



Appendix A. SAR Plots of System Verification

The plots for system verification are shown as follows.

System Check_H835_121031

DUT: Dipole 835 MHz; Type: D835V2; SN: 4d021

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

Medium: H835_1031 Medium parameters used: $f = 835$ MHz; $\sigma = 0.916$ mho/m; $\epsilon_r = 42.748$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.0 °C ; Liquid Temperature : 21.0 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.3, 8.3, 8.3); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.99 W/kg

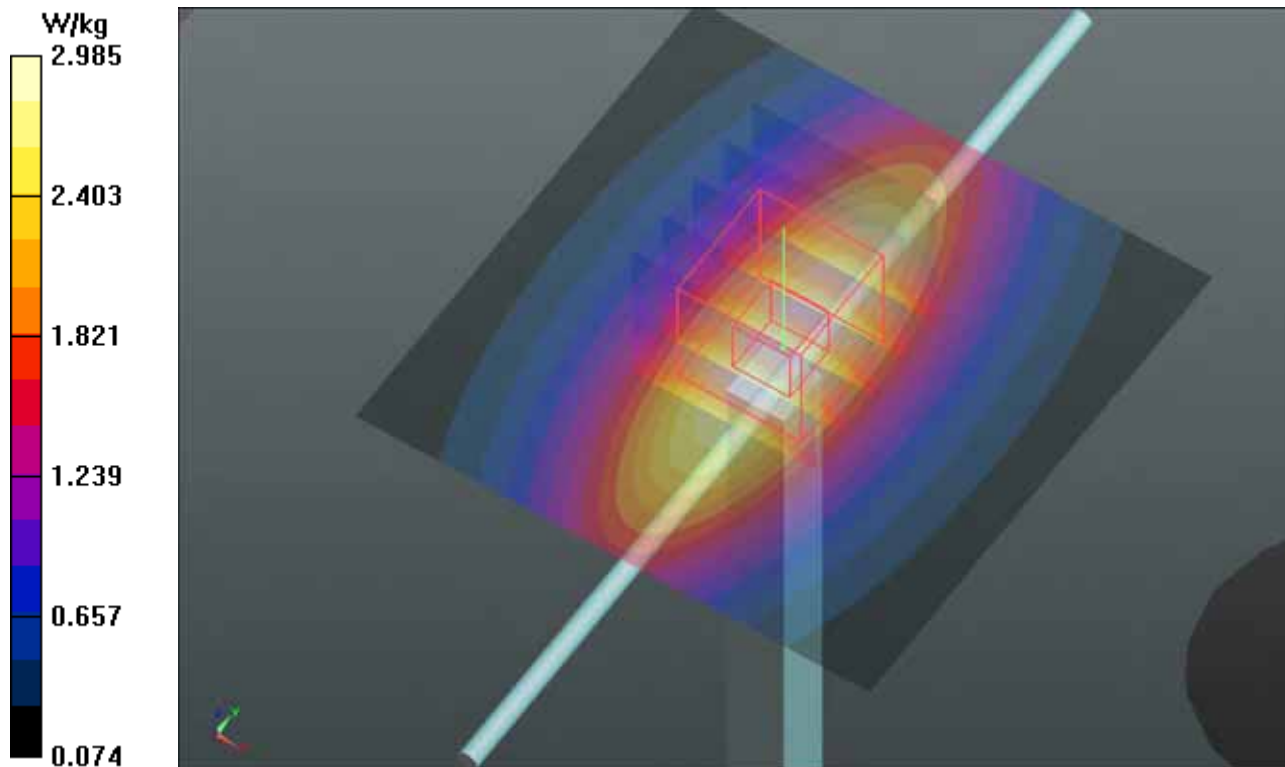
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 55.035 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 3.491 mW/g

SAR(1 g) = 2.33 mW/g; SAR(10 g) = 1.53 mW/g

Maximum value of SAR (measured) = 2.97 W/kg



System Check_H1900_121101

DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d036

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

Medium: H1900_1101 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.412$ mho/m; $\epsilon_r = 40.293$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.19, 7.19, 7.19); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

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

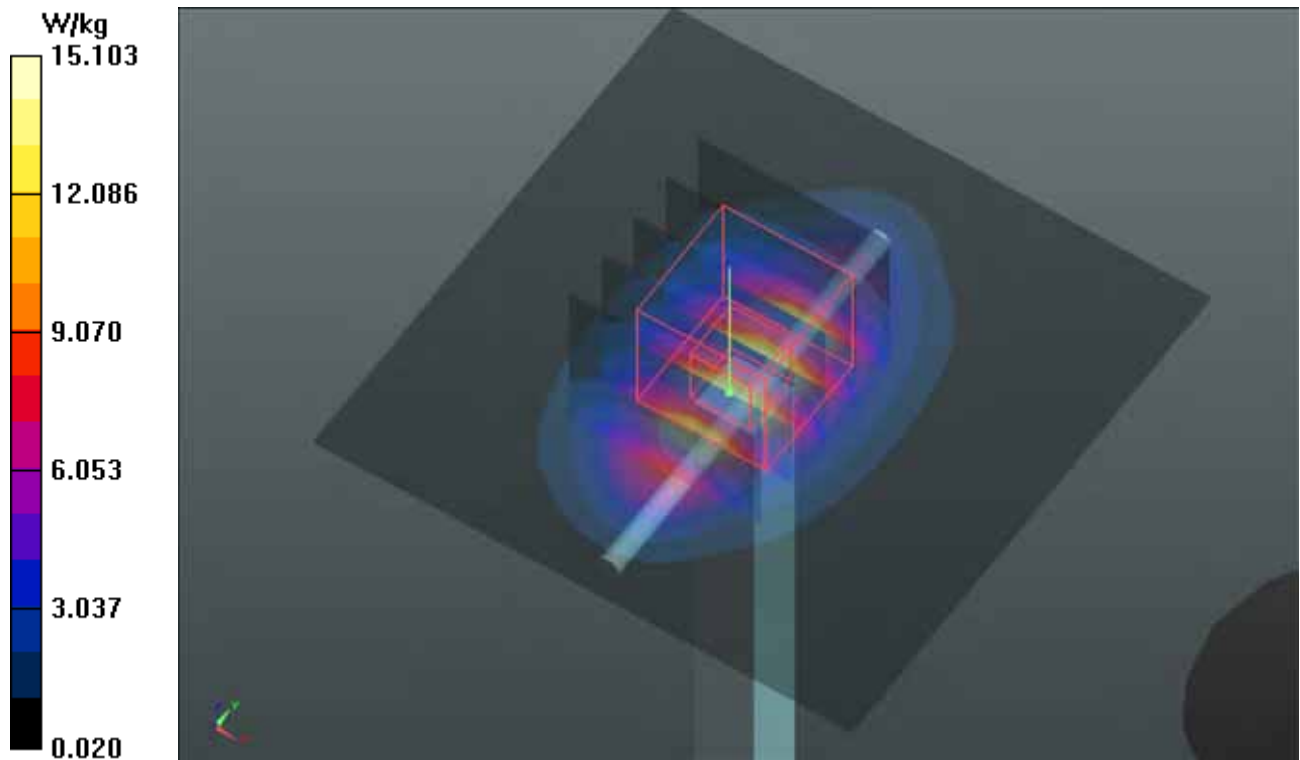
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 102.1 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 18.344 mW/g

SAR(1 g) = 9.91 mW/g; SAR(10 g) = 5.11 mW/g

Maximum value of SAR (measured) = 14.2 W/kg



System Check_H2450_121101

DUT: Dipole 2450 MHz; Type: D2450V2; SN: 737

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

Medium: H2450_1101 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.79$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.28, 7.28, 7.28); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 22.0 mW/g

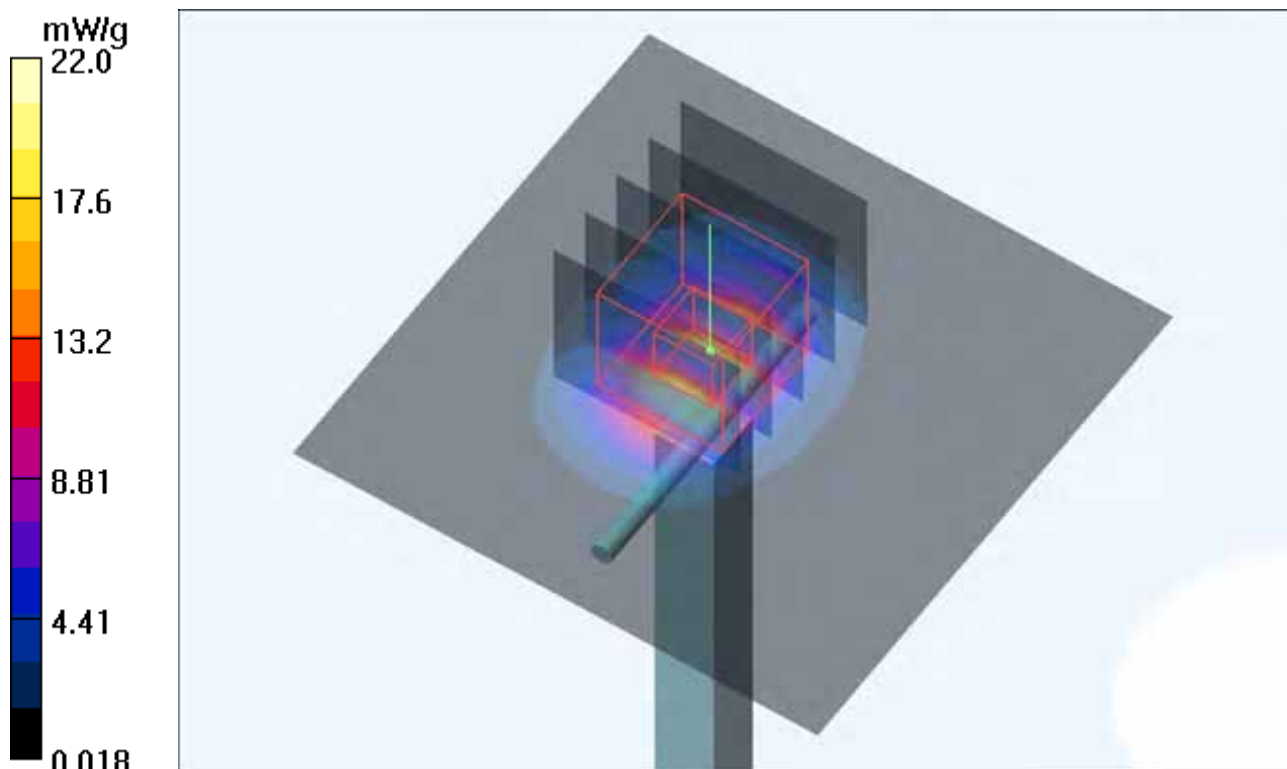
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 109.0 V/m; Power Drift = 0.014 dB

Peak SAR (extrapolated) = 28.1 W/kg

SAR(1 g) = 13.2 mW/g; SAR(10 g) = 5.99 mW/g

Maximum value of SAR (measured) = 20.2 mW/g



System Check_H5200_121106

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1018

Communication System: CW; Frequency: 5200 MHz; Duty Cycle: 1:1

Medium: H5G_1106 Medium parameters used: $f = 5200$ MHz; $\sigma = 4.538$ mho/m; $\epsilon_r = 36.622$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(4.07, 4.07, 4.07); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=100mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 15.9 W/kg

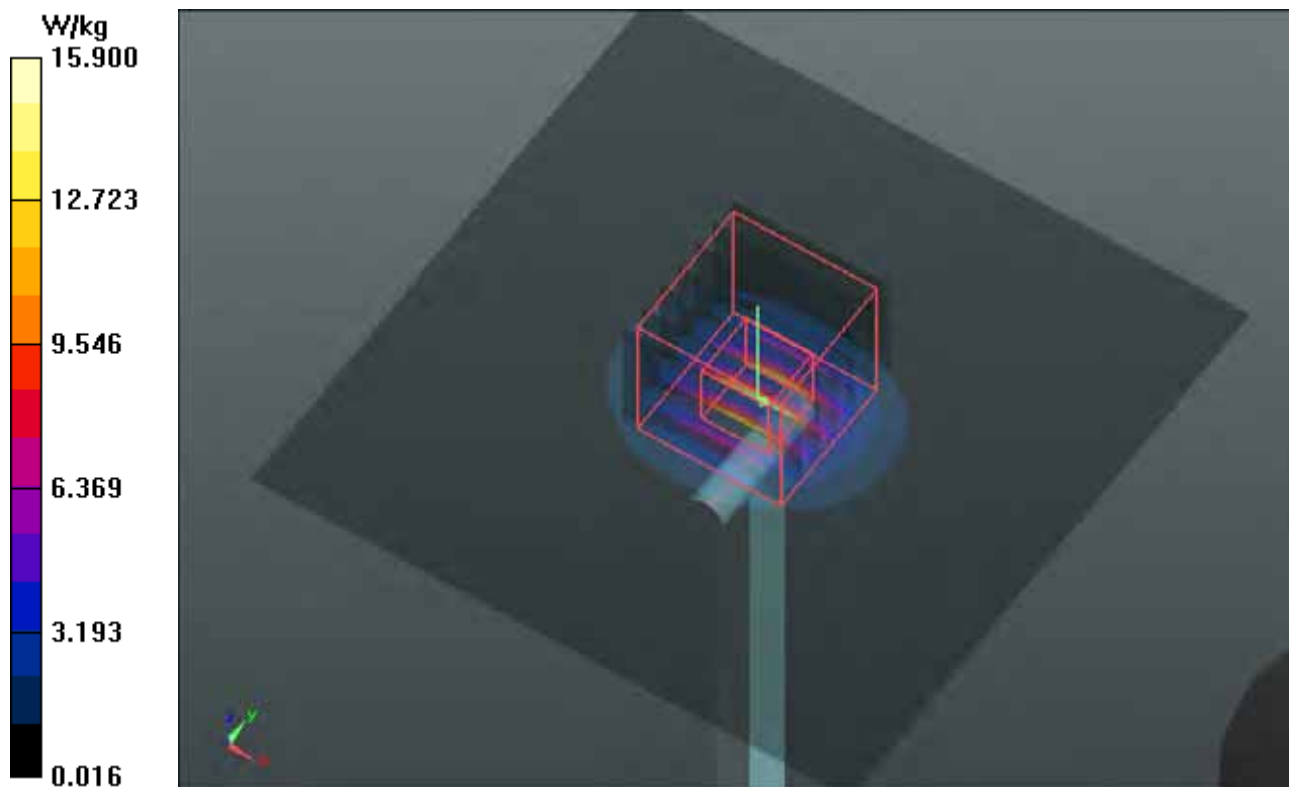
Pin=100mW/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 63.306 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 33.070 mW/g

SAR(1 g) = 7.91 mW/g; SAR(10 g) = 2.26 mW/g

Maximum value of SAR (measured) = 16.7 W/kg



System Check_H5500_121108

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1018

Communication System: CW; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: H5G_1108 Medium parameters used: $f = 5500$ MHz; $\sigma = 4.931$ mho/m; $\epsilon_r = 36.498$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(4.07, 4.07, 4.07); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=100mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 18.1 W/kg

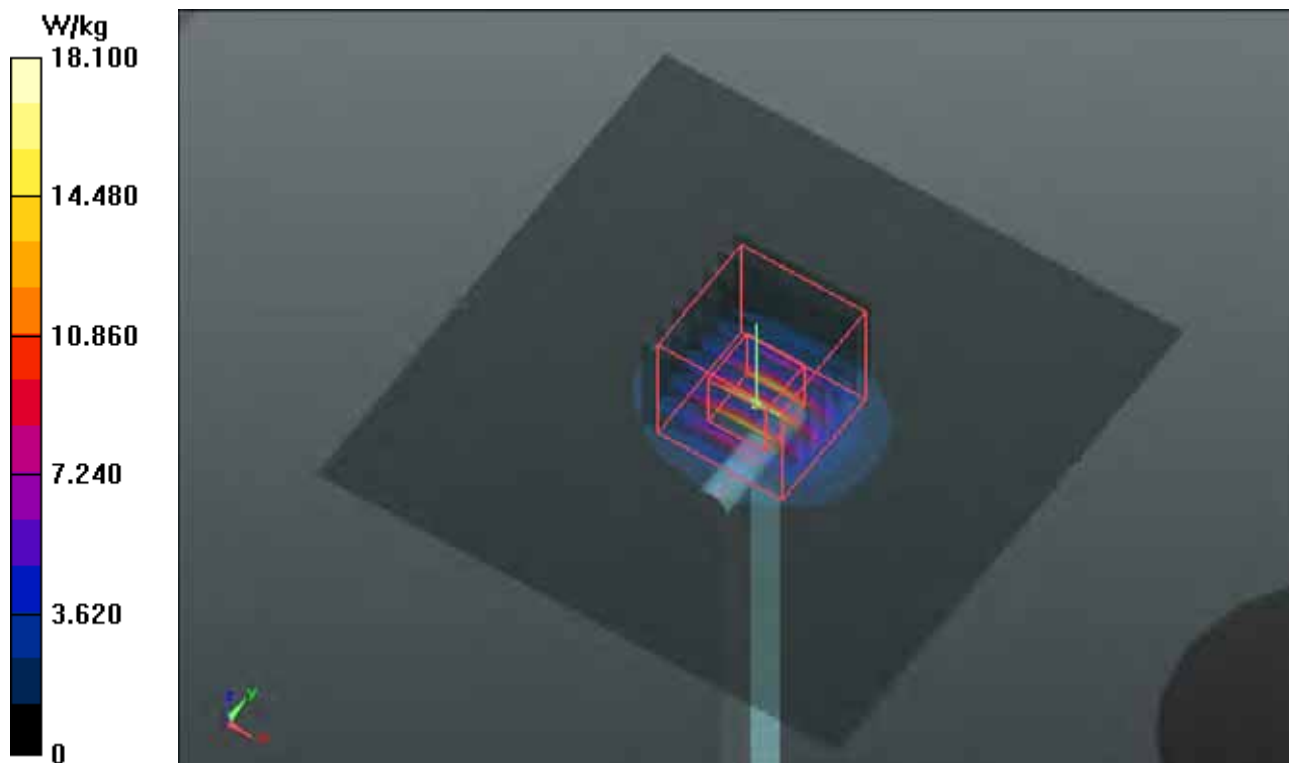
Pin=100mW/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 67.685 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 35.838 mW/g

SAR(1 g) = 8.99 mW/g; SAR(10 g) = 2.51 mW/g

Maximum value of SAR (measured) = 19.0 W/kg



System Check_H5800_121108

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1018

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

Medium: H5G_1108 Medium parameters used: $f = 5800$ MHz; $\sigma = 5.18$ mho/m; $\epsilon_r = 35.752$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.72, 3.72, 3.72); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=100mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 16.9 W/kg

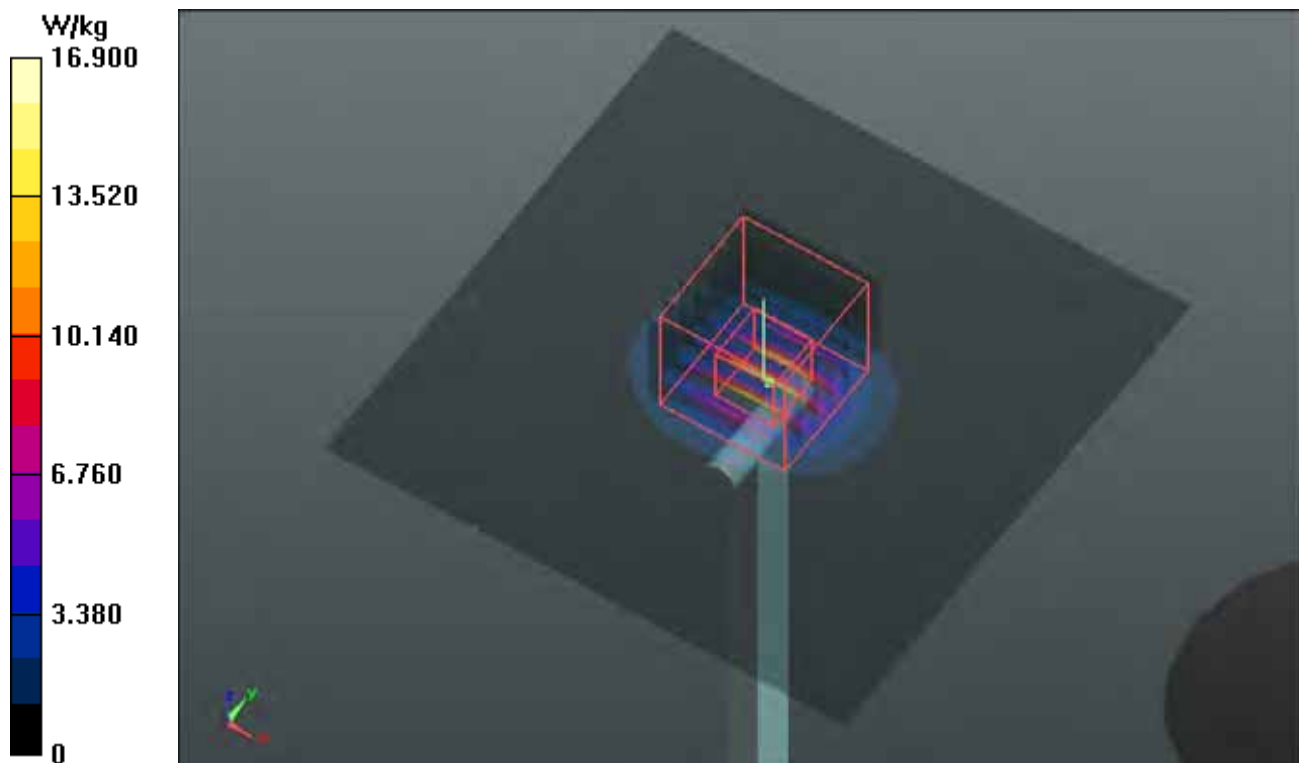
Pin=100mW/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 64.862 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 34.817 mW/g

SAR(1 g) = 8.44 mW/g; SAR(10 g) = 2.38 mW/g

Maximum value of SAR (measured) = 18.3 W/kg



System Check_B835_121031

DUT: Dipole 835 MHz; Type: D835V2; SN: 4d021

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

Medium: B835_1031 Medium parameters used: $f = 835$ MHz; $\sigma = 0.988$ mho/m; $\epsilon_r = 56.906$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.8 °C ; Liquid Temperature : 20.7°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 3.23 W/kg

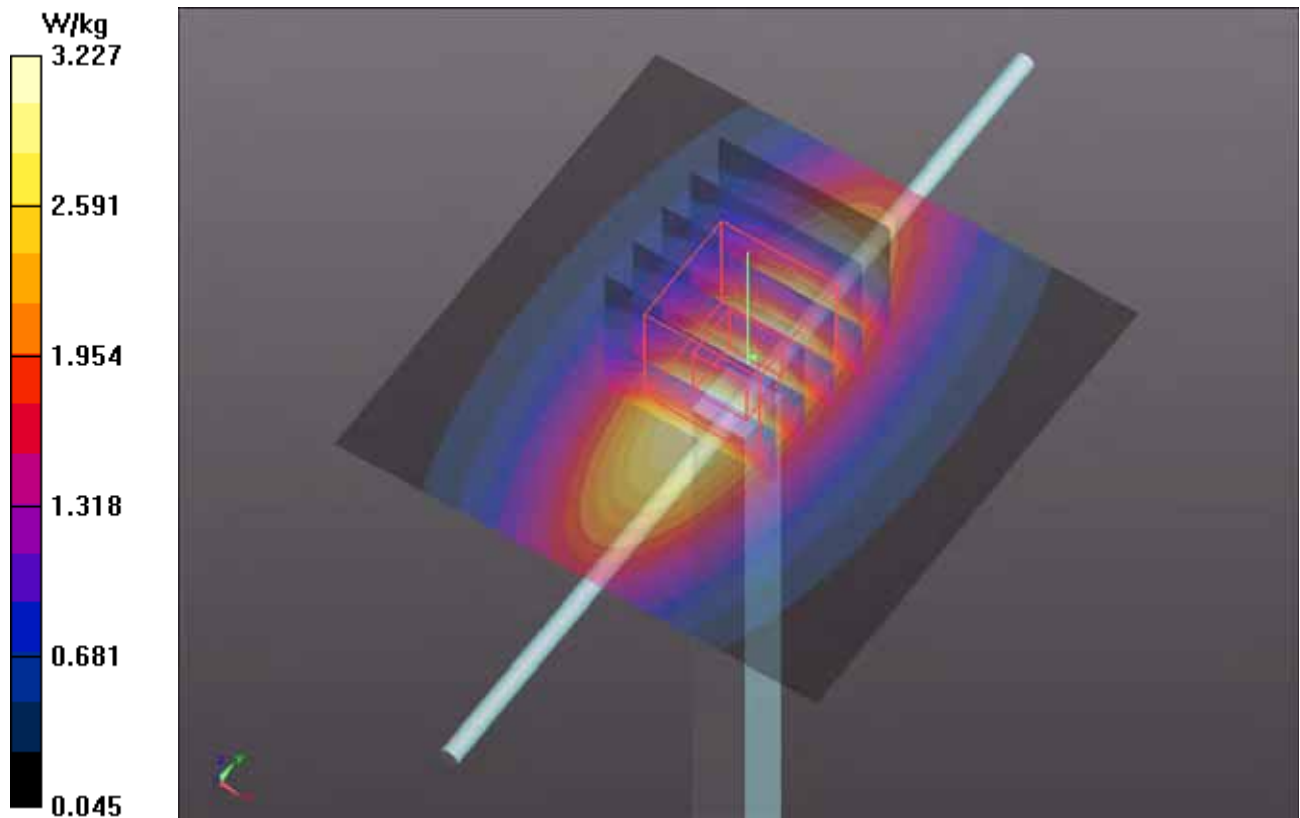
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 55.591 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 3.685 mW/g

SAR(1 g) = 2.54 mW/g; SAR(10 g) = 1.68 mW/g

Maximum value of SAR (measured) = 3.18 W/kg



System Check_B835_121101

DUT: Dipole 835 MHz; Type: D835V2; SN: 4d021

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

Medium: B835_1101 Medium parameters used: $f = 835$ MHz; $\sigma = 0.962$ mho/m; $\epsilon_r = 54.724$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

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

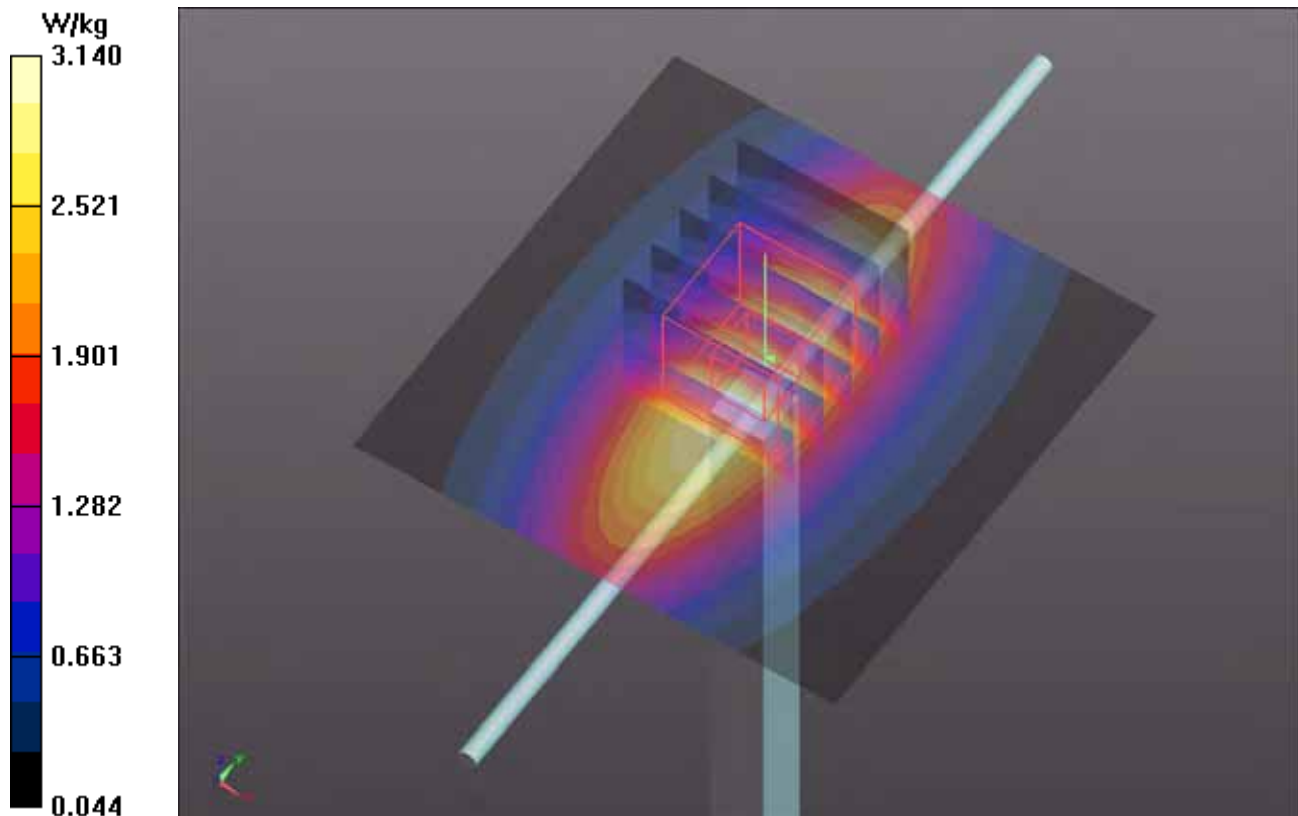
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 55.591 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 3.585 mW/g

SAR(1 g) = 2.47 mW/g; SAR(10 g) = 1.64 mW/g

Maximum value of SAR (measured) = 3.09 W/kg



System Check_B1900_121101

DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d036

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

Medium: B1900_1101 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.544$ mho/m; $\epsilon_r = 53.431$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.69, 6.69, 6.69); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 15.2 W/kg

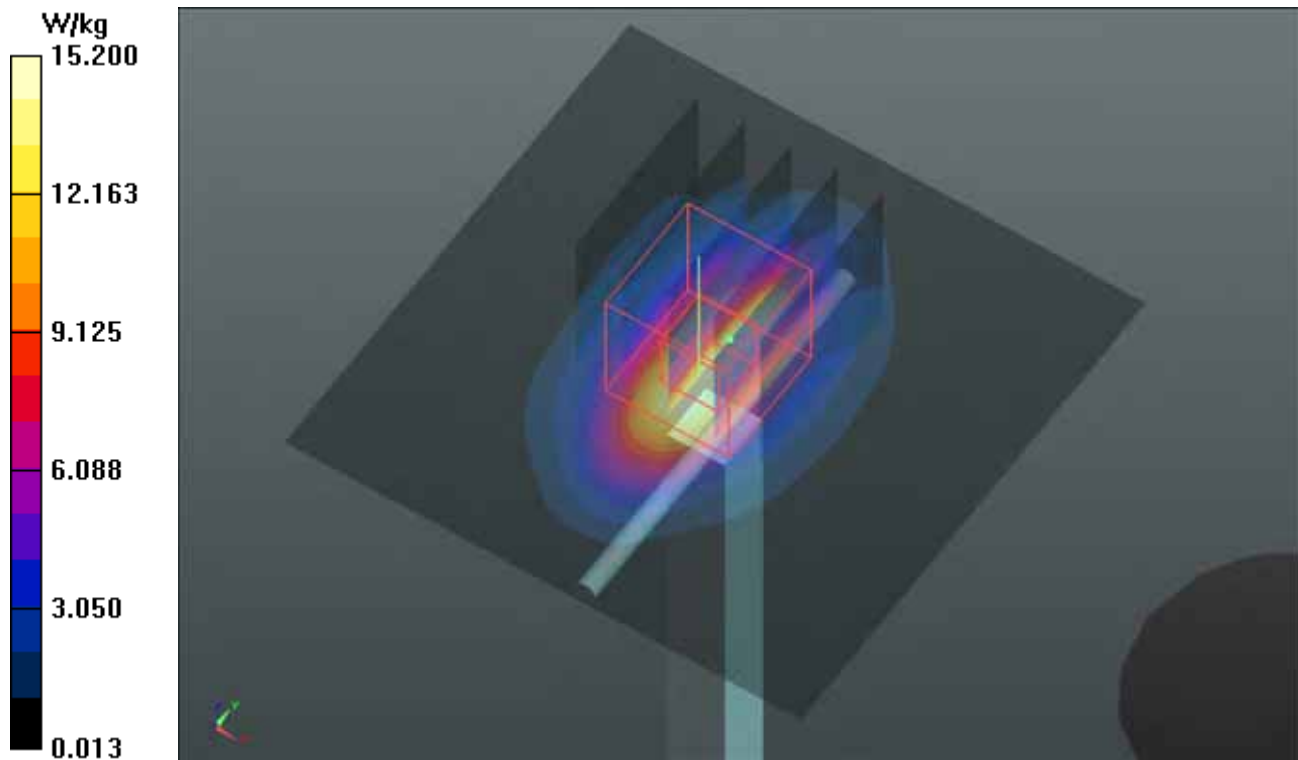
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 99.494 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 18.459 mW/g

SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.49 mW/g

Maximum value of SAR (measured) = 14.7 W/kg



System Check_B1900_121102

DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d036

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

Medium: B1900_1102 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.55$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 14.7 mW/g

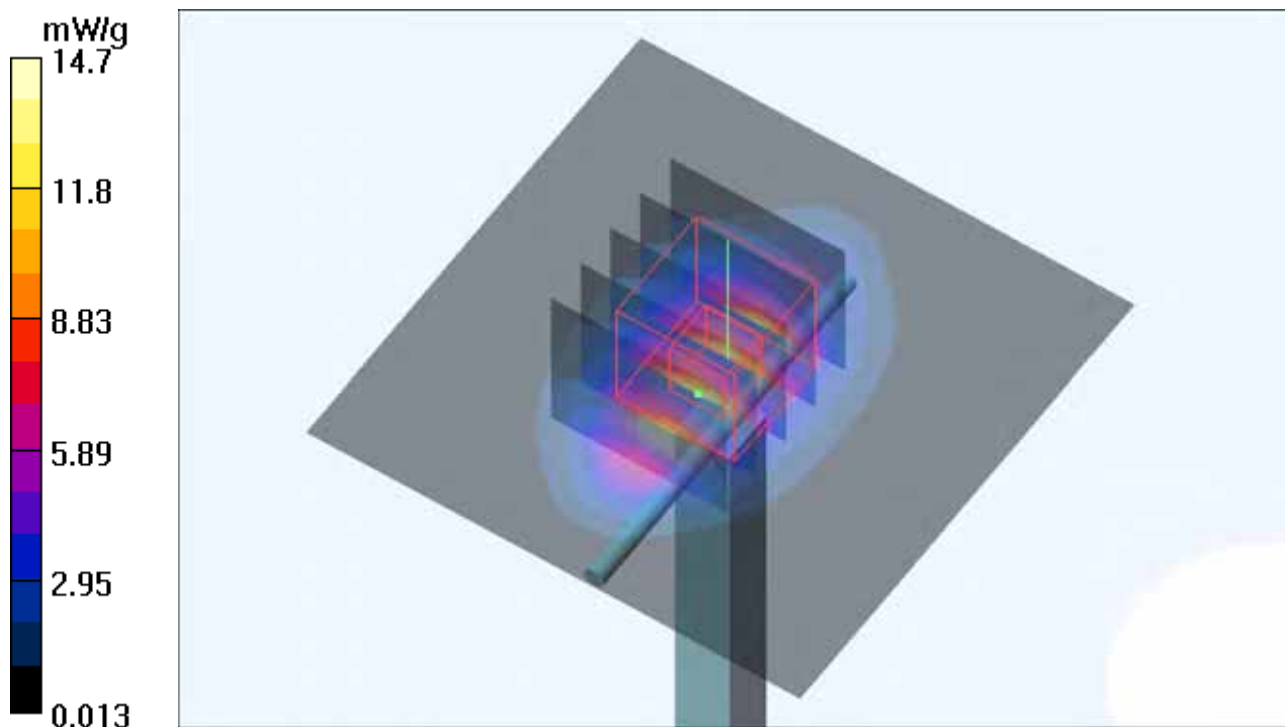
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 96.8 V/m; Power Drift = -0.011 dB

