

### WCDMA 850 Right Cheek Middle

Date: 2014-3-13

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated):  $f = 836.4$  MHz;  $\sigma = 0.881$  mho/m;  $\epsilon_r = 41.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

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

Probe: EX3DV4 - SN3846 ConvF(8.92, 8.92, 8.92)

**Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.194 W/kg

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

Reference Value = 4.781 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.227 W/kg

**SAR(1 g) = 0.179 W/kg; SAR(10 g) = 0.137 W/kg**

Maximum value of SAR (measured) = 0.186 W/kg

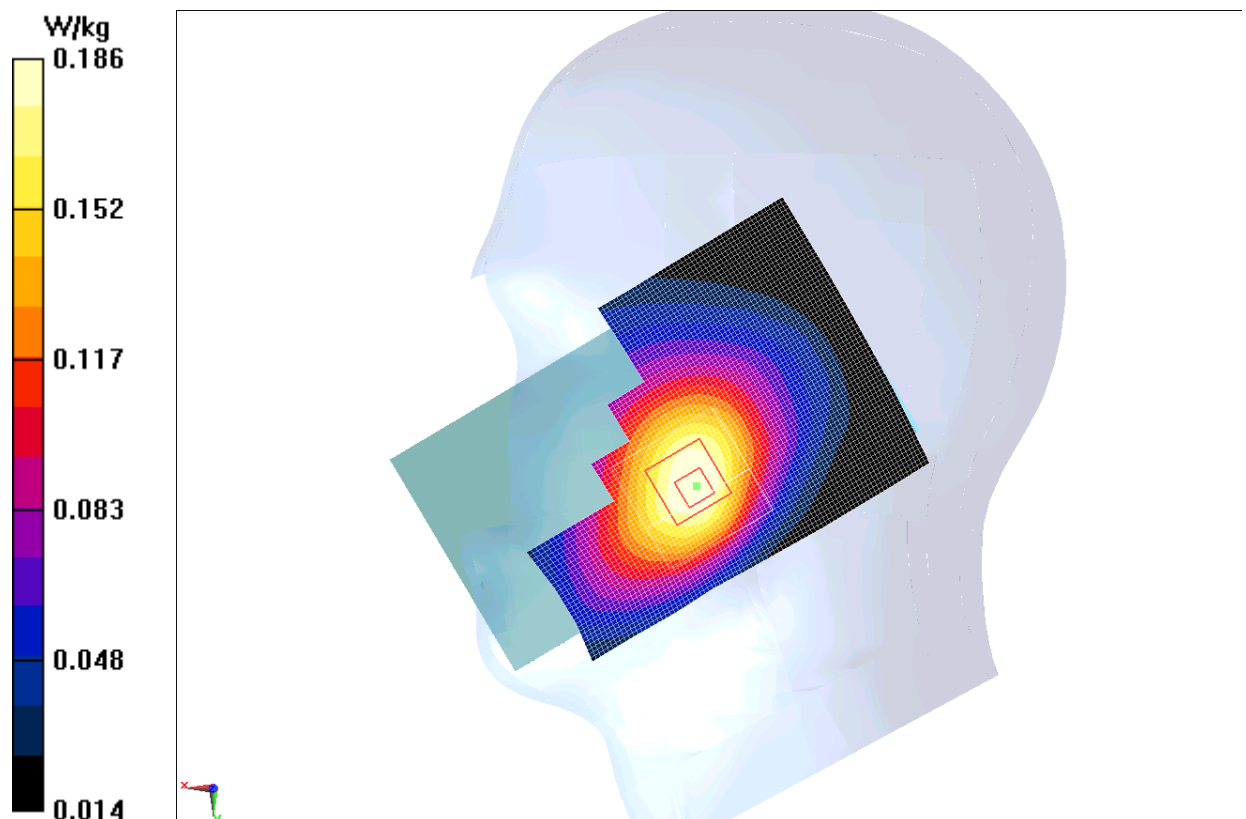
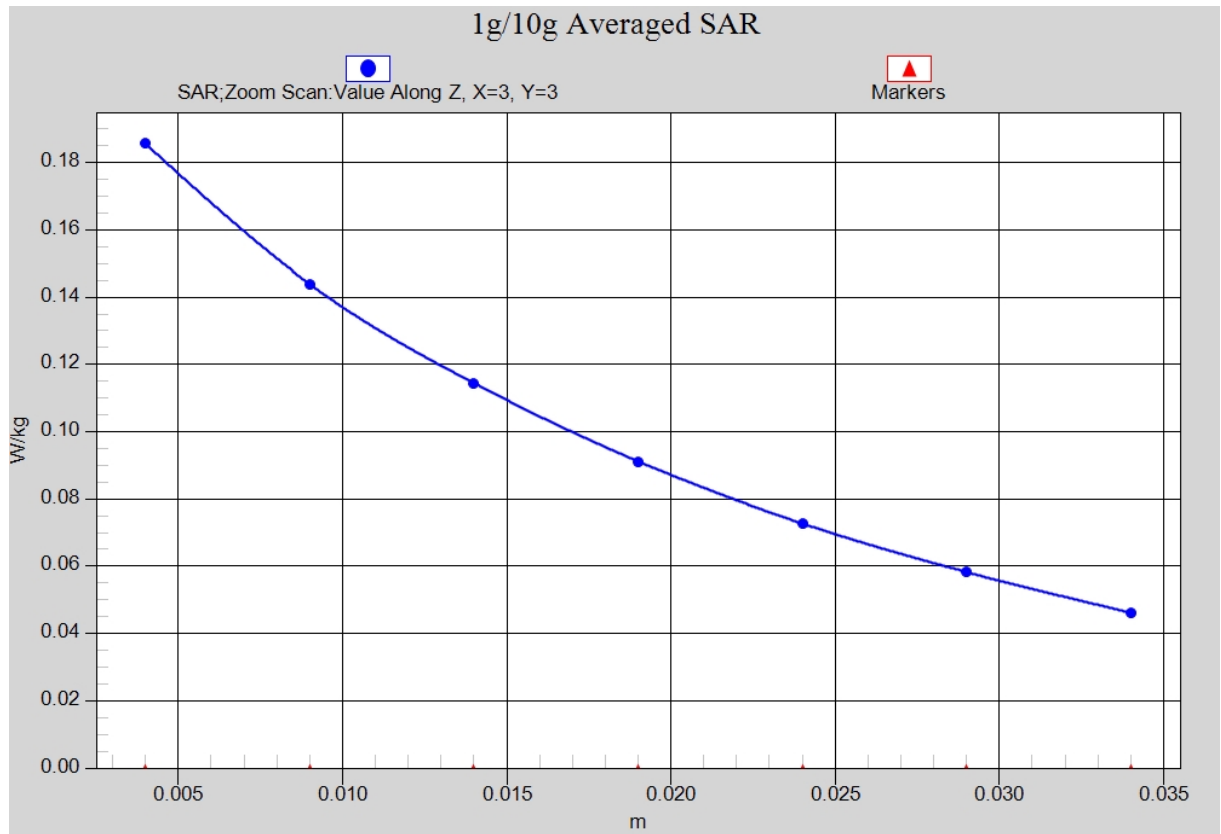


Fig.5 WCDMA 850 CH4182



**Fig. 5-1 Z-Scan at power reference point (WCDMA 850 CH4182)**

### WCDMA 850 Body Rear High

Date: 2014-3-13

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated):  $f = 846.6$  MHz;  $\sigma = 0.975$  mho/m;  $\epsilon_r = 53.976$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

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

Probe: EX3DV4 - SN3846 ConvF(8.73, 8.73, 8.73)

**Rear High/Area Scan (71x131x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.477 W/kg

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

Reference Value = 15.288 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.800 W/kg

**SAR(1 g) = 0.472 W/kg; SAR(10 g) = 0.265 W/kg**

Maximum value of SAR (measured) = 0.499 W/kg

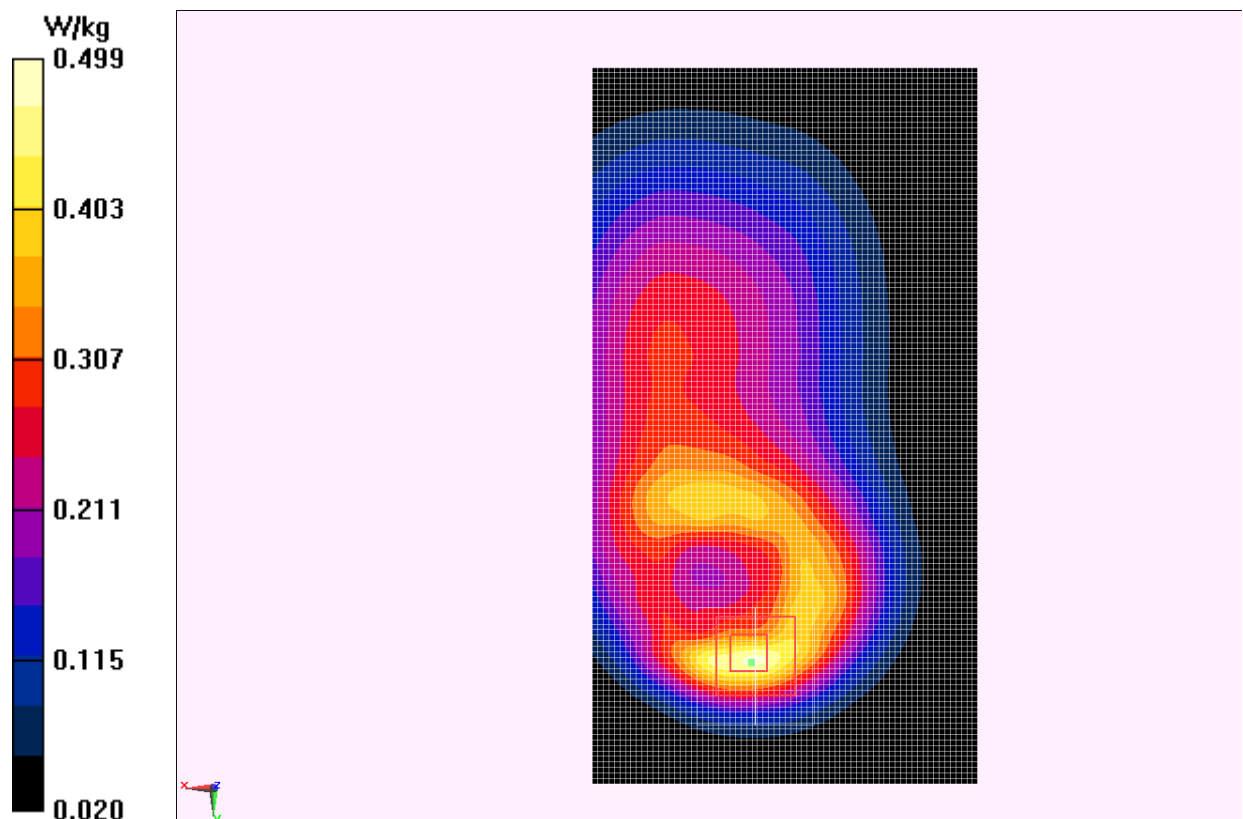


Fig.6 WCDMA 850 CH4233

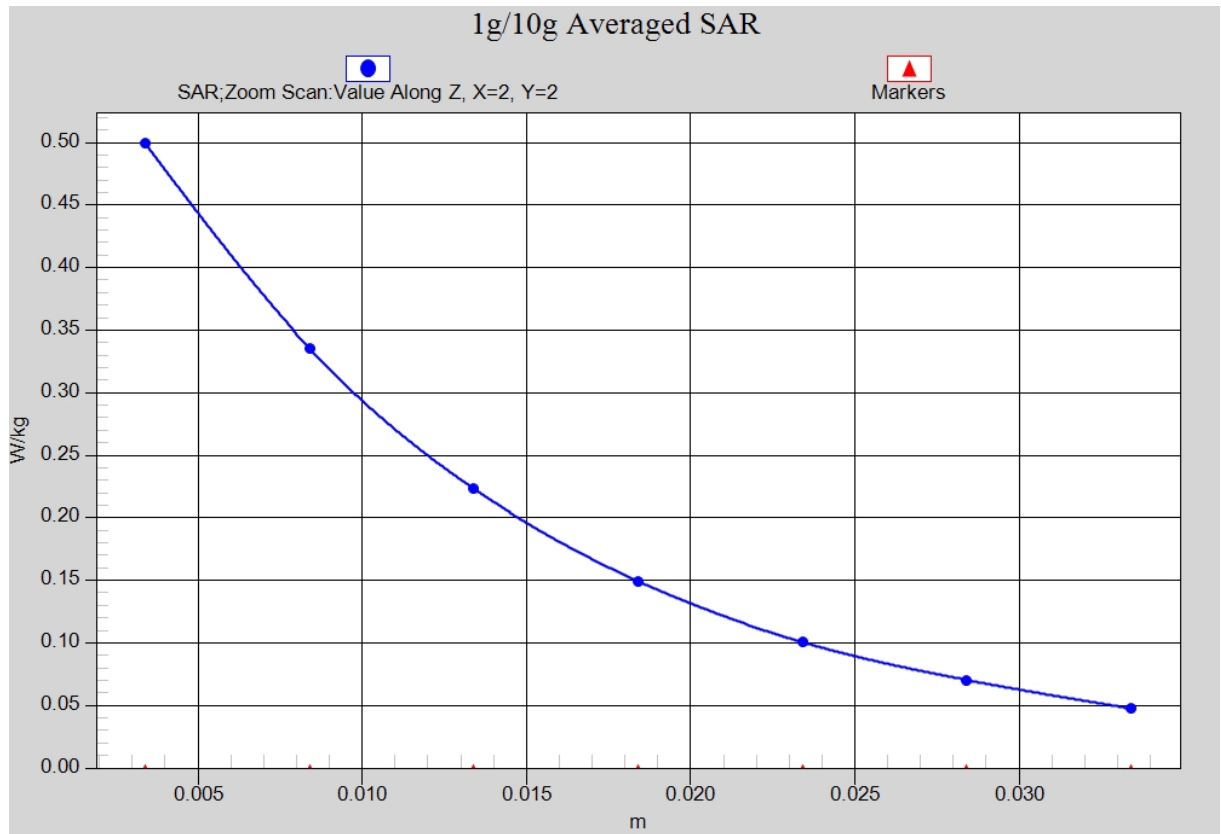


Fig. 6-1 Z-Scan at power reference point (WCDMA850 CH4233)

