

LTE Band30 Right Cheek with QPSK_10M_1RB_High

Date: 2017-8-11

Electronics: DAE4 Sn1331

Medium: Head 2300 MHz

Medium parameters used: $f = 2310$ MHz; $\sigma = 1.66$ mho/m; $\epsilon_r = 39.194$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band30 Frequency: 2310 MHz Duty Cycle: 1:1

Probe: EX3DV4– SN3846 ConvF(7.43, 7.43, 7.43)

Area Scan (81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.226 W/kg

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

Reference Value = 3.282 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.290 W/kg

SAR(1 g) = 0.165 W/kg; SAR(10 g) = 0.093 W/kg

Maximum value of SAR (measured) = 0.205 W/kg

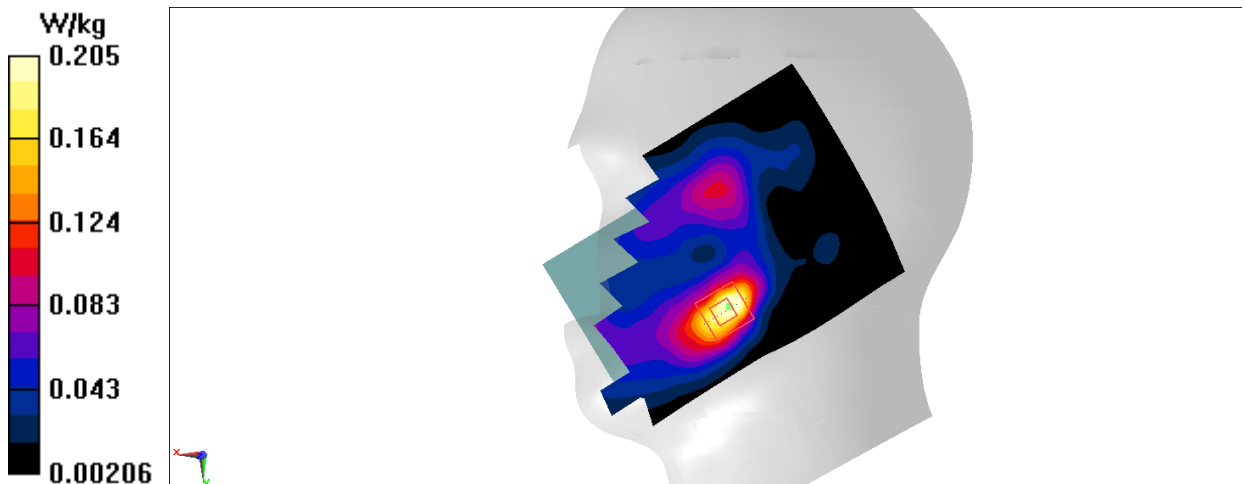


Fig.23 LTE Band30

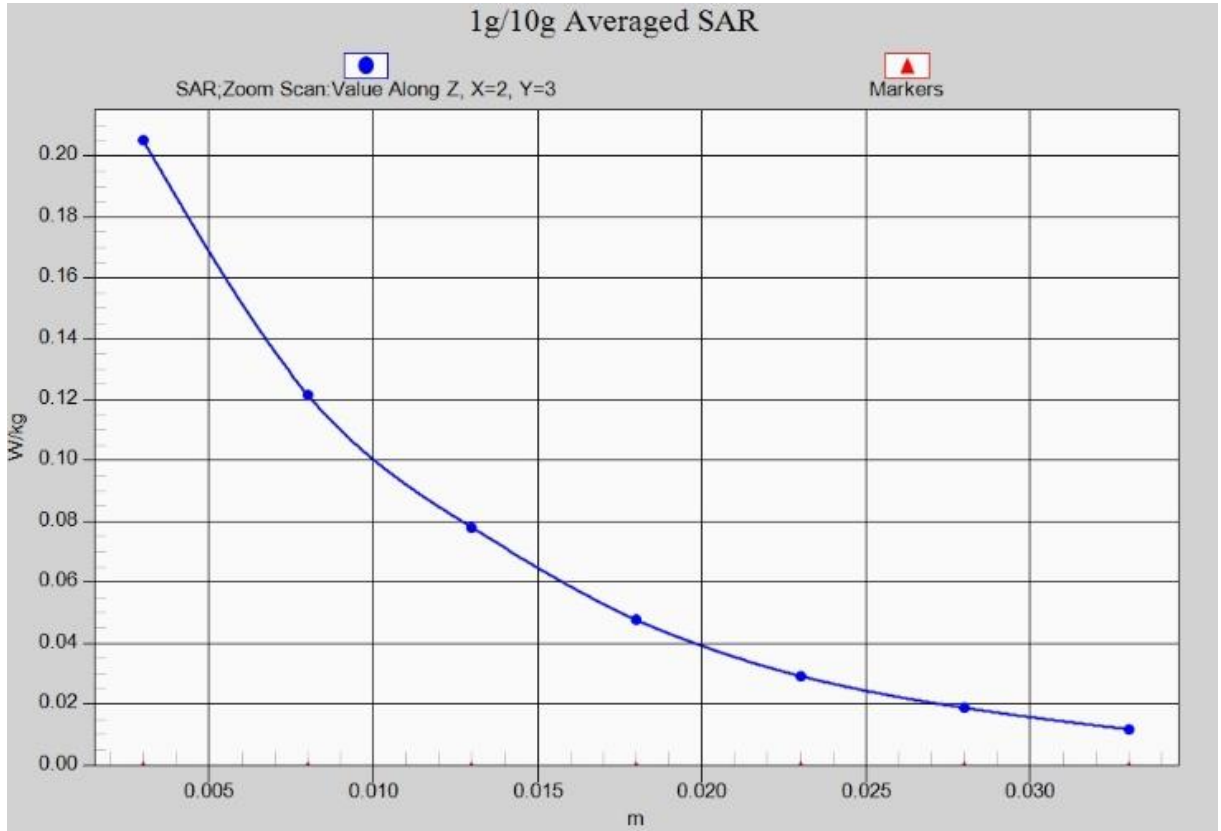


Fig. 23-1 Z-Scan at power reference point (LTE Band30)

LTE Band30 Body Bottom with QPSK_10M_1RB_High

Date: 2017-8-11

Electronics: DAE4 Sn1331

Medium: Body 2300 MHz

Medium parameters used: $f = 2310$ MHz; $\sigma = 1.907$ mho/m; $\epsilon_r = 52.925$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band30 Frequency: 2310 MHz Duty Cycle: 1:1

Probe: EX3DV4– SN3846 ConvF(7.55, 7.55, 7.55)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.03 W/kg

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

Reference Value = 17.97 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.44 W/kg

SAR(1 g) = 0.796 W/kg; SAR(10 g) = 0.446 W/kg

Maximum value of SAR (measured) = 0.870 W/kg

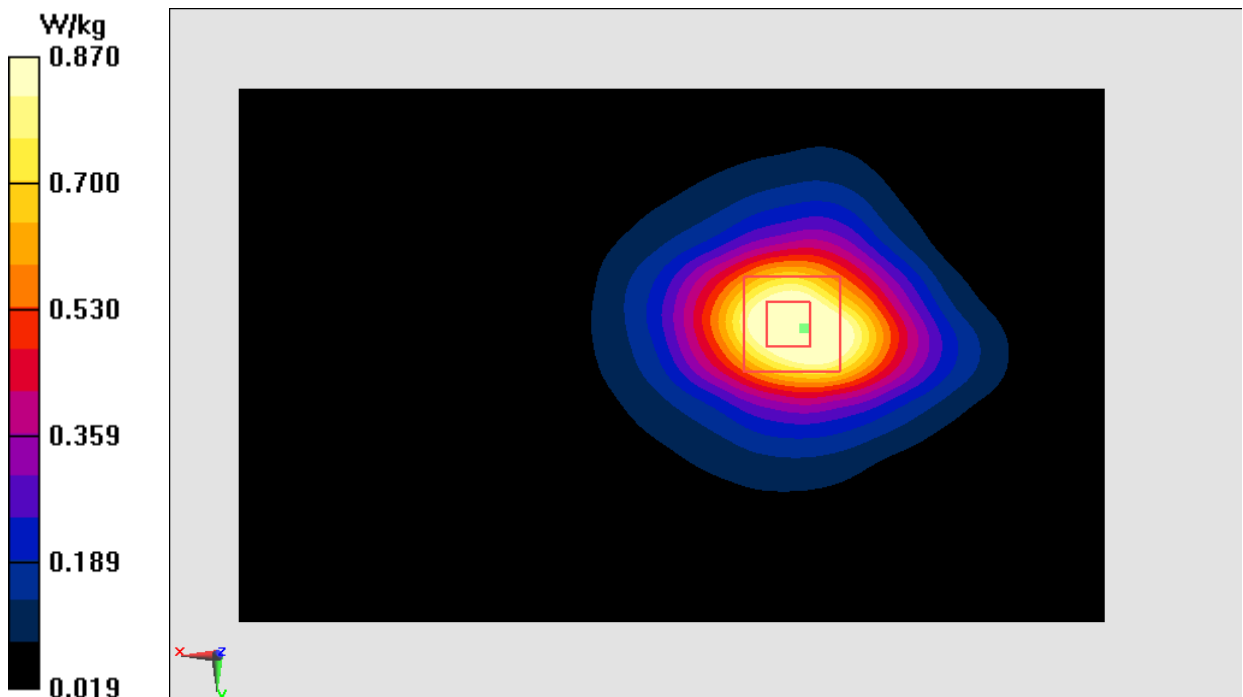


Fig.24 LTE Band30

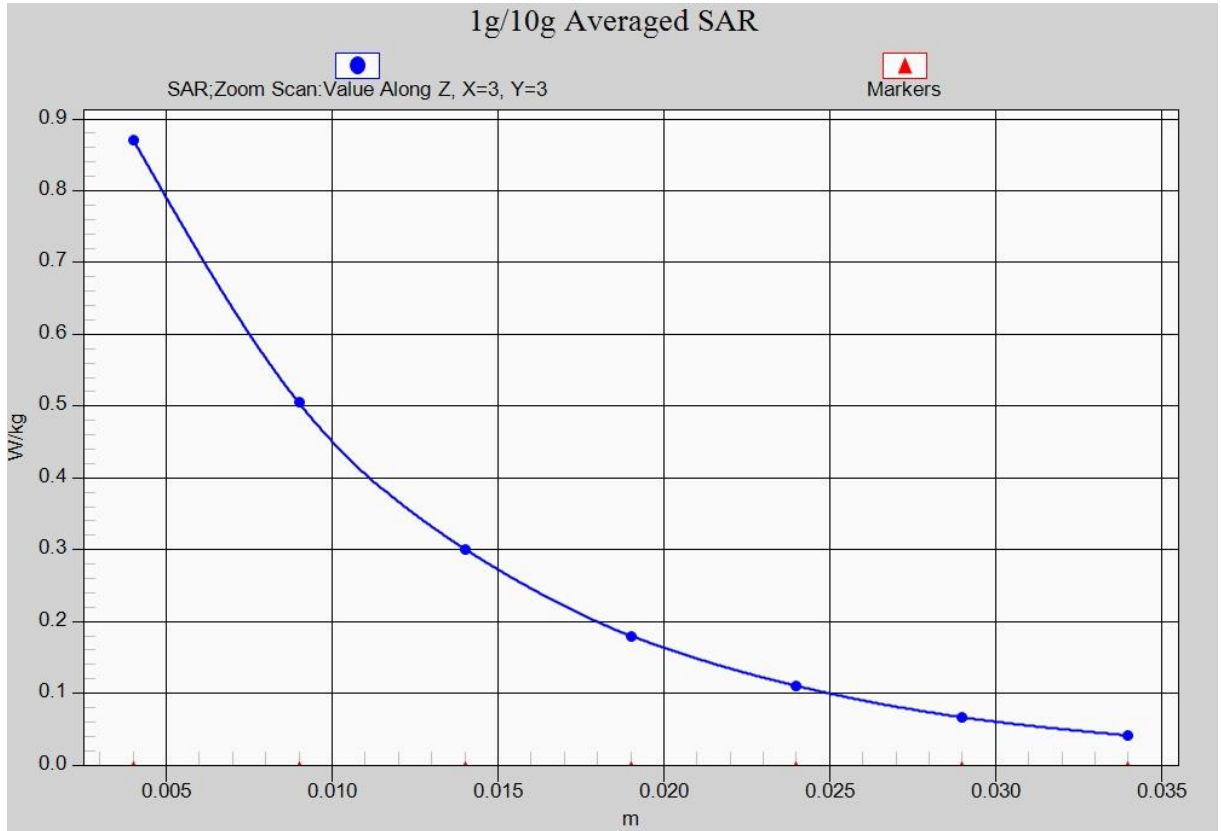


Fig. 24-1 Z-Scan at power reference point (LTE Band30)

LTE Band38 Right Cheek High with QPSK_20M_1RB_Middle

Date: 2017-8-12

Electronics: DAE4 Sn1331

Medium: Head 2600 MHz

Medium parameters used: $f = 2610$ MHz; $\sigma = 1.962$ mho/m; $\epsilon_r = 38.41$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band38 Frequency: 2610 MHz Duty Cycle: 1:1.58

Probe: EX3DV4– SN3846 ConvF(7.12, 7.12, 7.12)

Area Scan (81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.113 W/kg

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

Reference Value = 1.404 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.155 W/kg

SAR(1 g) = 0.083 W/kg; SAR(10 g) = 0.044 W/kg

Maximum value of SAR (measured) = 0.105 W/kg

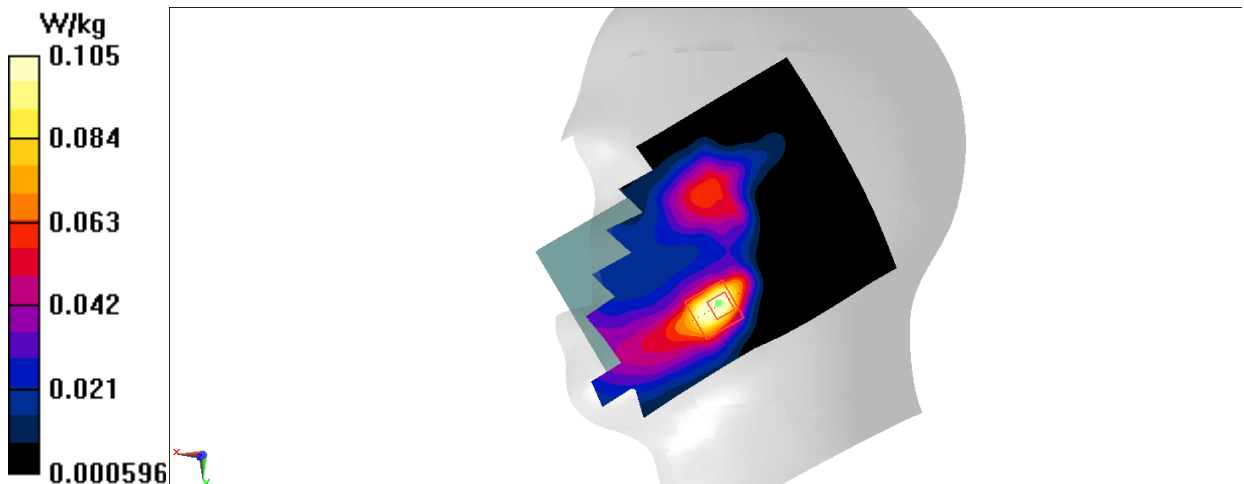


Fig.25 LTE Band38

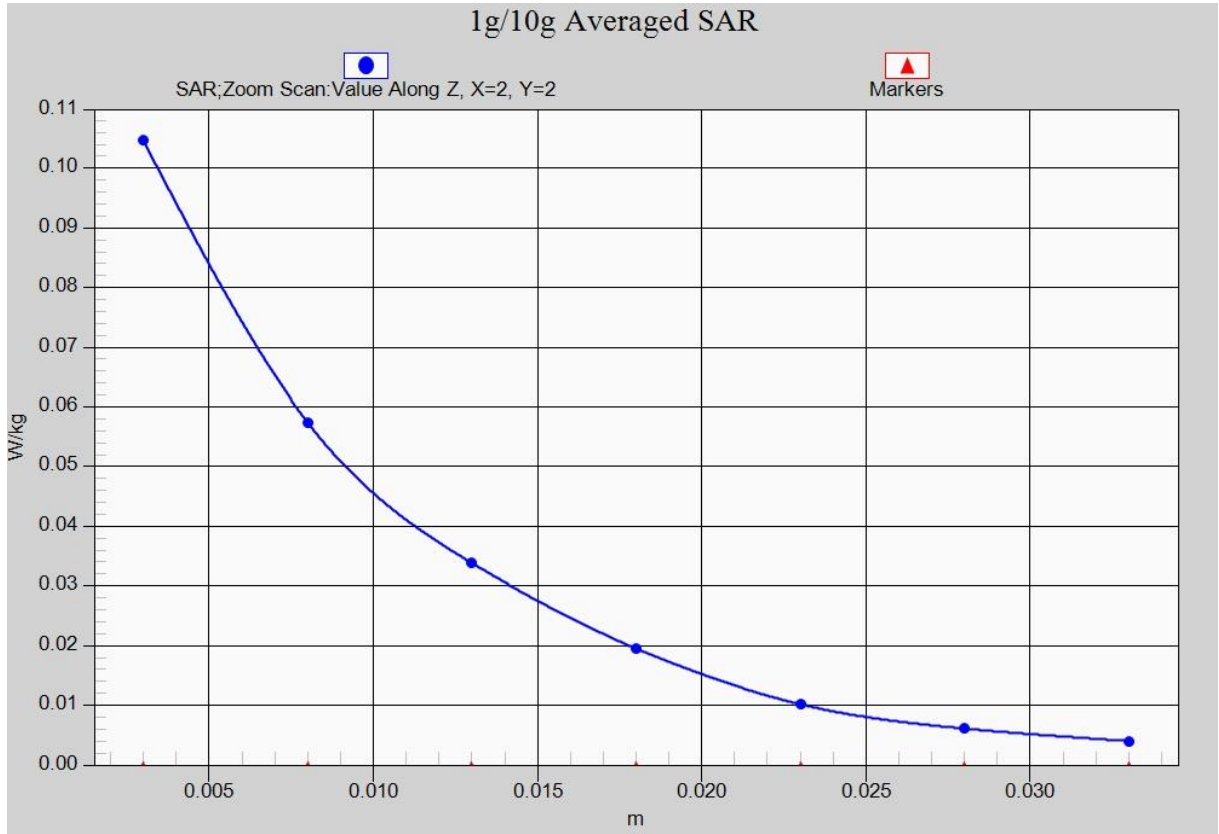


Fig. 25-1 Z-Scan at power reference point (LTE Band38)

LTE Band38 Body Bottom High with QPSK_20M_1RB_Middle

Date: 2017-8-12

Electronics: DAE4 Sn1331

Medium: Body 2600 MHz

Medium parameters used: $f = 2610$ MHz; $\sigma = 2.161$ mho/m; $\epsilon_r = 51.663$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band38 Frequency: 2610 MHz Duty Cycle: 1:1.58

Probe: EX3DV4– SN3846 ConvF(7.25, 7.25, 7.25)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.862 W/kg

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

Reference Value = 18.46 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.24 W/kg

