WCDMA1900-BII_CH9538 Rear 0mm
Date: 7/21/2017
Electronics: DAE4 Sn1331
Medium: Head 1900 MHz
Medium parameters used: f = 1907.6 MHz; σ = 1.525 mho/m; εr = 52.83; ρ = 1000 kg/m^3
Ambient Temperature: 22.8°C, Liquid Temperature: 22.4°C
Communication System: WCDMA1900-BII 1907.6 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3846 ConvF(7.57,7.57,7.57)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.568 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.573 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.18 W/kg
SAR(1 g) = 0.568 W/kg; SAR(10 g) = 0.277 W/kg
Maximum value of SAR (measured) = 0.637 W/kg

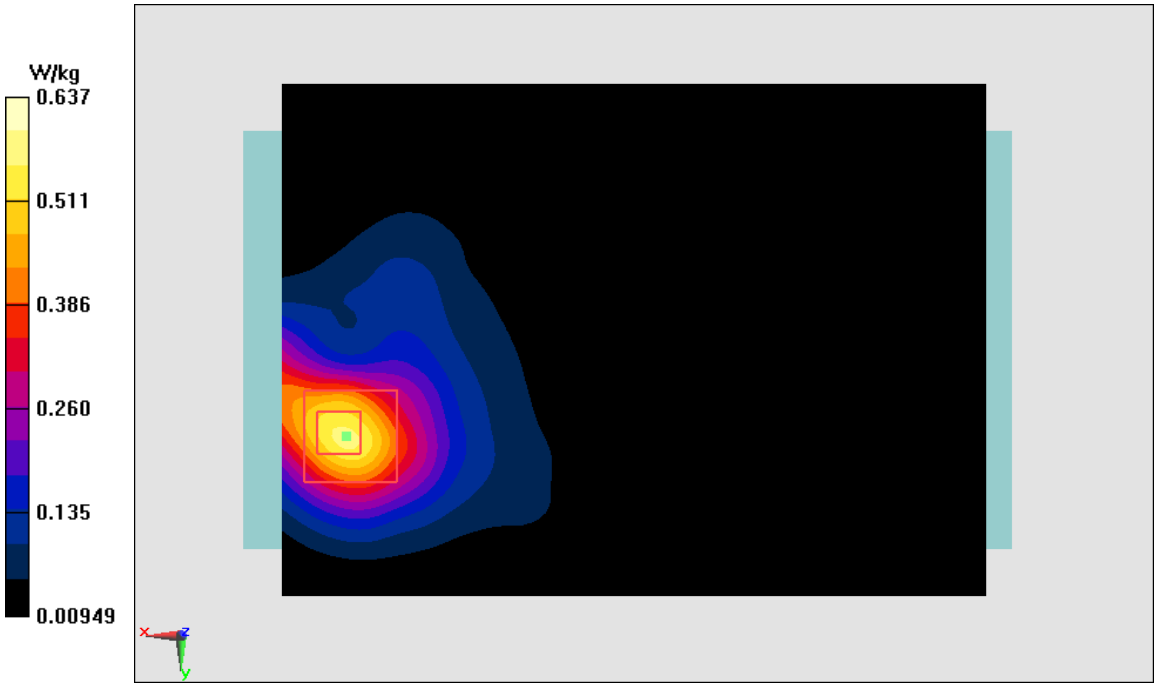


Figure A.6

WCDMA850-BV_CH4132 Right Cheek
Date: 7/19/2017
Electronics: DAE4 Sn1331
Medium: Head 835 MHz
Medium parameters used: f = 826.4 MHz; σ = 0.88 mho/m; εr = 41.63; ρ = 1000 kg/m^3
Ambient Temperature: 22.8°C, Liquid Temperature: 22.4°C
Communication System: WCDMA850-BV 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) = 0.0947 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.637 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.113 W/kg
SAR(1 g) = 0.09 W/kg; SAR(10 g) = 0.068 W/kg
Maximum value of SAR (measured) = 0.098 W/kg

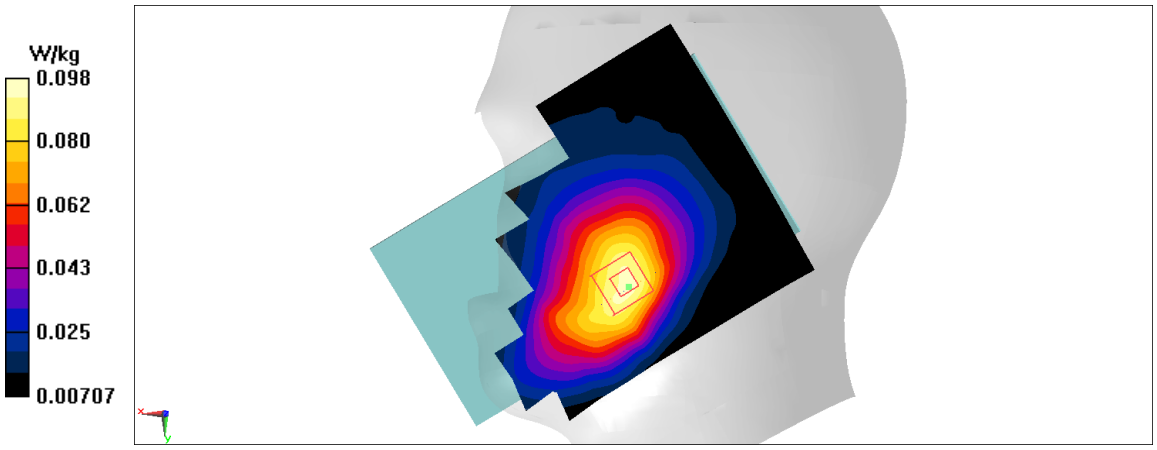


Figure A.7

WCDMA850-BV_CH4233 Rear 0mm
Date: 7/19/2017
Electronics: DAE4 Sn1331
Medium: Head 835 MHz
Medium parameters used: f = 846.6 MHz; σ = 0.976 mho/m; εr = 54.85; ρ = 1000 kg/m^3
Ambient Temperature: 22.8°C, Liquid Temperature: 22.4°C
Communication System: WCDMA850-BV 846.6 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3846 ConvF(9.52,9.52,9.52)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.568 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.831 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 0.751 W/kg
SAR(1 g) = 0.377 W/kg; SAR(10 g) = 0.206 W/kg
Maximum value of SAR (measured) = 0.438 W/kg