**WCDMA 1900 Left Cheek Low**

Date: 2014-3-14

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used (interpolated):  $f = 1852.4$  MHz;  $\sigma = 1.358$  mho/m;  $\epsilon_r = 41.158$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

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

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

**Cheek Low/Area Scan (71x131x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.328 W/kg

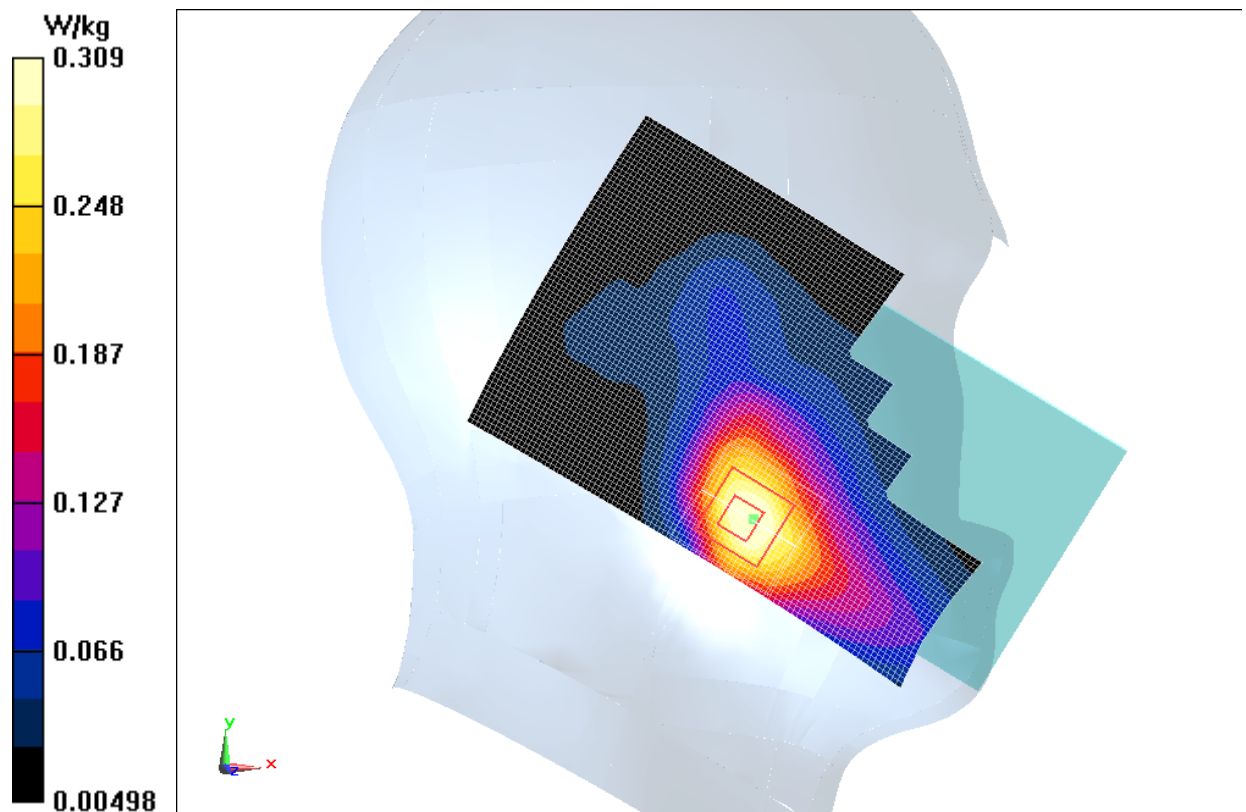
**Cheek Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.055 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.380 W/kg

**SAR(1 g) = 0.264 W/kg; SAR(10 g) = 0.163 W/kg**

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



**Fig.7 WCDMA1900 CH9262**

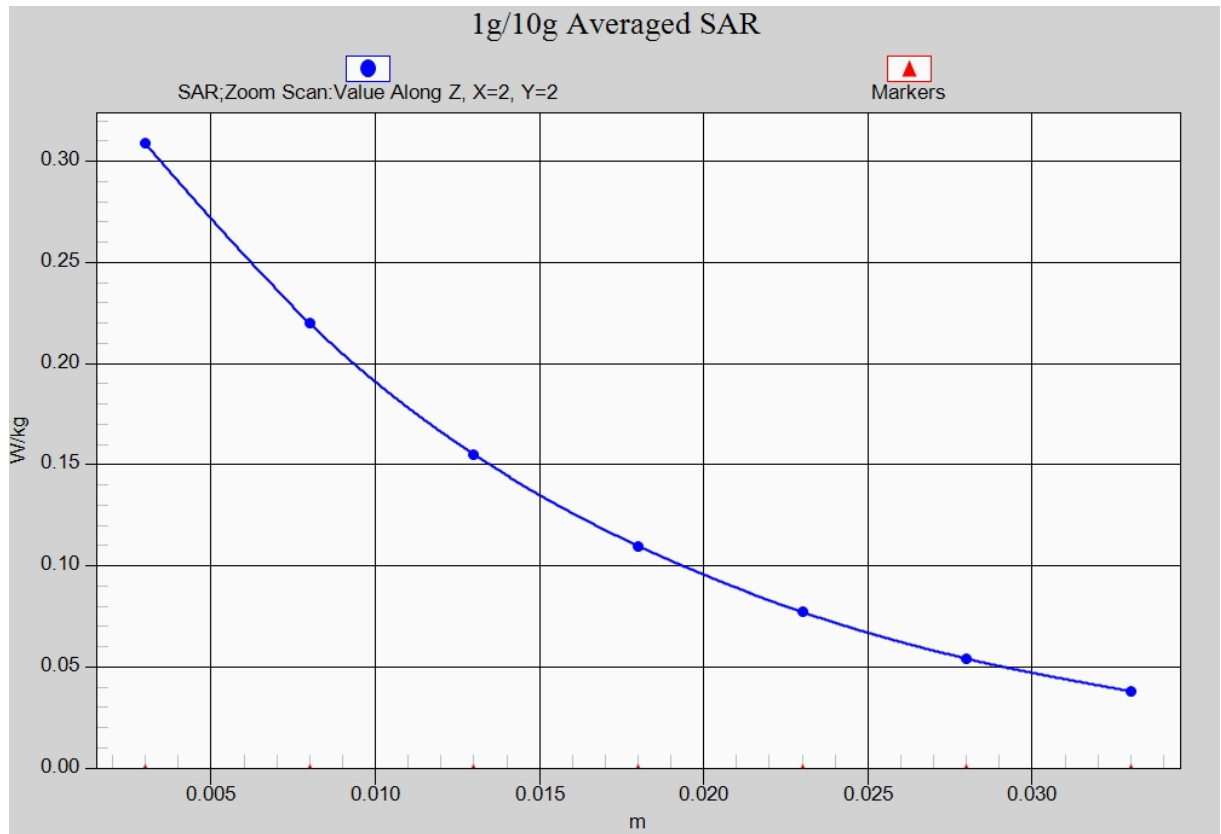


Fig. 7-1 Z-Scan at power reference point (WCDMA1900 CH9262)

### WCDMA 1900 Body Rear High

Date: 2014-3-14

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated):  $f = 1907.6$  MHz;  $\sigma = 1.547$  mho/m;  $\epsilon_r = 52.041$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

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

Probe: EX3DV4 - SN3846 ConvF(7.03, 7.03, 7.03)

**Rear High/Area Scan (71x131x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

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

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

Reference Value = 9.228 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 1.53 W/kg

**SAR(1 g) = 0.918 W/kg; SAR(10 g) = 0.464 W/kg**

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

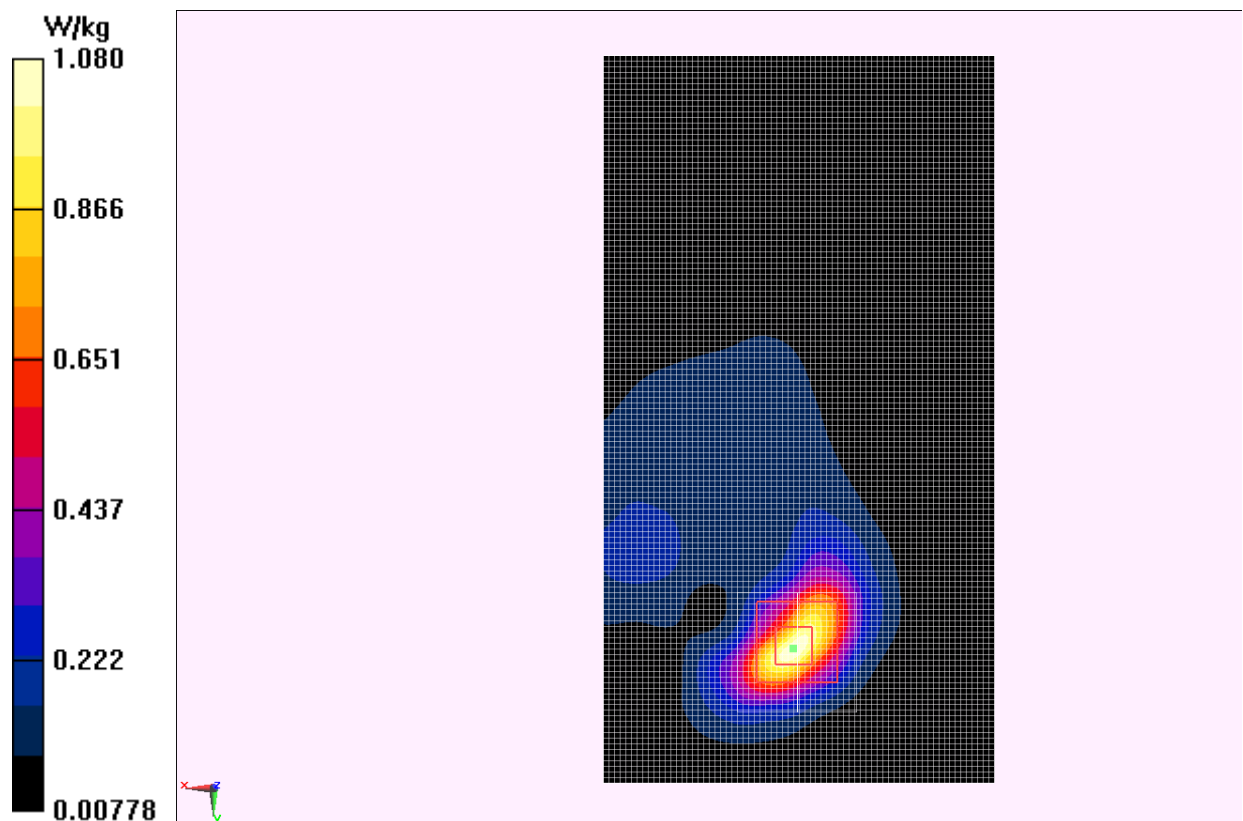


Fig.8 WCDMA1900 CH9538

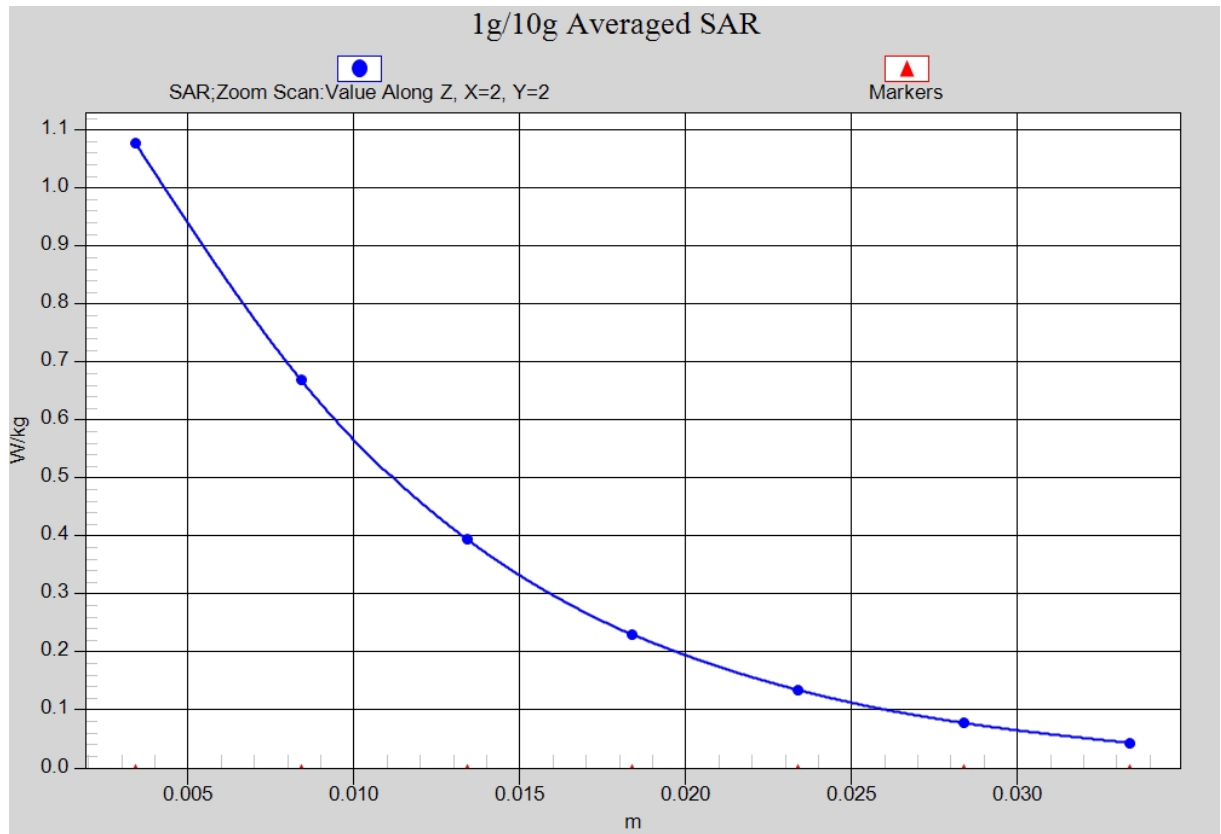


Fig. 8-1 Z-Scan at power reference point (WCDMA1900 CH9538)