SAR(1 g) = 0.672 W/kg; SAR(10 g) = 0.345 W/kg

Maximum value of SAR (measured) = 0.760 W/kg

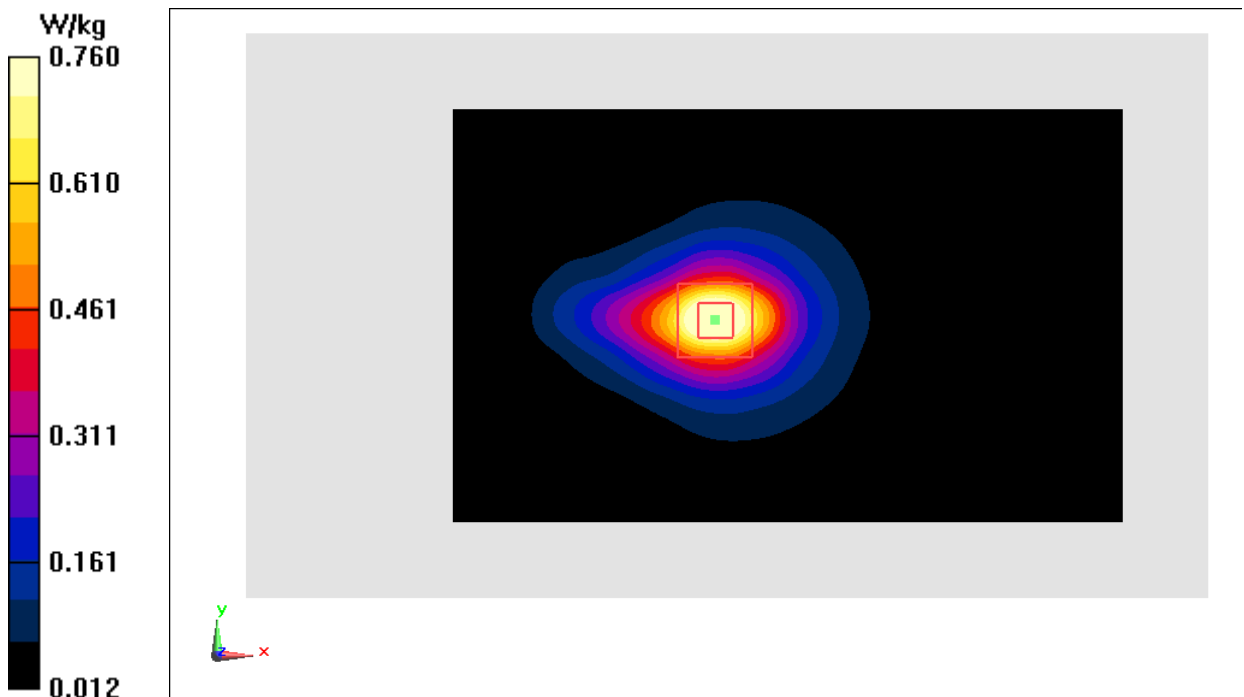


Fig.26 LTE Band38

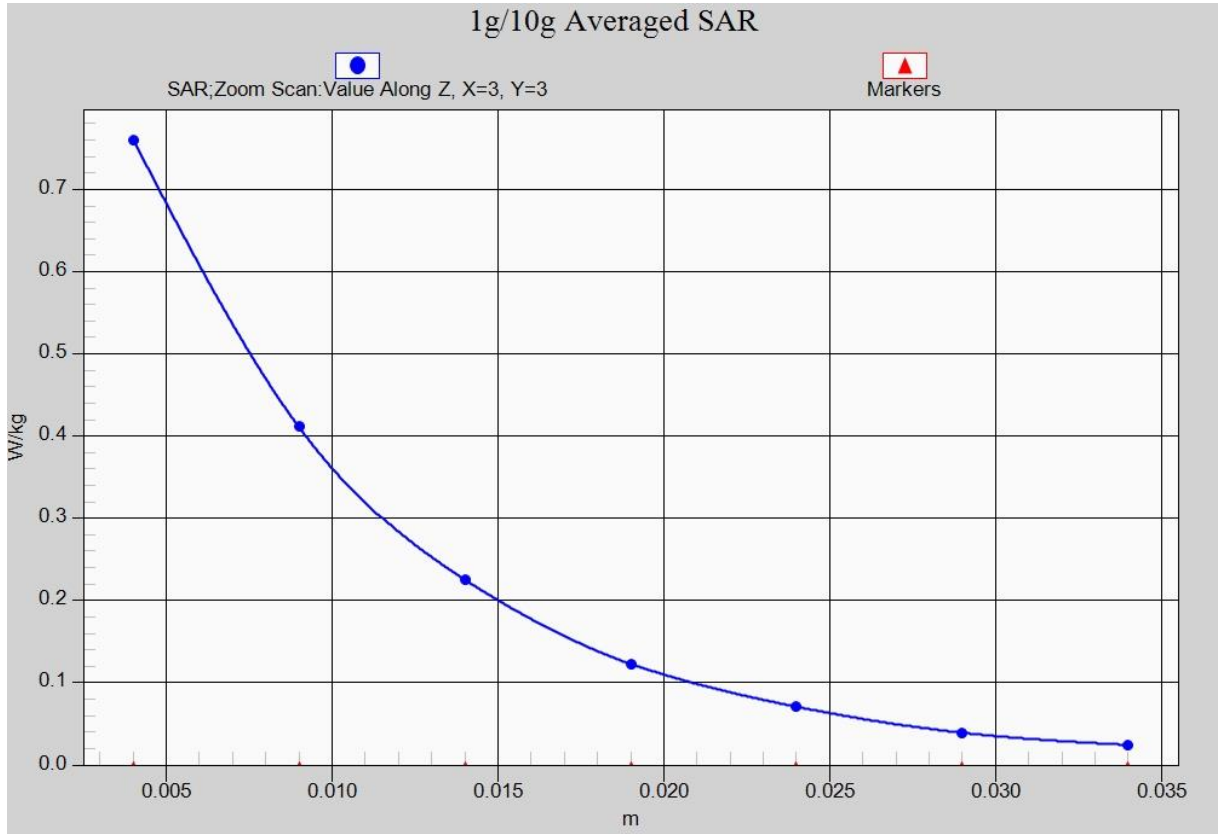


Fig. 26-1 Z-Scan at power reference point (LTE Band38)

LTE Band40 Right Cheek Low with QPSK_20M_1RB_High

Date: 2017-8-11

Electronics: DAE4 Sn1331

Medium: Head 2300 MHz

Medium parameters used: $f = 2310$ MHz; $\sigma = 1.658$ mho/m; $\epsilon_r = 39.176$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band40 Frequency: 2310 MHz Duty Cycle: 1:1.58

Probe: EX3DV4– SN3846 ConvF(7.43, 7.43, 7.43)

Area Scan (81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0679 W/kg

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

Reference Value = 0 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.0810 W/kg

SAR(1 g) = 0.049 W/kg; SAR(10 g) = 0.026 W/kg

Maximum value of SAR (measured) = 0.0597 W/kg

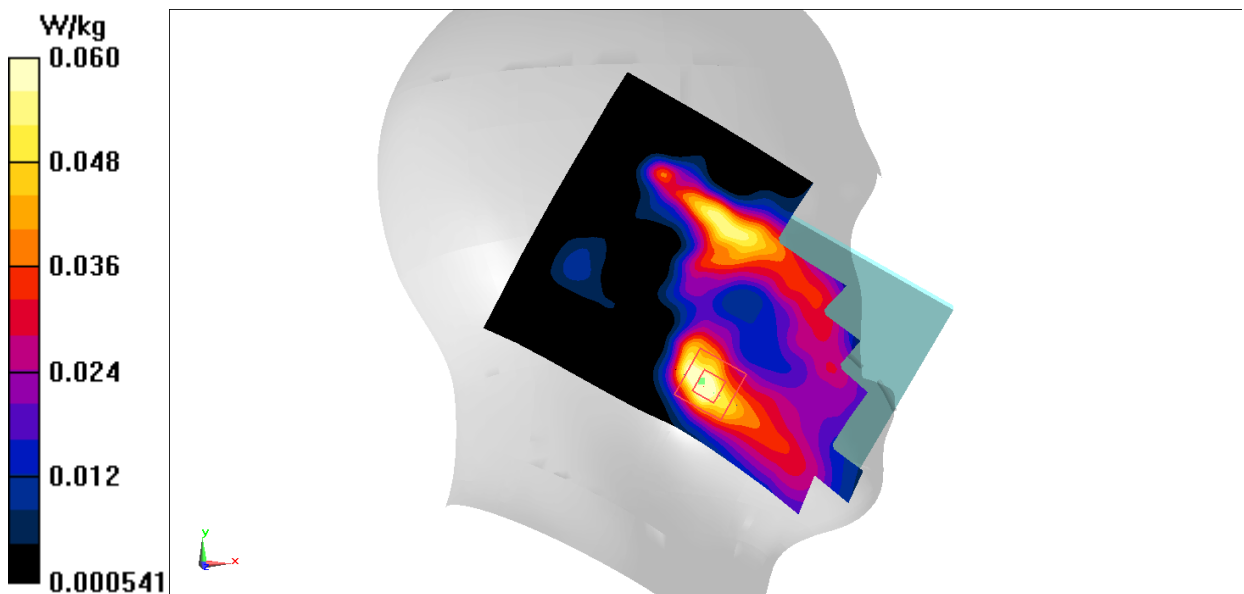


Fig.27 LTE Band40

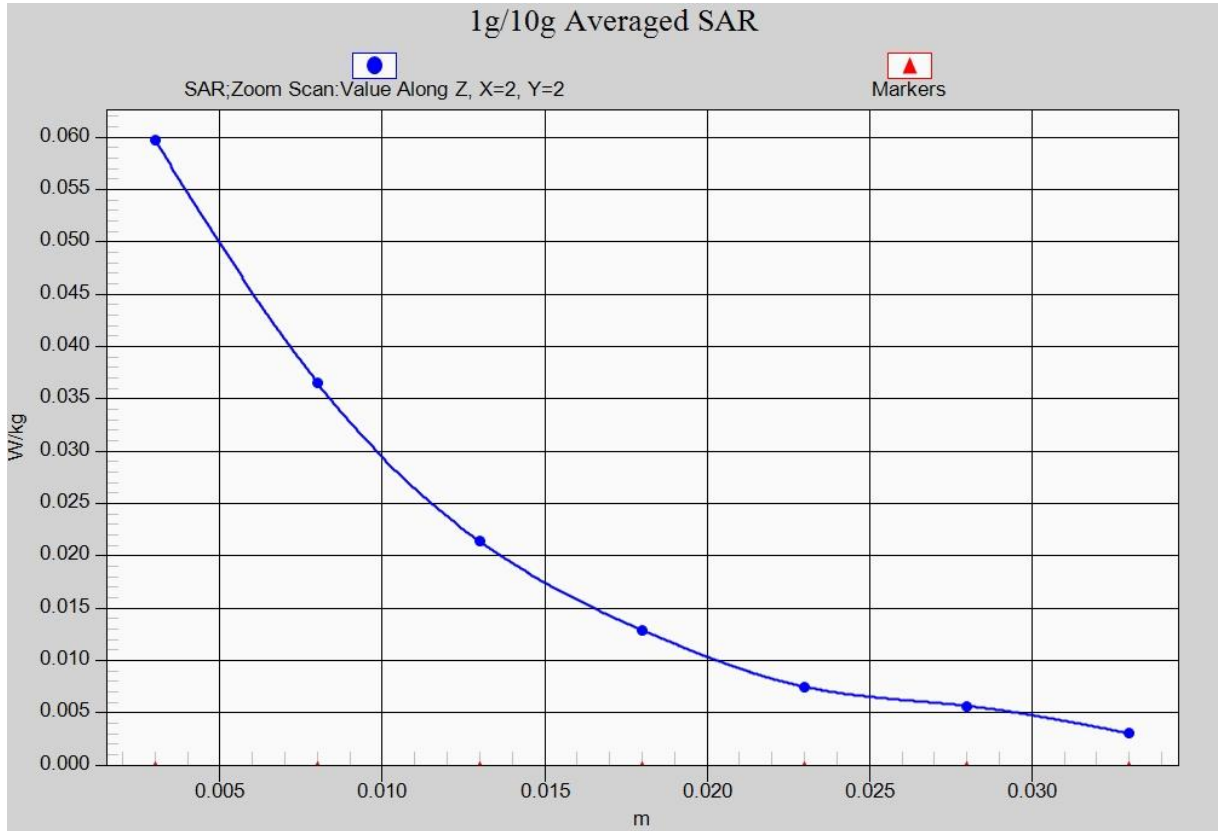


Fig. 27-1 Z-Scan at power reference point (LTE Band40)

LTE Band40 Body Bottom Low with QPSK_20M_1RB_High

Date: 2017-8-11

Electronics: DAE4 Sn1331

Medium: Body 2300 MHz

Medium parameters used: $f = 2310$ MHz; $\sigma = 1.914$ mho/m; $\epsilon_r = 52.838$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band40 Frequency: 2310 MHz Duty Cycle: 1:1.58

Probe: EX3DV4– SN3846 ConvF(7.55, 7.55, 7.55)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.505 W/kg

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

Reference Value = 18.67 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.689 W/kg

SAR(1 g) = 0.389 W/kg; SAR(10 g) = 0.213 W/kg

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

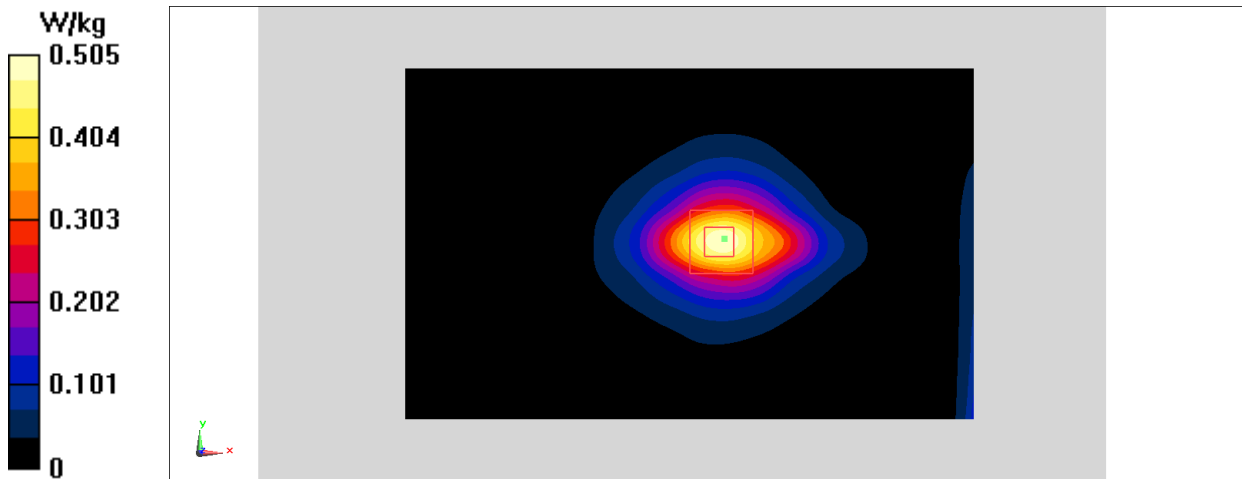


Fig.28 LTE Band40

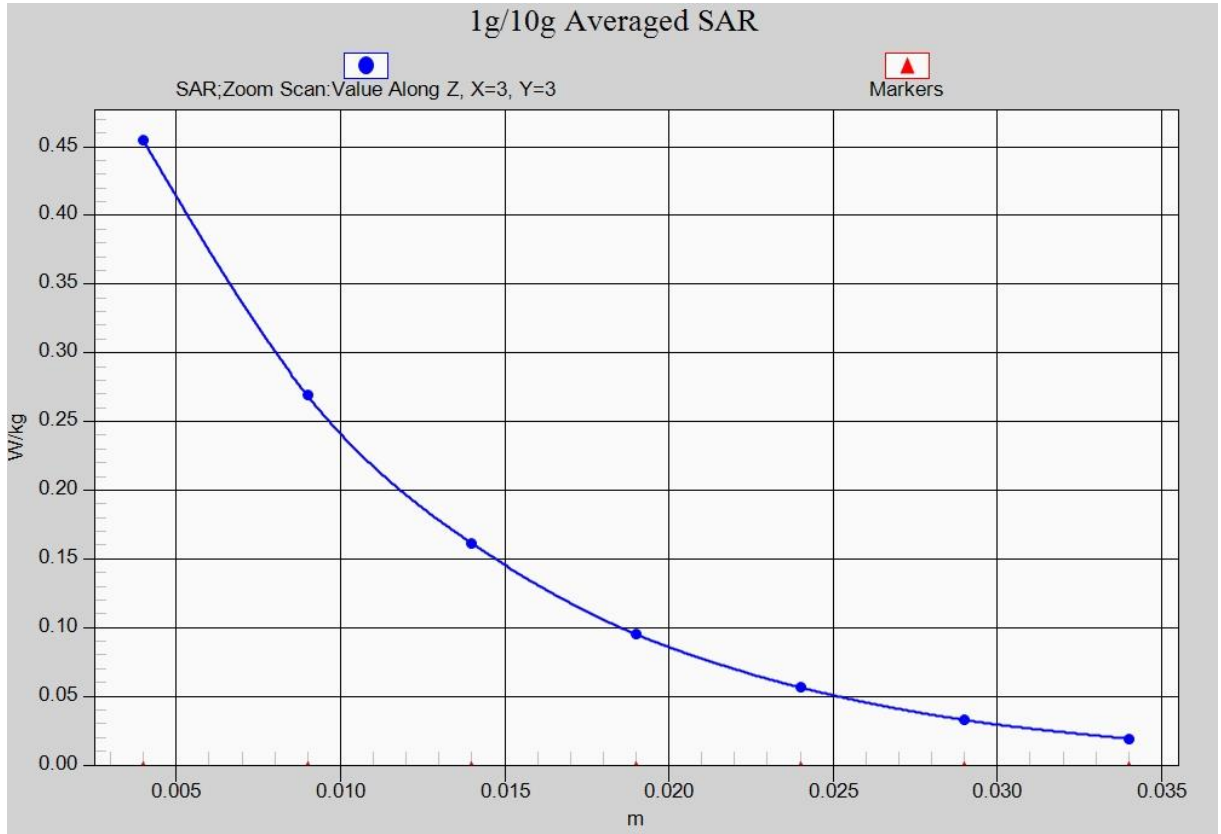


Fig. 28-1 Z-Scan at power reference point (LTE Band40)

LTE Band 41 Right Cheek High with QPSK_20M_1RB_High

Date: 2017-8-12

Electronics: DAE4 Sn1331

Medium: Head 2600 MHz

Medium parameters used: $f = 2680$ MHz; $\sigma = 2.029$ mho/m; $\epsilon_r = 38.28$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band41 Frequency: 2680 MHz Duty Cycle: 1:1.58

Probe: EX3DV4 - SN3846 ConvF(7.12, 7.12, 7.12)

Area Scan (81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.102 W/kg

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

Reference Value = 1.457 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.153 W/kg