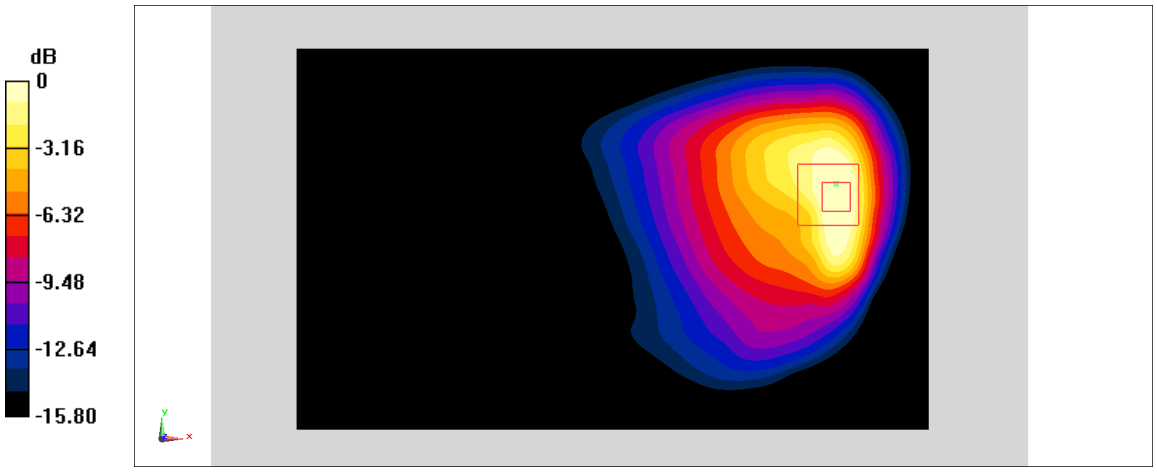


Figure A.8

LTE2500-FDD7_CH20850 Left Cheek
Date: 7/23/2017
Electronics: DAE4 Sn1331
Medium: Head 2600 MHz
Medium parameters used: f = 2510 MHz; σ = 1.882 mho/m; εr = 39.27; ρ = 1000 kg/m^3
Ambient Temperature: 22.8ºC, Liquid Temperature: 22.4ºC
Communication System: LTE2500-FDD7 2510 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3846 ConvF(7.12,7.12,7.12)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0621 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.014 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.116 W/kg
SAR(1 g) = 0.045 W/kg; SAR(10 g) = 0.023 W/kg
Maximum value of SAR (measured) = 0.0551 W/kg

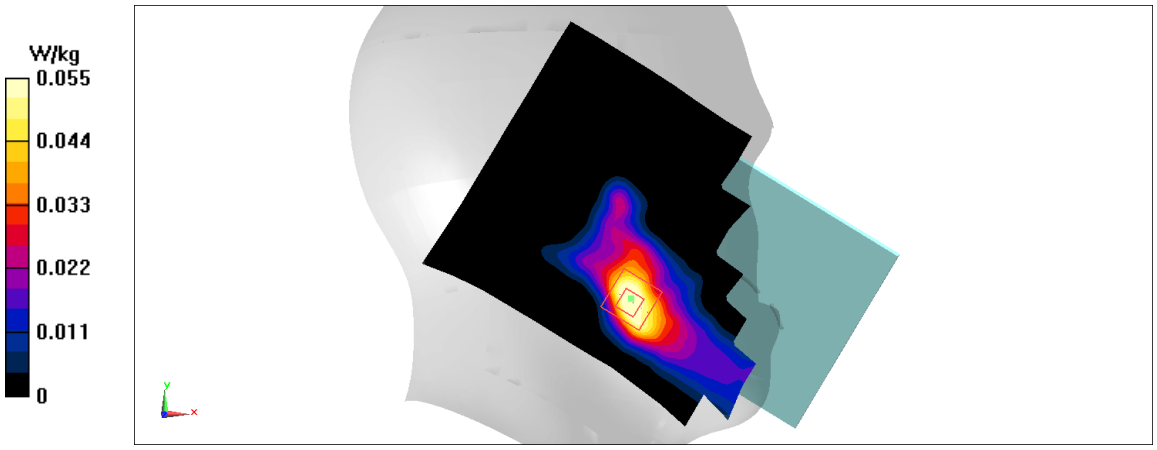


Figure A.9

LTE2500-FDD7_CH21350 Bottom edge 0mm
Date: 7/23/2017
Electronics: DAE4 Sn1331
Medium: Head 2600 MHz
Medium parameters used: f = 2560 MHz; σ = 2.124 mho/m; εr = 52.19; ρ = 1000 kg/m^3
Ambient Temperature: 22.8ºC, Liquid Temperature: 22.4ºC
Communication System: LTE2500-FDD7 2560 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3846 ConvF(7.25,7.25,7.25)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.716 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.566 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.488 W/kg; SAR(10 g) = 0.182 W/kg
Maximum value of SAR (measured) = 0.596 W/kg

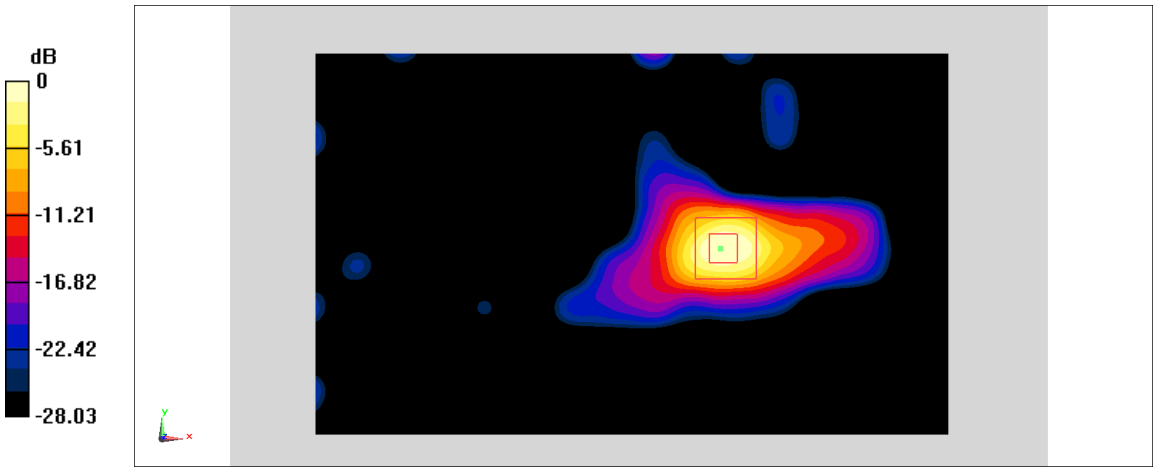


Figure A.10

WLAN2450_CH6 Right Cheek
Date: 7/22/2017
Electronics: DAE4 Sn1331
Medium: Head 2450 MHz
Medium parameters used: f = 2437 MHz; σ = 1.784 mho/m; εr = 39.22; ρ = 1000 kg/m^3
Ambient Temperature: 22.8ºC, Liquid Temperature: 22.4ºC
Communication System: WLAN2450 2437 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) = 0.879 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.326 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 1.72 W/kg
SAR(1 g) = 0.737 W/kg; SAR(10 g) = 0.333 W/kg
Maximum value of SAR (measured) = 0.946 W/kg

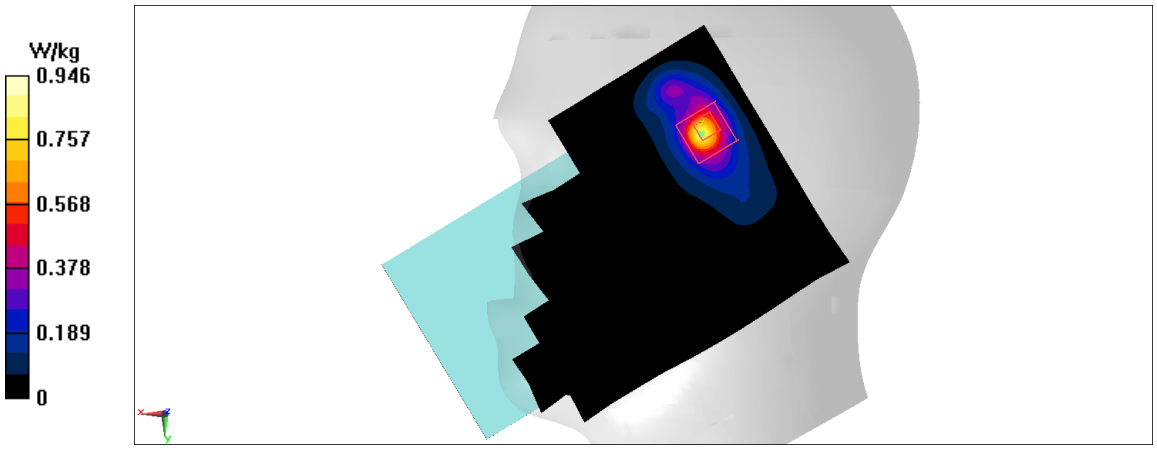


Figure A.11

WLAN2450_CH6 Rear 0mm
Date: 7/22/2017
Electronics: DAE4 Sn1331
Medium: Head 2450 MHz
Medium parameters used: f = 2437 MHz; σ = 1.954 mho/m; εr = 52.52; ρ = 1000 kg/m^3
Ambient Temperature: 22.8ºC, Liquid Temperature: 22.4ºC
Communication System: WLAN2450 2437 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3846 ConvF(7.31,7.31,7.31)

