

WCDMA1900-BII_CH9538 Bottom

Date: 11/22/2019

Electronics: DAE4 Sn771

Medium: head 1900 MHz

Medium parameters used: $f = 1907.6$; $\sigma = 1.398$ mho/m; $\epsilon_r = 39.54$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1900-BII 1907.6 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

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

Maximum value of SAR (interpolated) = 0.707 W/kg

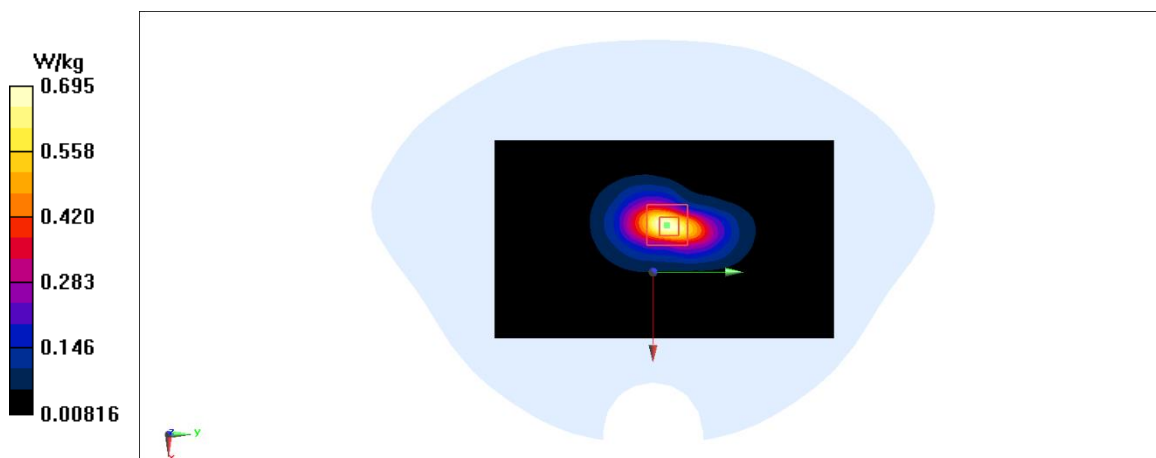
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.44 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.884 W/kg

SAR(1 g) = 0.494 W/kg; SAR(10 g) = 0.253 W/kg

Maximum value of SAR (measured) = 0.695 W/kg

**Fig A.6**

WCDMA1900-BII_CH9262 Rear

Date: 11/22/2019

Electronics: DAE4 Sn771

Medium: head 1900 MHz

Medium parameters used: $f = 1852.4$; $\sigma = 1.344$ mho/m; $\epsilon_r = 39.61$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1900-BII 1852.4 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

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

Maximum value of SAR (interpolated) = 0.642 W/kg

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

Reference Value = 8.358 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.851 W/kg

SAR(1 g) = 0.503 W/kg; SAR(10 g) = 0.287 W/kg

Maximum value of SAR (measured) = 0.674 W/kg

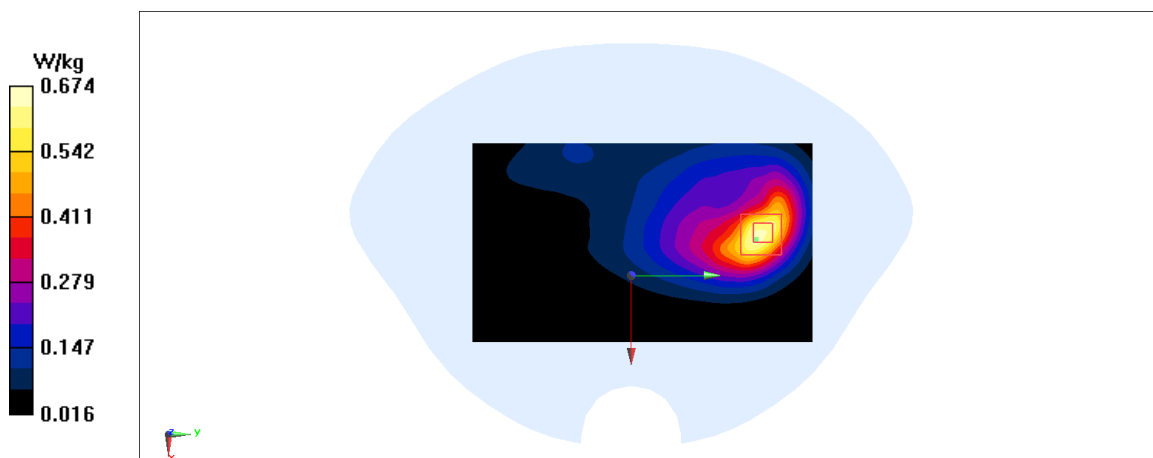


Fig A.7

WCDMA1700-BIV_CH1513 Left Cheek

Date: 11/21/2019

Electronics: DAE4 Sn771

Medium: head 1750 MHz

Medium parameters used: $f = 1752.6$; $\sigma = 1.383$ mho/m; $\epsilon_r = 40.68$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1700-BIV 1752.6 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.38,8.38,8.38)

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

Maximum value of SAR (interpolated) = 0.277 W/kg

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

Reference Value = 4.052 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.318 W/kg

SAR(1 g) = 0.214 W/kg; SAR(10 g) = 0.137 W/kg

Maximum value of SAR (measured) = 0.269 W/kg

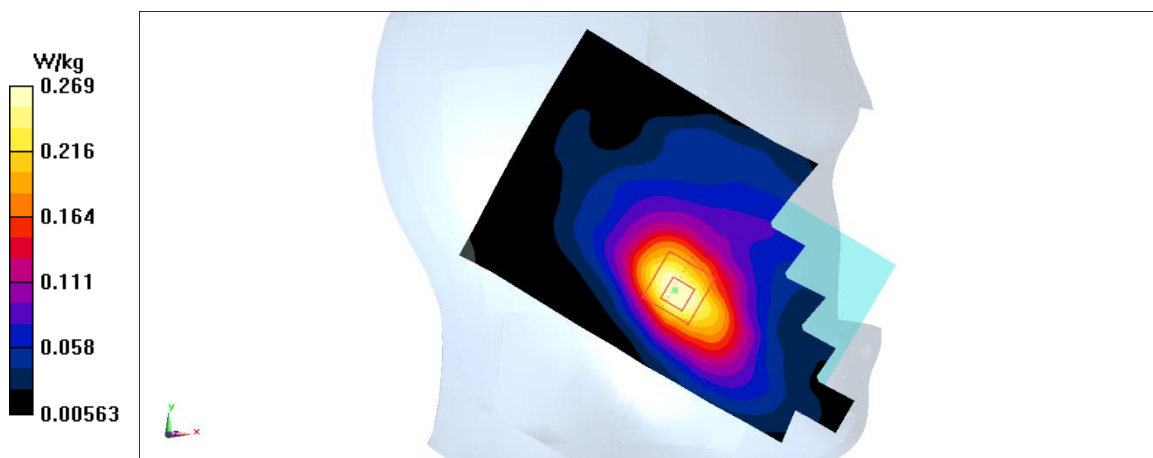


Fig A.8

WCDMA1700-BIV_CH1513 Rear

Date: 11/21/2019

Electronics: DAE4 Sn771

Medium: head 1750 MHz

Medium parameters used: $f = 1752.6$; $\sigma = 1.383$ mho/m; $\epsilon_r = 40.68$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1700-BIV 1752.6 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.38,8.38,8.38)

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

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

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

Reference Value = 3.95 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.662 W/kg

SAR(1 g) = 0.365 W/kg; SAR(10 g) = 0.195 W/kg

Maximum value of SAR (measured) = 0.514 W/kg

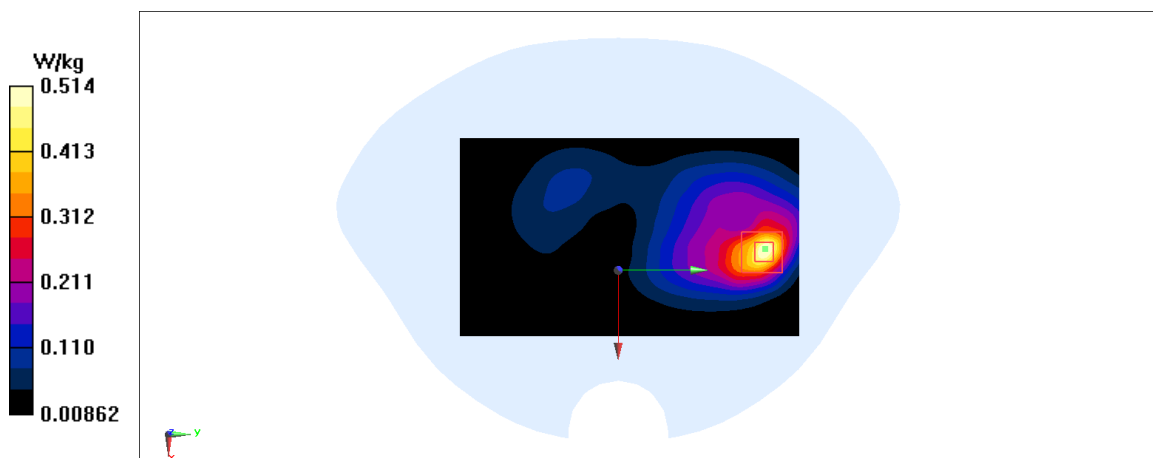


Fig A.9

WCDMA1700-BIV_CH1513 Rear

Date: 11/21/2019

Electronics: DAE4 Sn771

Medium: head 1750 MHz

Medium parameters used: $f = 1752.6$; $\sigma = 1.383$ mho/m; $\epsilon_r = 40.68$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1700-BIV 1752.6 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.38,8.38,8.38)

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

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

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

Reference Value = 7.533 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.742 W/kg

SAR(1 g) = 0.442 W/kg; SAR(10 g) = 0.254 W/kg

Maximum value of SAR (measured) = 0.596 W/kg

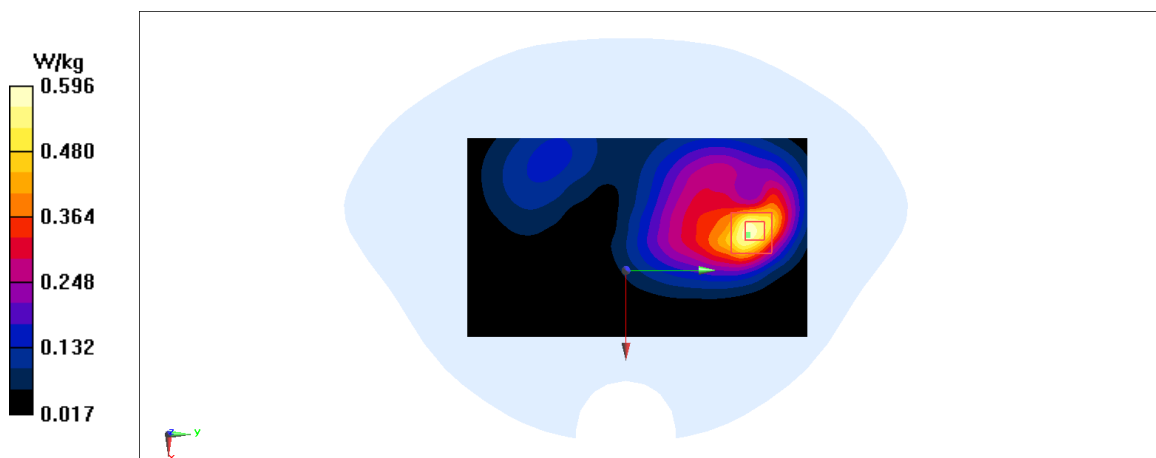


Fig A.10

WCDMA850-BV_CH4132 Left Cheek

Date: 11/20/2019

Electronics: DAE4 Sn771

Medium: head 835 MHz

 Medium parameters used: $f = 826.4$; $\sigma = 0.892$ mho/m; $\epsilon_r = 41.61$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA850-BV 826.4 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(9.75,9.75,9.75)