**LTE Band4 Left Cheek High with QPSK\_20M\_1RB\_Low**

Date: 2014-3-15

Electronics: DAE4 Sn771

Medium: Head 1750 MHz

Medium parameters used:  $f = 1745$  MHz;  $\sigma = 1.388$  mho/m;  $\epsilon_r = 40.805$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Communication System: LTE Band4 Frequency: 1745 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(7.85, 7.85, 7.85)

**Cheek High/Area Scan (71x131x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.582 W/kg

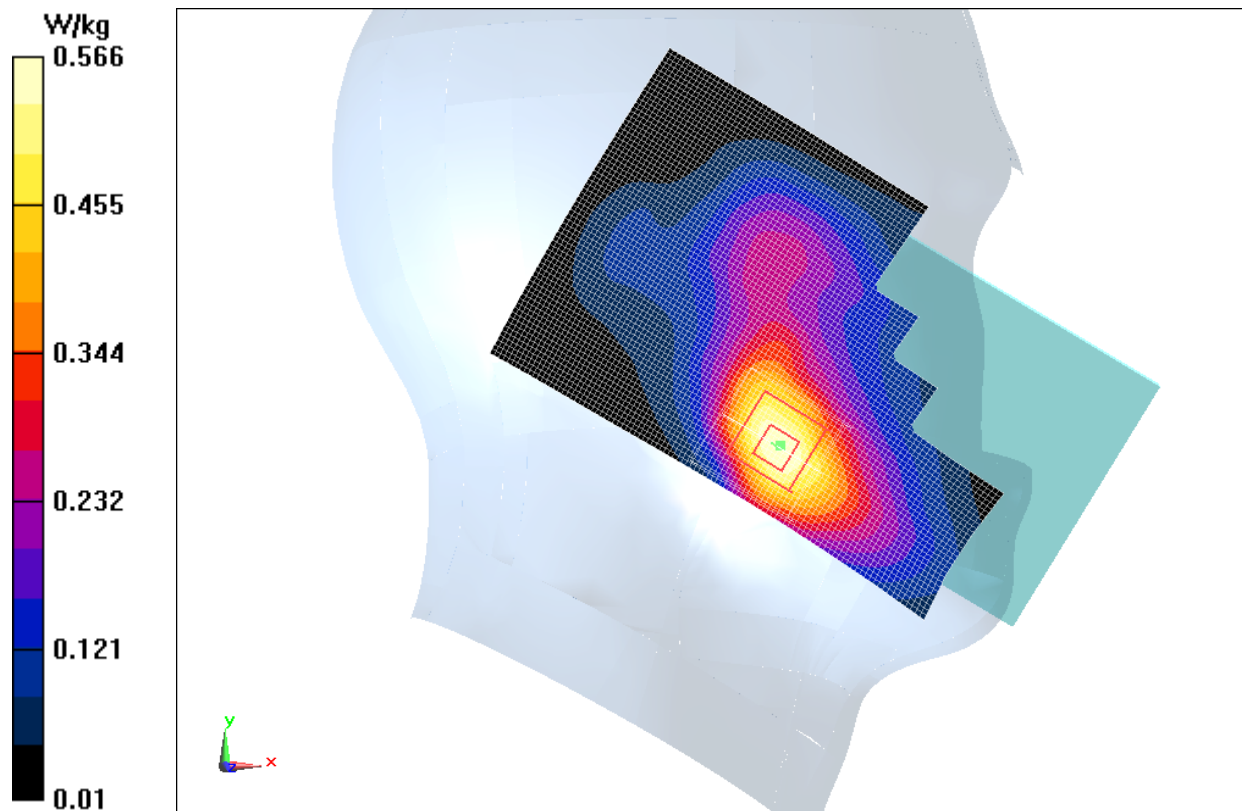
**Cheek High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.745 V/m; Power Drift = 0.11 dB

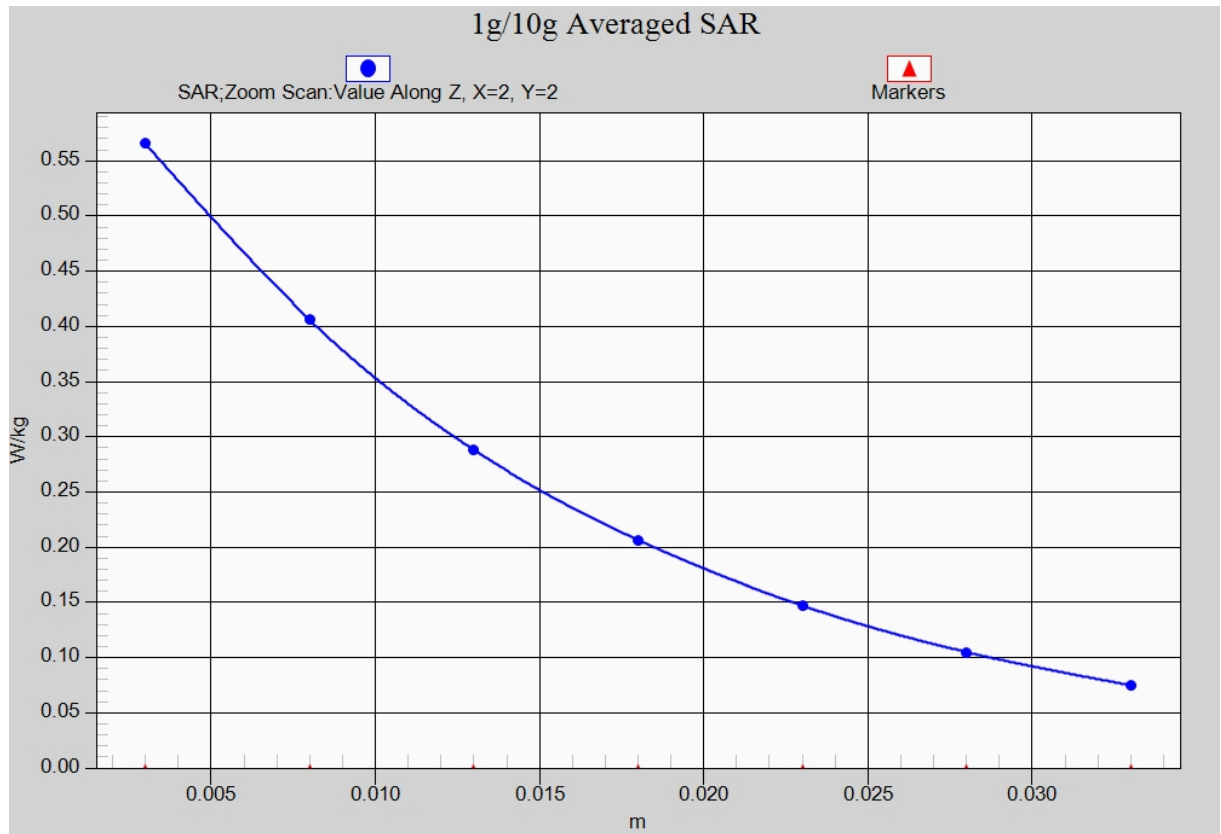
Peak SAR (extrapolated) = 0.690 W/kg

**SAR(1 g) = 0.490 W/kg; SAR(10 g) = 0.322 W/kg**

Maximum value of SAR (measured) = 0.566 W/kg



**Fig.9 LTE Band4 CH20300**



**Fig. 9-1 Z-Scan at power reference point (LTE Band4 CH20300)**

**LTE Band4 Body Rear High with QPSK\_20M\_1RB\_Low**

Date: 2014-3-15

Electronics: DAE4 Sn771

Medium: Body 1750 MHz

Medium parameters used:  $f = 1745$  MHz;  $\sigma = 1.507$  mho/m;  $\epsilon_r = 54.604$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Communication System: LTE Band4 Frequency: 1745 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(7.56, 7.56, 7.56)

**Rear High/Area Scan (71x131x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.839 W/kg

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

Reference Value = 17.687 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 1.17 W/kg

**SAR(1 g) = 0.744 W/kg; SAR(10 g) = 0.481 W/kg**

Maximum value of SAR (measured) = 0.886 W/kg

**Rear High/Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.687 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.917 W/kg

**SAR(1 g) = 0.630 W/kg; SAR(10 g) = 0.431 W/kg**

Maximum value of SAR (measured) = 0.740 W/kg

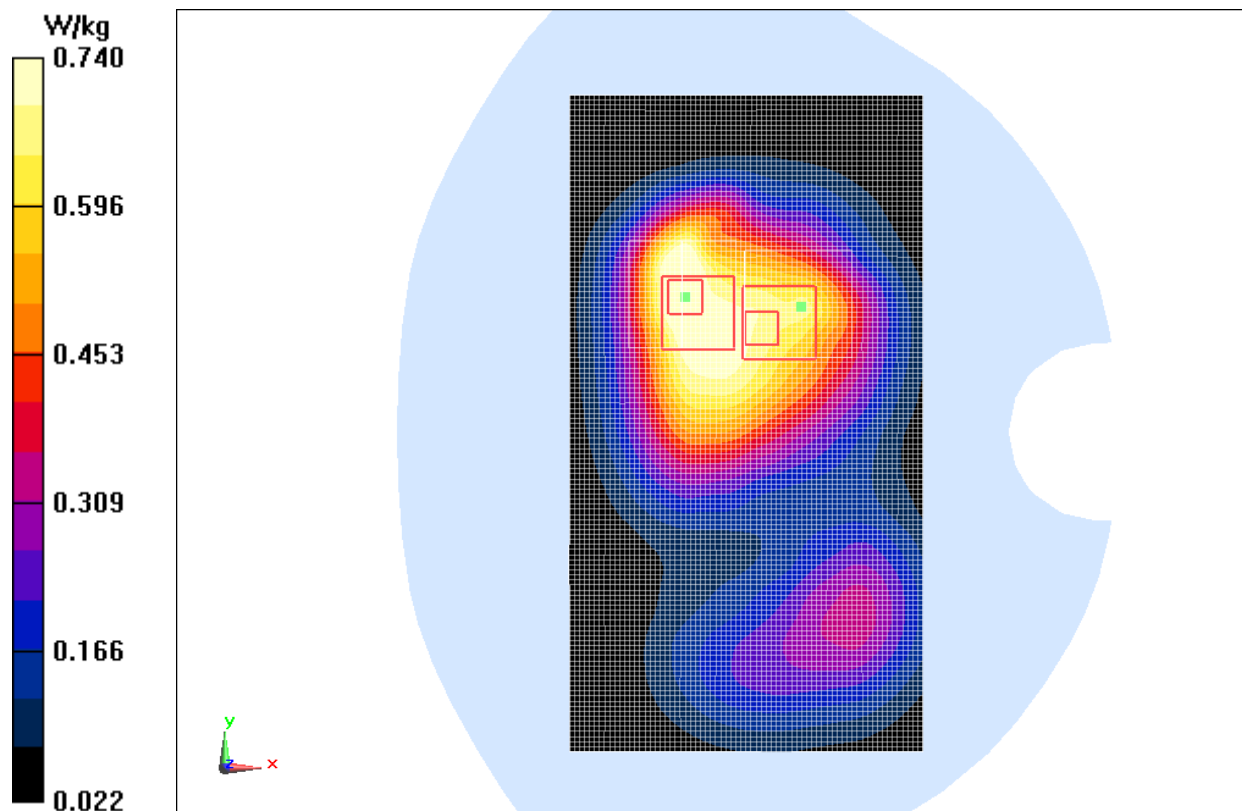
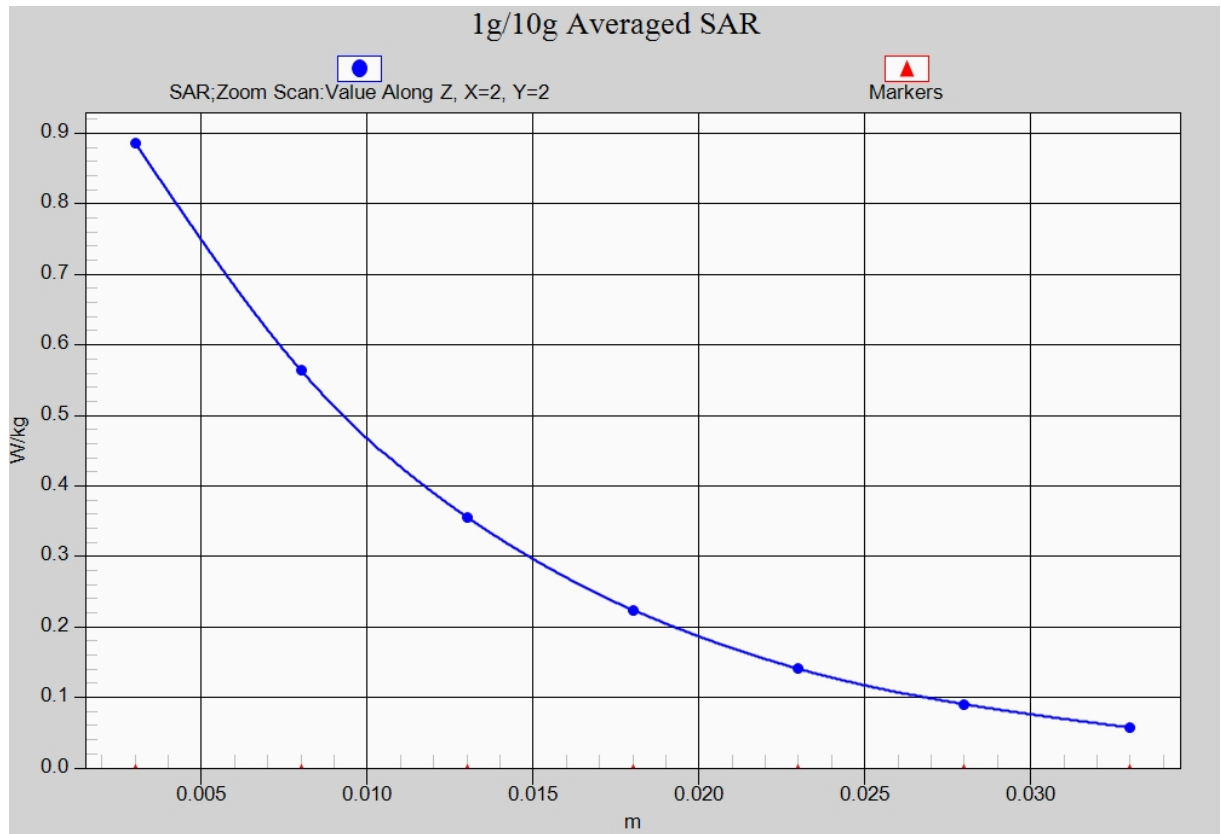