SAR(1 g) = 0.080 W/kg; SAR(10 g) = 0.041 W/kg

Maximum value of SAR (measured) = 0.0985 W/kg

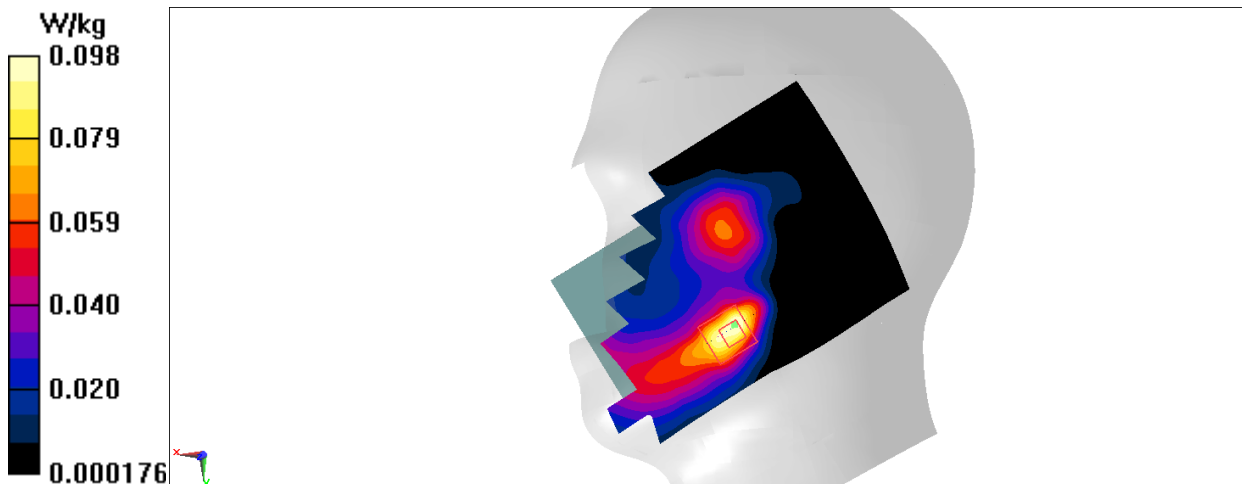


Fig.29 LTE Band 41

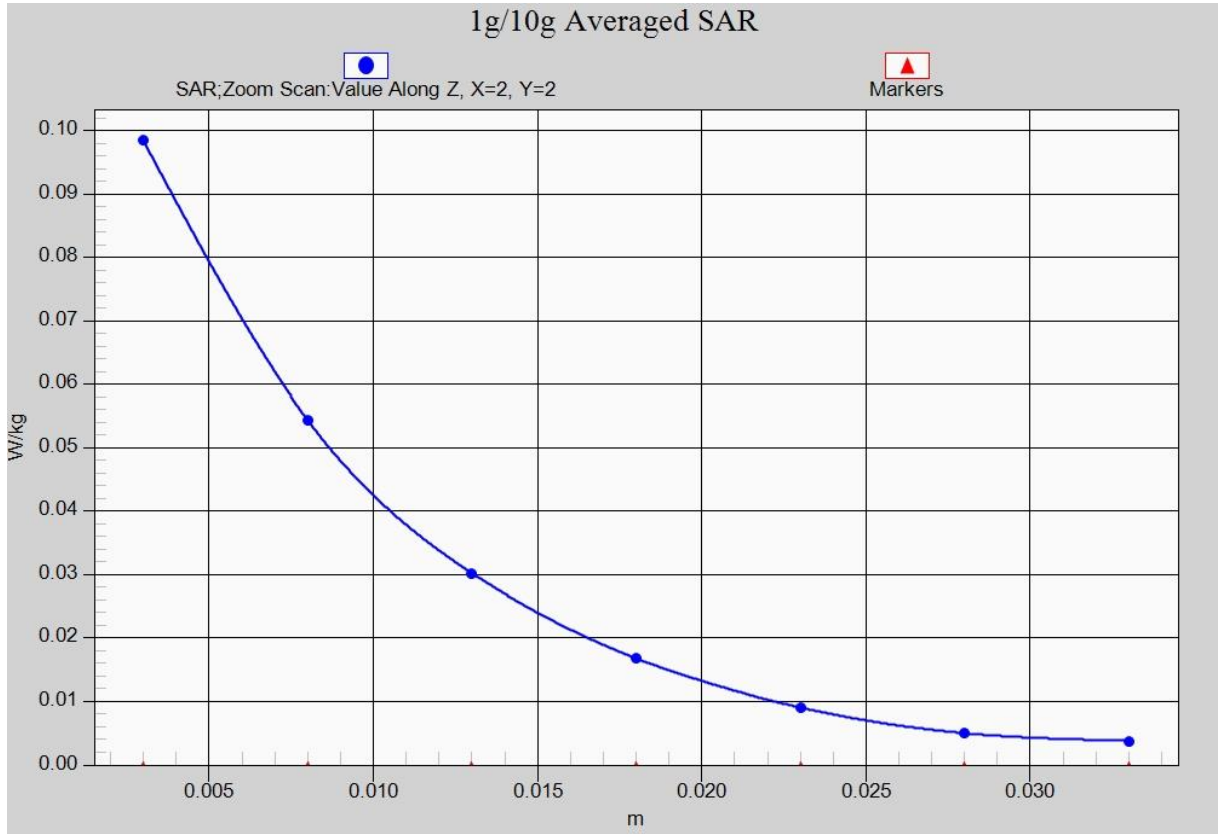


Fig. 29-1 Z-Scan at power reference point (LTE Band 41)

LTE Band 41 Body Bottom Low with QPSK_20M_1RB_High

Date: 2017-8-12

Electronics: DAE4 Sn1331

Medium: Body 2600 MHz

Medium parameters use (interpolated): $f = 2506$ MHz; $\sigma = 2.013$ mho/m; $\epsilon_r = 52.139$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band41 Frequency: 2506 MHz Duty Cycle: 1:1.58

Probe: EX3DV4 - SN3846 ConvF(7.25, 7.25, 7.25)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.08 W/kg

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

Reference Value = 17.74 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 1.55 W/kg

SAR(1 g) = 0.853 W/kg; SAR(10 g) = 0.443 W/kg

Maximum value of SAR (measured) = 0.957 W/kg

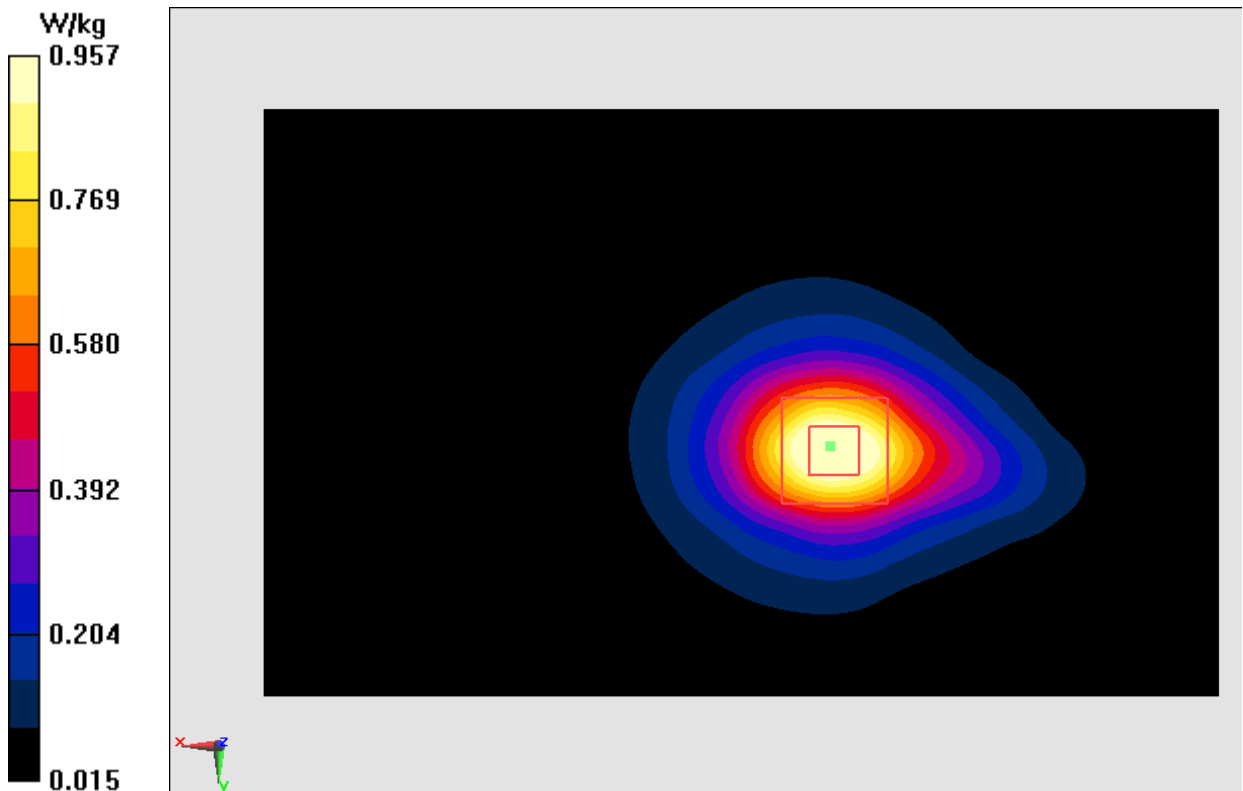


Fig.30 LTE Band 41

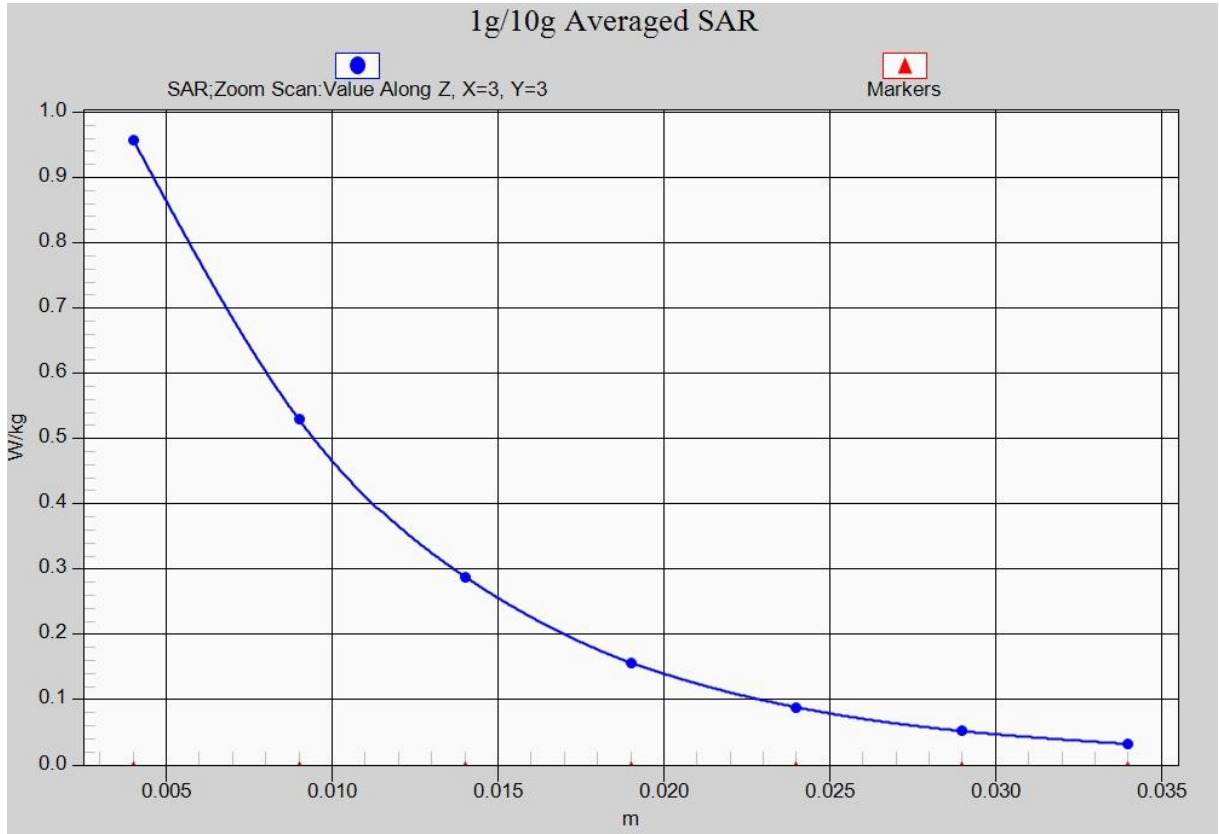


Fig. 30-1 Z-Scan at power reference point (LTE Band 41)

LTE Band66 Left Cheek Low with QPSK_20M_1RB_Low

Date: 2017-8-13

Electronics: DAE4 Sn1331

Medium: Head 1750 MHz

Medium parameters used $f = 1720$ MHz; $\sigma = 1.398$ mho/m; $\epsilon_r = 40.485$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band66 Frequency: 1720 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) = 0.343 W/kg

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

Reference Value = 5.433 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.402 W/kg

SAR(1 g) = 0.287 W/kg; SAR(10 g) = 0.194 W/kg

Maximum value of SAR (measured) = 0.330 W/kg

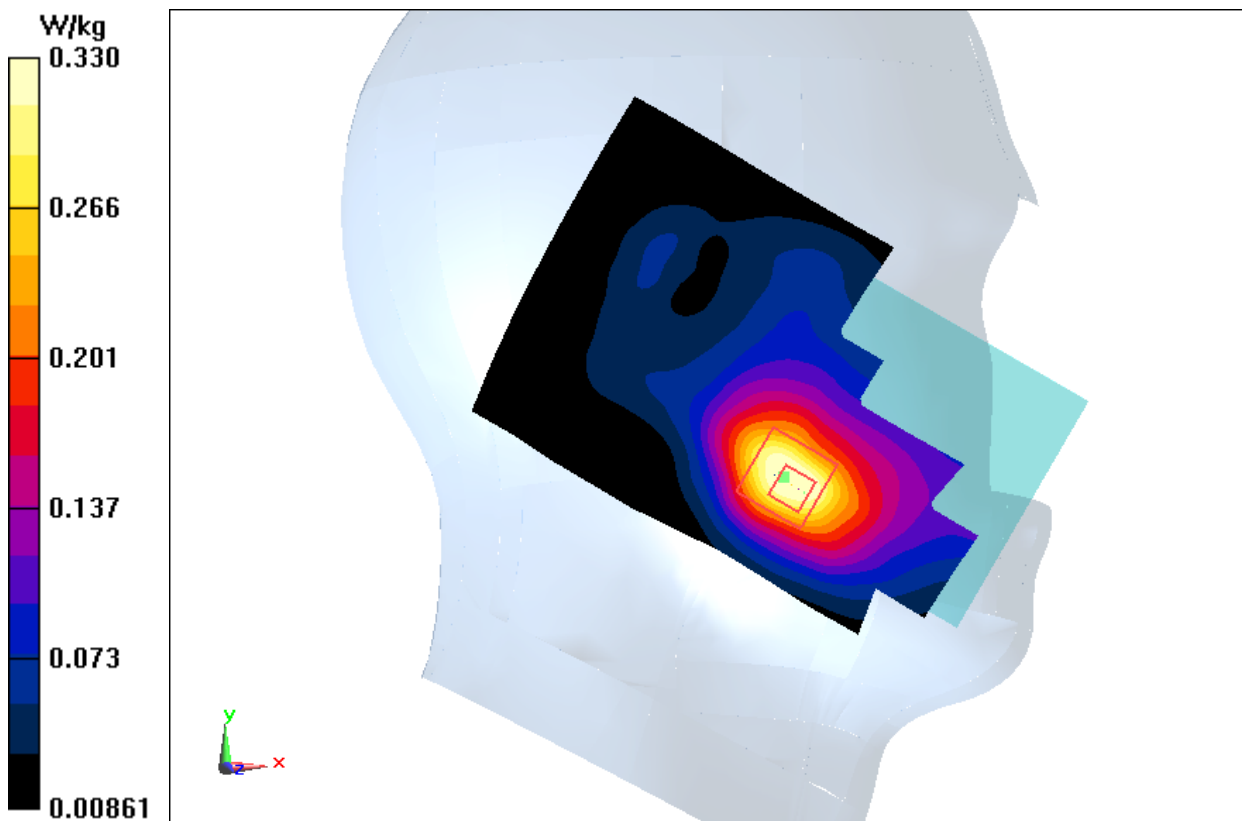


Fig.31 LTE Band66

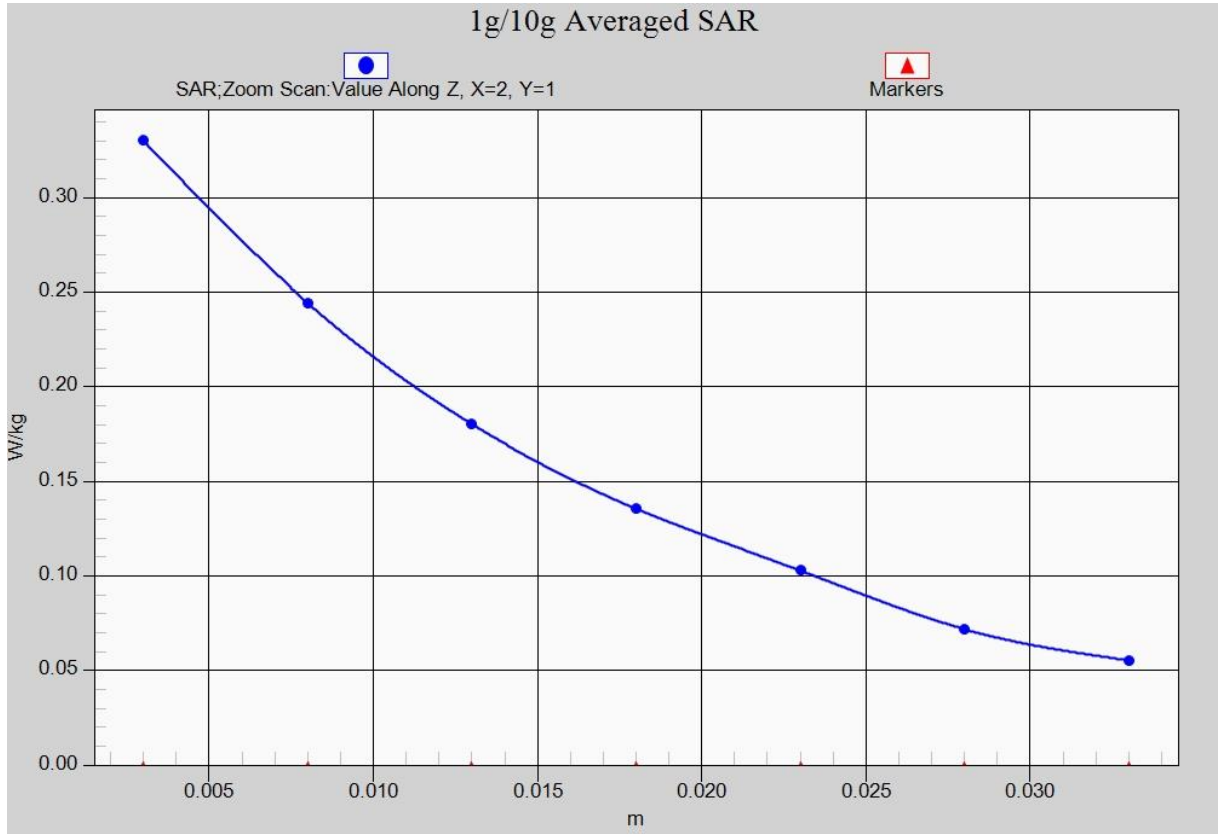


Fig. 31-1 Z-Scan at power reference point (LTE Band66)

LTE Band66 Body Front High with QPSK_20M_1RB_Low – 10mm

Date: 2017-8-13

Electronics: DAE4 Sn1331

Medium: Body 1750 MHz

Medium parameters used: $f = 1770$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 53.544$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band66 Frequency: 1770 MHz Duty Cycle: 1:1

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

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.17 W/kg

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

Reference Value = 8.668 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 1.47 W/kg

