

DASY5 Validation Report for Head TSL

Date: 25.07.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN:853

Communication System: UID 0 - CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.86$ S/m; $\epsilon_r = 38$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.72, 7.72, 7.72); Calibrated: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

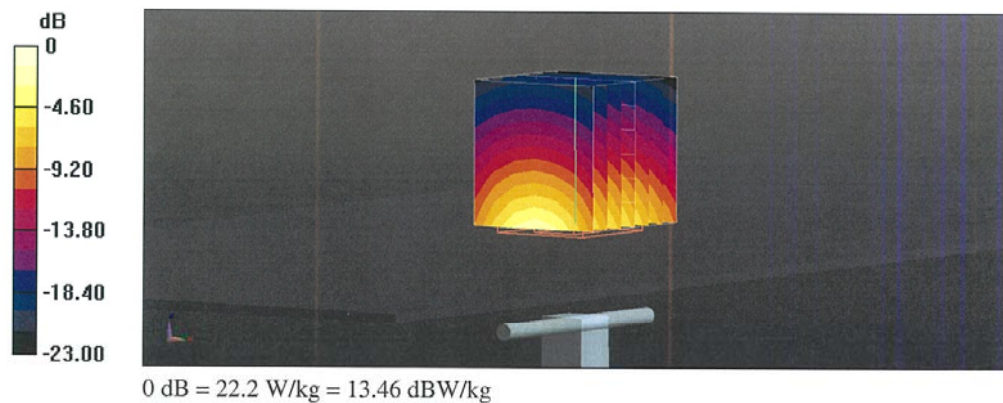
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 115.0 V/m; Power Drift = 0.00 dB

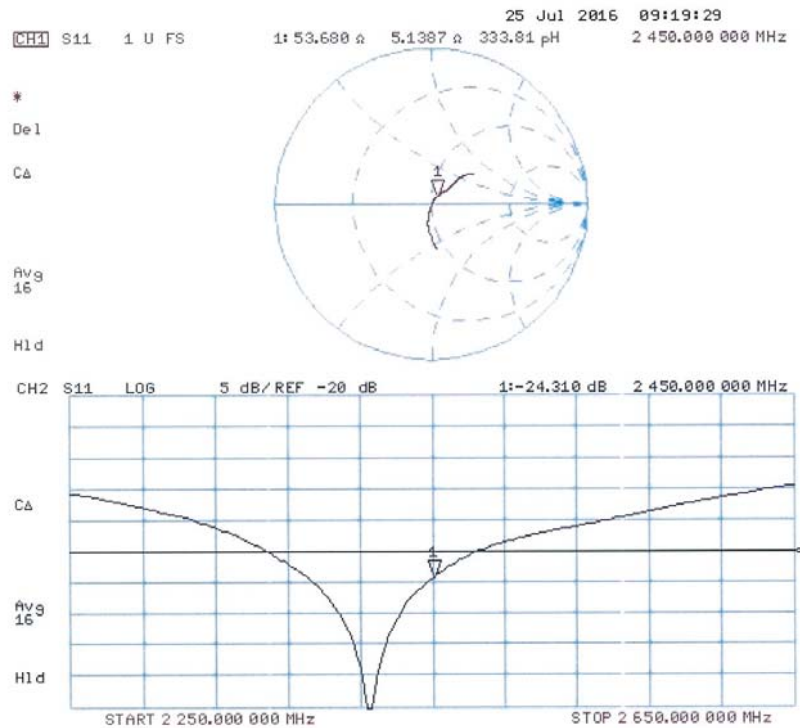
Peak SAR (extrapolated) = 27.5 W/kg

SAR(1 g) = 13.5 W/kg; SAR(10 g) = 6.23 W/kg

Maximum value of SAR (measured) = 22.2 W/kg



Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 25.07.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN:853

Communication System: UID 0 - CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450$ MHz; $\sigma = 2.03$ S/m; $\epsilon_r = 51.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.79, 7.79, 7.79); Calibrated: 15.06.2016;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

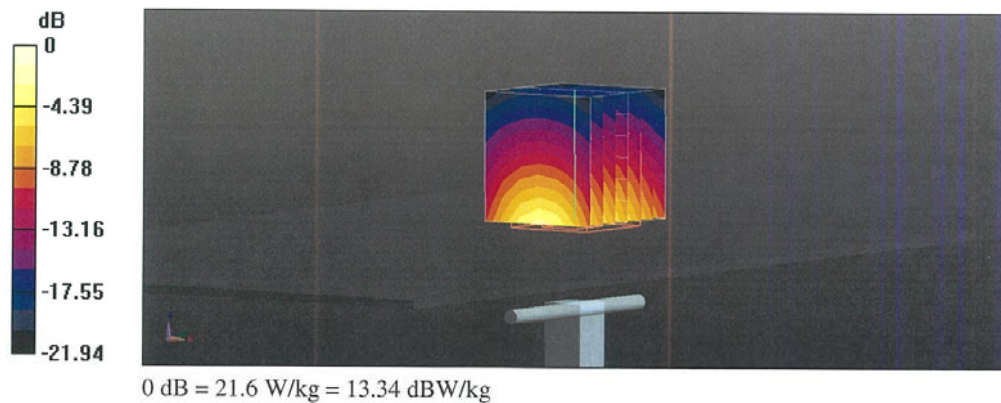
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 107.4 V/m; Power Drift = -0.02 dB

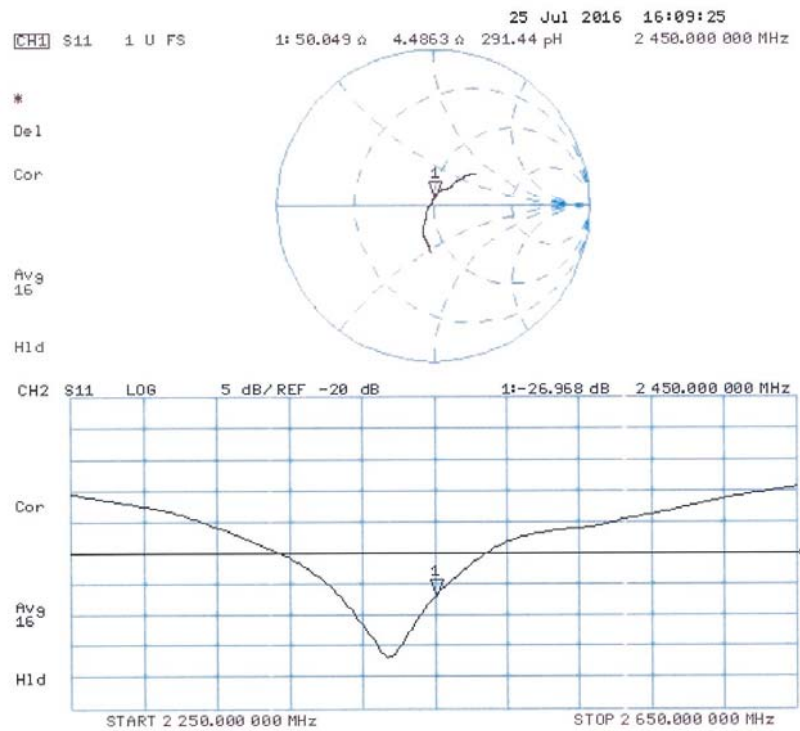
Peak SAR (extrapolated) = 26.3 W/kg

SAR(1 g) = 13.1 W/kg; SAR(10 g) = 6.1 W/kg

Maximum value of SAR (measured) = 21.6 W/kg



Impedance Measurement Plot for Body TSL



ANNEX I Spot Check

I.1 Measurement results

Test Position	Phantom position L/R/F	Frequency Band	Channel Number	Frequency (MHz)	Test setup	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Power Drift
Cheek	L	GSM850	251	848.8		32.39	33.5	0.162	0.21	0.123	0.16	-0.09
Body	F	GSM850	251	848.8	Rear GPRS 10mm	27.8	29.5	0.371	0.55	0.282	0.42	-0.09
Cheek	L	GSM1900	810	1909.8		29.67	30	0.228	0.25	0.138	0.15	0.05
Body	F	GSM1900	810	1909.8	Bottom Edge GPRS 10mm	24.77	25	0.938	0.99	0.476	0.50	0.17
Body	F	GSM1900	661	1880	Bottom Edge GPRS 10mm	24.71	25	0.863	0.92	0.441	0.47	0.18
Body	F	GSM1900	512	1850.2	Bottom Edge GPRS 10mm	24.66	25	0.719	0.78	0.371	0.40	0.04
Cheek	L	WCDMA 850	4132	826.4		23.64	24.5	0.173	0.21	0.133	0.16	0.04
Body	F	WCDMA 850	4182	836.4	Rear 10mm	23.74	24.5	0.373	0.44	0.289	0.34	0.02
Cheek	L	WCDMA1700	1738	1752.6		23.6	24	0.379	0.42	0.243	0.27	0.12
Body	F	WCDMA1700	1738	1752.6	Front 15mm	23.6	24	0.393	0.43	0.237	0.26	-0.11
Body	F	WCDMA1700	1738	1752.6	Bottom Edge 10mm	23.60	24	0.785	0.86	0.414	0.45	-0.04
Body	F	WCDMA1700	1637	1732.5	Bottom Edge 10mm	23.50	24	0.898	1.01	0.472	0.53	-0.04
Body	F	WCDMA1700	1537	1712.4	Bottom Edge 10mm	23.55	24	0.703	0.78	0.358	0.40	-0.07
Cheek	L	WCDMA1900	9662	1852.4		23.47	24	0.483	0.55	0.3	0.34	0.07
Body	F	WCDMA1900	9938	1907.6	Front 15mm	23.28	24	0.589	0.70	0.321	0.38	-0.01
Body	F	WCDMA1900	9800	1880	Front 15mm	23.48	24	0.608	0.68	0.335	0.38	-0.16
Body	F	WCDMA1900	9662	1852.4	Front 15mm	23.47	24	0.713	0.81	0.415	0.47	-0.12
Body	F	WCDMA1900	9938	1907.6	Bottom Edge 10mm	20.69	21.5	0.862	1.04	0.437	0.53	0.15
Body	F	WCDMA1900	9800	1880	Bottom Edge 10mm	20.84	21.5	0.897	1.05	0.459	0.53	0.16
Body	F	WCDMA1900	9662	1852.4	Bottom Edge 10mm	20.76	21.5	0.893	1.06	0.461	0.55	0.19
Cheek	L	LTE Band2	19100	1900	1R-High	23.99	24.6	0.484	0.56	0.288	0.33	0.10
Body	F	LTE Band2	19100	1900	1RB-High Rear 15mm	23.99	24.6	0.65	0.75	0.377	0.43	0.08
Body	F	LTE Band2	19100	1900	1RB-High Bottom 10mm	22.14	22.5	0.99	1.08	0.504	0.55	0.19
Body	F	LTE Band2	18900	1880	1RB-High Bottom 10mm	22.02	22.5	0.994	1.11	0.511	0.57	0.02
Body	F	LTE Band2	18700	1860	1RB-High Bottom 10mm	22.16	22.5	1.02	1.10	0.522	0.56	-0.16
Cheek	L	LTE Band4	20175	1732.5	1RB-Low	23.98	24.7	0.369	0.44	0.237	0.28	0.16
Body	F	LTE Band4	20175	1732.5	1RB-Low Bottom Edge 10mm	22.17	22.5	0.569	0.61	0.306	0.33	0.01
Body	F	LTE Band4	20175	1732.5	1RB-Low Rear 15mm	23.98	24.7	0.462	0.55	0.306	0.36	-0.16
Cheek	L	LTE Band5	20525	836.5	1RB-Middle	23.47	24.3	0.257	0.31	0.196	0.24	0.04
Body	F	LTE Band5	20525	836.5	1RB-Middle Rear 10mm	23.47	24.3	0.392	0.47	0.298	0.36	0.10
Cheek	L	LTE Band12	23130	711	1RB-Low	23.13	24	0.242	0.30	0.192	0.23	0.02
Body	F	LTE Band12	23130	711	1RB-Low Rear 10mm	23.13	24	0.377	0.46	0.294	0.36	0.05