Fig.10 LTE Band4 CH20300



**Fig. 10-1 Z-Scan at power reference point (LTE Band4 CH20300)**

**LTE Band17 Right Cheek Low with QPSK\_10M\_1RB\_Middle**

Date: 2014-3-15

Electronics: DAE4 Sn771

Medium: Head 750 MHz

Medium parameters used (interpolated):  $f = 709$  MHz;  $\sigma = 0.827$  mho/m;  $\epsilon_r = 43.669$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Communication System: LTE Band17 Frequency: 709 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(9.32, 9.32, 9.32)

**Cheek Low/Area Scan (71x121x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.194 W/kg

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

Reference Value = 4.499 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.215 W/kg

**SAR(1 g) = 0.184 W/kg; SAR(10 g) = 0.151 W/kg**

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

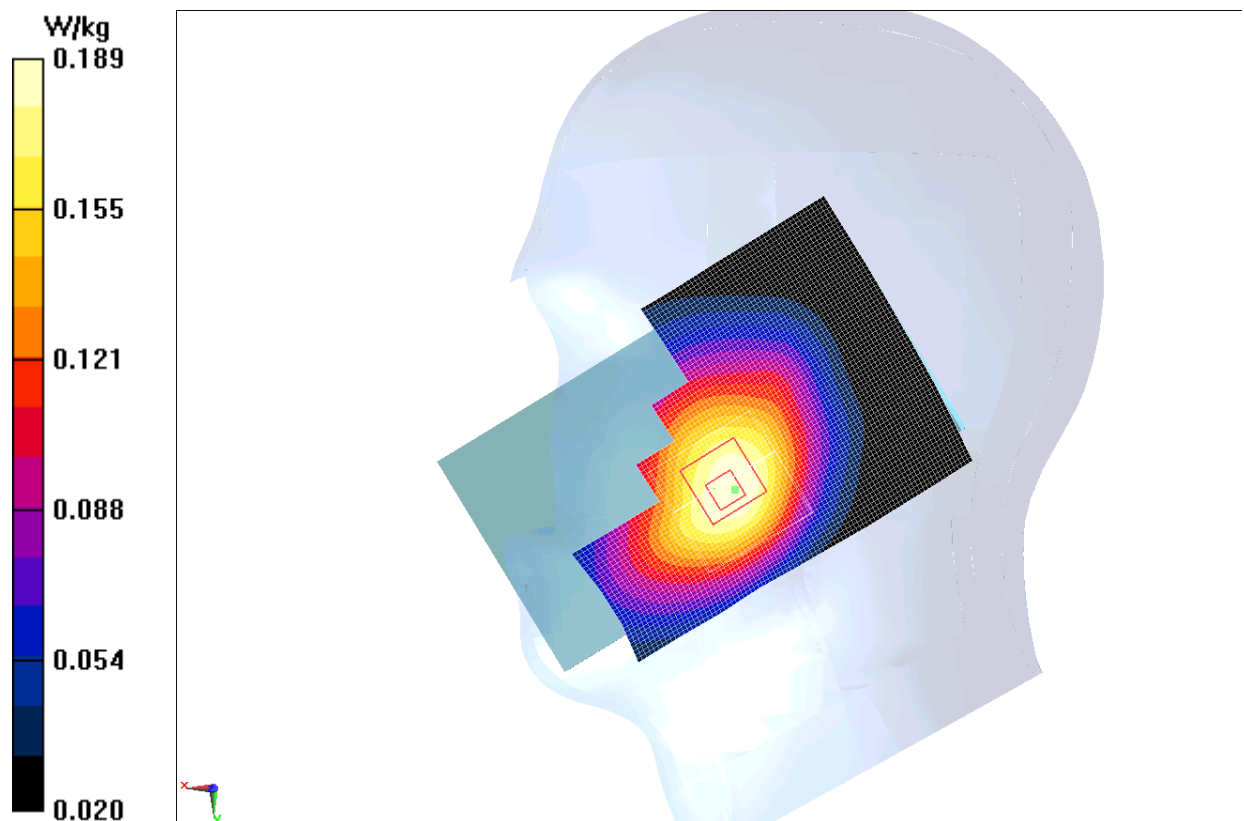
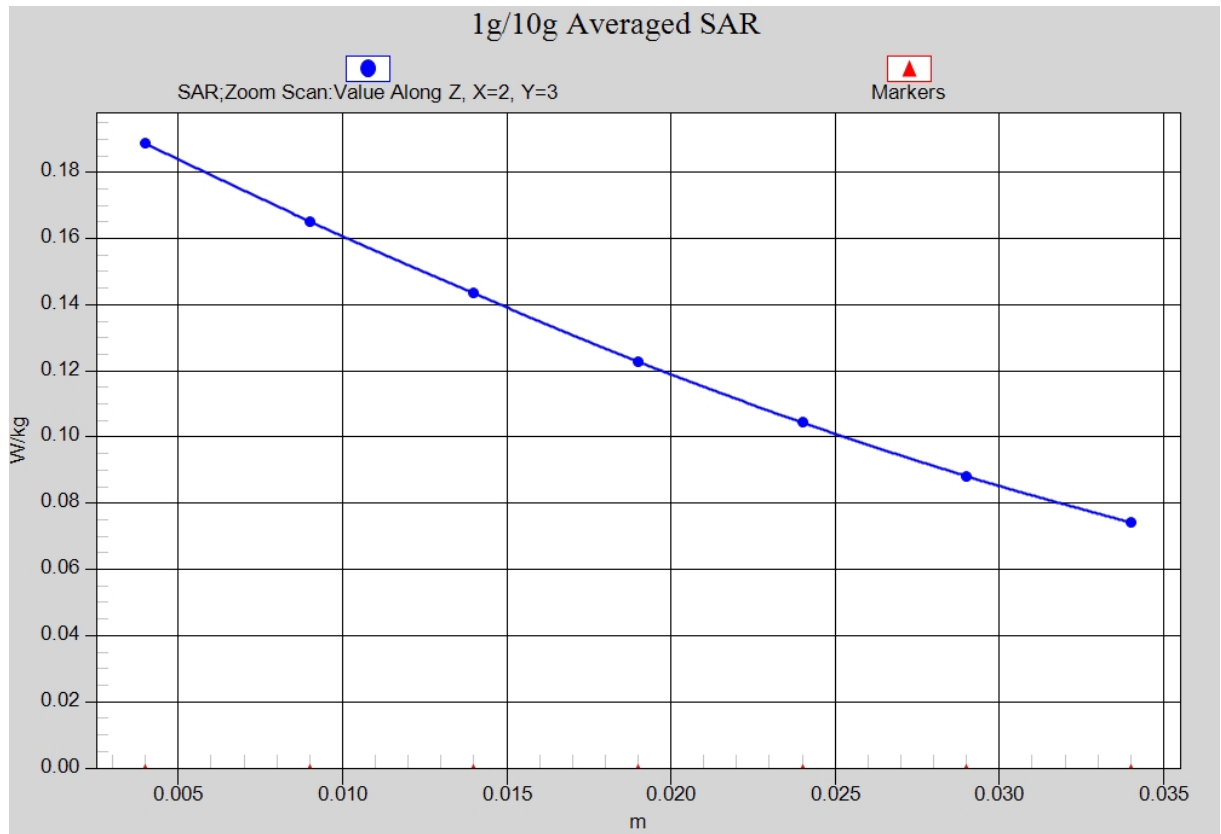


Fig.11 LTE Band17 CH23780



**Fig. 11-1 Z-Scan at power reference point (LTE Band17 CH23780)**

**LTE Band17 Body Rear Low with QPSK\_10M\_1RB\_Middle**

Date: 2014-3-15

Electronics: DAE4 Sn771

Medium: Body 750 MHz

Medium parameters used (interpolated):  $f = 709$  MHz;  $\sigma = 0.939$  mho/m;  $\epsilon_r = 57.306$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Communication System: LTE Band17 Frequency: 709 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3846 ConvF(8.96, 8.96, 8.96)

**Rear Low/Area Scan (71x131x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.501 W/kg

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

Reference Value = 21.889 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.755 W/kg

**SAR(1 g) = 0.451 W/kg; SAR(10 g) = 0.262 W/kg**

Maximum value of SAR (measured) = 0.541 W/kg

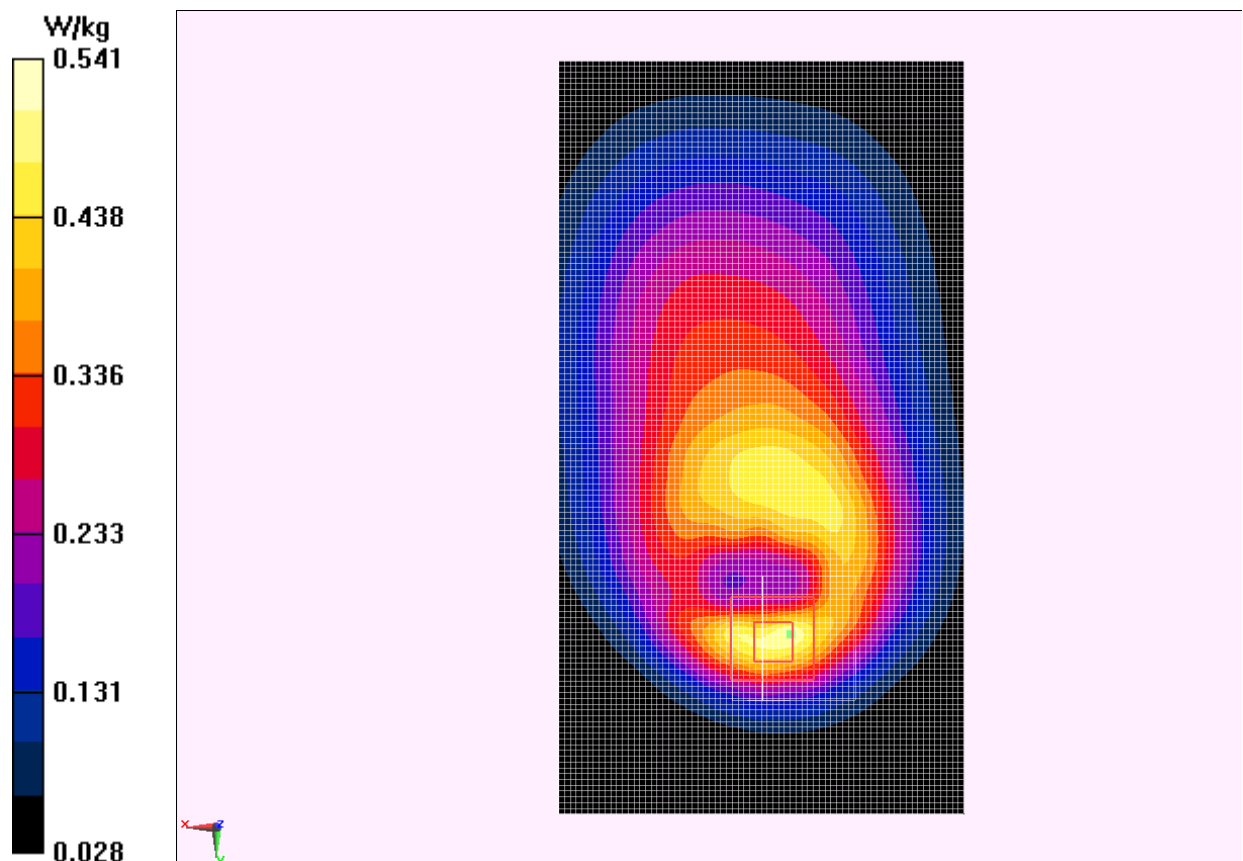
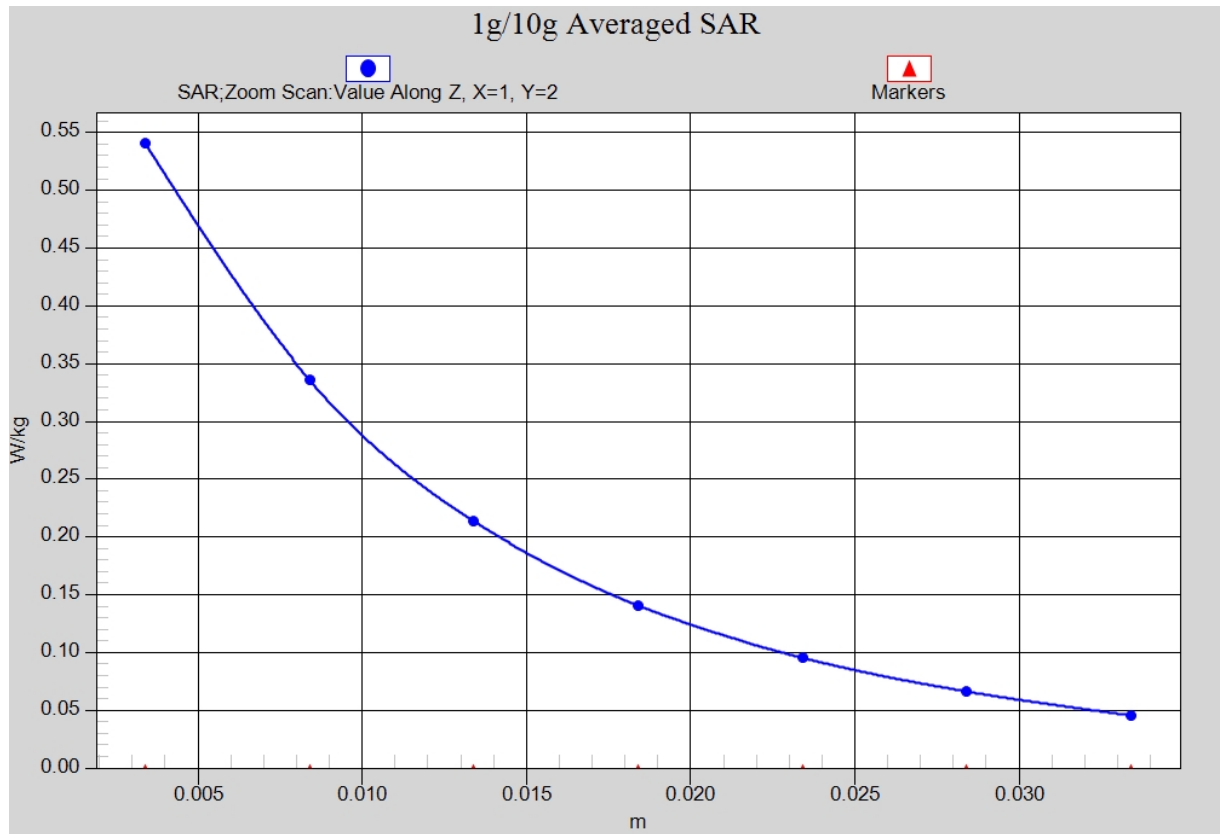


