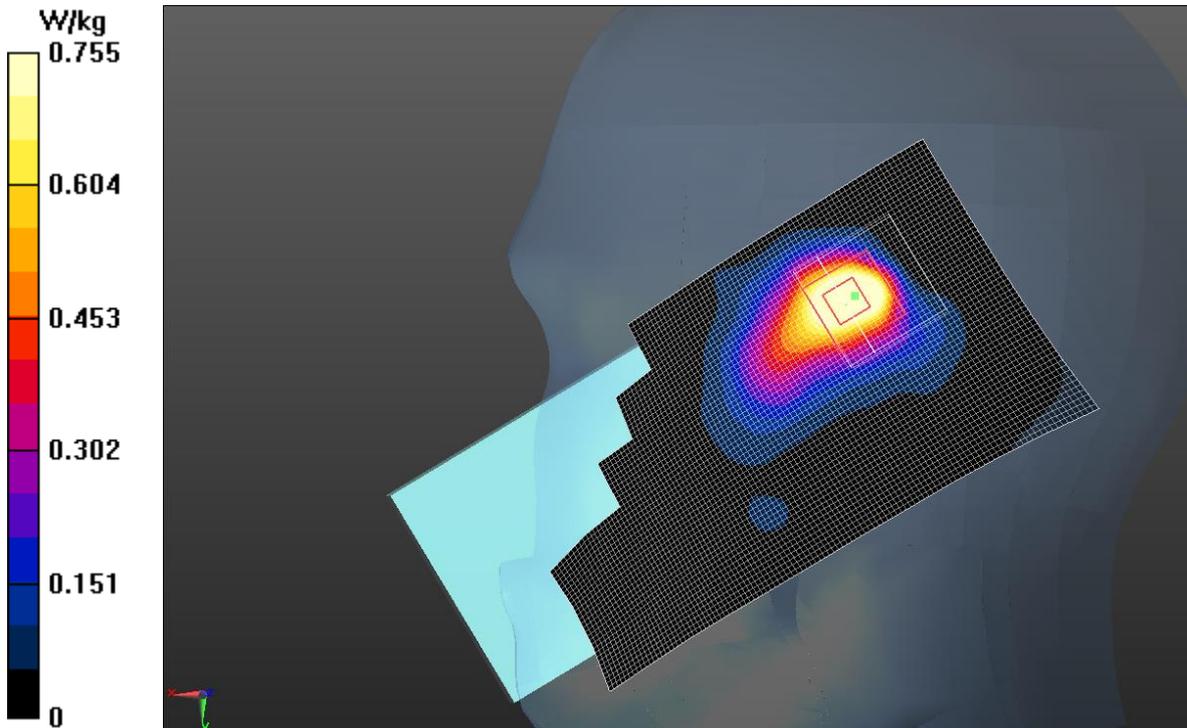


Fig.19 LTE Band 7

LTE Band 7 Body – Second antenna

Date: 2017-12-19

Electronics: DAE4 Sn786

Medium: Body 2550 MHz

Medium parameters used (interpolated): $f = 2535$ MHz; $\sigma = 2.034$ S/m; $\epsilon_r = 51.265$; $\rho = 1000$ kg/m³

Ambient Temperature: 21.8°C Liquid Temperature: 21.3°C

Communication System: UID 0, LTE_FDD (0) Frequency: 2535 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3633 ConvF (7.37, 7.37, 7.37);

Front Side Mid 1RB_Mid/Area Scan (61x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.279 W/kg

Front Side Middle 1RB_Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.867 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.454 W/kg