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

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

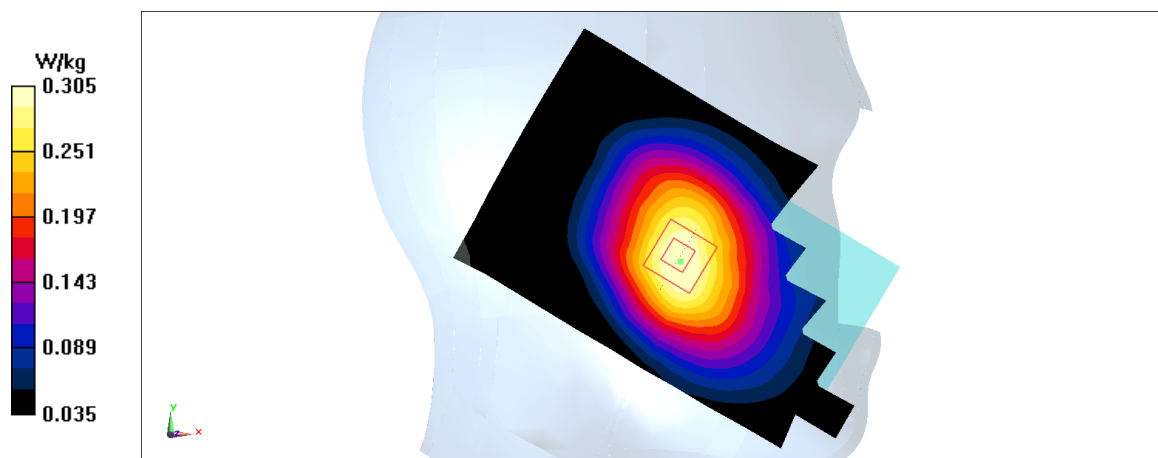
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.933 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.336 W/kg

SAR(1 g) = 0.268 W/kg; SAR(10 g) = 0.206 W/kg

Maximum value of SAR (measured) = 0.305 W/kg


Fig A.11

WCDMA850-BV_CH4233 Rear

Date: 11/20/2019

Electronics: DAE4 Sn771

Medium: head 835 MHz

Medium parameters used: $f = 846.6$; $\sigma = 0.912$ mho/m; $\epsilon_r = 41.59$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA850-BV 846.6 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(9.75,9.75,9.75)

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

Maximum value of SAR (interpolated) = 0.656 W/kg

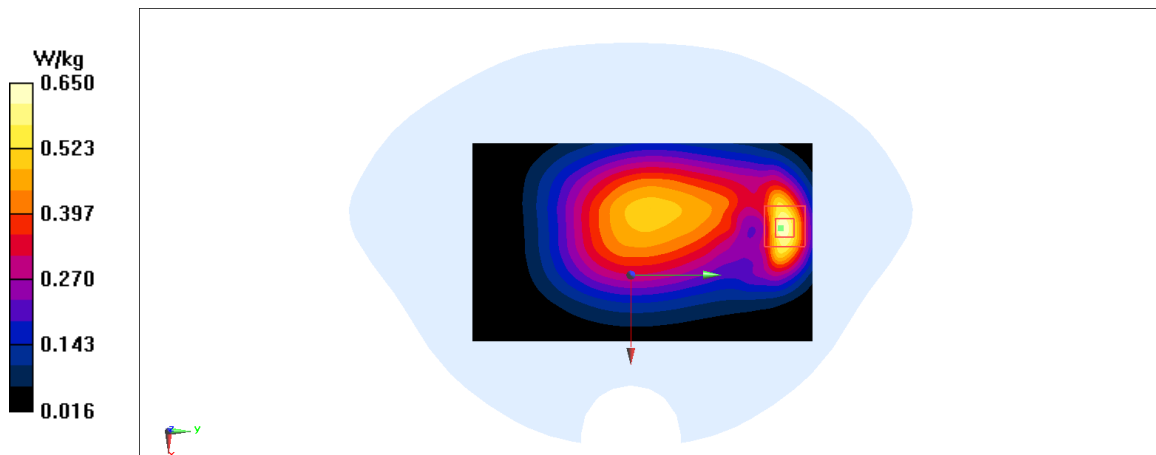
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 20.19 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.823 W/kg

SAR(1 g) = 0.447 W/kg; SAR(10 g) = 0.244 W/kg

Maximum value of SAR (measured) = 0.65 W/kg

**Fig A.12**

LTE1900-FDD2_CH19100 Right Cheek

Date: 11/22/2019

Electronics: DAE4 Sn771

Medium: head 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39.55$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1900-FDD2 1900 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

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

Maximum value of SAR (interpolated) = 0.271 W/kg

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

Reference Value = 1.937 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.333 W/kg

SAR(1 g) = 0.21 W/kg; SAR(10 g) = 0.13 W/kg

Maximum value of SAR (measured) = 0.265 W/kg

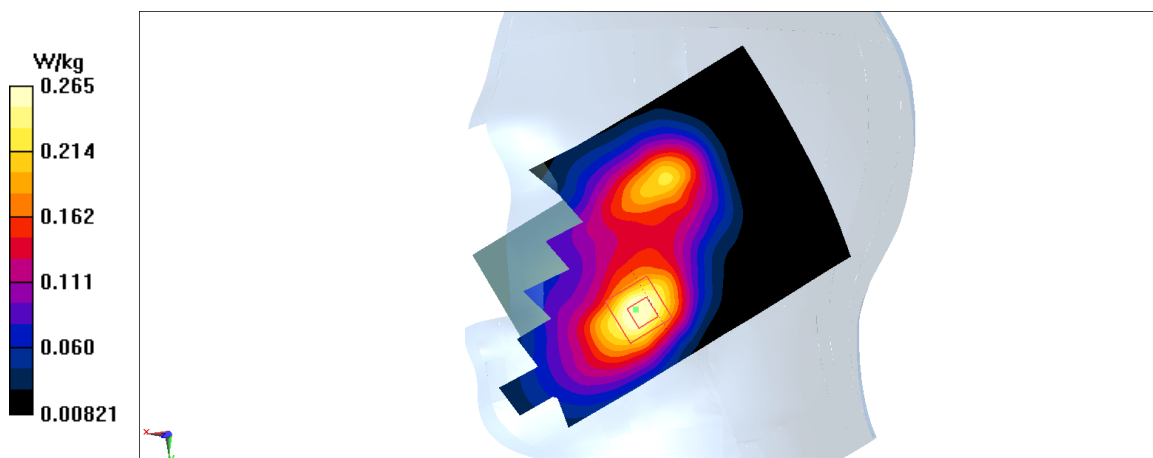


Fig A.13

LTE1900-FDD2_CH19100 Bottom

Date: 11/22/2019

Electronics: DAE4 Sn771

Medium: head 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39.55$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1900-FDD2 1900 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

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

Maximum value of SAR (interpolated) = 0.691 W/kg

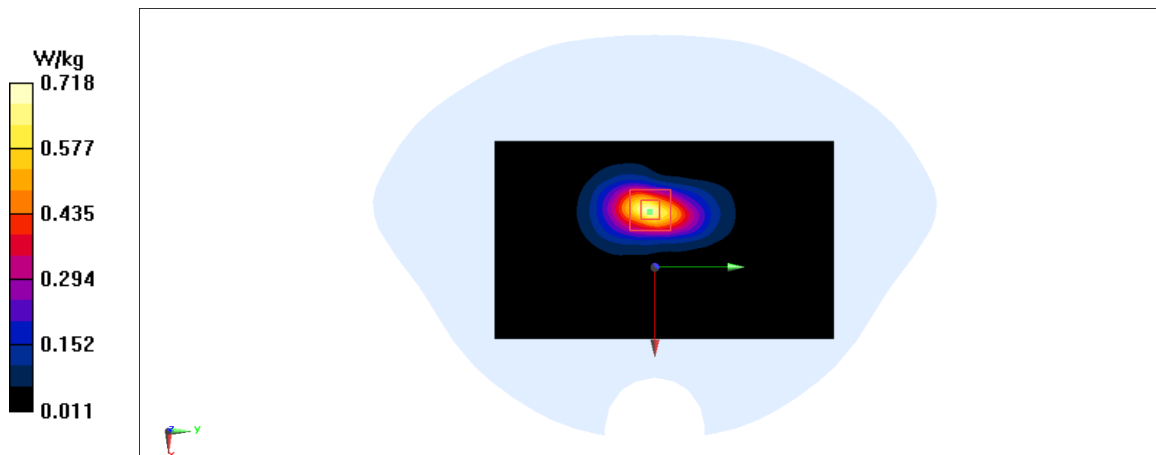
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.6 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.895 W/kg

SAR(1 g) = 0.503 W/kg; SAR(10 g) = 0.209 W/kg

Maximum value of SAR (measured) = 0.718 W/kg

**Fig A.14**

LTE1900-FDD2_CH19100 Rear

Date: 11/22/2019

Electronics: DAE4 Sn771

Medium: head 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39.55$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1900-FDD2 1900 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

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

Maximum value of SAR (interpolated) = 0.705 W/kg

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

Reference Value = 8.558 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 0.901 W/kg

SAR(1 g) = 0.533 W/kg; SAR(10 g) = 0.304 W/kg

Maximum value of SAR (measured) = 0.72 W/kg

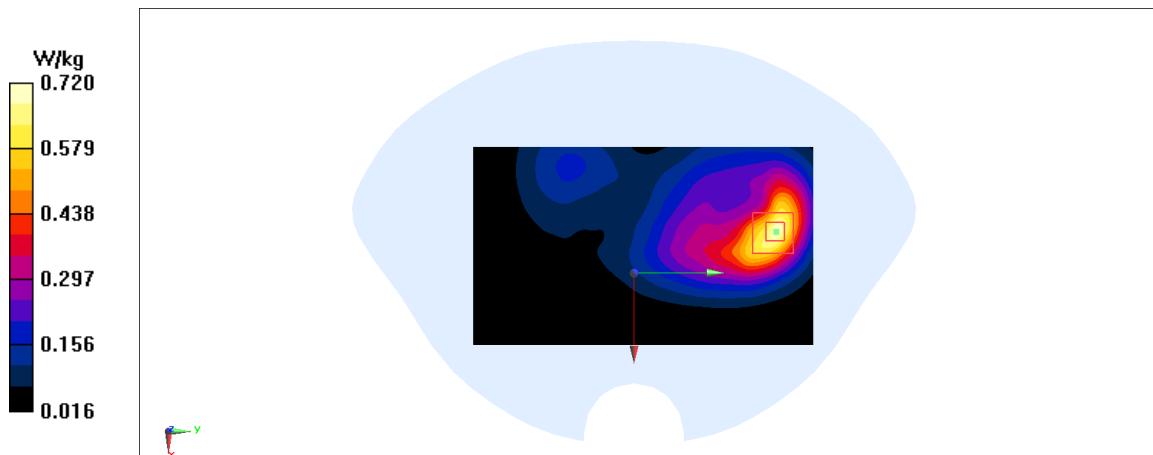


Fig A.15

LTE850-FDD5_CH20450 Left Cheek

Date: 11/20/2019

Electronics: DAE4 Sn771

Medium: head 835 MHz

Medium parameters used: $f = 829$ MHz; $\sigma = 0.895$ mho/m; $\epsilon_r = 41.61$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE850-FDD5 829 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(9.75,9.75,9.75)