Area Scan (71x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 1.83 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.672 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 2.84 W/kg
SAR(1 g) = 0.903 W/kg; SAR(10 g) = 0.309 W/kg
Maximum value of SAR (measured) = 1.20 W/kg

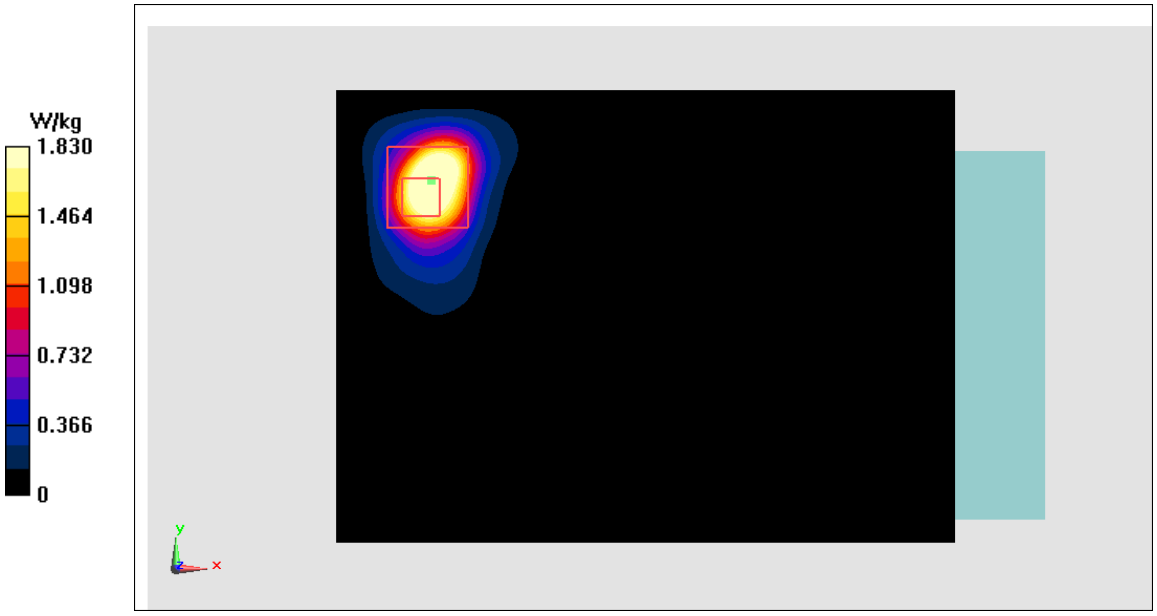


Figure A.12

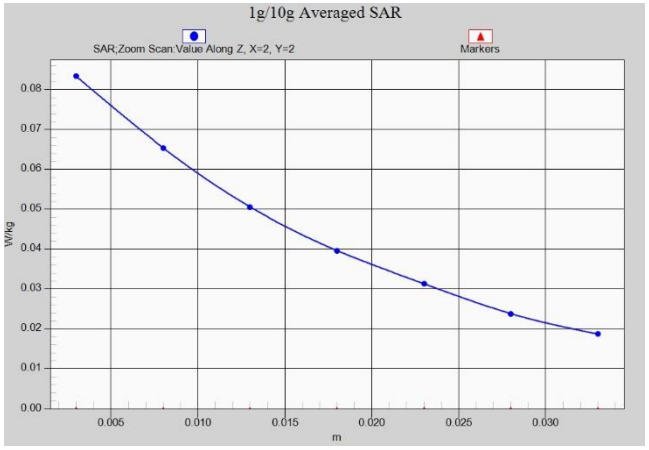


Fig.A.1- 1 Z-Scan at power reference point (GSM850)

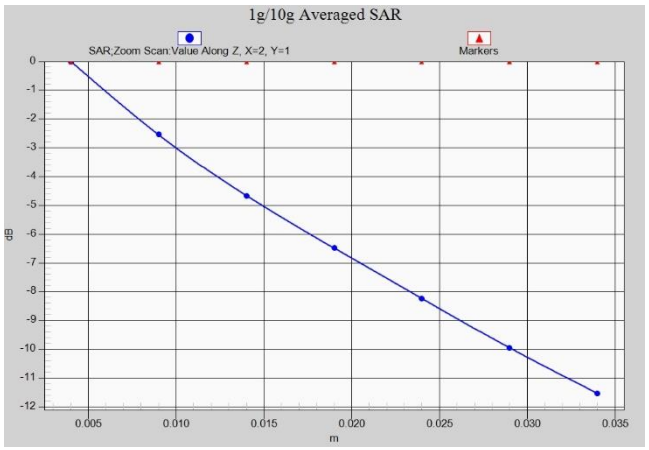


Fig.A.1- 2 Z-Scan at power reference point (GSM850)

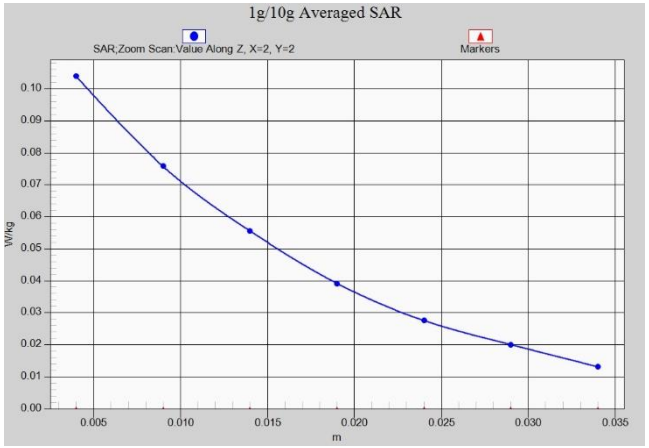


Fig.A.1- 3 Z-Scan at power reference point (PCS1900)

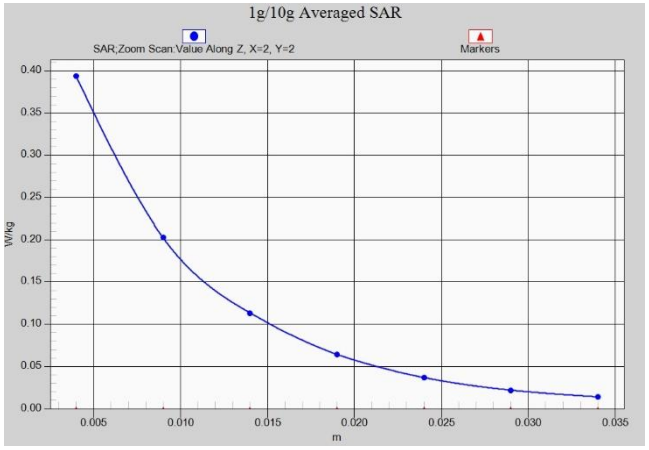


Fig.A.1- 4 Z-Scan at power reference point (PCS1900)