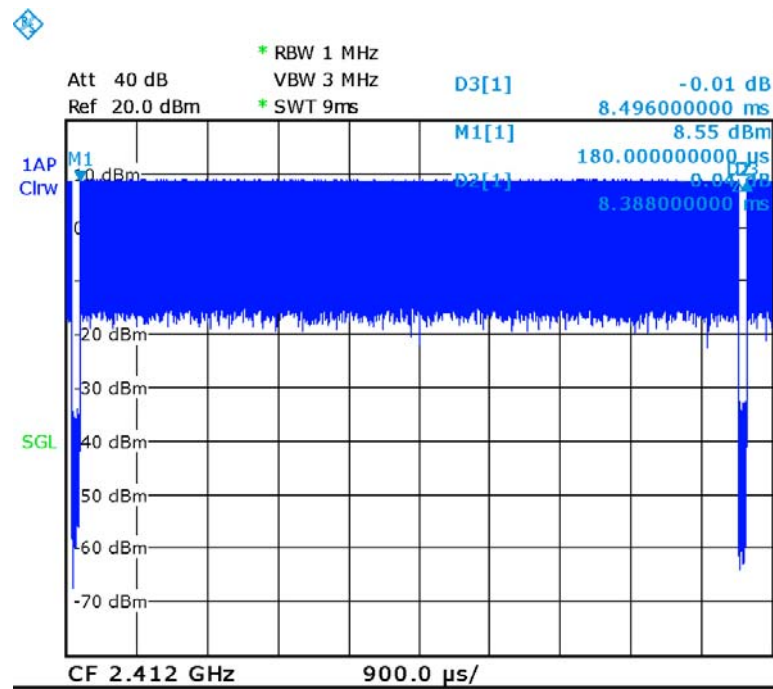
Table I-1: SAR Values (WLAN - Head) – 802.11b 1Mbps (Scaled Reported SAR)

Ambient Temperature: 22.2 °C					Liquid Temperature: 21.7 °C		
Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.						
2412	1	Left	Touch	98.72%	100%	0.78	0.79

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

Ambient Temperature: 22.2 °C				Liquid Temperature: 21.7 °C		
Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
MHz	Ch.					
2412	1	Top	98.72%	100%	<0.01	<0.01

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



Picture I.1 Duty factor plot

I.2 Reported SAR Comparison

Exposure Configuration	Technology Band	Spot Check Reported SAR 1g (W/Kg)	Original Reported SAR 1g (W/Kg)	Equipment Class
Head (Separation Distance 0mm)	GSM 850	0.21	0.26	PCE
	PCS 1900	0.25	0.19	
	UMTS FDD 2	0.55	0.41	
	UMTS FDD 4	0.42	0.44	
	UMTS FDD 5	0.21	0.42	
	LTE Band 2	0.56	0.55	
	LTE Band 4	0.44	0.49	
	LTE Band 5	0.31	0.37	
	LTE Band 12	0.30	0.18	
	WLAN 2.4 GHz	0.79	0.72	DTS
Hotspot (Separation Distance 10mm)	GSM 850	0.55	0.58	PCE
	PCS 1900	0.99	0.96	
	UMTS FDD 2	1.05	0.99	
	UMTS FDD 4	0.86	0.84	
	UMTS FDD 5	0.44	0.49	
	LTE Band 2	1.10	1.02	
	LTE Band 4	0.61	0.57	
	LTE Band 5	0.47	0.43	
	LTE Band 12	0.46	0.30	
	WLAN 2.4 GHz	<0.01	0.13	DTS
Body-worn (Data) (Separation Distance 15mm)	UMTS FDD 2	0.81	0.60	PCE
	UMTS FDD 4	0.43	0.49	
	LTE Band 2	0.75	0.56	
	LTE Band 4	0.55	0.44	

850 Left Cheek High

Date: 2017-6-24

Electronics: DAE4 Sn1331

Medium: Head 850 MHz

Medium parameters used: $f = 848.8$ MHz; $\sigma = 0.896$ mho/m; $\epsilon_r = 42.39$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

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

Probe: EX3DV4 – SN3846 ConvF(9.33, 9.33, 9.33)

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

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

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

Reference Value = 3.643 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.206 W/kg

SAR(1 g) = 0.162 W/kg; SAR(10 g) = 0.123 W/kg

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

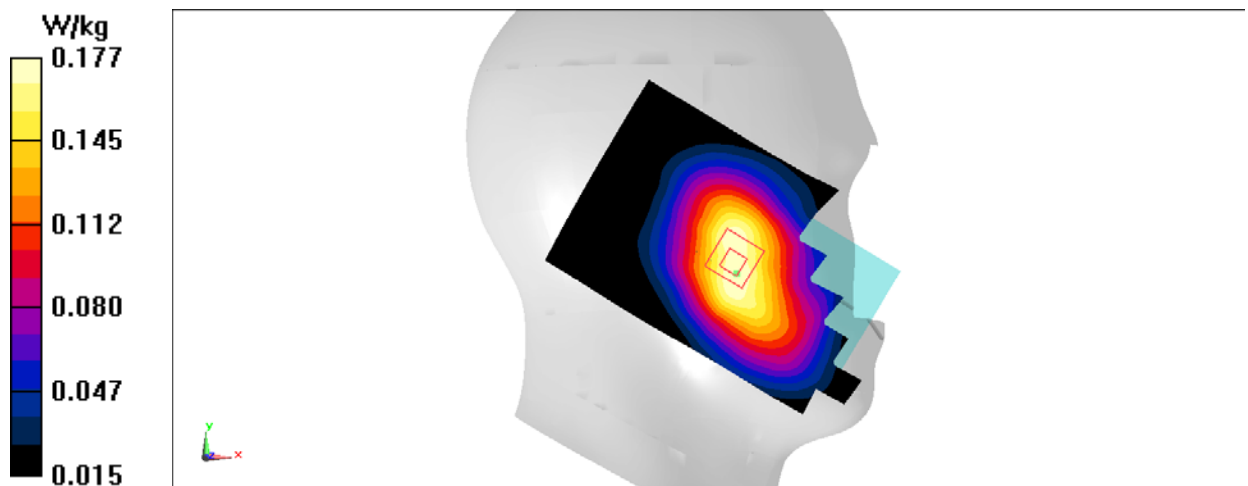


Fig.I.1 850MHz

850 Body Rear High

Date: 2017-6-24

Electronics: DAE4 Sn1331

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 1.003$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

Communication System: GSM 850 GPRS Frequency: 848.8 MHz Duty Cycle: 1:2

Probe: EX3DV4 – SN3846 ConvF(9.52, 9.52, 9.52)

Area Scan (111x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.402 W/kg

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

Reference Value = 19.40 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.771 W/kg

SAR(1 g) = 0.371 W/kg; SAR(10 g) = 0.282 W/kg

Maximum value of SAR (measured) = 0.404 W/kg

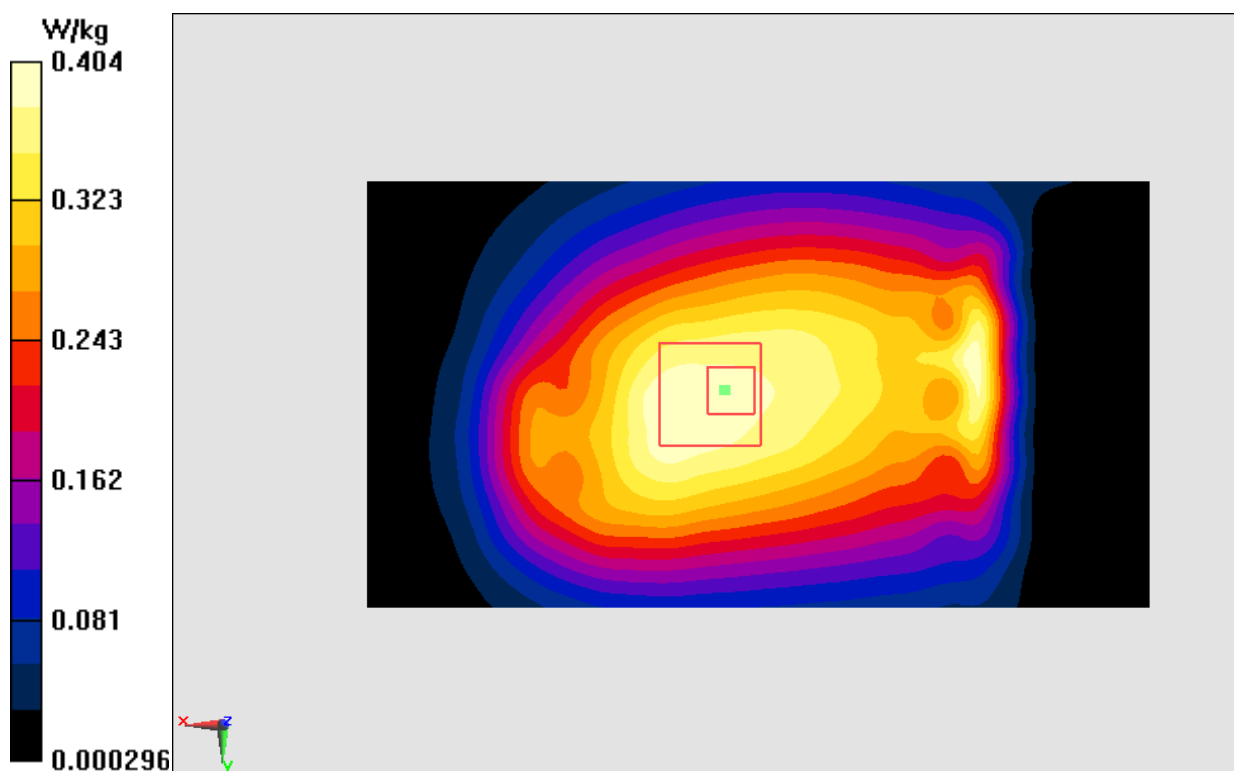


Fig.I.2 850 MHz

1900 Left Cheek High

Date: 2017-6-26

Electronics: DAE4 Sn1331

Medium: Head 1900 MHz

Medium parameters used: $f = 1909.8$ MHz; $\sigma = 1.427$ mho/m; $\epsilon_r = 40.68$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

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

Probe: EX3DV4- SN3846 ConvF(7.89, 7.89, 7.89)

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

Maximum value of SAR (interpolated) = 0.276 W/kg

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

Reference Value = 3.464 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.353 W/kg