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

Maximum value of SAR (interpolated) = 0.337 W/kg

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

Reference Value = 5.379 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.381 W/kg

SAR(1 g) = 0.297 W/kg; SAR(10 g) = 0.225 W/kg

Maximum value of SAR (measured) = 0.345 W/kg

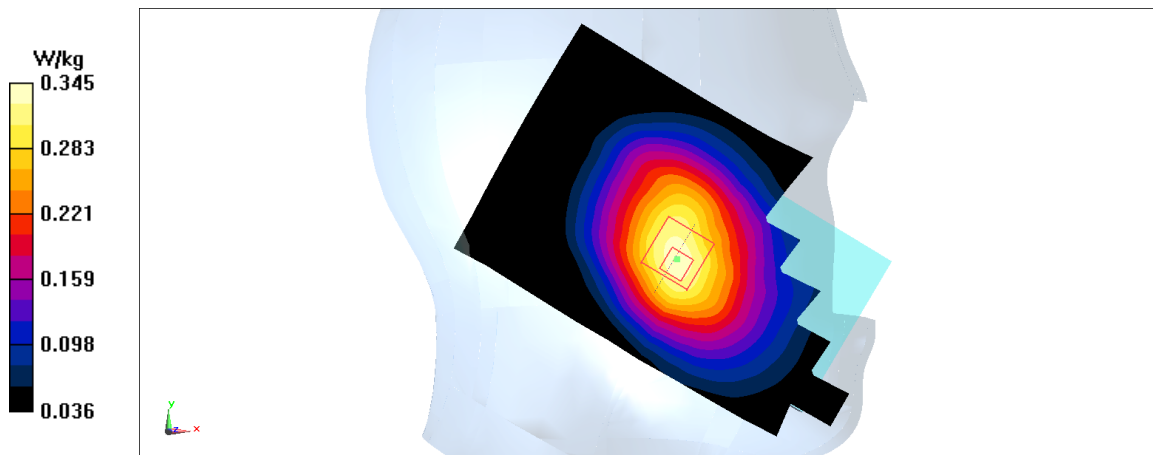


Fig A.16

LTE850-FDD5_CH20450 Rear

Date: 11/20/2019

Electronics: DAE4 Sn771

Medium: head 835 MHz

Medium parameters used: $f = 829$ MHz; $\sigma = 0.895$ mho/m; $\epsilon_r = 41.61$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE850-FDD5 829 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(9.75,9.75,9.75)

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

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

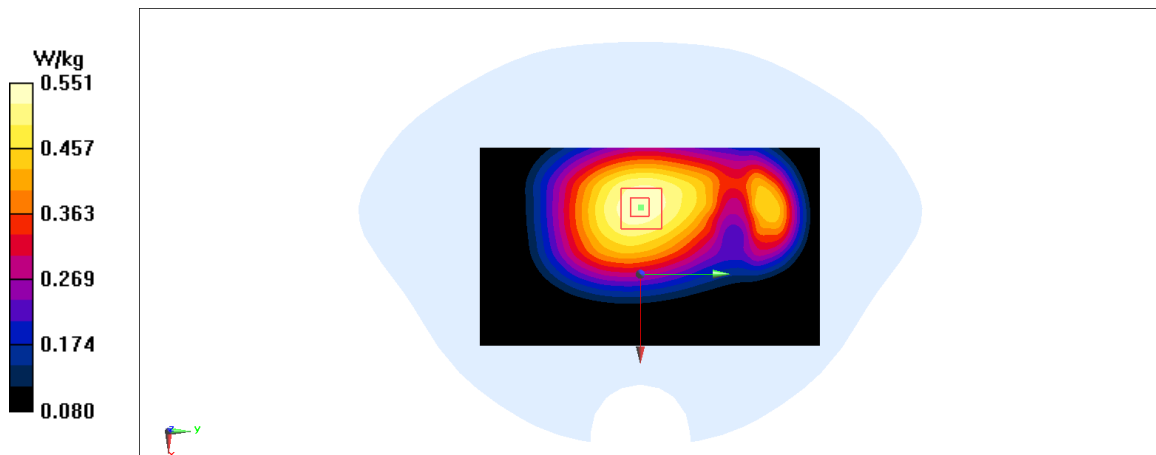
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 20.89 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.608 W/kg

SAR(1 g) = 0.475 W/kg; SAR(10 g) = 0.359 W/kg

Maximum value of SAR (measured) = 0.551 W/kg

**Fig A.17**

LTE2500-FDD7_CH21100 Right Cheek

Date: 11/23/2019

Electronics: DAE4 Sn771

Medium: head 2600 MHz

Medium parameters used: $f = 2535$ MHz; $\sigma = 1.904$ mho/m; $\epsilon_r = 39.65$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE2500-FDD7 2535 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(7.19,7.19,7.19)

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

Maximum value of SAR (interpolated) = 0.0958 W/kg

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

Reference Value = 1.409 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.124 W/kg

SAR(1 g) = 0.0683 W/kg; SAR(10 g) = 0.0359 W/kg

Maximum value of SAR (measured) = 0.0946 W/kg

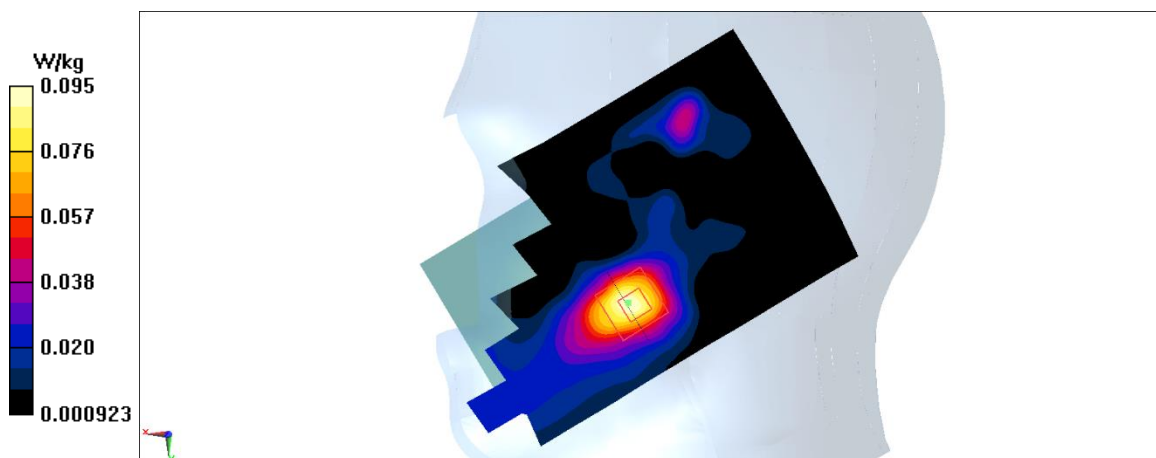


Fig A.18

LTE2500-FDD7_CH21100 Bottom

Date: 11/23/2019

Electronics: DAE4 Sn771

Medium: head 2600 MHz

Medium parameters used: $f = 2535$ MHz; $\sigma = 1.904$ mho/m; $\epsilon_r = 39.65$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE2500-FDD7 2535 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(7.19,7.19,7.19)

Area Scan (71x121x1): 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 = 9.313 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 1.39 W/kg

SAR(1 g) = 0.692 W/kg; SAR(10 g) = 0.328 W/kg

Maximum value of SAR (measured) = 1.04 W/kg

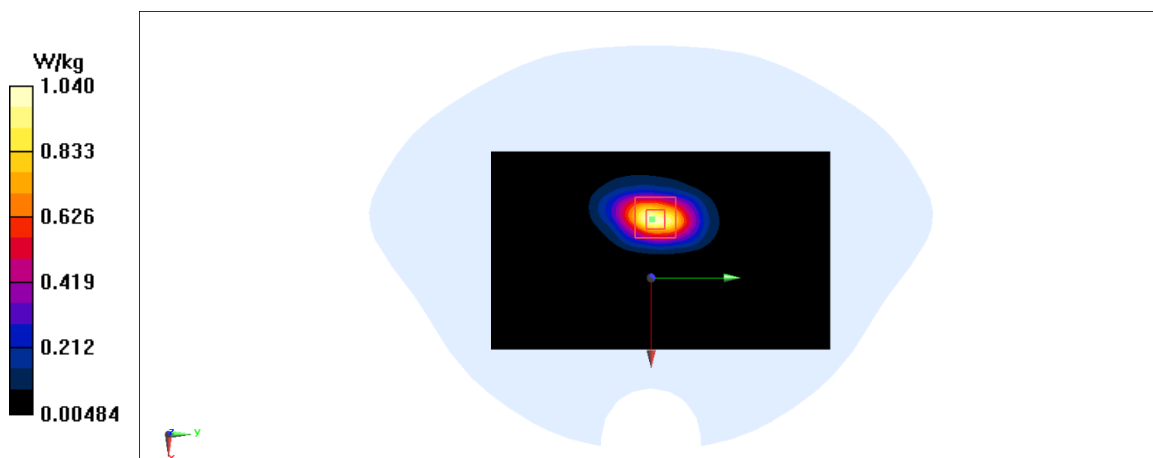


Fig A.19

LTE2500-FDD7_CH21350 Rear

Date: 11/23/2019

Electronics: DAE4 Sn771

Medium: head 2600 MHz

Medium parameters used: $f = 2560$ MHz; $\sigma = 1.928$ mho/m; $\epsilon_r = 39.62$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE2500-FDD7 2560 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(7.19,7.19,7.19)

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

Maximum value of SAR (interpolated) = 1.29 W/kg

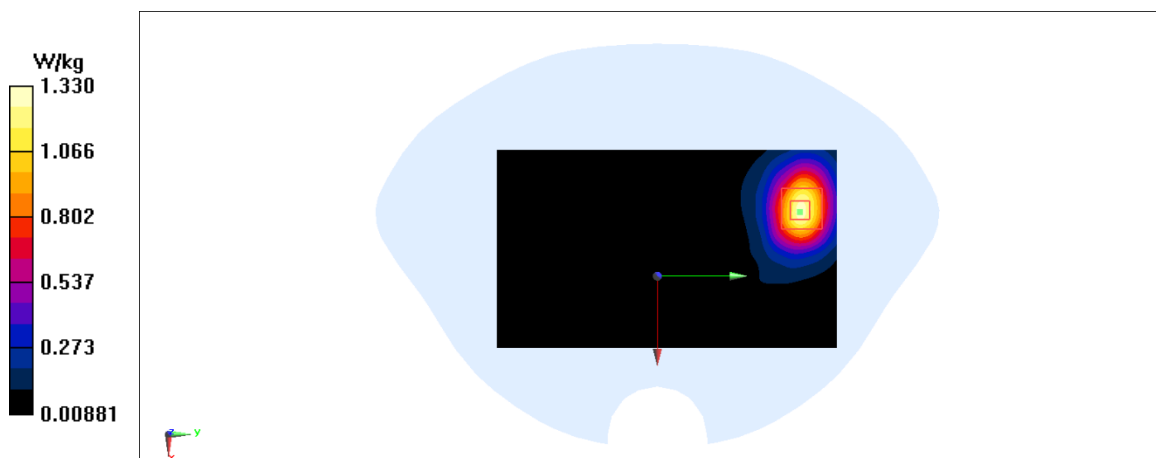
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.785 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 1.73 W/kg