Fig.A.1- 5 Z-Scan at power reference point (W1900)

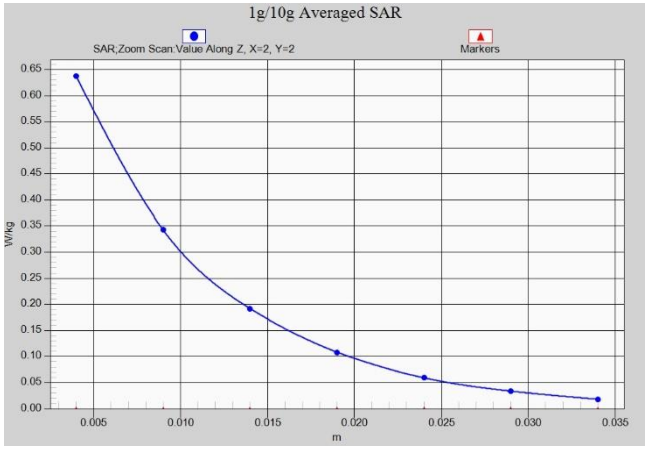


Fig.A.1- 6 Z-Scan at power reference point (W1900)

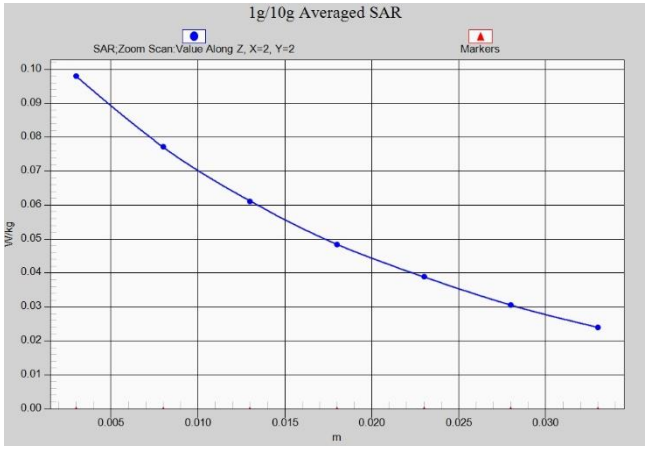


Fig.A.1- 7 Z-Scan at power reference point (W850)

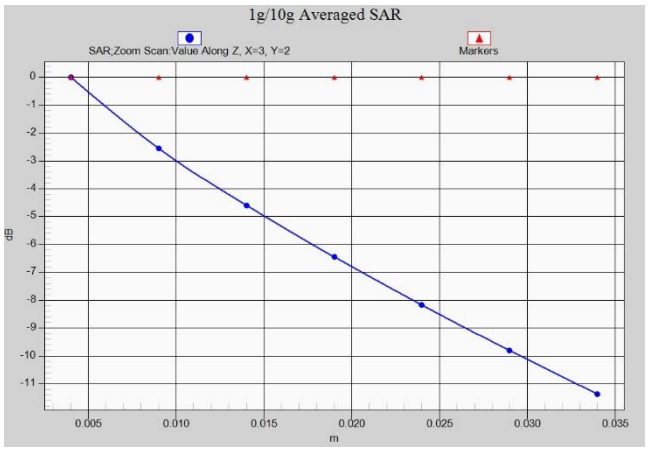


Fig.A.1- 8 Z-Scan at power reference point (W850)