SAR(1 g) = 0.286 W/kg; SAR(10 g) = 0.165 W/kg

Maximum value of SAR (measured) = 0.309W/kg

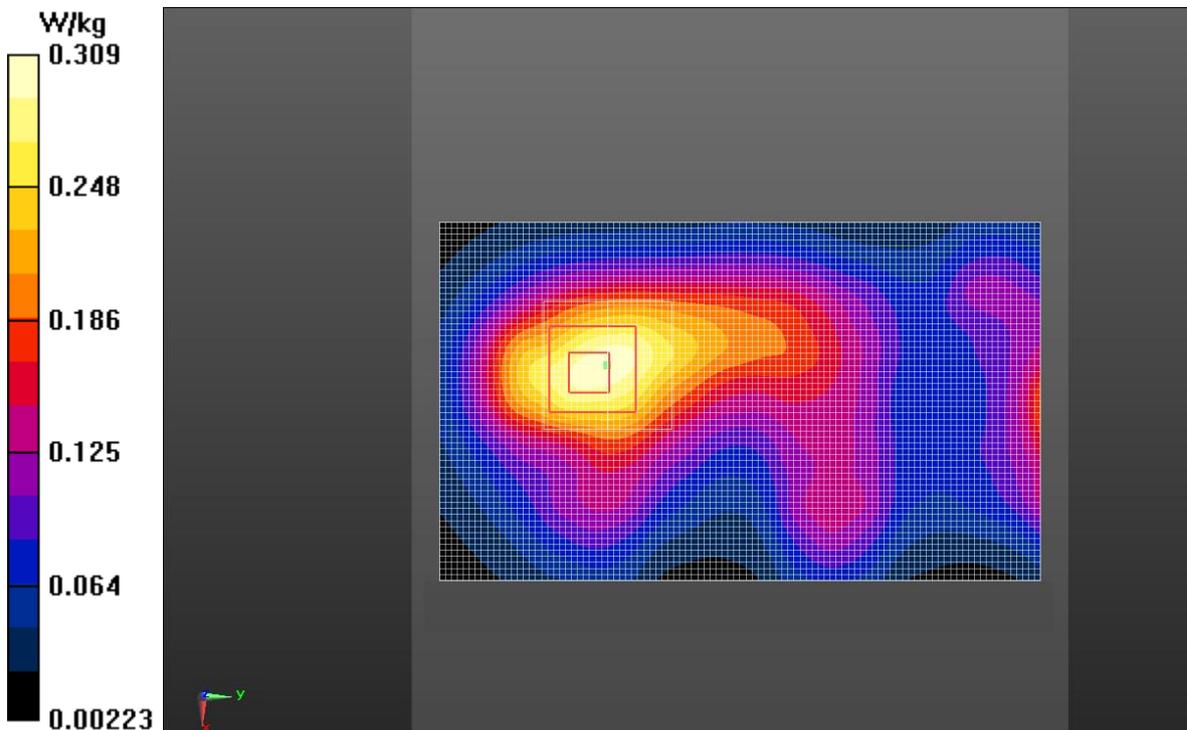


Fig.20 LTE Band 7

LTE Band 41 Head – Main antenna

Date: 2017-12-18

Electronics: DAE4 Sn786

Medium: Head 2550 MHz

Medium parameters used: $f = 2570$ MHz; $\sigma = 1.974$ S/m; $\epsilon_r = 38.388$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C Liquid Temperature: 21.5°C

Communication System: UID 0, LTE_TDD (0) Frequency: 2570 MHz Duty Cycle: 1:1.58

Probe: EX3DV4 - SN3633 ConvF (7.27, 7.27, 7.27);

Right Cheek Mid 1RB_Mid/Area Scan (71x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

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

Right Cheek Mid 1RB_Mid/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.708 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.265 W/kg