SAR(1 g) = 0.924 W/kg; SAR(10 g) = 0.474 W/kg

Maximum value of SAR (measured) = 1.33 W/kg

**Fig A.20**

LTE750-FDD13_CH23230 Left Cheek

Date: 11/19/2019

Electronics: DAE4 Sn771

Medium: head 750 MHz

 Medium parameters used: $f = 782 \text{ MHz}$; $\sigma = 0.928 \text{ mho/m}$; $\epsilon_r = 41.66$; $\rho = 1000 \text{ kg/m}^3$

 Ambient Temperature: 22.5°C , Liquid Temperature: 22.3°C

Communication System: LTE750-FDD13 782 MHz Duty Cycle: 1: 1

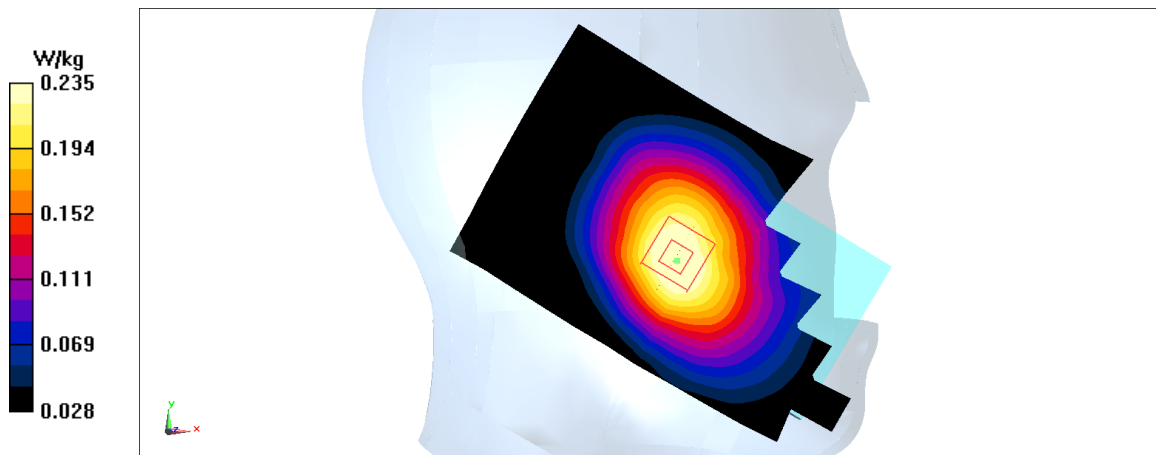
Probe: EX3DV4 – SN3617 ConvF(10.03,10.03,10.03)

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

 Maximum value of SAR (interpolated) = 0.251 W/kg
Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

 Reference Value = 4.284 V/m ; Power Drift = -0.05 dB

 Peak SAR (extrapolated) = 0.258 W/kg
SAR(1 g) = 0.205 W/kg ; SAR(10 g) = 0.158 W/kg

 Maximum value of SAR (measured) = 0.235 W/kg

Fig A.21

LTE750-FDD13_CH23230 Rear

Date: 11/19/2019

Electronics: DAE4 Sn771

Medium: head 750 MHz

Medium parameters used: $f = 782$ MHz; $\sigma = 0.928$ mho/m; $\epsilon_r = 41.66$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE750-FDD13 782 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(10.03,10.03,10.03)

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

Maximum value of SAR (interpolated) = 0.488 W/kg

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

Reference Value = 20.79 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.547 W/kg

SAR(1 g) = 0.422 W/kg; SAR(10 g) = 0.315 W/kg

Maximum value of SAR (measured) = 0.49 W/kg

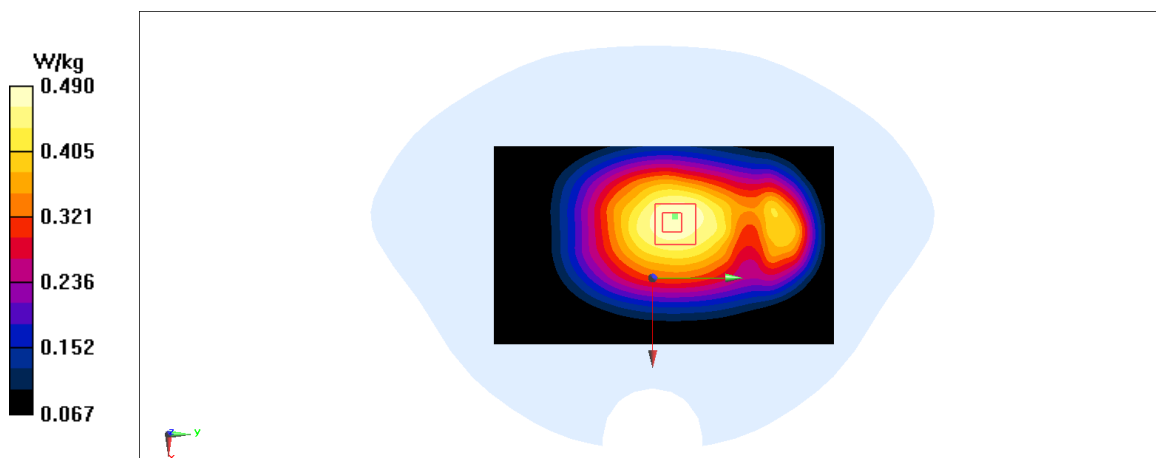


Fig A.22

LTE700-FDD17_CH23780 Left Cheek

Date: 11/19/2019

Electronics: DAE4 Sn771

Medium: head 750 MHz

Medium parameters used: $f = 709$ MHz; $\sigma = 0.859$ mho/m; $\epsilon_r = 41.75$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE700-FDD17 709 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(10.03,10.03,10.03)

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

Maximum value of SAR (interpolated) = 0.0991 W/kg

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

Reference Value = 3.13 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.109 W/kg

SAR(1 g) = 0.087 W/kg; SAR(10 g) = 0.0678 W/kg

Maximum value of SAR (measured) = 0.0987 W/kg

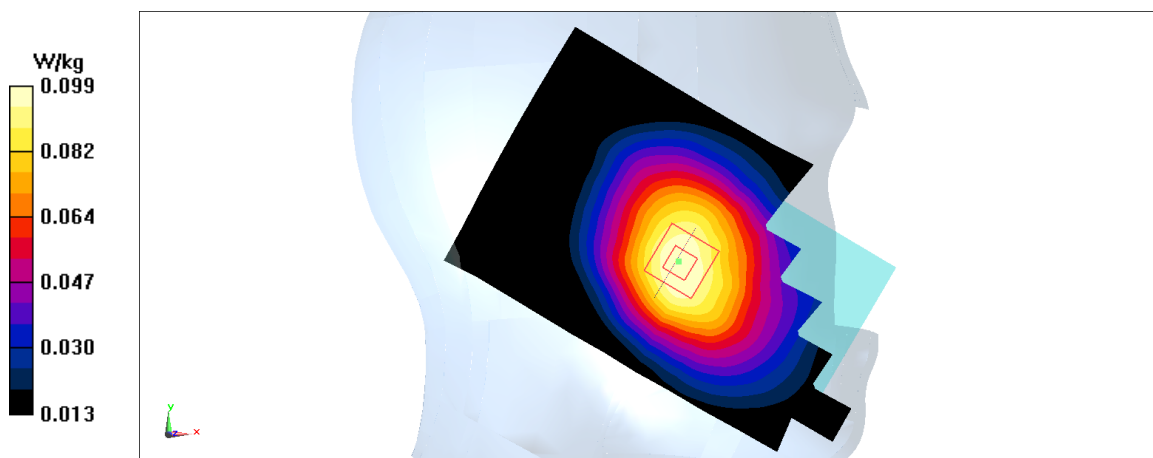


Fig A.23

LTE700-FDD17_CH23780 Rear

Date: 11/19/2019

Electronics: DAE4 Sn771

Medium: head 750 MHz

Medium parameters used: $f = 709$ MHz; $\sigma = 0.859$ mho/m; $\epsilon_r = 41.75$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE700-FDD17 709 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(10.03,10.03,10.03)

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

Maximum value of SAR (interpolated) = 0.207 W/kg

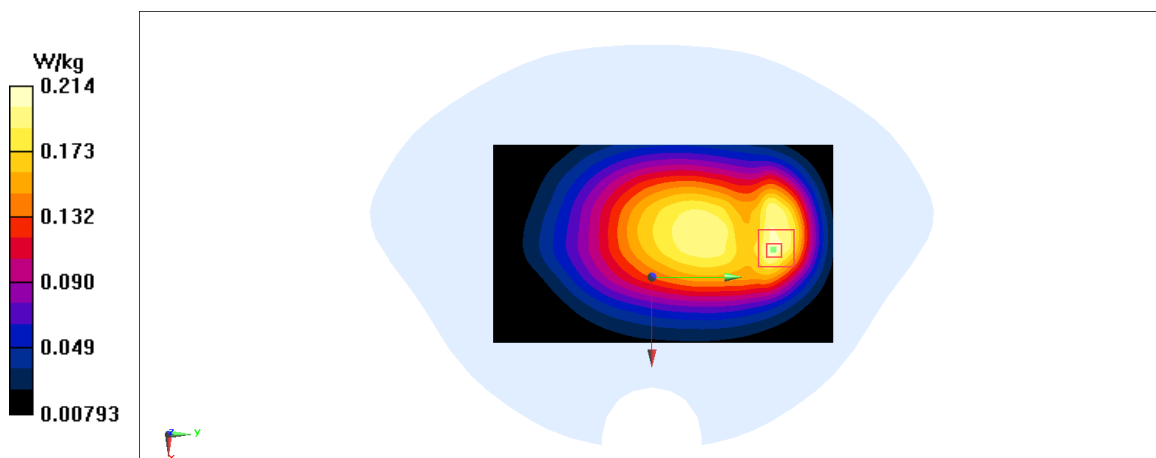
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.281 W/kg

SAR(1 g) = 0.174 W/kg; SAR(10 g) = 0.131 W/kg

Maximum value of SAR (measured) = 0.214 W/kg

**Fig A.24**

LTE1700-FDD66_CH132572 Left Cheek

Date: 11/21/2019

Electronics: DAE4 Sn771

Medium: head 1750 MHz

Medium parameters used: $f = 709$ MHz; $\sigma = 0.391$ mho/m; $\epsilon_r = 41.93$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1700-FDD66 709 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.38,8.38,8.38)

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

Maximum value of SAR (interpolated) = 0.3 W/kg

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

Reference Value = 4.599 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 0.357 W/kg

SAR(1 g) = 0.238 W/kg; SAR(10 g) = 0.149 W/kg

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

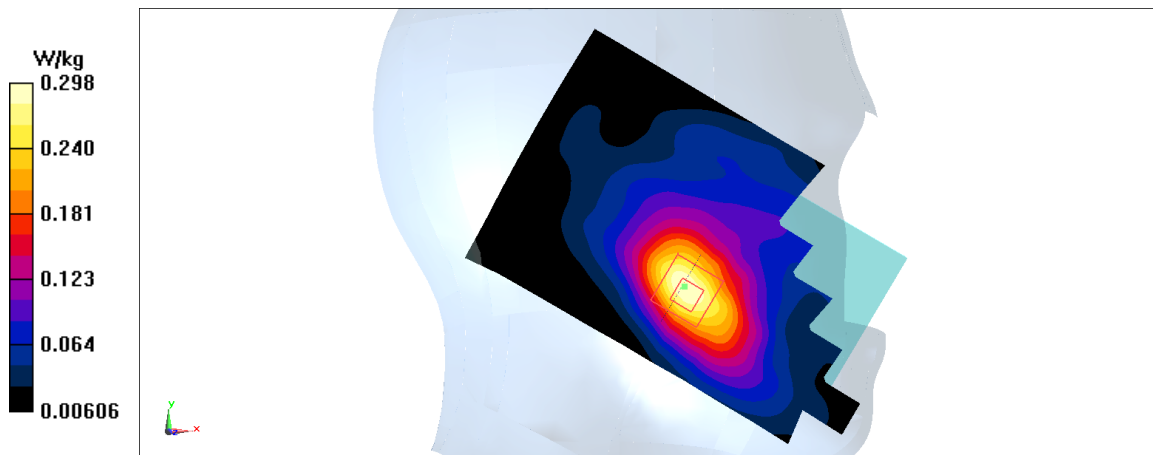


Fig A.25

LTE1700-FDD66_CH132322 Rear

Date: 11/21/2019

Electronics: DAE4 Sn771

Medium: head 1750 MHz

Medium parameters used: $f = 709$ MHz; $\sigma = 0.391$ mho/m; $\epsilon_r = 41.93$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE1700-FDD66 709 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.38,8.38,8.38)