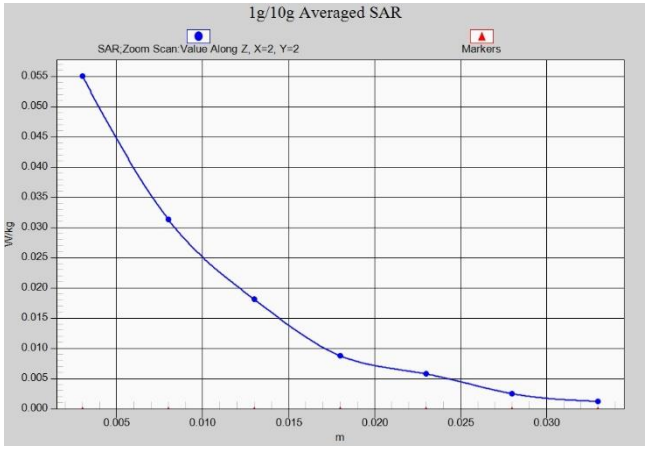


Fig.A.1- 9 Z-Scan at power reference point (LTE Band7**)**

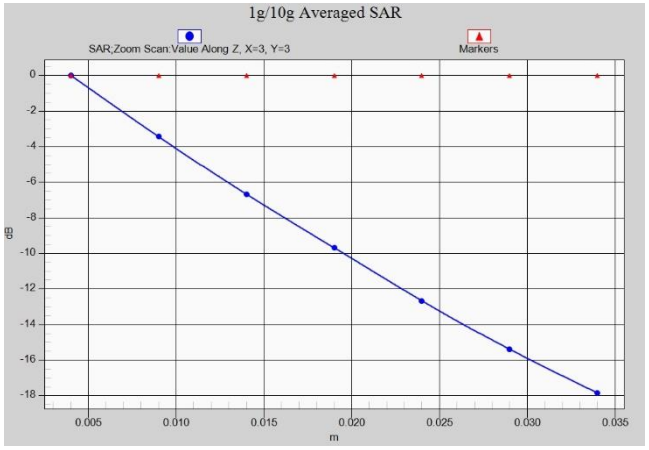


Fig.A.1- 10 Z-Scan at power reference point (LTE Band7**)**

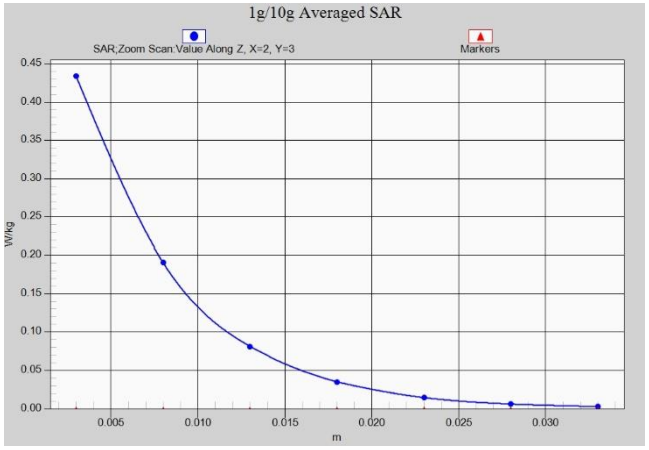


Fig.A.1- 11 Z-Scan at power reference point (WLAN**)**

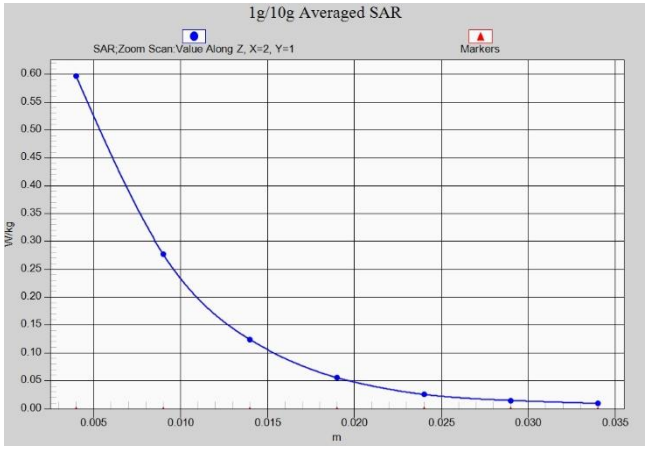


Fig.A.1- 12 Z-Scan at power reference point (WLAN**)**

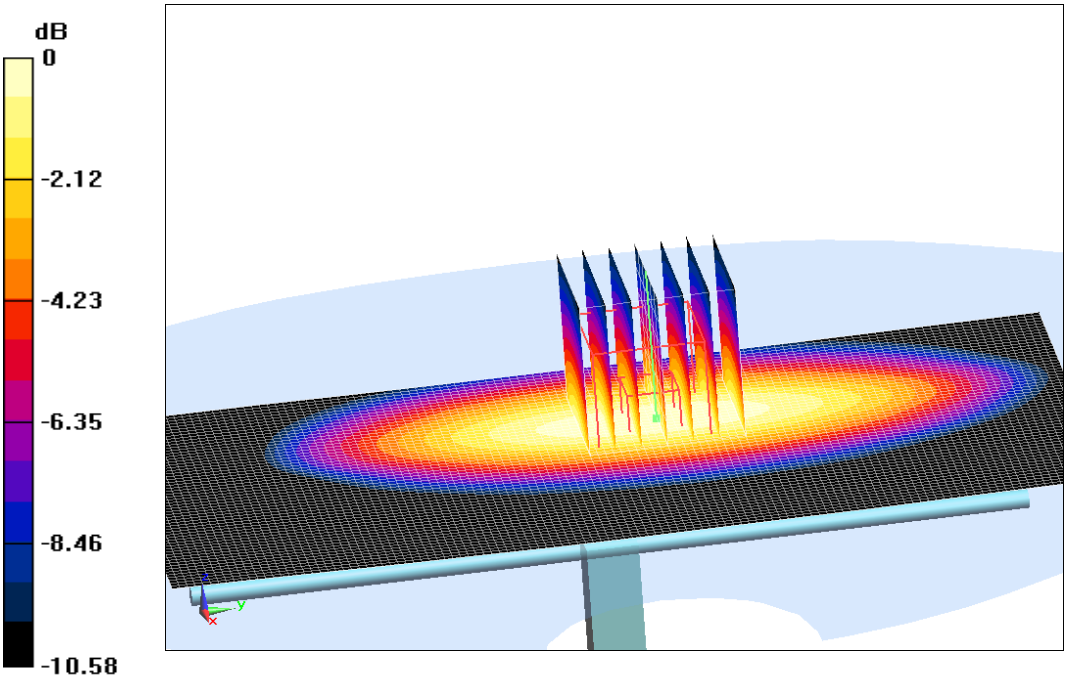
ANNEX B System Verification Results

835 MHz

Date: 7/19/2017
Electronics: DAE4 Sn1331
Medium: Head 835 MHz
Medium parameters used: f = 835 MHz; σ =0.889 mho/m; ε_r = 41.62; ρ = 1000 kg/m^3
Ambient Temperature: 22.8ºC Liquid Temperature: 22.4ºC
Communication System: CW Frequency: 835 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3846 ConvF(9.33,9.33,9.33)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 62.16 V/m; Power Drift = 0.01
Fast SAR: SAR(1 g) = 2.4 W/kg; SAR(10 g) = 1.58 W/kg
Maximum value of SAR (interpolated) = 3.15 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =62.16 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 3.69 W/kg
SAR(1 g) = 2.35 W/kg; SAR(10 g) = 1.58 W/kg
Maximum value of SAR (measured) = 3.22 W/kg



0 dB = 3.22 W/kg = 5.08 dB W/kg

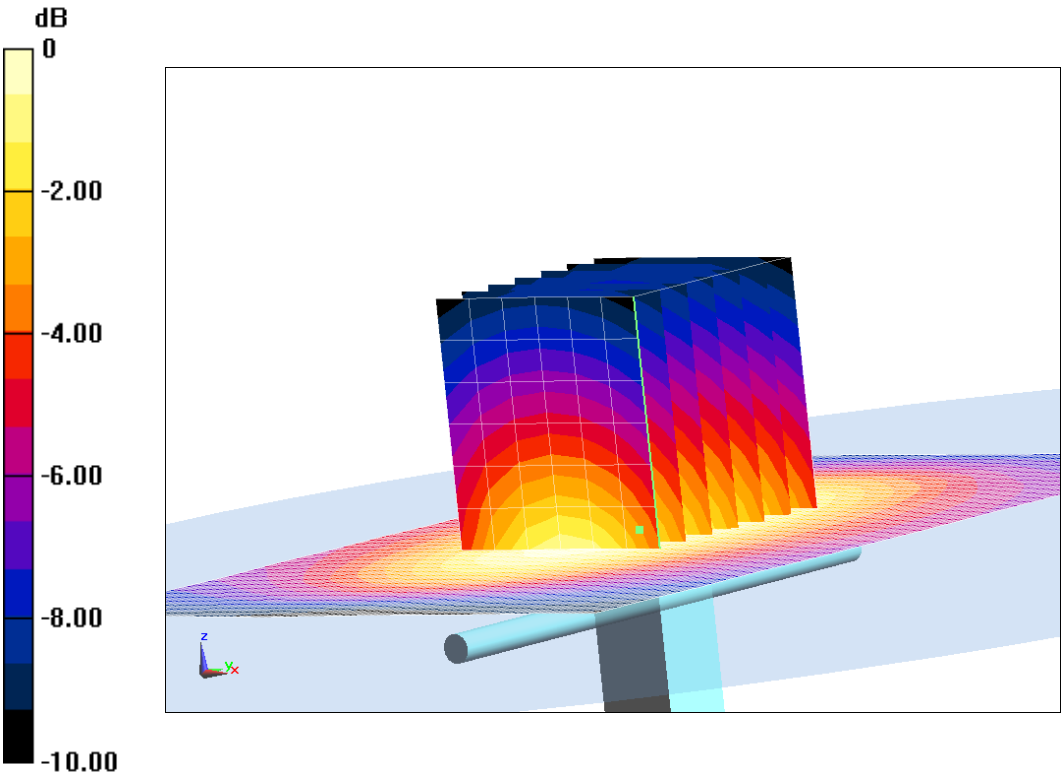
Fig.B.1 validation 835 MHz 250mW

835 MHz

Date: 7/19/2017
Electronics: DAE4 Sn1331
Medium: Body 835 MHz
Medium parameters used: f = 835 MHz; σ =0.965 mho/m; ε_r = 54.86; ρ = 1000 kg/m^3
Ambient Temperature: 22.8ºC Liquid Temperature: 22.4ºC
Communication System: CW Frequency: 835 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3846 ConvF(9.52,9.52,9.52)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 60.46 V/m; Power Drift = -0.09
Fast SAR: SAR(1 g) = 2.46 W/kg; SAR(10 g) = 1.61 W/kg
Maximum value of SAR (interpolated) = 3.37 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =60.46 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 3.64 W/kg
SAR(1 g) = 2.45 W/kg; SAR(10 g) = 1.57 W/kg
Maximum value of SAR (measured) = 3.34 W/kg