Peak SAR (extrapolated) = 17.6 W/kg

SAR(1 g) = 9.74 mW/g; SAR(10 g) = 5.06 mW/g

Maximum value of SAR (measured) = 13.7 mW/g



System Check_B2450_121101

DUT: Dipole 2450 MHz; Type: D2450V2; SN: 737

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

Medium: B2450_1101 Medium parameters used: $f = 2450$ MHz; $\sigma = 2.02$ mho/m; $\epsilon_r = 53.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.4 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.49, 7.49, 7.49); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1039
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 19.3 mW/g

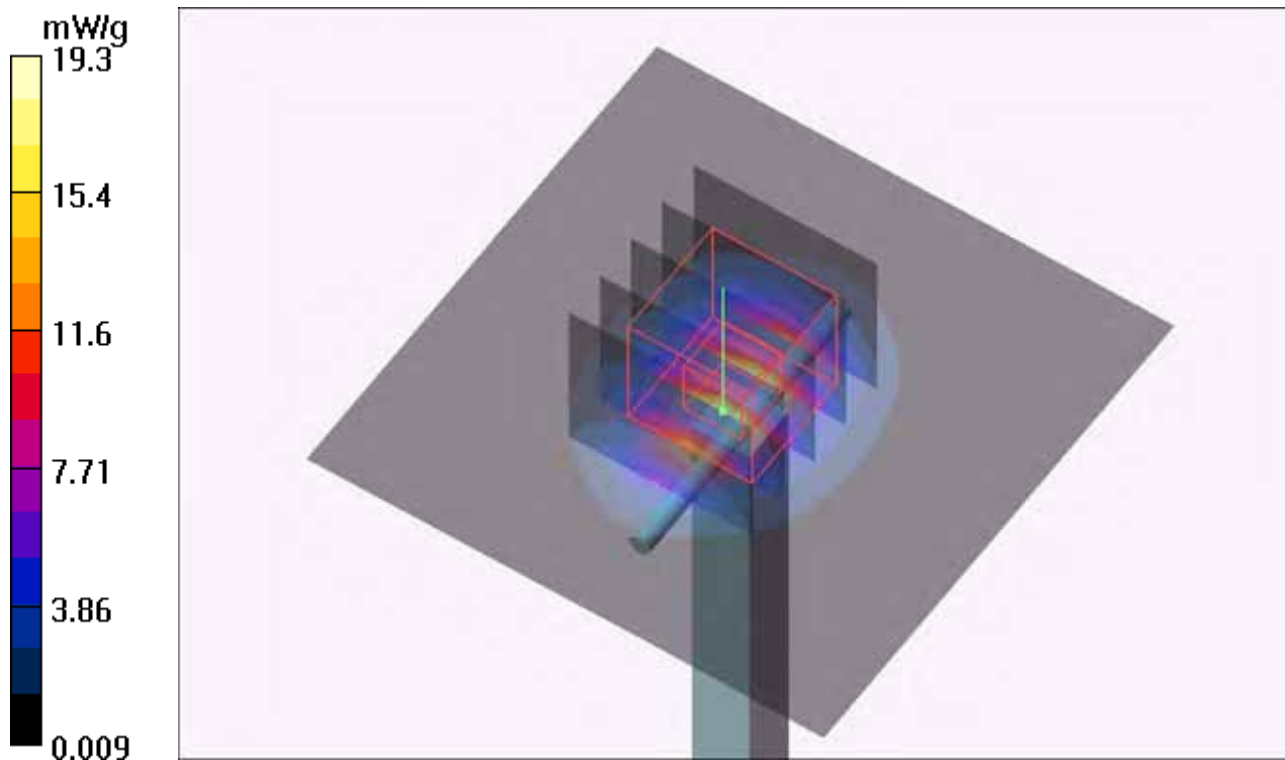
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 96.8 V/m; Power Drift = -0.008 dB

Peak SAR (extrapolated) = 25.4 W/kg

SAR(1 g) = 12.1 mW/g; SAR(10 g) = 5.6 mW/g

Maximum value of SAR (measured) = 18.2 mW/g



System Check_B5200_121102

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1018

Communication System: CW; Frequency: 5200 MHz; Duty Cycle: 1:1

Medium: B5G_1102 Medium parameters used: $f = 5200$ MHz; $\sigma = 5.263$ mho/m; $\epsilon_r = 49.005$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.9 °C ; Liquid Temperature : 20.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.93, 3.93, 3.93); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=100mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 16.1 W/kg

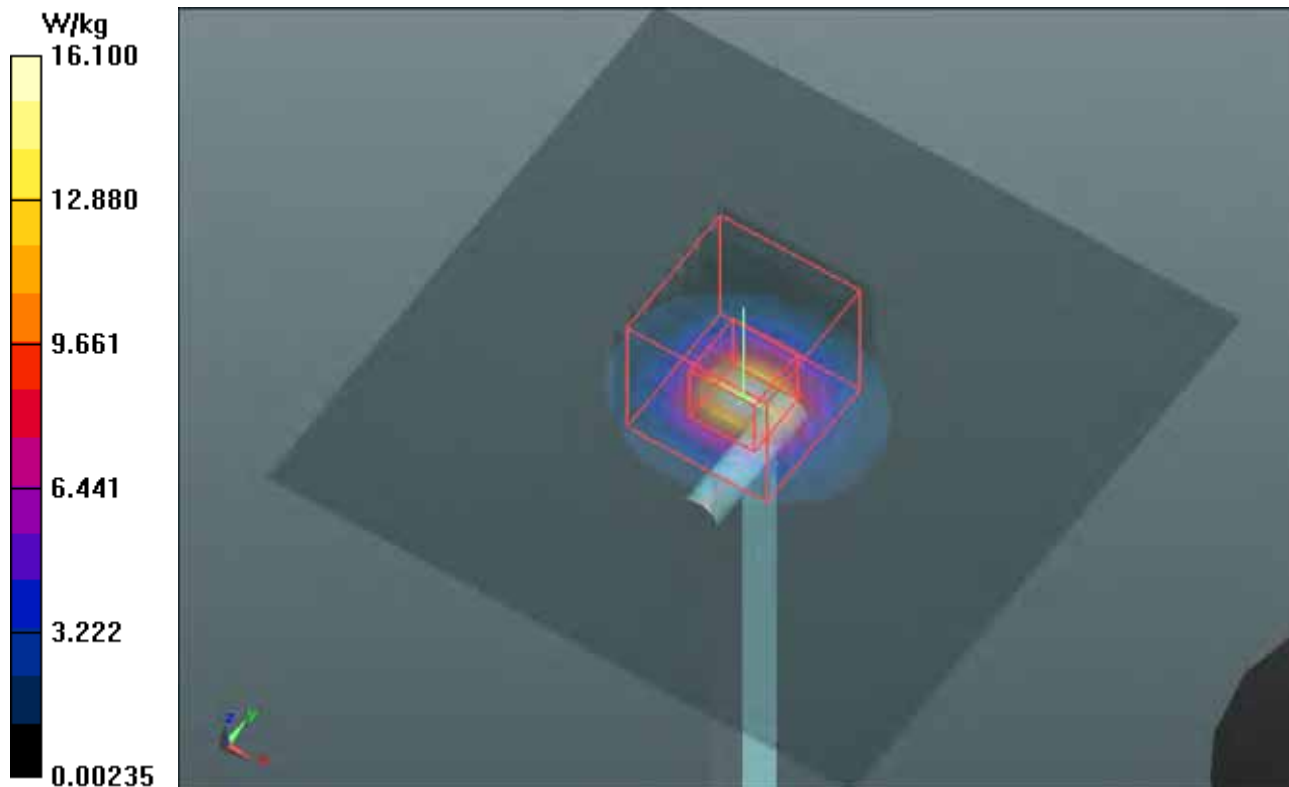
Pin=100mW/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 62.229 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 28.196 mW/g

SAR(1 g) = 7.63 mW/g; SAR(10 g) = 2.16 mW/g

Maximum value of SAR (measured) = 15.7 W/kg



System Check_B5500_121102

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1018

Communication System: CW; Frequency: 5500 MHz; Duty Cycle: 1:1

Medium: B5G_1102 Medium parameters used: $f = 5500$ MHz; $\sigma = 5.706$ mho/m; $\epsilon_r = 48.521$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.9 °C ; Liquid Temperature : 20.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.45, 3.45, 3.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=100mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 15.7 W/kg

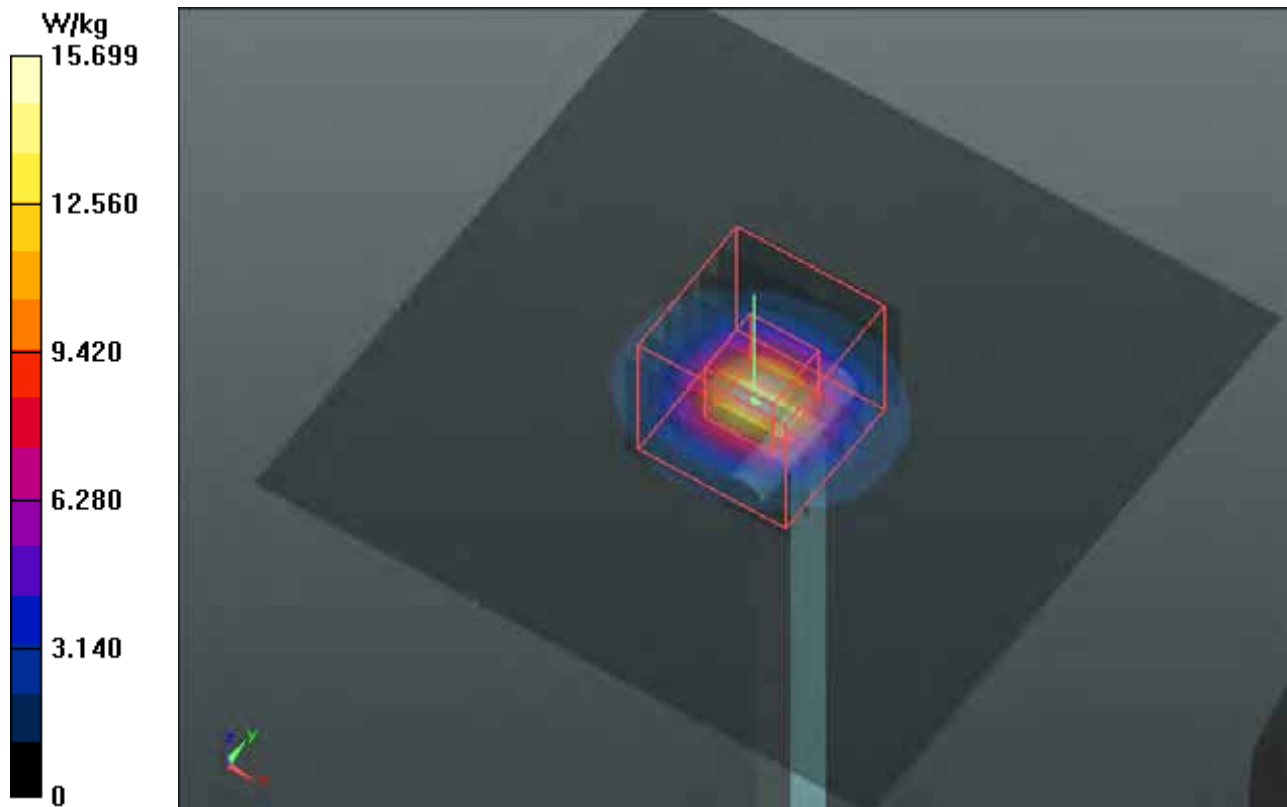
Pin=100mW/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 57.497 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 29.719 mW/g

SAR(1 g) = 7.48 mW/g; SAR(10 g) = 2.01 mW/g

Maximum value of SAR (measured) = 15.3 W/kg



System Check_B5800_121102

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1018

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

Medium: B5G_1102 Medium parameters used: $f = 5800$ MHz; $\sigma = 6.118$ mho/m; $\epsilon_r = 47.772$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.9 °C ; Liquid Temperature : 20.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=100mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

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

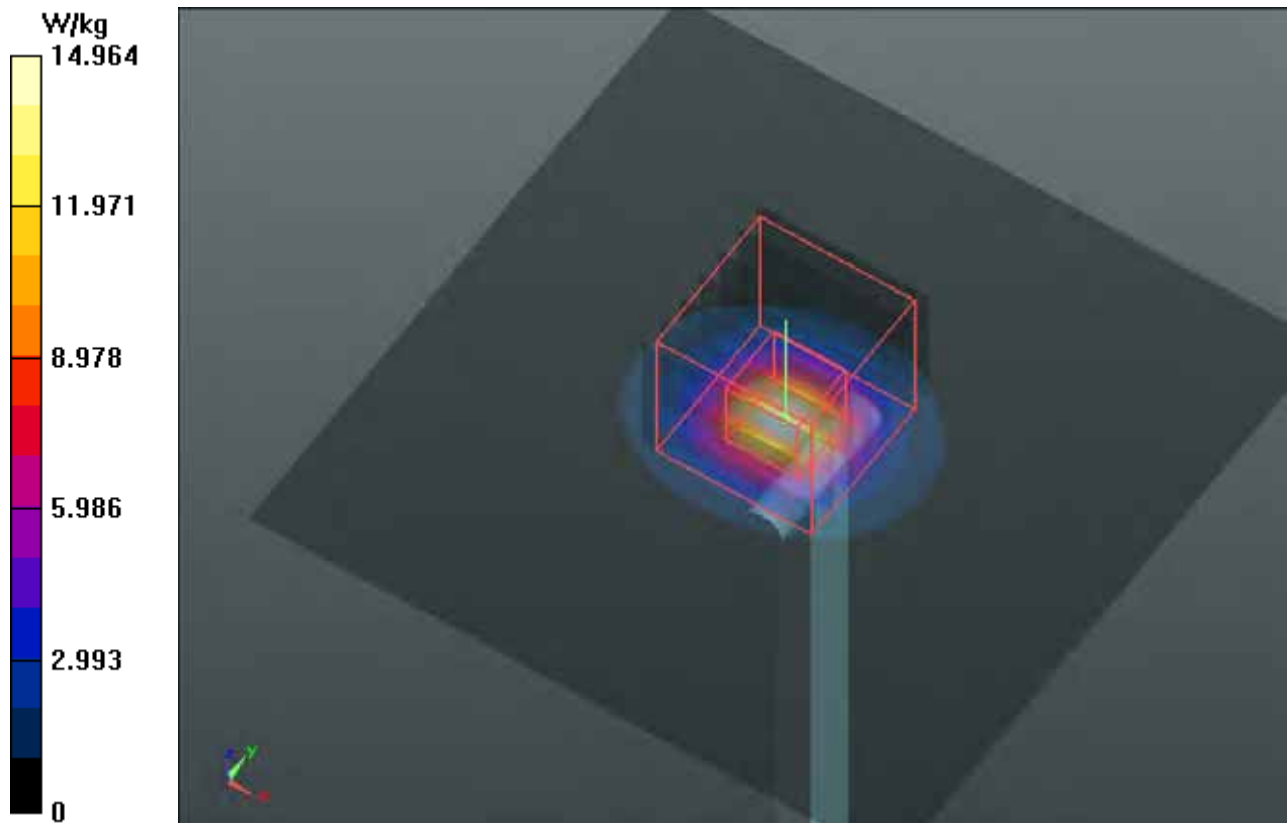
Pin=100mW/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 54.071 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 29.954 mW/g

SAR(1 g) = 6.9 mW/g; SAR(10 g) = 1.92 mW/g

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



System Check_B5800_121106

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1018

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

Medium: B5G_1106 Medium parameters used: $f = 5800$ MHz; $\sigma = 6.127$ mho/m; $\epsilon_r = 47.81$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=100mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 14.5 W/kg

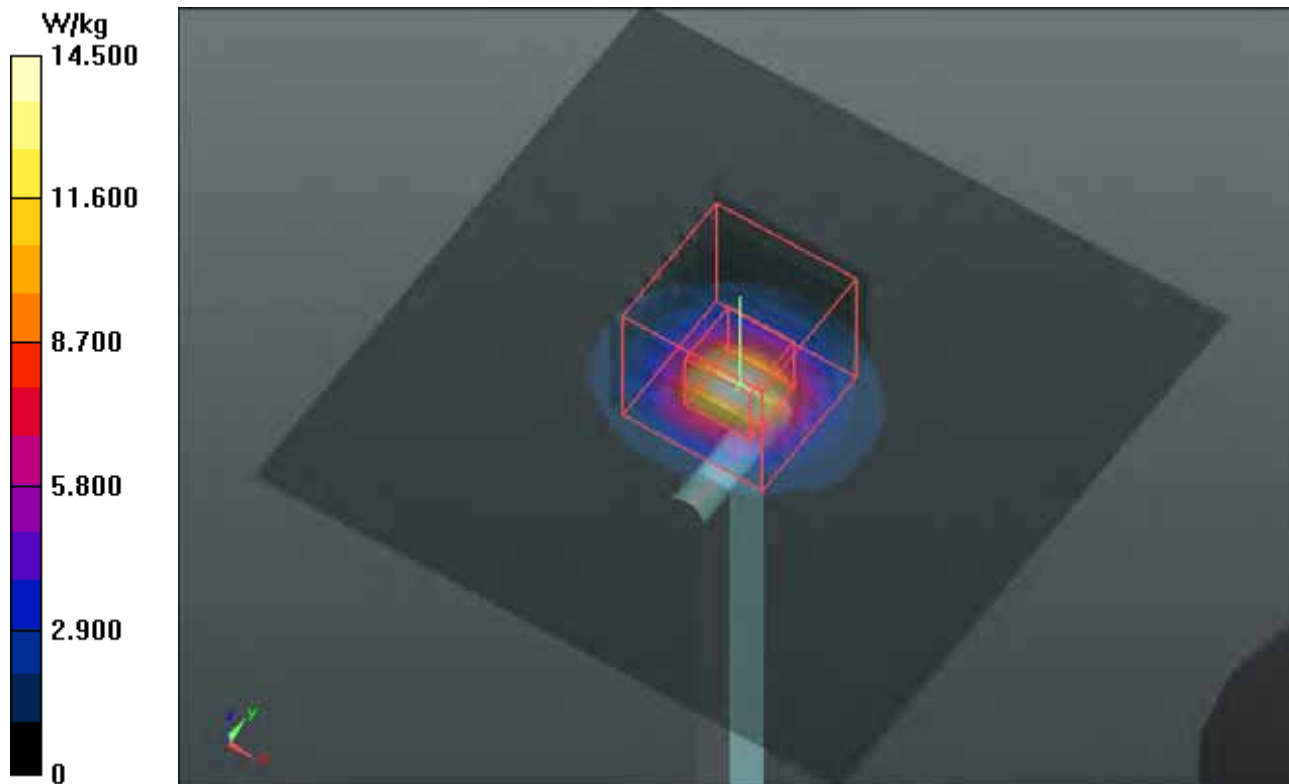
Pin=100mW/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 53.411 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 30.864 mW/g

SAR(1 g) = 6.89 mW/g; SAR(10 g) = 1.92 mW/g

Maximum value of SAR (measured) = 15.4 W/kg



System Check_B5800_121108

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1018

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

Medium: B5G_1108 Medium parameters used: $f = 5800$ MHz; $\sigma = 6.118$ mho/m; $\epsilon_r = 47.772$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=100mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 17.0 W/kg

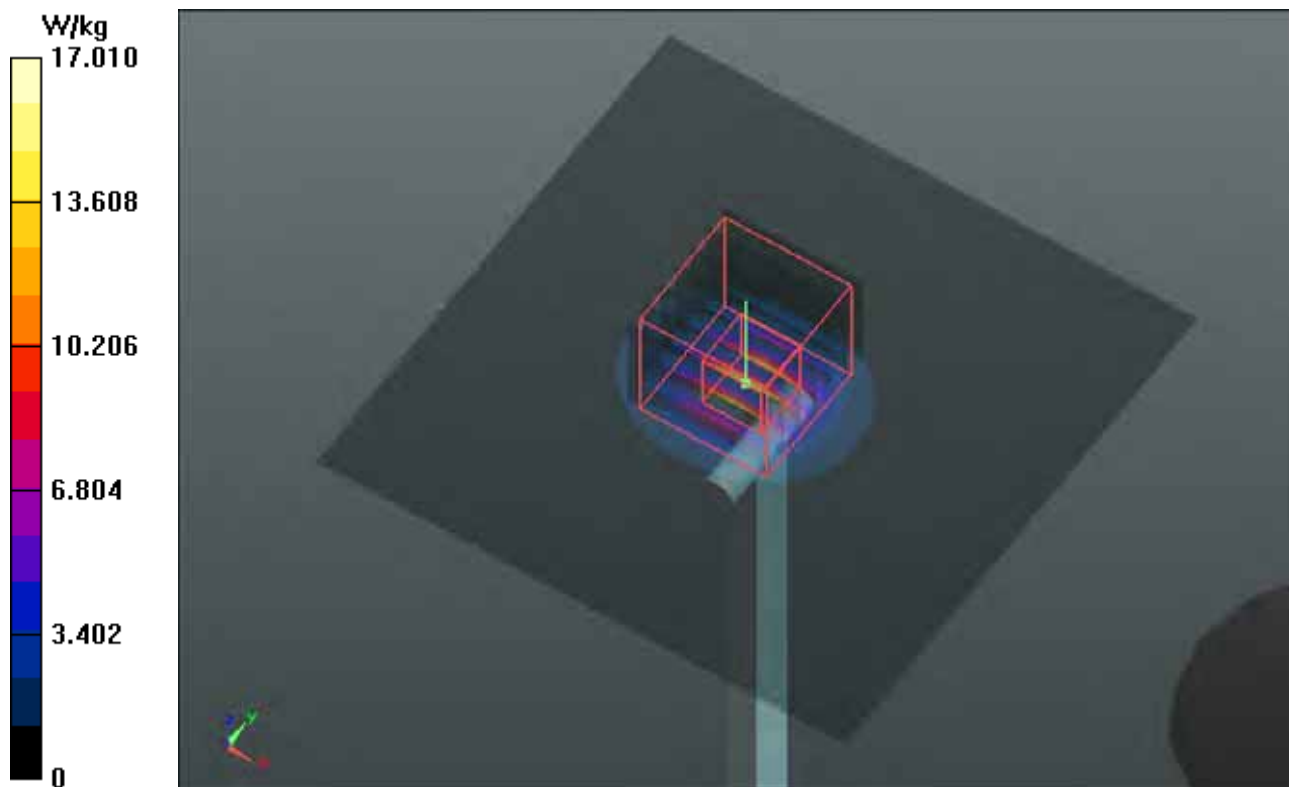
Pin=100mW/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 58.565 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 32.450 mW/g

SAR(1 g) = 7.73 mW/g; SAR(10 g) = 2.17 mW/g

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





Appendix B. SAR Plots of SAR Measurement

The plots for SAR measurement are shown as follows.

P01 GSM850_GSM_Right Cheek_Ch251

DUT: 121025C24

Communication System: GSM; Frequency: 848.8 MHz; Duty Cycle: 1:8.30042

Medium: H835_1031 Medium parameters used: $f = 849$ MHz; $\sigma = 0.929$ mho/m; $\epsilon_r = 42.571$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.0 °C ; Liquid Temperature : 21.0 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.3, 8.3, 8.3); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch251/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

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

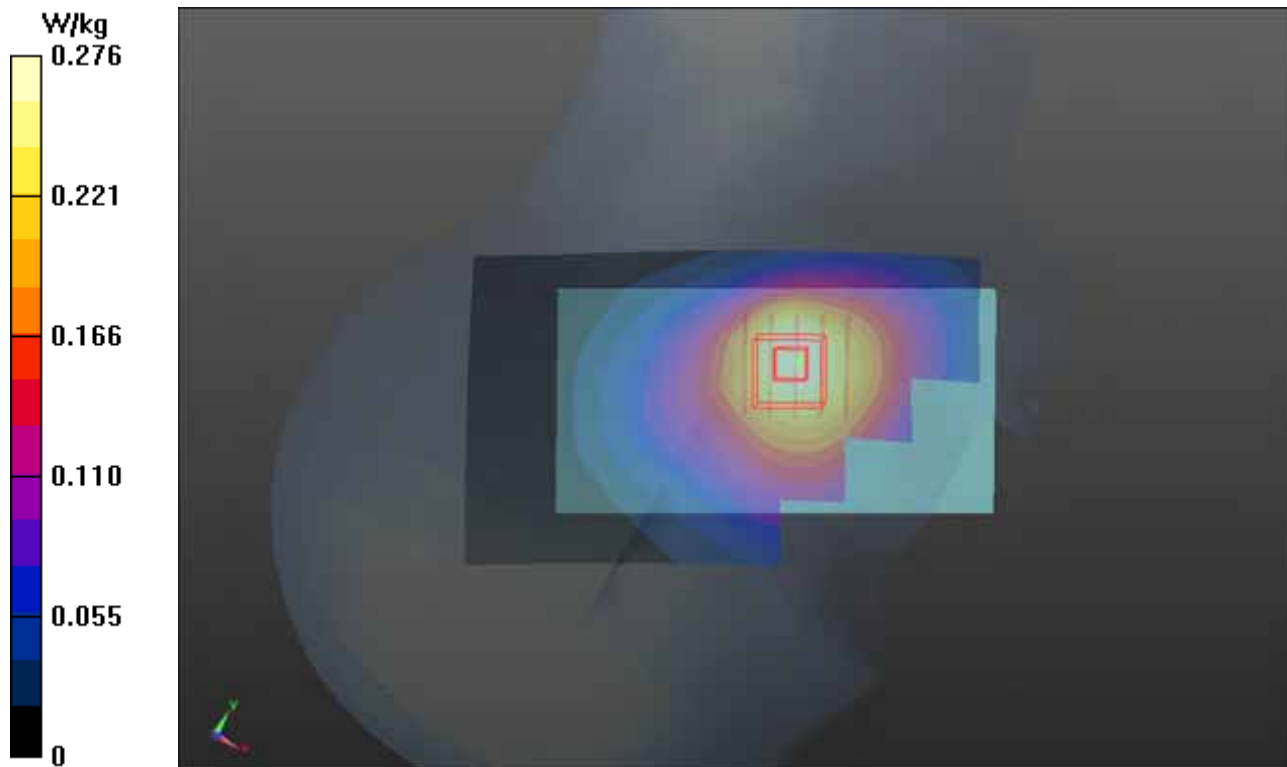
Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.335 V/m; Power Drift = 0.01 dB

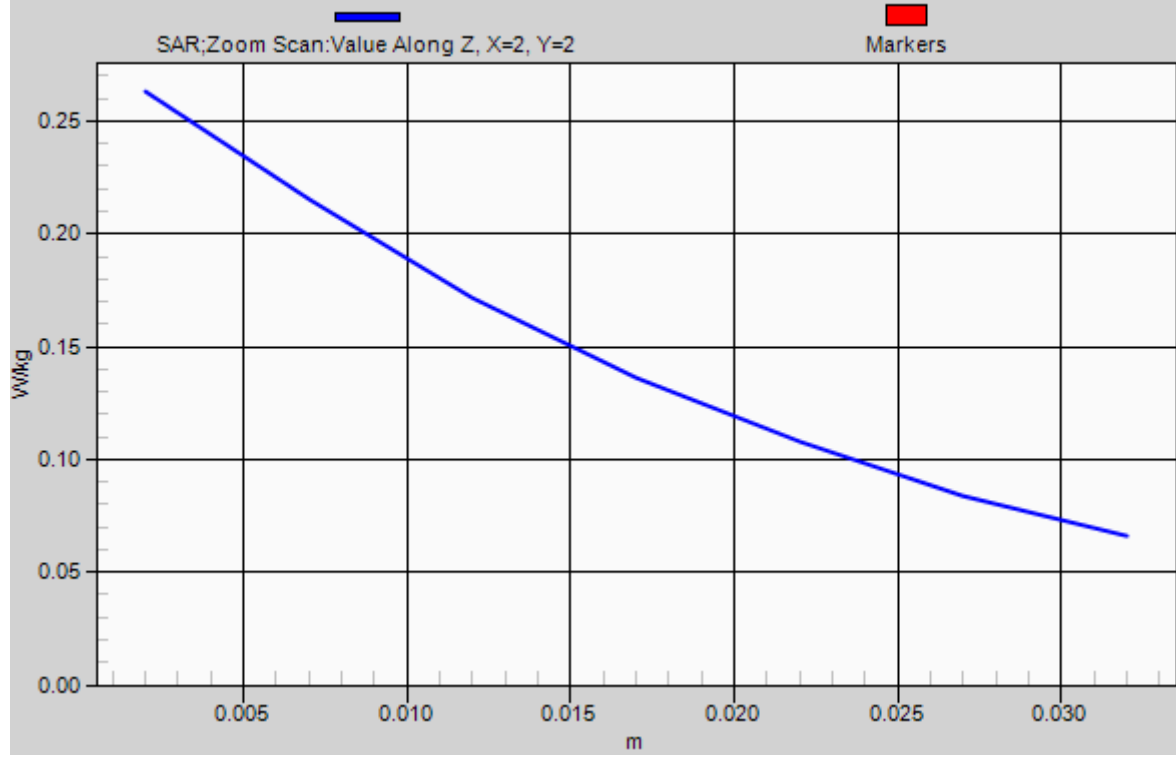
Peak SAR (extrapolated) = 0.293 mW/g

SAR(1 g) = 0.233 mW/g; SAR(10 g) = 0.177 mW/g

Maximum value of SAR (measured) = 0.263 W/kg



1g/10g Averaged SAR



P02 GSM850_GSM_Right Tilted_Ch251

DUT: 121025C24

Communication System: GSM; Frequency: 848.8 MHz; Duty Cycle: 1:8.30042

Medium: H835_1031 Medium parameters used: $f = 849$ MHz; $\sigma = 0.929$ mho/m; $\epsilon_r = 42.571$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.0 °C ; Liquid Temperature : 21.0 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.3, 8.3, 8.3); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch251/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.120 W/kg

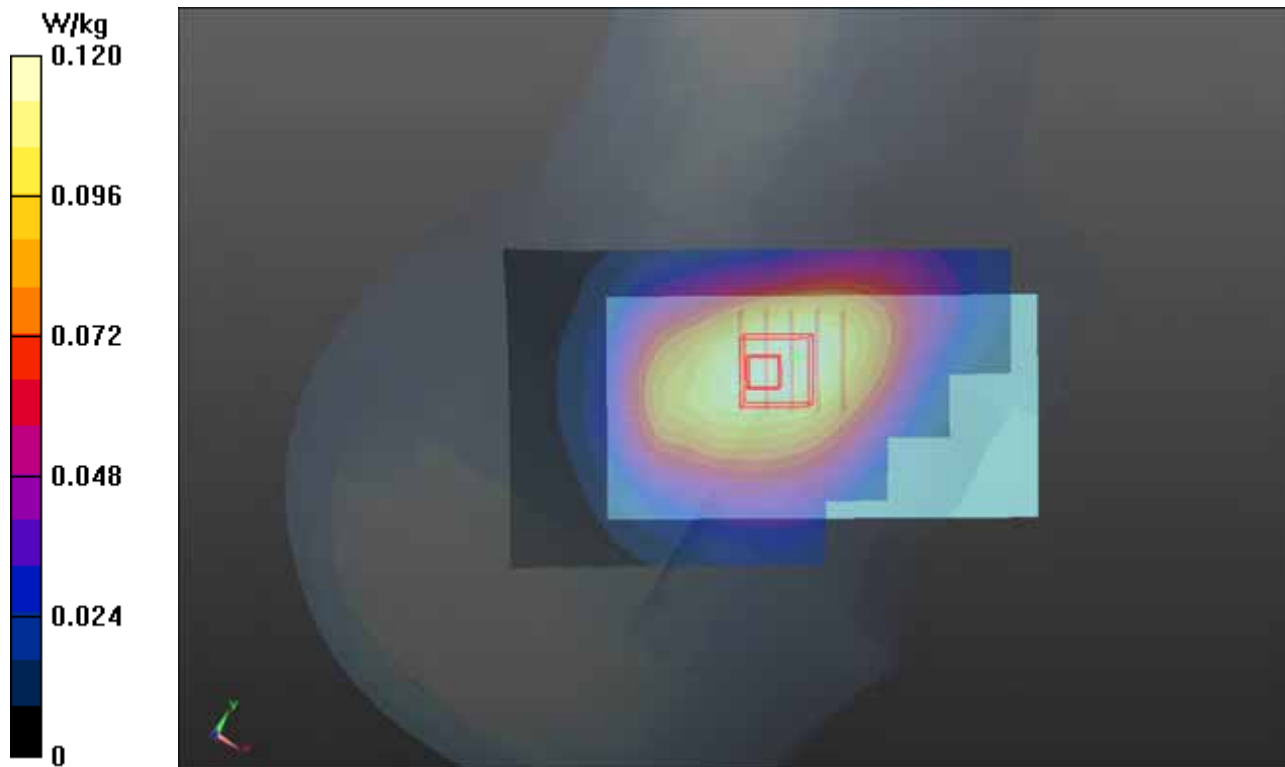
Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.148 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.133 mW/g

SAR(1 g) = 0.110 mW/g; SAR(10 g) = 0.086 mW/g.