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

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

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

Reference Value = 6.359 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.747 W/kg

SAR(1 g) = 0.422 W/kg; SAR(10 g) = 0.232 W/kg

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

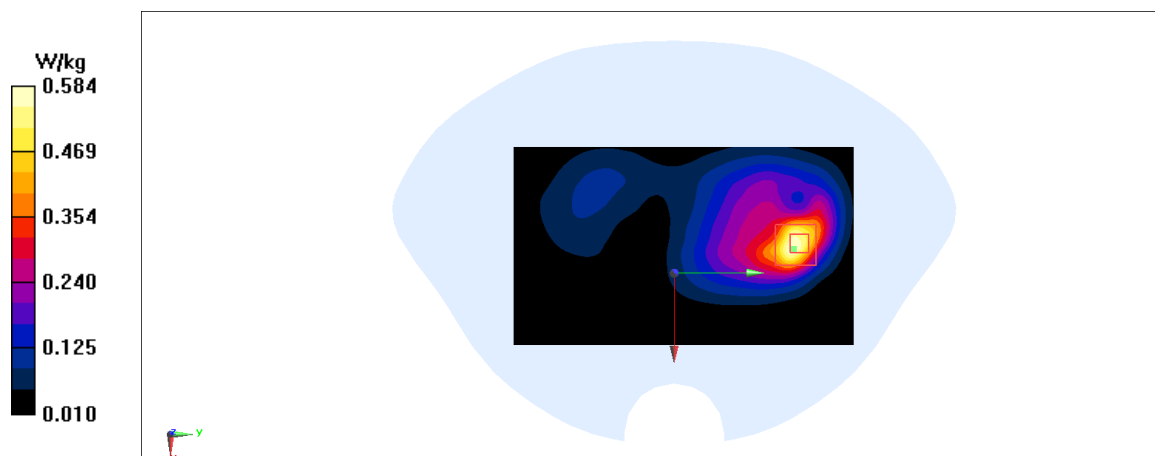


Fig A.26

LTE1700-FDD66_CH132572 Rear

Date: 11/21/2019

Electronics: DAE4 Sn771

Medium: head 1750 MHz

Medium parameters used: $f = 709 \text{ MHz}$; $\sigma = 0.391 \text{ mho/m}$; $\epsilon_r = 41.93$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.5°C , Liquid Temperature: 22.3°C

Communication System: LTE1700-FDD66 709 MHz Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(8.38,8.38,8.38)

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

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

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

Reference Value = 7.598 V/m ; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 0.738 W/kg

SAR(1 g) = 0.439 W/kg ; SAR(10 g) = 0.25 W/kg

Maximum value of SAR (measured) = 0.57 W/kg

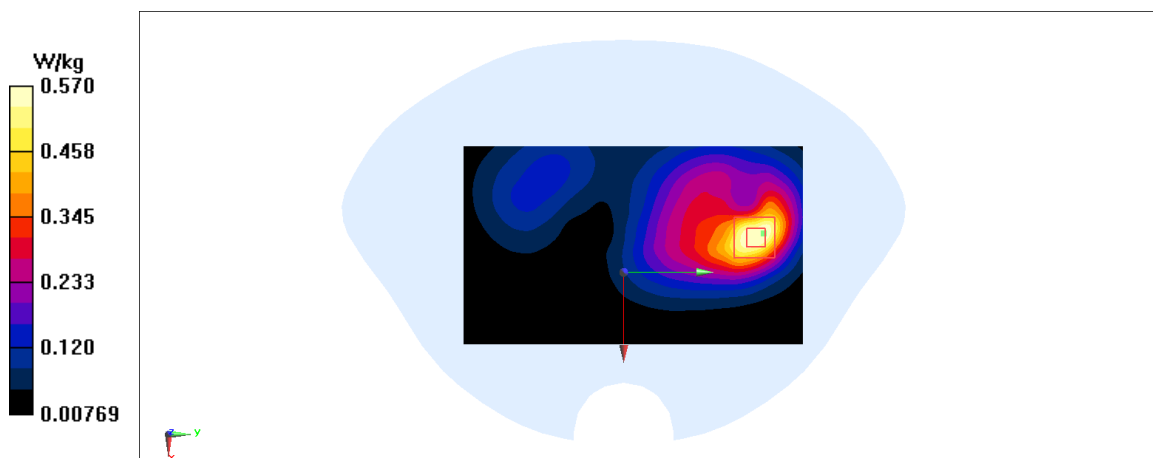


Fig A.27

WLAN2450_CH6 Left Tilt

Date: 11/23/2019

Electronics: DAE4 Sn771

Medium: head 2450 MHz

Medium parameters used: $f = 2437$; $\sigma = 1.772$ mho/m; $\epsilon_r = 39.07$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WLAN2450 2437 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(7.62,7.62,7.62)

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

Maximum value of SAR (interpolated) = 0.632 W/kg

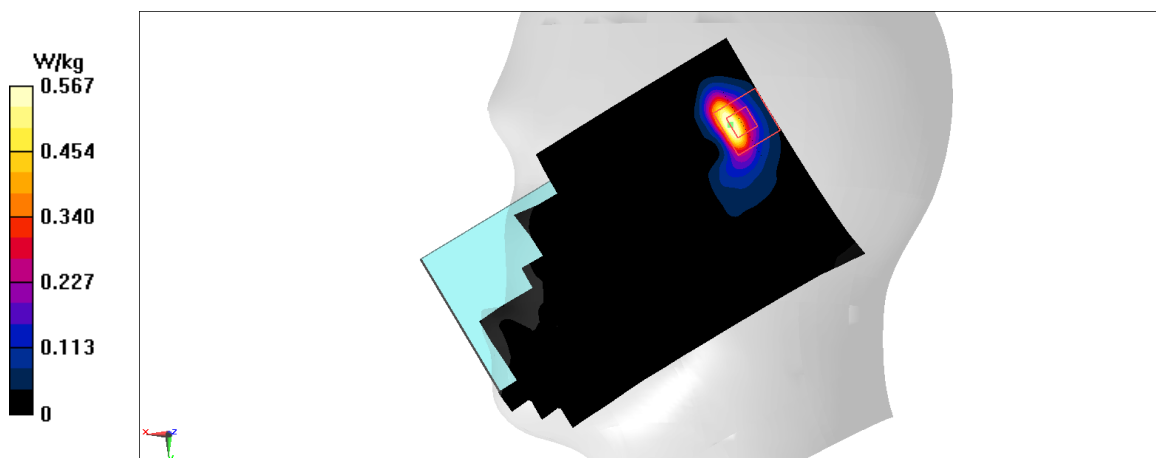
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.191 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.727 W/kg

SAR(1 g) = 0.327 W/kg; SAR(10 g) = 0.129 W/kg

Maximum value of SAR (measured) = 0.567 W/kg

**Fig A.28**

WLAN2450_CH6 Top

Date: 11/23/2019

Electronics: DAE4 Sn771

Medium: head 2450 MHz

Medium parameters used: $f = 2437$; $\sigma = 1.772$ mho/m; $\epsilon_r = 39.07$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WLAN2450 2437 Duty Cycle: 1: 1

Probe: EX3DV4 – SN3617 ConvF(7.62,7.62,7.62)

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

Maximum value of SAR (interpolated) = 0.316 W/kg

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

Reference Value = 9.189 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.384 W/kg

SAR(1 g) = 0.185 W/kg; SAR(10 g) = 0.084 W/kg

Maximum value of SAR (measured) = 0.306 W/kg

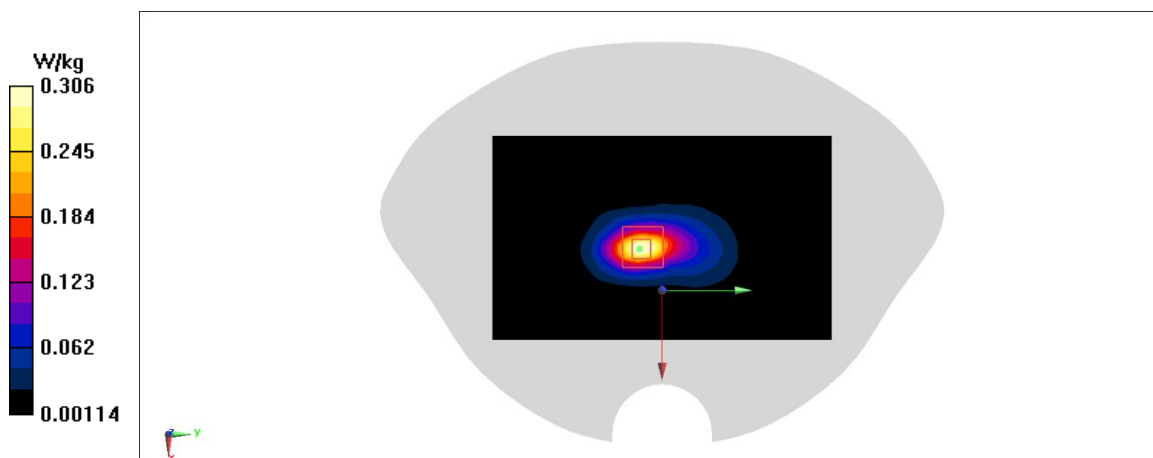


Fig A.29

I.7 ANNEX SYSTEM VALIDATION RESULTS

750 MHz

Date: 11/19/2019

Electronics: DAE4 Sn771

Medium: Head 750 MHz

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.898 \text{ mho/m}$; $\epsilon_r = 41.7$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.5°C Liquid Temperature: 22.3°C

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

Probe: EX3DV4 – SN3617 ConvF(10.03,10.03,10.03)