Fig.12 LTE Band17 CH23780



**Fig. 12-1 Z-Scan at power reference point (LTE Band17 CH23780)**



**Wifi 802.11b Left Cheek Channel 6**

Date: 2014-3-10

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated):  $f = 2437$  MHz;  $\sigma = 1.778$  mho/m;  $\epsilon_r = 40.082$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

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

Probe: EX3DV4 - SN3846 ConvF(6.78, 6.78, 6.78)

**Cheek Middle/Area Scan (71x131x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.778 W/kg

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

Reference Value = 9.635 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.32 W/kg

**SAR(1 g) = 0.576 W/kg; SAR(10 g) = 0.307 W/kg**

Maximum value of SAR (measured) = 0.741 W/kg

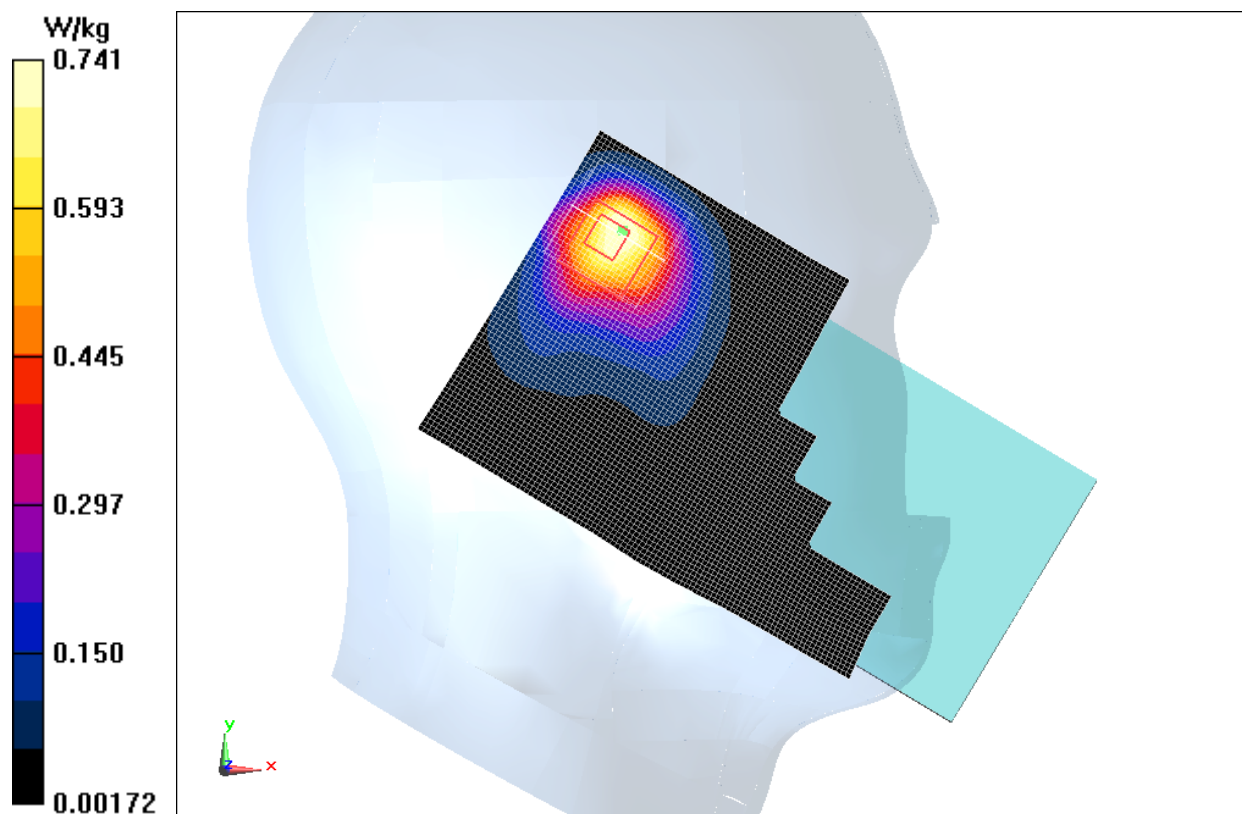
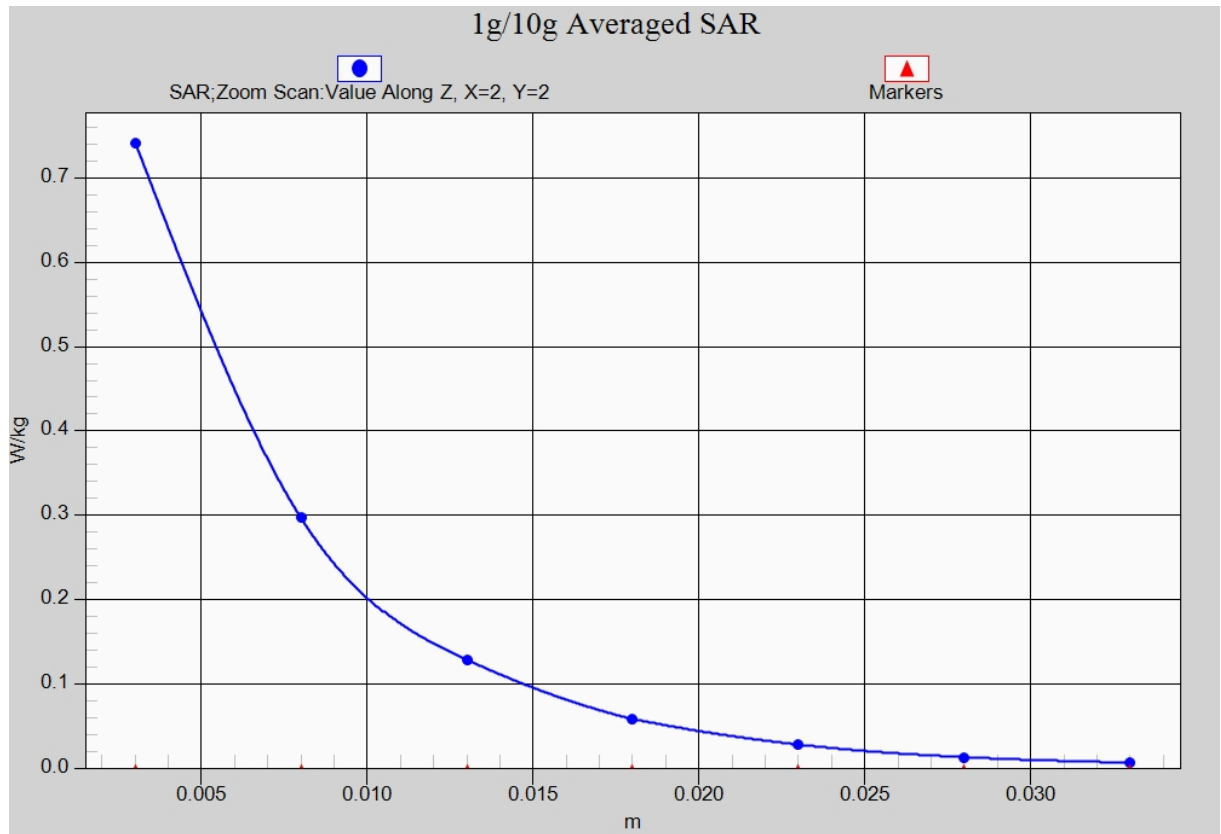


Fig.13 2450 MHz CH6



**Fig. 13-1 Z-Scan at power reference point (2450 MHz CH6)**

**Wifi 802.11b Body Rear Channel 6**

Date: 2014-3-10

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated):  $f = 2437$  MHz;  $\sigma = 1.919$  mho/m;  $\epsilon_r = 51.983$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

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

Probe: EX3DV4 - SN3846 ConvF(6.73, 6.73, 6.73)

**Rear Middle/Area Scan (71x131x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.321 W/kg

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

Reference Value = 3.461 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.611 W/kg

**SAR(1 g) = 0.258 W/kg; SAR(10 g) = 0.118 W/kg**

Maximum value of SAR (measured) = 0.351 W/kg

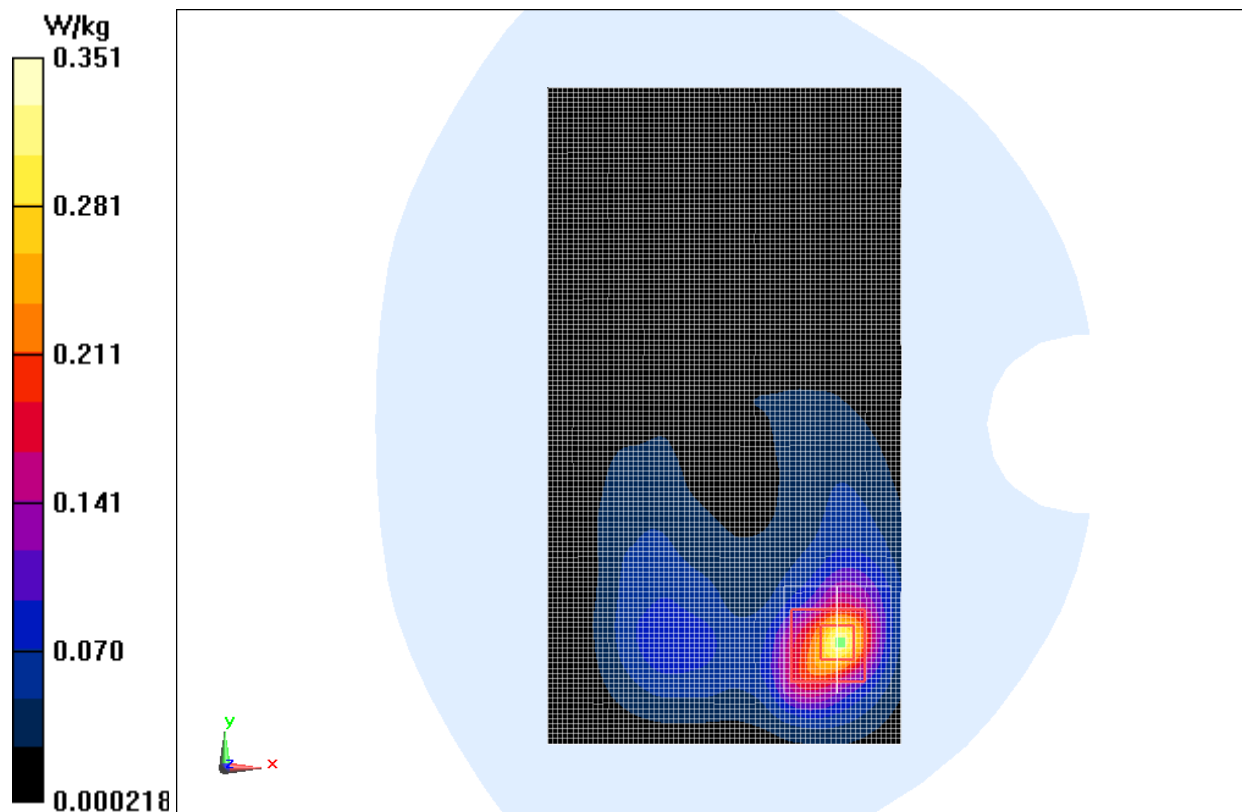
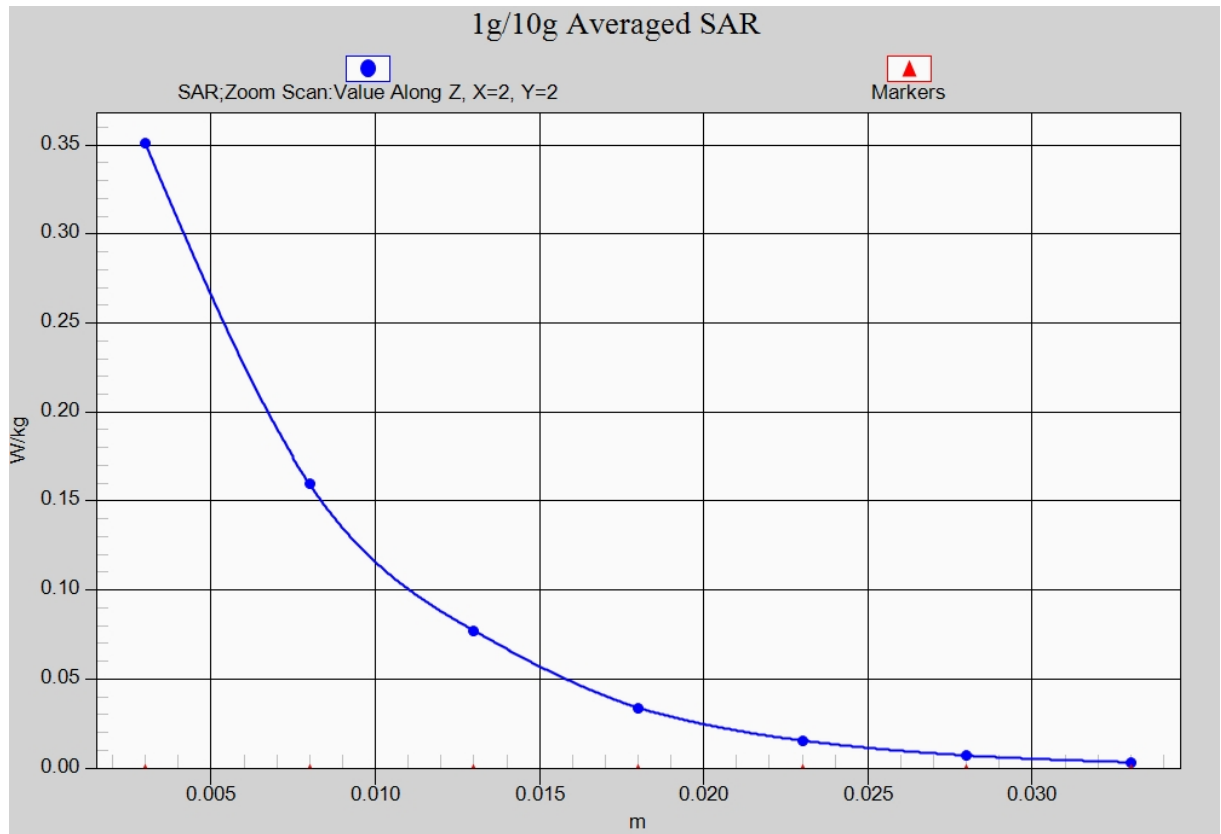