Maximum value of SAR (measured) = 0.122 W/kg



P03 GSM850_GSM_Left Cheek_Ch251

DUT: 121025C24

Communication System: GSM; Frequency: 848.8 MHz; Duty Cycle: 1:8.30042

Medium: H835_1031 Medium parameters used: $f = 849$ MHz; $\sigma = 0.929$ mho/m; $\epsilon_r = 42.571$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.0 °C ; Liquid Temperature : 21.0 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.3, 8.3, 8.3); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch251/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.219 W/kg

Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.781 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.251 mW/g

SAR(1 g) = 0.197 mW/g; SAR(10 g) = 0.149 mW/g

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

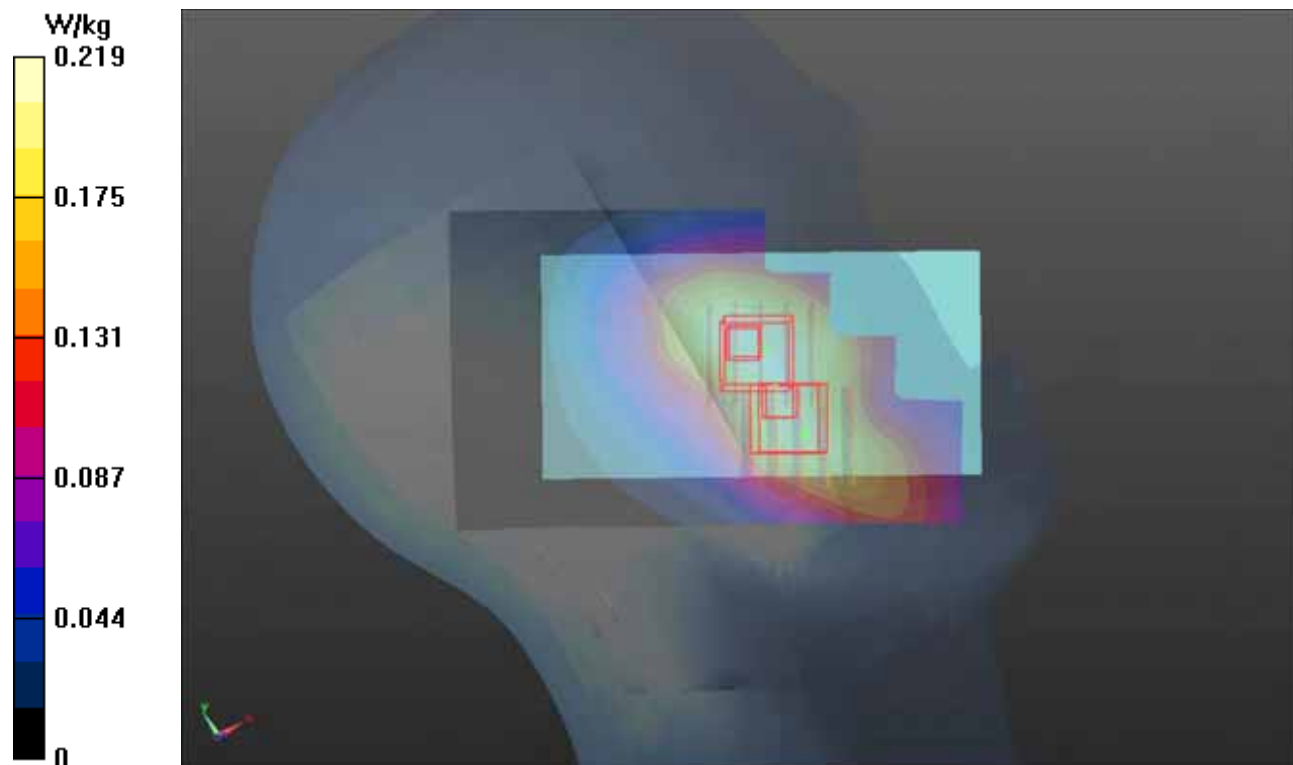
Ch251/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.781 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.222 mW/g

SAR(1 g) = 0.171 mW/g; SAR(10 g) = 0.125 mW/g

Maximum value of SAR (measured) = 0.202 W/kg



P04 GSM850_GSM_Left Tilted_Ch251

DUT: 121025C24

Communication System: GSM; Frequency: 848.8 MHz; Duty Cycle: 1:8.30042

Medium: H835_1031 Medium parameters used: $f = 849$ MHz; $\sigma = 0.929$ mho/m; $\epsilon_r = 42.571$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.0 °C ; Liquid Temperature : 21.0 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.3, 8.3, 8.3); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch251/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.132 W/kg

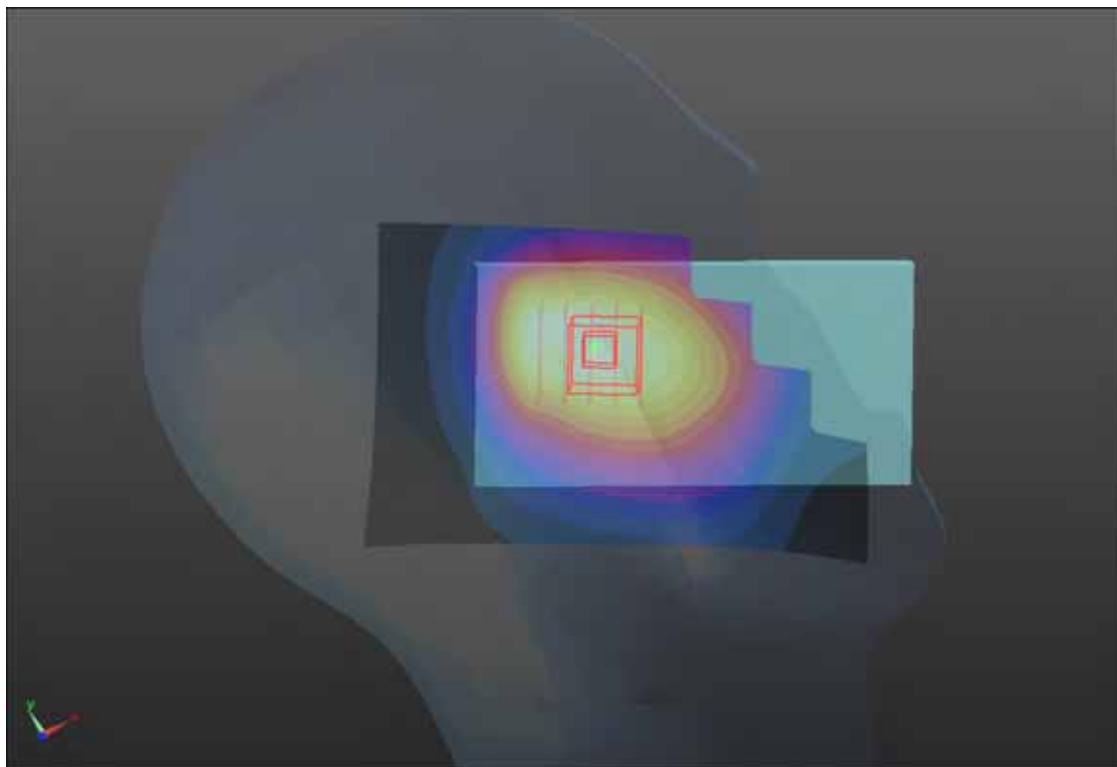
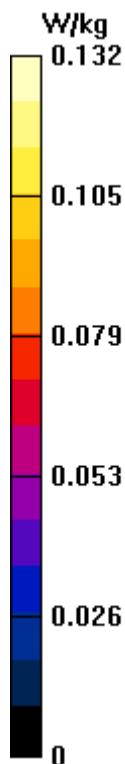
Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.129 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.143 mW/g

SAR(1 g) = 0.115 mW/g; SAR(10 g) = 0.089 mW/g

Maximum value of SAR (measured) = 0.131 W/kg



P05 GSM1900_GSM_Right Cheek_Ch512

DUT: 121025C24

Communication System: GSM; Frequency: 1850.2 MHz; Duty Cycle: 1:8.30042

Medium: H1900_1101 Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.367$ mho/m; $\epsilon_r = 40.494$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.19, 7.19, 7.19); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch512/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.313 W/kg

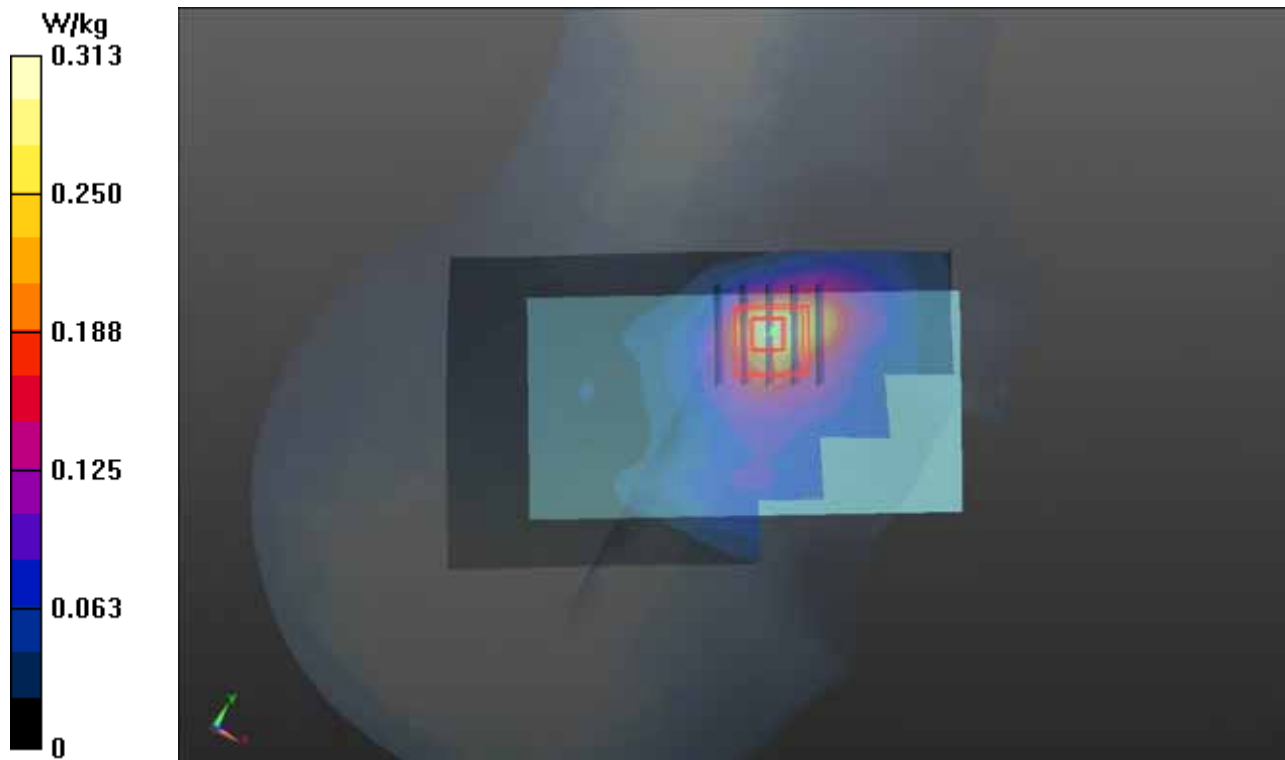
Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.691 V/m; Power Drift = 0.02 dB

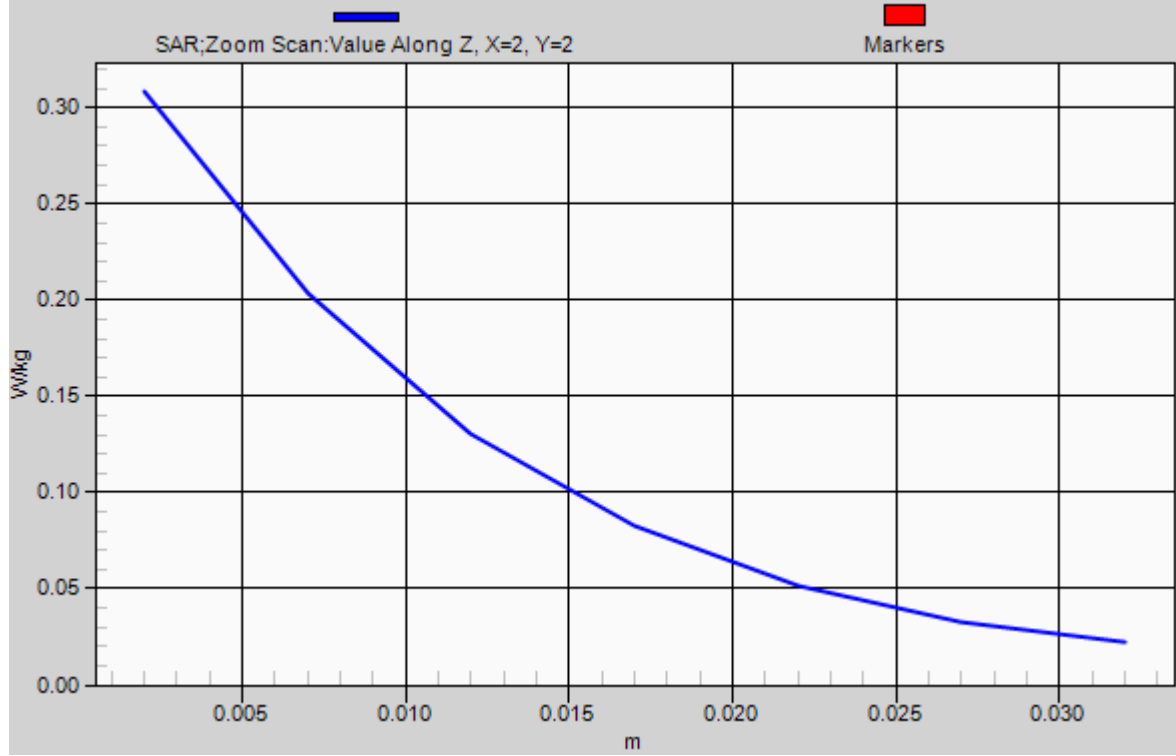
Peak SAR (extrapolated) = 0.386 mW/g

SAR(1 g) = 0.238 mW/g; SAR(10 g) = 0.138 mW/g

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



1g/10g Averaged SAR



P06 GSM1900_GSM_Right Tilted_Ch512

DUT: 121025C24

Communication System: GSM; Frequency: 1850.2 MHz; Duty Cycle: 1:8.30042

Medium: H1900_1101 Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.367$ mho/m; $\epsilon_r = 40.494$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.19, 7.19, 7.19); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch512/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.0593 W/kg

Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.716 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.064 mW/g

SAR(1 g) = 0.039 mW/g; SAR(10 g) = 0.023 mW/g

Maximum value of SAR (measured) = 0.0527 W/kg

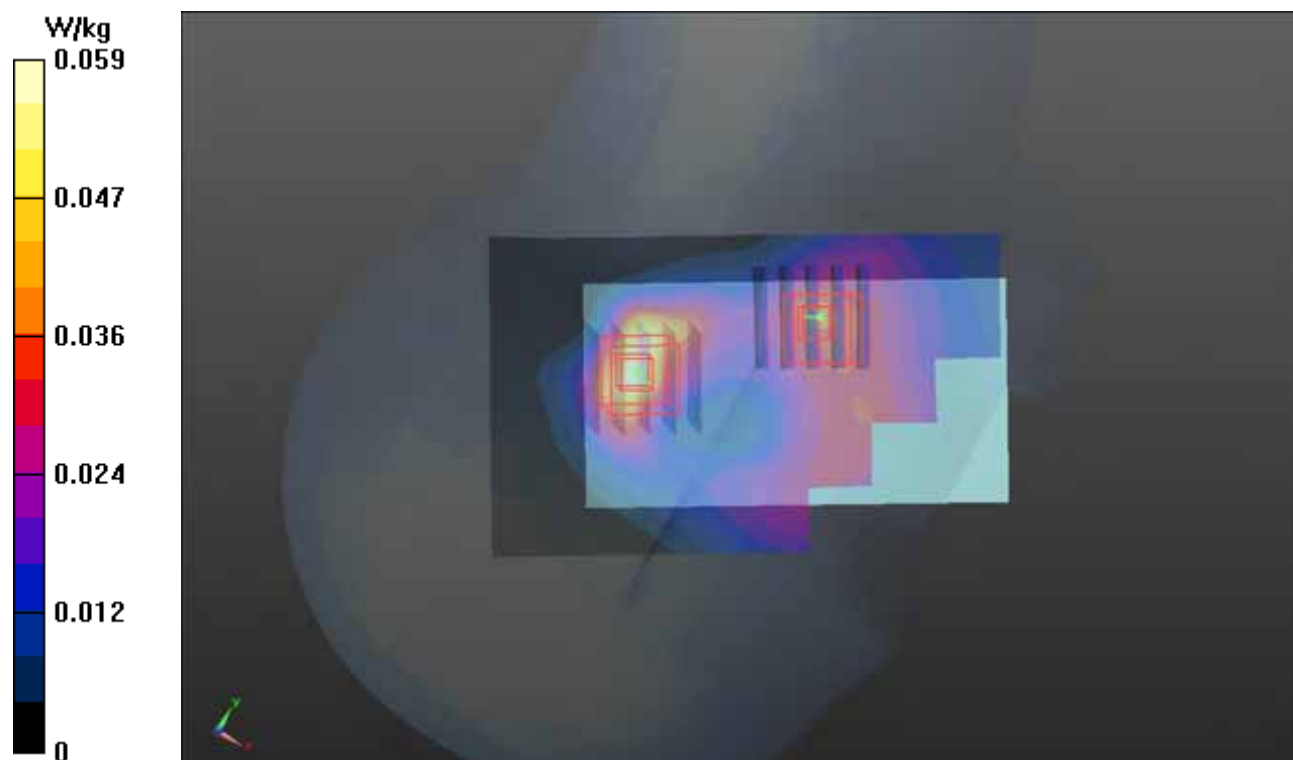
Ch512/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.716 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.044 mW/g

SAR(1 g) = 0.030 mW/g; SAR(10 g) = 0.019 mW/g

Maximum value of SAR (measured) = 0.0385 W/kg



P07 GSM1900_GSM_Left Cheek_Ch512

DUT: 121025C24

Communication System: GSM; Frequency: 1850.2 MHz; Duty Cycle: 1:8.30042

Medium: H1900_1101 Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.367$ mho/m; $\epsilon_r = 40.494$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.19, 7.19, 7.19); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch512/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.242 W/kg

Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.693 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.247 mW/g

SAR(1 g) = 0.165 mW/g; SAR(10 g) = 0.106 mW/g

Maximum value of SAR (measured) = 0.209 W/kg

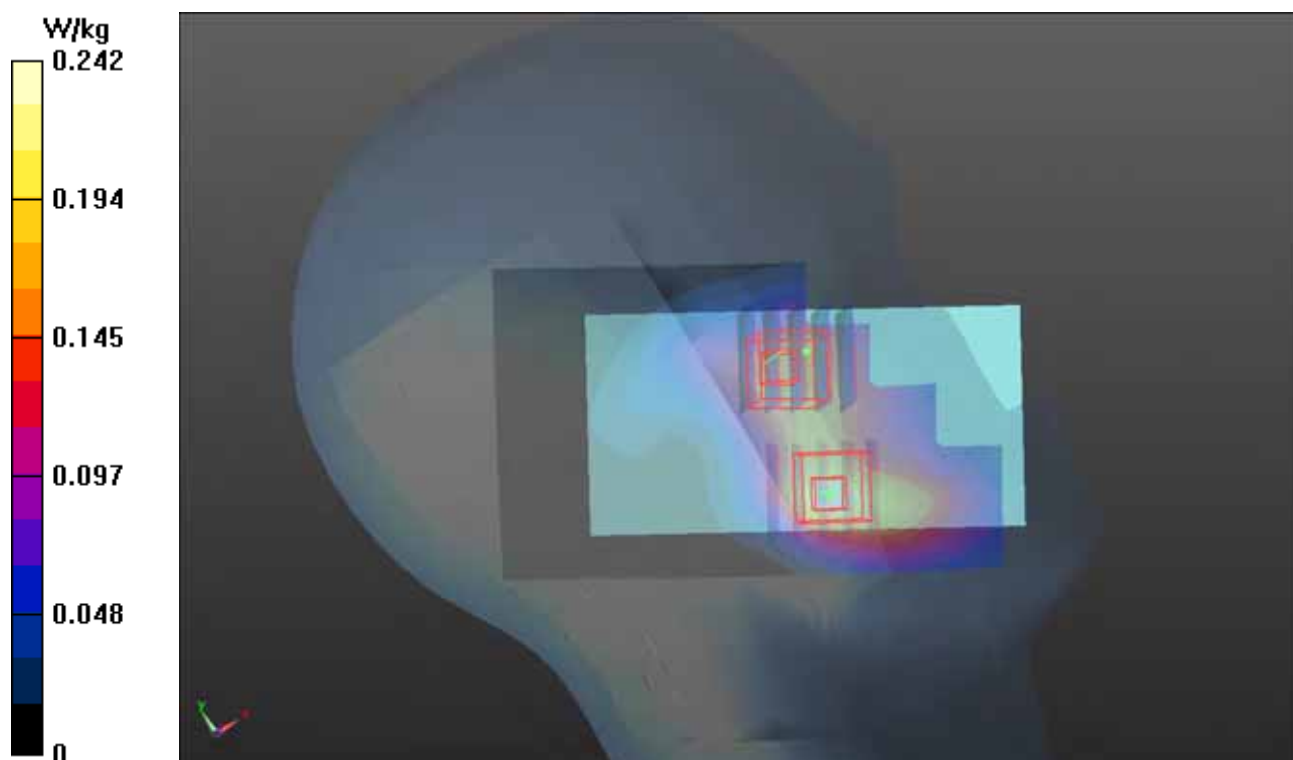
Ch512/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.693 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.245 mW/g

SAR(1 g) = 0.159 mW/g; SAR(10 g) = 0.097 mW/g

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



P08 GSM1900_GSM_Left Tilted_Ch512

DUT: 121025C24

Communication System: GSM; Frequency: 1850.2 MHz; Duty Cycle: 1:8.30042

Medium: H1900_1101 Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.367$ mho/m; $\epsilon_r = 40.494$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.19, 7.19, 7.19); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch512/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.0961 W/kg

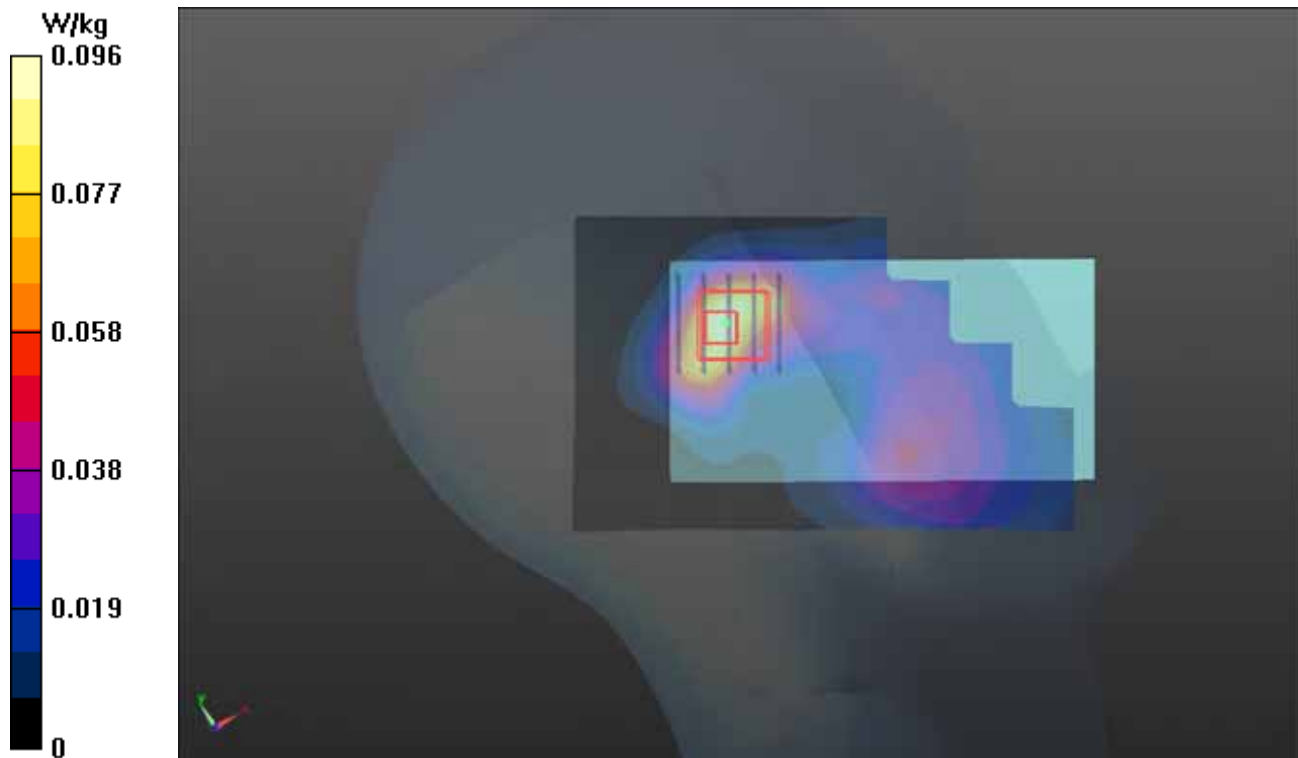
Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.962 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.093 mW/g

SAR(1 g) = 0.061 mW/g; SAR(10 g) = 0.038 mW/g

Maximum value of SAR (measured) = 0.0762 W/kg



P14 WCDMA V_RMC12.2k_Right Cheek_Ch4132

DUT: 121025C24

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

Medium: H835_1031 Medium parameters used: $f = 826.4$ MHz; $\sigma = 0.908$ mho/m; $\epsilon_r = 42.854$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.0 °C ; Liquid Temperature : 21.0 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.3, 8.3, 8.3); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch4132/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.322 W/kg

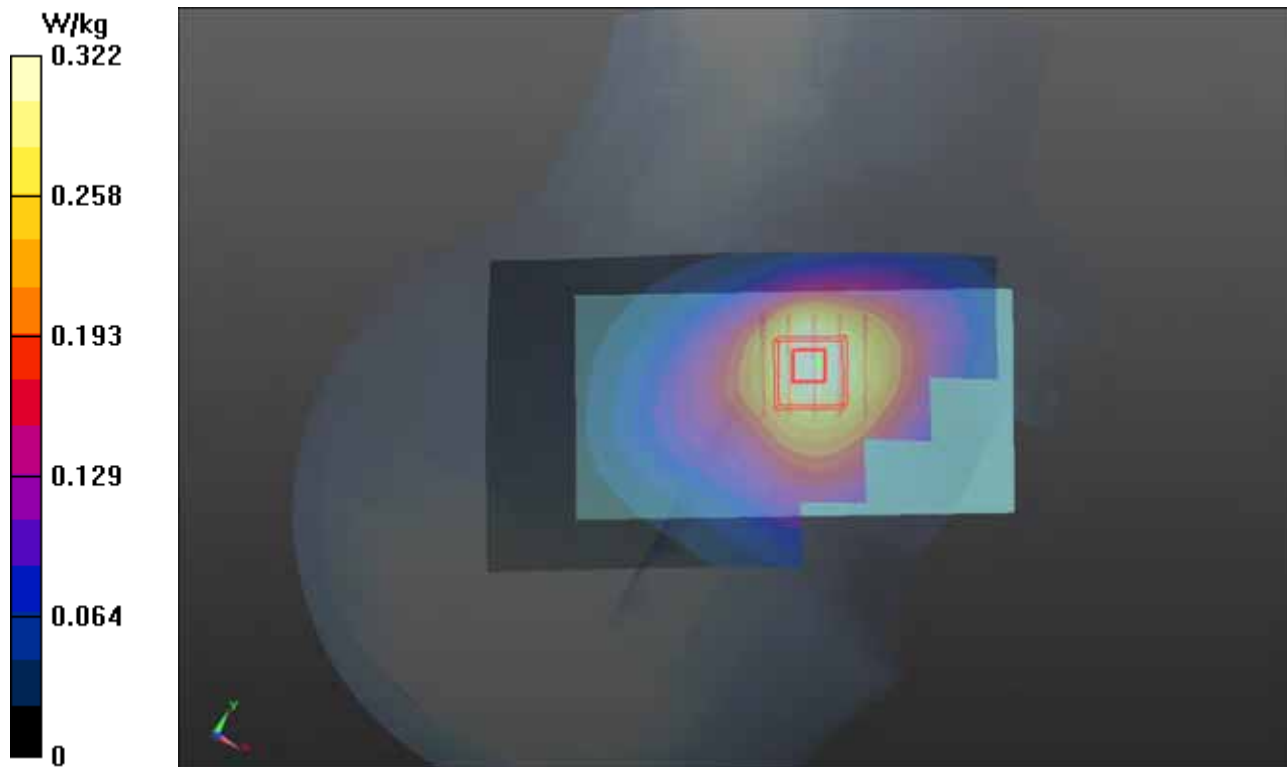
Ch4132/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.337 V/m; Power Drift = -0.03 dB

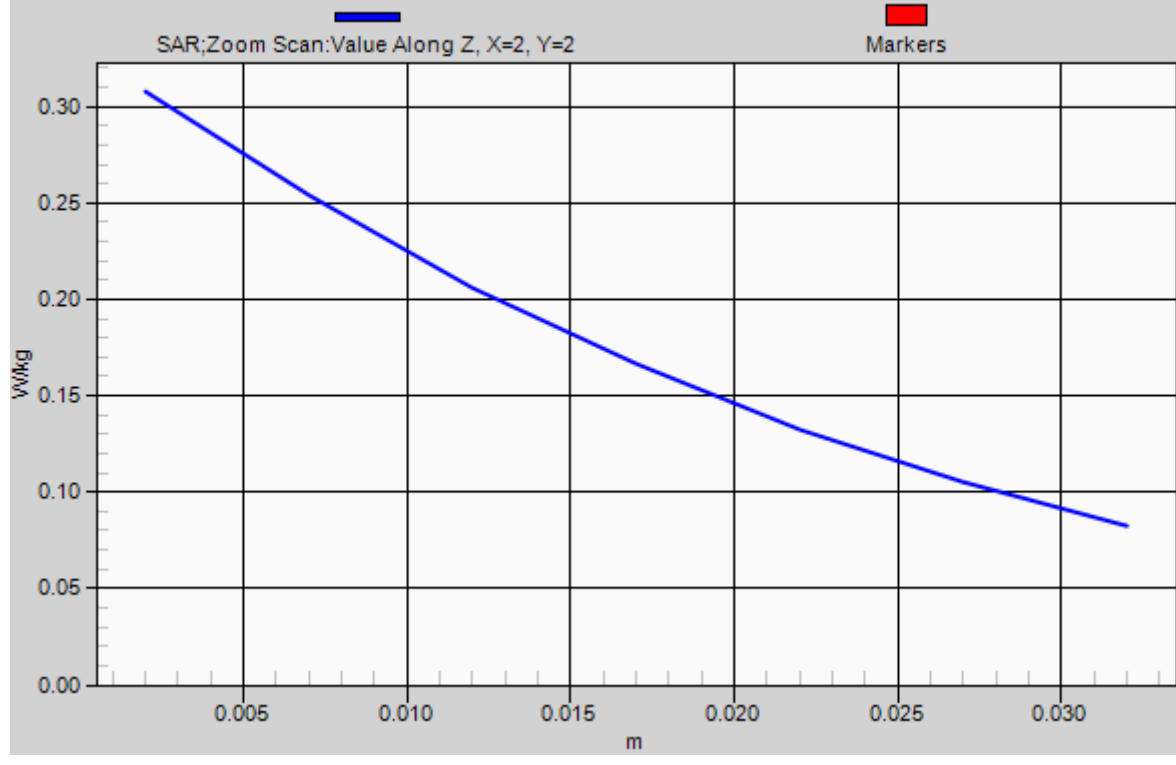
Peak SAR (extrapolated) = 0.337 mW/g

SAR(1 g) = 0.273 mW/g; SAR(10 g) = 0.210 mW/g

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



1g/10g Averaged SAR



P15 WCDMA V_RMC12.2k_Right Tilted_Ch4132

DUT: 121025C24

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

Medium: H835_1031 Medium parameters used: $f = 826.4$ MHz; $\sigma = 0.908$ mho/m; $\epsilon_r = 42.854$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.0 °C ; Liquid Temperature : 21.0 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.3, 8.3, 8.3); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch4132/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.147 W/kg

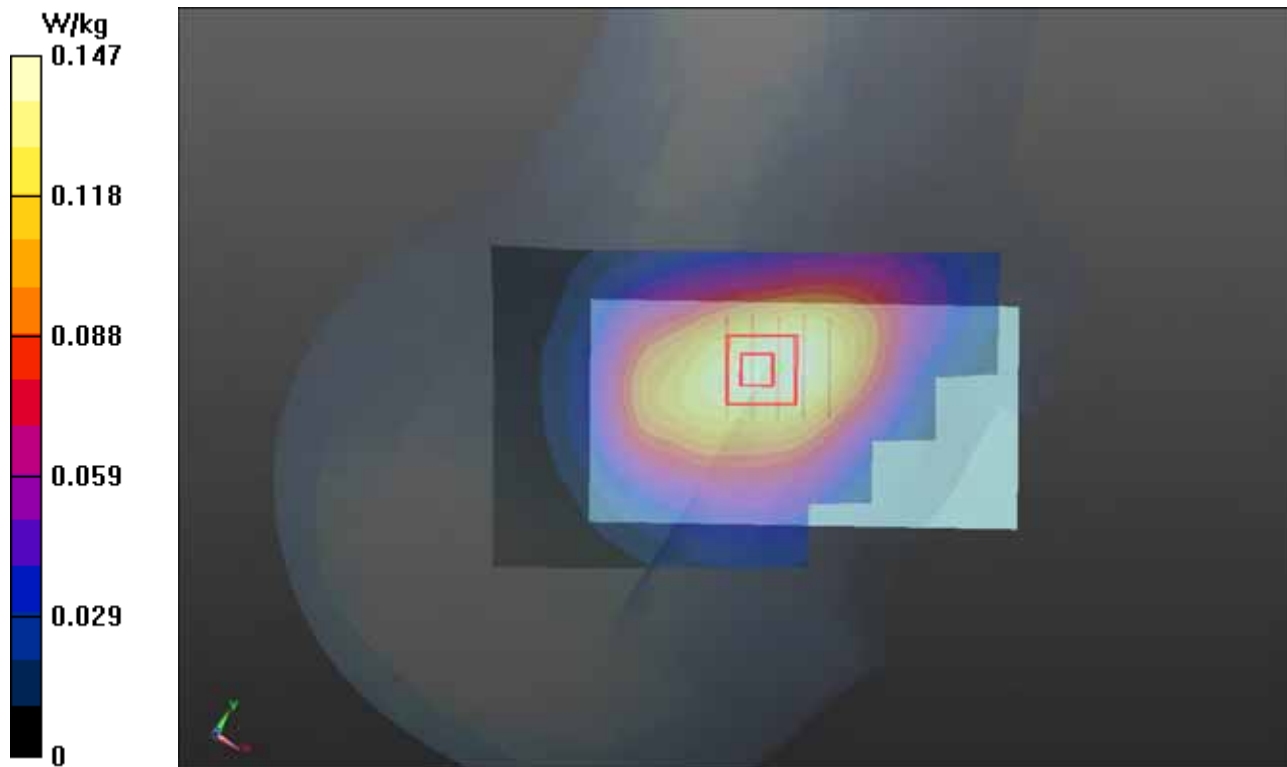
Ch4132/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.864 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.154 mW/g

SAR(1 g) = 0.131 mW/g; SAR(10 g) = 0.104 mW/g

Maximum value of SAR (measured) = 0.144 W/kg



P16 WCDMA V_RMC12.2k_Left Cheek_Ch4132

DUT: 121025C24

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

Medium: H835_1031 Medium parameters used: $f = 826.4$ MHz; $\sigma = 0.908$ mho/m; $\epsilon_r = 42.854$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.0 °C ; Liquid Temperature : 21.0 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.3, 8.3, 8.3); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch4132/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

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

Ch4132/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.602 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.293 mW/g