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

Reference Value = 60.78 V/m ; Power Drift = 0.03

Fast SAR: SAR(1 g) = 2.11 W/kg; SAR(10 g) = 1.42 W/kg

Maximum value of SAR (interpolated) = 2.78 W/kg

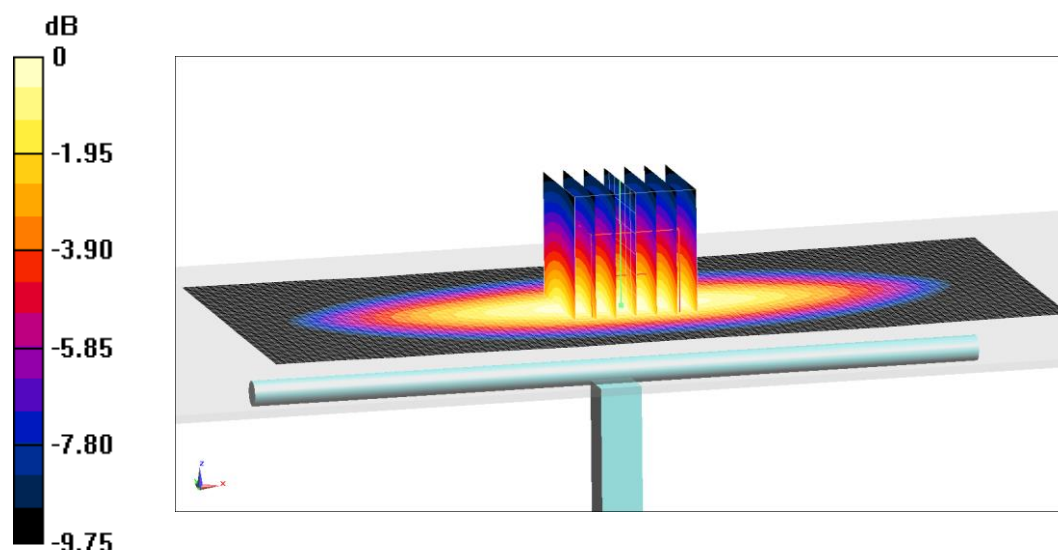
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 60.78 V/m ; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 3.16 W/kg

SAR(1 g) = 2.14 W/kg; SAR(10 g) = 1.38 W/kg

Maximum value of SAR (measured) = 2.83 W/kg



0 dB = $2.83 \text{ W/kg} = 4.52 \text{ dB W/kg}$

Fig.B.1 validation 750 MHz 250mW

835 MHz

Date: 11/20/2019

Electronics: DAE4 Sn771

Medium: Head 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.901 \text{ mho/m}$; $\epsilon_r = 41.6$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.5°C Liquid Temperature: 22.3°C

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

Probe: EX3DV4 – SN3617 ConvF(9.75,9.75,9.75)

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

Reference Value = 63.88 V/m; Power Drift = 0.04

Fast SAR: SAR(1 g) = 2.42 W/kg; SAR(10 g) = 1.56 W/kg

Maximum value of SAR (interpolated) = 3.16 W/kg

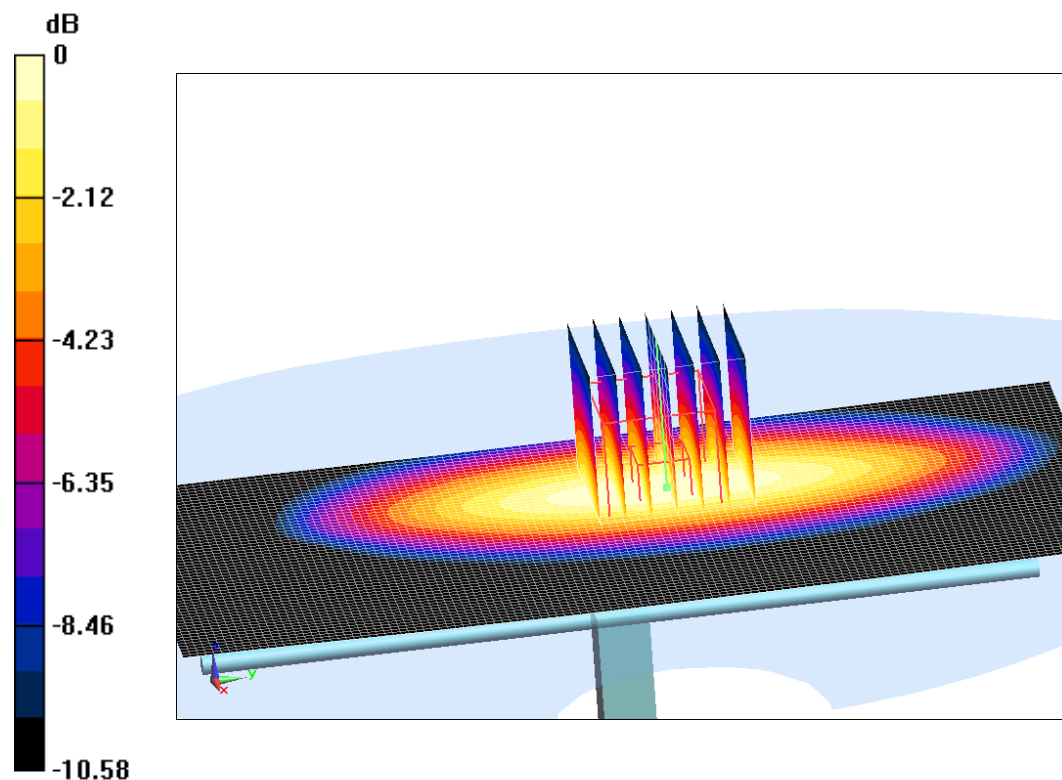
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 63.88 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 3.62 W/kg

SAR(1 g) = 2.45 W/kg; SAR(10 g) = 1.57 W/kg

Maximum value of SAR (measured) = 3.26 W/kg



0 dB = 3.26 W/kg = 5.13 dB W/kg

Fig.B.2 validation 835 MHz 250mW

1750 MHz

Date: 11/21/2019

Electronics: DAE4 Sn771

Medium: Head 1750 MHz

Medium parameters used: $f = 1750$ MHz; $\sigma = 1.38$ mho/m; $\epsilon_r = 40.68$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.3°C

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

Probe: EX3DV4 – SN3617 ConvF(8.38,8.38,8.38)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Reference Value = 104.5 V/m; Power Drift = 0.06

Fast SAR: SAR(1 g) = 9.03 W/kg; SAR(10 g) = 4.83 W/kg

Maximum value of SAR (interpolated) = 14.31 W/kg

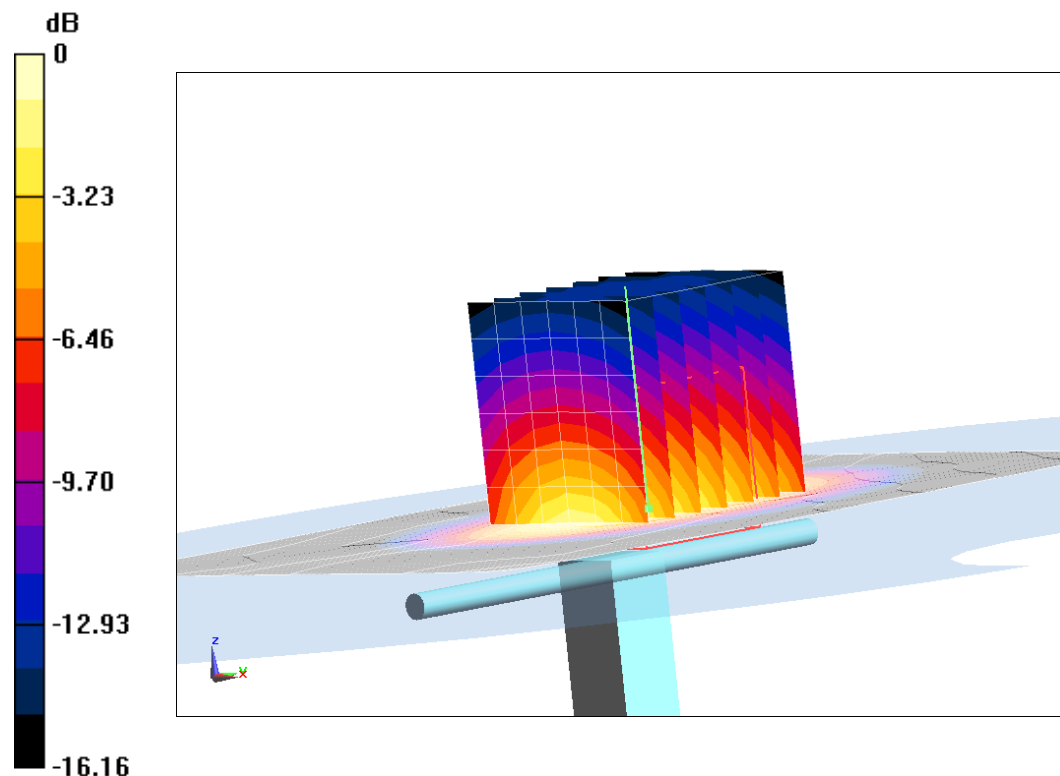
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 104.5 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 16.53 W/kg

SAR(1 g) = 9.01 W/kg; SAR(10 g) = 4.85 W/kg

Maximum value of SAR (measured) = 13.9 W/kg



0 dB = 13.9 W/kg = 11.43 dB W/kg

Fig.B.3 validation 1750 MHz 250mW

1900 MHz

Date: 11/22/2019

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 39.55$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.3°C

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

Probe: EX3DV4 – SN3617 ConvF(8.14,8.14,8.14)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Reference Value = 107.26 V/m; Power Drift = 0.02

Fast SAR: SAR(1 g) = 9.96 W/kg; SAR(10 g) = 5.2 W/kg

Maximum value of SAR (interpolated) = 15.34 W/kg

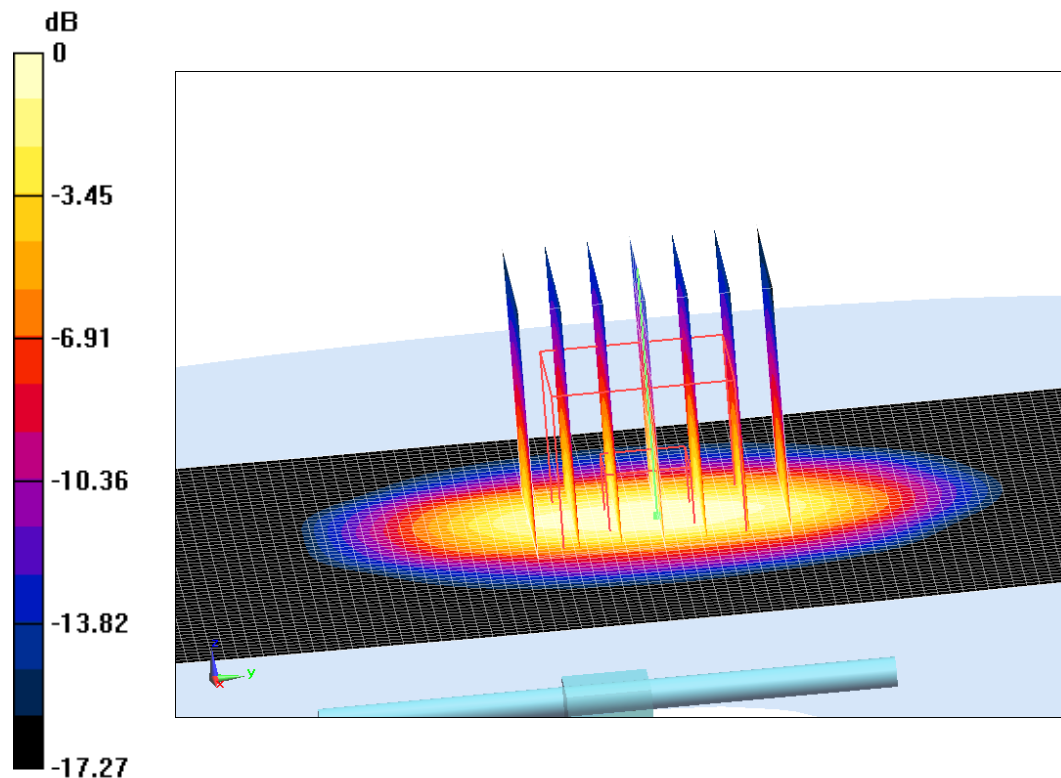
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 107.26 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 17.52 W/kg