SAR(1 g) = 0.228 W/kg; SAR(10 g) = 0.138 W/kg

Maximum value of SAR (measured) = 0.268 W/kg

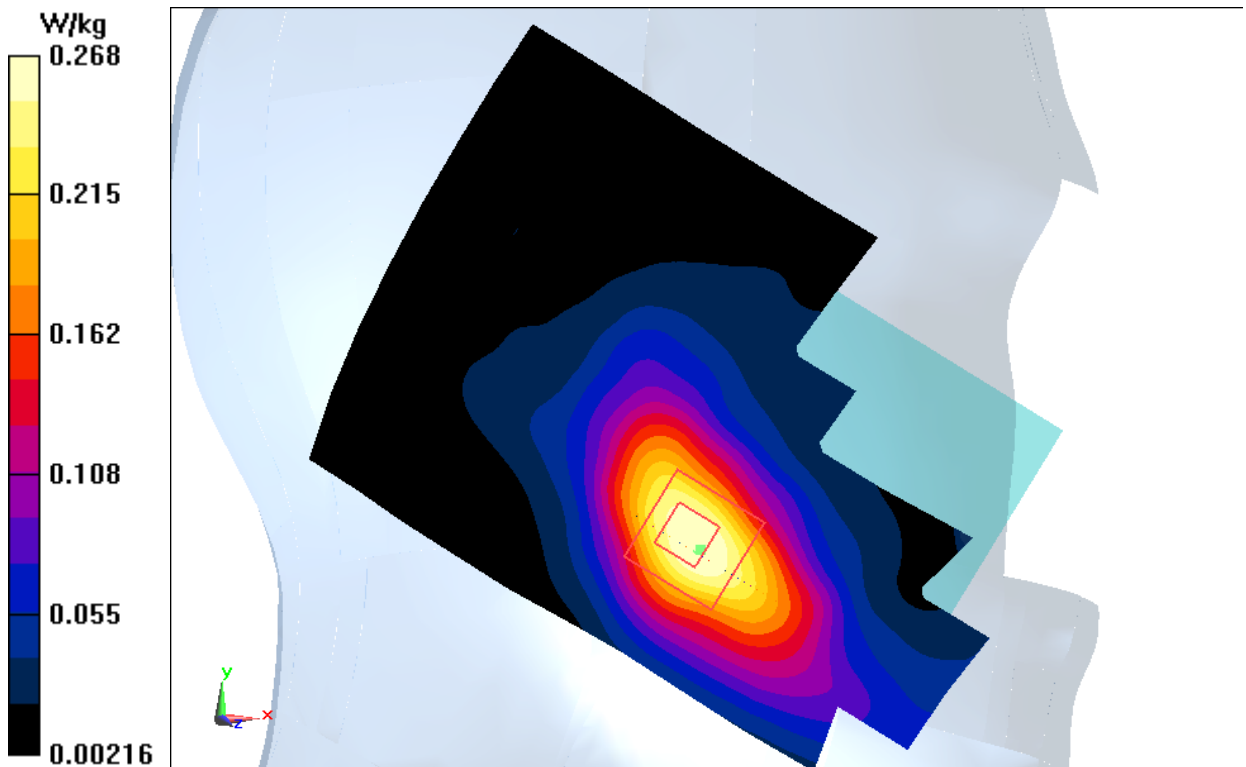


Fig.I.3 1900 MHz

1900 Body Bottom High

Date: 2017-6-26

Electronics: DAE4 Sn1331

Medium: Body 1900 MHz

Medium parameters used (interpolated): $f = 1909.8$ MHz; $\sigma = 1.545$ mho/m; $\epsilon_r = 51.91$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

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

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

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

Maximum value of SAR (interpolated) = 1.21 W/kg

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

Reference Value = 21.54 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 1.62 W/kg

SAR(1 g) = 0.938 W/kg; SAR(10 g) = 0.476 W/kg

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

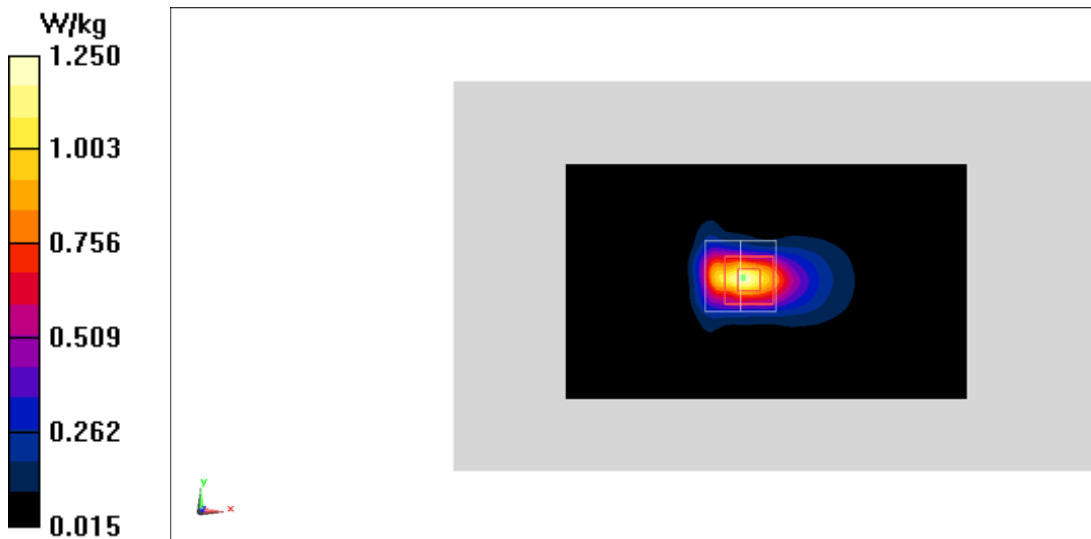


Fig.I.4 1900 MHz

WCDMA 850 Left Cheek Low

Date: 2017-6-24

Electronics: DAE4 Sn1331

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 826.4$ MHz; $\sigma = 0.872$ mho/m; $\epsilon_r = 43.54$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

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

Probe: EX3DV4 – SN3846 ConvF(9.33, 9.33, 9.33)

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

Maximum value of SAR (interpolated) = 0.187 W/kg

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

Reference Value = 3.884 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.218 W/kg

SAR(1 g) = 0.173 W/kg; SAR(10 g) = 0.133 W/kg

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

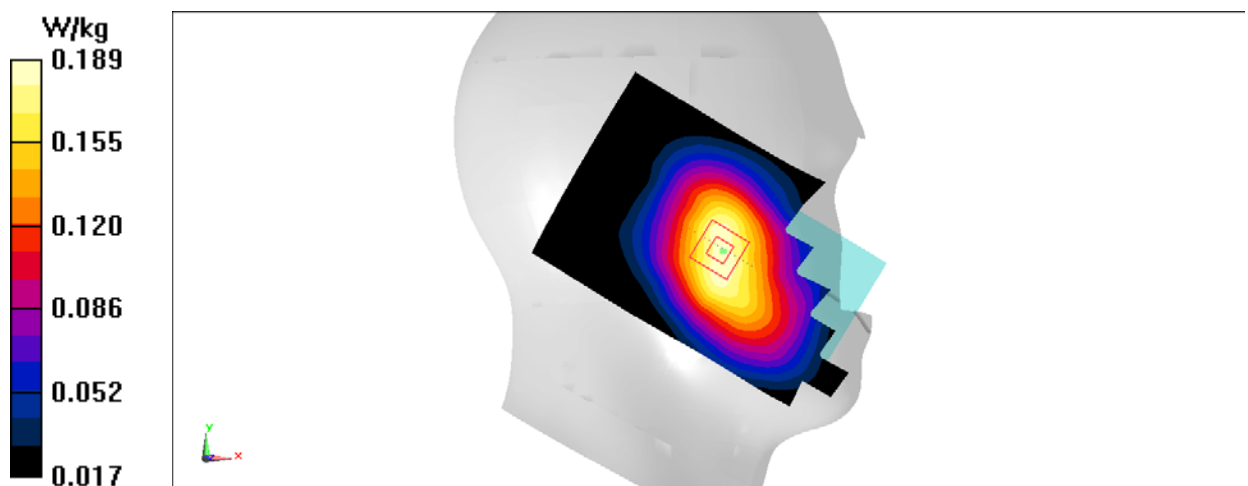


Fig.I.5 WCDMA 850

WCDMA 850 Body Rear Middle

Date: 2017-6-24

Electronics: DAE4 Sn1331

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 836.4$ MHz; $\sigma = 0.989$ mho/m; $\epsilon_r = 54.00$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

Communication System: WCDMA; Frequency: 836.4 MHz; Duty Cycle: 1:1

Probe: EX3DV4 – SN3846 ConvF(9.52, 9.52, 9.52)

Area Scan (111x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.407 W/kg

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

Reference Value = 18.02 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.473 W/kg

SAR(1 g) = 0.373 W/kg; SAR(10 g) = 0.289 W/kg

Maximum value of SAR (measured) = 0.408 W/kg

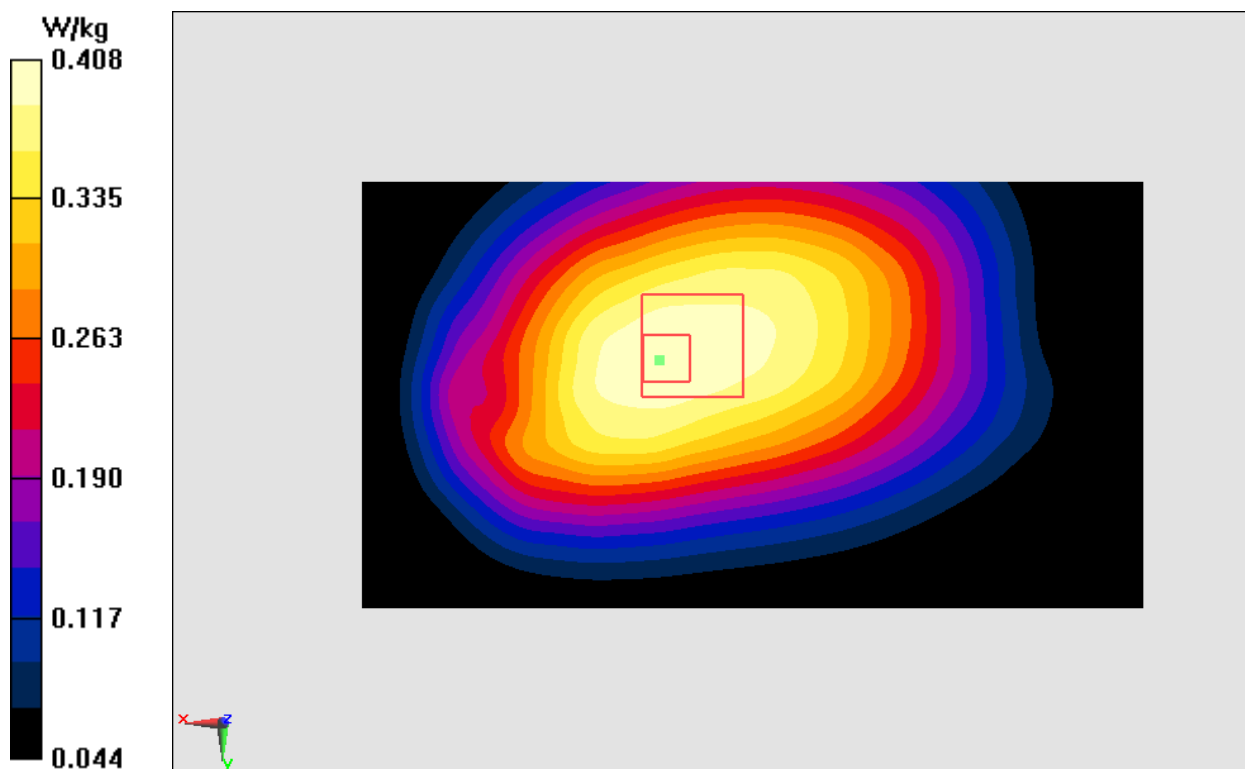


Fig.I.6 WCDMA 850

WCDMA 1700 Left Cheek High

Date: 2017-6-28

Electronics: DAE4 Sn1331

Medium: Head 1750 MHz

Medium parameters used (interpolated): $f = 1752.6$ MHz; $\sigma = 1.410$ mho/m; $\epsilon_r = 38.98$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