SAR(1 g) = 0.235 mW/g; SAR(10 g) = 0.180 mW/g

Maximum value of SAR (measured) = 0.266 W/kg

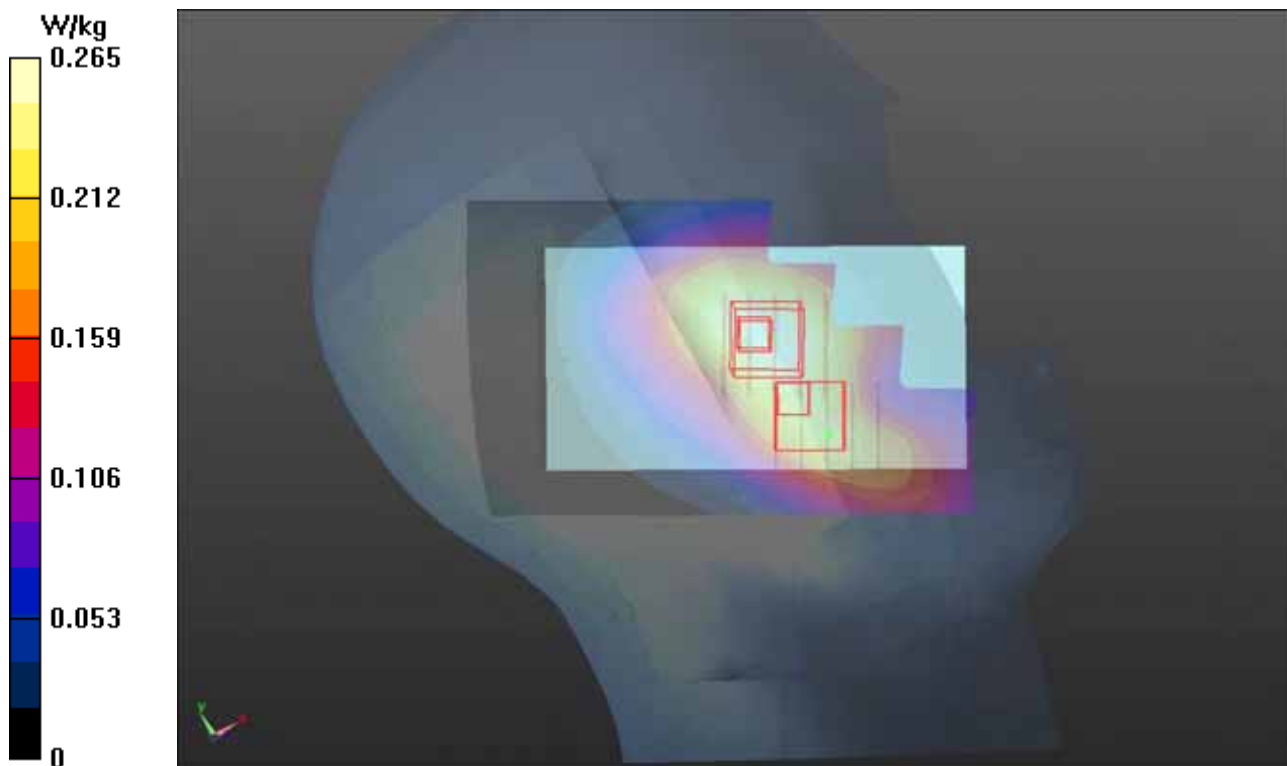
Ch4132/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.602 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.257 mW/g

SAR(1 g) = 0.197 mW/g; SAR(10 g) = 0.140 mW/g

Maximum value of SAR (measured) = 0.239 W/kg



P17 WCDMA V_RMC12.2k_Left Tilted_Ch4132

DUT: 121025C24

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

Medium: H835_1031 Medium parameters used: $f = 826.4$ MHz; $\sigma = 0.908$ mho/m; $\epsilon_r = 42.854$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.0 °C ; Liquid Temperature : 21.0 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.3, 8.3, 8.3); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch4132/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.171 W/kg

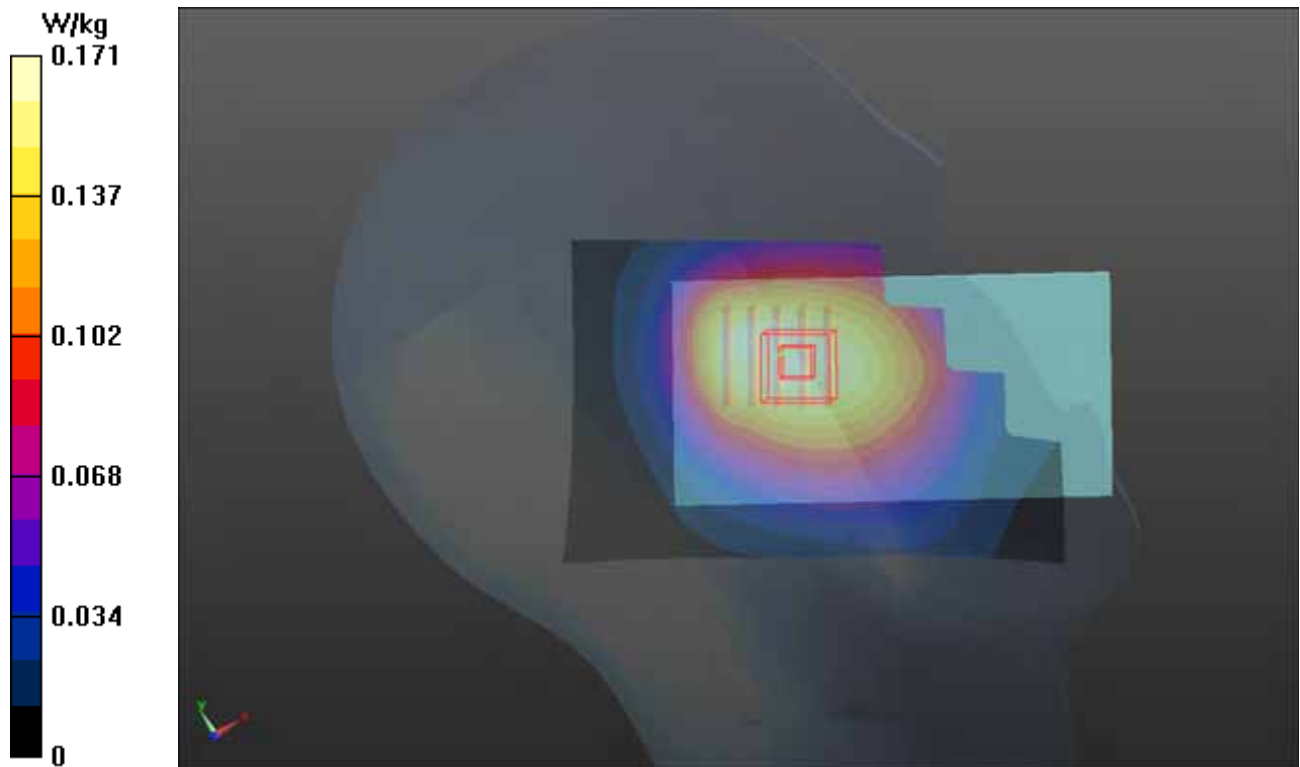
Ch4132/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.358 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.188 mW/g

SAR(1 g) = 0.154 mW/g; SAR(10 g) = 0.121 mW/g

Maximum value of SAR (measured) = 0.174 W/kg



P10 WCDMA II_RMC12.2K_Right Cheek_Ch9400

DUT: 121025C24

Communication System: WCDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: H1900_1101 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.394$ mho/m; $\epsilon_r = 40.371$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C; Liquid Temperature : 20.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.19, 7.19, 7.19); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch9400/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.959 W/kg

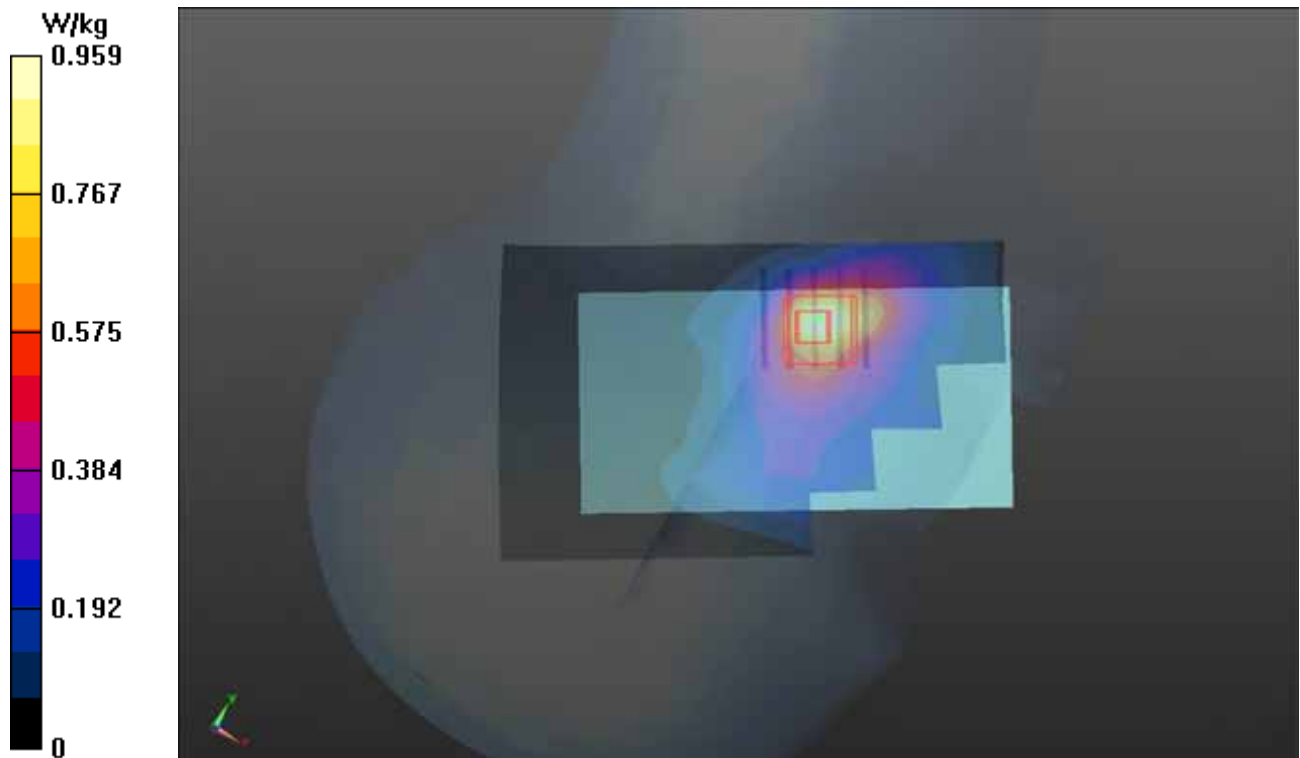
Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.563 V/m; Power Drift = 0.05 dB

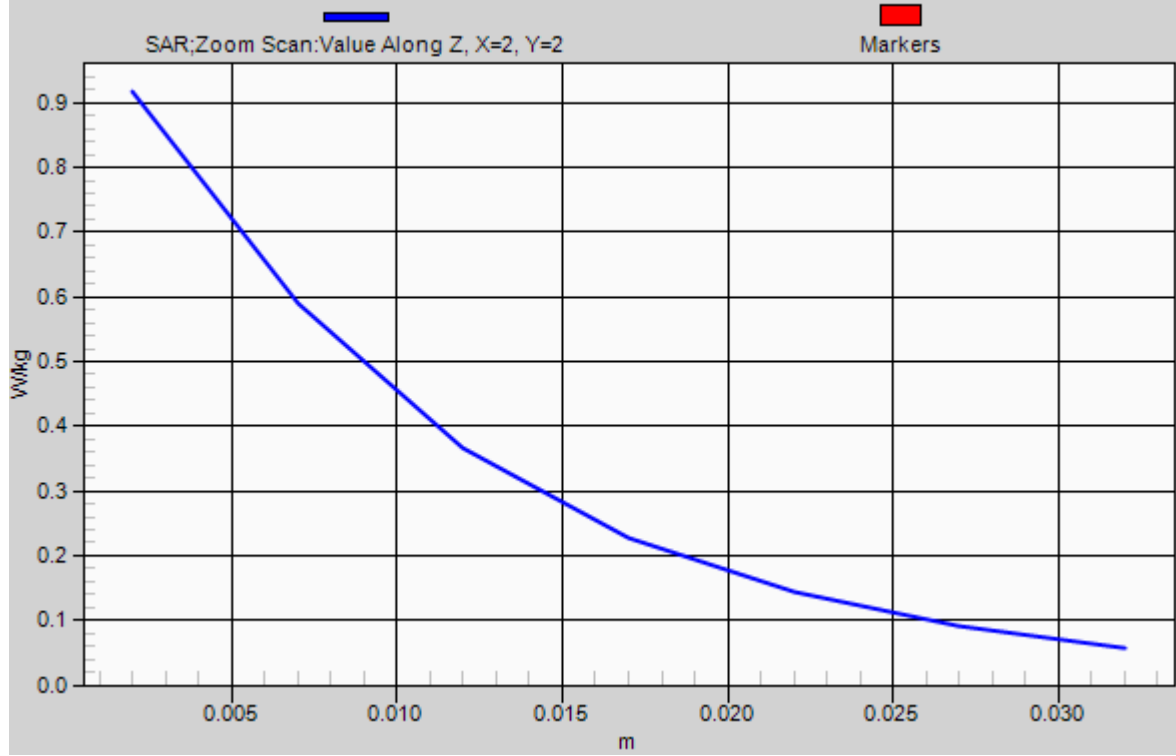
Peak SAR (extrapolated) = 1.131 mW/g

SAR(1 g) = 0.707 mW/g; SAR(10 g) = 0.410 mW/g

Maximum value of SAR (measured) = 0.917 W/kg



1g/10g Averaged SAR



P11 WCDMA II_RMC12.2K_Right Tilted_Ch9400

DUT: 121025C24

Communication System: WCDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: H1900_1101 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.394$ mho/m; $\epsilon_r = 40.371$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.19, 7.19, 7.19); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch9400/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.134 W/kg

Ch9400/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.152 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.135 mW/g

SAR(1 g) = 0.092 mW/g; SAR(10 g) = 0.059 mW/g

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

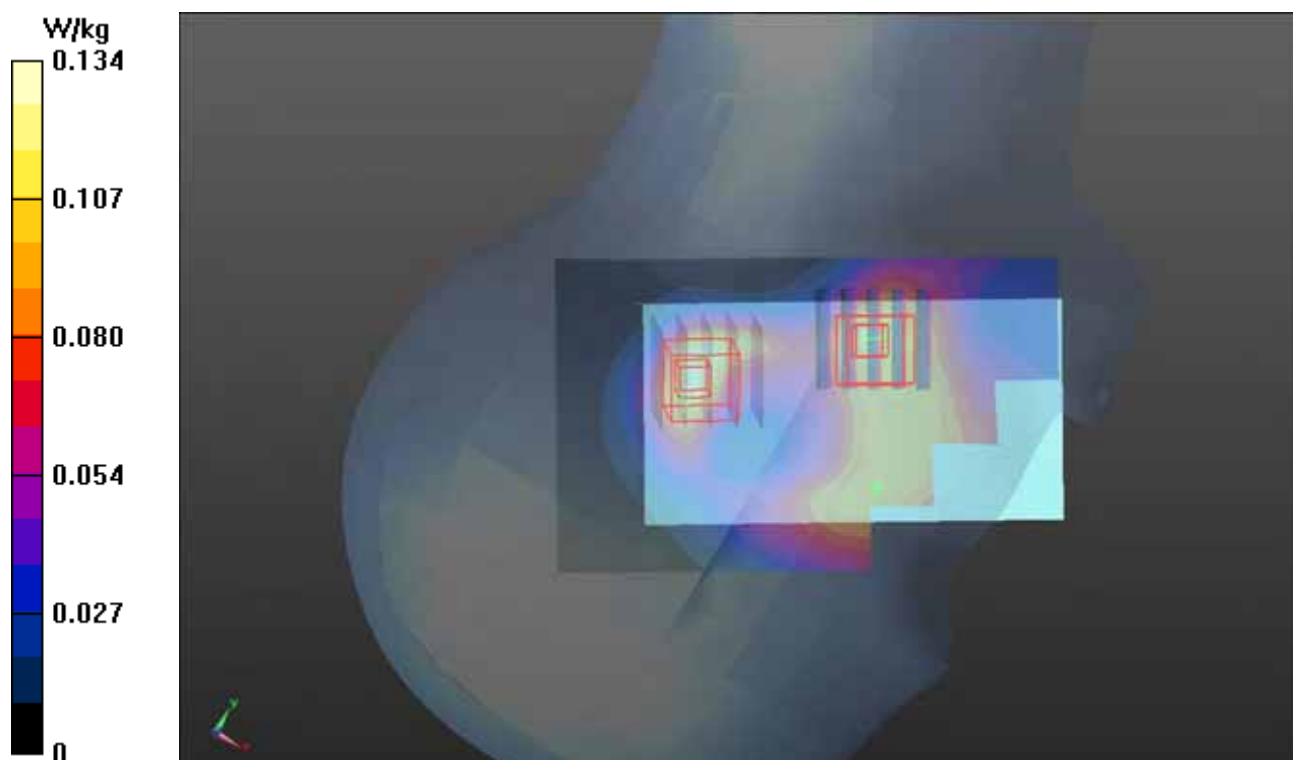
Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.152 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.142 mW/g

SAR(1 g) = 0.089 mW/g; SAR(10 g) = 0.052 mW/g

Maximum value of SAR (measured) = 0.111 W/kg



P12 WCDMA II_RMC12.2K_Left Cheek_Ch9400

DUT: 121025C24

Communication System: WCDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: H1900_1101 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.394$ mho/m; $\epsilon_r = 40.371$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.19, 7.19, 7.19); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch9400/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.647 W/kg

Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.710 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.704 mW/g

SAR(1 g) = 0.455 mW/g; SAR(10 g) = 0.286 mW/g

Maximum value of SAR (measured) = 0.580 W/kg

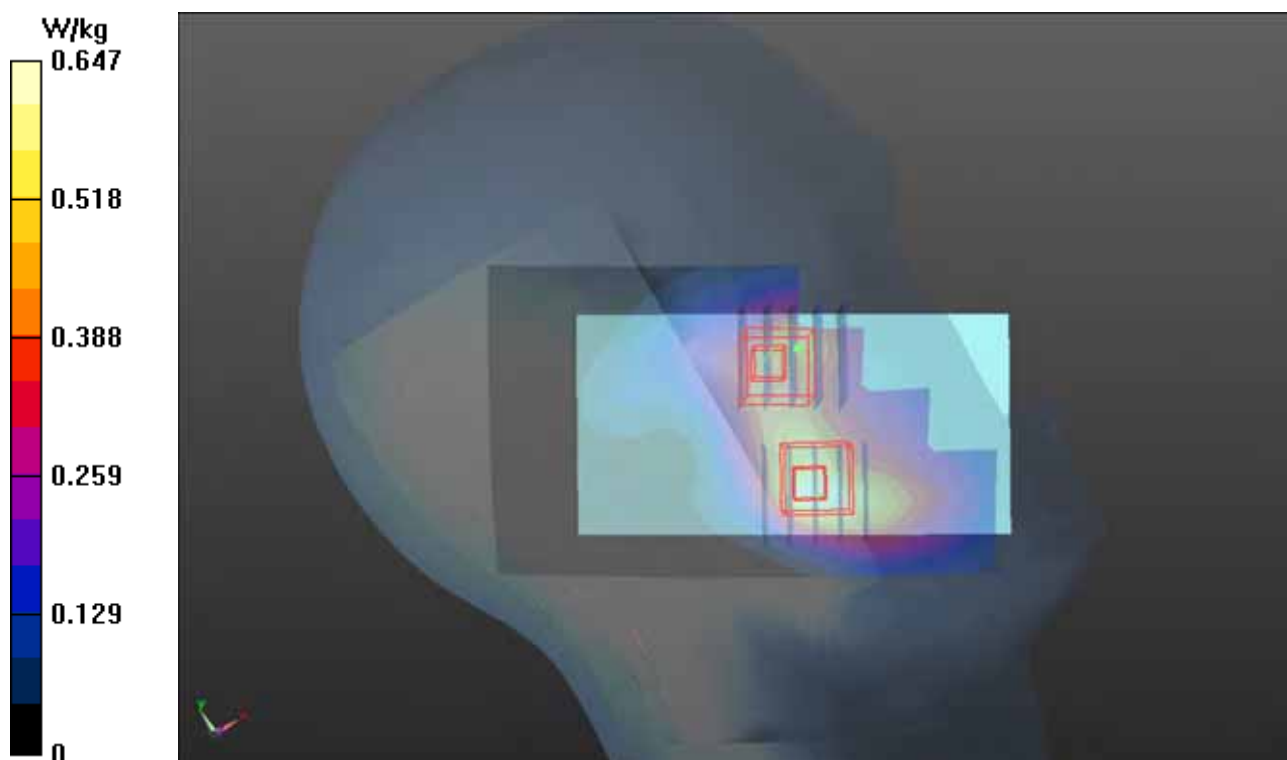
Ch9400/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.710 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.702 mW/g

SAR(1 g) = 0.434 mW/g; SAR(10 g) = 0.262 mW/g

Maximum value of SAR (measured) = 0.555 W/kg



P13 WCDMA II_RMC12.2K_Left Tilted_Ch9400

DUT: 121025C24

Communication System: WCDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: H1900_1101 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.394$ mho/m; $\epsilon_r = 40.371$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.19, 7.19, 7.19); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch9400/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.170 W/kg

Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.800 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.175 mW/g

SAR(1 g) = 0.114 mW/g; SAR(10 g) = 0.070 mW/g

Maximum value of SAR (measured) = 0.145 W/kg

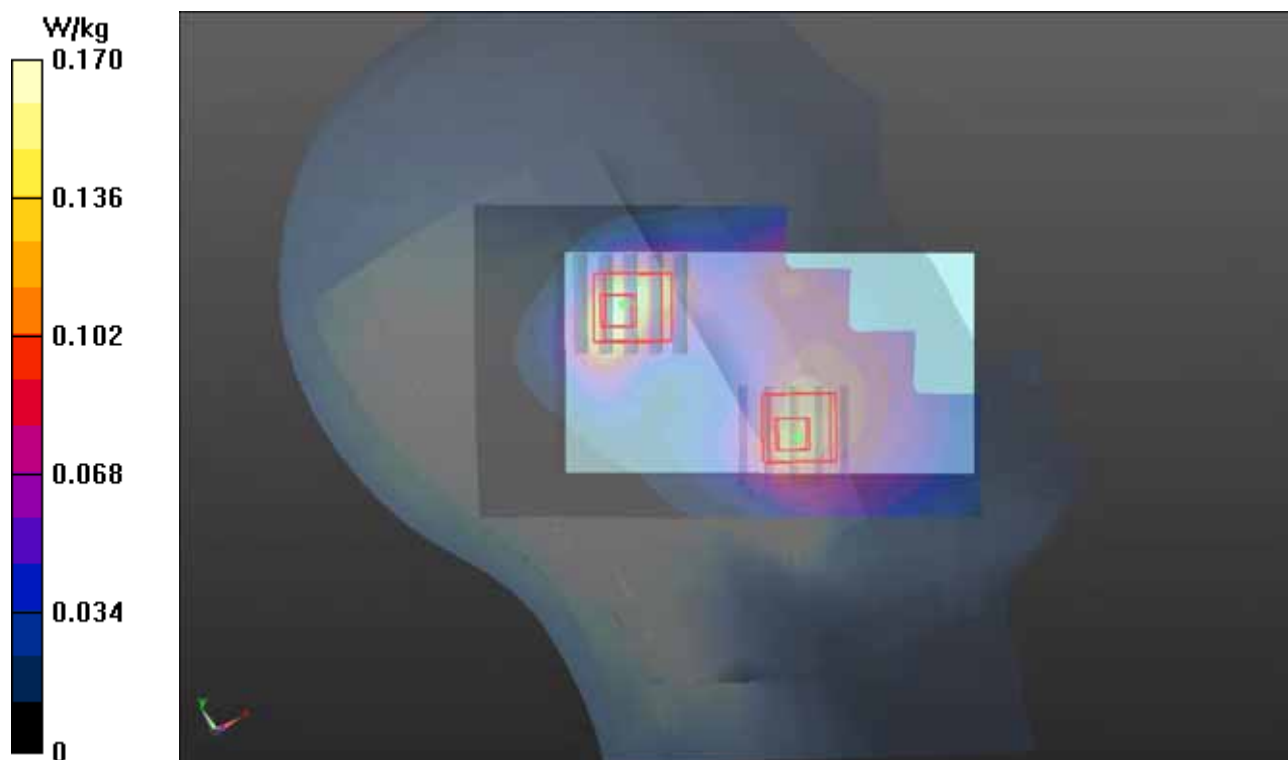
Ch9400/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.800 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.140 mW/g

SAR(1 g) = 0.097 mW/g; SAR(10 g) = 0.064 mW/g

Maximum value of SAR (measured) = 0.120 W/kg



P18 CDMA2000 BC0_RC3+SO55_Right Cheek_Ch1013

DUT: 121025C24

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: H835_1031 Medium parameters used: $f = 825$ MHz; $\sigma = 0.906$ mho/m; $\epsilon_r = 42.871$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.0 °C ; Liquid Temperature : 21.0 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.3, 8.3, 8.3); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch1013/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.293 W/kg

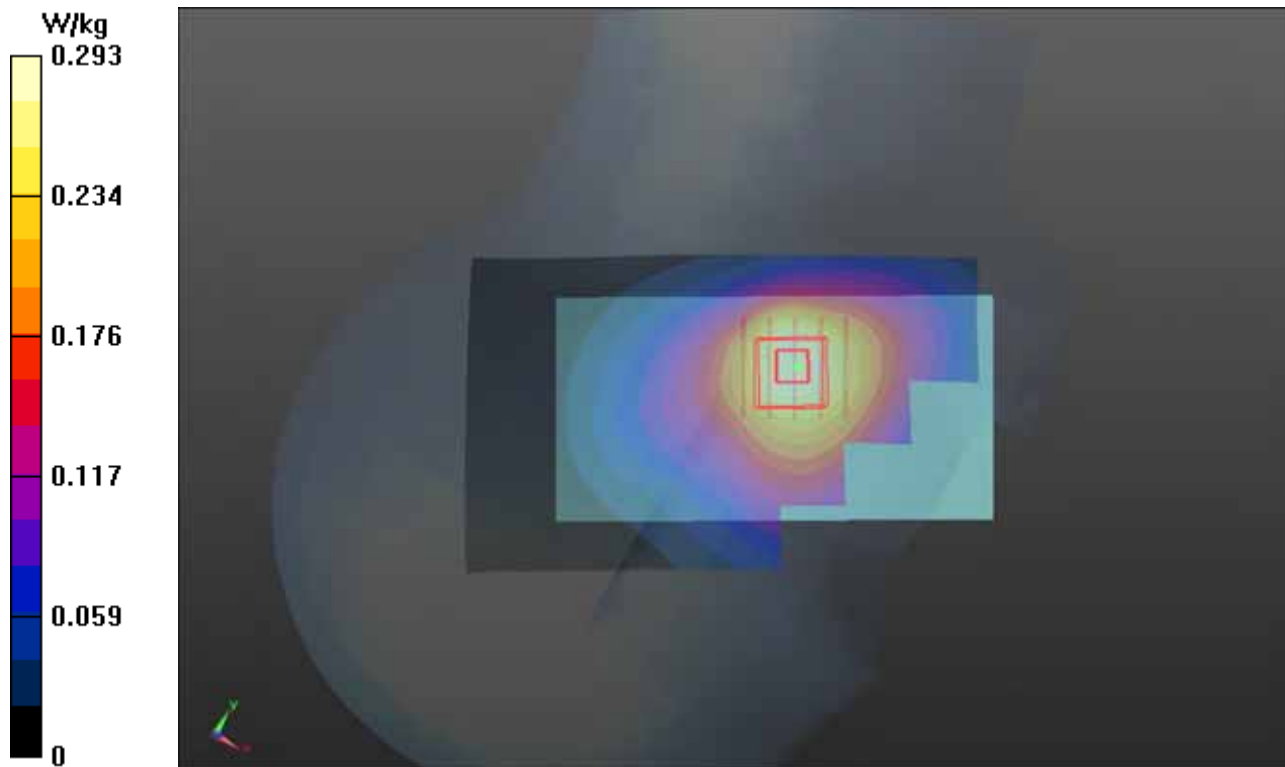
Ch1013/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.116 V/m; Power Drift = -0.07 dB

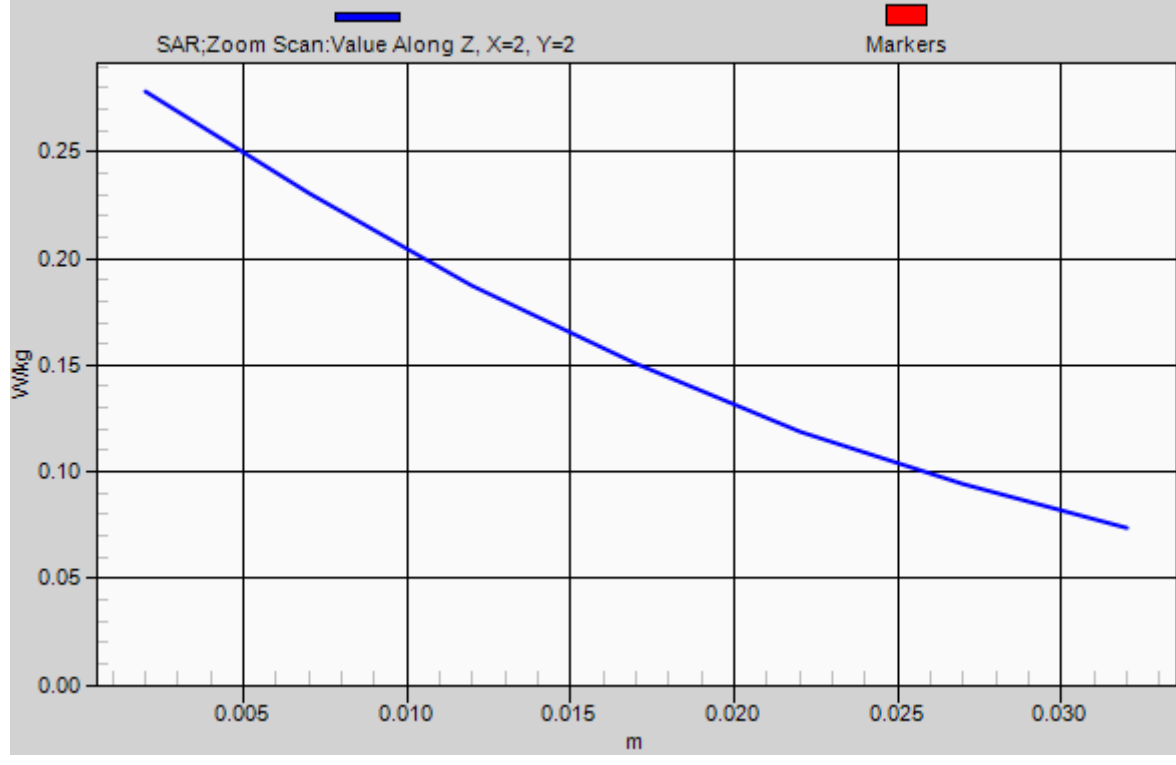
Peak SAR (extrapolated) = 0.311 mW/g

SAR(1 g) = 0.247 mW/g; SAR(10 g) = 0.190 mW/g

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



1g/10g Averaged SAR



P19 CDMA2000 BC0_RC3+SO55_Right Tilted_Ch1013

DUT: 121025C24

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: H835_1031 Medium parameters used: $f = 825$ MHz; $\sigma = 0.906$ mho/m; $\epsilon_r = 42.871$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.0 °C ; Liquid Temperature : 21.0 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.3, 8.3, 8.3); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch1013/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.119 W/kg

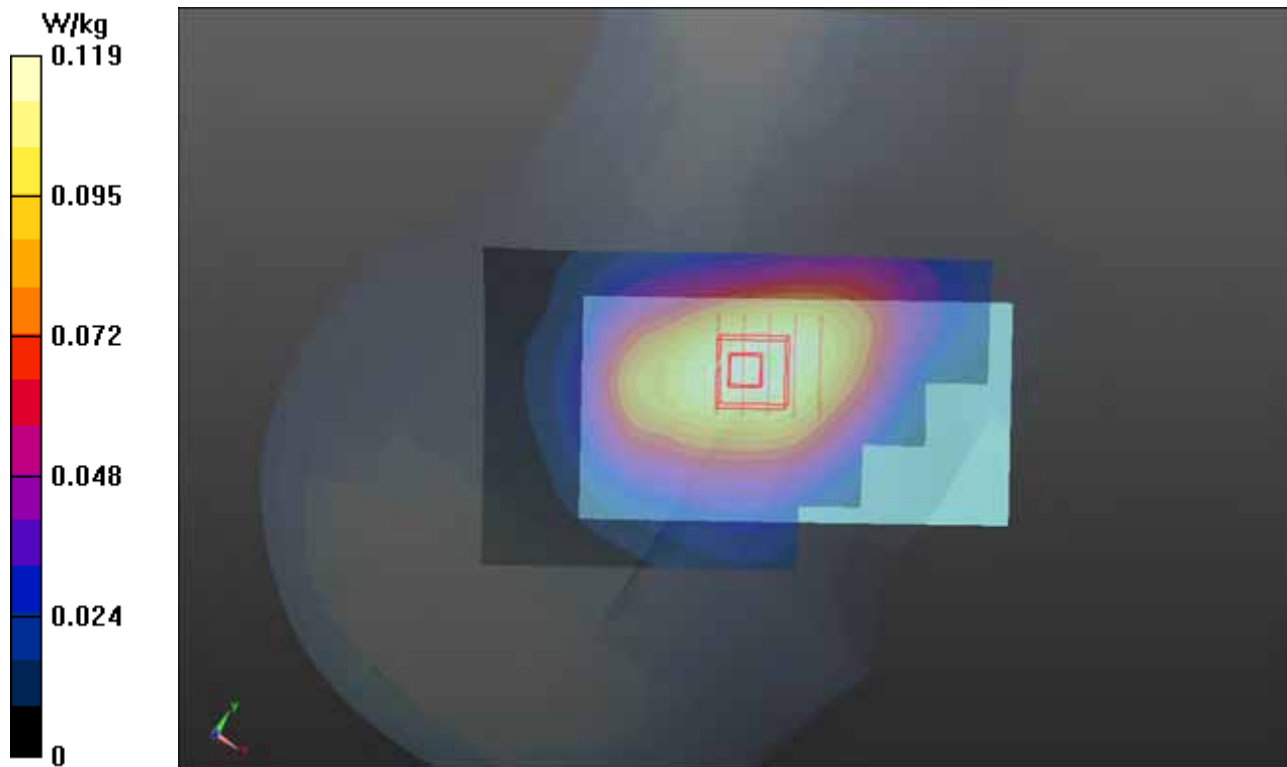
Ch1013/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.975 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.128 mW/g

SAR(1 g) = 0.107 mW/g; SAR(10 g) = 0.085 mW/g

Maximum value of SAR (measured) = 0.118 W/kg



P20 CDMA2000 BC0_RC3+SO55_Left Cheek_Ch1013

DUT: 121025C24

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: H835_1031 Medium parameters used: $f = 825$ MHz; $\sigma = 0.906$ mho/m; $\epsilon_r = 42.871$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.0 °C ; Liquid Temperature : 21.0 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.3, 8.3, 8.3); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch1013/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.210 W/kg