SAR(1 g) = 10.07 W/kg; SAR(10 g) = 5.15 W/kg

Maximum value of SAR (measured) = 14.81 W/kg



0 dB = 14.81 W/kg = 11.71 dB W/kg

Fig.B.4 validation 1900 MHz 250mW

2450 MHz

Date: 11/23/2019

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.784$ mho/m; $\epsilon_r = 39.05$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.3°C

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

Probe: EX3DV4 – SN3617 ConvF(7.62,7.62,7.62)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Reference Value = 116.72 V/m; Power Drift = -0.08

Fast SAR: SAR(1 g) = 12.8 W/kg; SAR(10 g) = 5.97 W/kg

Maximum value of SAR (interpolated) = 21.99 W/kg

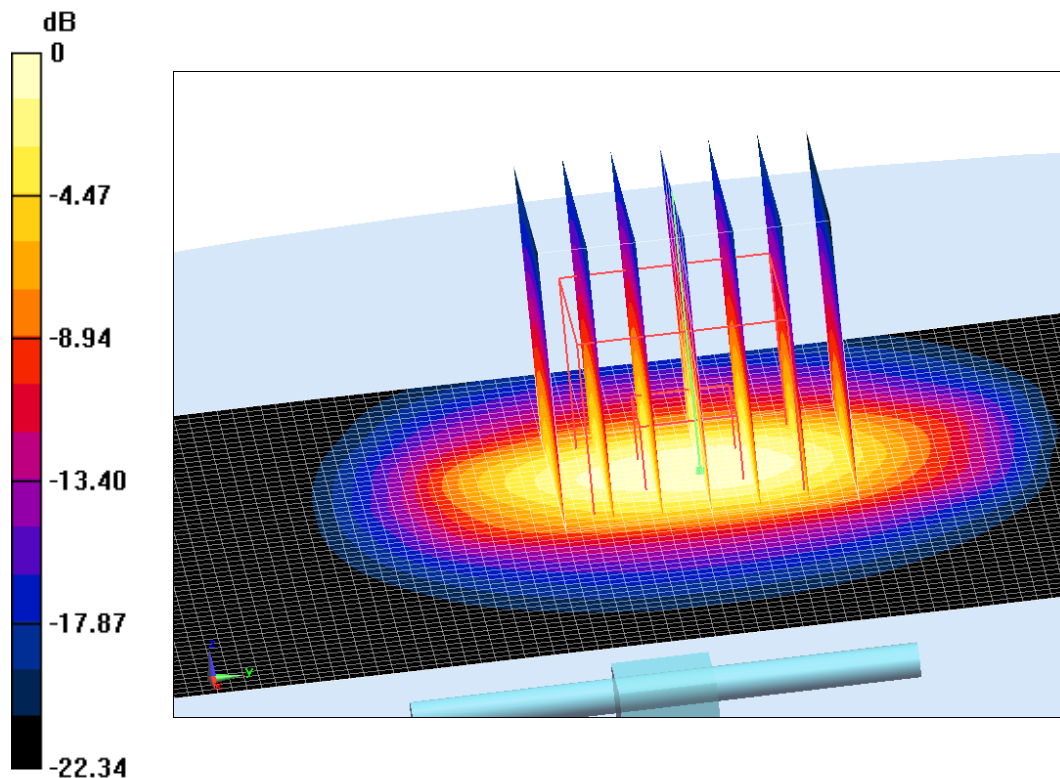
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 116.72 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 25.53 W/kg

SAR(1 g) = 13.14 W/kg; SAR(10 g) = 6.16 W/kg

Maximum value of SAR (measured) = 21.92 W/kg



0 dB = 21.92 W/kg = 13.41 dB W/kg

Fig.B.5 validation 2450 MHz 250mW

2600 MHz

Date: 11/23/2019

Electronics: DAE4 Sn771

Medium: Head 2600 MHz

Medium parameters used: $f = 2600$ MHz; $\sigma = 1.966$ mho/m; $\epsilon_r = 39.57$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.3°C

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

Probe: EX3DV4 – SN3617 ConvF(7.19,7.19,7.19)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Reference Value = 118.31 V/m; Power Drift = -0.05

Fast SAR: SAR(1 g) = 13.82 W/kg; SAR(10 g) = 6.2 W/kg

Maximum value of SAR (interpolated) = 25.14 W/kg

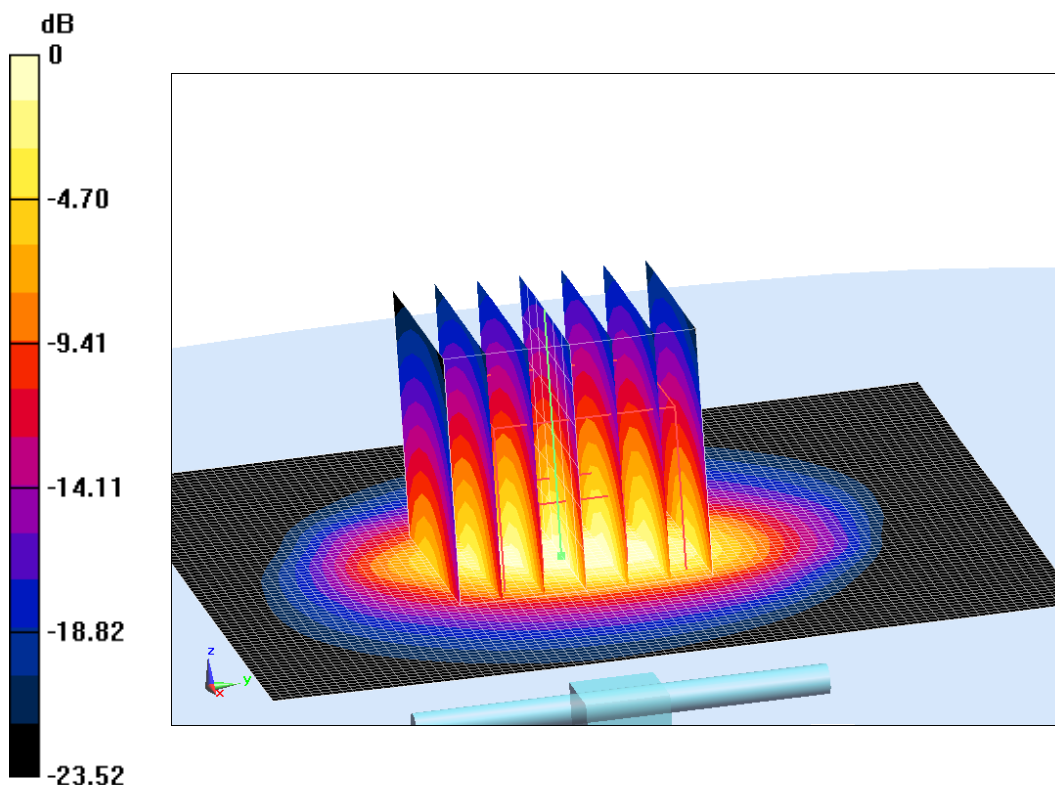
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 118.31 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 28.68 W/kg

SAR(1 g) = 14.17 W/kg; SAR(10 g) = 6.31 W/kg

Maximum value of SAR (measured) = 23.74 W/kg



0 dB = 23.74 W/kg = 13.75 dB W/kg

Fig.B.6 validation 2600 MHz 250mW

ANNEX J SPOT CHECK

J.1 Dielectric Performance and System Validation

Table J.1-1: Dielectric Performance of Head Tissue Simulating Liquid

Measurement Date (yyyy-mm-dd)	Type	Frequency	Permittivity ϵ	Drift (%)	Conductivity σ (S/m)	Drift (%)
2020-7-29	Head	835 MHz	40.84	-1.59	0.903	0.33
2020-7-29	Head	2600 MHz	38.36	-1.67	1.935	-1.28

Table J.1-2: System Validation of Head

Measurement Date (yyyy-mm-dd)	Frequency	Target value (W/kg)		Measured value(W/kg)		Deviation	
		10 g Average	1 g Average	10 g Average	1 g Average	10 g Average	1 g Average
2020-7-29	835 MHz	6.20	9.49	6.16	9.36	-0.65%	-1.37%
2020-7-29	2600 MHz	25.3	57.2	25.72	57.32	1.66%	0.21%

J.2 Conducted power of selected case

Table J.2-1: The conducted power results for 2G- Normal Power

GSM 850MHZ	Measured Power (dBm)		
	251	190	128
Speech	31.98	/	/

Table J.2-2: The conducted Power for LTE-Normal Power

LTE Band7	1RB-Middle	2560 (21350)	22.41
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J.3 SAR results for Main antenna

Frequency Band	Channel Number	Frequency (MHz)	Test setup	EUT Measured Power (dBm)	Tune up (dBm)	Measured SAR 10g (W/kg)	Calculated SAR 10g (W/kg)	Measured SAR 1g (W/kg)	Calculated SAR 1g (W/kg)	Power Drift
GSM850	251	848.8		31.98	33.3	0.310	0.42	0.403	0.55	-0.19
LTE Band7	21350	2560	1RB-Middle Rear 15mm	22.41	24	0.310	0.45	0.591	0.85	-0.16

J.4 Reported SAR Comparison

Table J.4-1: Highest Reported SAR (1g)

Exposure Configuration	Technology Band	Highest Reported SAR 1g(W/kg) original	Highest Reported SAR 1g(W/kg) spot check	Equipment Class
Head (Separation Distance)	GSM 850	0.60	0.55	PCE
	PCS 1900	0.15	/	
	UMTS FDD 2	0.31	/	

0mm)	UMTS FDD 4	0.40	/	DTS
	UMTS FDD 5	0.43	/	
	LTE Band 2	0.29	/	
	LTE Band 5	0.44	/	
	LTE Band 7	0.09	/	
	LTE Band 13	0.30	/	
	LTE Band 17	0.14	/	
	LTE Band 66	0.35	/	
	WLAN 2.4 GHz	0.41	/	
Hotspot (Separation Distance 10mm)	GSM 850	0.59	/	PCE
	PCS 1900	0.78	/	
	UMTS FDD 2	0.65	/	
	UMTS FDD 4	0.32	/	
	UMTS FDD 5	0.63	/	
	LTE Band 2	0.65	/	
	LTE Band 5	0.56	/	
	LTE Band 7	0.90	/	
	LTE Band 13	0.56	/	
	LTE Band 17	0.22	/	
	LTE Band 66	0.37	/	
	WLAN 2.4 GHz	0.22	/	DTS
Body-worn (Separation Distance 15mm)	UMTS FDD 2	0.62	/	PCE
	UMTS FDD 4	0.59	/	
	LTE Band 2	0.59	/	
	LTE Band 7	1.32	0.85	
	LTE Band 66	0.52	/	

Note: The spot check results marked blue are larger than the original result.