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

Probe: EX3DV4– SN3846 ConvF(8.16, 8.16, 8.16)

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

Maximum value of SAR (interpolated) = 0.456 W/kg

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

Reference Value = 6.051 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.549 W/kg

SAR(1 g) = 0.379 W/kg; SAR(10 g) = 0.243 W/kg

Maximum value of SAR (measured) = 0.441 W/kg

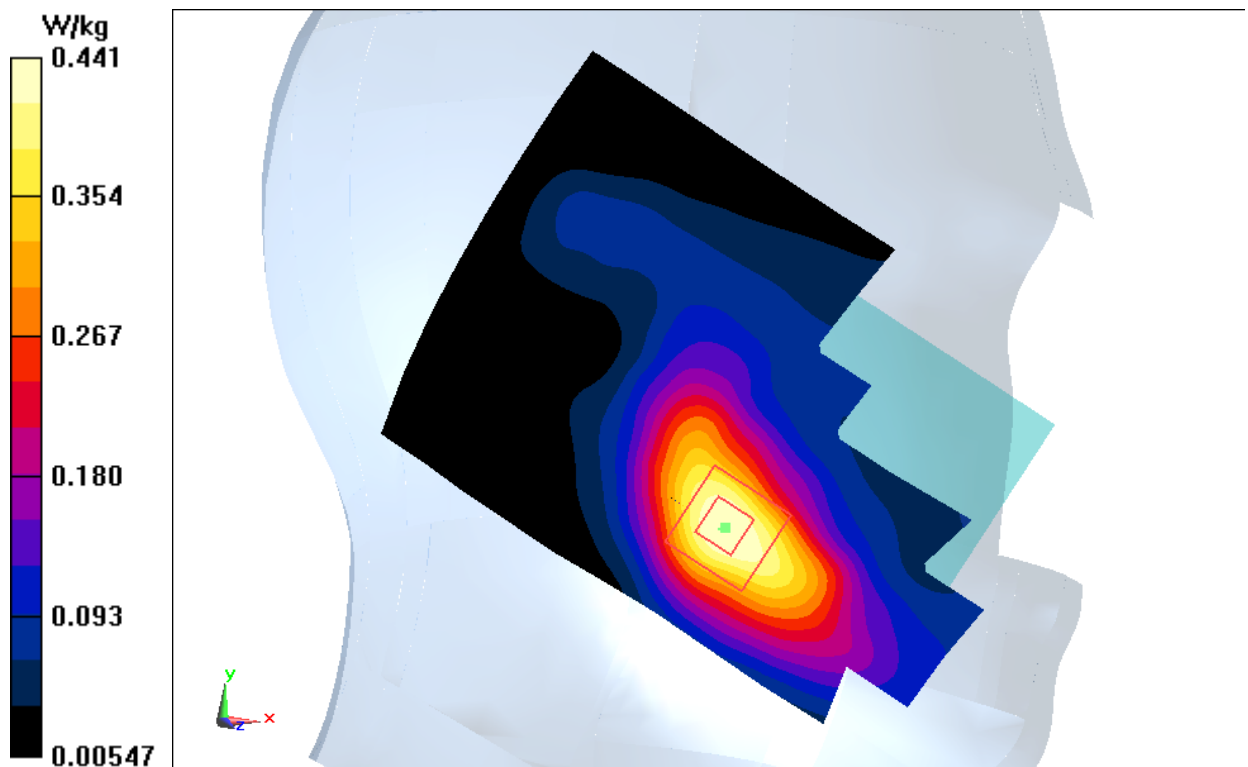


Fig.I.7 WCDMA1700

WCDMA 1700 Body Front High 15mm

Date: 2017-6-28

Electronics: DAE4 Sn1331

Medium: Body 1750 MHz

Medium parameters used (interpolated): $f = 1752.6$ MHz; $\sigma = 4.518$ mho/m; $\epsilon_r = 52.28$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

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

Probe: EX3DV4– SN3846 ConvF(7.90, 7.90, 7.90)

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

Maximum value of SAR (interpolated) = 0.503 W/kg

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

Reference Value = 10.30 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.606 W/kg

SAR(1 g) = 0.393 W/kg; SAR(10 g) = 0.237 W/kg

Maximum value of SAR (measured) = 0.498 W/kg

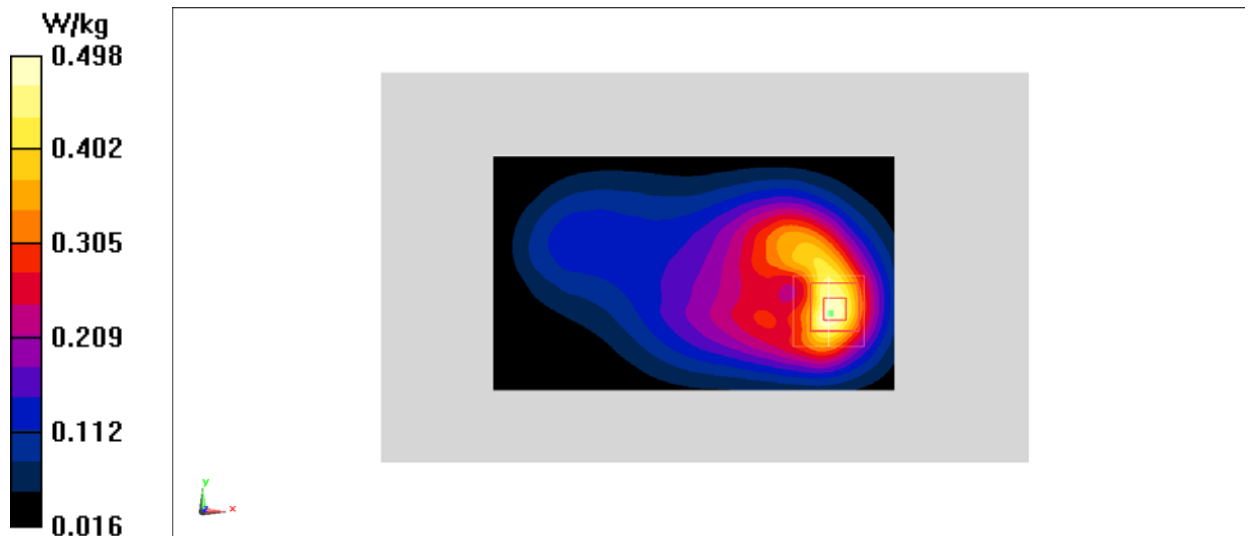


Fig.I.8 WCDMA1700

WCDMA 1700 Body Bottom High 10mm

Date: 2017-6-28

Electronics: DAE4 Sn1331

Medium: Body 1750 MHz

Medium parameters used (interpolated): $f = 1752.6$ MHz; $\sigma = 4.518$ mho/m; $\epsilon_r = 52.28$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

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

Probe: EX3DV4- SN3846 ConvF(7.90, 7.90, 7.90)

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

Maximum value of SAR (interpolated) = 1.18 W/kg

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

Reference Value = 14.70 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.52 W/kg

SAR(1 g) = 0.898 W/kg; SAR(10 g) = 0.472 W/kg

Maximum value of SAR (measured) = 1.20 W/kg

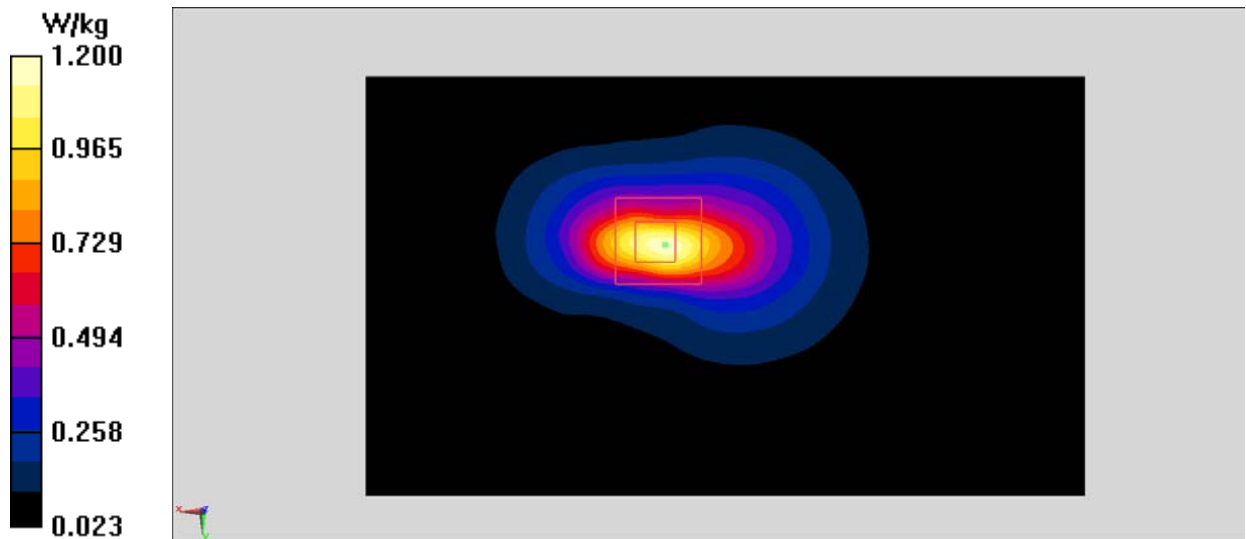


Fig.I.9 WCDMA1700

WCDMA 1900 Left Cheek Low

Date: 2017-6-26

Electronics: DAE4 Sn1331

Medium: Head 1900 MHz

Medium parameters used: $f = 1852.4$ MHz; $\sigma = 1.384$ mho/m; $\epsilon_r = 41.91$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

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

Probe: EX3DV4- SN3846 ConvF(7.89, 7.89, 7.89)

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

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

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

Reference Value = 5.539 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.734 W/kg