SAR(1 g) = 0.921 W/kg; SAR(10 g) = 0.543 W/kg

Maximum value of SAR (measured) = 1.00 W/kg

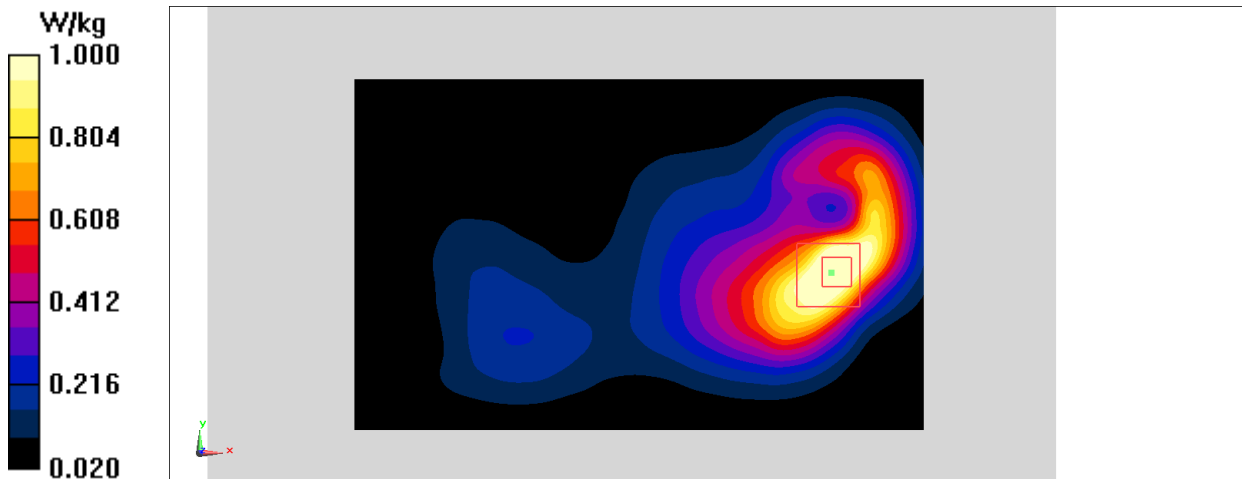


Fig.32 LTE Band66

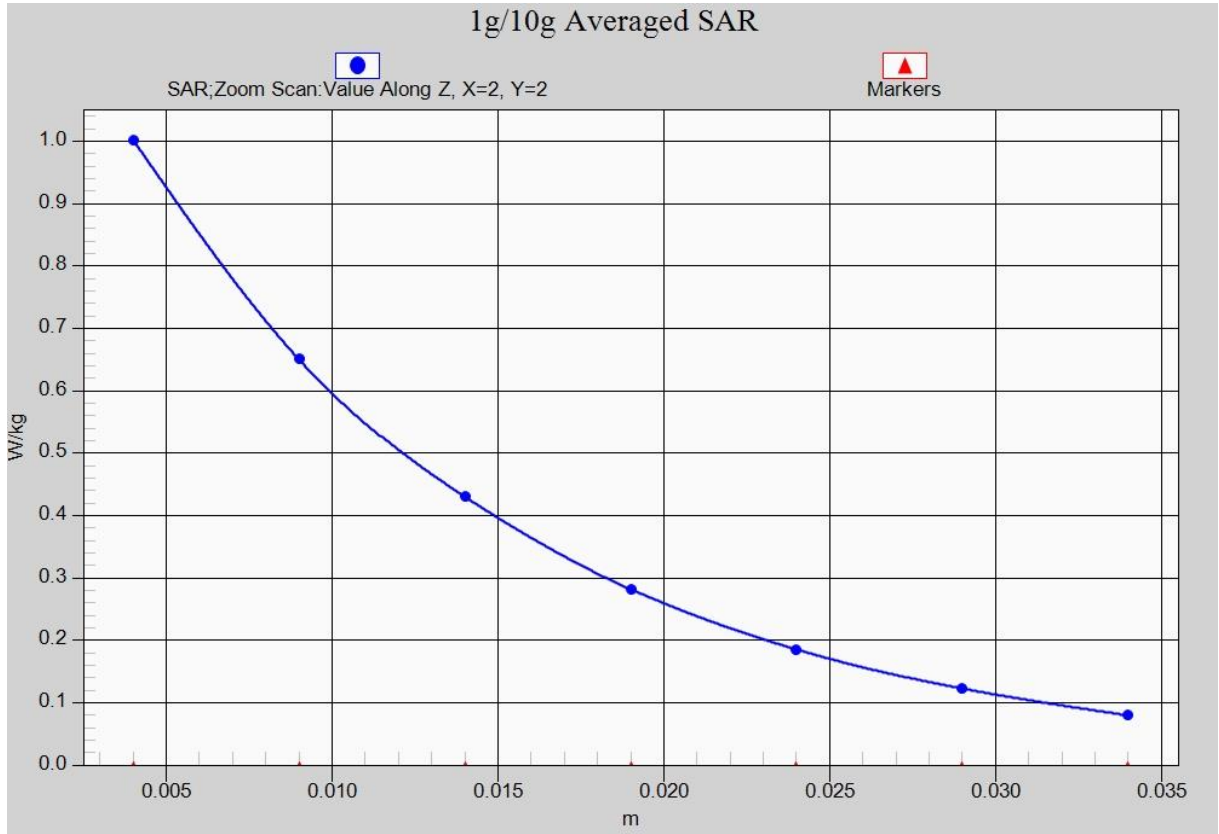


Fig. 32-1 Z-Scan at power reference point (LTE Band66)

LTE Band66 Body Front Low with QPSK_20M_1RB_Low – 15mm

Date: 2017-8-13

Electronics: DAE4 Sn1331

Medium: Body 1750 MHz

Medium parameters used: $f = 1720$ MHz; $\sigma = 1.502$ mho/m; $\epsilon_r = 53.714$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: LTE Band66 Frequency: 1720 MHz Duty Cycle: 1:1

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

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.03 W/kg

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

Reference Value = 9.993 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.12 W/kg

SAR(1 g) = 0.749 W/kg; SAR(10 g) = 0.476 W/kg

Maximum value of SAR (measured) = 0.811 W/kg

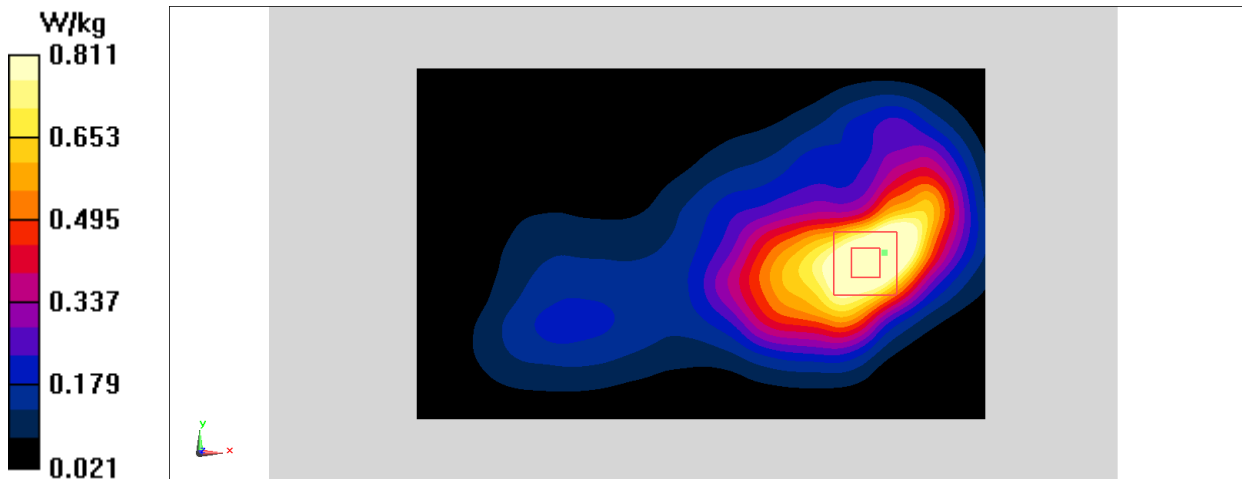


Fig.33 LTE Band66

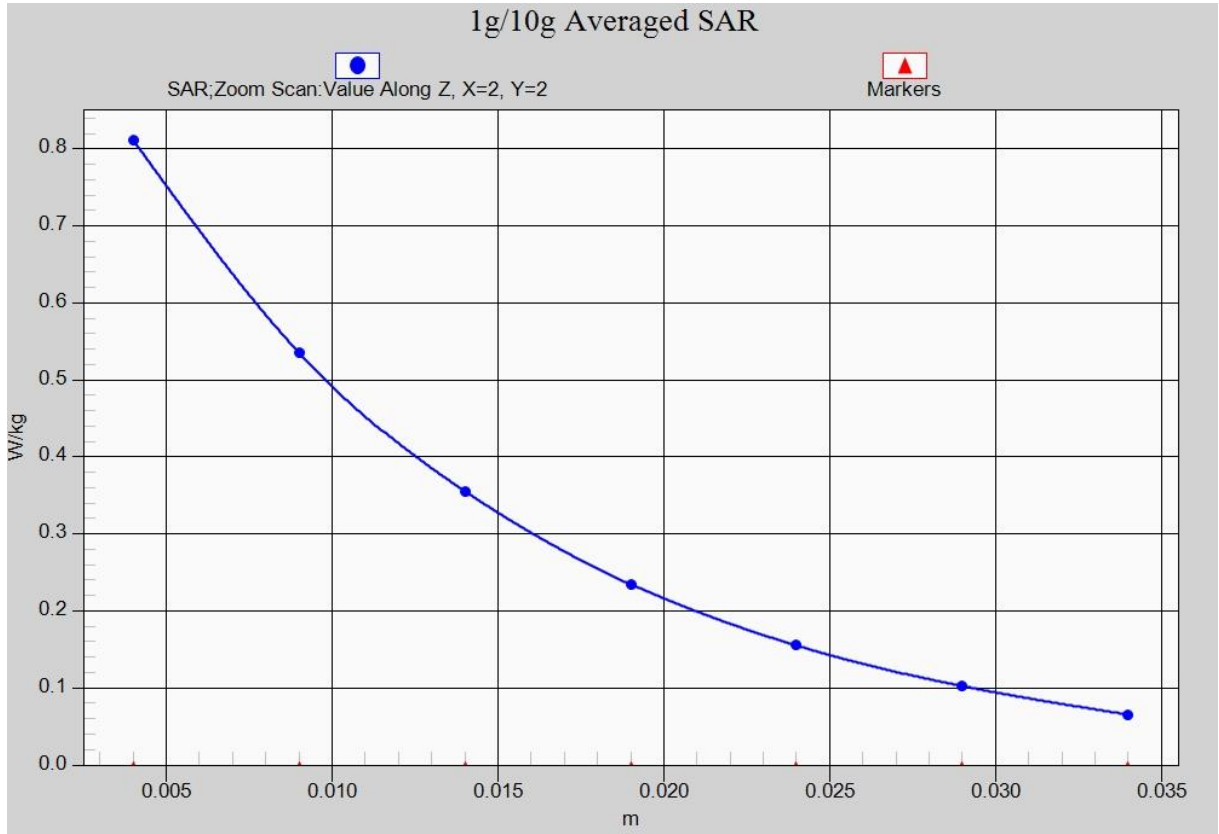


Fig. 33-1 Z-Scan at power reference point (LTE Band66)

Wifi 802.11b Left Tilt Channel 6

Date: 2017-8-14

Electronics: DAE4 Sn1331

Medium: Head 2450 MHz

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.799$ mho/m; $\epsilon_r = 38.97$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: WLAN 2450 Frequency: 2437 MHz Duty Cycle: 1:1

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

Area Scan (91x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.47 W/kg

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

Reference Value = 13.08 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 2.38 W/kg

SAR(1 g) = 1.06 W/kg; SAR(10 g) = 0.435 W/kg

Maximum value of SAR (measured) = 1.46 W/kg

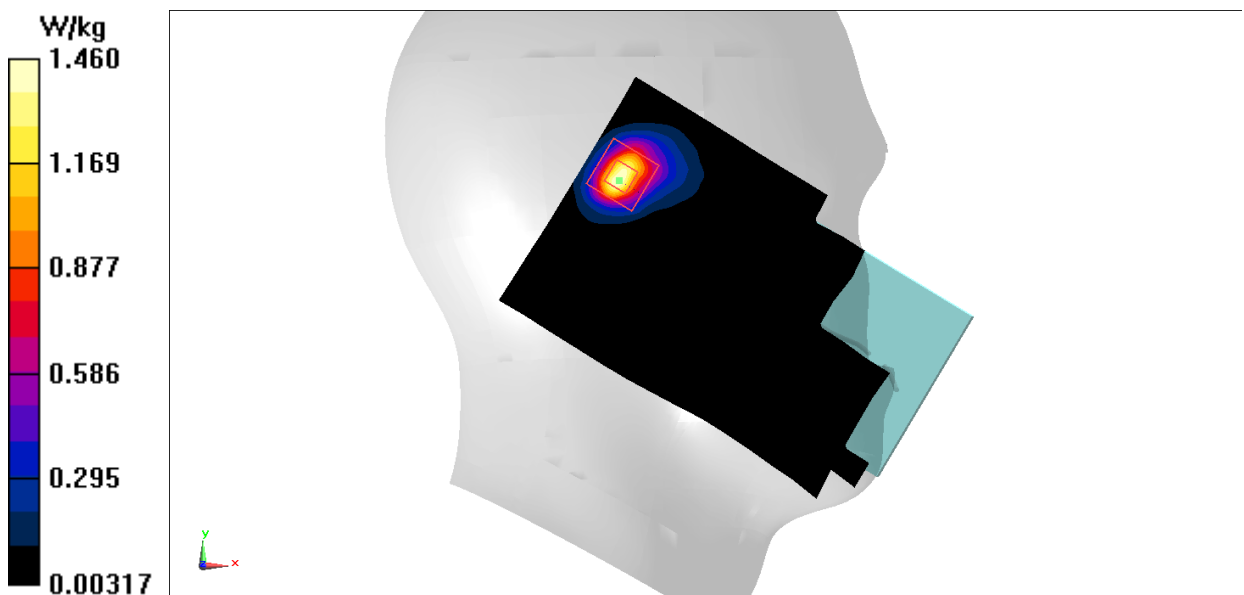


Fig.34 2450 MHz

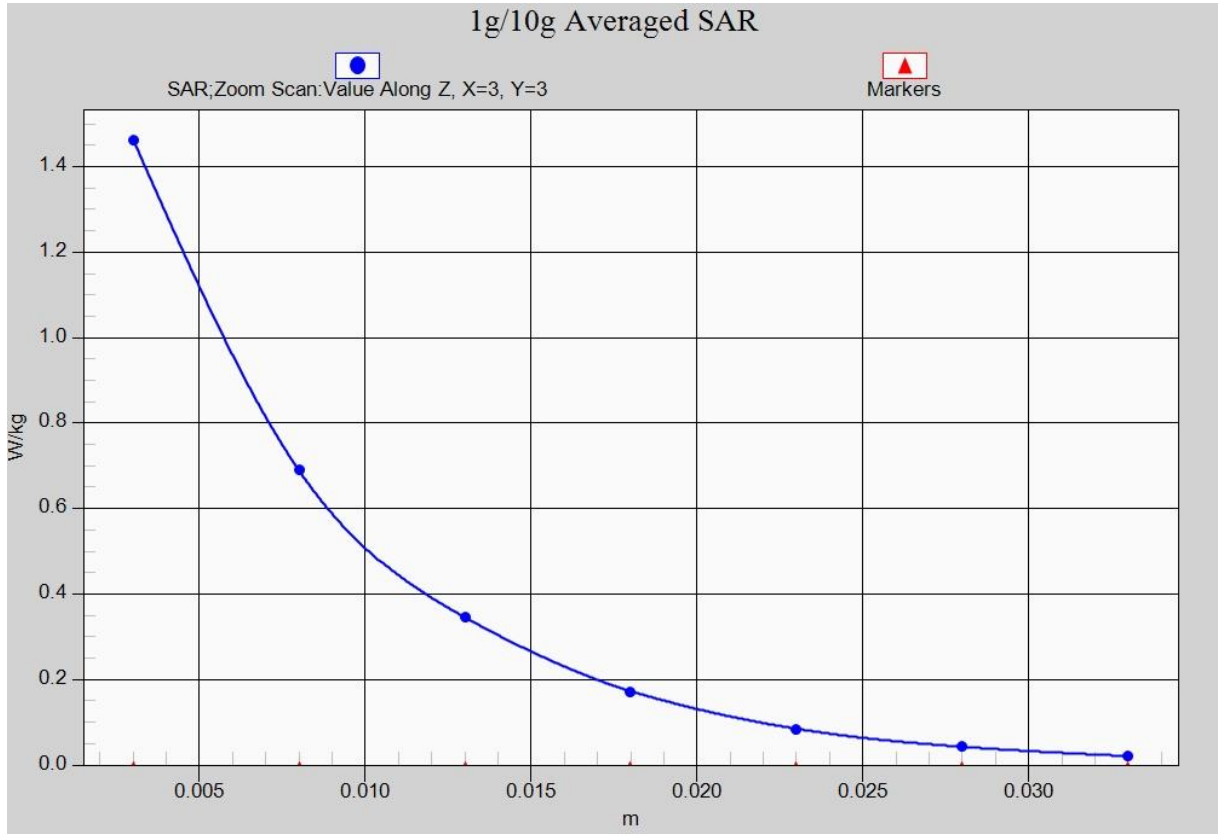


Fig. 34-1 Z-Scan at power reference point (2450 MHz)

Wifi 802.11b Body Top Channel 6

Date: 2017-8-14

Electronics: DAE4 Sn1331

Medium: Body 2450 MHz

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.966$ mho/m; $\epsilon_r = 52.12$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: WLAN 2450 Frequency: 2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3846 ConvF(7.31, 7.31, 7.31)

Area Scan (131x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.664 W/kg

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

Reference Value = 10.14 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.840 W/kg

SAR(1 g) = 0.463 W/kg; SAR(10 g) = 0.228 W/kg

Maximum value of SAR (measured) = 0.528 W/kg

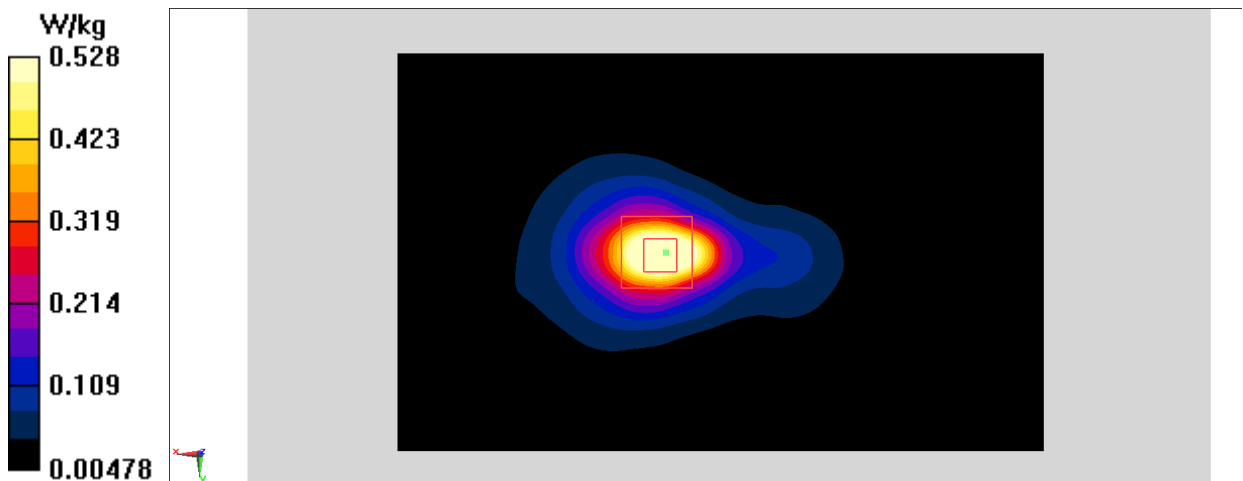


Fig.35 2450 MHz

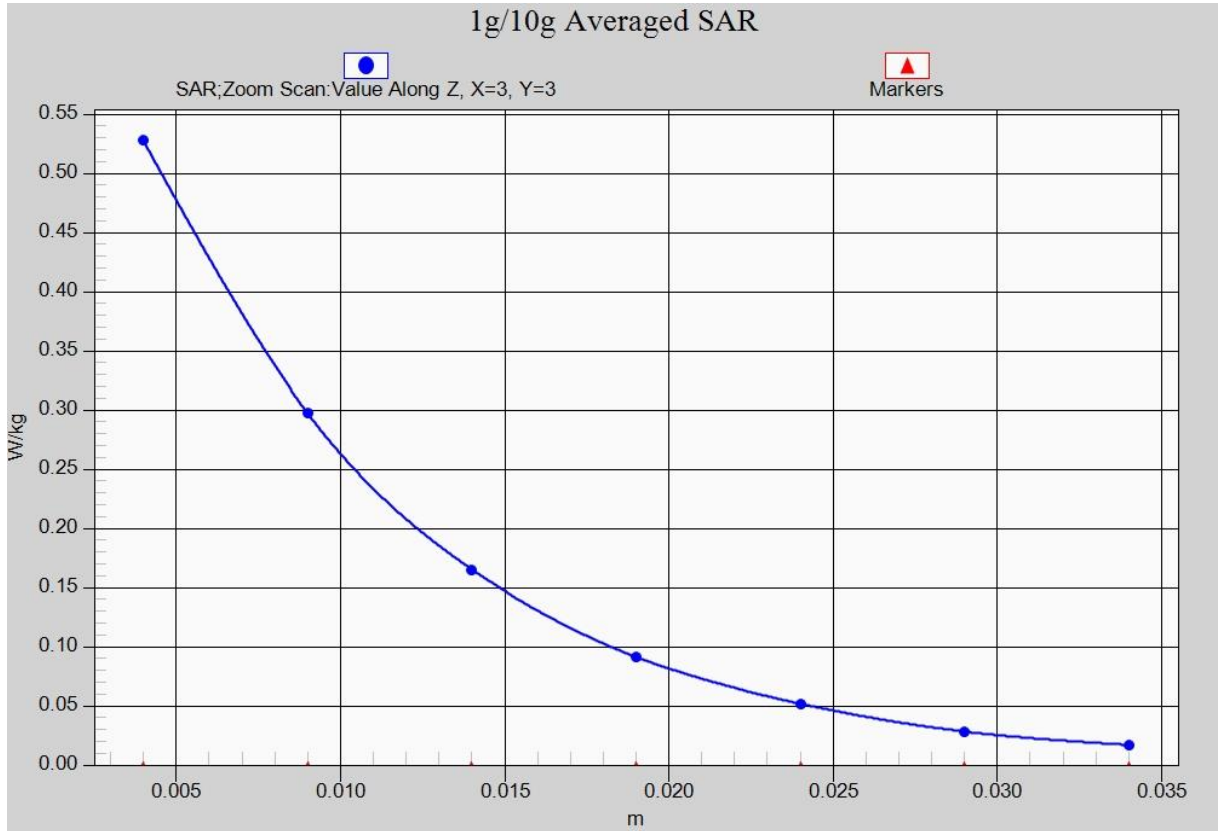


Fig. 35-1 Z-Scan at power reference point (2450 MHz)