Ch1013/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.336 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.242 mW/g

SAR(1 g) = 0.194 mW/g; SAR(10 g) = 0.147 mW/g

Maximum value of SAR (measured) = 0.221 W/kg

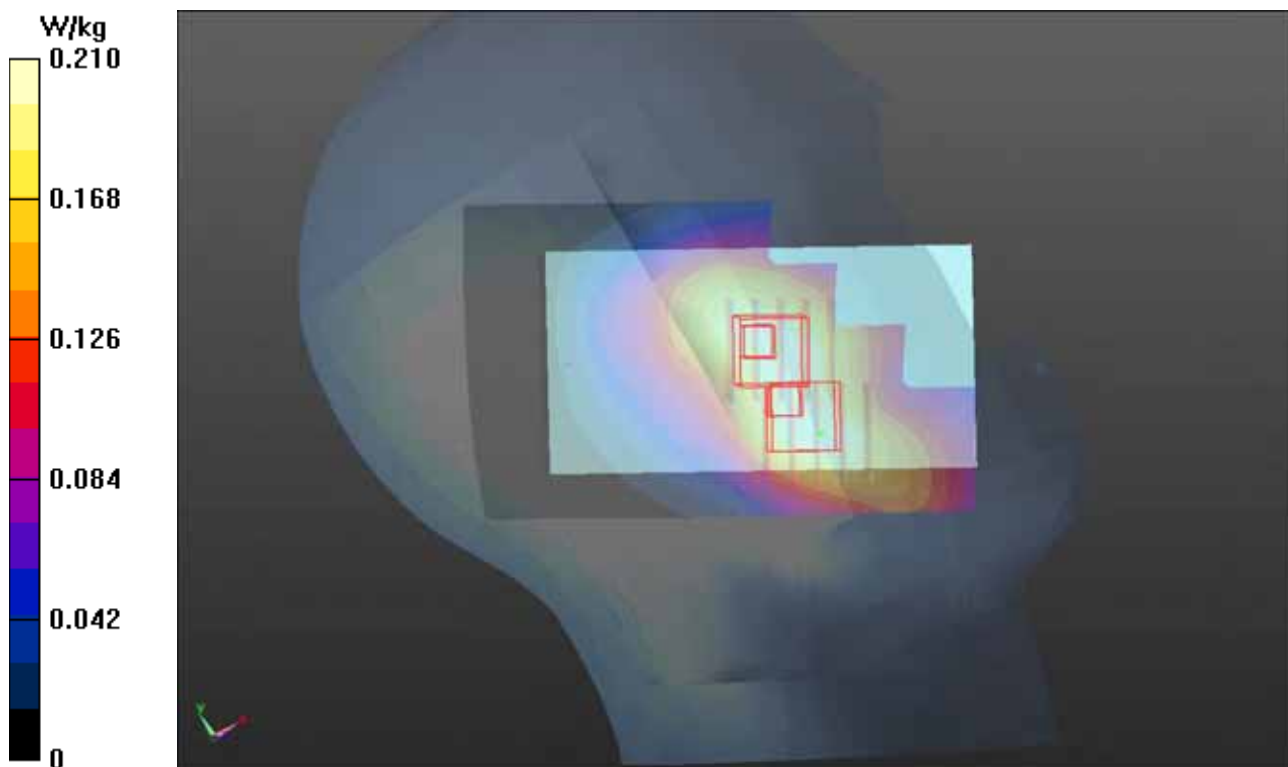
Ch1013/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.336 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.224 mW/g

SAR(1 g) = 0.170 mW/g; SAR(10 g) = 0.124 mW/g

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



P21 CDMA2000 BC0_RC3+SO55_Left Tilted_Ch1013

DUT: 121025C24

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: H835_1031 Medium parameters used: $f = 825$ MHz; $\sigma = 0.906$ mho/m; $\epsilon_r = 42.871$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.0 °C ; Liquid Temperature : 21.0 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.3, 8.3, 8.3); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch1013/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.124 W/kg

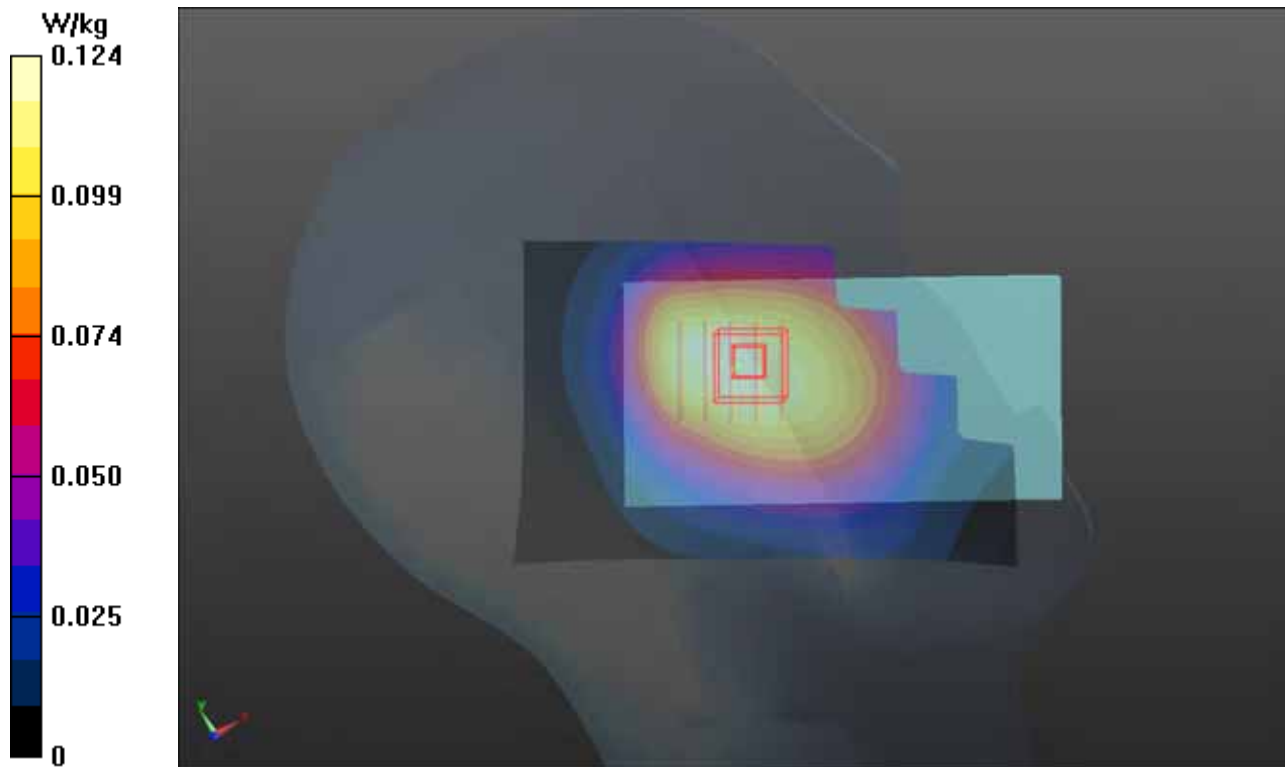
Ch1013/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.132 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.142 mW/g

SAR(1 g) = 0.116 mW/g; SAR(10 g) = 0.091 mW/g

Maximum value of SAR (measured) = 0.130 W/kg



P101 802.11b Right Cheek_Ch6

DUT: 121025C24

Communication System: WLAN_2.4G; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: H2450_1101 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.77$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.28, 7.28, 7.28); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.176 mW/g

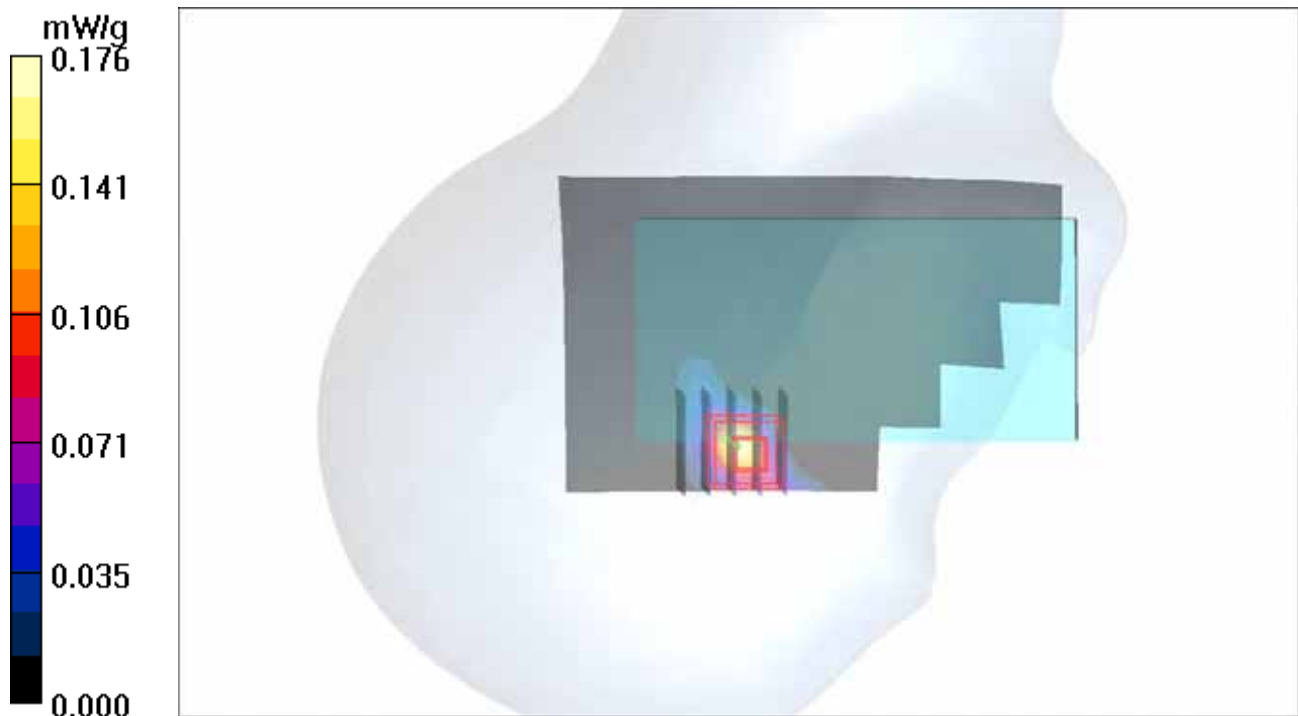
Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.05 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.236 W/kg

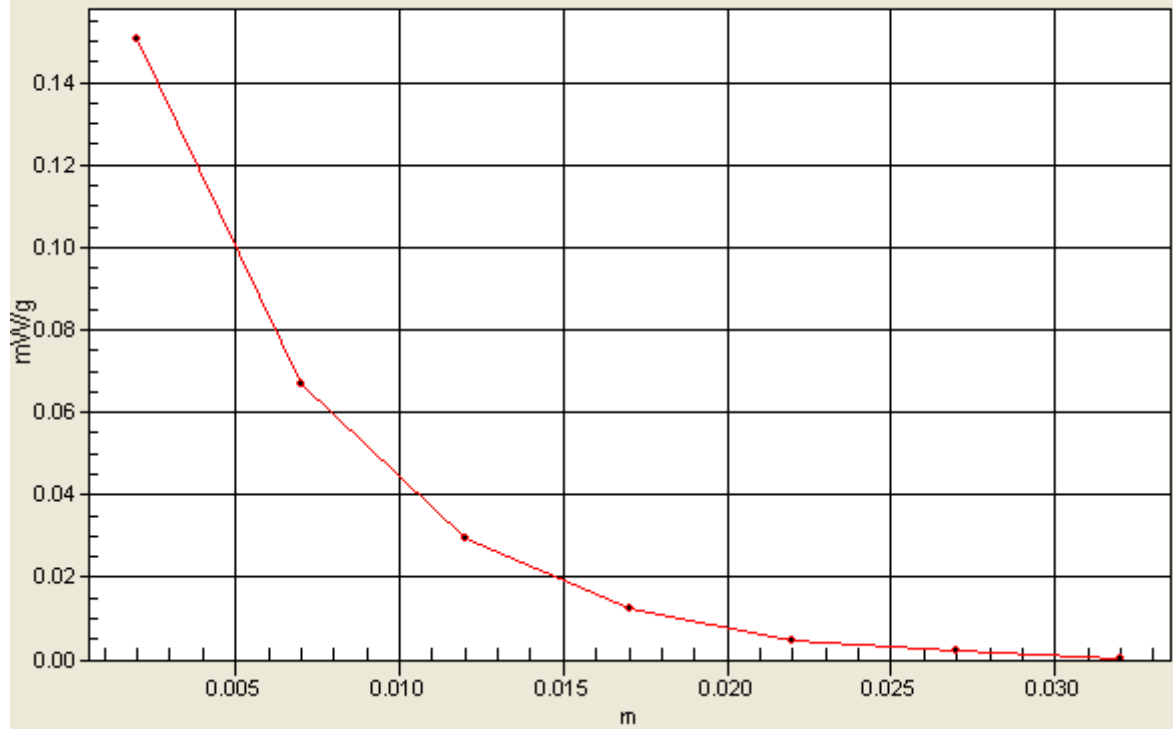
SAR(1 g) = 0.102 mW/g; SAR(10 g) = 0.043 mW/g

Maximum value of SAR (measured) = 0.151 mW/g



1g/10g Averaged SAR

SAR; Zoom Scan: Value Along Z, X=2, Y=2



P102 802.11b Right Tilted_Ch6

DUT: 121025C24

Communication System: WLAN_2.4G; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: H2450_1101 Medium parameters used: $f = 2437 \text{ MHz}$; $\sigma = 1.77 \text{ mho/m}$; $\epsilon_r = 40.1$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.28, 7.28, 7.28); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.076 mW/g

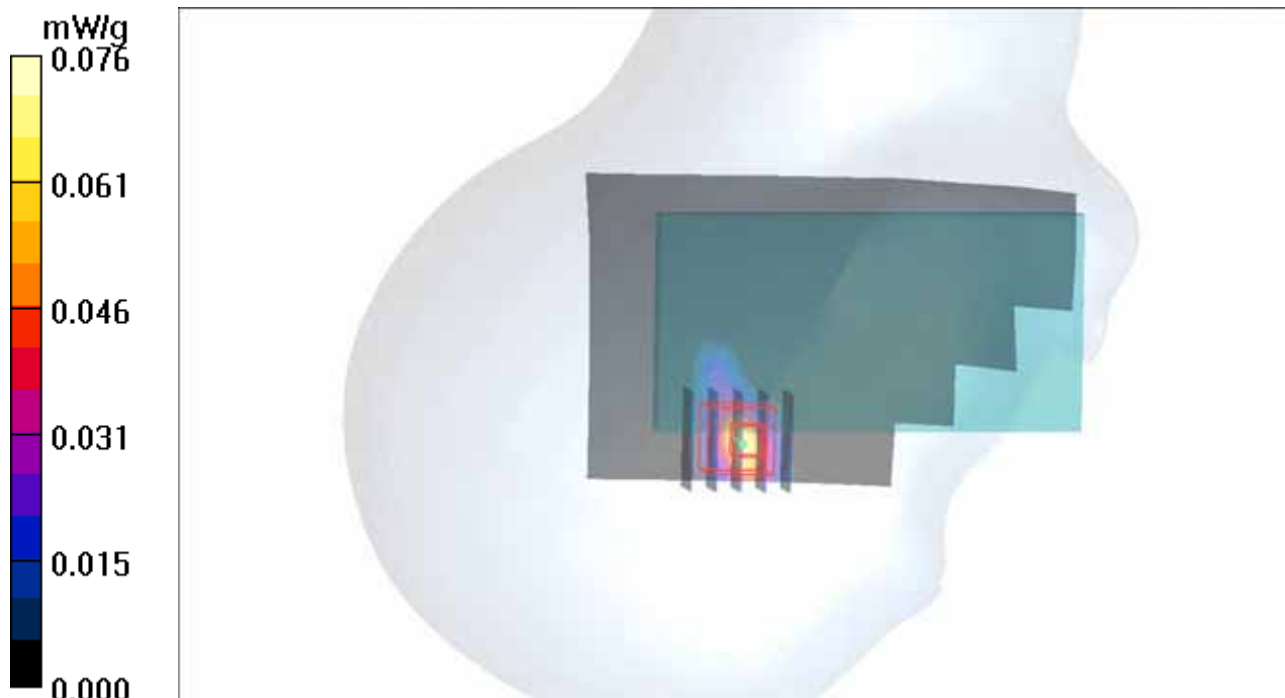
Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.73 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.049 W/kg

SAR(1 g) = 0.025 mW/g; SAR(10 g) = 0.012 mW/g

Maximum value of SAR (measured) = 0.037 mW/g



P103 802.11b Left Cheek_Ch6

DUT: 121025C24

Communication System: WLAN_2.4G; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: H2450_1101 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.77$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.28, 7.28, 7.28); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.071 mW/g

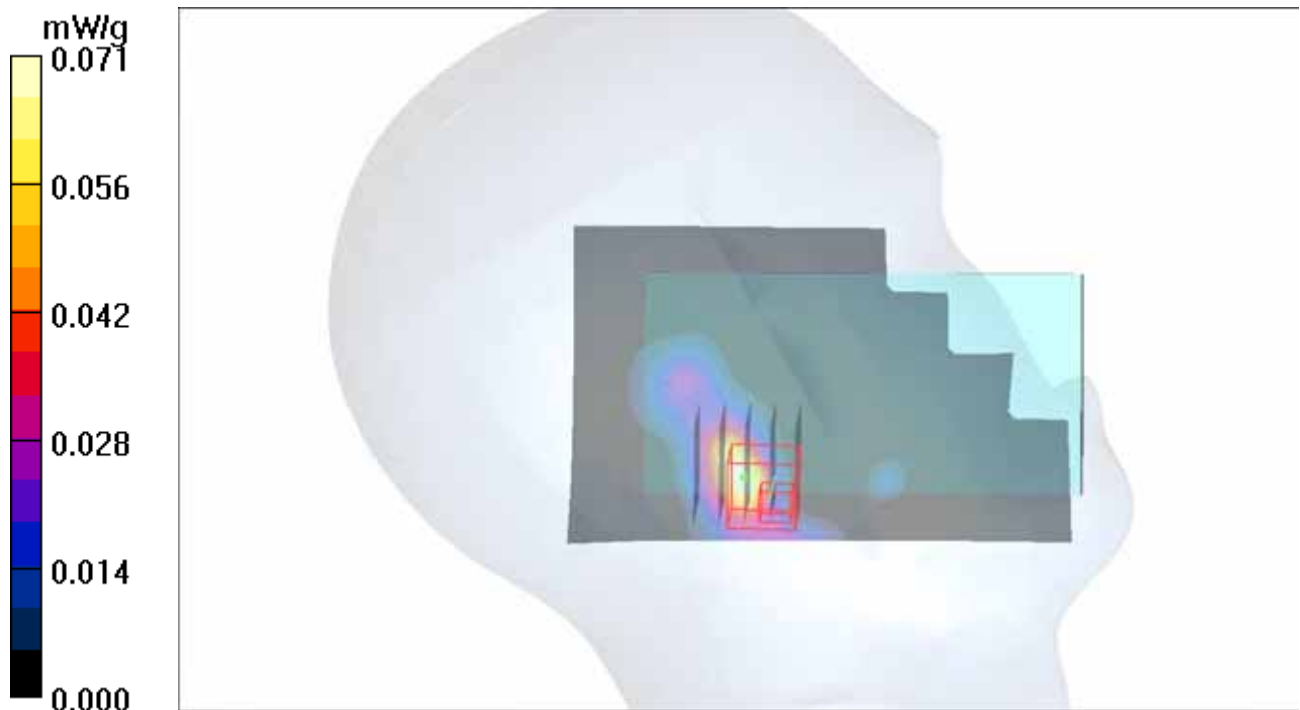
Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.76 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.087 W/kg

SAR(1 g) = 0.040 mW/g; SAR(10 g) = 0.017 mW/g

Maximum value of SAR (measured) = 0.063 mW/g



P104 802.11b Left Tilted_Ch6

DUT: 121025C24

Communication System: WLAN_2.4G; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: H2450_1101 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.77$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.28, 7.28, 7.28); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.040 mW/g

Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.03 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.031 W/kg

SAR(1 g) = 0.011 mW/g; SAR(10 g) = 0.00428 mW/g

Maximum value of SAR (measured) = 0.027 mW/g

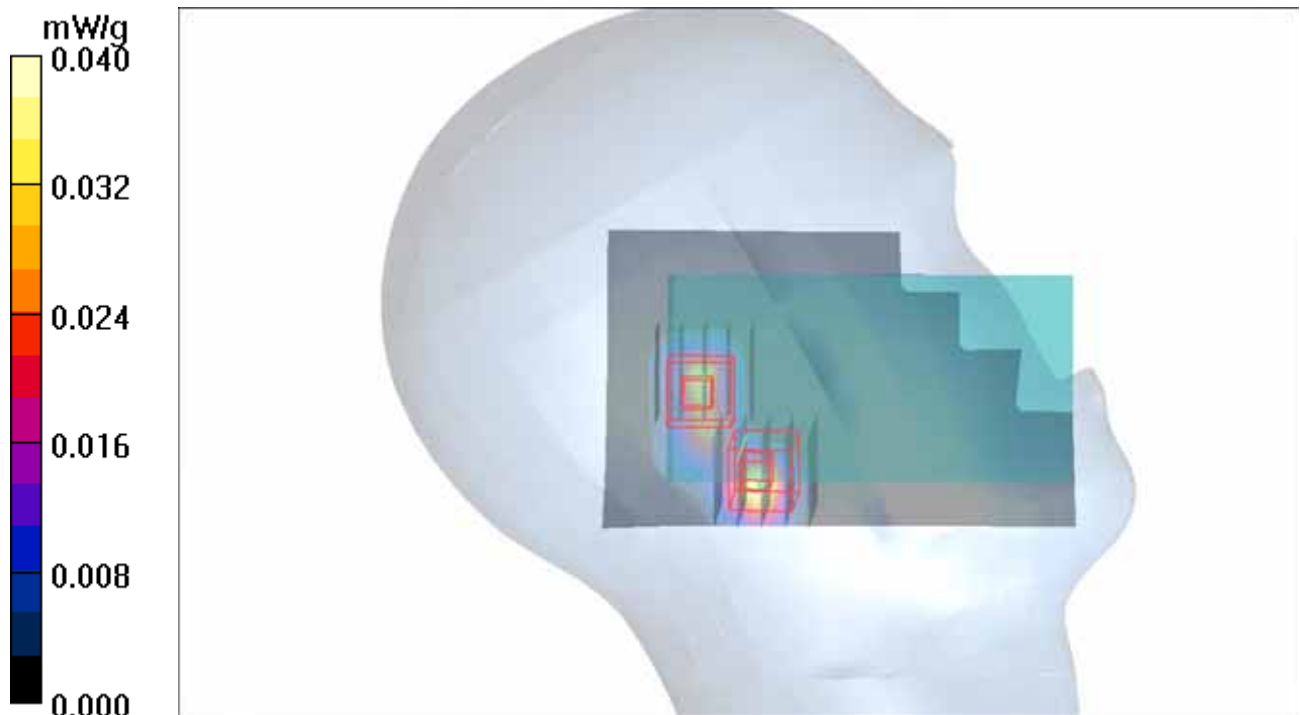
Ch6/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.03 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.029 W/kg

SAR(1 g) = 0.00982 mW/g; SAR(10 g) = 0.00392 mW/g

Maximum value of SAR (measured) = 0.016 mW/g



P131 802.11a_Right Cheek_Ch36

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5180 MHz; Duty Cycle: 1:1

Medium: H5G_1106 Medium parameters used: $f = 5180$ MHz; $\sigma = 4.544$ mho/m; $\epsilon_r = 36.774$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(4.55, 4.55, 4.55); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch36/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.651 W/kg

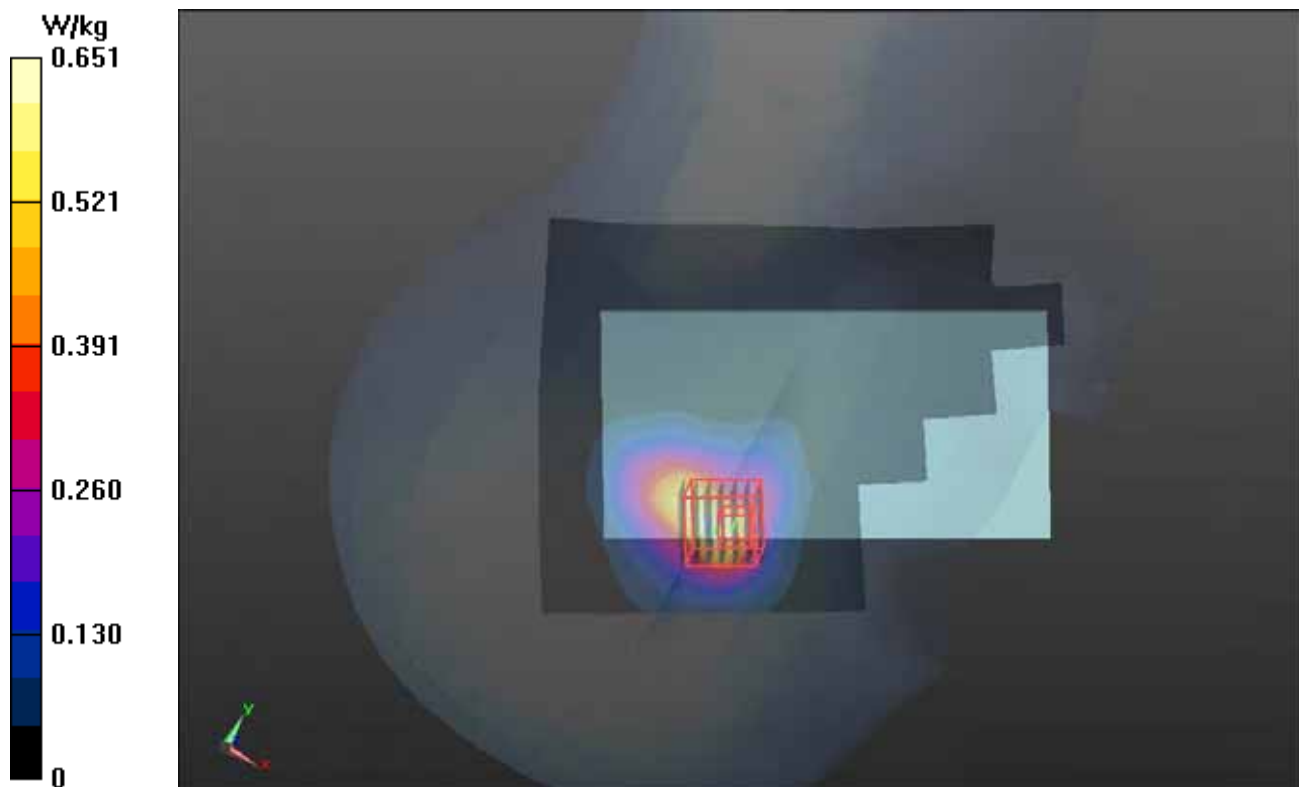
Ch36/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 3.066 V/m; Power Drift = -0.051 dB

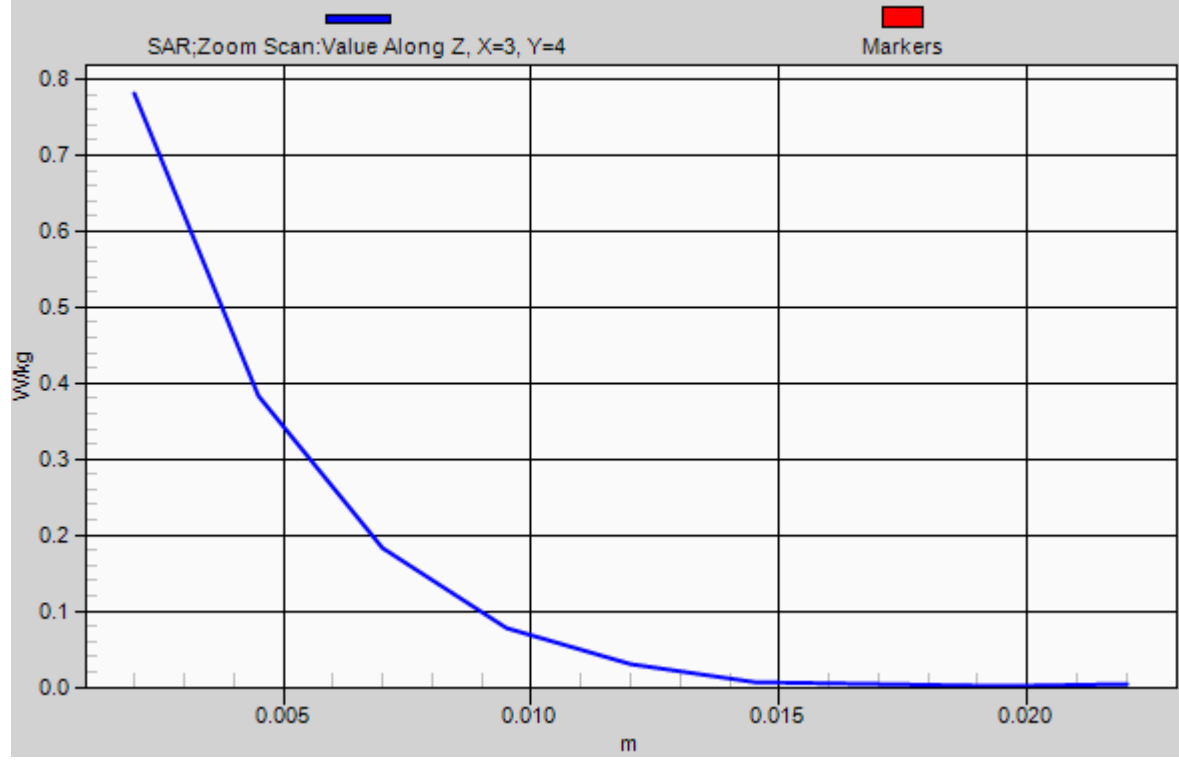
Peak SAR (extrapolated) = 1.428 mW/g

SAR(1 g) = 0.402 mW/g; SAR(10 g) = 0.133 mW/g

Maximum value of SAR (measured) = 0.781 W/kg



1g/10g Averaged SAR



P132 802.11a_Right Tilted_Ch36

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5180 MHz; Duty Cycle: 1:1

Medium: H5G_1106 Medium parameters used: $f = 5180$ MHz; $\sigma = 4.544$ mho/m; $\epsilon_r = 36.774$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(4.55, 4.55, 4.55); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch36/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

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

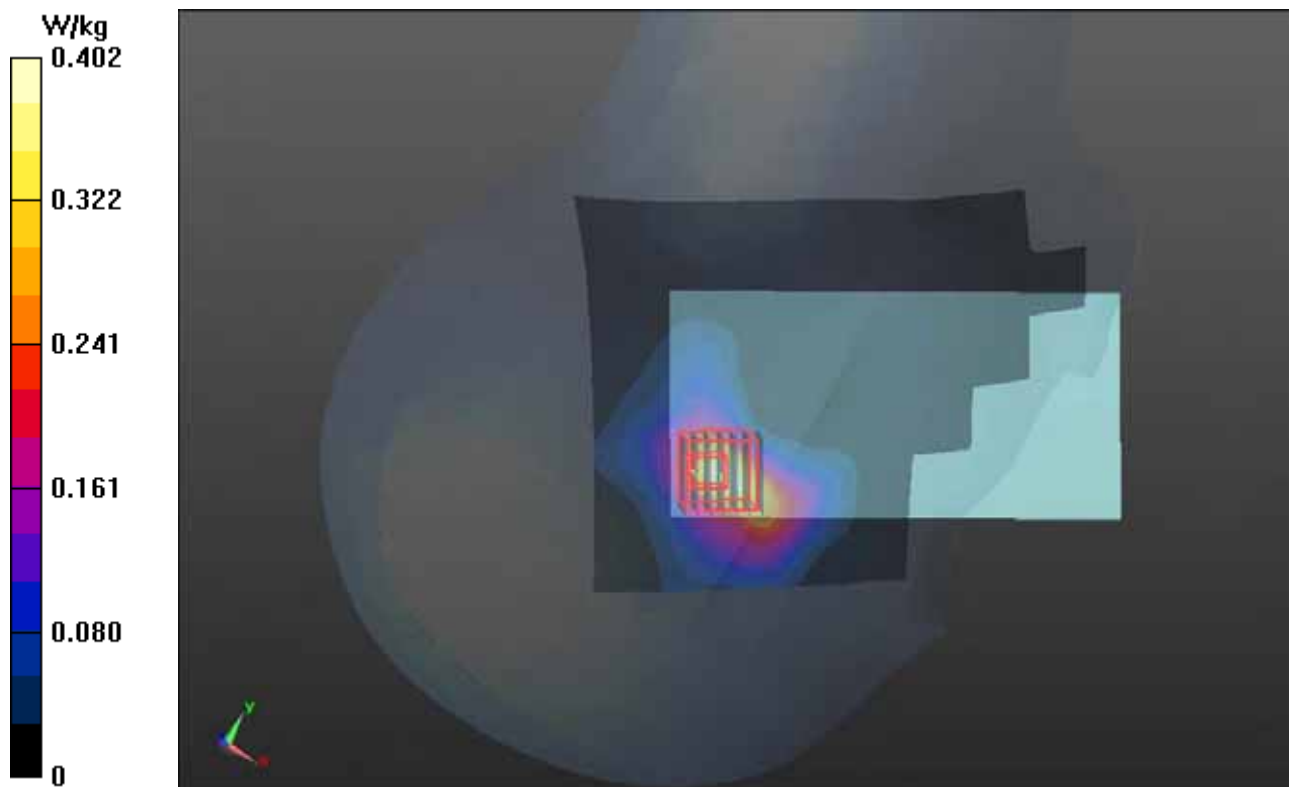
Ch36/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.000 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.703 mW/g

SAR(1 g) = 0.217 mW/g; SAR(10 g) = 0.073 mW/g

Maximum value of SAR (measured) = 0.405 W/kg



P133 802.11a_Left Cheek_Ch36

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5180 MHz; Duty Cycle: 1:1

Medium: H5G_1106 Medium parameters used: $f = 5180$ MHz; $\sigma = 4.544$ mho/m; $\epsilon_r = 36.774$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(4.55, 4.55, 4.55); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch36/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.262 W/kg

Ch36/Zoom Scan (7x7x9)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 2.595 V/m; Power Drift = 0.104 dB