SAR(1 g) = 0.146 W/kg; SAR(10 g) = 0.074 W/kg

Maximum value of SAR (measured) = 0.167 W/kg

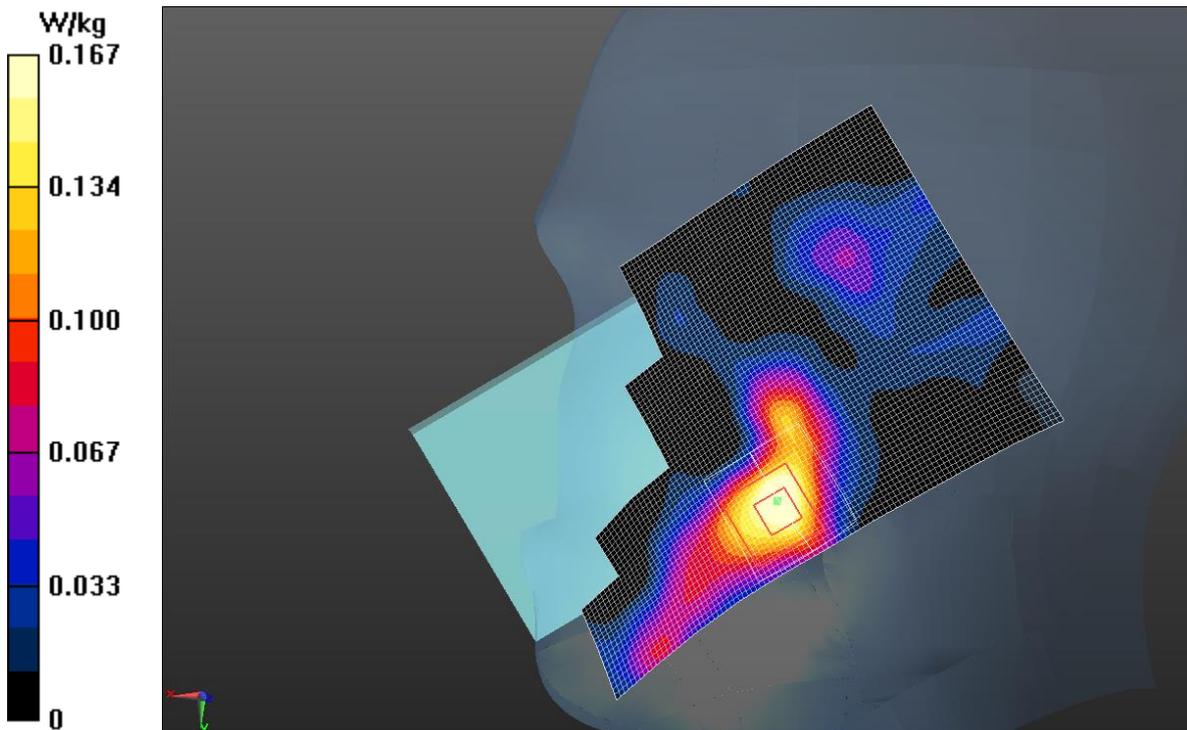


Fig.21 LTE Band 41

LTE Band 41 Body – Main antenna

Date: 2017-12-19

Electronics: DAE4 Sn786

Medium: Body 2550 MHz

Medium parameters used: $f = 2570$ MHz; $\sigma = 2.075$ S/m; $\epsilon_r = 51.151$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C Liquid Temperature: 21.5°C

Communication System: UID 0, LTE_TDD (0) Frequency: 2570 MHz Duty Cycle: 1:1.58

Probe: EX3DV4 - SN3633 ConvF (7.24, 7.24, 7.24);

Bottom Side Mid 1RB_Mid/Area Scan (41x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.368 W/kg

Bottom Side Mid 1RB_Mid /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.11 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.665 W/kg