Wifi 802.11a Right Tilt Channel 120

Date: 2017-8-15

Electronics: DAE4 Sn1331

Medium: Head 5 GHz

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.06$ mho/m; $\epsilon_r = 35.297$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: WLAN 5G Frequency: 5600 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3846 ConvF(4.72, 4.72, 4.72)

Area Scan (111x171x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

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

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 8.023 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 3.48 W/kg

SAR(1 g) = 0.796 W/kg; SAR(10 g) = 0.225 W/kg

Maximum value of SAR (measured) = 1.96 W/kg

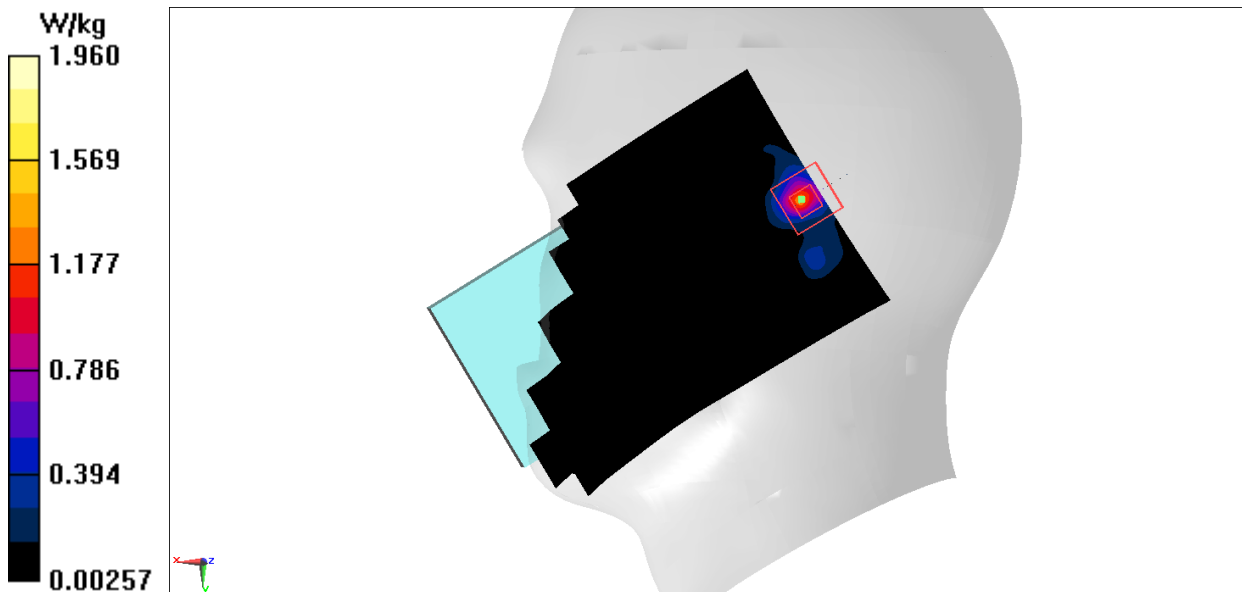


Fig.36 5GHz

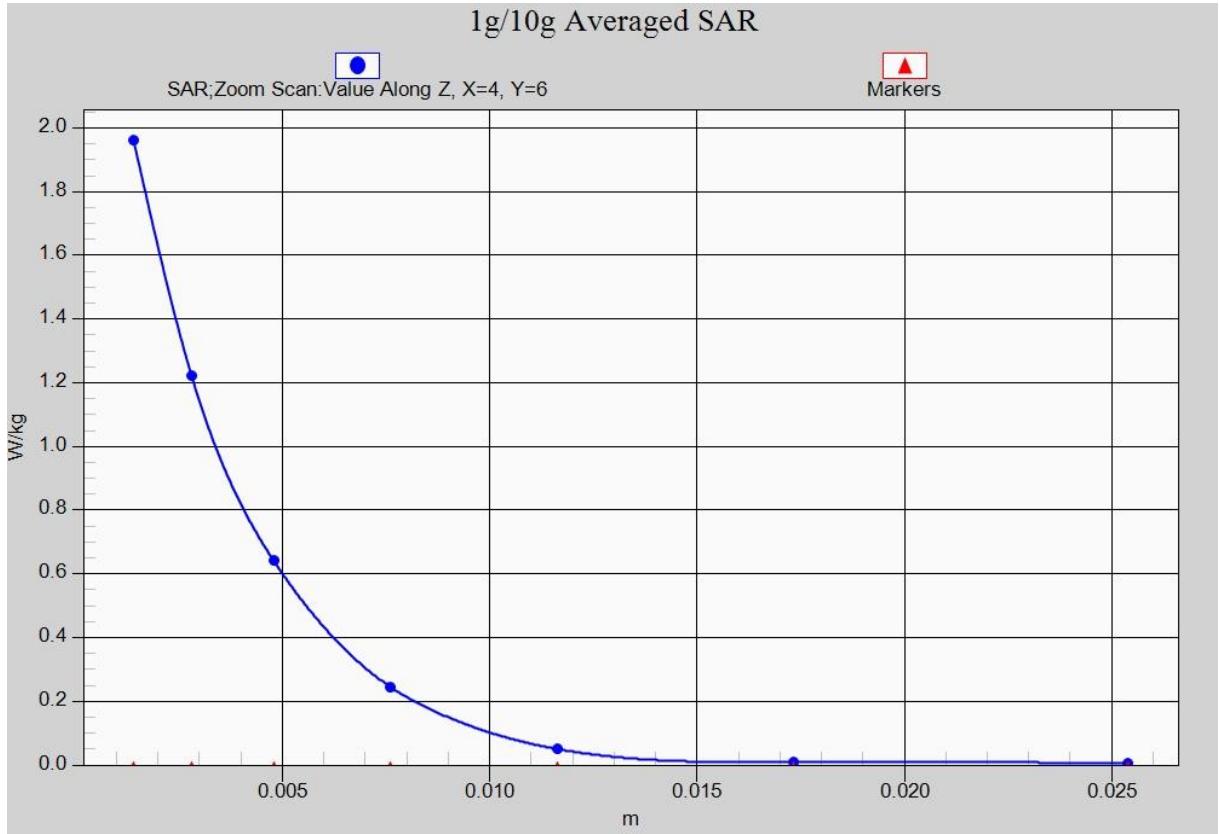


Fig. 36-1 Z-Scan at power reference point (5GHz)

Wifi 802.11a Top Channel 120

Date: 2017-8-15

Electronics: DAE4 Sn1331

Medium: Body 5 GHz

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.709$ mho/m; $\epsilon_r = 46.843$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: WLAN 5G Frequency: 5600 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3846 ConvF(4.18, 4.18, 4.18)

Area Scan (181x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.272 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 3.210 V/m; Power Drift = 0.39 dB

Peak SAR (extrapolated) = 0.475 W/kg

SAR(1 g) = 0.132 W/kg; SAR(10 g) = 0.045 W/kg

Maximum value of SAR (measured) = 0.308 W/kg

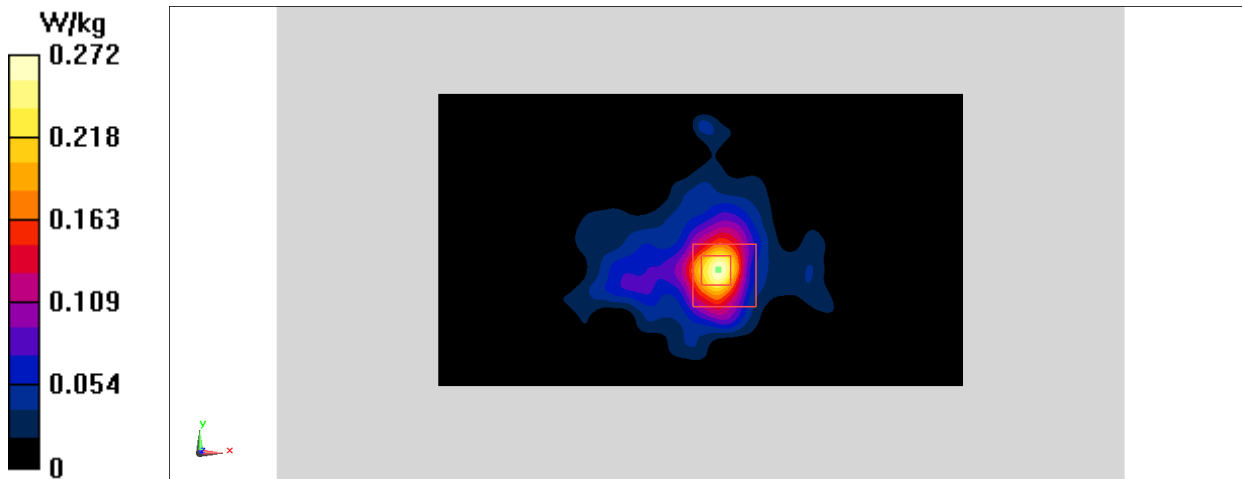


Fig.37 5GHz

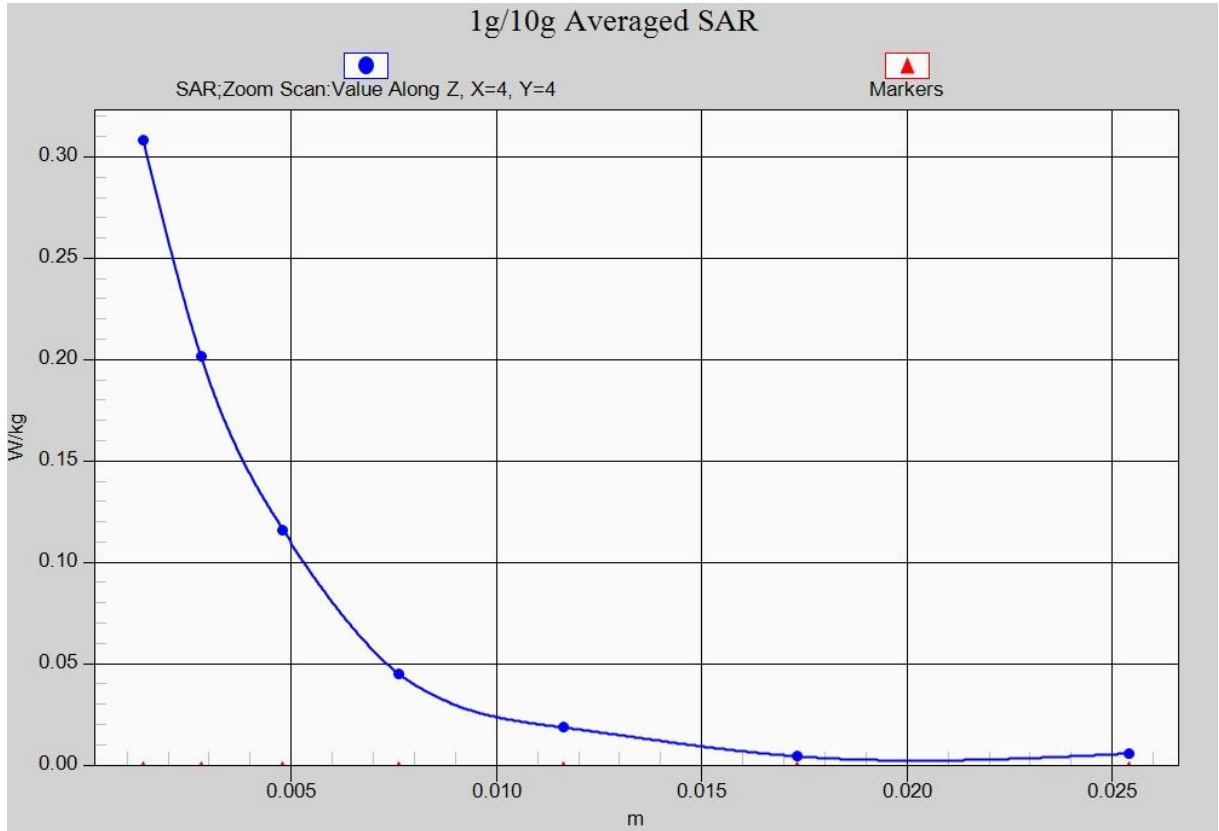


Fig. 37-1 Z-Scan at power reference point (5GHz)

ANNEX B System Verification Results

750MHz

Date: 2017-8-10

Electronics: DAE4 Sn1331

Medium: Head 750 MHz

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.886 \text{ mho/m}$; $\epsilon_r = 42.31$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 750 MHz Duty Cycle: 1:1

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

System Validation /Area Scan (81x191x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Reference Value = 49.217 V/m ; Power Drift = -0.07 dB

Fast SAR: SAR(1 g) = 2.07 W/kg ; SAR(10 g) = 1.40 W/kg

Maximum value of SAR (interpolated) = 2.20 W/kg

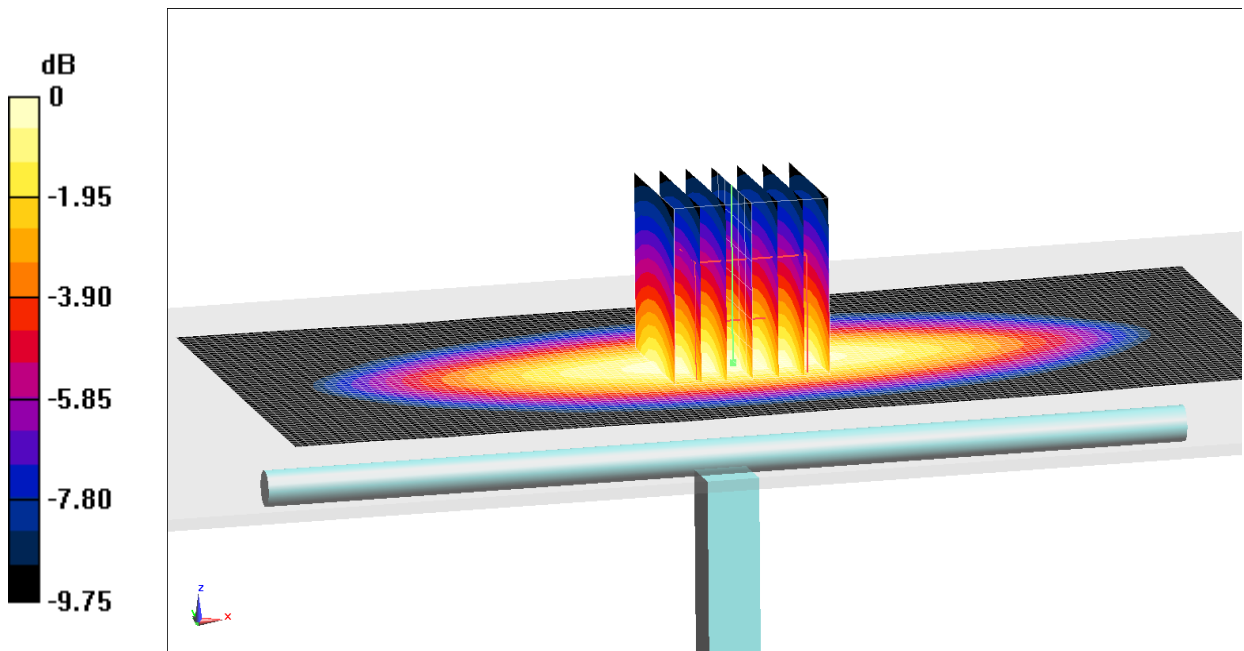
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 49.217 V/m ; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 2.84 W/kg

SAR(1 g) = 2.05 W/kg ; SAR(10 g) = 1.38 W/kg

Maximum value of SAR (measured) = 2.18 W/kg



0 dB = 2.18 W/kg = 3.38 dB W/kg

Fig.B.1 validation 750MHz 250mW

750MHz

Date: 2017-8-10

Electronics: DAE4 Sn1331

Medium: Body750 MHz

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.944 \text{ mho/m}$; $\epsilon_r = 56.42$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 750 MHz Duty Cycle: 1:1

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

System Validation/Area Scan (81x191x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Reference Value = 51.669 V/m ; Power Drift = -0.05 dB

Fast SAR: SAR(1 g) = 2.16 W/kg ; SAR(10 g) = 1.42 W/kg

Maximum value of SAR (interpolated) = 2.41 W/kg

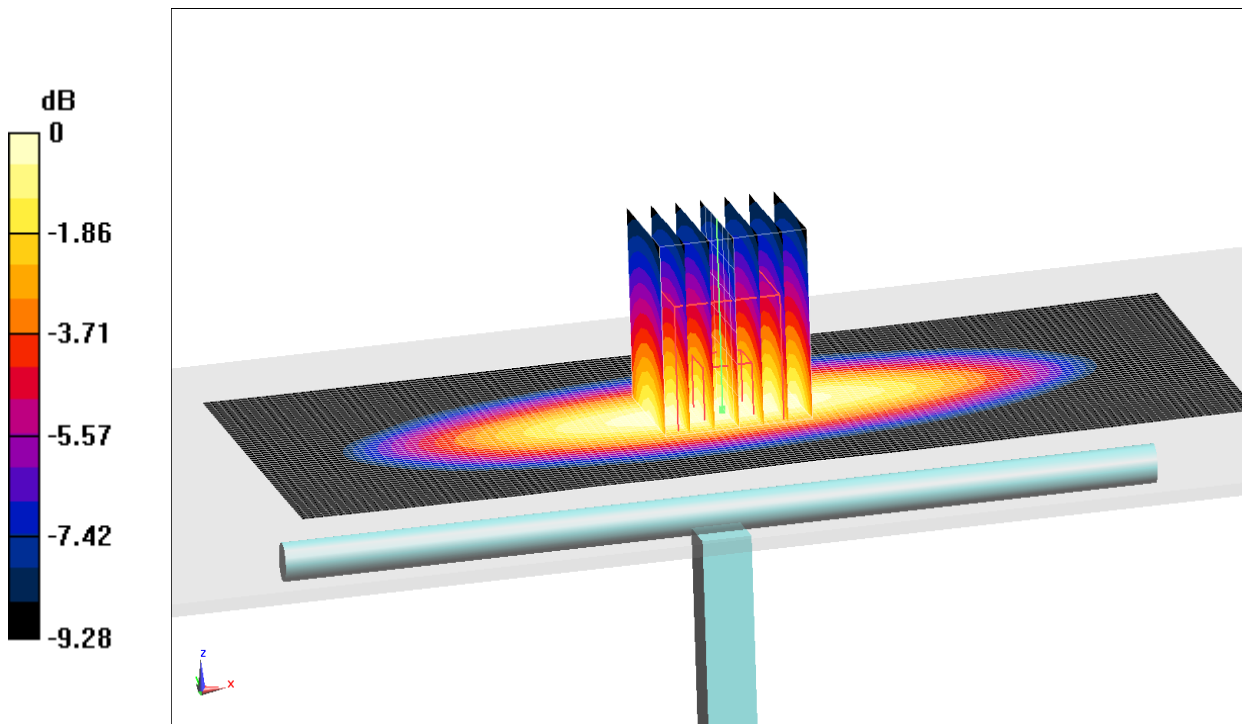
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 51.669 V/m ; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 3.06 W/kg

SAR(1 g) = 2.19 W/kg ; SAR(10 g) = 1.44 W/kg

Maximum value of SAR (measured) = 2.43 W/kg



0 dB = $2.43 \text{ W/kg} = 3.86 \text{ dB W/kg}$

Fig.B.2 validation 750MHz 250mW

835MHz

Date: 2017-8-8

Electronics: DAE4 Sn1331

Medium: Head 850 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.908 \text{ S/m}$; $\epsilon_r = 41.76$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 835 MHz Duty Cycle: 1:1

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

System Validation/Area Scan (61x121x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Reference Value = 54.82 V/m ; Power Drift = 0.04 dB