J.5 MAIN TEST INSTRUMENTS

Table J.5-1: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	E5071C	MY46110673	February 10, 2020	One year
02	Power meter	NRP2	106277	September 4, 2019	One year
03	Power sensor	NRP8S	104291		
04	Signal Generator	E4438C	MY49070393	May 14, 2020	One Year
05	Amplifier	60S1G4	0331848	No Calibration Requested	
06	BTS	CMW500	166370	June 27, 2019	One year
07	E-field Probe	SPEAG EX3DV4	3617	January 30, 2020	One year
08	DAE	SPEAG DAE4	777	January 8, 2020	One year
09	Dipole Validation Kit	SPEAG D835V2	4d092	June 17, 2020	One year
10	Dipole Validation Kit	SPEAG D2600V2	1058	June 29, 2020	One year
11	Dipole Validation Kit	SPEAG D2600V2	1012	July 17, 2019	One year

J.6 GRAPH RESULTS

GSM850_CH251 Left Cheek

Date: 7/29/2020

Electronics: DAE4 Sn777

Medium: head 835 MHz

Medium parameters used: $f = 848.8$; $\sigma = 0.916$ mho/m; $\epsilon_r = 40.82$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: GSM850 848.8 Duty Cycle: 1:8.3

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

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

Maximum value of SAR (interpolated) = 0.481 W/kg

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

Reference Value = 5.896 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 0.534 W/kg

SAR(1 g) = 0.403 W/kg; SAR(10 g) = 0.31 W/kg

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

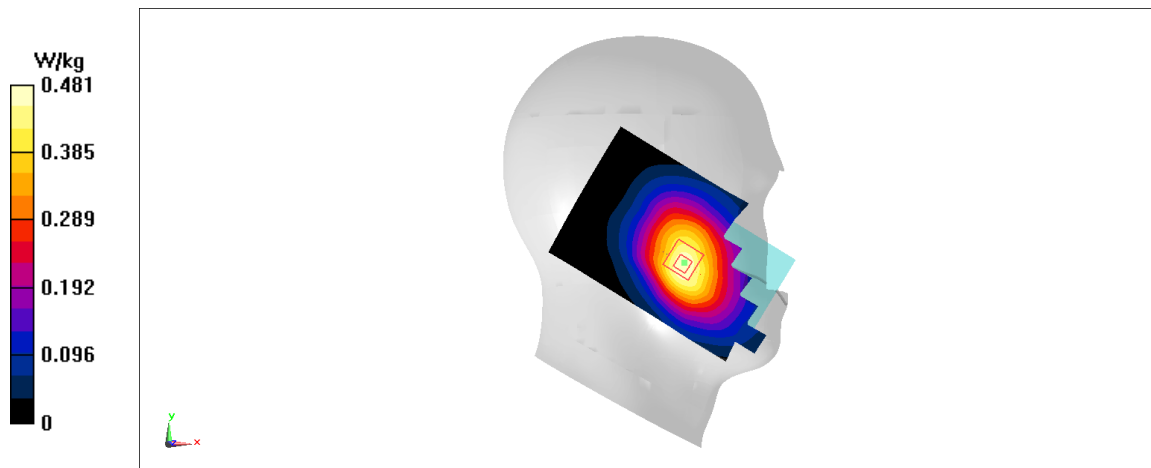


Fig A.1

LTE2500-FDD7_CH21350 Rear

Date: 7/29/2020

Electronics: DAE4 Sn777

Medium: head 2600 MHz

Medium parameters used: $f = 2560$ MHz; $\sigma = 1.897$ mho/m; $\epsilon_r = 38.41$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: LTE2500-FDD7 2560 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN3617 ConvF(7.65,7.65,7.65)

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

Maximum value of SAR (interpolated) = 0.951 W/kg

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

Reference Value = 2.836 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 1.11 W/kg

SAR(1 g) = 0.591 W/kg; SAR(10 g) = 0.31 W/kg

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

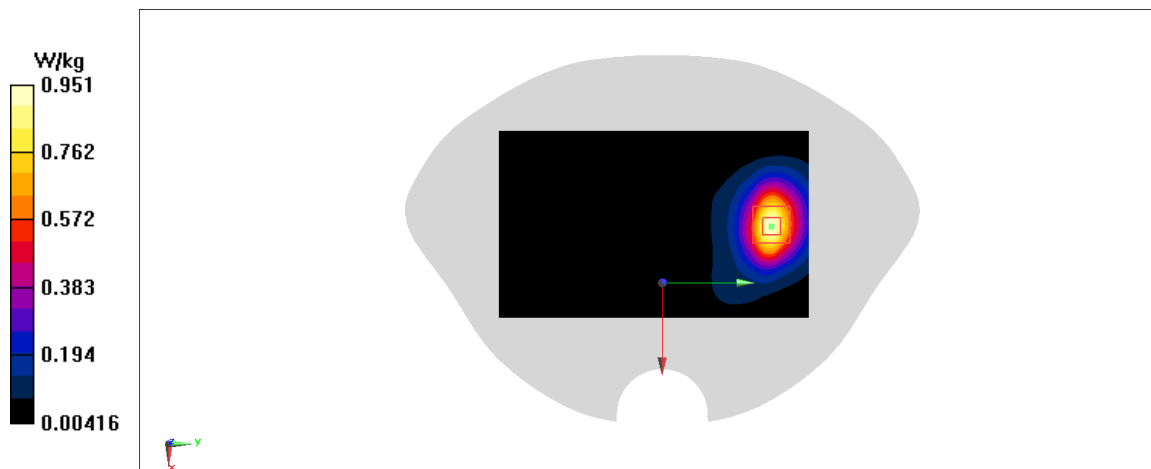


Fig A.2

J.7 ANNEX SYSTEM VALIDATION RESULTS

835 MHz

Date: 7/29/2020

Electronics: DAE4 Sn777

Medium: Head 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.903 \text{ mho/m}$; $\epsilon_r = 40.84$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.5°C Liquid Temperature: 22.3°C

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

Probe: EX3DV4 – SN3617 ConvF(9.66,9.66,9.66)

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

Reference Value = 56.55 V/m; Power Drift = -0.04

Fast SAR: SAR(1 g) = 2.42 W/kg; SAR(10 g) = 1.54 W/kg

Maximum value of SAR (interpolated) = 3.14 W/kg

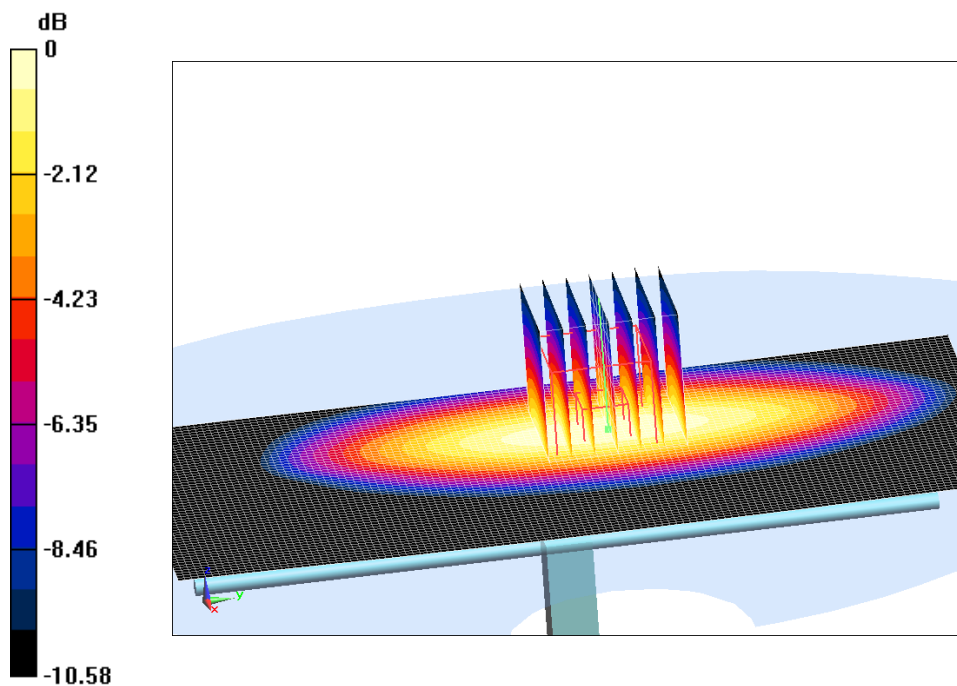
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 56.55 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 3.71 W/kg

SAR(1 g) = 2.34 W/kg; SAR(10 g) = 1.54 W/kg

Maximum value of SAR (measured) = 3.28 W/kg



0 dB = 3.28 W/kg = 5.16 dB W/kg

Fig.B.1 validation 835 MHz 250mW

2600 MHz

Date: 7/29/2020

Electronics: DAE4 Sn777

Medium: Head 2600 MHz

Medium parameters used: $f = 2600$ MHz; $\sigma = 1.935$ mho/m; $\epsilon_r = 38.36$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.5°C Liquid Temperature: 22.3°C

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

Probe: EX3DV4 – SN3617 ConvF(7.52,7.52,7.52)

System Validation /Area Scan (81x191x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Reference Value = 102.54 V/m; Power Drift = 0.06

Fast SAR: SAR(1 g) = 14.38 W/kg; SAR(10 g) = 6.31 W/kg

Maximum value of SAR (interpolated) = 24.98 W/kg

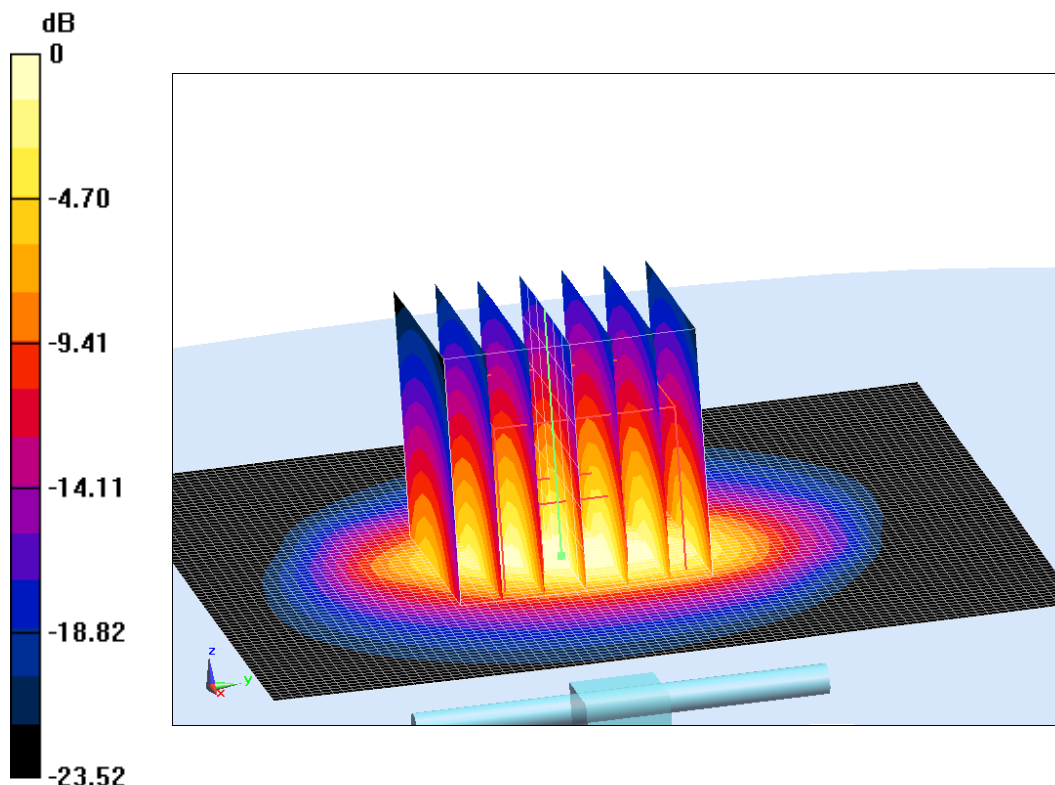
System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 102.54 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 31.04 W/kg

SAR(1 g) = 14.33 W/kg; SAR(10 g) = 6.43 W/kg

Maximum value of SAR (measured) = 24.33 W/kg



0 dB = 24.33 W/kg = 13.86 dB W/kg

Fig.B.2 validation 2600 MHz 250mW