SAR(1 g) = 0.331 W/kg; SAR(10 g) = 0.156 W/kg

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

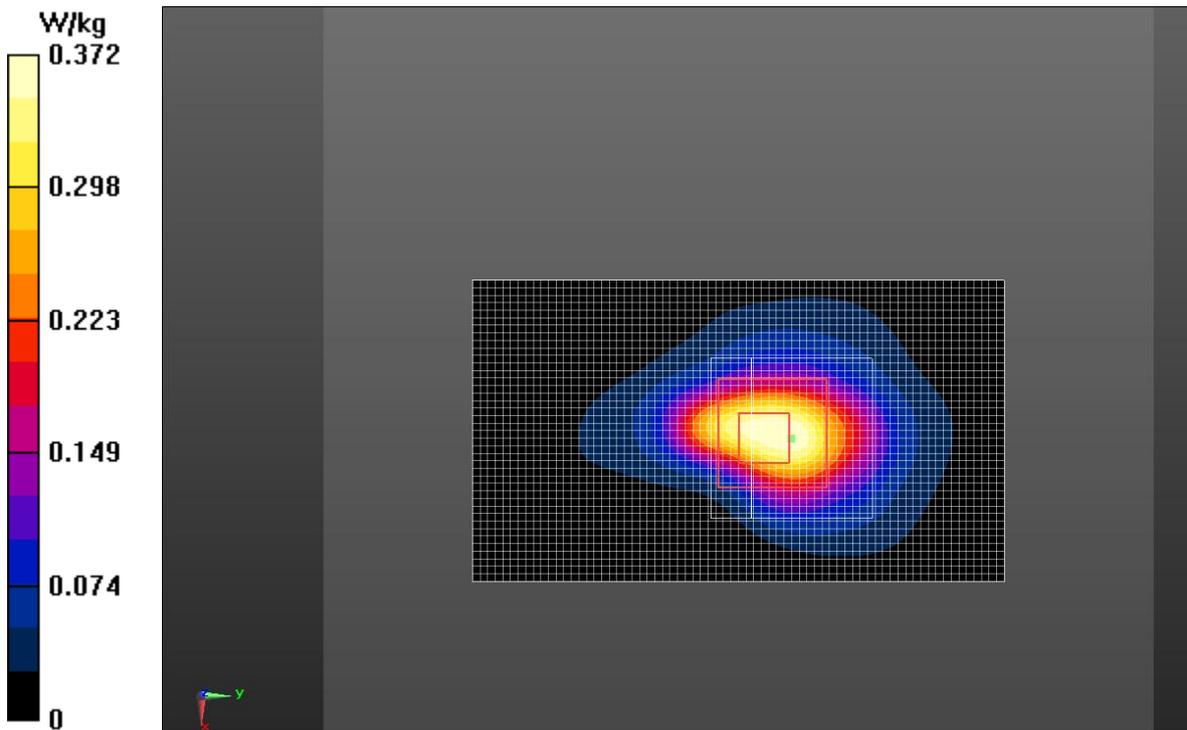


Fig.22 LTE Band 41

LTE Band 41 Head – Second antenna

Date: 2017-12-18

Electronics: DAE4 Sn786

Medium: Head 2550 MHz

Medium parameters used: $f = 2570$ MHz; $\sigma = 1.974$ S/m; $\epsilon_r = 38.388$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C Liquid Temperature: 21.5°C

Communication System: UID 0, LTE_TDD (0) Frequency: 2570 MHz Duty Cycle: 1:1.58

Probe: EX3DV4 - SN3633 ConvF (7.27, 7.27, 7.27);

Right Cheek Mid 1RB_Mid/Area Scan (61x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.677 W/kg

Right Cheek Middle 1RB_Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.372 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.947 W/kg