Fast SAR: SAR(1 g) = 2.41 W/kg ; SAR(10 g) = 1.55 W/kg

Maximum value of SAR (interpolated) = 2.60 W/kg

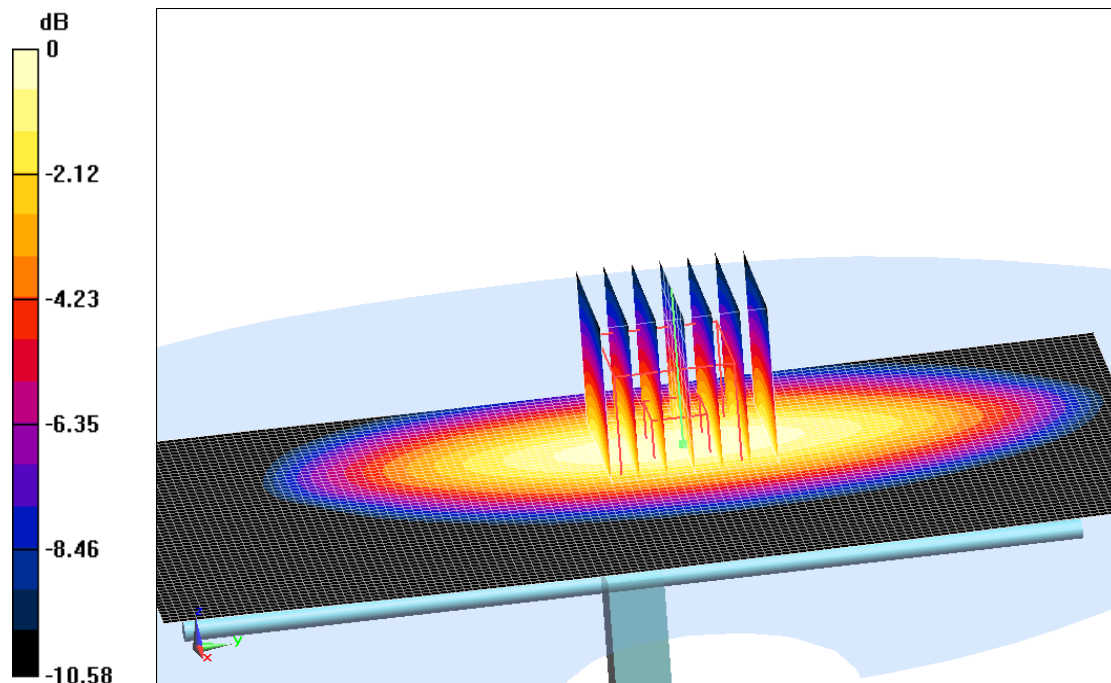
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 54.82 V/m ; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 3.14 W/kg

SAR(1 g) = 2.37 W/kg ; SAR(10 g) = 1.53 W/kg

Maximum value of SAR (measured) = 2.57 W/kg



0 dB = 2.57 W/kg = 4.00 dBW/kg

Fig.B.3 validation 835MHz 250mW

835MHz

Date: 2017-8-8

Electronics: DAE4 Sn1331

Medium: Body 850 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.979 \text{ S/m}$; $\epsilon_r = 55.91$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 835 MHz Duty Cycle: 1:1

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

System Validation /Area Scan (61x121x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Reference Value = 52.95 V/m ; Power Drift = -0.04 dB

Fast SAR: SAR(1 g) = 2.38 W/kg ; SAR(10 g) = 1.56 W/kg

Maximum value of SAR (interpolated) = 2.72 W/kg

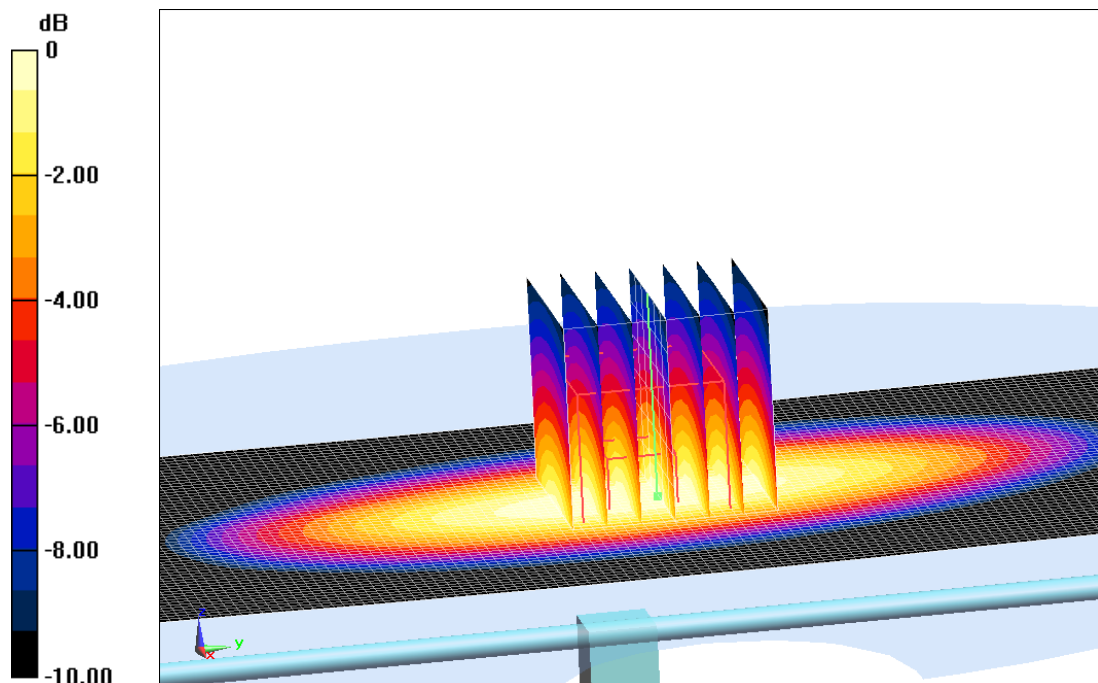
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 52.95 V/m ; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 3.19 W/kg

SAR(1 g) = 2.43 W/kg ; SAR(10 g) = 1.59 W/kg

Maximum value of SAR (measured) = 2.76 W/kg



0 dB = 2.76 W/kg = 4.41 dBW/kg

Fig.B.4 validation 835MHz 250mW

1750MHz

Date: 2017-8-13

Electronics: DAE4 Sn1331

Medium: Head 1750 MHz

Medium parameters used: $f=1750$ MHz; $\sigma = 1.421$ mho/m; $\epsilon_r = 40.41$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 1750 MHz Duty Cycle: 1:1

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

System Validation/Area Scan (81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Reference Value = 89.61 V/m; Power Drift = 0.06 dB

Fast SAR: SAR(1 g) = 9.08 W/kg; SAR(10 g) = 4.80 W/kg

Maximum value of SAR (interpolated) = 10.0 W/kg

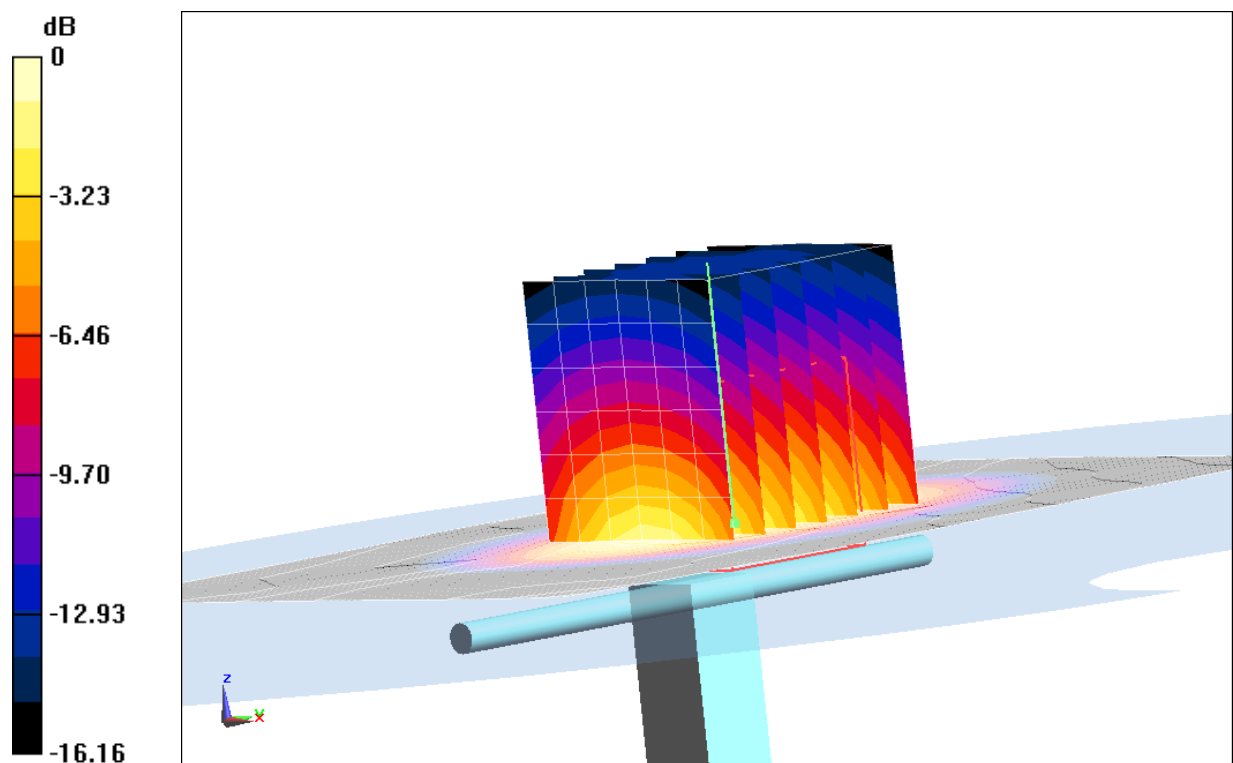
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 89.61 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 15.59 W/kg

SAR(1 g) = 9.18 W/kg; SAR(10 g) = 4.88 W/kg

Maximum value of SAR (measured) = 10.1 W/kg



0 dB = 10.1 W/kg = 10.04 dB W/kg

Fig.B.5 validation 1750MHz 250mW

1750MHz

Date: 2017-8-13

Electronics: DAE4 Sn1331

Medium: Body 1750 MHz

Medium parameters used: $f=1750$ MHz; $\sigma = 1.506$ mho/m; $\epsilon_r = 53.72$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 1750 MHz Duty Cycle: 1:1

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

System Validation/Area Scan (81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Reference Value = 95.17 V/m; Power Drift = -0.03 dB

Fast SAR: SAR(1 g) = 9.51 W/kg; SAR(10 g) = 5.07 W/kg

Maximum value of SAR (interpolated) = 10.4 W/kg

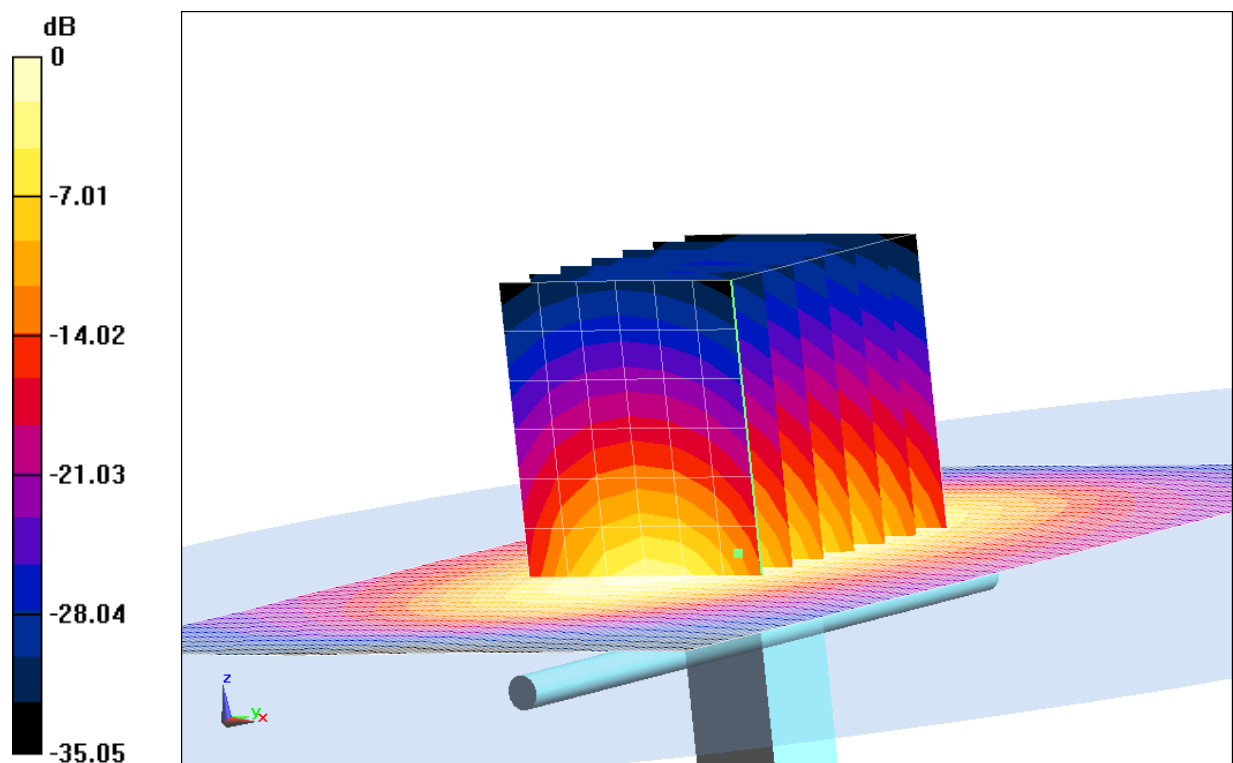
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 95.17 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 15.54 W/kg

SAR(1 g) = 9.42 W/kg; SAR(10 g) = 4.99 W/kg

Maximum value of SAR (measured) = 10.3 W/kg



0 dB = 10.3 W/kg = 10.13 dB W/kg

Fig.B.6 validation 1750MHz 250mW

1900MHz

Date: 2017-8-9

Electronics: DAE4 Sn1331

Medium: Head 1900 MHz

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.411 \text{ mho/m}$; $\epsilon_r = 40.61$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 1900 MHz Duty Cycle: 1:1

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

System Validation /Area Scan(61x81x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Reference Value = 92.19 V/m ; Power Drift = 0.05 dB

SAR(1 g) = 10.4 W/kg ; SAR(10 g) = 5.52 W/kg

Maximum value of SAR (interpolated) = 12.6 W/kg

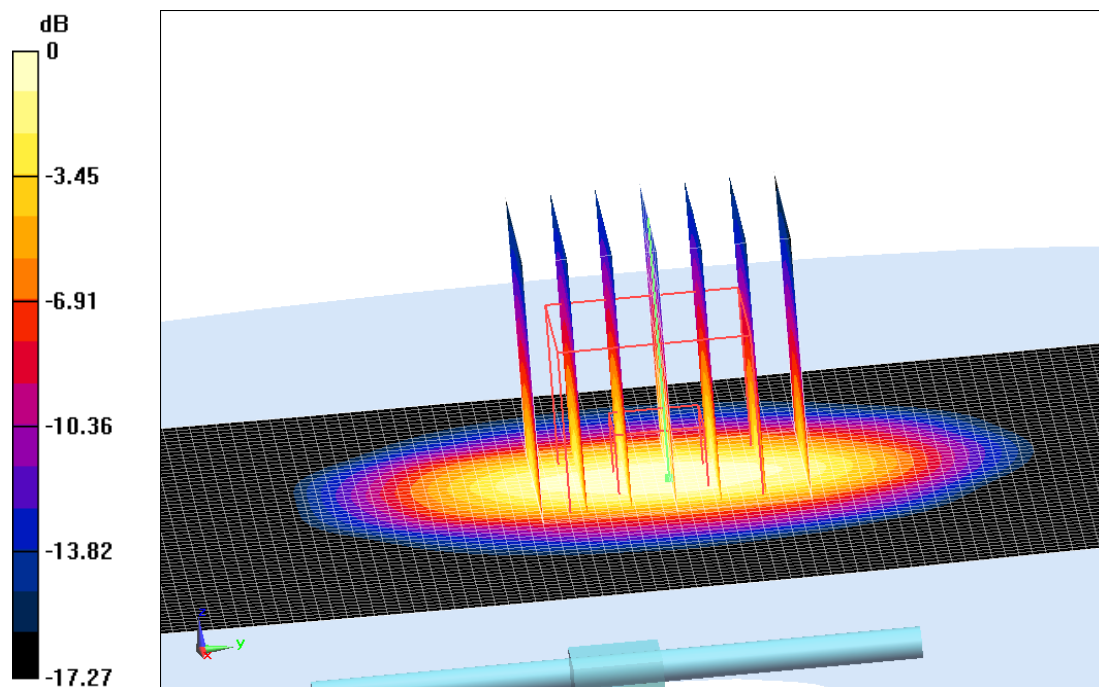
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 92.19 V/m ; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 18.05 W/kg

SAR(1 g) = 10.2 W/kg ; SAR(10 g) = 5.38 W/kg

Maximum value of SAR (measured) = 12.4 W/kg



$0 \text{ dB} = 12.4 \text{ W/kg} = 10.93 \text{ dBW/kg}$

Fig.B.7 validation 1900MHz 250mW

1900MHz

Date: 2017-8-9

Electronics: DAE4 Sn1331

Medium: Body 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.527$ S/m; $\epsilon_r = 52.71$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 1900 MHz Duty Cycle: 1:1

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

System Validation/Area Scan (81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Reference Value = 94.27 V/m; Power Drift = -0.03 dB

Fast SAR: SAR(1 g) = 10.5 W/kg; SAR(10 g) = 5.58 W/kg

Maximum value of SAR (interpolated) = 12.5 W/kg

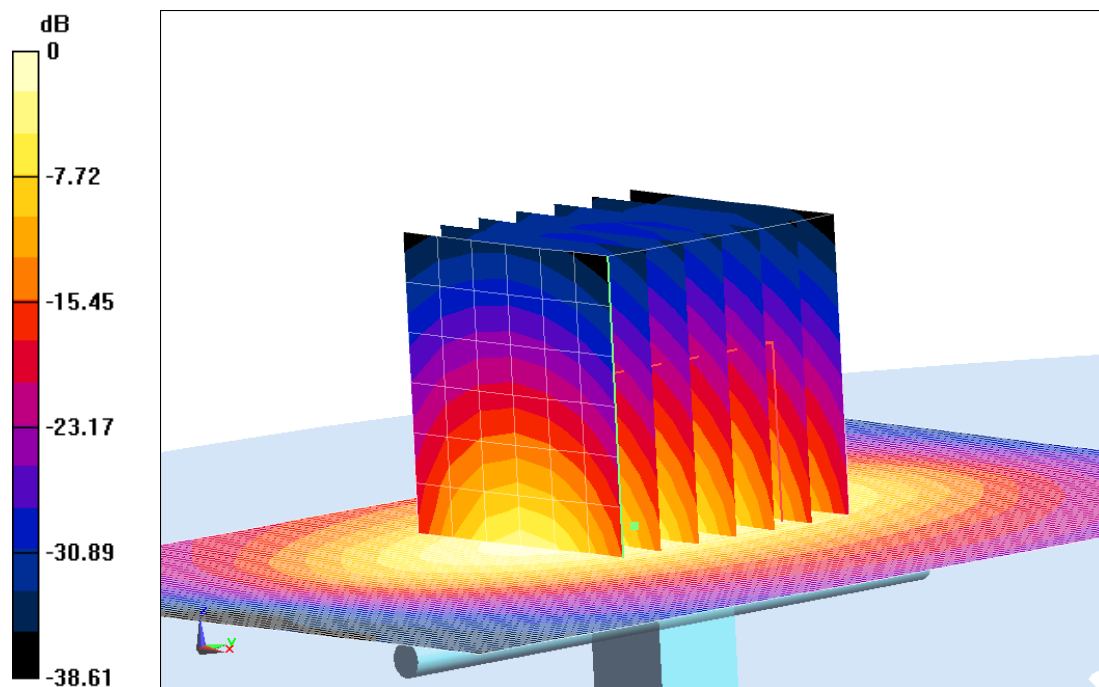
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 94.27 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 19.18 W/kg