0 dB = 3.34 W/kg = 5.24 dB W/kg

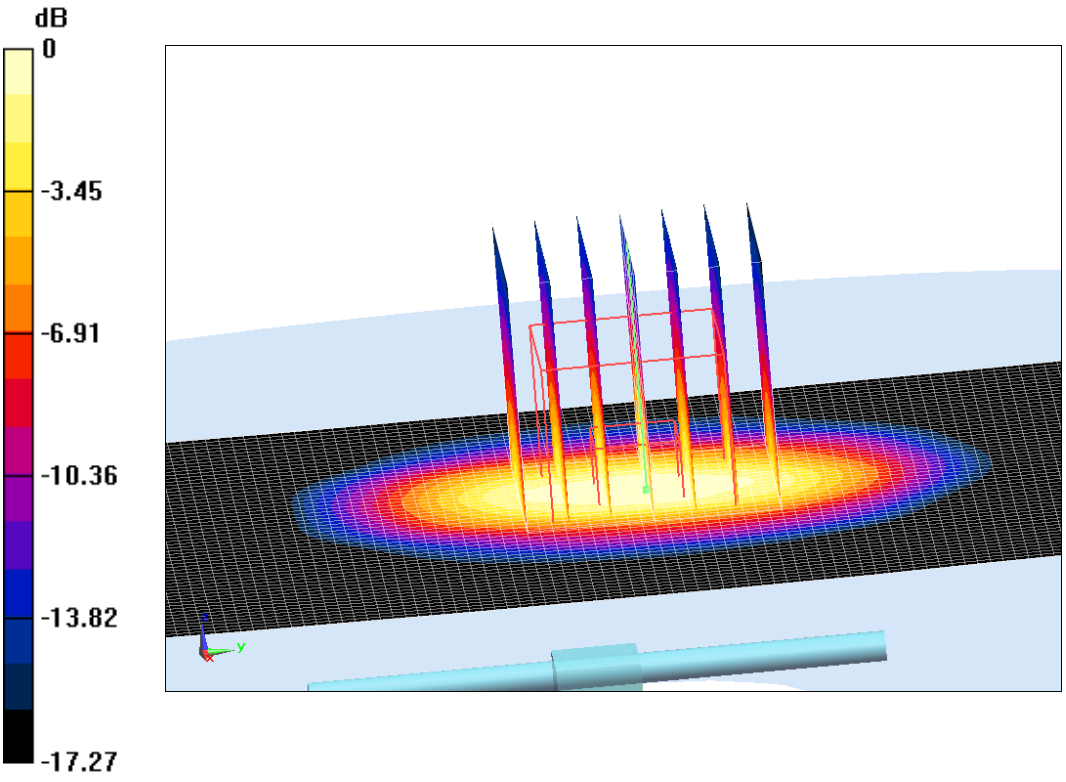
Fig.B.2 validation 835 MHz 250mW

1900 MHz

Date: 7/21/2017
Electronics: DAE4 Sn1331
Medium: Head 1900 MHz
Medium parameters used: f = 1900 MHz; σ =1.414 mho/m; ε_r = 40.65; ρ = 1000 kg/m^3
Ambient Temperature: 22.8ºC Liquid Temperature: 22.4ºC
Communication System: CW Frequency: 1900 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3846 ConvF(7.89,7.89,7.89)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 108.62 V/m; Power Drift = -0.04
Fast SAR: SAR(1 g) = 10.37 W/kg; SAR(10 g) = 5.32 W/kg
Maximum value of SAR (interpolated) = 15.27 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =108.62 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 18.63 W/kg
SAR(1 g) = 10.08 W/kg; SAR(10 g) = 5.36 W/kg
Maximum value of SAR (measured) = 15.54 W/kg



0 dB = 15.54 W/kg = 11.91 dB W/kg

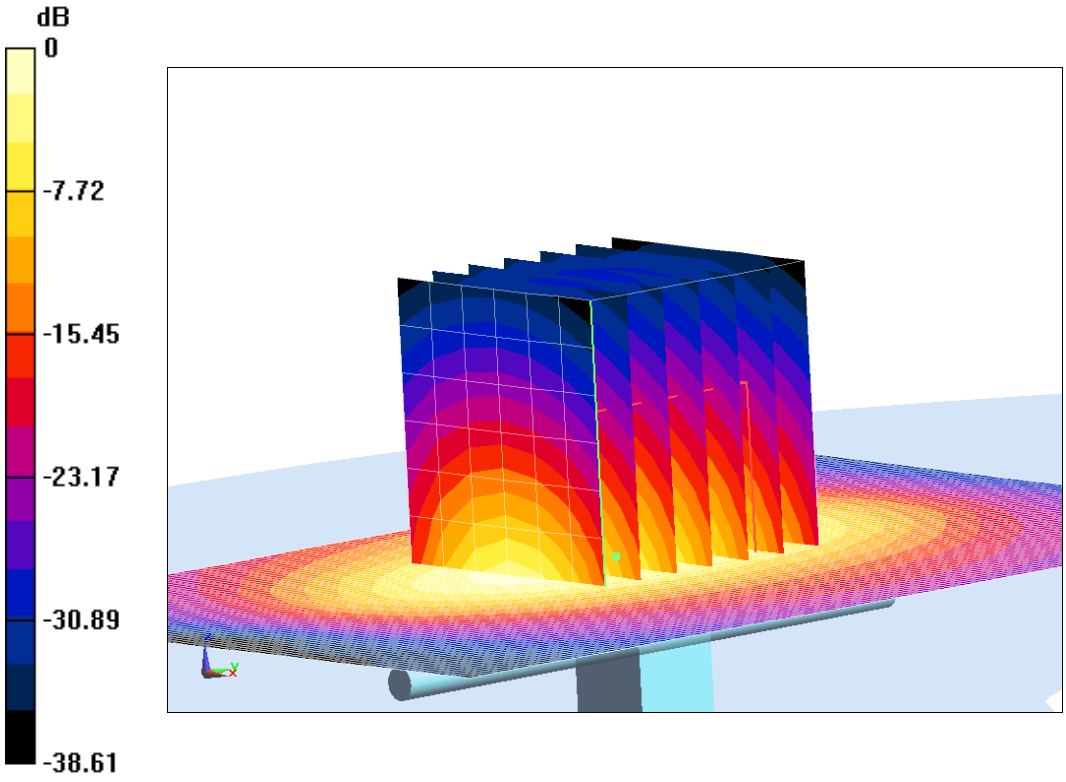
Fig.B.3 validation 1900 MHz 250mW

1900 MHz

Date: 7/21/2017
Electronics: DAE4 Sn1331
Medium: Body 1900 MHz
Medium parameters used: f = 1900 MHz; σ =1.517 mho/m; ε_r = 52.84; ρ = 1000 kg/m^3
Ambient Temperature: 22.8ºC Liquid Temperature: 22.4ºC
Communication System: CW Frequency: 1900 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3846 ConvF(7.57,7.57,7.57)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 105.83 V/m; Power Drift = -0.03
Fast SAR: SAR(1 g) = 10.13 W/kg; SAR(10 g) = 5.35 W/kg
Maximum value of SAR (interpolated) = 14.39 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =105.83 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 17.46 W/kg
SAR(1 g) = 10.03 W/kg; SAR(10 g) = 5.4 W/kg
Maximum value of SAR (measured) = 15.03 W/kg