Peak SAR (extrapolated) = 0.633 mW/g

SAR(1 g) = 0.188 mW/g; SAR(10 g) = 0.056 mW/g

Maximum value of SAR (measured) = 0.381 W/kg

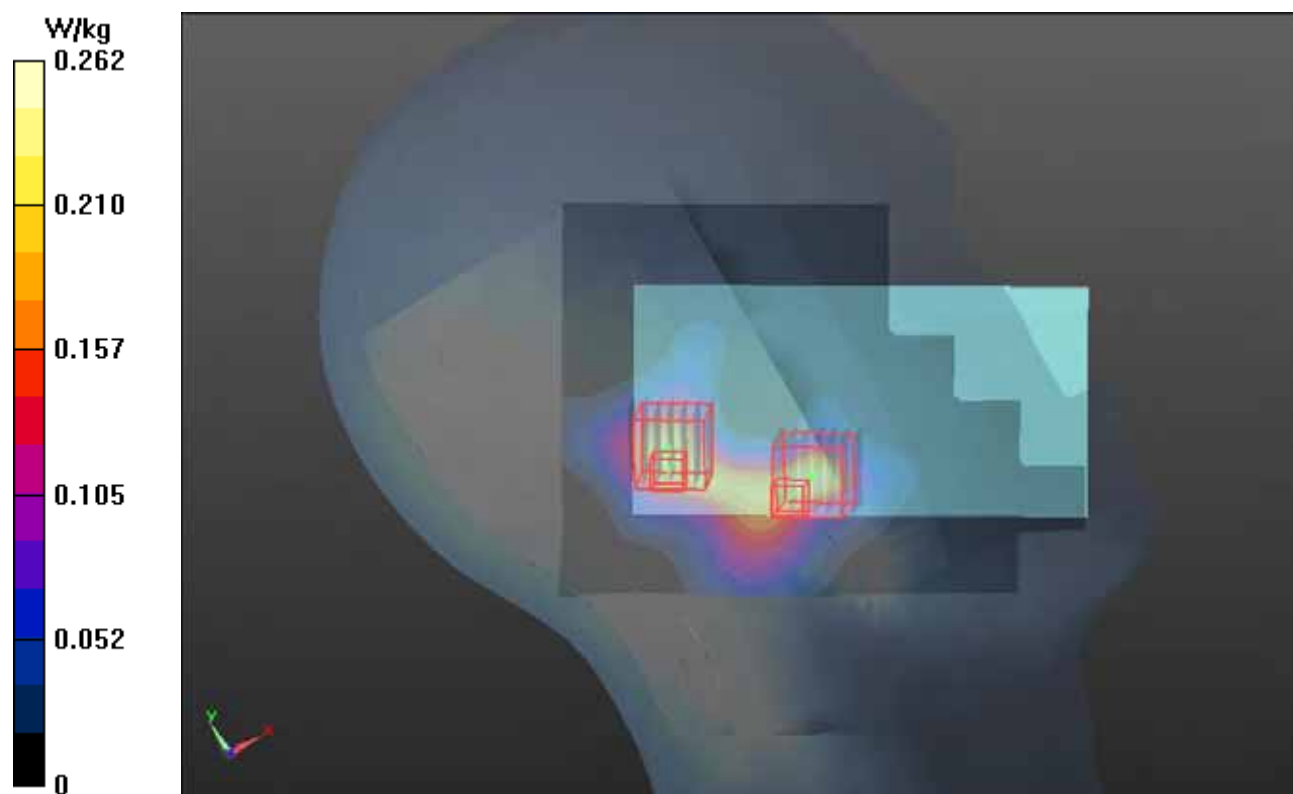
Ch36/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 2.595 V/m; Power Drift = 0.104 dB

Peak SAR (extrapolated) = 0.501 mW/g

SAR(1 g) = 0.152 mW/g; SAR(10 g) = 0.050 mW/g

Maximum value of SAR (measured) = 0.294 W/kg



P134 802.11a_Left Tilted_Ch36

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5180 MHz; Duty Cycle: 1:1

Medium: H5G_1106 Medium parameters used: $f = 5180$ MHz; $\sigma = 4.544$ mho/m; $\epsilon_r = 36.774$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(4.55, 4.55, 4.55); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch36/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

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

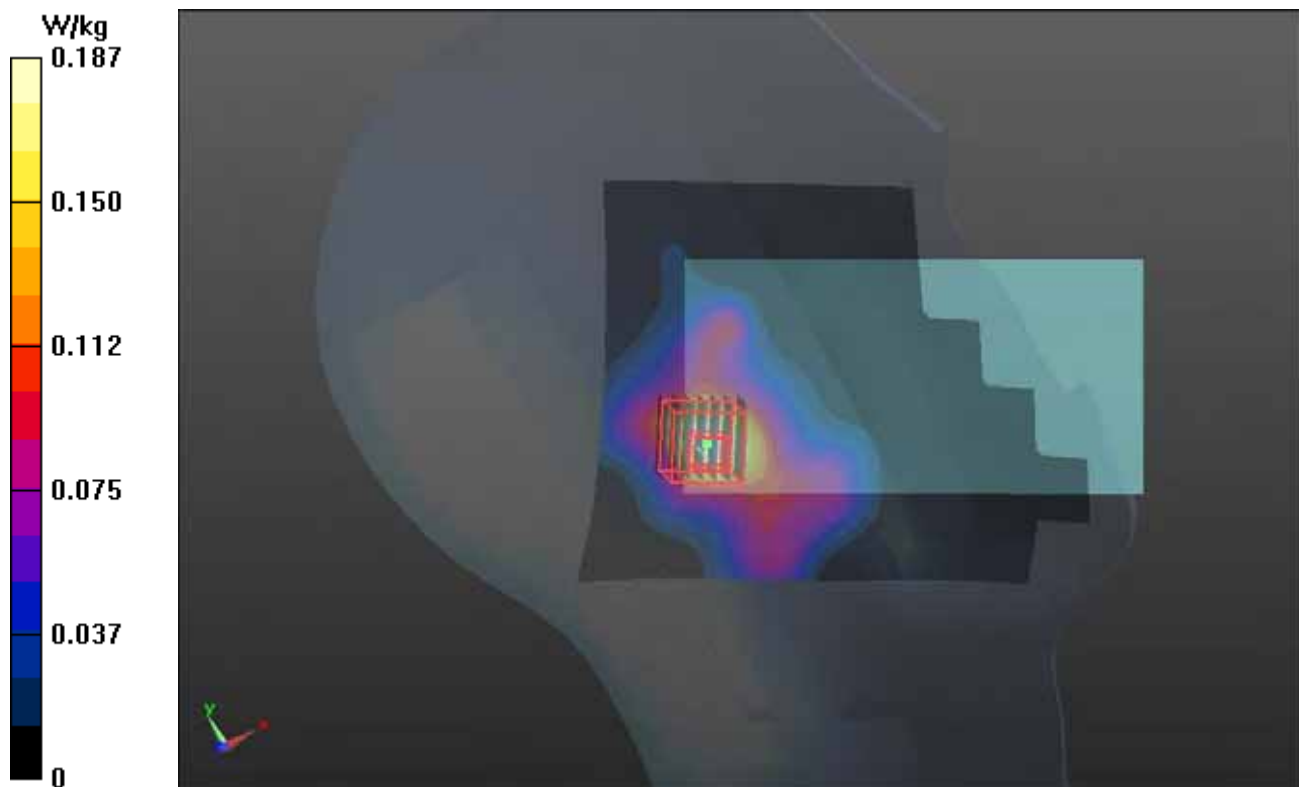
Ch36/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.210 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.620 mW/g

SAR(1 g) = 0.188 mW/g; SAR(10 g) = 0.060 mW/g

Maximum value of SAR (measured) = 0.368 W/kg



P135 802.11a_Right Cheek_Ch64

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5320 MHz; Duty Cycle: 1:1

Medium: H5G_1106 Medium parameters used: $f = 5320$ MHz; $\sigma = 4.637$ mho/m; $\epsilon_r = 36.377$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(4.39, 4.39, 4.39); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch64/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.815 W/kg

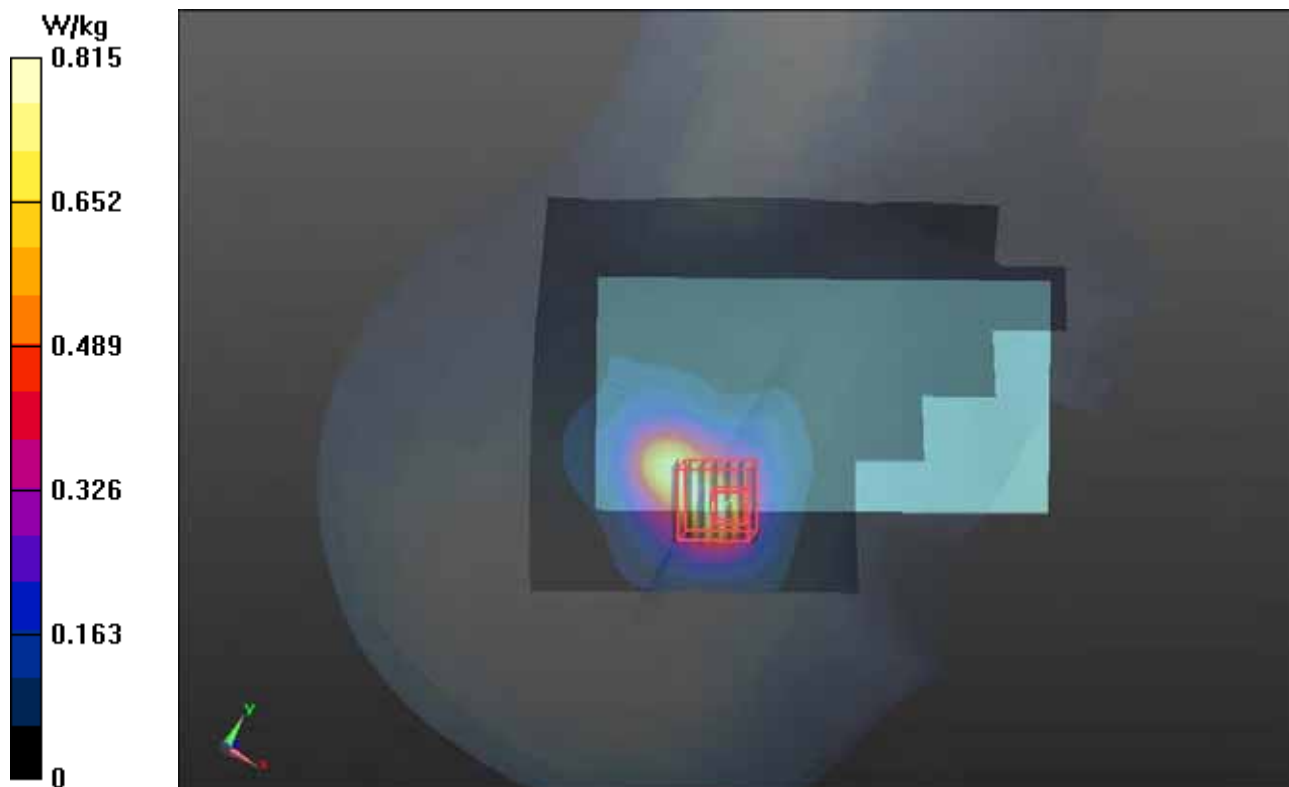
Ch64/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 3.957 V/m; Power Drift = 0.021 dB

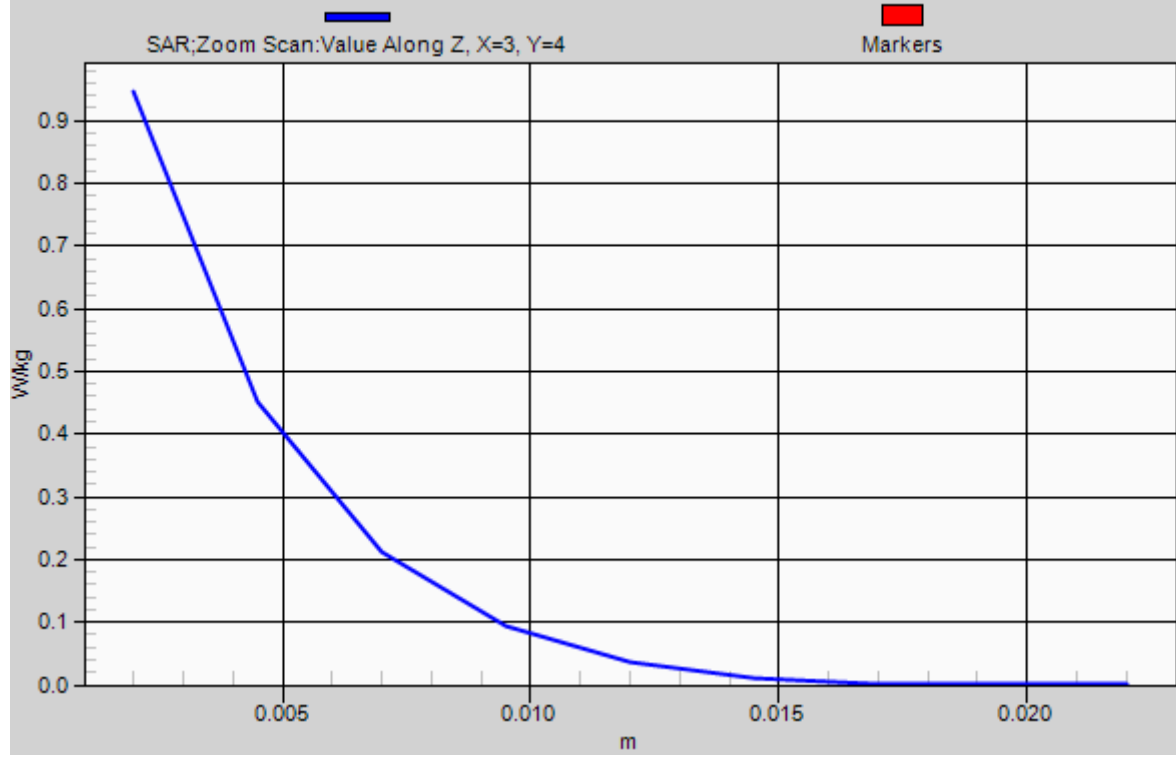
Peak SAR (extrapolated) = 1.745 mW/g

SAR(1 g) = 0.481 mW/g; SAR(10 g) = 0.164 mW/g

Maximum value of SAR (measured) = 0.946 W/kg



1g/10g Averaged SAR



P136 802.11a_Right Tilted_Ch64

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5320 MHz; Duty Cycle: 1:1

Medium: H5G_1106 Medium parameters used: $f = 5320$ MHz; $\sigma = 4.637$ mho/m; $\epsilon_r = 36.377$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(4.39, 4.39, 4.39); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch64/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.554 W/kg

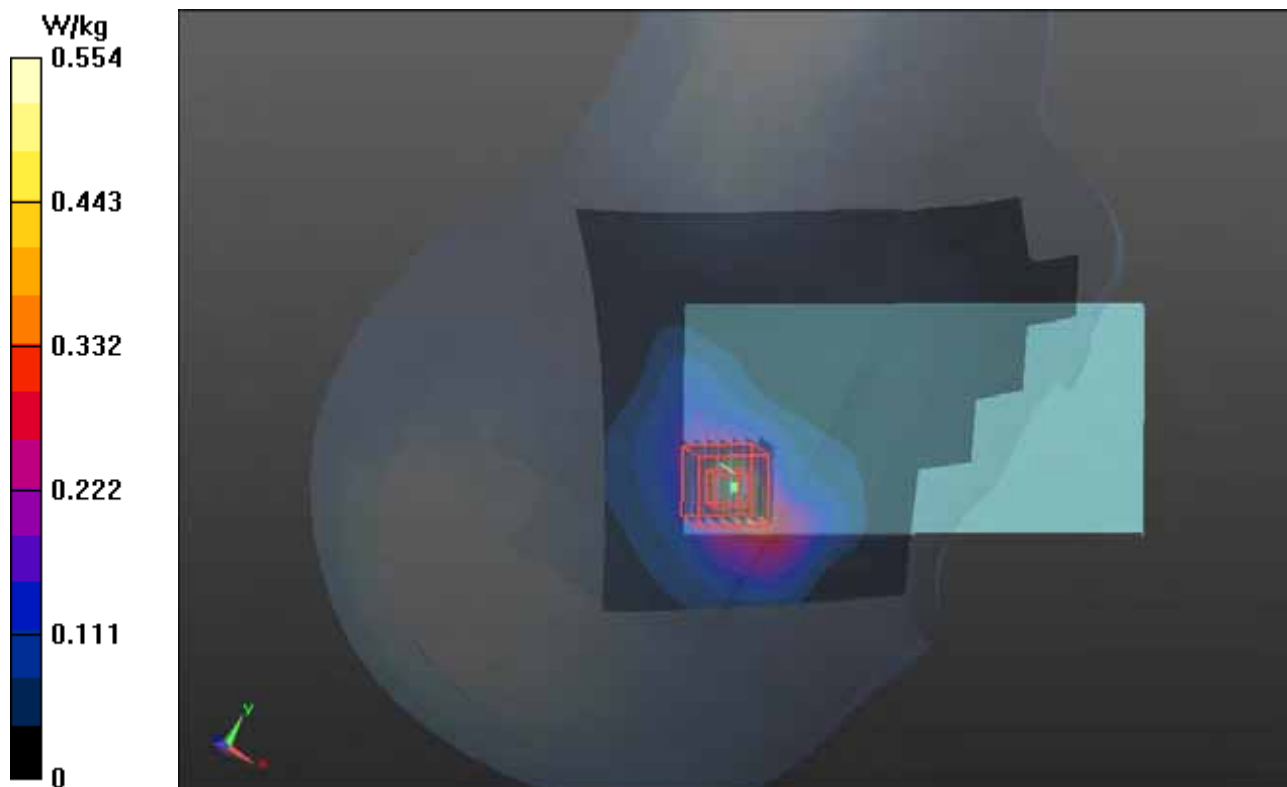
Ch64/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 5.190 V/m; Power Drift = 0.031 dB

Peak SAR (extrapolated) = 0.989 mW/g

SAR(1 g) = 0.286 mW/g; SAR(10 g) = 0.099 mW/g

Maximum value of SAR (measured) = 0.542 W/kg



P137 802.11a_Left Cheek_Ch64

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5320 MHz; Duty Cycle: 1:1

Medium: H5G_1106 Medium parameters used: $f = 5320$ MHz; $\sigma = 4.637$ mho/m; $\epsilon_r = 36.377$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(4.39, 4.39, 4.39); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch64/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.386 W/kg

Ch64/Zoom Scan (7x7x9)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 3.956 V/m; Power Drift = 0.085 dB

Peak SAR (extrapolated) = 0.829 mW/g

SAR(1 g) = 0.244 mW/g; SAR(10 g) = 0.078 mW/g

Maximum value of SAR (measured) = 0.469 W/kg

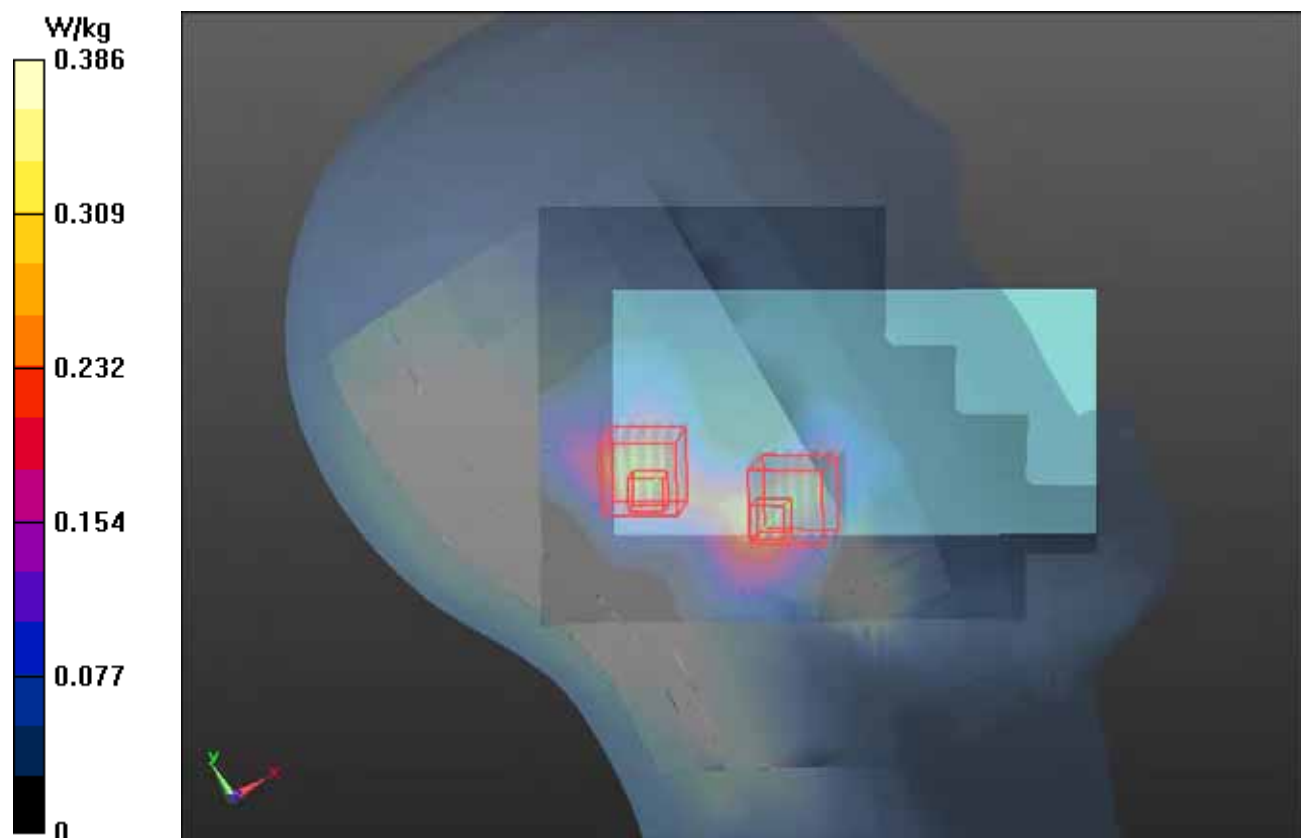
Ch64/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 3.956 V/m; Power Drift = 0.085 dB

Peak SAR (extrapolated) = 0.667 mW/g

SAR(1 g) = 0.193 mW/g; SAR(10 g) = 0.073 mW/g

Maximum value of SAR (measured) = 0.356 W/kg



P138 802.11a_Left Tilted_Ch64

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5320 MHz; Duty Cycle: 1:1

Medium: H5G_1106 Medium parameters used: $f = 5320$ MHz; $\sigma = 4.637$ mho/m; $\epsilon_r = 36.377$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(4.39, 4.39, 4.39); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch64/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.218 W/kg

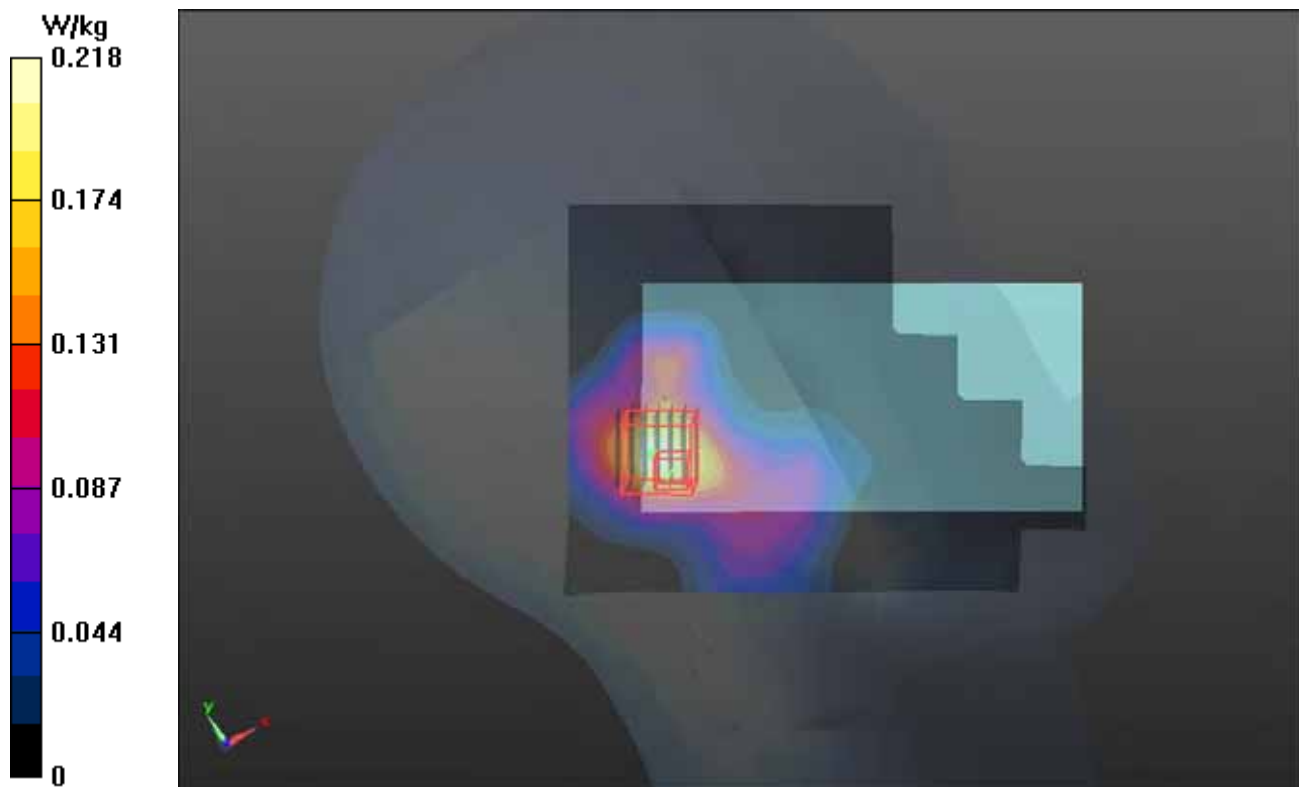
Ch64/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.270 V/m; Power Drift = 0.050 dB

Peak SAR (extrapolated) = 0.778 mW/g

SAR(1 g) = 0.223 mW/g; SAR(10 g) = 0.069 mW/g

Maximum value of SAR (measured) = 0.428 W/kg



P139 802.11a_Right Cheek_Ch116

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5580 MHz; Duty Cycle: 1:1

Medium: H5G_1108 Medium parameters used: $f = 5580$ MHz; $\sigma = 4.984$ mho/m; $\epsilon_r = 36.054$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.92, 3.92, 3.92); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch116/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

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

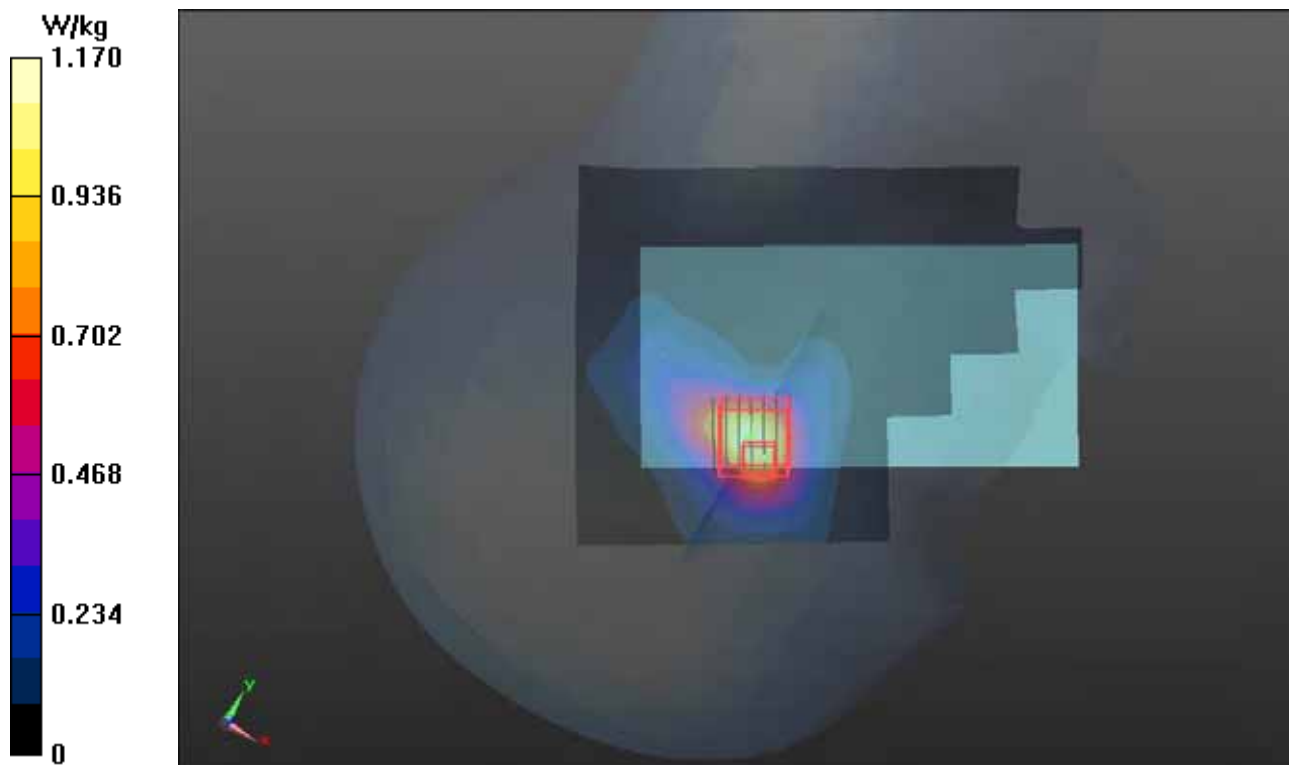
Ch116/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.686 V/m; Power Drift = -0.09 dB

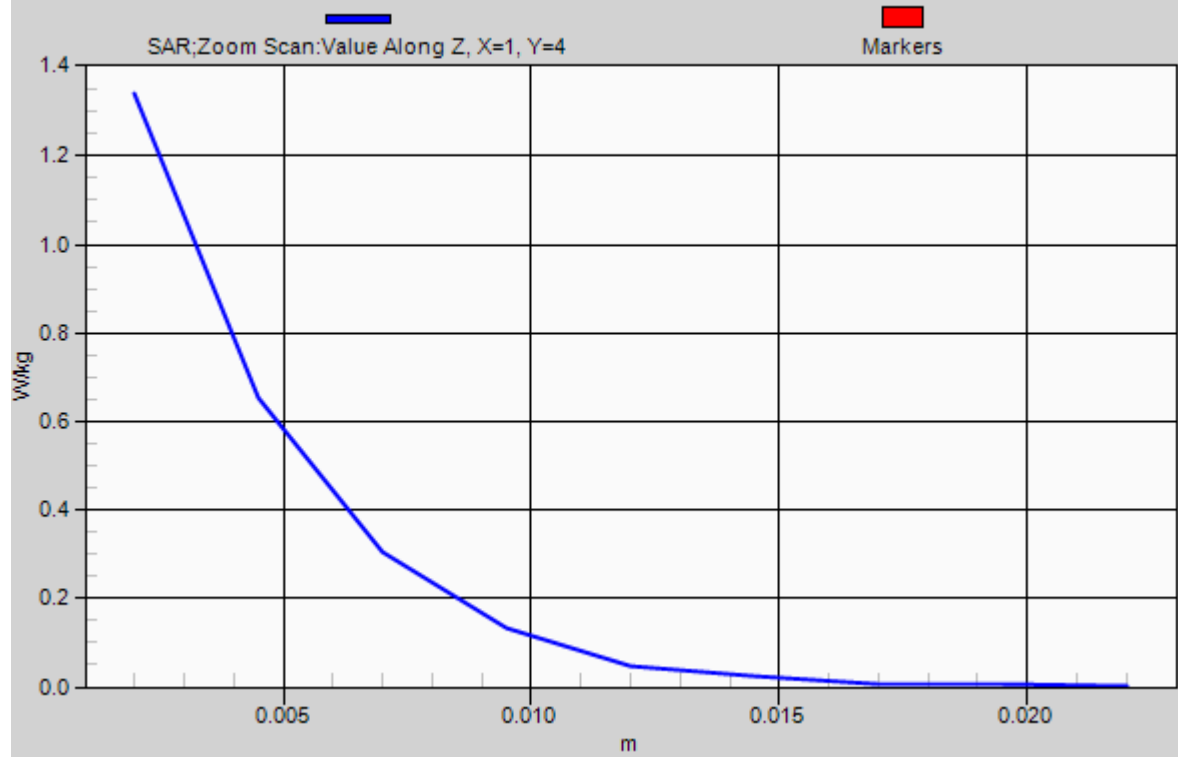
Peak SAR (extrapolated) = 2.369 mW/g

SAR(1 g) = 0.420 mW/g; SAR(10 g) = 0.072 mW/g

Maximum value of SAR (measured) = 1.34 W/kg



1g/10g Averaged SAR



P140 802.11a_Right Tilted_Ch116

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5580 MHz; Duty Cycle: 1:1

Medium: H5G_1108 Medium parameters used: $f = 5580$ MHz; $\sigma = 4.984$ mho/m; $\epsilon_r = 36.054$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.92, 3.92, 3.92); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch116/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.461 W/kg

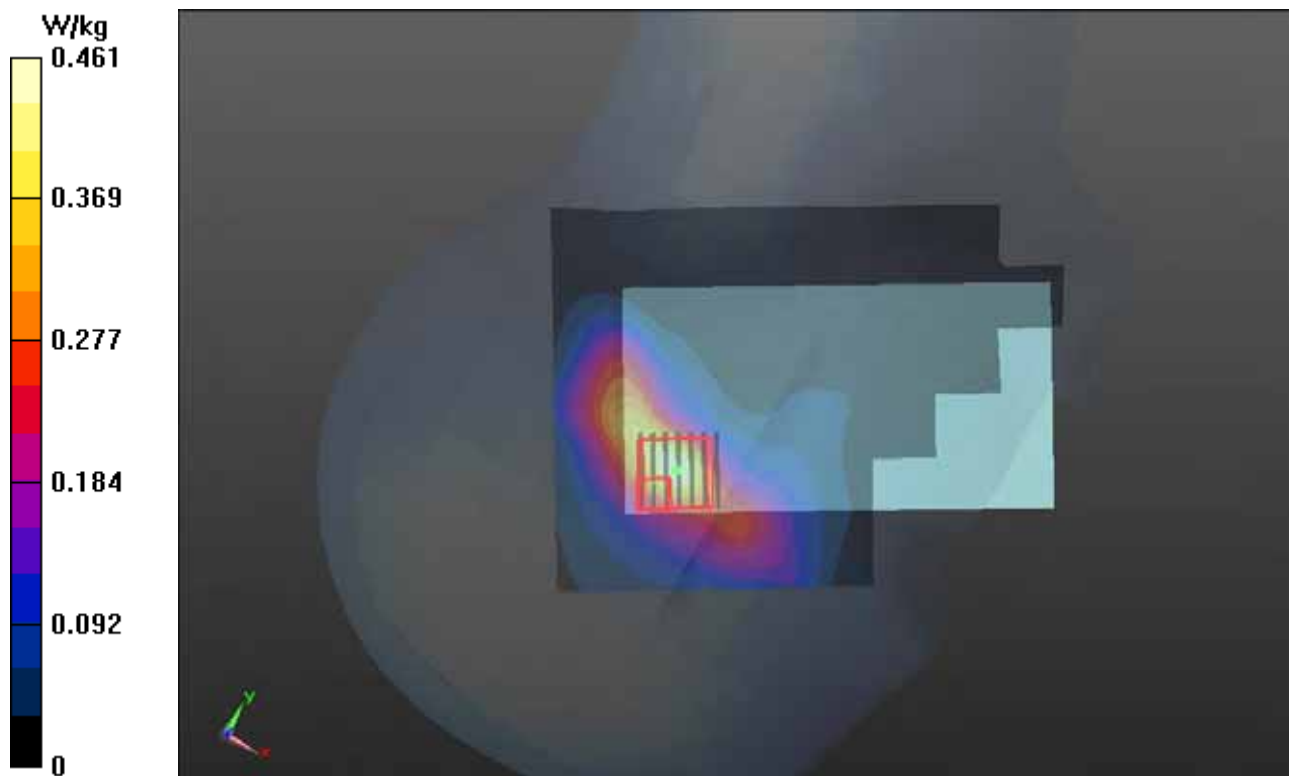
Ch116/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 6.009 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.909 mW/g