SAR(1 g) = 10.4 W/kg; SAR(10 g) = 5.49 W/kg

Maximum value of SAR (measured) = 12.4 W/kg



0 dB = 12.4 W/kg = 10.93 dB W/kg

Fig.B.8 validation 1900MHz 250mW

2300MHz

Date: 2017-8-11

Electronics: DAE4 Sn1331

Medium: Head 2300 MHz

Medium parameters used: $f = 2300$ MHz; $\sigma = 1.648$ mho/m; $\epsilon_r = 39.21$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 2300 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3846 ConvF(7.43, 7.43, 7.43)

System Validation /Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Reference Value = 103.8 V/m; Power Drift = -0.02 dB

SAR(1 g) = 12.1 W/kg; SAR(10 g) = 5.81 W/kg

Maximum value of SAR (interpolated) = 19.4 W/kg

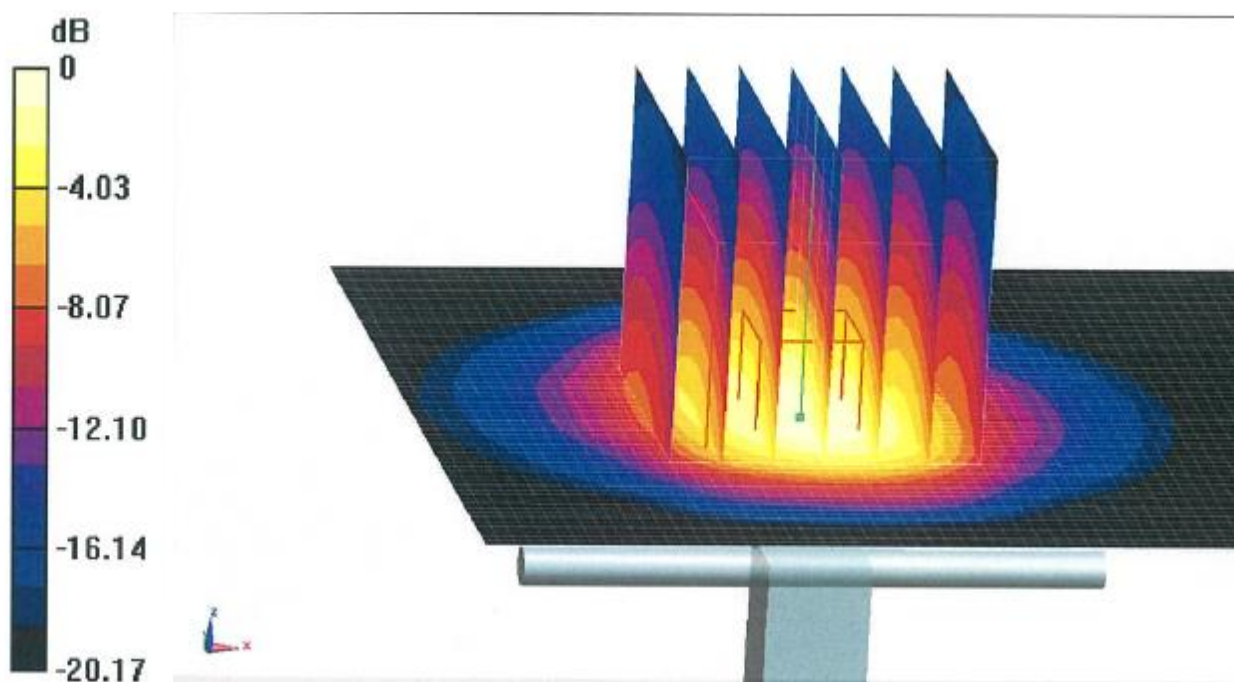
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 103.8 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 23.6 W/kg

SAR(1 g) = 12.3 W/kg; SAR(10 g) = 5.99 W/kg

Maximum value of SAR (measured) = 19.6 W/kg



0 dB = 19.6 W/kg = 12.92 dBW/kg

Fig.B.9 validation 2300MHz 250mW

2300MHz

Date: 2017-8-11

Electronics: DAE4 Sn1331

Medium: Body 2300 MHz

Medium parameters used: $f = 2300$ MHz; $\sigma = 1.903$ mho/m; $\epsilon_r = 52.87$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 2300 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3846 ConvF(7.55, 7.55, 7.55)

System Validation /Area Scan (61x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Reference Value = 100.2 V/m; Power Drift = -0.04 dB

SAR(1 g) = 12.2 W/kg; SAR(10 g) = 5.96 W/kg

Maximum value of SAR (interpolated) = 19.3 W/kg

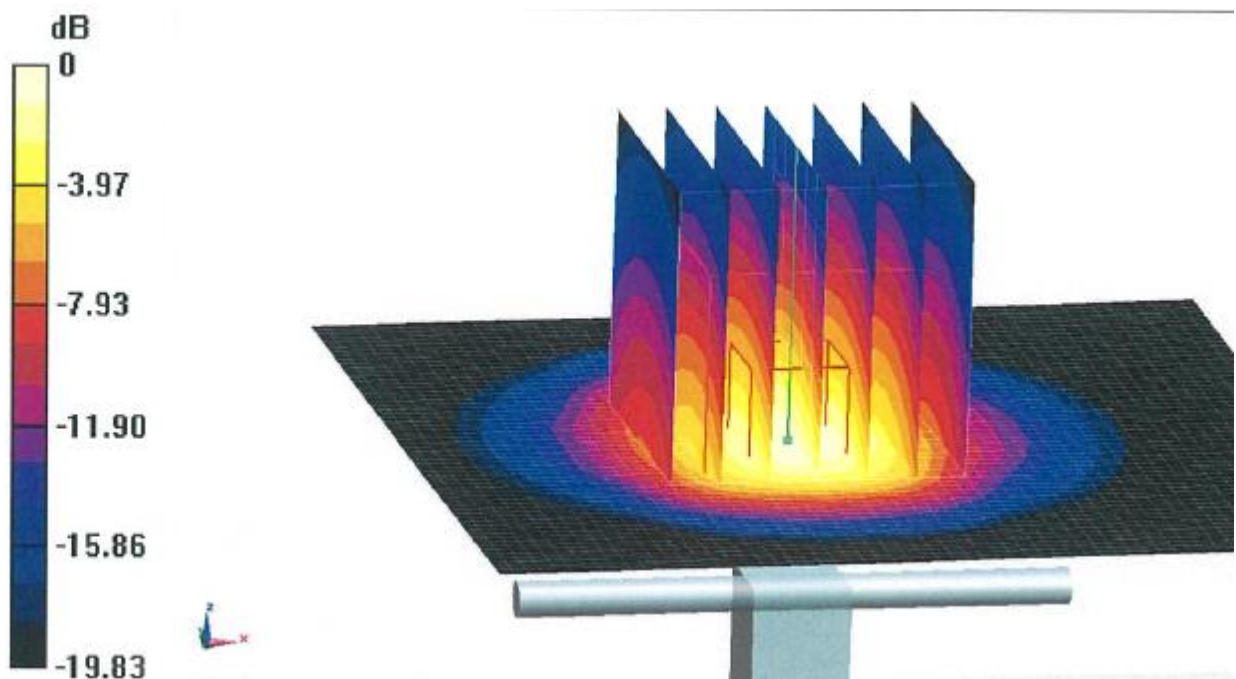
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 100.2 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 23.5 W/kg

SAR(1 g) = 12.0 W/kg; SAR(10 g) = 5.81 W/kg

Maximum value of SAR (measured) = 19.1 W/kg



0 dB = 19.1 W/kg = 12.81 dBW/kg

Fig.B.10 validation 2300MHz 250mW

2450MHz

Date: 2017-8-14

Electronics: DAE4 Sn1331

Medium: Head 2450 MHz

Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 1.811 \text{ mho/m}$; $\epsilon_r = 38.91$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 2450 MHz Duty Cycle: 1:1

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

System Validation /Area Scan (61x81x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Reference Value = 90.36 V/m ; Power Drift = 0.02 dB

SAR(1 g) = 13.5 W/kg ; SAR(10 g) = 6.46 W/kg

Maximum value of SAR (interpolated) = 16.8 W/kg

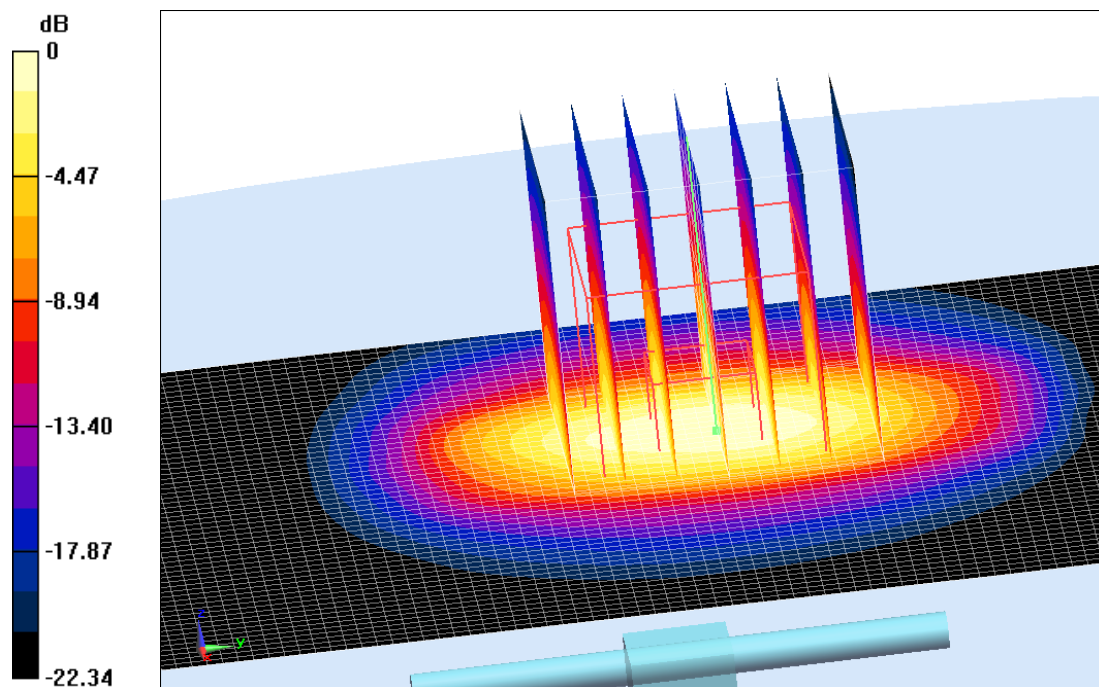
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 90.36 V/m ; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 27.41 W/kg

SAR(1 g) = 13.3 W/kg ; SAR(10 g) = 6.27 W/kg

Maximum value of SAR (measured) = 16.5 W/kg



$0 \text{ dB} = 16.5 \text{ W/kg} = 12.17 \text{ dBW/kg}$

Fig.B.11 validation 2450MHz 250mW

2450MHz

Date: 2017-8-14

Electronics: DAE4 Sn1331

Medium: Body 2450 MHz

Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 1.982 \text{ S/m}$; $\epsilon_r = 52.09$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 2450 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3846 ConvF(7.31, 7.31, 7.31)

System Validation/Area Scan (81x101x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$

Reference Value = 90.06 V/m ; Power Drift = -0.01 dB

SAR(1 g) = 12.8 W/kg ; SAR(10 g) = 5.92 W/kg

Maximum value of SAR (interpolated) = 14.4 W/kg

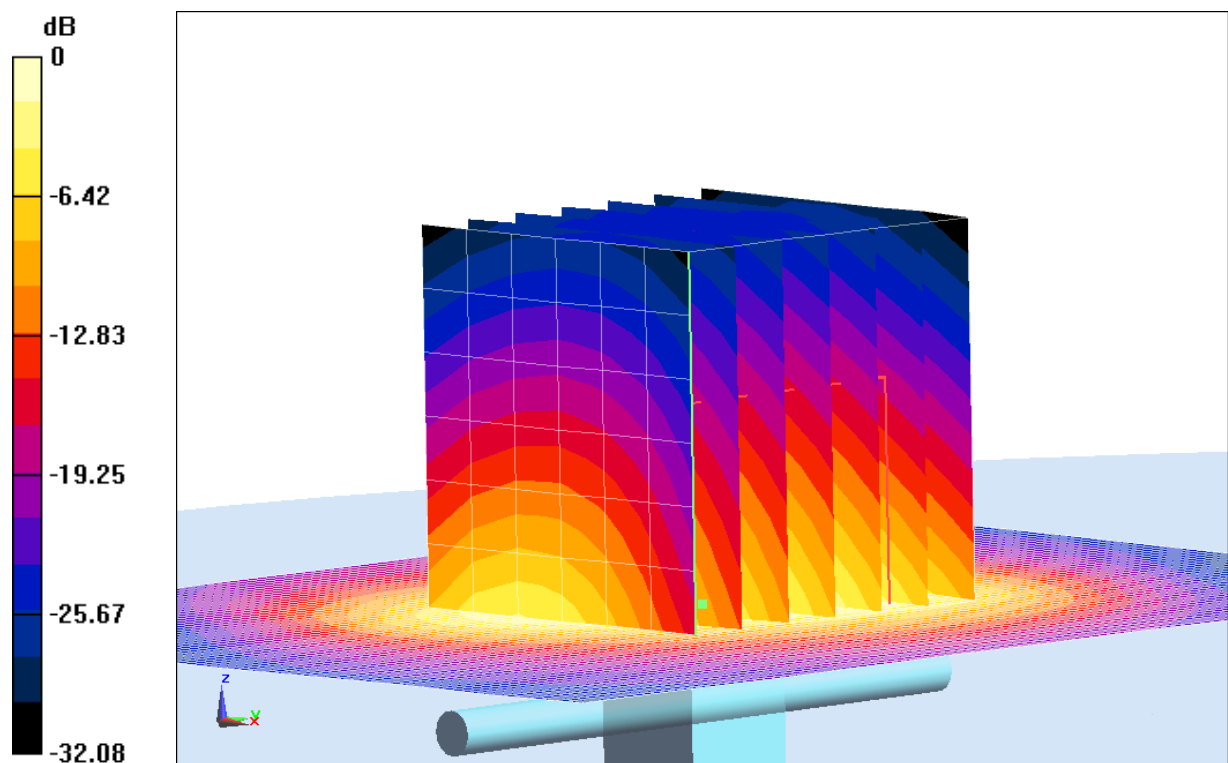
System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 90.06 V/m ; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 24.63 W/kg

SAR(1 g) = 13.0 W/kg ; SAR(10 g) = 6.08 W/kg

Maximum value of SAR (measured) = 14.6 W/kg



0 dB = 14.6 W/kg = 11.64 dB W/kg

Fig.B.12 validation 2450MHz 250mW

2600MHz

Date: 2017-8-12

Electronics: DAE4 Sn1331

Medium: Head 2600 MHz

Medium parameters used: $f = 2600$ MHz; $\sigma = 1.949$ mho/m; $\epsilon_r = 38.49$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 2600 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3846 ConvF(7.12, 7.12, 7.12)

System Validation/Area Scan(81x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Reference Value = 81.33 V/m; Power Drift = 0.05 dB

SAR(1 g) = 14.8 W/kg; SAR(10 g) = 6.73 W/kg

Maximum value of SAR (interpolated) = 22.5 W/kg

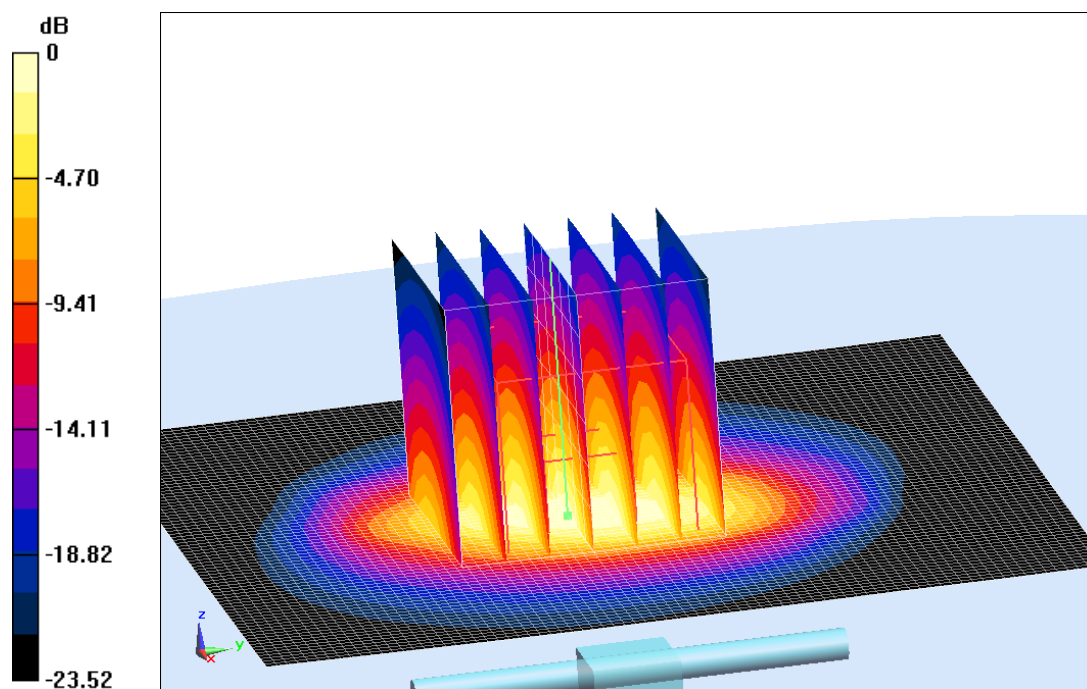
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 81.33 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 31.14 W/kg

SAR(1 g) = 14.6 W/kg; SAR(10 g) = 6.55 W/kg

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



0 dB = 22.2 W/kg = 13.46 dBW/kg

Fig.B.13 validation 2600MHz 250mW

2600MHz

Date: 2017-8-12

Electronics: DAE4 Sn1331

Medium: Body 2600 MHz

Medium parameters used: $f = 2600$ MHz; $\sigma = 2.14$ mho/m; $\epsilon_r = 51.81$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 2600 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3846 ConvF(7.25, 7.25, 7.25)

System Validation /Area Scan(81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Reference Value = 82.47 V/m; Power Drift = -0.02 dB

Fast SAR: SAR(1 g) = 14.4 W/kg; SAR(10 g) = 6.44 W/kg

Maximum value of SAR (interpolated) = 22.5 W/kg

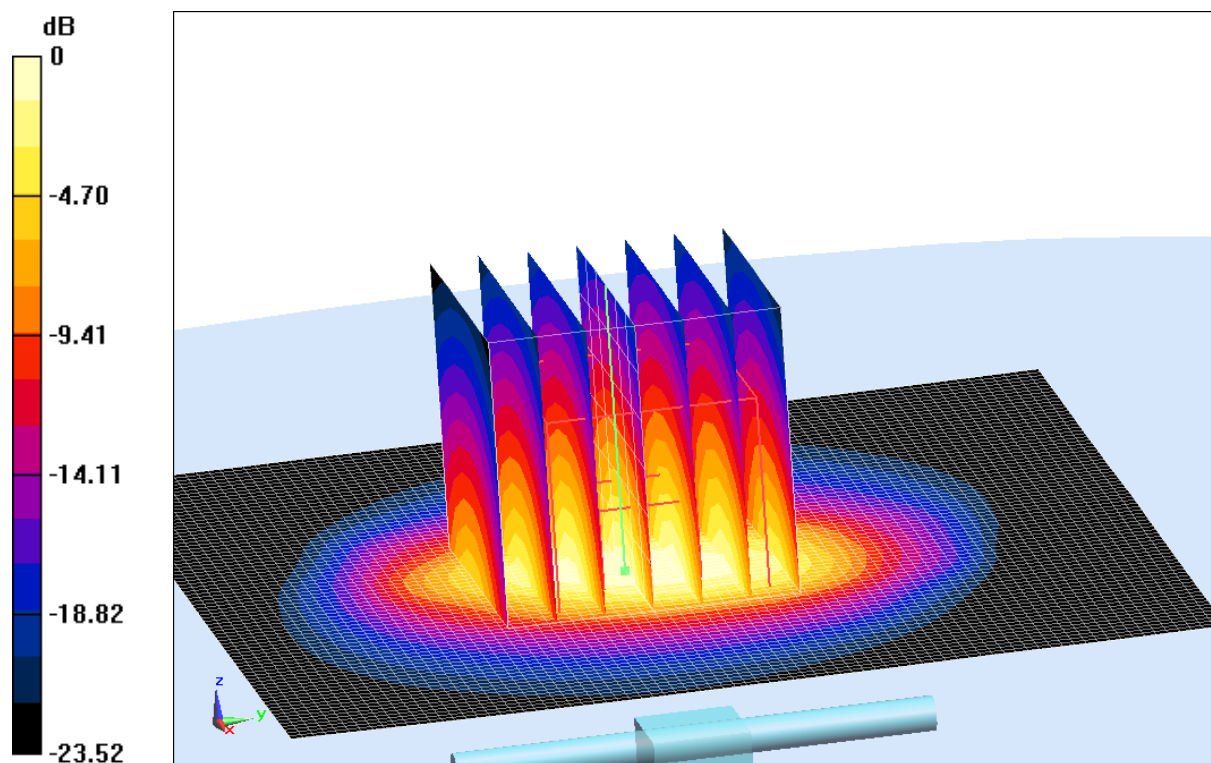
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 82.47 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 31.15 W/kg