0 dB = 15.03 W/kg = 11.77 dB W/kg

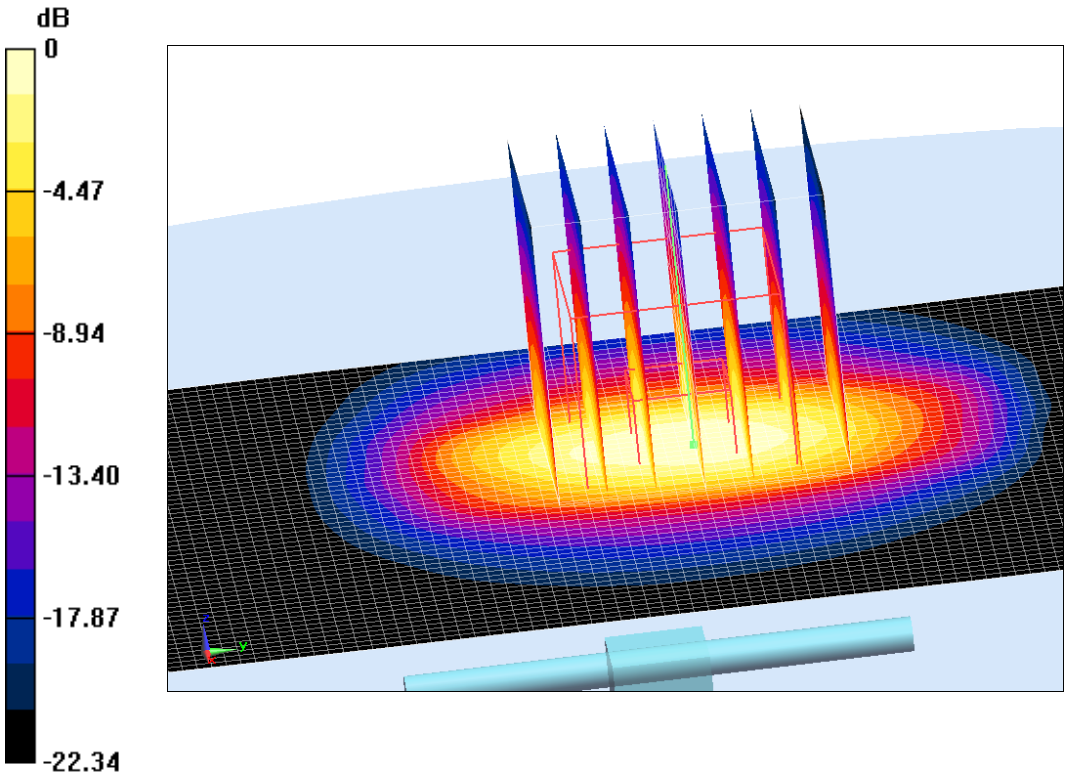
Fig.B.4 validation 1900 MHz 250mW

2450 MHz

Date: 7/22/2017
Electronics: DAE4 Sn1331
Medium: Head 2450 MHz
Medium parameters used: f = 2450 MHz; σ =1.796 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Ambient Temperature: 22.8ºC Liquid Temperature: 22.4ºC
Communication System: CW Frequency: 2450 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3846 ConvF(7.22,7.22,7.22)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 117.05 V/m; Power Drift = 0.02
Fast SAR: SAR(1 g) = 13.03 W/kg; SAR(10 g) = 6.03 W/kg
Maximum value of SAR (interpolated) = 22.17 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =117.05 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 27.63 W/kg
SAR(1 g) = 13.16 W/kg; SAR(10 g) = 6.16 W/kg
Maximum value of SAR (measured) = 21.79 W/kg



0 dB = 21.79 W/kg = 13.38 dB W/kg

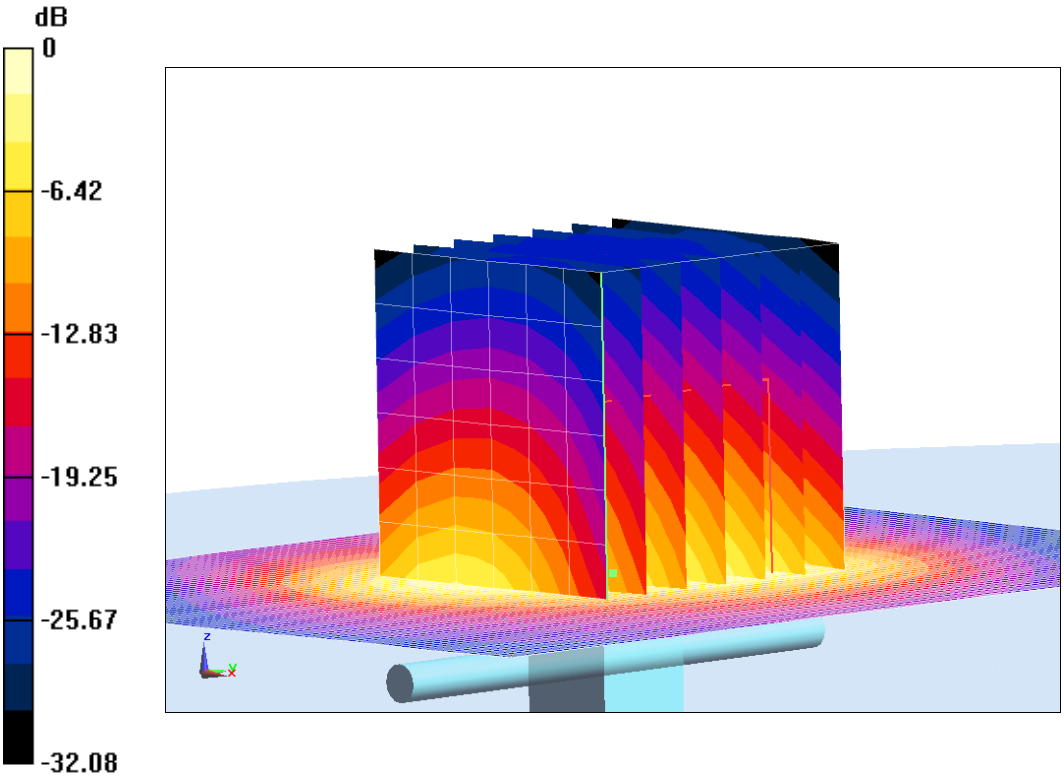
Fig.B.5 validation 2450 MHz 250mW

2450 MHz

Date: 7/22/2017
Electronics: DAE4 Sn1331
Medium: Body 2450 MHz
Medium parameters used: f = 2450 MHz; σ =1.966 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3
Ambient Temperature: 22.8ºC Liquid Temperature: 22.4ºC
Communication System: CW Frequency: 2450 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3846 ConvF(7.31,7.31,7.31)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 109.48 V/m; Power Drift = 0.01
Fast SAR: SAR(1 g) = 12.69 W/kg; SAR(10 g) = 5.94 W/kg
Maximum value of SAR (interpolated) = 21.54 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =109.48 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 25.87 W/kg
SAR(1 g) = 12.82 W/kg; SAR(10 g) = 6.09 W/kg
Maximum value of SAR (measured) = 21.52 W/kg