SAR(1 g) = 0.256 mW/g; SAR(10 g) = 0.046 mW/g

Maximum value of SAR (measured) = 0.671 W/kg



P141 802.11a_Left Cheek_Ch116

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5580 MHz; Duty Cycle: 1:1

Medium: H5G_1108 Medium parameters used: $f = 5580$ MHz; $\sigma = 4.984$ mho/m; $\epsilon_r = 36.054$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.92, 3.92, 3.92); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch116/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.432 W/kg

Ch116/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.622 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.967 mW/g

SAR(1 g) = 0.286 mW/g; SAR(10 g) = 0.104 mW/g

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

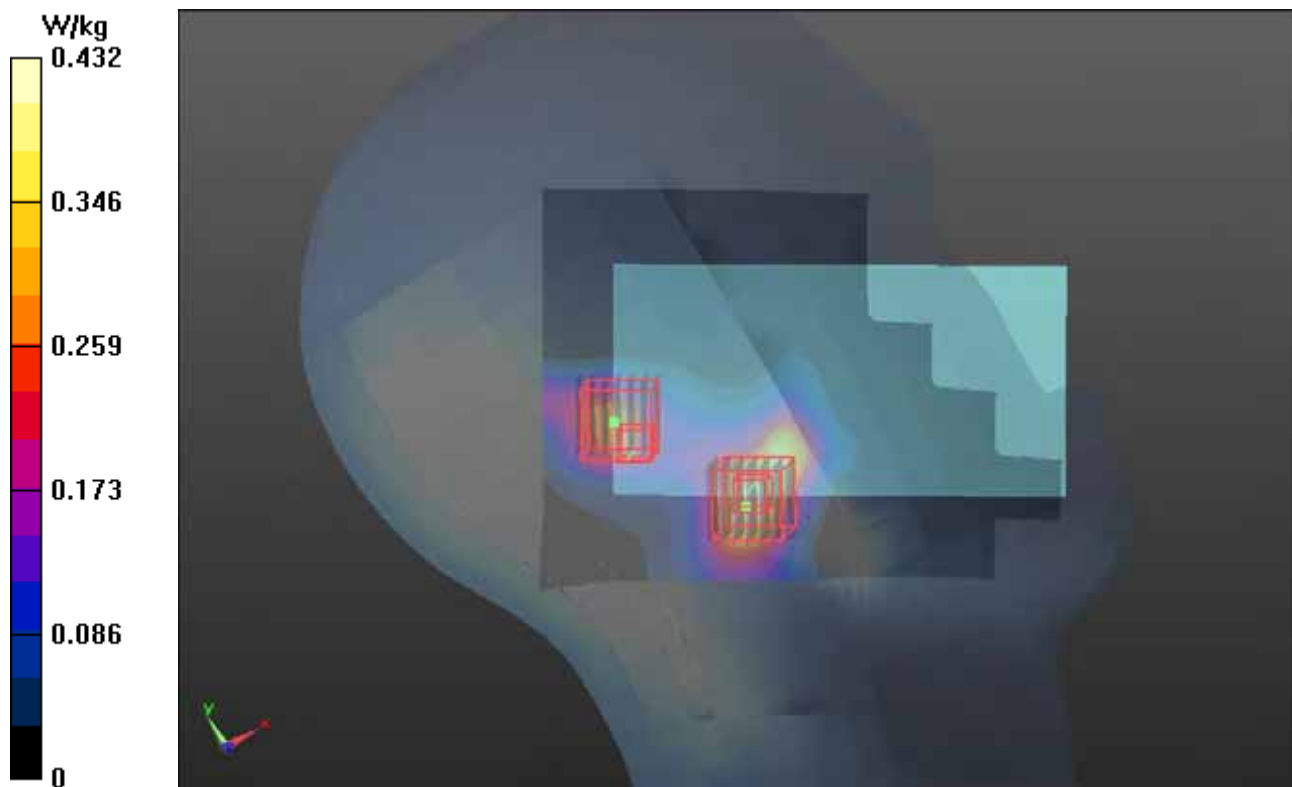
Ch116/Zoom Scan (7x7x9)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.622 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.662 mW/g

SAR(1 g) = 0.198 mW/g; SAR(10 g) = 0.067 mW/g

Maximum value of SAR (measured) = 0.367 W/kg



P142 802.11a_Left Tilted_Ch116

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5580 MHz; Duty Cycle: 1:1

Medium: H5G_1108 Medium parameters used: $f = 5580$ MHz; $\sigma = 4.984$ mho/m; $\epsilon_r = 36.054$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.92, 3.92, 3.92); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch116/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.323 W/kg

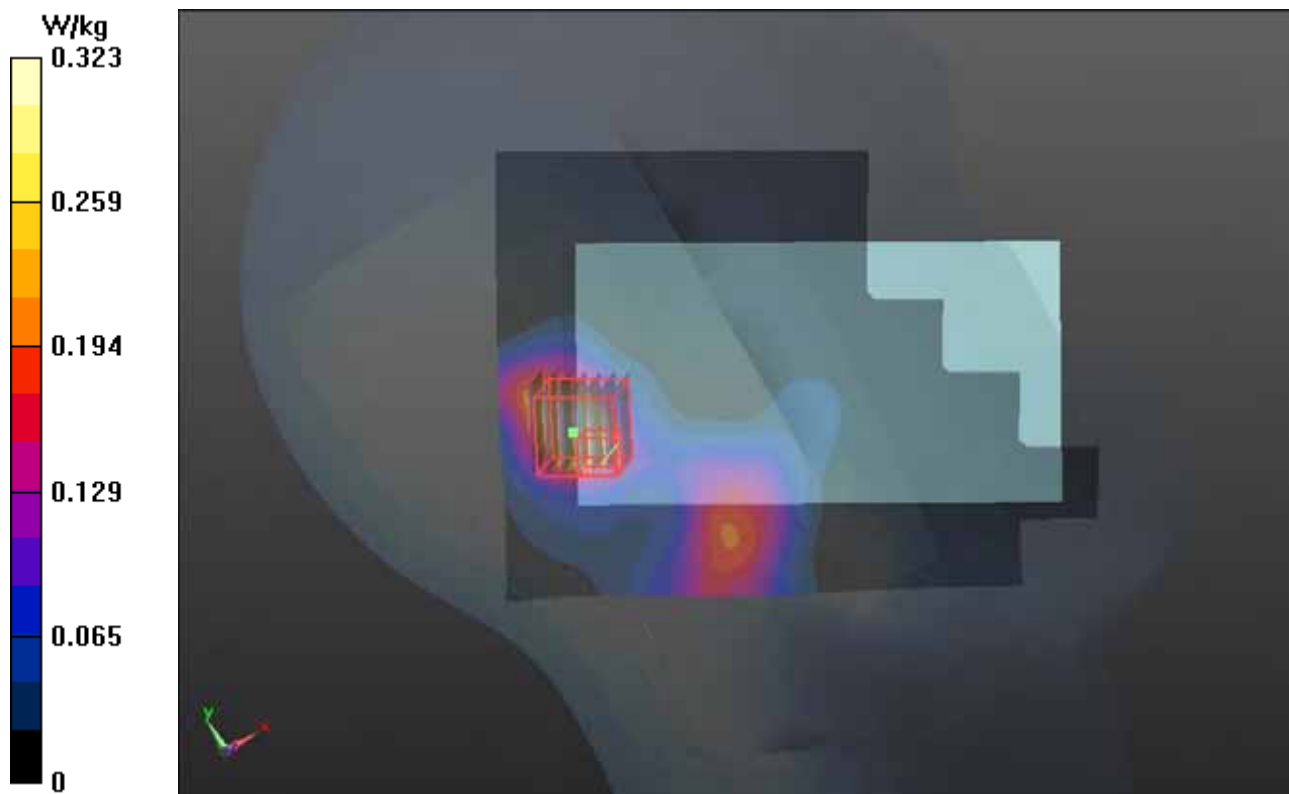
Ch116/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.829 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.720 mW/g

SAR(1 g) = 0.220 mW/g; SAR(10 g) = 0.076 mW/g

Maximum value of SAR (measured) = 0.427 W/kg



P143 802.11a_Right Check_Ch153

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5765 MHz; Duty Cycle: 1:1

Medium: H5G_1108 Medium parameters used: $f = 5765$ MHz; $\sigma = 5.068$ mho/m; $\epsilon_r = 36.263$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.72, 3.72, 3.72); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch153/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

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

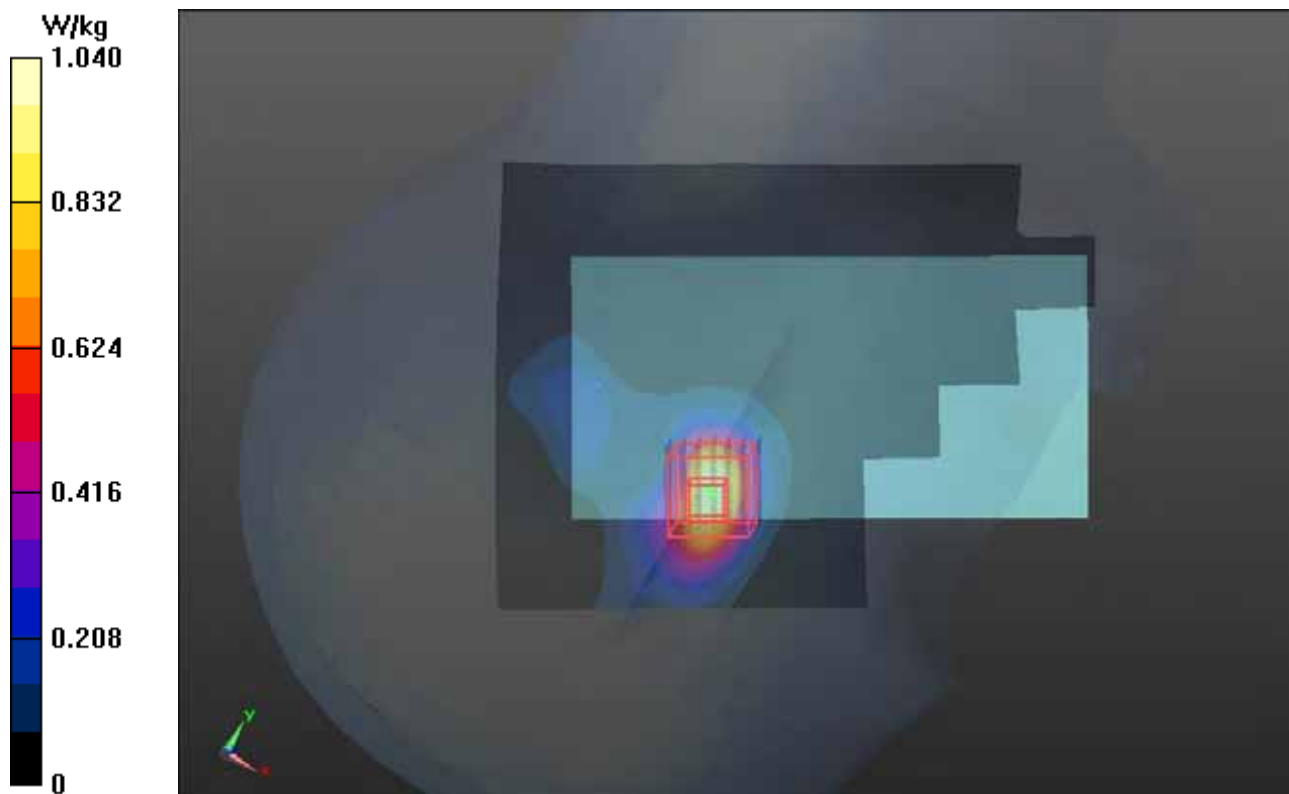
Ch153/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

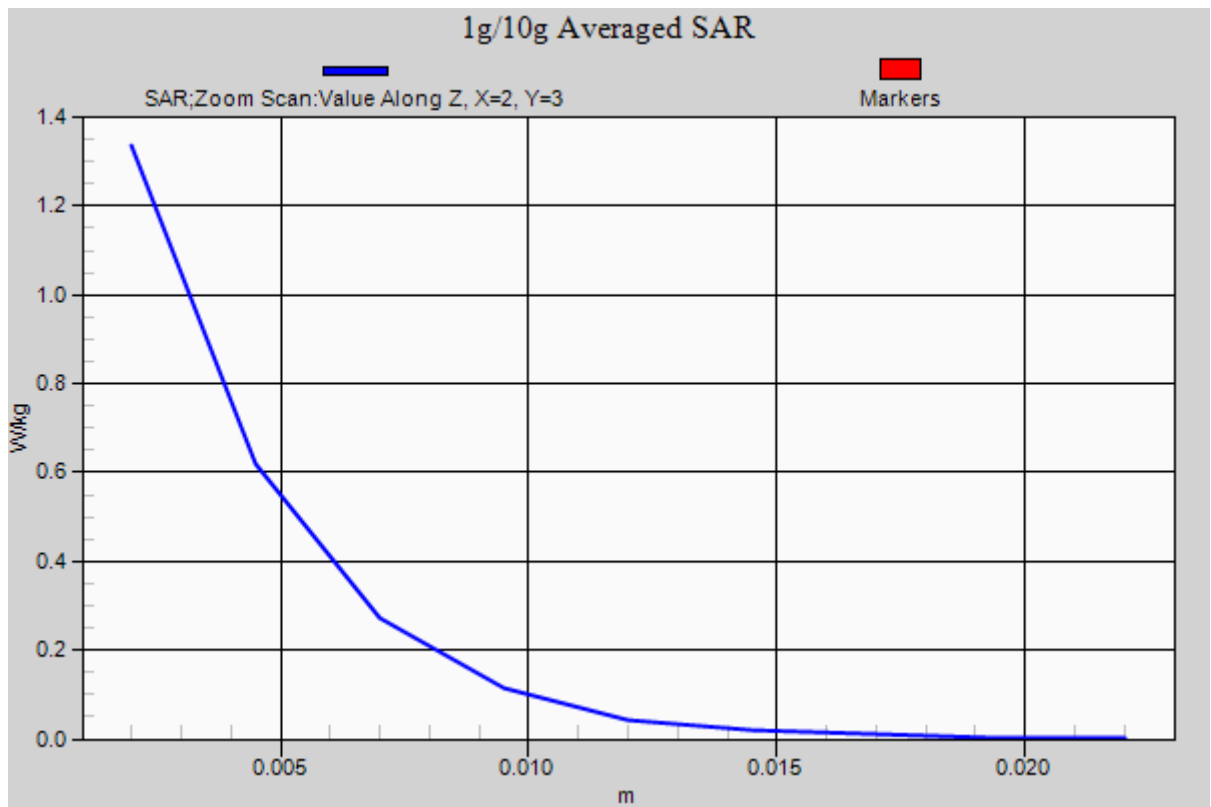
Reference Value = 4.473 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 2.385 mW/g

SAR(1 g) = 0.673 mW/g; SAR(10 g) = 0.241 mW/g

Maximum value of SAR (measured) = 1.34 W/kg





P144 802.11a_Right Tilted_Ch153

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5765 MHz; Duty Cycle: 1:1

Medium: H5G_1108 Medium parameters used: $f = 5765$ MHz; $\sigma = 5.068$ mho/m; $\epsilon_r = 36.263$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.72, 3.72, 3.72); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch153/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.458 W/kg

Ch153/Zoom Scan (7x7x9)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 5.132 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 1.185 mW/g

SAR(1 g) = 0.327 mW/g; SAR(10 g) = 0.080 mW/g

Maximum value of SAR (measured) = 0.687 W/kg

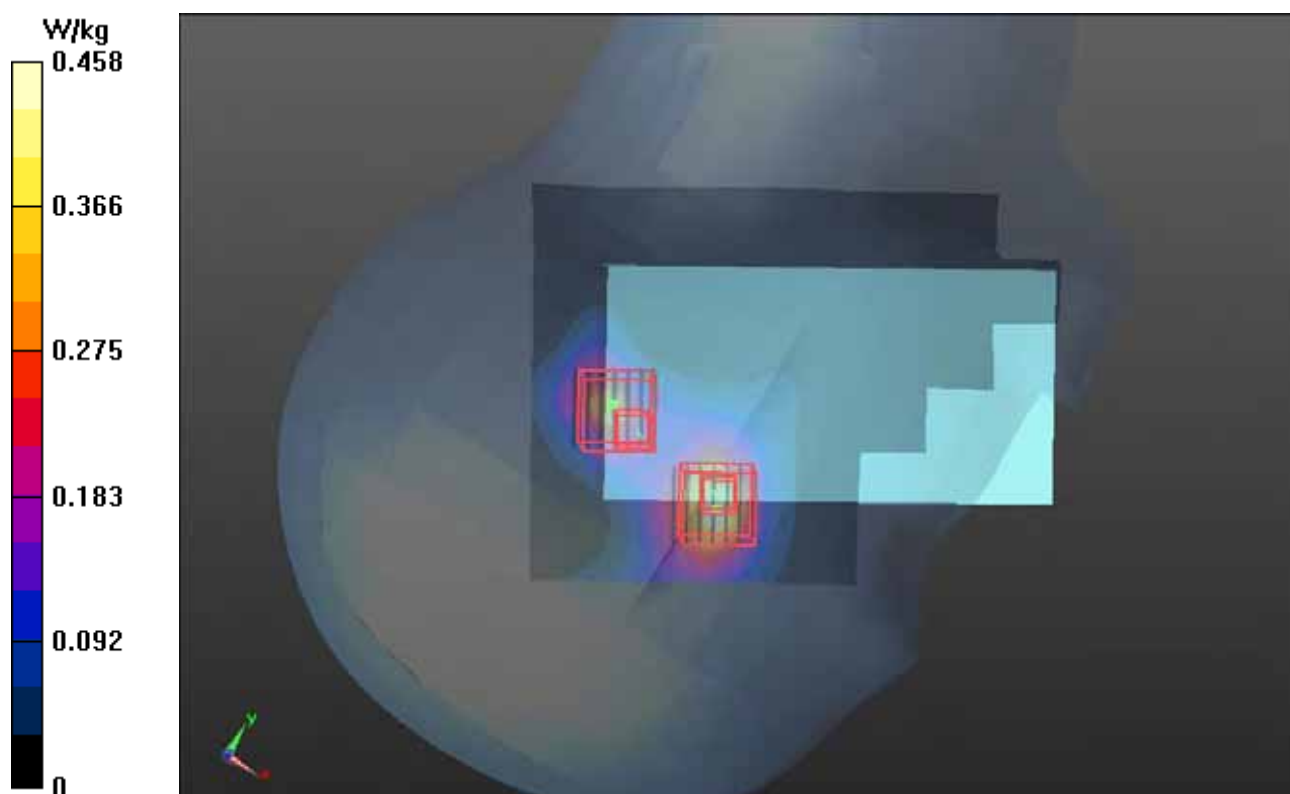
Ch153/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 5.132 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.795 mW/g

SAR(1 g) = 0.261 mW/g; SAR(10 g) = 0.096 mW/g

Maximum value of SAR (measured) = 0.496 W/kg



P145 802.11a_Left Cheek_Ch153

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5765 MHz; Duty Cycle: 1:1

Medium: H5G_1108 Medium parameters used: $f = 5765$ MHz; $\sigma = 5.068$ mho/m; $\epsilon_r = 36.263$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.72, 3.72, 3.72); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch153/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.379 W/kg

Ch153/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.344 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.815 mW/g

SAR(1 g) = 0.242 mW/g; SAR(10 g) = 0.091 mW/g

Maximum value of SAR (measured) = 0.460 W/kg

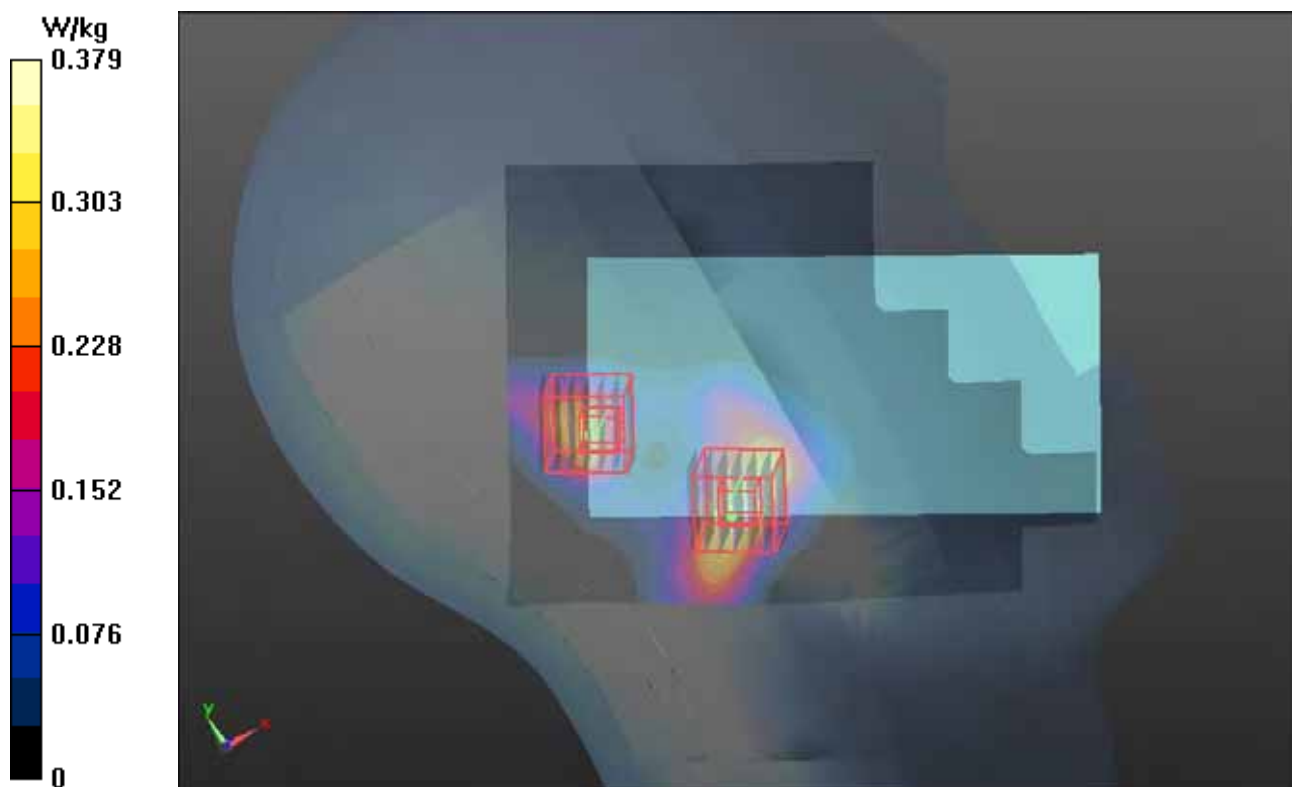
Ch153/Zoom Scan (7x7x9)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.344 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.769 mW/g

SAR(1 g) = 0.226 mW/g; SAR(10 g) = 0.078 mW/g

Maximum value of SAR (measured) = 0.430 W/kg



P146 802.11a_Left Tilted_Ch153

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5765 MHz; Duty Cycle: 1:1

Medium: H5G_1108 Medium parameters used: $f = 5765$ MHz; $\sigma = 5.068$ mho/m; $\epsilon_r = 36.263$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.72, 3.72, 3.72); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch153/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.378 W/kg

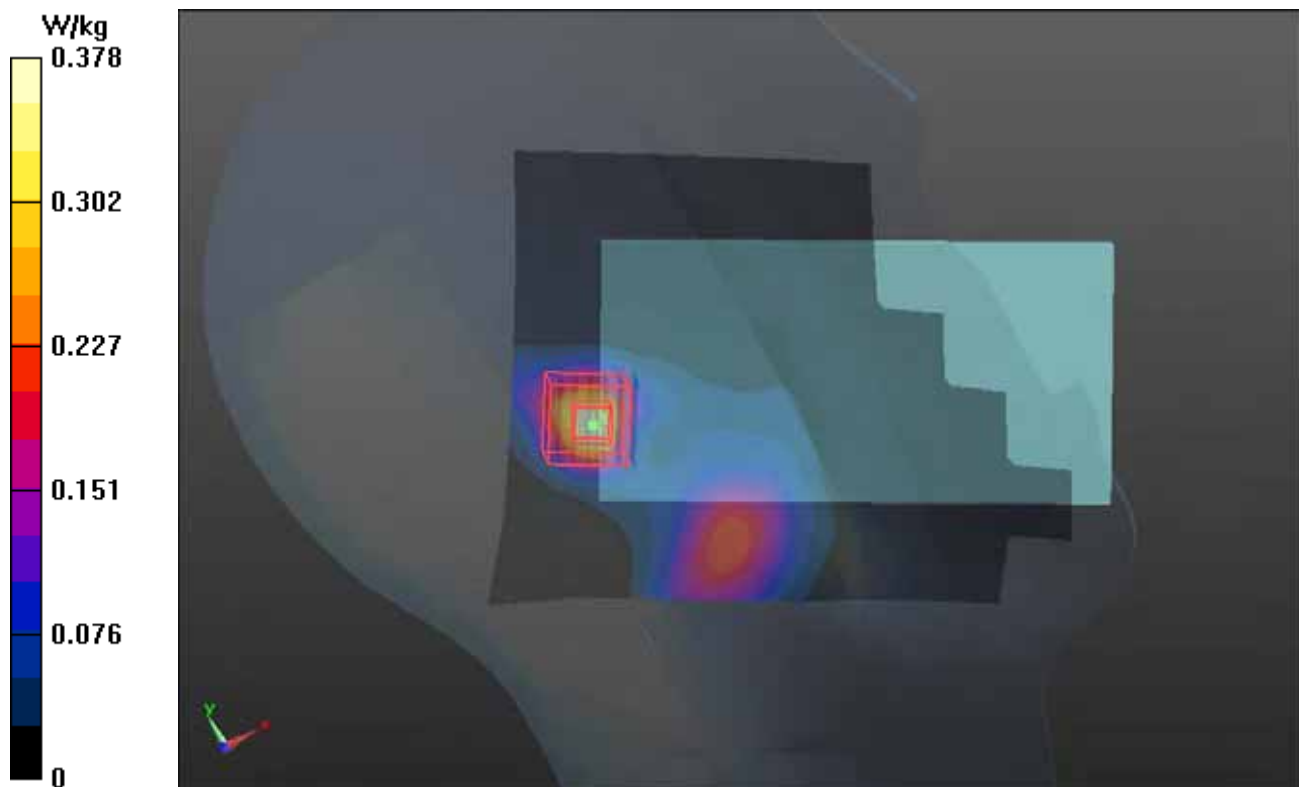
Ch153/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.931 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.703 mW/g

SAR(1 g) = 0.200 mW/g; SAR(10 g) = 0.072 mW/g

Maximum value of SAR (measured) = 0.385 W/kg



P147 802.11n_HT40_Right Check_Ch159

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5795 MHz; Duty Cycle: 1:1

Medium: H5G_1108 Medium parameters used: $f = 5795$ MHz; $\sigma = 5.15$ mho/m; $\epsilon_r = 35.799$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.72, 3.72, 3.72); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch159/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.876 W/kg

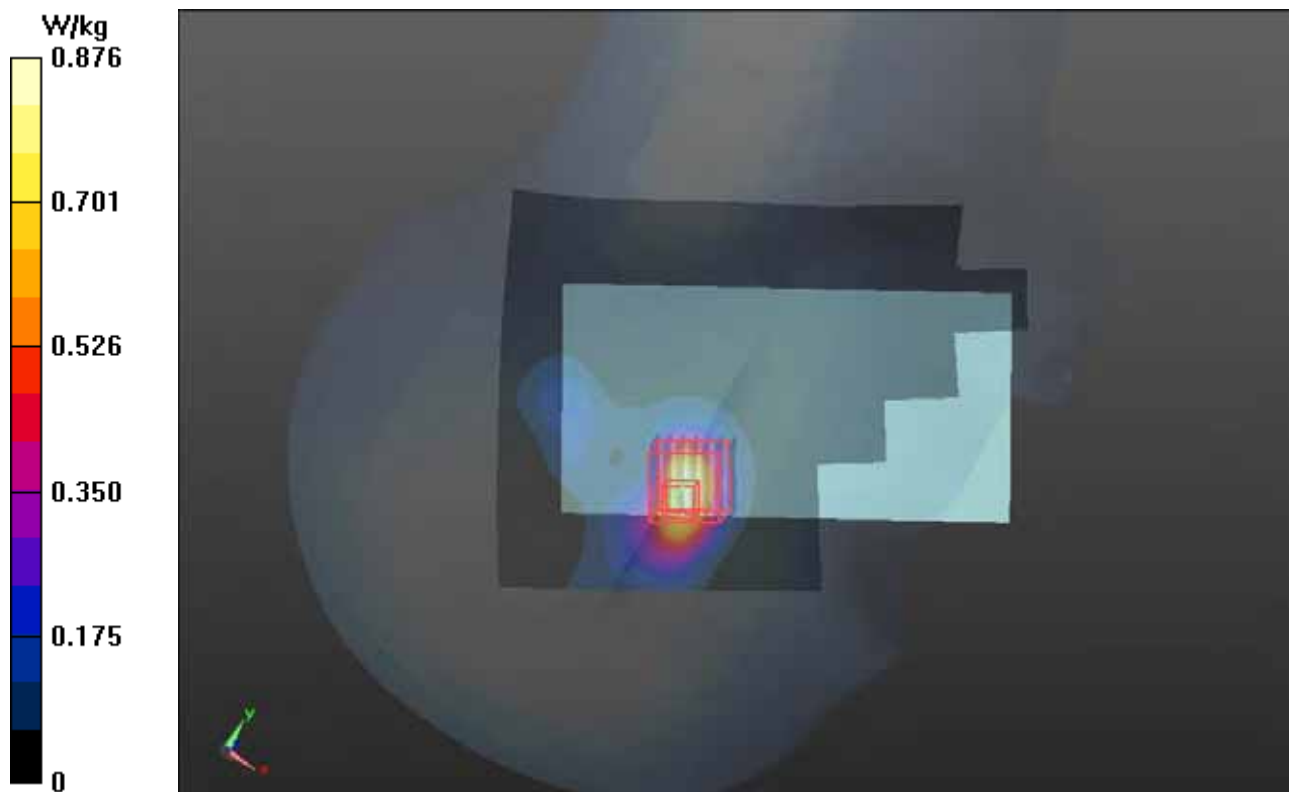
Ch159/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.079 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 1.984 mW/g

SAR(1 g) = 0.576 mW/g; SAR(10 g) = 0.203 mW/g

Maximum value of SAR (measured) = 1.10 W/kg



P22 GSM850_GPRS12_Front Face_1cm_Ch251

DUT: 121025C24

Communication System: GPRS12; Frequency: 848.8 MHz; Duty Cycle: 1:1.99986

Medium: B835_1031 Medium parameters used: $f = 849$ MHz; $\sigma = 1.002$ mho/m; $\epsilon_r = 56.791$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.8 °C ; Liquid Temperature : 20.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch251/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.673 W/kg

Ch251/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.400 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.766 mW/g

SAR(1 g) = 0.558 mW/g; SAR(10 g) = 0.395 mW/g

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

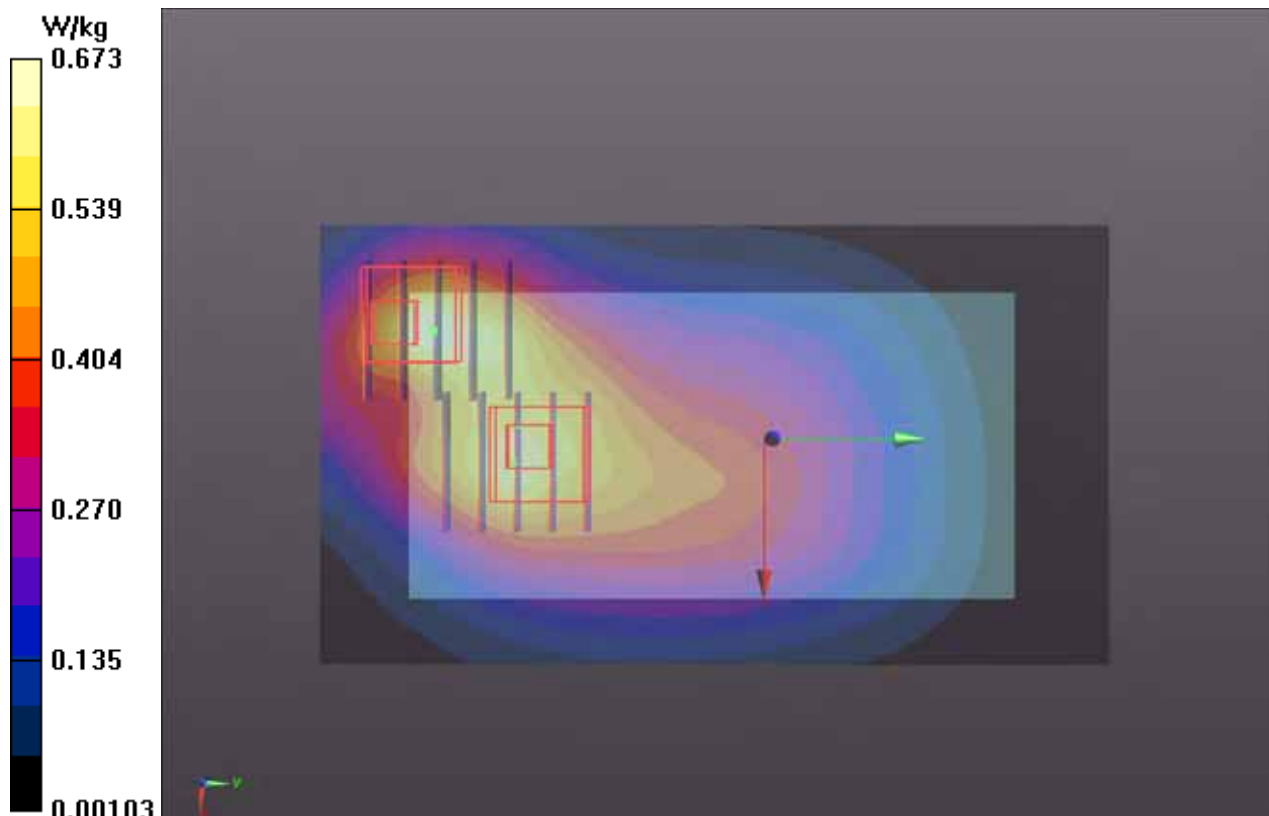
Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.400 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.755 mW/g