Fig.14 2450 MHz CH6



**Fig. 14-1 Z-Scan at power reference point (2450 MHz CH6)**

## ANNEX B System Verification Results

### 750MHz

Date: 2014-3-15

Electronics: DAE4 Sn771

Medium: Head 750 MHz

Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.918 \text{ mho/m}$ ;  $\epsilon_r = 41.37$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3^\circ\text{C}$       Liquid Temperature:  $21.8^\circ\text{C}$

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

Probe: EX3DV4 - SN3846 ConvF(9.32, 9.32, 9.32)

**System Validation /Area Scan (81x191x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Reference Value = 50.979 V/m; Power Drift = 0.12 dB

**Fast SAR: SAR(1 g) = 2.20 W/kg; SAR(10 g) = 1.43 W/kg**

Maximum value of SAR (interpolated) = 2.35 W/kg

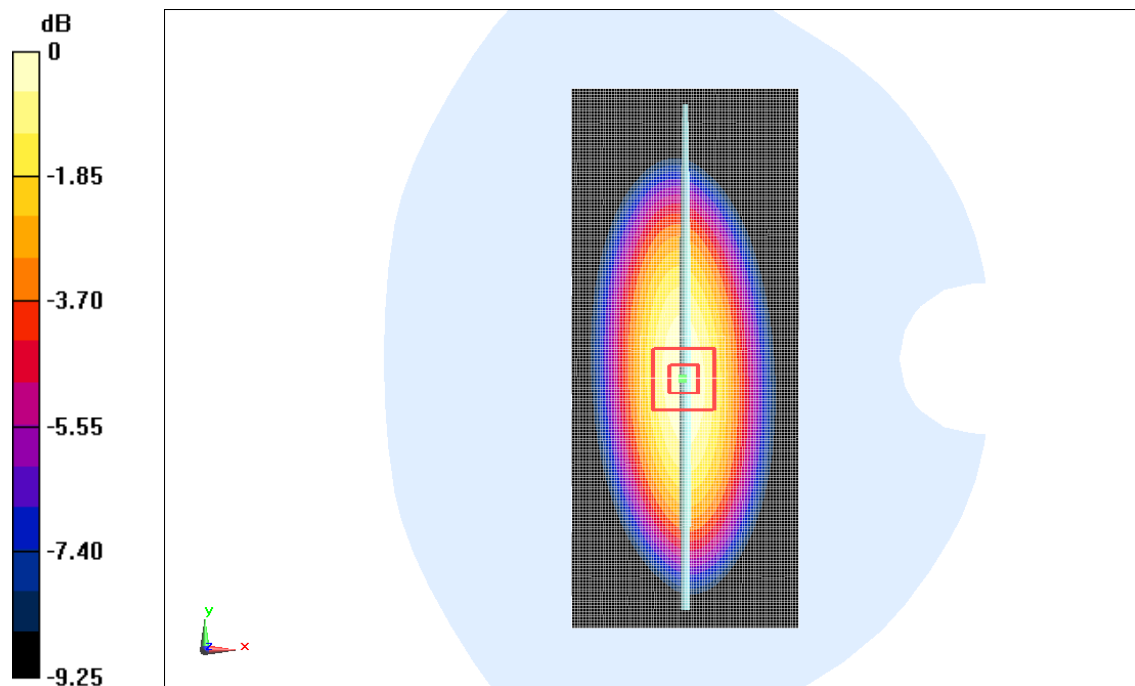
**System Validation /Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 50.979 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 3.06 W/kg

**SAR(1 g) = 2.17 W/kg; SAR(10 g) = 1.41 W/kg**

Maximum value of SAR (measured) = 2.33 W/kg



0 dB = 2.35 W/kg = 7.42 dB W/kg

**Fig.B.1 validation 750MHz 250mW**

## 750MHz

Date: 2014-3-15

Electronics: DAE4 Sn771

Medium: Body 750 MHz

Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.976 \text{ mho/m}$ ;  $\epsilon_r = 56.41$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3^\circ\text{C}$       Liquid Temperature:  $21.8^\circ\text{C}$

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

Probe: EX3DV4 - SN3846 ConvF(8.96, 8.96, 8.96)

**System Validation /Area Scan (81x191x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Reference Value =  $51.003 \text{ V/m}$ ; Power Drift =  $-0.09 \text{ dB}$

**Fast SAR: SAR(1 g) =  $2.17 \text{ W/kg}$ ; SAR(10 g) =  $1.42 \text{ W/kg}$**

Maximum value of SAR (interpolated) =  $2.31 \text{ W/kg}$

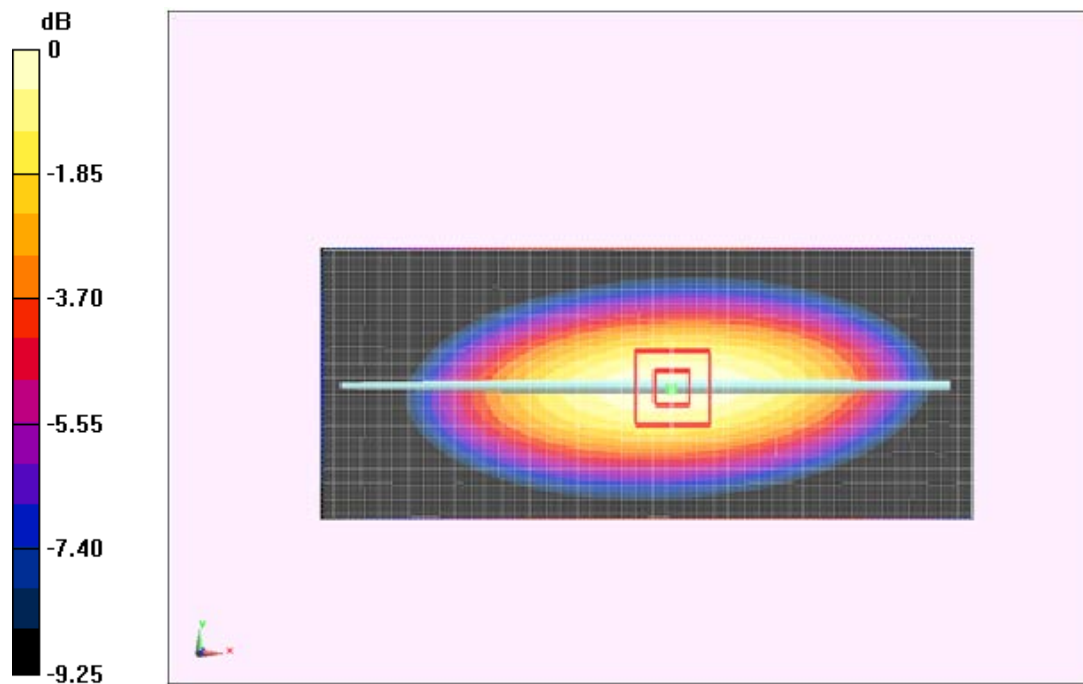
**System Validation /Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $51.003 \text{ V/m}$ ; Power Drift =  $-0.09 \text{ dB}$

Peak SAR (extrapolated) =  $3.05 \text{ W/kg}$

**SAR(1 g) =  $2.15 \text{ W/kg}$ ; SAR(10 g) =  $1.41 \text{ W/kg}$**

Maximum value of SAR (measured) =  $2.30 \text{ W/kg}$



0 dB =  $2.31 \text{ W/kg}$  =  $7.27 \text{ dB W/kg}$

**Fig.B.2 validation 750MHz 250mW**

### 835MHz

Date: 2014-3-13

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.893 \text{ mho/m}$ ;  $\epsilon_r = 42.33$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3^\circ\text{C}$       Liquid Temperature:  $21.8^\circ\text{C}$

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

Probe: EX3DV4 - SN3846 ConvF(8.92, 8.92, 8.92)

**System Validation /Area Scan (81x161x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Reference Value = 51.653 V/m; Power Drift = -0.10 dB

**Fast SAR: SAR(1 g) = 2.30 W/kg; SAR(10 g) = 1.51 W/kg**

Maximum value of SAR (interpolated) = 2.49 W/kg

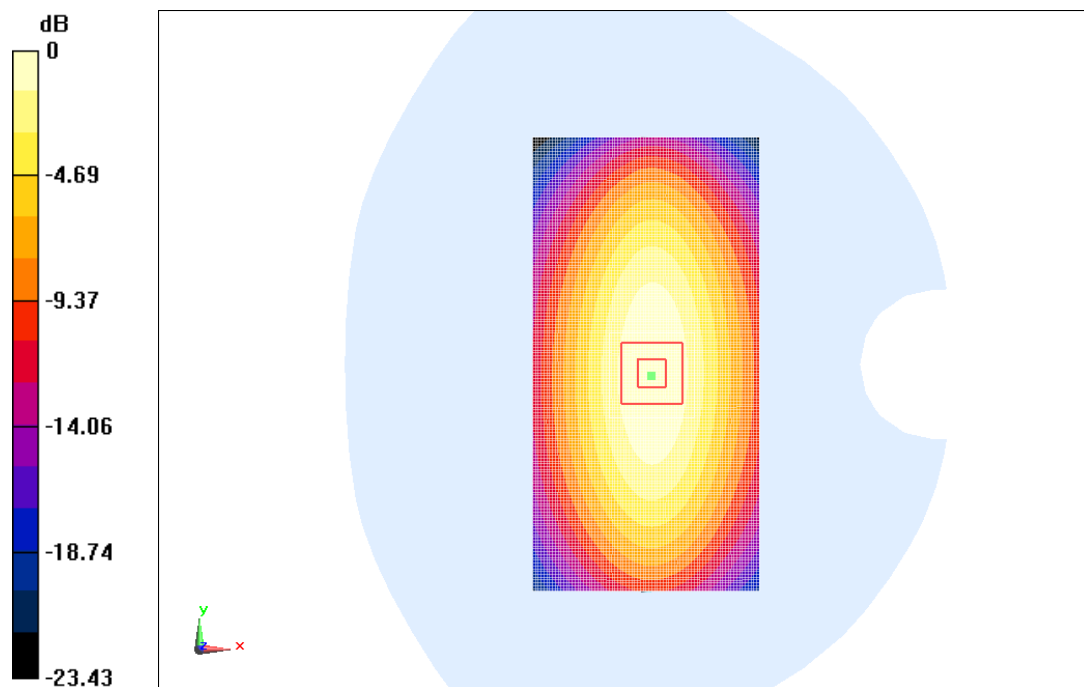
**System Validation /Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 51.653 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 3.43 W/kg

**SAR(1 g) = 2.31 W/kg; SAR(10 g) = 1.51 W/kg**

Maximum value of SAR (measured) = 2.50 W/kg



0 dB = 2.49 W/kg = 7.92 dB W/kg

**Fig.B.3 validation 835MHz 250mW**

## 835MHz

Date: 2014-3-13

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.964 \text{ mho/m}$ ;  $\epsilon_r = 54.12$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3^\circ\text{C}$       Liquid Temperature:  $21.8^\circ\text{C}$

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

Probe: EX3DV4 - SN3846 ConvF(8.73, 8.73, 8.73)

**System Validation /Area Scan (81x171x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Reference Value = 46.601 V/m; Power Drift = 0.08 dB