SAR(1 g) = 0.483 W/kg; SAR(10 g) = 0.300 W/kg

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

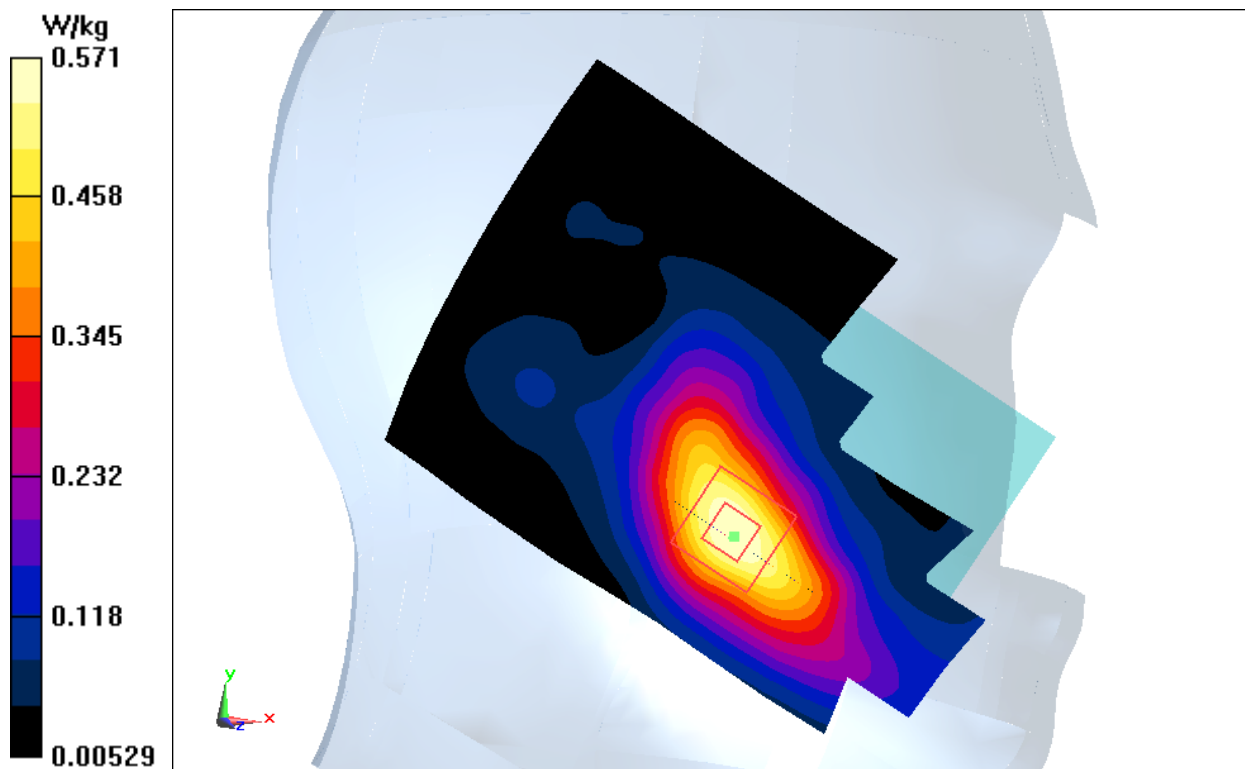


Fig.I.10 WCDMA1900

WCDMA 1900 Body Front Low 15mm

Date: 2017-6-26

Electronics: DAE4 Sn1331

Medium: Body 1900 MHz

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.498$ mho/m; $\epsilon_r = 53.49$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

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

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

Area Scan (111x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.810 W/kg

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

Reference Value = 7.752 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 1.11 W/kg

SAR(1 g) = 0.713 W/kg; SAR(10 g) = 0.415 W/kg

Maximum value of SAR (measured) = 0.847 W/kg

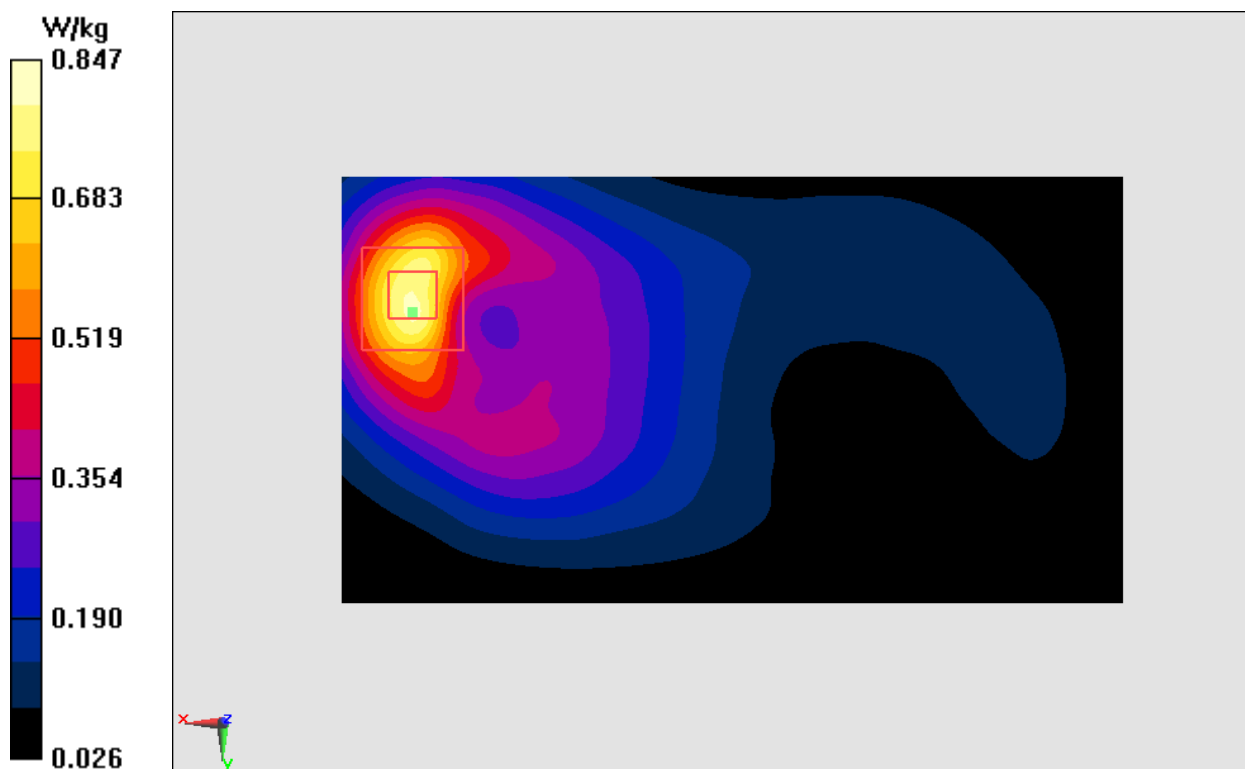


Fig.I.11 WCDMA1900

WCDMA 1900 Body Bottom Low 10mm

Date: 2017-6-26

Electronics: DAE4 Sn1331

Medium: Body 1900 MHz

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.498$ mho/m; $\epsilon_r = 53.49$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

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

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

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

Maximum value of SAR (interpolated) = 1.18 W/kg

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

Reference Value = 22.34 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 1.53 W/kg

SAR(1 g) = 0.893 W/kg; SAR(10 g) = 0.461 W/kg

Maximum value of SAR (measured) = 1.24 W/kg

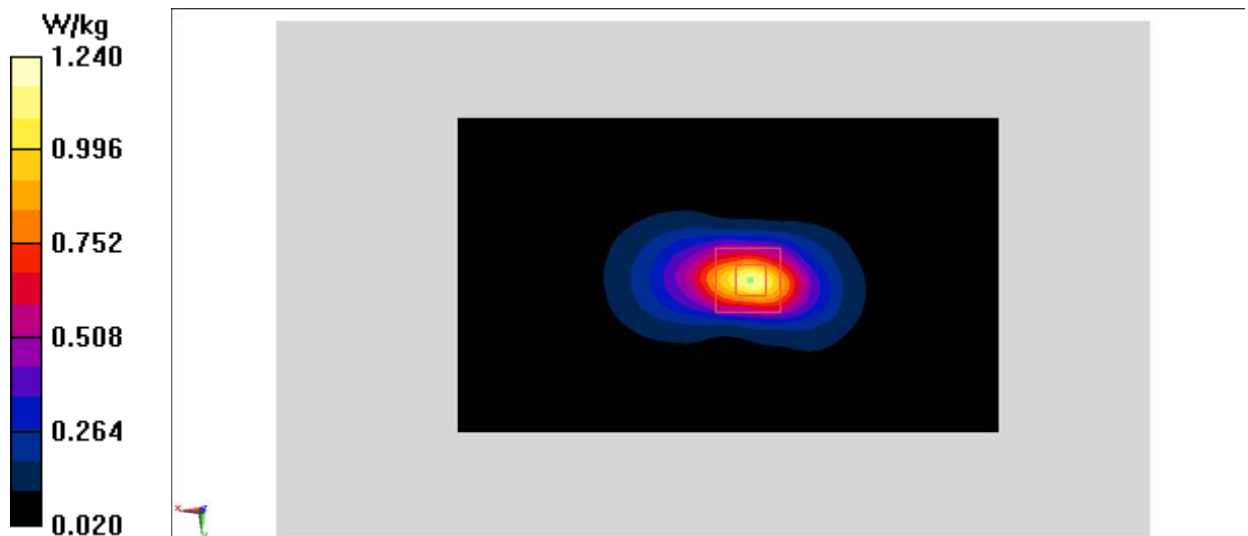


Fig.I.12 WCDMA1900

LTE Band2 Left Cheek High with QPSK_20M_1RB_High

Date: 2017-6-26

Electronics: DAE4 Sn1331

Medium: Head 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.394$ mho/m; $\epsilon_r = 39.43$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

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

Probe: EX3DV4- SN3846 ConvF(7.89, 7.89, 7.89)