SAR(1 g) = 14.3 W/kg; SAR(10 g) = 6.35 W/kg

Maximum value of SAR (measured) = 22.4 W/kg



0 dB = 22.4 W/kg = 13.50 dB W/kg

Fig.B.14 validation 2600MHz 250mW

5300MHz

Date: 2017-8-15

Electronics: DAE4 Sn1331

Medium: Head 5 GHz

Medium parameters used: $f = 5300$ MHz; $\sigma = 4.718$ mho/m; $\epsilon_r = 36$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 5300 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3846 ConvF(5.37, 5.37, 5.37)

System Validation /Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 19.1 W/kg

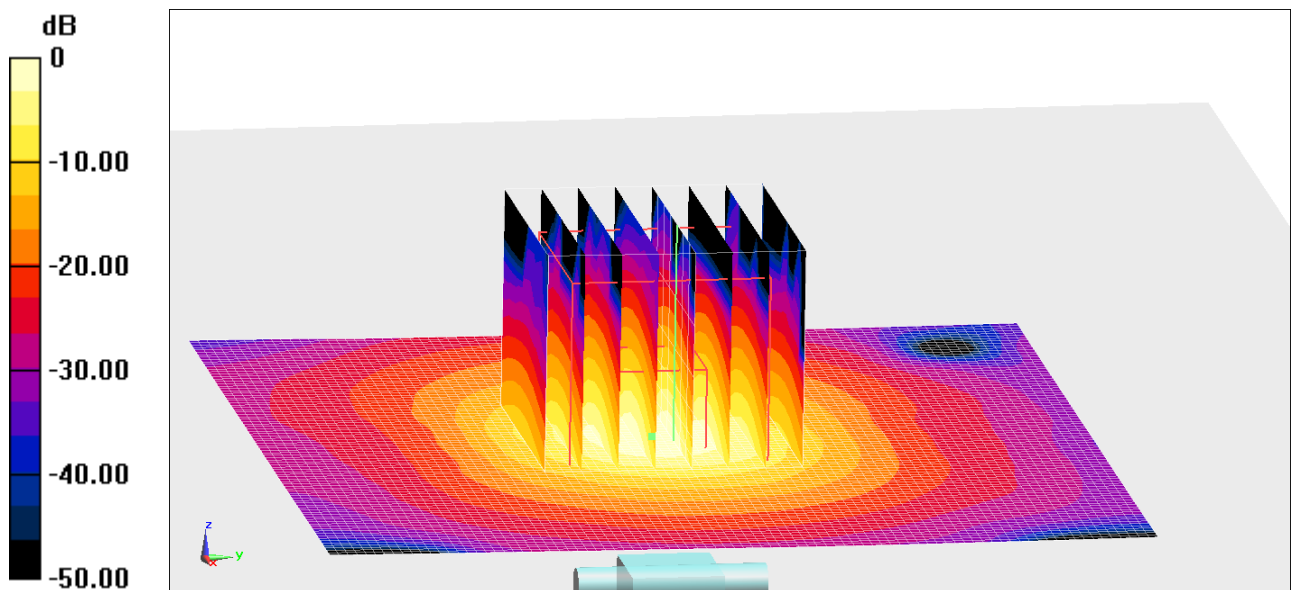
System Validation /Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 71.83 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 35.25 W/kg

SAR(1 g) = 8.08 W/kg; SAR(10 g) = 2.35 W/kg

Maximum value of SAR (measured) = 19.3 W/kg



0 dB = 19.3 W/kg = 12.86 dBW/kg

Fig.B.15 validation 5300MHz 100mW

5300MHz

Date: 2017-8-15

Electronics: DAE4 Sn1331

Medium: Body 5 GHz

Medium parameters used: $f = 5300$ MHz; $\sigma = 5.291$ mho/m; $\epsilon_r = 47.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 5300 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3846 ConvF(4.95, 4.95, 4.95)

System Validation /Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 18.4 W/kg

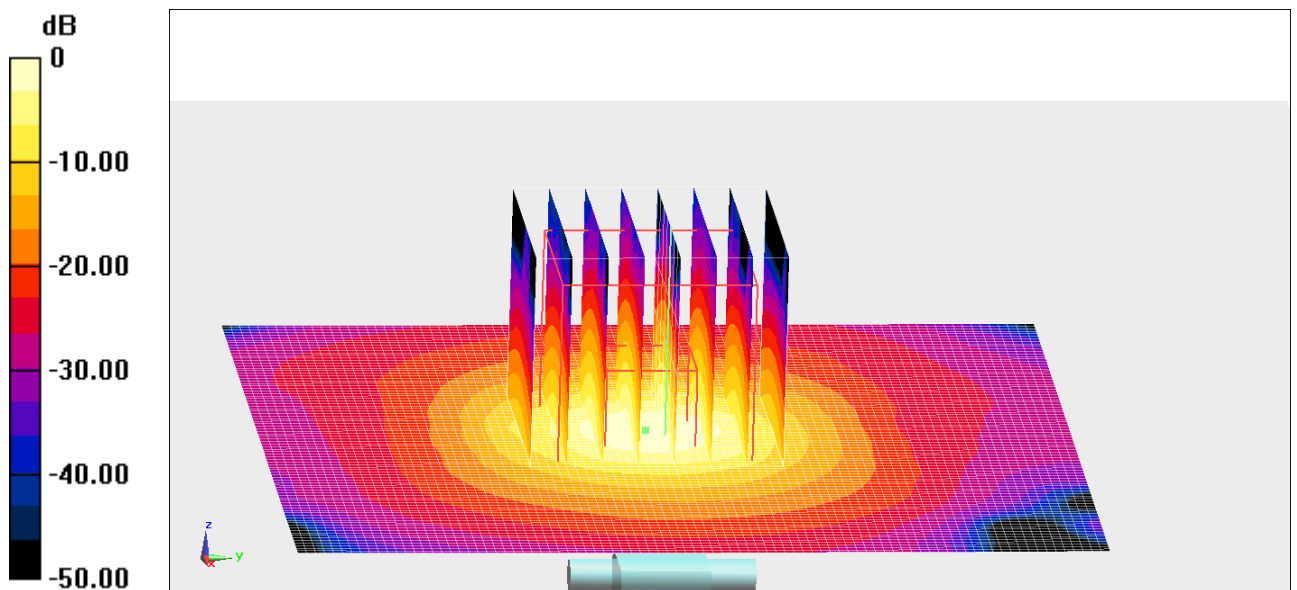
System Validation /Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 64.61 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 31.7 W/kg

SAR(1 g) = 7.58 W/kg; SAR(10 g) = 2.13 W/kg

Maximum value of SAR (measured) = 18.2 W/kg



0 dB = 18.2 W/kg = 12.60 dBW/kg

Fig.B.16 validation 5300MHz 100mW

5600MHz

Date: 2017-8-15

Electronics: DAE4 Sn1331

Medium: Head 5 GHz

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.06$ mho/m; $\epsilon_r = 35.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 5600 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3846 ConvF(4.72, 4.72, 4.72)

System Validation /Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 19.7 W/kg

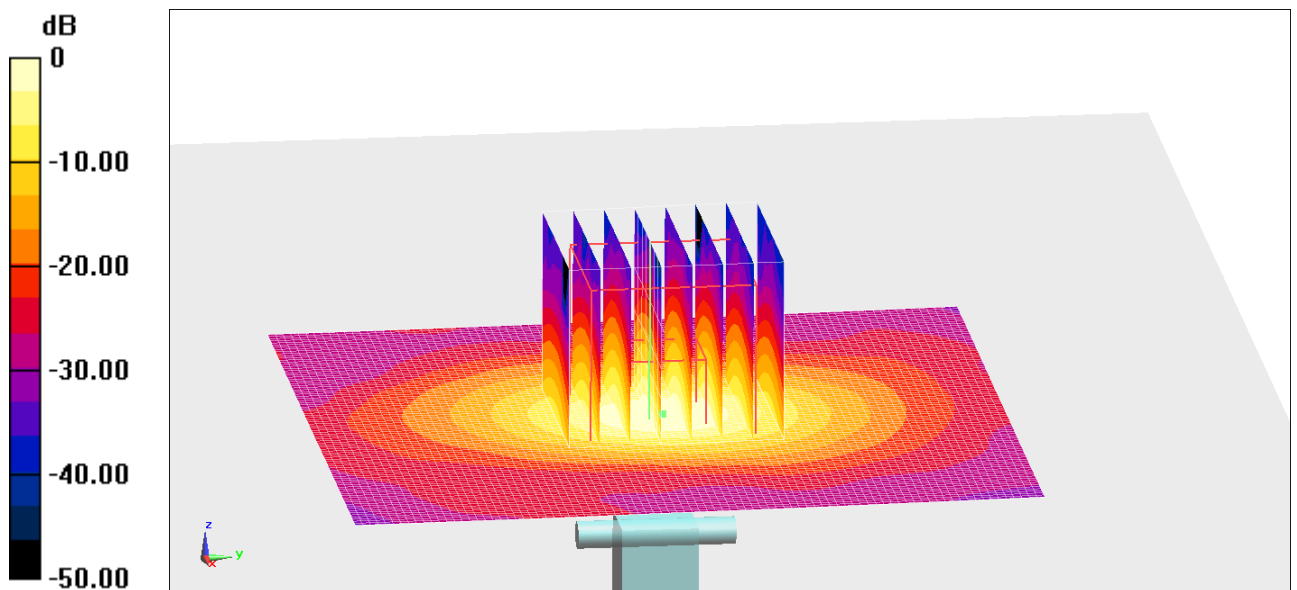
System Validation /Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 73.13 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 35.2 W/kg

SAR(1 g) = 8.16 W/kg; SAR(10 g) = 2.34 W/kg

Maximum value of SAR (measured) = 19.5 W/kg



0 dB = 19.5 W/kg = 12.90 dBW/kg

Fig.B.17 validation 5600MHz 100mW

5600MHz

Date: 2017-8-15

Electronics: DAE4 Sn1331

Medium: Body 5 GHz

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.709$ mho/m; $\epsilon_r = 46.84$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 5600 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3846 ConvF(4.18, 4.18, 4.18)

System Validation /Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 20.4 W/kg

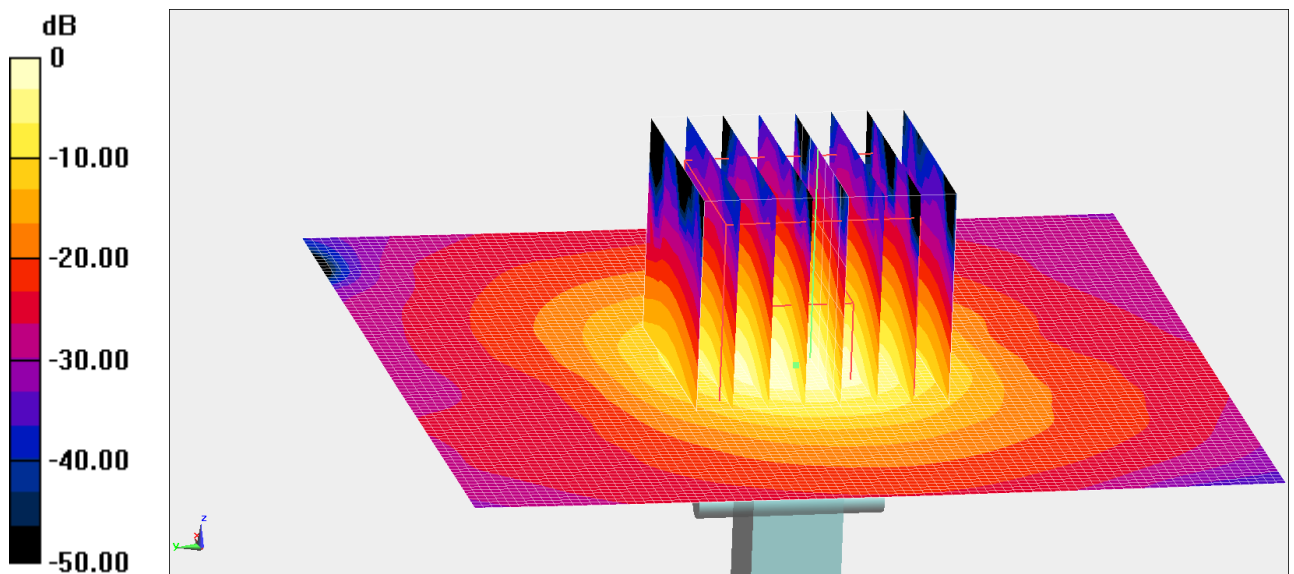
System Validation /Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 66.39 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 37.1 W/kg

SAR(1 g) = 7.91 W/kg; SAR(10 g) = 2.21 W/kg

Maximum value of SAR (measured) = 20.1 W/kg



0 dB = 20.1 W/kg = 13.03 dBW/kg

Fig.B.18 validation 5600MHz 100mW

5800MHz

Date: 2017-8-15

Electronics: DAE4 Sn1331

Medium: Head 5 GHz

Medium parameters used: $f = 5800 \text{ MHz}$; $\sigma = 5.271 \text{ mho/m}$; $\epsilon_r = 34.91$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 5800 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3846 ConvF(4.95, 4.95, 4.95)

System Validation /Area Scan (91x91x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$
Maximum value of SAR (interpolated) = 20.1 W/kg

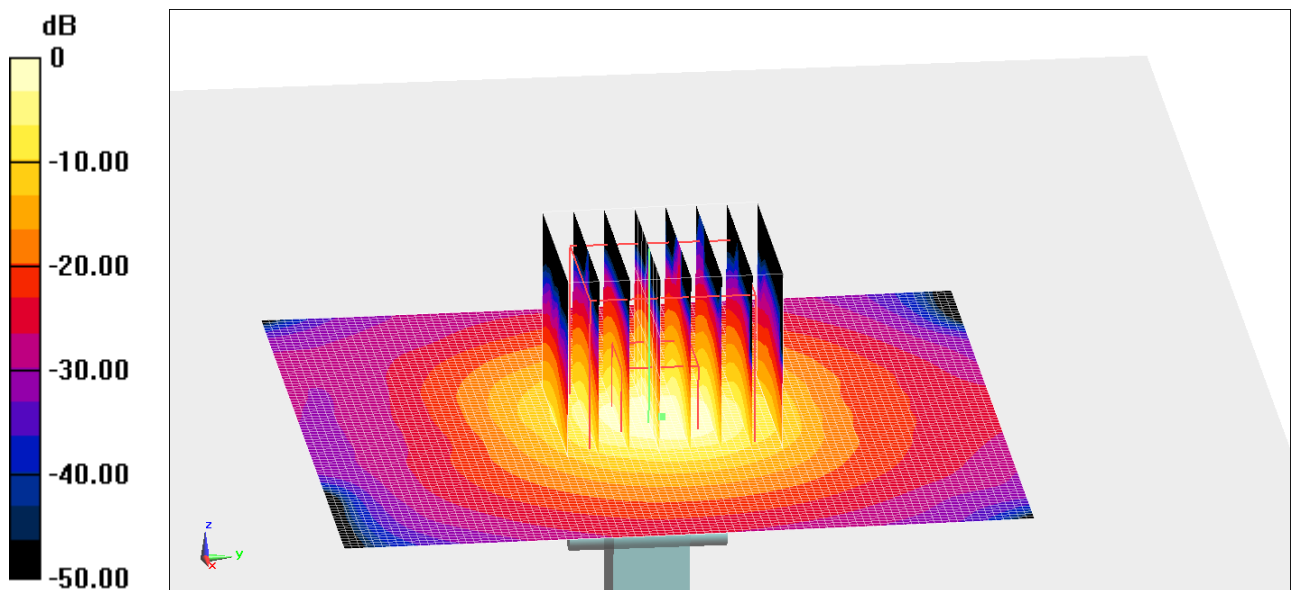
System Validation /Zoom Scan (8x8x7)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$,
 $dz=1.4\text{mm}$

Reference Value = 70.45 V/m ; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 39.9 W/kg

SAR(1 g) = 7.97 W/kg ; SAR(10 g) = 2.25 W/kg

Maximum value of SAR (measured) = 20.3 W/kg



0 dB = 20.3 W/kg = 13.07 dBW/kg

Fig.B.19 validation 5800MHz 100mW

5800MHz

Date: 2017-8-15

Electronics: DAE4 Sn1331

Medium: Body 5 GHz

Medium parameters used: $f = 5800 \text{ MHz}$; $\sigma = 5.988 \text{ mho/m}$; $\epsilon_r = 46.44$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C

Communication System: CW Frequency: 5800 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3846 ConvF(4.53, 4.53, 4.53)

System Validation /Area Scan (91x91x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$
Maximum value of SAR (interpolated) = 18.4 W/kg

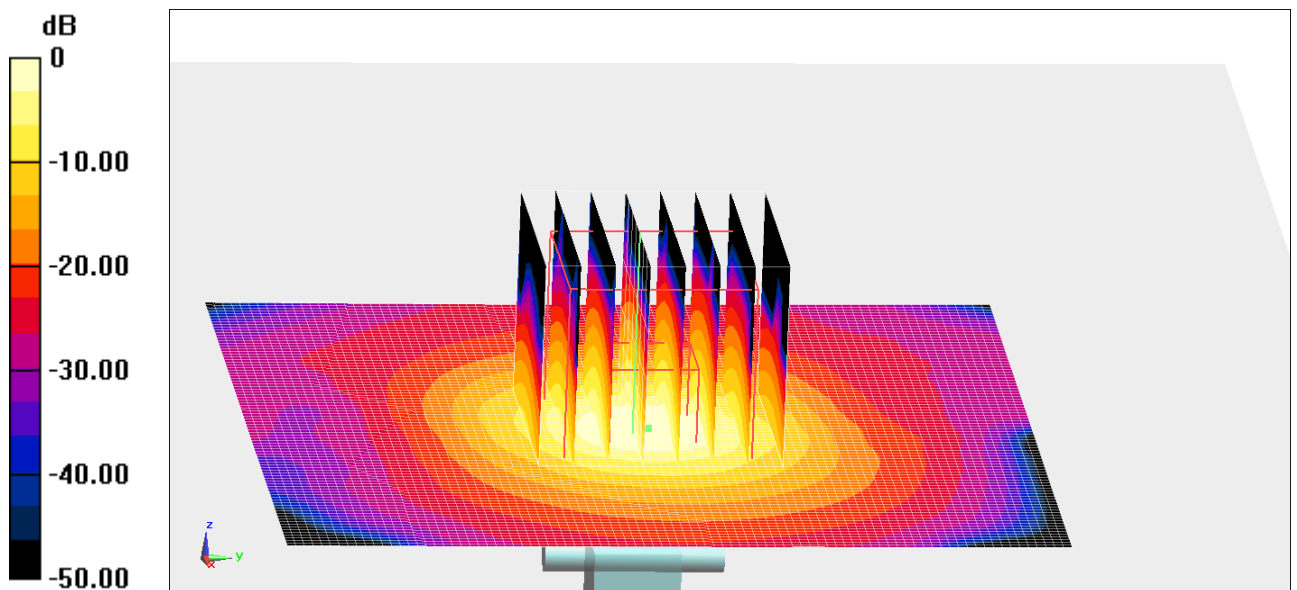
System Validation /Zoom Scan (8x8x7)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$,
 $dz=1.4\text{mm}$

Reference Value = 66.09 V/m ; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 35.5 W/kg

SAR(1 g) = 7.55 W/kg ; SAR(10 g) = 2.12 W/kg

Maximum value of SAR (measured) = 18.7 W/kg



0 dB = $18.7 \text{ W/kg} = 12.72 \text{ dBW/kg}$

Fig.B.20 validation 5800MHz 100mW