**Fast SAR: SAR(1 g) = 2.44 W/kg; SAR(10 g) = 1.62 W/kg**

Maximum value of SAR (interpolated) = 2.61 W/kg

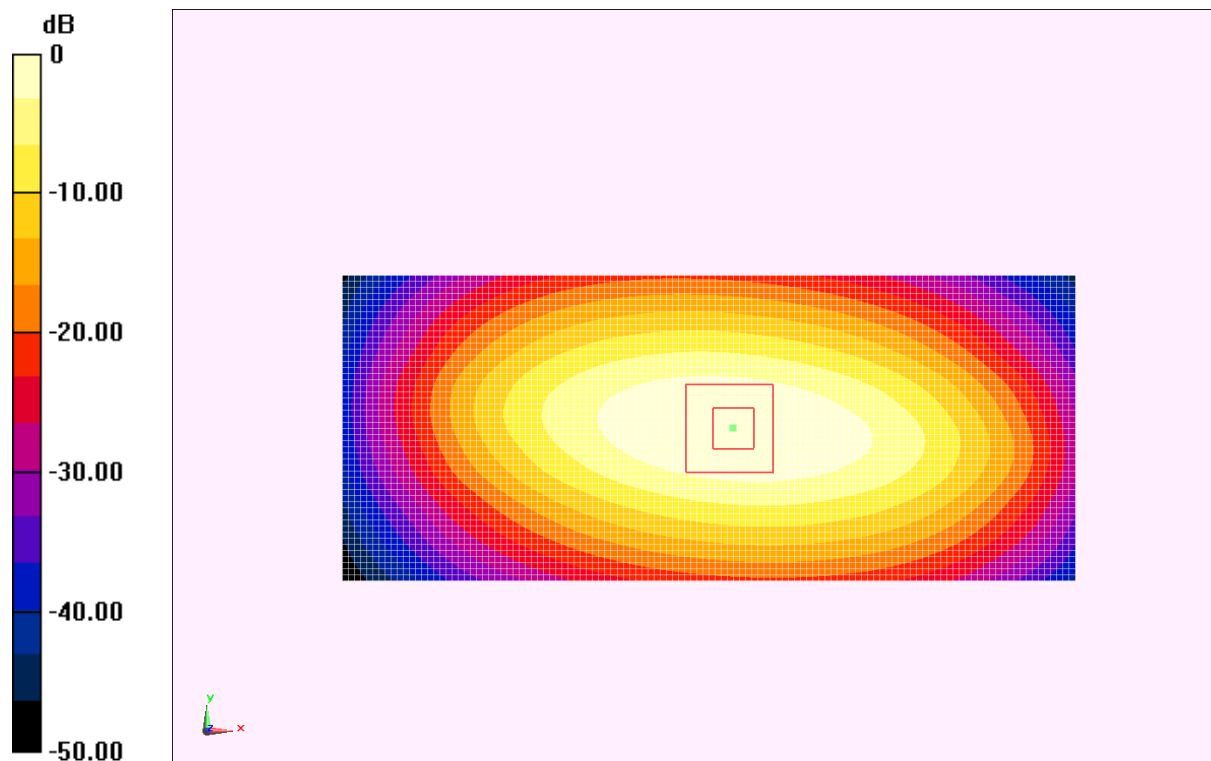
**System Validation /Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 46.601 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 3.60 W/kg

**SAR(1 g) = 2.40 W/kg; SAR(10 g) = 1.59 W/kg**

Maximum value of SAR (measured) = 2.59 W/kg



0 dB = 2.61 W/kg = 8.33 dB W/kg

**Fig.B.4 validation 835MHz 250mW**



## 1750MHz

Date: 2014-3-15

Electronics: DAE4 Sn771

Medium: Head 1750 MHz

Medium parameters used:  $f=1750$  MHz;  $\sigma = 1.393$  mho/m;  $\epsilon_r = 40.78$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

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

Probe: EX3DV4 - SN3846 ConvF(7.85, 7.85, 7.85)

**System Validation/Area Scan (81x121x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 94.388 V/m; Power Drift = 0.07 dB

**Fast SAR: SAR(1 g) = 9.44 W/kg; SAR(10 g) = 5.03 W/kg**

Maximum value of SAR (interpolated) = 10.6 W/kg

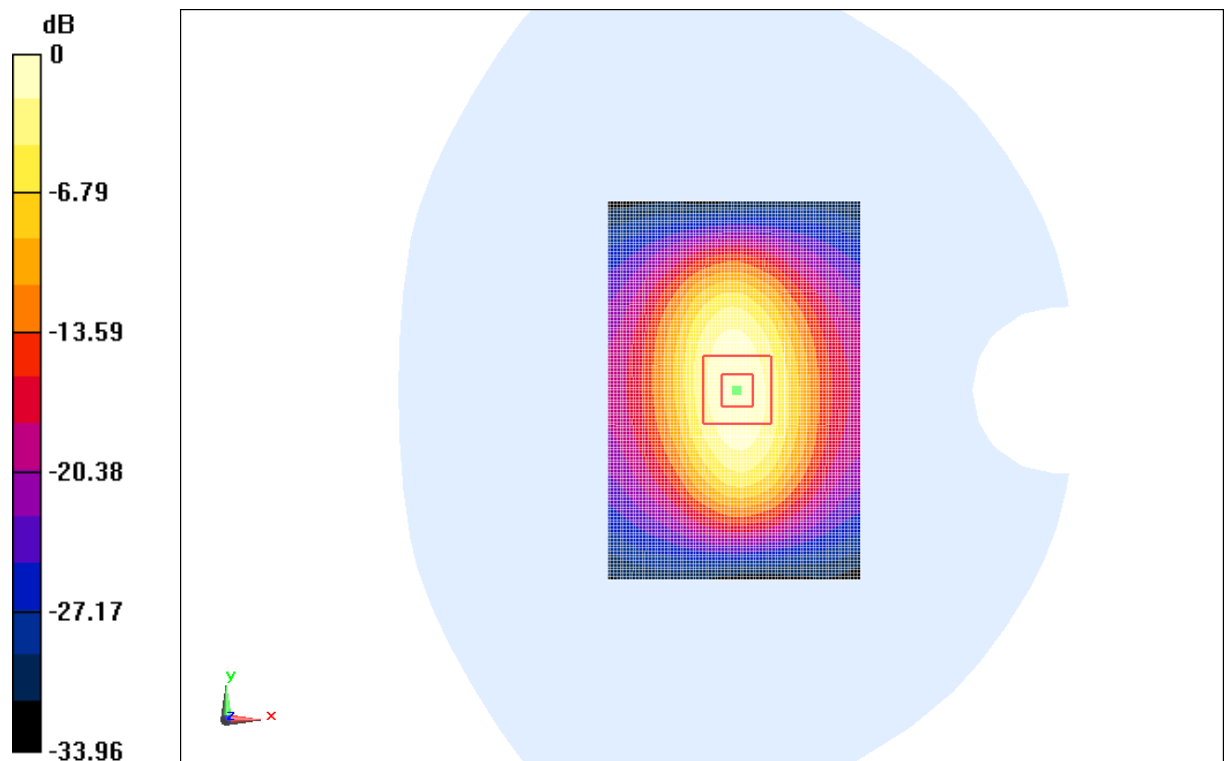
**System Validation/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 94.388 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 16.52 W/kg

**SAR(1 g) = 9.41 W/kg; SAR(10 g) = 5.01 W/kg**

Maximum value of SAR (measured) = 10.6 W/kg



0 dB = 10.6 W/kg = 20.51 dB W/kg

**Fig.B.5 validation 1750MHz 250mW**

## 1750MHz

Date: 2014-3-15

Electronics: DAE4 Sn771

Medium: Body 1750 MHz

Medium parameters used:  $f=1750$  MHz;  $\sigma = 1.514$  mho/m;  $\epsilon_r = 54.58$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

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

Probe: EX3DV4 - SN3846 ConvF(7.56, 7.56, 7.56)

**System Validation/Area Scan (81x121x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 95.104 V/m; Power Drift = -0.11 dB

**Fast SAR: SAR(1 g) = 9.36 W/kg; SAR(10 g) = 5.07 W/kg**

Maximum value of SAR (interpolated) = 10.8 W/kg

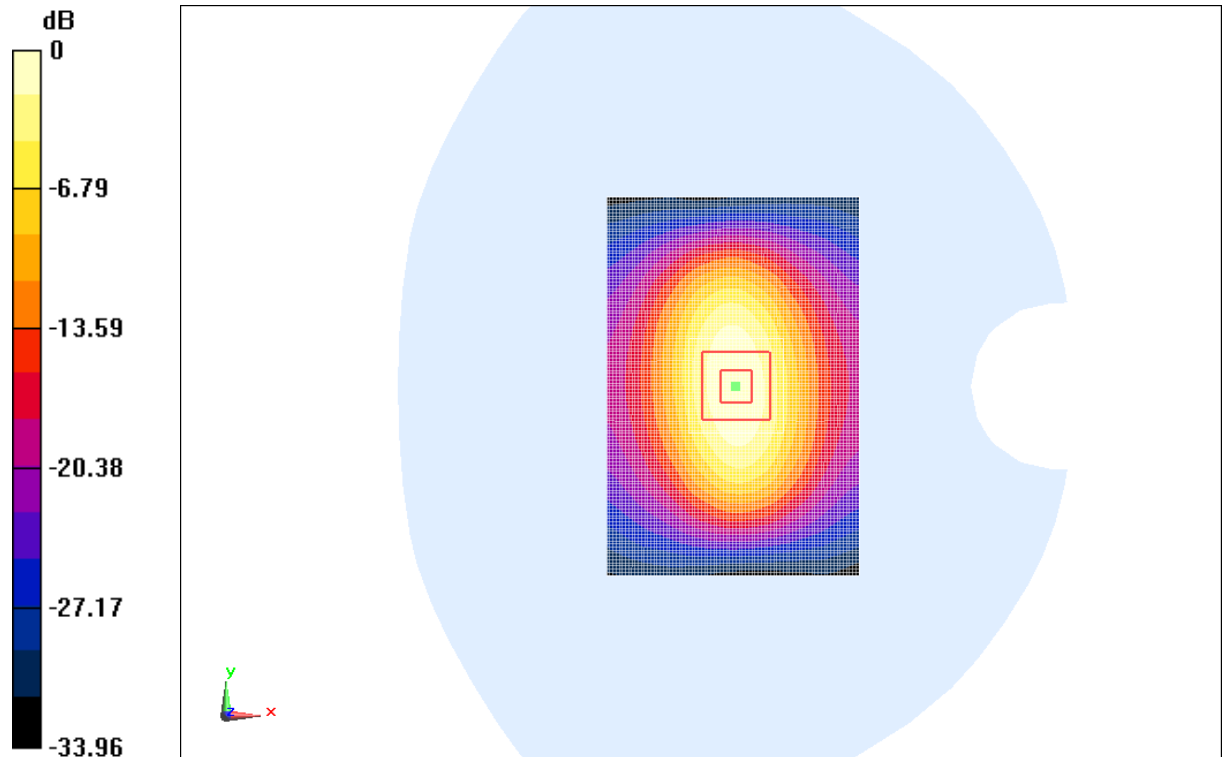
**System Validation/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 95.104 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 15.12 W/kg

**SAR(1 g) = 9.37 W/kg; SAR(10 g) = 5.07 W/kg**

Maximum value of SAR (measured) = 10.8 W/kg



0 dB = 10.8 W/kg = 20.67 dB W/kg

**Fig.B.6 validation 1750MHz 250mW**

## 1900MHz

Date: 2014-3-14

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.405 \text{ mho/m}$ ;  $\epsilon_r = 40.94$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3^\circ\text{C}$       Liquid Temperature:  $21.8^\circ\text{C}$

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):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Reference Value =  $97.835 \text{ V/m}$ ; Power Drift =  $0.06 \text{ dB}$

**Fast SAR: SAR(1 g) =  $10.0 \text{ W/kg}$ ; SAR(10 g) =  $5.31 \text{ W/kg}$**

Maximum value of SAR (interpolated) =  $11.3 \text{ W/kg}$

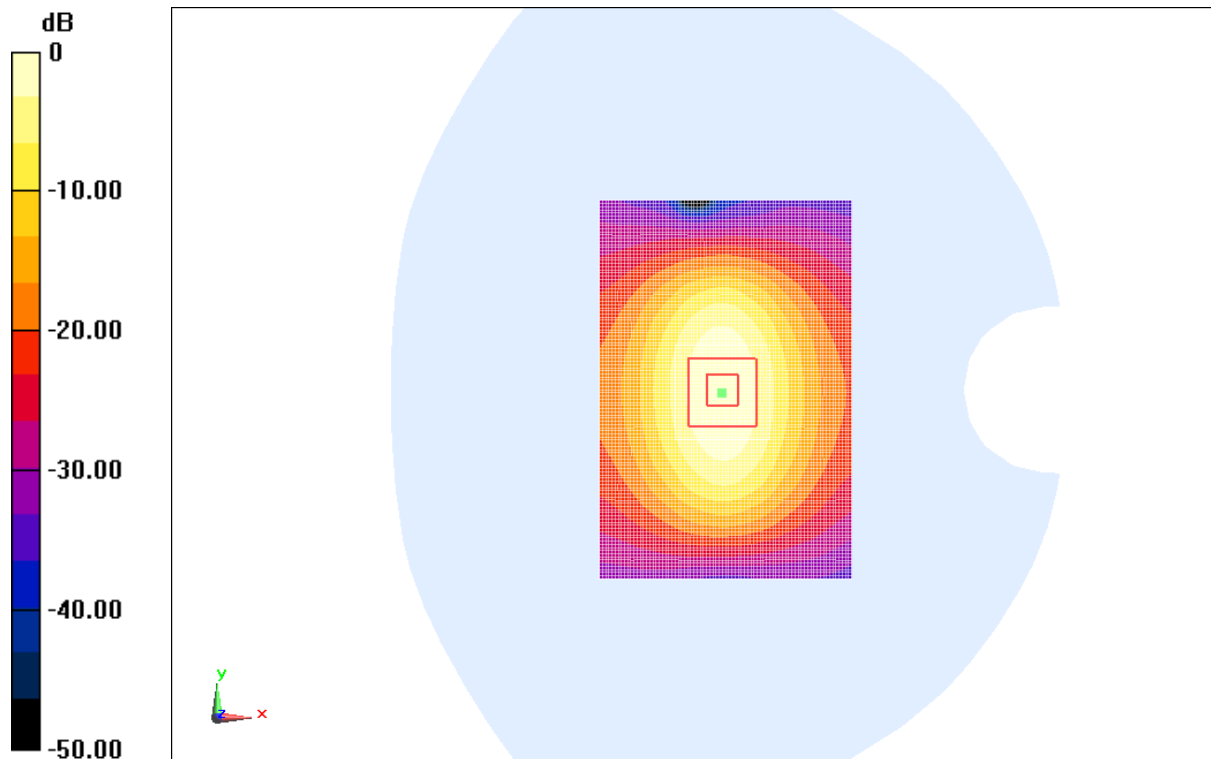
**System Validation/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $97.835 \text{ V/m}$ ; Power Drift =  $0.06 \text{ dB}$