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

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

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

Reference Value = 4.923 V/m; Power Drift = 0.1 dB

Peak SAR (extrapolated) = 0.760 W/kg

SAR(1 g) = 0.484 W/kg; SAR(10 g) = 0.288 W/kg

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

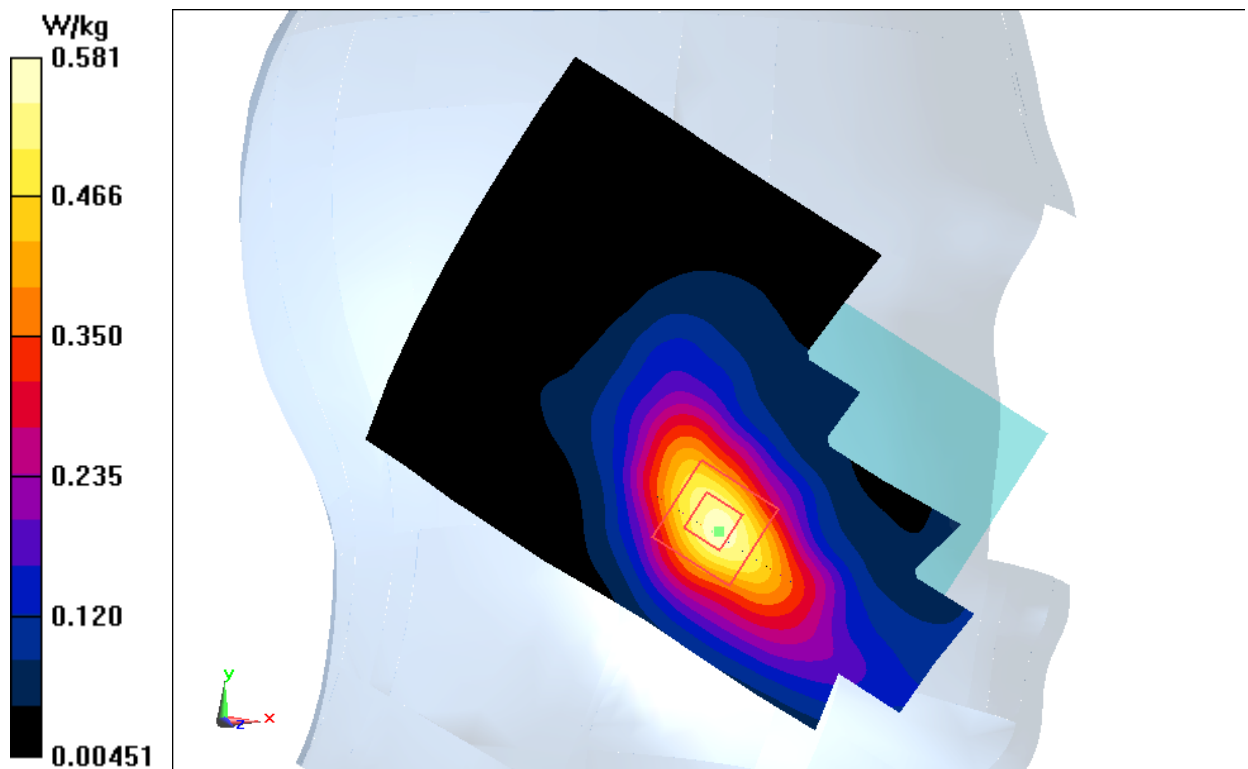


Fig.I.13 LTE Band2

LTE Band2 Body Rear High with QPSK_20M_1RB_High 15mm

Date: 2017-6-26

Electronics: DAE4 Sn1331

Medium: Body 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.537$ mho/m; $\epsilon_r = 52.18$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

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

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

Area Scan (111x61x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.758 W/kg

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

Reference Value = 8.285 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 1.02 W/kg

SAR(1 g) = 0.650 W/kg; SAR(10 g) = 0.377 W/kg

Maximum value of SAR (measured) = 0.777 W/kg

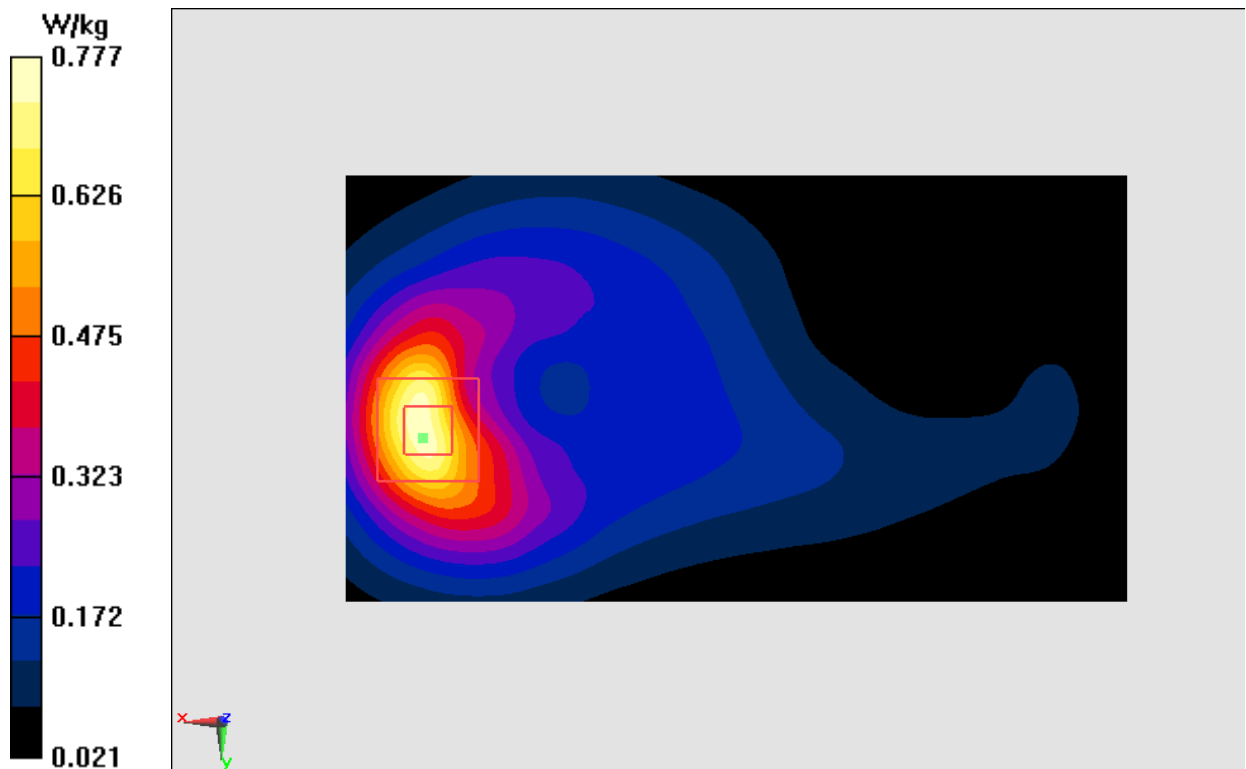


Fig.I.14 LTE Band2

LTE Band2 Body Bottom High with QPSK_20M_1RB_High 10mm

Date: 2017-6-26

Electronics: DAE4 Sn1331

Medium: Body 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.537$ mho/m; $\epsilon_r = 52.18$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

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

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

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

Maximum value of SAR (interpolated) = 1.43 W/kg

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

Reference Value = 22.81 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.72 W/kg

SAR(1 g) = 0.994 W/kg; SAR(10 g) = 0.511 W/kg

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

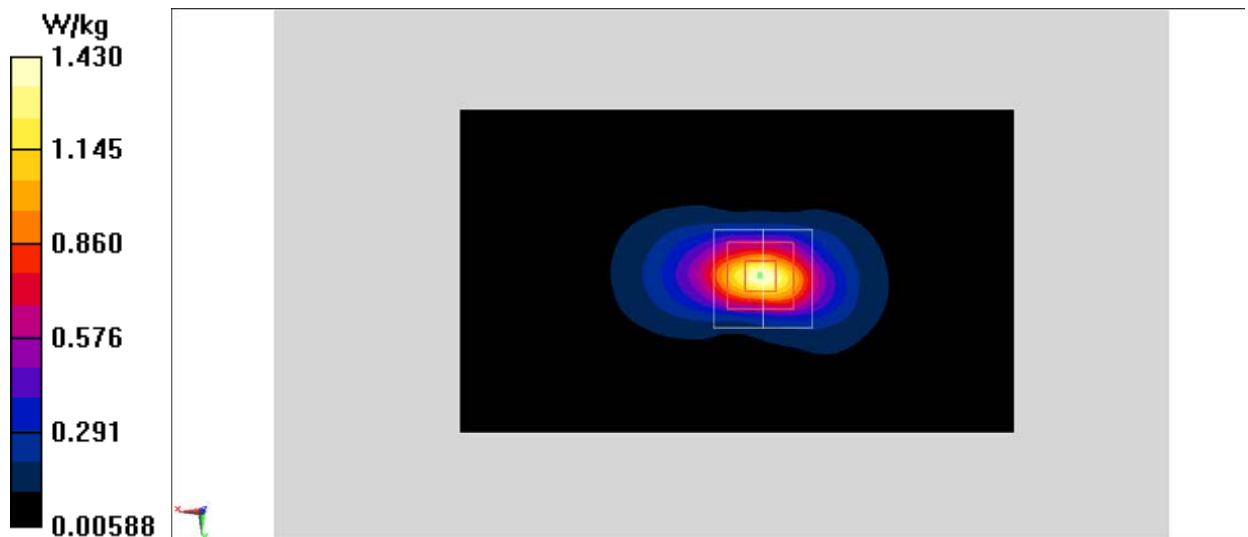


Fig.I.15 LTE Band2

LTE Band4 Left Cheek Middle with QPSK_20M_1RB_Low

Date: 2017-6-28

Electronics: DAE4 Sn1331

Medium: Head 1750 MHz

Medium parameters used $f = 1732.5$ MHz; $\sigma = 1.394$ mho/m; $\epsilon_r = 39.43$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

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

Probe: EX3DV4 – SN3846 ConvF(8.16, 8.16, 8.16)

Area Scan (71x121x1): 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: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 4.443 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.533 W/kg

SAR(1 g) = 0.369 W/kg; SAR(10 g) = 0.237 W/kg

Maximum value of SAR (measured) = 0.431 W/kg

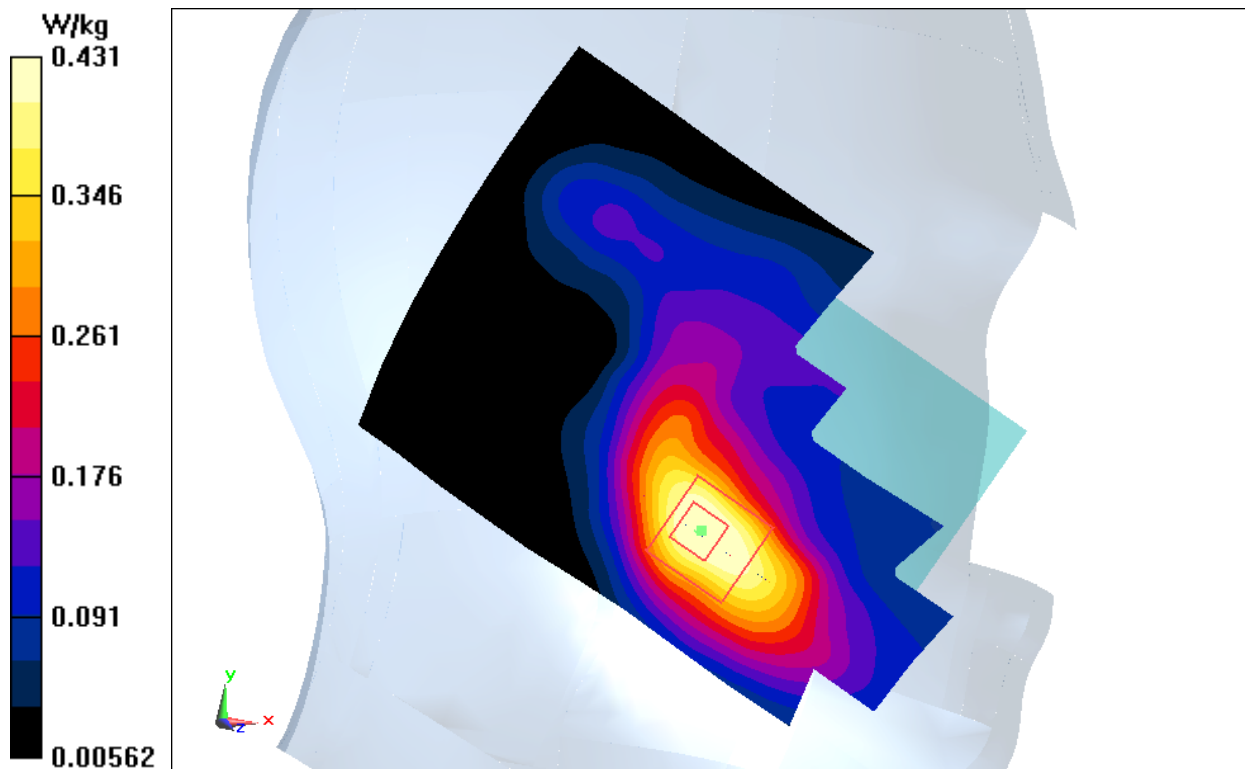


Fig.I.16 LTE Band4

LTE Band4 Body Rear Middle with QPSK_20M_1RB_Low 15mm

Date: 2017-6-28

Electronics: DAE4 Sn1331

Medium: Body 1750 MHz

Medium parameters used: $f = 1732.5$ MHz; $\sigma = 1.501$ mho/m; $\epsilon_r = 52.88$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