SAR(1 g) = 0.483 W/kg; SAR(10 g) = 0.236 W/kg

Maximum value of SAR (measured) = 0.580 W/kg

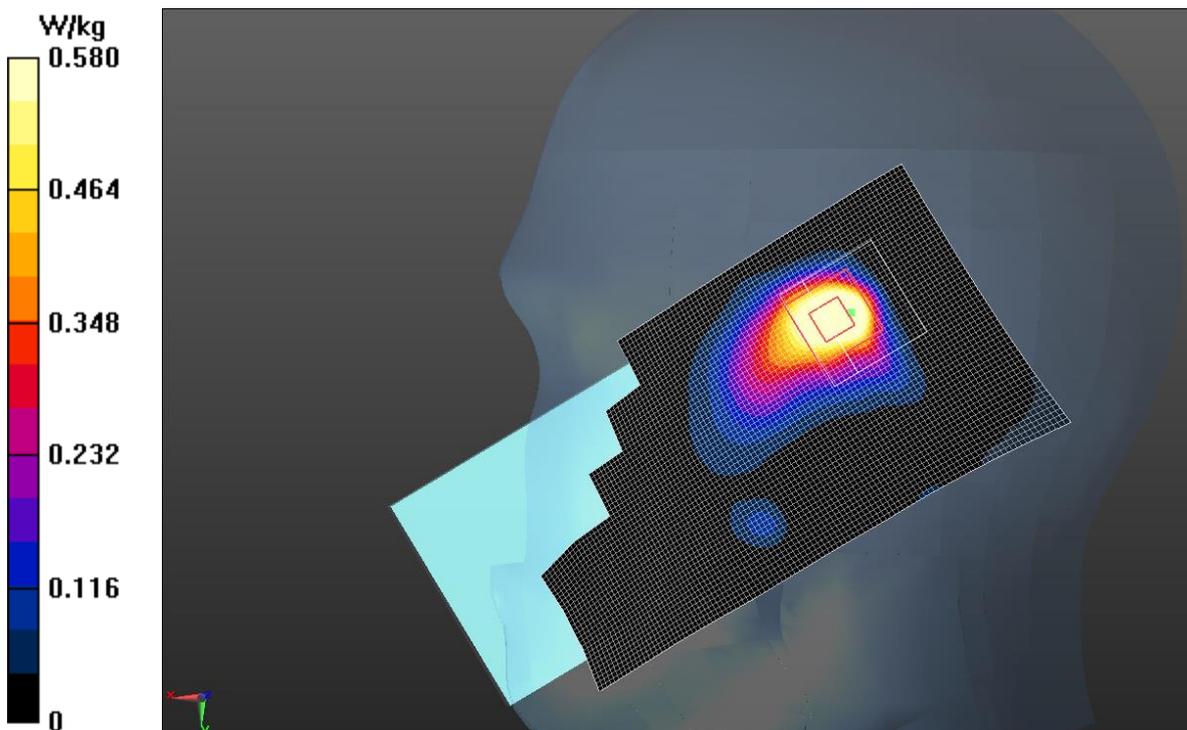


Fig.23 LTE Band 41

LTE Band 41 Body – Second antenna

Date: 2017-12-19

Electronics: DAE4 Sn786

Medium: Body 2550 MHz

Medium parameters used: $f = 2570$ MHz; $\sigma = 2.075$ S/m; $\epsilon_r = 51.151$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C Liquid Temperature: 21.5°C

Communication System: UID 0, LTE_TDD (0) Frequency: 2570 MHz Duty Cycle: 1:1.58

Probe: EX3DV4 - SN3633 ConvF (7.24, 7.24, 7.24);

Rear Side Mid 1RB_Mid/Area Scan (61x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.144 W/kg

Rear Side Mid 1RB_Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.483 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.235 W/kg