0 dB = 21.52 W/kg = 13.33 dB W/kg

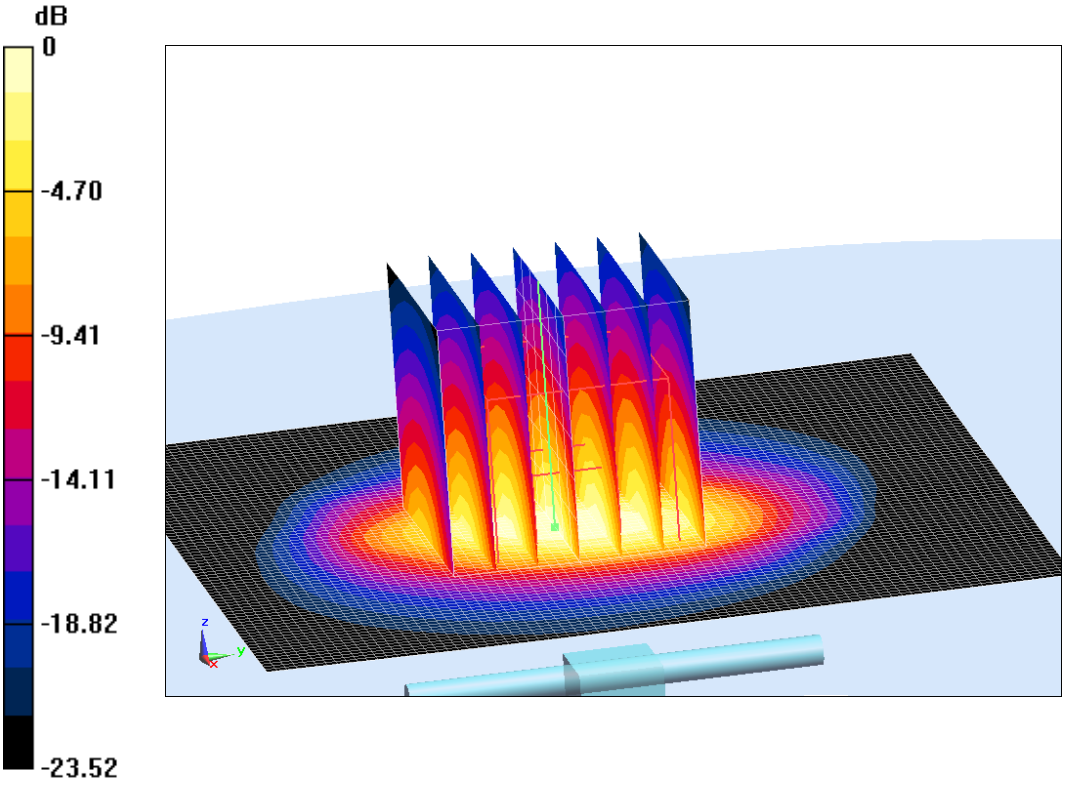
Fig.B.6 validation 2450 MHz 250mW

2600 MHz

Date: 7/23/2017
Electronics: DAE4 Sn1331
Medium: Head 2600 MHz
Medium parameters used: f = 2600 MHz; σ =1.968 mho/m; ε_r = 39.16; ρ = 1000 kg/m^3
Ambient Temperature: 22.8ºC Liquid Temperature: 22.4ºC
Communication System: CW Frequency: 2600 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3846 ConvF(7.12,7.12,7.12)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 117.19 V/m; Power Drift = 0.02
Fast SAR: SAR(1 g) = 13.93 W/kg; SAR(10 g) = 6.37 W/kg
Maximum value of SAR (interpolated) = 24.08 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =117.19 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 31.19 W/kg
SAR(1 g) = 14.09 W/kg; SAR(10 g) = 6.37 W/kg
Maximum value of SAR (measured) = 24.99 W/kg



0 dB = 24.99 W/kg = 13.98 dB W/kg

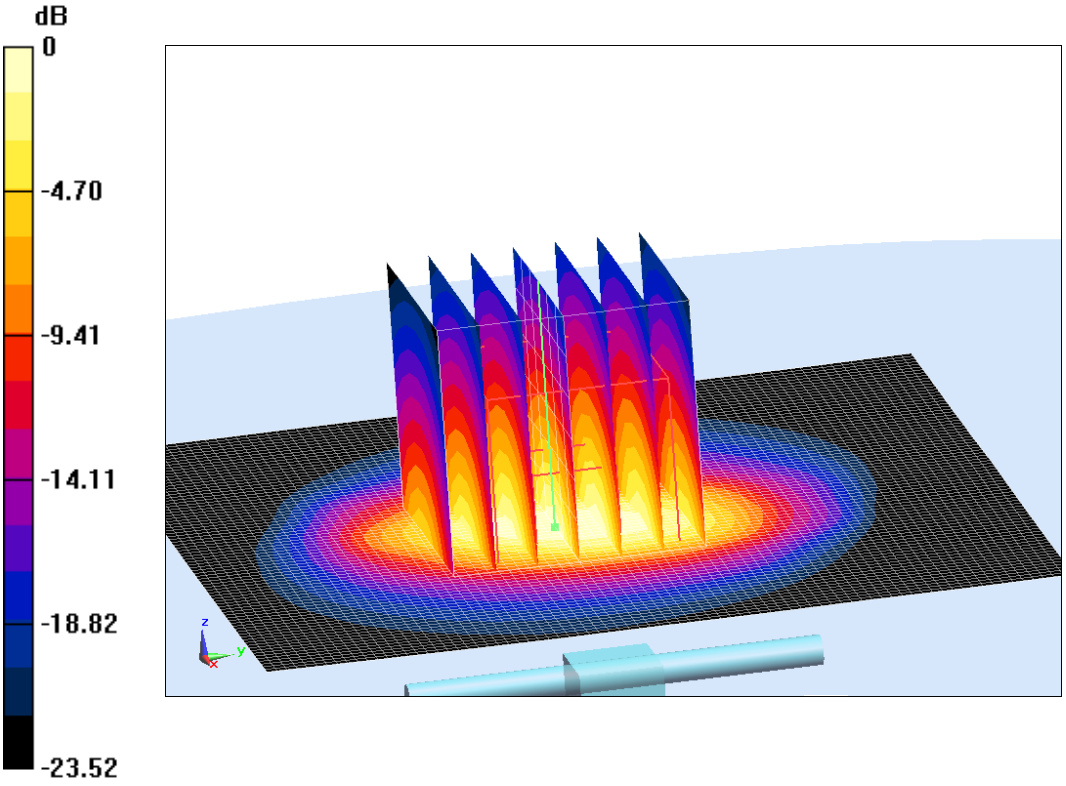
Fig.B.7 validation 2600 MHz 250mW

2600 MHz

Date: 7/23/2017
Electronics: DAE4 Sn1331
Medium: Body 2600 MHz
Medium parameters used: f = 2600 MHz; σ =2.162 mho/m; ε_r = 52.14; ρ = 1000 kg/m^3
Ambient Temperature: 22.8ºC Liquid Temperature: 22.4ºC
Communication System: CW Frequency: 2600 MHz Duty Cycle: 1:1
Probe: EX3DV4 – SN3846 ConvF(7.25,7.25,7.25)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Reference Value = 109.98 V/m; Power Drift = -0.01
Fast SAR: SAR(1 g) = 13.68 W/kg; SAR(10 g) = 6.31 W/kg
Maximum value of SAR (interpolated) = 23.46 W/kg

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =109.98 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 28.51 W/kg
SAR(1 g) = 13.93 W/kg; SAR(10 g) = 6.08 W/kg
Maximum value of SAR (measured) = 23.48 W/kg



0 dB = 23.48 W/kg = 13.71 dB W/kg

Fig.B.8 validation 2600 MHz 250mW

The SAR system verification must be required that the area scan estimated 1-g SAR is within 3% of the zoom scan 1-g SAR.

Table B.1 Comparison between area scan and zoom scan for system verification

Date	Band	Position	Area scan (1g)	Zoom scan (1g)	Drift (%)
2017-7-19	835	Head	2.4	2.35	2.13
	835	Body	2.46	2.45	0.41
2017-7-21	1900	Head	10.37	10.08	2.88
	1900	Body	10.13	10.03	1.00
2017-7-22	2450	Head	13.03	13.16	-0.99
	2450	Body	12.69	12.82	-1.01
2017-7-23	2600	Head	13.93	14.09	-1.14
	2600	Body	13.68	13.93	-1.79