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

Probe: EX3DV4 – SN3846 ConvF(7.90, 7.90, 7.90)

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

Maximum value of SAR (interpolated) = 0.590 W/kg

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

Reference Value = 10.43 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 0.686 W/kg

SAR(1 g) = 0.462 W/kg; SAR(10 g) = 0.306 W/kg

Maximum value of SAR (measured) = 0.577 W/kg

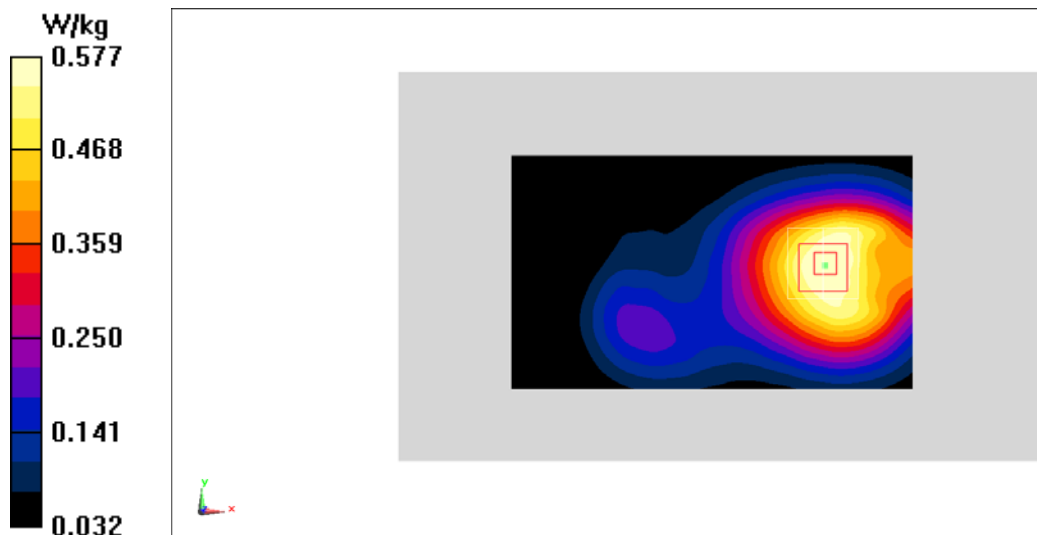


Fig.I.17 LTE Band4

LTE Band4 Body Bottom Middle with QPSK_20M_1RB_Low 10mm

Date: 2017-6-28

Electronics: DAE4 Sn1331

Medium: Body 1750 MHz

Medium parameters used: $f = 1732.5$ MHz; $\sigma = 1.501$ mho/m; $\epsilon_r = 52.88$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

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

Probe: EX3DV4 – SN3846 ConvF(7.90, 7.90, 7.90)

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

Maximum value of SAR (interpolated) = 0.798 W/kg

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

Reference Value = 19.80 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.944 W/kg

SAR(1 g) = 0.569 W/kg; SAR(10 g) = 0.306 W/kg

Maximum value of SAR (measured) = 0.771 W/kg

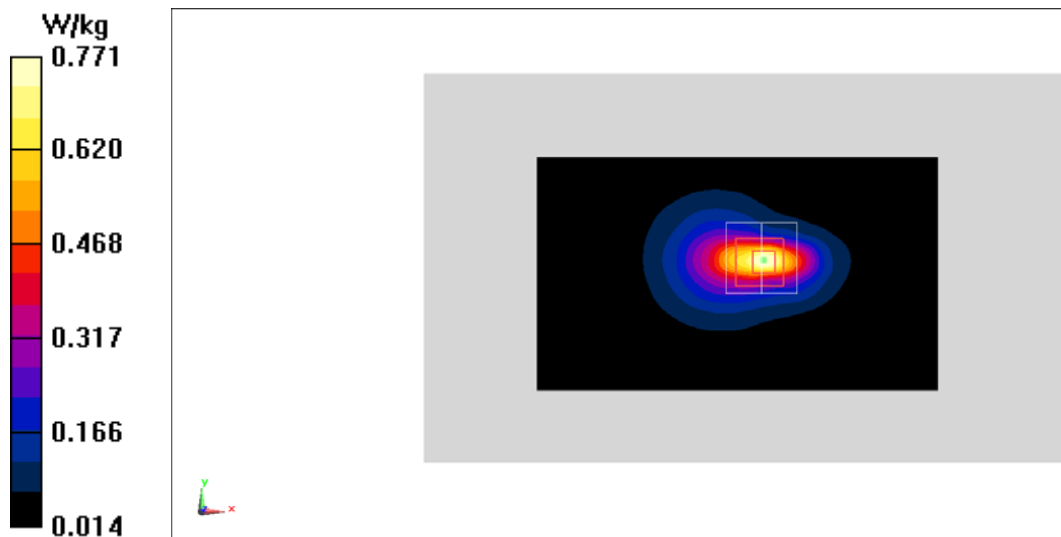


Fig.I.18 LTE Band4

LTE Band5 Left Cheek Middle with QPSK_10M_1RB_Middle

Date: 2017-6-24

Electronics: DAE4 Sn1331

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 836.5$ MHz; $\sigma = 0.890$ mho/m; $\epsilon_r = 42.64$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

Communication System: LTE Band5 Frequency: 836.5 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(9.33, 9.33, 9.33)

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

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

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

Reference Value = 4.260 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.326 W/kg

SAR(1 g) = 0.257 W/kg; SAR(10 g) = 0.196 W/kg

Maximum value of SAR (measured) = 0.278 W/kg

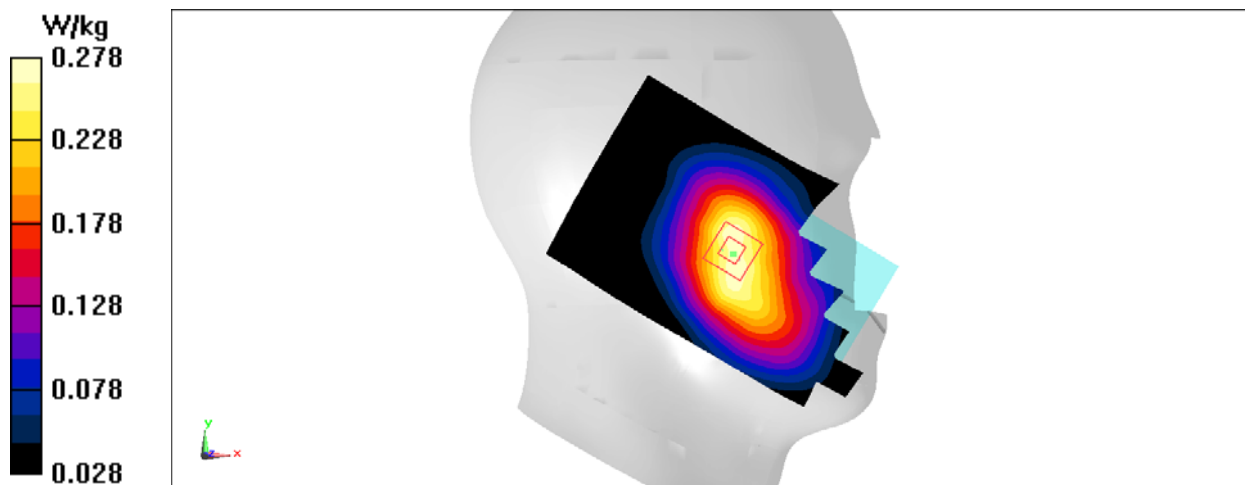


Fig.I.19 LTE Band5

LTE Band5 Body Rear Middle with QPSK_10M_1RB_Middle

Date: 2017-6-24

Electronics: DAE4 Sn1331

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 836.5$ MHz; $\sigma = 0.998$ mho/m; $\epsilon_r = 53.51$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

Communication System: LTE Band5 Frequency: 836.5 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(9.52, 9.52, 9.52)

Area Scan (111x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.421 W/kg

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

Reference Value = 19.72 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.504 W/kg

SAR(1 g) = 0.392 W/kg; SAR(10 g) = 0.298 W/kg

Maximum value of SAR (measured) = 0.429 W/kg

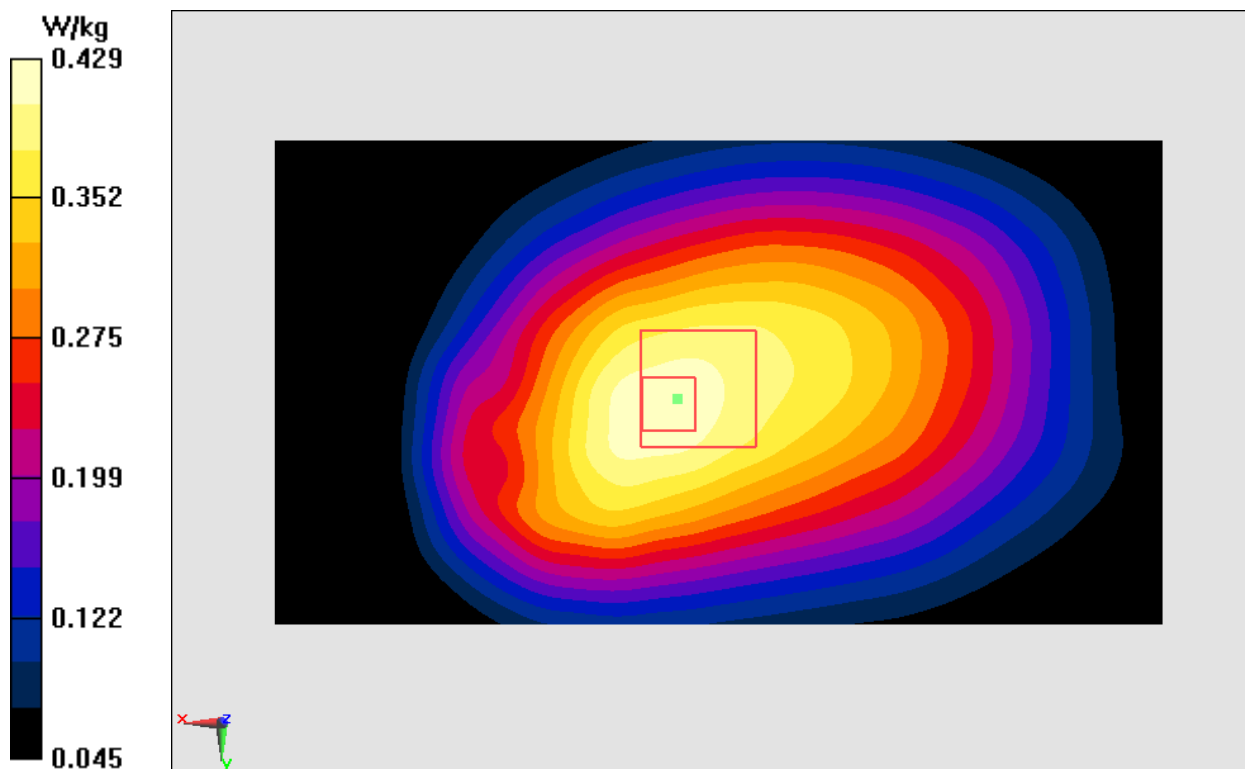


Fig.I.20 LTE Band5

LTE Band12 Left Cheek High with QPSK_10M_1RB_Low

Date: 2017-6-27

Electronics: DAE4 Sn1331

Medium: Head750 MHz

Medium parameters used (interpolated): $f = 711$ MHz; $\sigma = 0.830$ mho/m; $\epsilon_r = 44.97$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