SAR(1 g) = 0.138 W/kg; SAR(10 g) = 0.078 W/kg

Maximum value of SAR (measured) = 0.152 W/kg

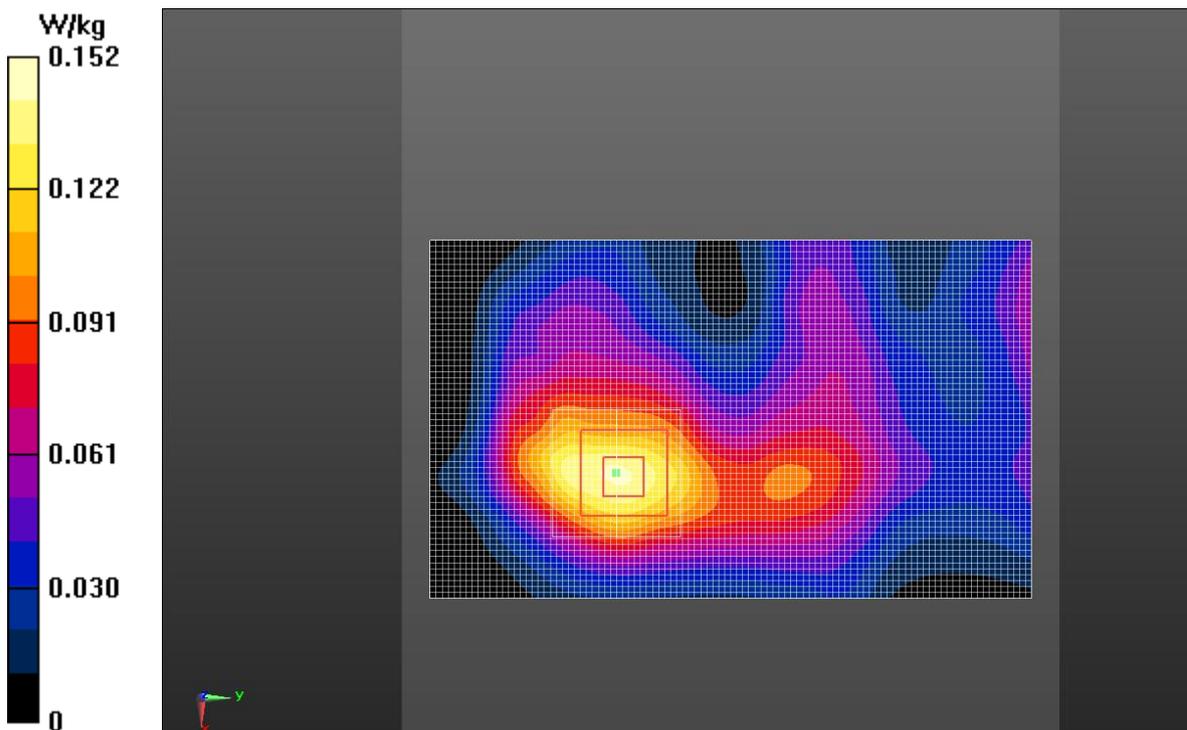


Fig.24 LTE Band 41

BT 2.4G Head

Date: 2017-12-21

Electronics: DAE4 Sn786

Medium: Head 2450 MHz

Medium parameters used: $f = 2480$ MHz; $\sigma = 1.889$ S/m; $\epsilon_r = 38.653$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C Liquid Temperature: 21.5°C

Communication System: UID 0, BT (0) Frequency: 2480 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3633 ConvF (7.4, 7.4, 7.4);

Left Tilt High/Area Scan (91x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.033 W/kg

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

Reference Value = 1.895 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.041 W/kg

SAR(1 g) = 0.023 W/kg; SAR(10 g) = 0.007 W/kg

Maximum value of SAR (measured) = 0.024 W/kg

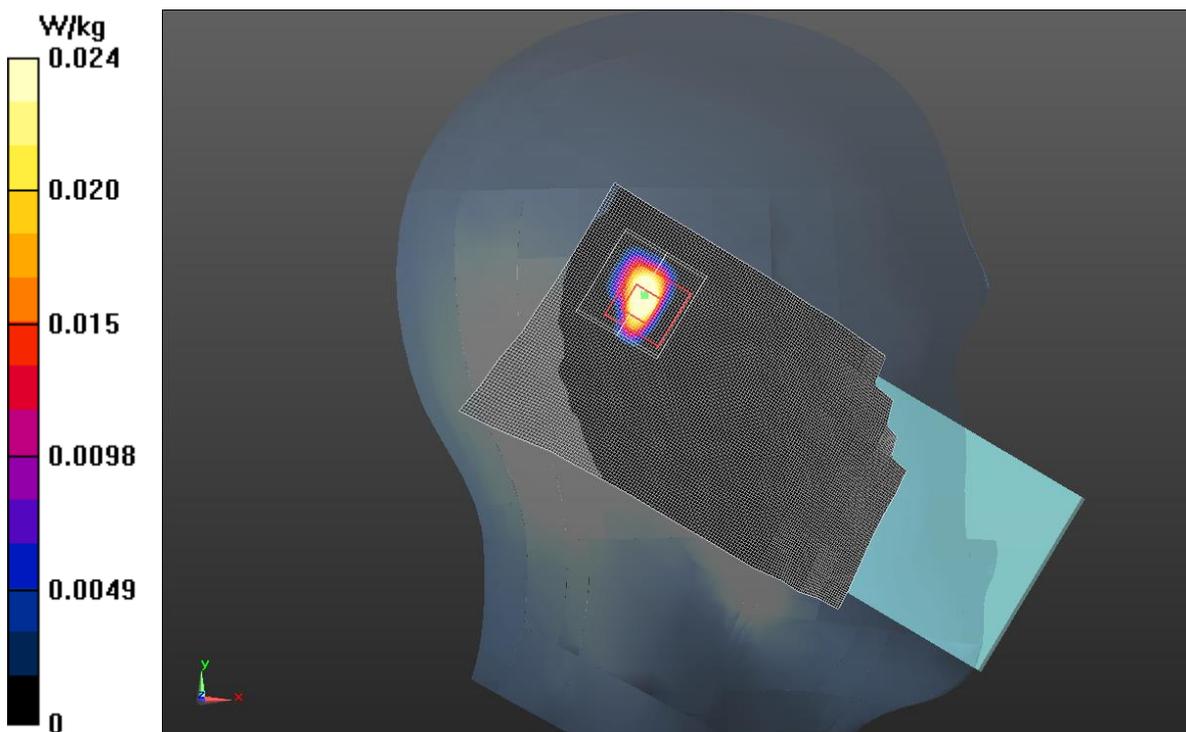


Fig.25 BT