Peak SAR (extrapolated) =  $18.34 \text{ W/kg}$

**SAR(1 g) =  $9.93 \text{ W/kg}$ ; SAR(10 g) =  $5.23 \text{ W/kg}$**

Maximum value of SAR (measured) =  $11.2 \text{ W/kg}$



0 dB =  $11.3 \text{ W/kg}$  =  $21.06 \text{ dB W/kg}$

**Fig.B.7 validation 1900MHz 250mW**

## 1900MHz

Date: 2014-3-14

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.542 \text{ mho/m}$ ;  $\epsilon_r = 52.08$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3^\circ\text{C}$       Liquid Temperature:  $21.8^\circ\text{C}$

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

Probe: EX3DV4 - SN3846 ConvF(7.03, 7.03, 7.03)

**System Validation/Area Scan (81x121x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Reference Value =  $83.995 \text{ V/m}$ ; Power Drift =  $-0.09 \text{ dB}$

**Fast SAR: SAR(1 g) =  $10.1 \text{ W/kg}$ ; SAR(10 g) =  $5.35 \text{ W/kg}$**

Maximum value of SAR (interpolated) =  $11.5 \text{ W/kg}$

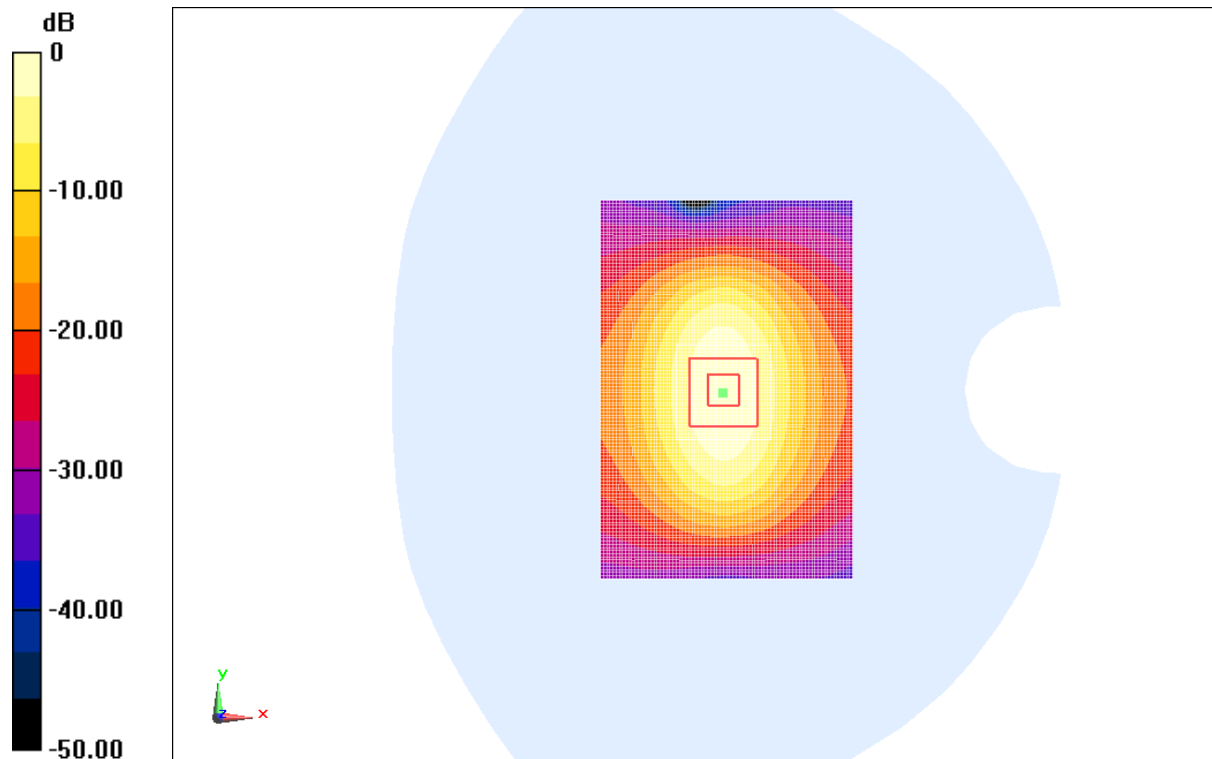
**System Validation/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $83.995 \text{ V/m}$ ; Power Drift =  $-0.09 \text{ dB}$

Peak SAR (extrapolated) =  $16.68 \text{ W/kg}$

**SAR(1 g) =  $10.2 \text{ W/kg}$ ; SAR(10 g) =  $5.42 \text{ W/kg}$**

Maximum value of SAR (measured) =  $11.6 \text{ W/kg}$



0 dB =  $11.5 \text{ W/kg}$  =  $21.21 \text{ dB W/kg}$

**Fig.B.8 validation 1900MHz 250mW**

## 2450MHz

Date: 2014-3-10

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.791$  mho/m;  $\epsilon_r = 40.02$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

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

Probe: EX3DV4 - SN3846 ConvF(6.78, 6.78, 6.78)

**System Validation /Area Scan (81x101x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 96.399 V/m; Power Drift = 0.10 dB

**Fast SAR: SAR(1 g) = 13.2 W/kg; SAR(10 g) = 6.23 W/kg**

Maximum value of SAR (interpolated) = 15.1 W/kg

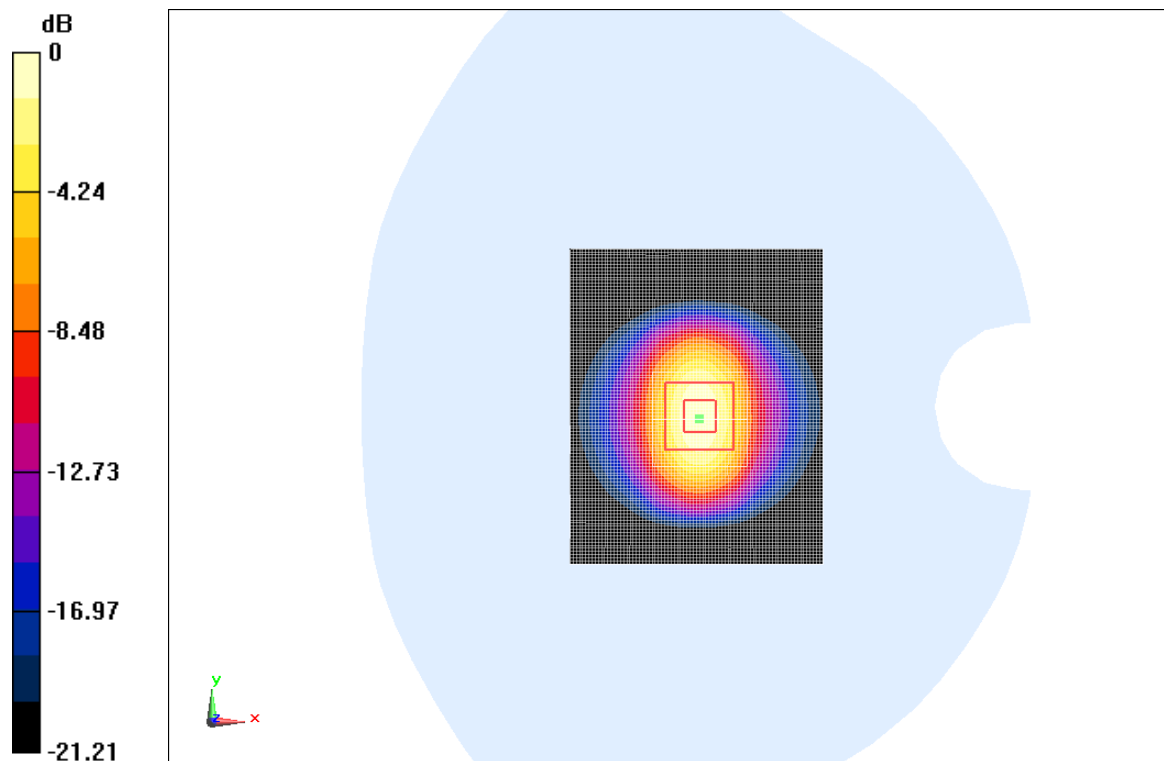
**System Validation /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 96.399 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 26.12 W/kg

**SAR(1 g) = 13.1 W/kg; SAR(10 g) = 6.14 W/kg**

Maximum value of SAR (measured) = 15.0 W/kg



0 dB = 15.1 W/kg = 23.58 dB W/kg

**Fig.B.9 validation 2450MHz 250mW**

## 2450MHz

Date: 2014-3-10

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.933$  mho/m;  $\epsilon_r = 51.94$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

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

Probe: EX3DV4 - SN3846 ConvF(6.73, 6.73, 6.73)

**System Validation/Area Scan (81x101x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 95.274 V/m; Power Drift = 0.06 dB

**Fast SAR: SAR(1 g) = 13.0 W/kg; SAR(10 g) = 6.15 W/kg**

Maximum value of SAR (interpolated) = 14.9 W/kg

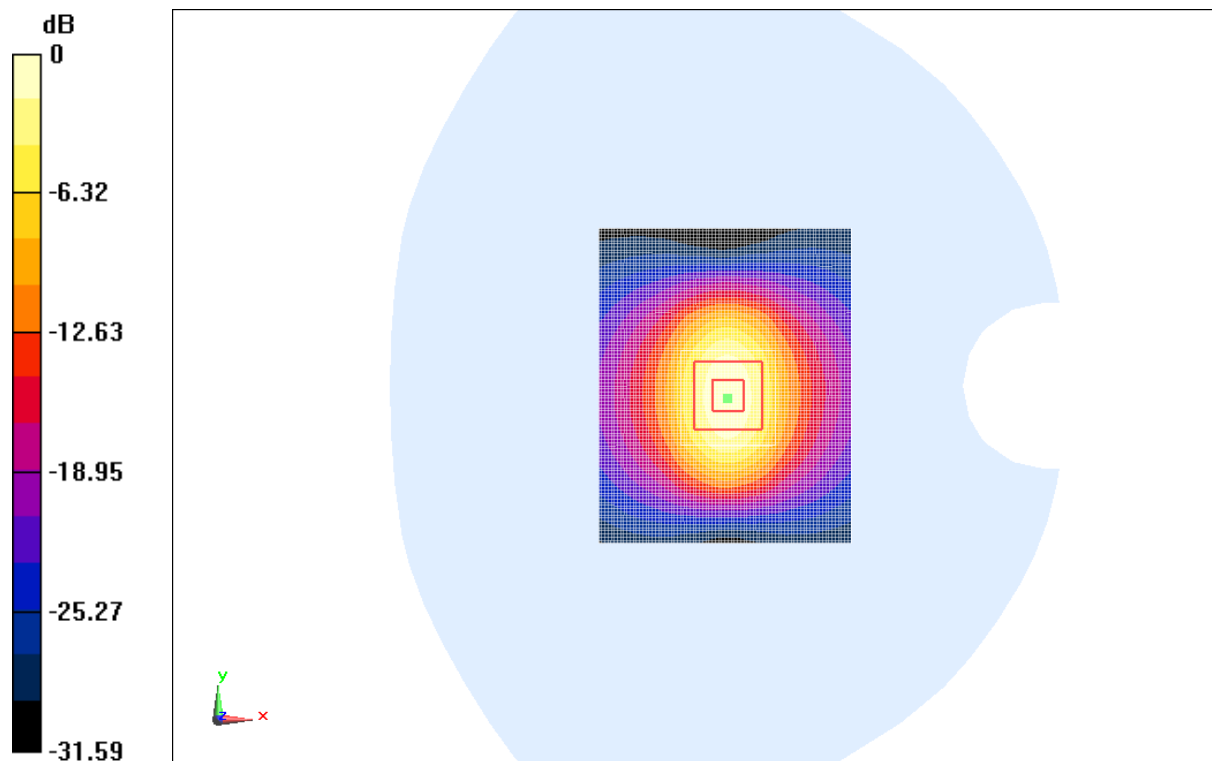
**System Validation/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 95.274 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 26.02 W/kg

**SAR(1 g) = 12.9 W/kg; SAR(10 g) = 6.06 W/kg**

Maximum value of SAR (measured) = 14.8 W/kg



0 dB = 14.9 W/kg = 23.46 dB W/kg

**Fig.B.10 validation 2450MHz 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**

<b>Band</b>	<b>Position</b>	<b>Area scan (1g)</b>	<b>Zoom scan (1g)</b>	<b>Drift (%)</b>
750	Head	2.20	2.17	1.38
750	Body	2.17	2.15	0.93
835	Head	2.30	2.31	-0.43
835	Body	2.44	2.40	1.67
1750	Head	9.44	9.41	0.32
1750	Body	9.36	9.37	-0.11
1900	Head	10.0	9.93	0.70
1900	Body	10.1	10.2	-0.98
2450	Head	13.2	13.1	0.76
2450	Body	13.0	12.9	0.78