Communication System: LTE Band12 Frequency: 711 MHz Duty Cycle: 1:1

Probe: EX3DV4– SN3846 ConvF(9.65, 9.65, 9.65)

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

Maximum value of SAR (interpolated) = 0.257 W/kg

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

Reference Value = 5.610 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.295 W/kg

SAR(1 g) = 0.242 W/kg; SAR(10 g) = 0.192 W/kg

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

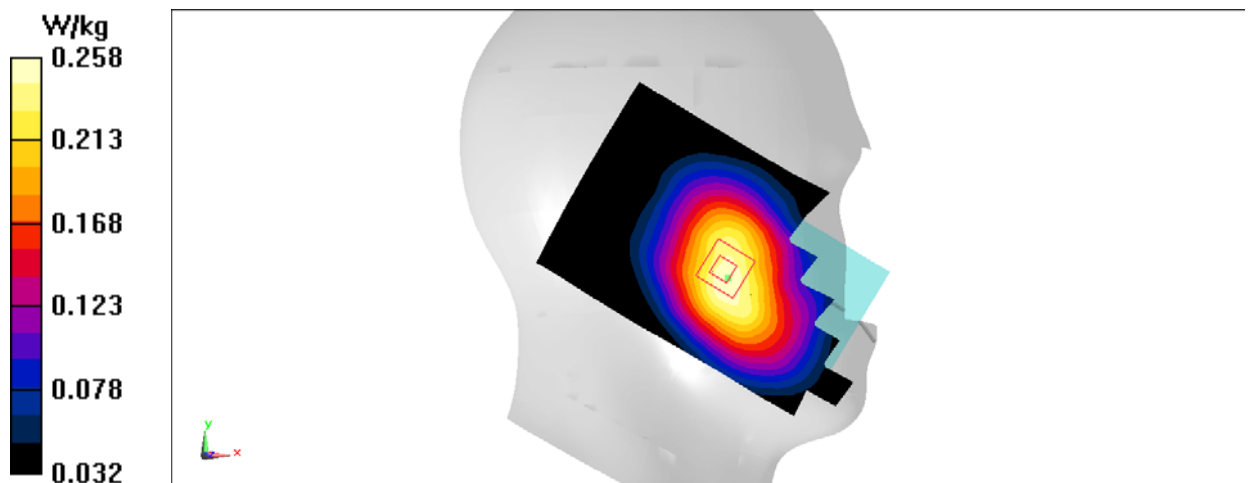


Fig.I.21 LTE Band12

LTE Band12 Body Rear High with QPSK_10M_1RB_Low

Date: 2017-6-27

Electronics: DAE4 Sn1331

Medium: Body750 MHz

Medium parameters used (interpolated): $f = 711$ MHz; $\sigma = 0.902$ mho/m; $\epsilon_r = 58.23$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

Communication System: LTE Band12 Frequency: 711 MHz Duty Cycle: 1:1

Probe: EX3DV4– SN3846 ConvF(9.96, 9.96, 9.96)

Area Scan (111x61x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.408 W/kg

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

Reference Value = 20.69 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.479 W/kg

SAR(1 g) = 0.377 W/kg; SAR(10 g) = 0.294 W/kg

Maximum value of SAR (measured) = 0.412 W/kg

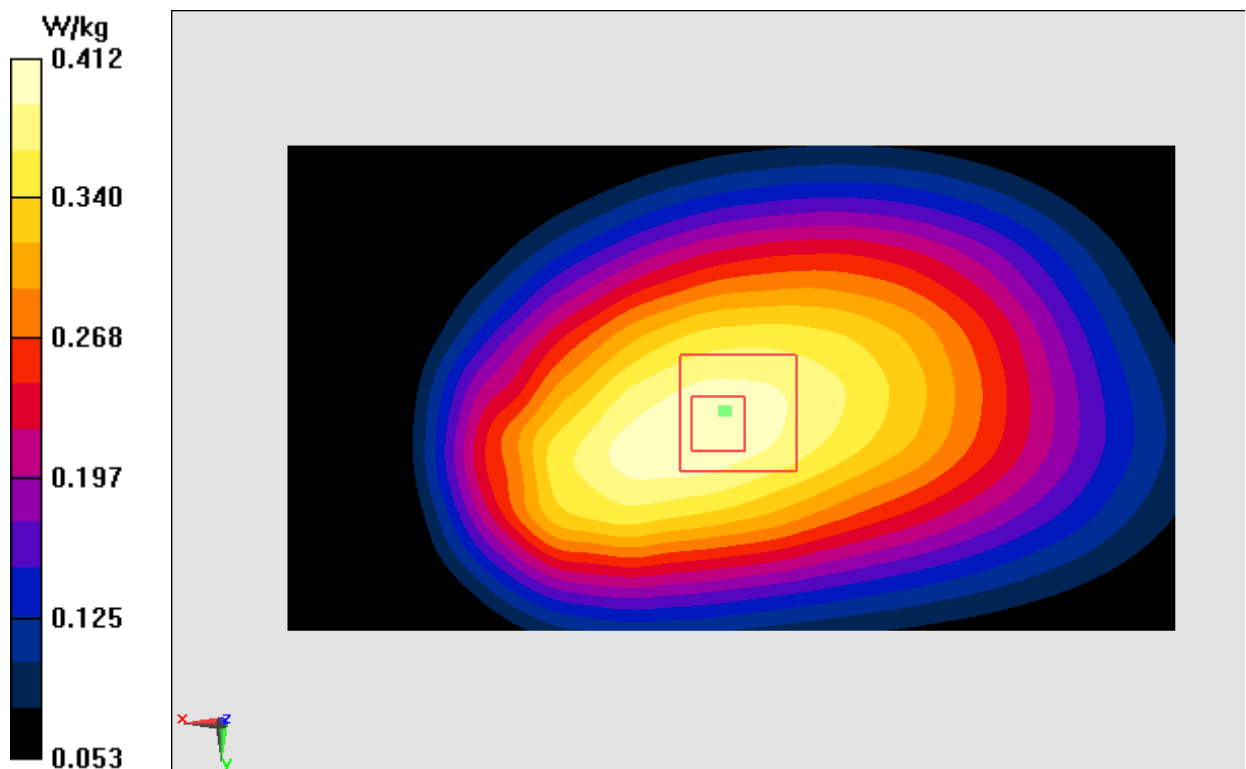


Fig.I.22 LTE Band12

Wifi 802.11b Left Cheek Channel 1

Date: 2017-6-25

Electronics: DAE4 Sn1331

Medium: Head 2450 MHz

Medium parameters used (interpolated): $f = 2412$ MHz; $\sigma = 1.779$ mho/m; $\epsilon_r = 40.41$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.1°C

Communication System: Wlan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

Probe: EX3DV4- SN3846 ConvF(7.22, 7.22, 7.22)

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

Maximum value of SAR (interpolated) = 1.35 W/kg

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

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.989 W/kg

SAR(1 g) = 0.754 W/kg; SAR(10 g) = 0.610 W/kg

Maximum value of SAR (measured) = 0.780 W/kg

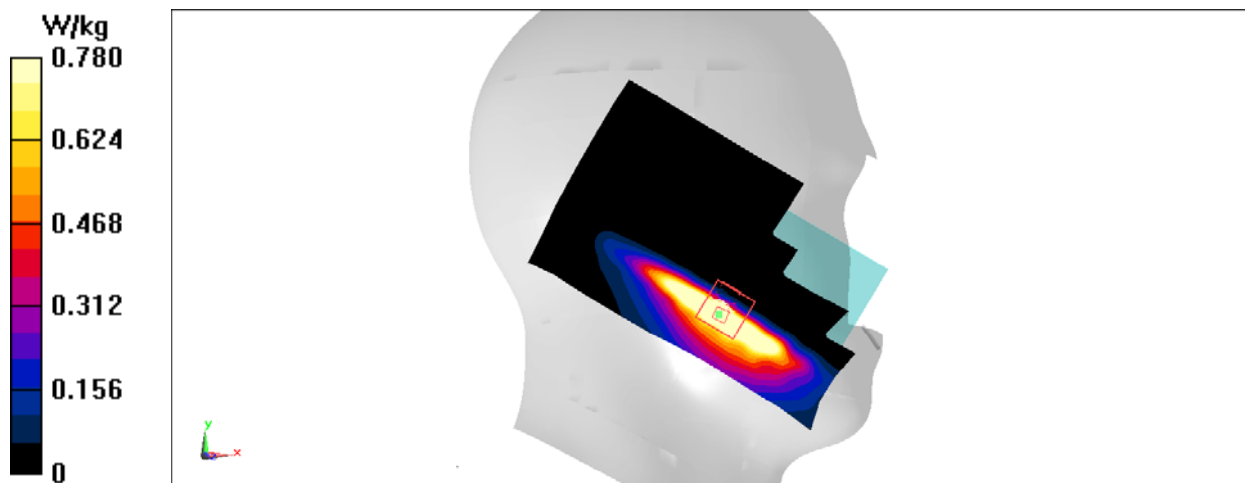








Fig.23 2450 MHz



Wifi 802.11b Body Right Channel 1

The value of WiFi Body is too low to make graph result.

ANNEX J Accreditation Certificate

<p>United States Department of Commerce National Institute of Standards and Technology</p> <p>NVLAP[®]</p> <hr/> <p>Certificate of Accreditation to ISO/IEC 17025:2005</p> <hr/> <p>NVLAP LAB CODE: 600118-0</p> <p>Telecommunication Technology Labs, CAICT Beijing China</p> <p><i>is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:</i></p> <p>Electromagnetic Compatibility & Telecommunications</p> <p><i>This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).</i></p> <table><tr><td><hr/><p>2016-09-29 through 2017-09-30 <i>Effective Dates</i></p></td><td></td><td> <hr/><p>For the National Voluntary Laboratory Accreditation Program</p></td></tr></table>		<hr/> <p>2016-09-29 through 2017-09-30 <i>Effective Dates</i></p>		 <hr/> <p>For the National Voluntary Laboratory Accreditation Program</p>
<hr/> <p>2016-09-29 through 2017-09-30 <i>Effective Dates</i></p>		 <hr/> <p>For the National Voluntary Laboratory Accreditation Program</p>		