SAR(1 g) = 0.422 mW/g; SAR(10 g) = 0.245 mW/g

Maximum value of SAR (measured) = 0.612 W/kg



P23 GSM850_GPRS12_Rear Face_1cm_Ch251

DUT: 121025C24

Communication System: GPRS12; Frequency: 848.8 MHz; Duty Cycle: 1:1.99986
Medium: B835_1031 Medium parameters used: $f = 849$ MHz; $\sigma = 1.002$ mho/m; $\epsilon_r = 56.791$; $\rho = 1000$ kg/m³
Ambient Temperature : 21.8 °C ; Liquid Temperature : 20.7 °C

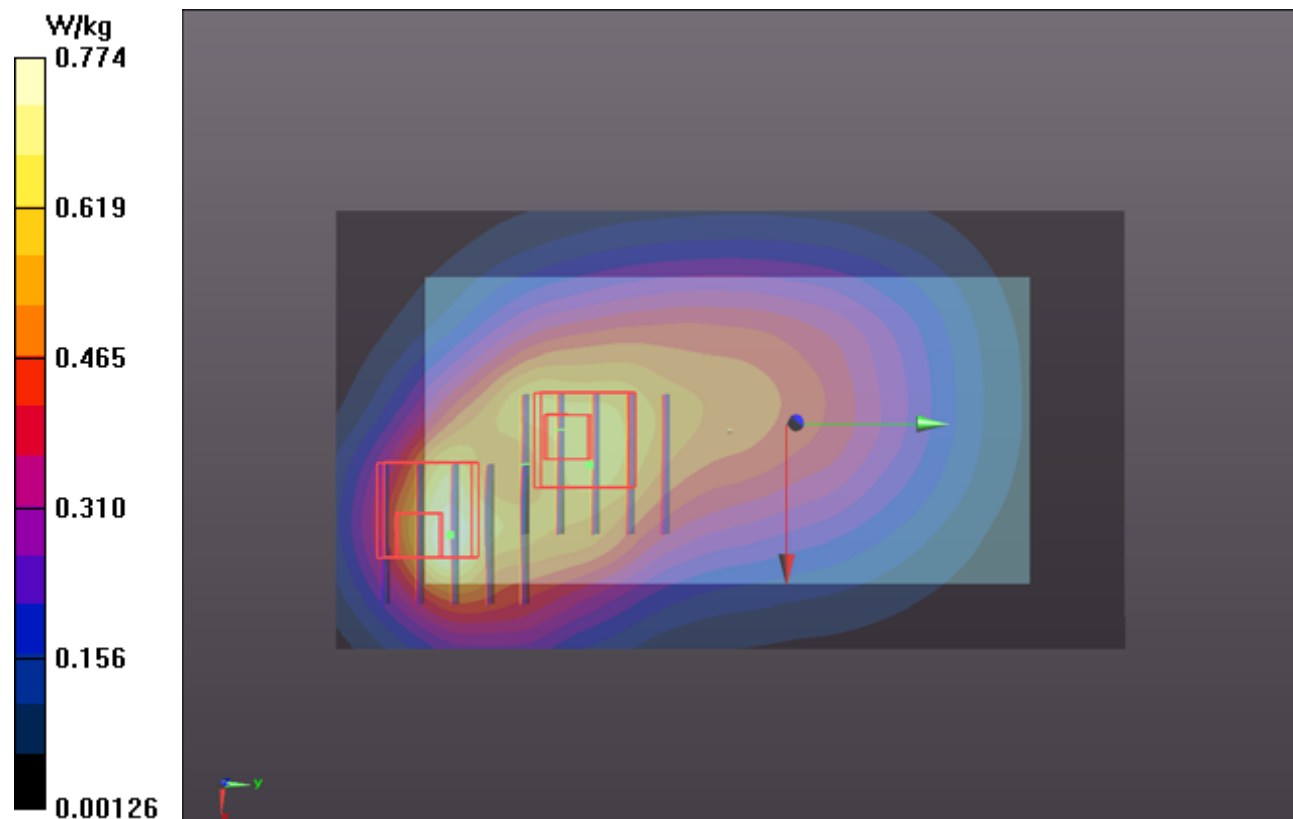
DASY5 Configuration:

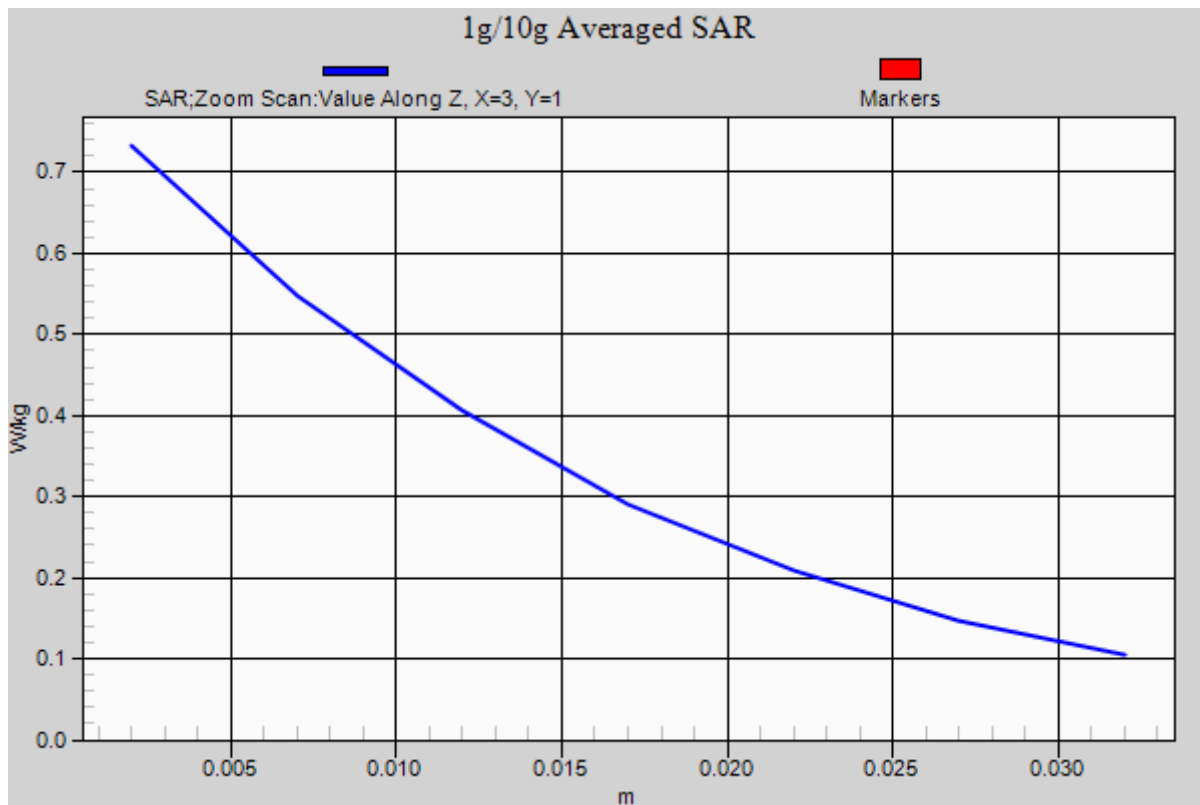
- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch251/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.774 W/kg

Ch251/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.365 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.837 mW/g
SAR(1 g) = 0.618 mW/g; SAR(10 g) = 0.432 mW/g
Maximum value of SAR (measured) = 0.733 W/kg

Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.365 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.765 mW/g
SAR(1 g) = 0.440 mW/g; SAR(10 g) = 0.264 mW/g
Maximum value of SAR (measured) = 0.622 W/kg





P24 GSM850_GPRS12_Left Side_1cm_Ch251

DUT: 121025C24

Communication System: GPRS12; Frequency: 848.8 MHz; Duty Cycle: 1:1.99986

Medium: B835_1031 Medium parameters used: $f = 849$ MHz; $\sigma = 1.002$ mho/m; $\epsilon_r = 56.791$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.8 °C ; Liquid Temperature : 20.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch251/Area Scan (31x91x1): Measurement grid: dx=20mm, dy=20mm

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

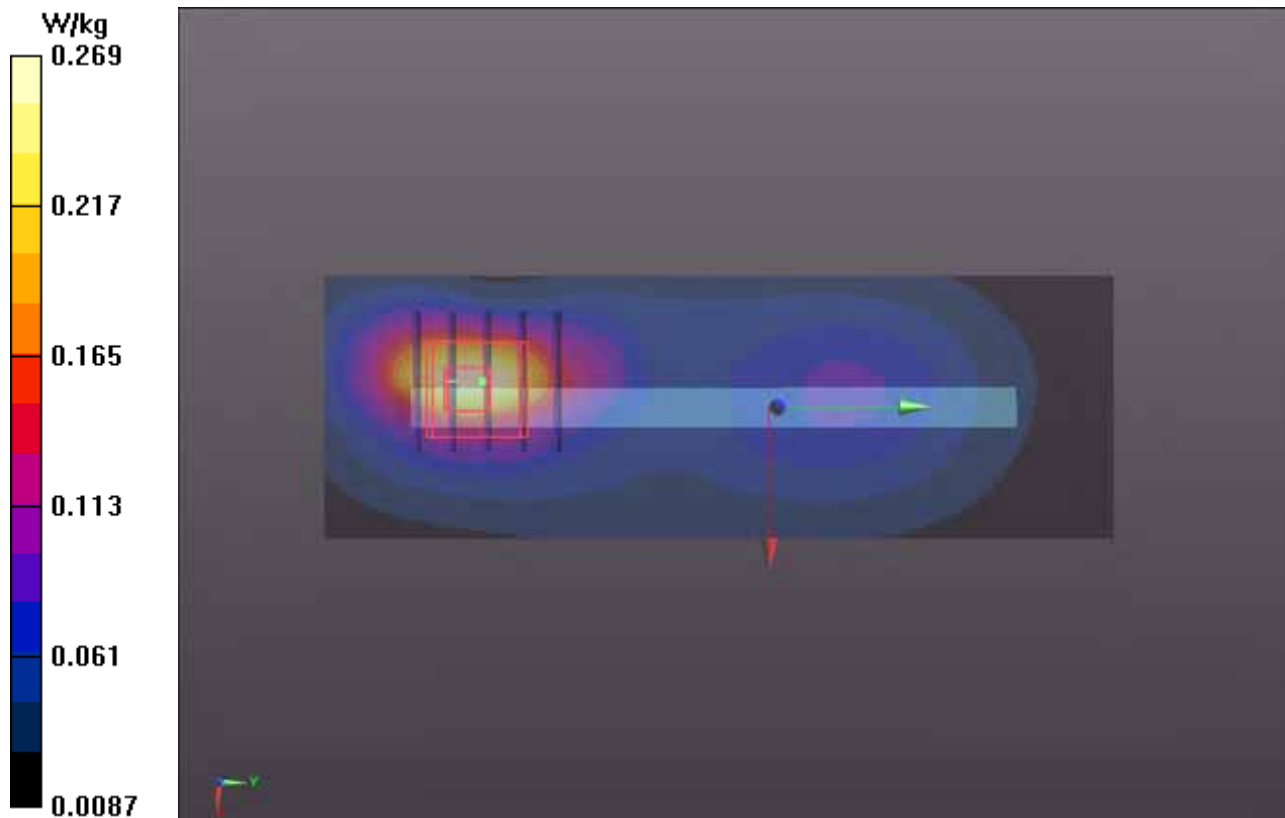
Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.258 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.439 mW/g

SAR(1 g) = 0.244 mW/g; SAR(10 g) = 0.132 mW/g

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



P25 GSM850_GPRS12_Right Side_1cm_Ch251

DUT: 121025C24

Communication System: GPRS12; Frequency: 848.8 MHz; Duty Cycle: 1:1.99986

Medium: B835_1031 Medium parameters used: $f = 849$ MHz; $\sigma = 1.002$ mho/m; $\epsilon_r = 56.791$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.8 °C ; Liquid Temperature : 20.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch251/Area Scan (31x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.262 W/kg

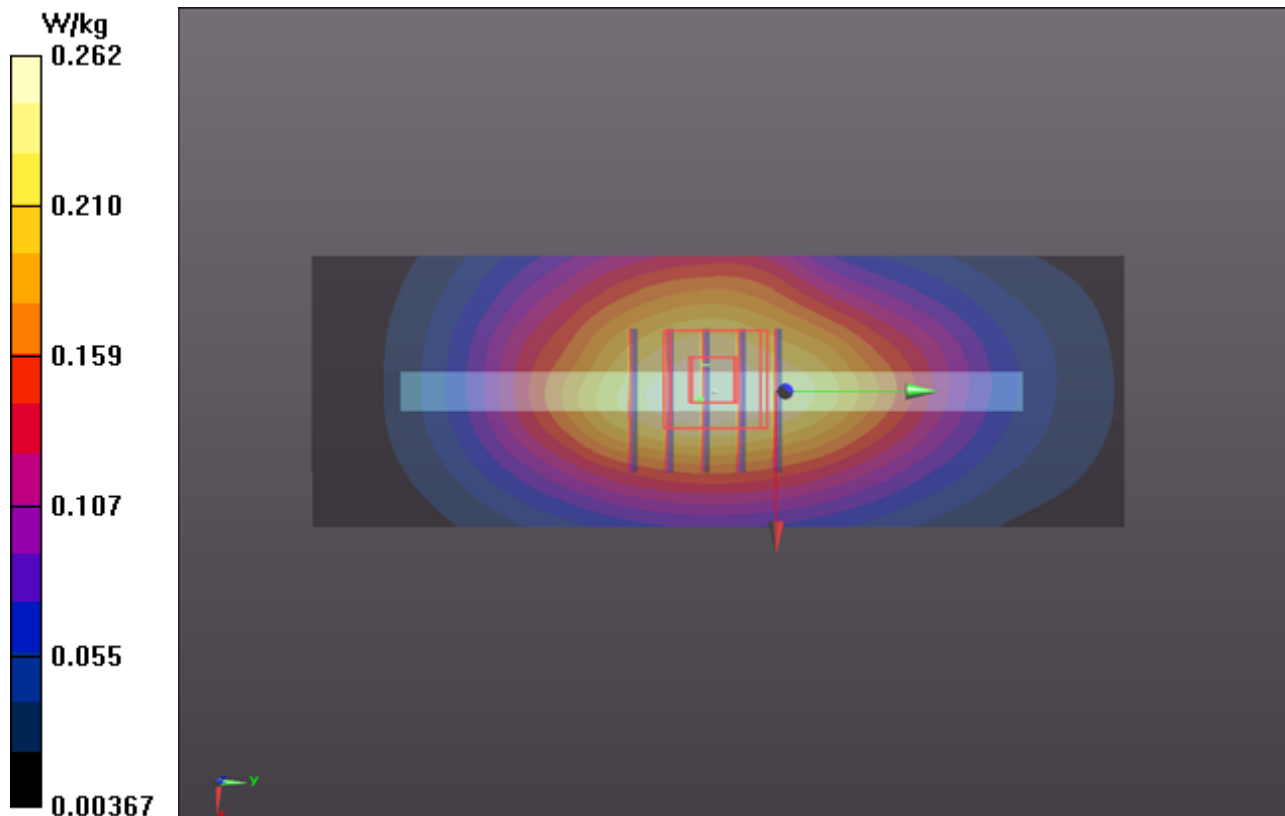
Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.090 V/m; Power Drift = 0.14dB

Peak SAR (extrapolated) = 0.444 mW/g

SAR(1 g) = 0.324 mW/g; SAR(10 g) = 0.230 mW/g

Maximum value of SAR (measured) = 0.382 W/kg



P26 GSM850_GPRS12_Buttom Side_1cm_Ch251

DUT: 121025C24

Communication System: GPRS12; Frequency: 848.8 MHz; Duty Cycle: 1:1.99986

Medium: B835_1031 Medium parameters used: $f = 849$ MHz; $\sigma = 1.002$ mho/m; $\epsilon_r = 56.791$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.8 °C ; Liquid Temperature : 20.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch251/Area Scan (31x61x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.217 W/kg

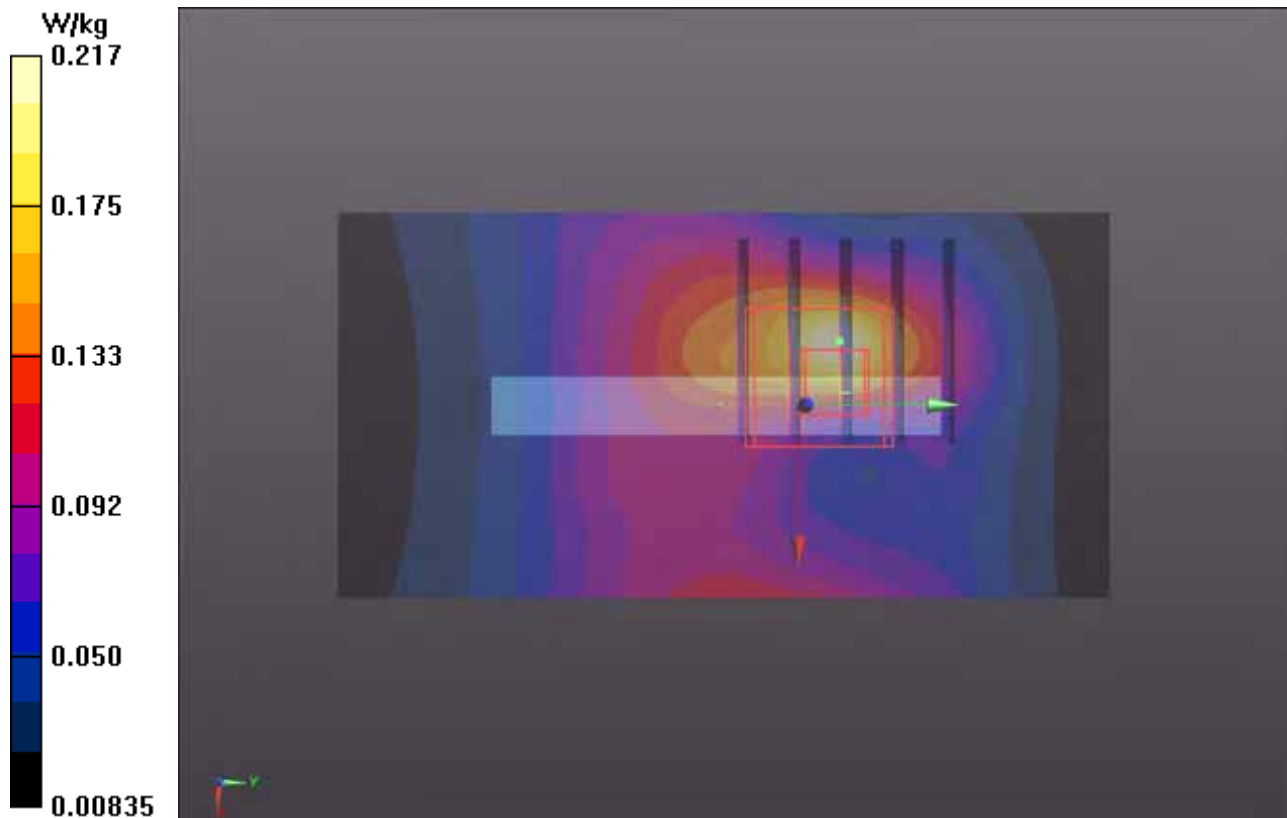
Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.560 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.682 mW/g

SAR(1 g) = 0.370 mW/g; SAR(10 g) = 0.185 mW/g

Maximum value of SAR (measured) = 0.525 W/kg



P27 GSM850_GSM_Front Face_1cm_Ch251_Earphone

DUT: 121025C24

Communication System: GSM; Frequency: 848.8 MHz; Duty Cycle: 1:8.30042

Medium: B835_1031 Medium parameters used: $f = 849$ MHz; $\sigma = 1.002$ mho/m; $\epsilon_r = 56.791$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.8 °C ; Liquid Temperature : 20.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch251/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.487 W/kg

Ch251/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.389 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.625 mW/g

SAR(1 g) = 0.403 mW/g; SAR(10 g) = 0.241 mW/g

Maximum value of SAR (measured) = 0.510 W/kg

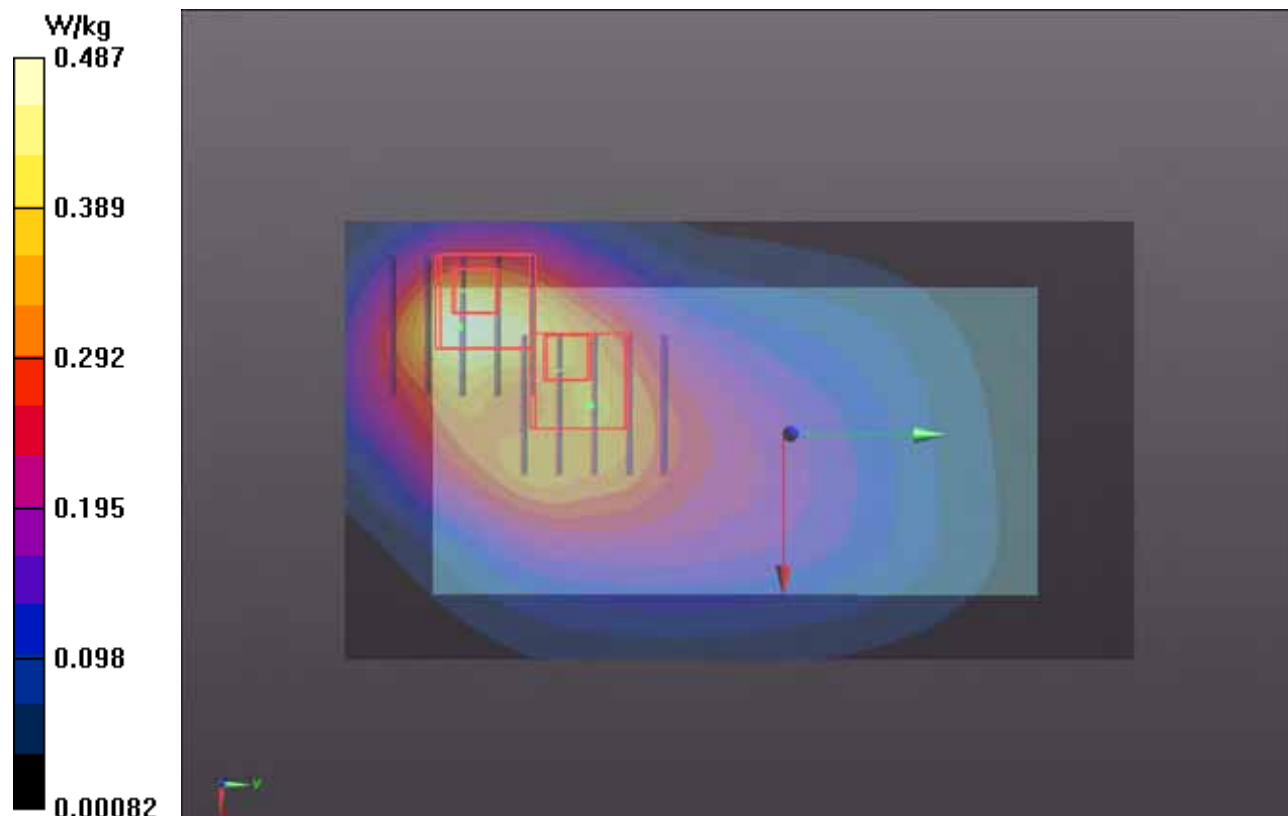
Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.389 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.635 mW/g

SAR(1 g) = 0.355 mW/g; SAR(10 g) = 0.192 mW/g

Maximum value of SAR (measured) = 0.485 W/kg



P28 GSM850_GSM_Rear Face_1cm_Ch251_Earphone

DUT: 121025C24

Communication System: GSM; Frequency: 848.8 MHz; Duty Cycle: 1:8.30042

Medium: B835_1031 Medium parameters used: $f = 849$ MHz; $\sigma = 1.002$ mho/m; $\epsilon_r = 56.791$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.8 °C ; Liquid Temperature : 20.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch251/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.543 W/kg

Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.062 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.709 mW/g

SAR(1 g) = 0.406 mW/g; SAR(10 g) = 0.218 mW/g

Maximum value of SAR (measured) = 0.556 W/kg

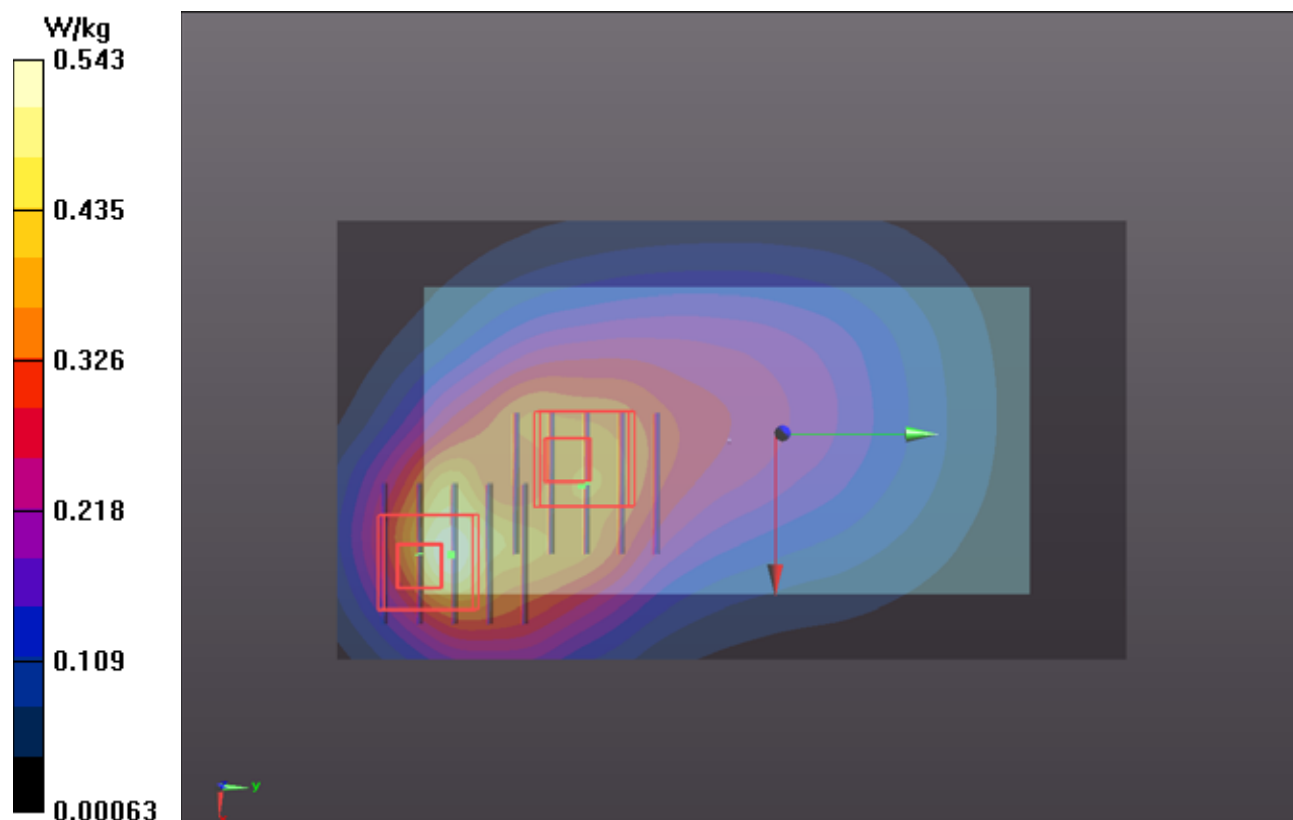
Ch251/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.062 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.507 mW/g

SAR(1 g) = 0.358 mW/g; SAR(10 g) = 0.250 mW/g

Maximum value of SAR (measured) = 0.422 W/kg



P29 GSM1900_GPRS12_Front Face_1cm_Ch512

DUT: 121025C24

Communication System: GPRS12; Frequency: 1850.2 MHz; Duty Cycle: 1:1.99986

Medium: B1900_1101 Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 53.591$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.69, 6.69, 6.69); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch512/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

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

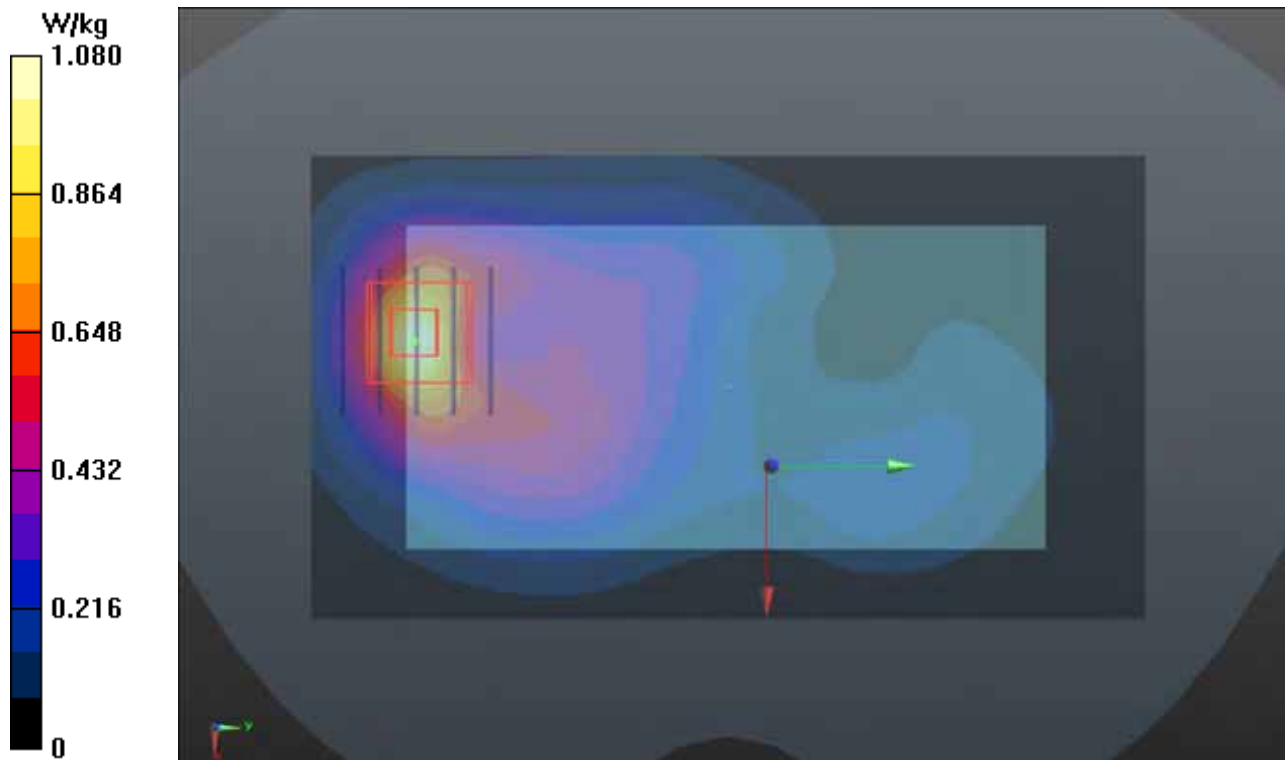
Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.509 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 1.295 mW/g

SAR(1 g) = 0.758 mW/g; SAR(10 g) = 0.419 mW/g

Maximum value of SAR (measured) = 1.05 W/kg



P30 GSM1900_GPRS12_Rear Face_1cm_Ch512

DUT: 121025C24

Communication System: GPRS12; Frequency: 1850.2 MHz; Duty Cycle: 1:1.99986

Medium: B1900_1101 Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 53.591$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.69, 6.69, 6.69); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch512/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 1.12 W/kg

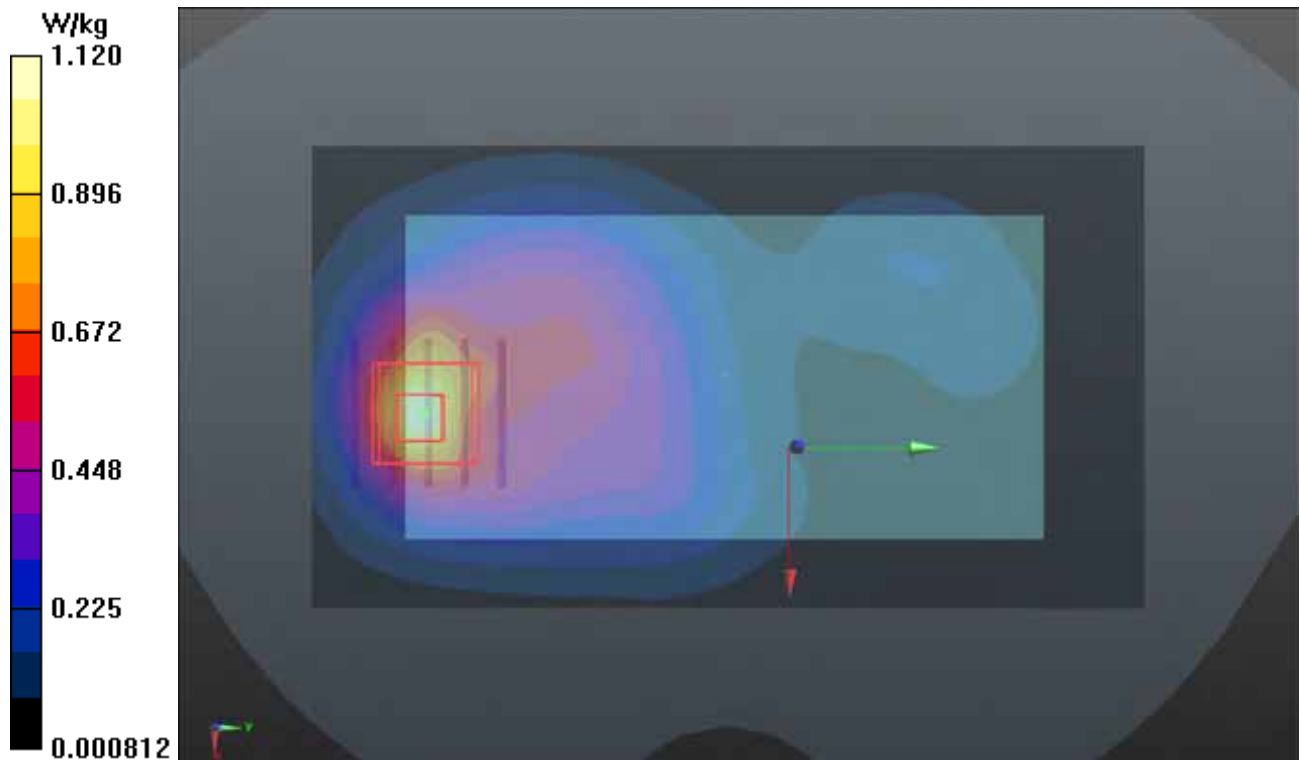
Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.693 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.284 mW/g

SAR(1 g) = 0.763 mW/g; SAR(10 g) = 0.429 mW/g

Maximum value of SAR (measured) = 1.05 W/kg



P31 GSM1900_GPRS12_Left Side_1cm_Ch512

DUT: 121025C24

Communication System: GPRS12; Frequency: 1850.2 MHz; Duty Cycle: 1:1.99986

Medium: B1900_1101 Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 53.591$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.69, 6.69, 6.69); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch512/Area Scan (31x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.286 W/kg

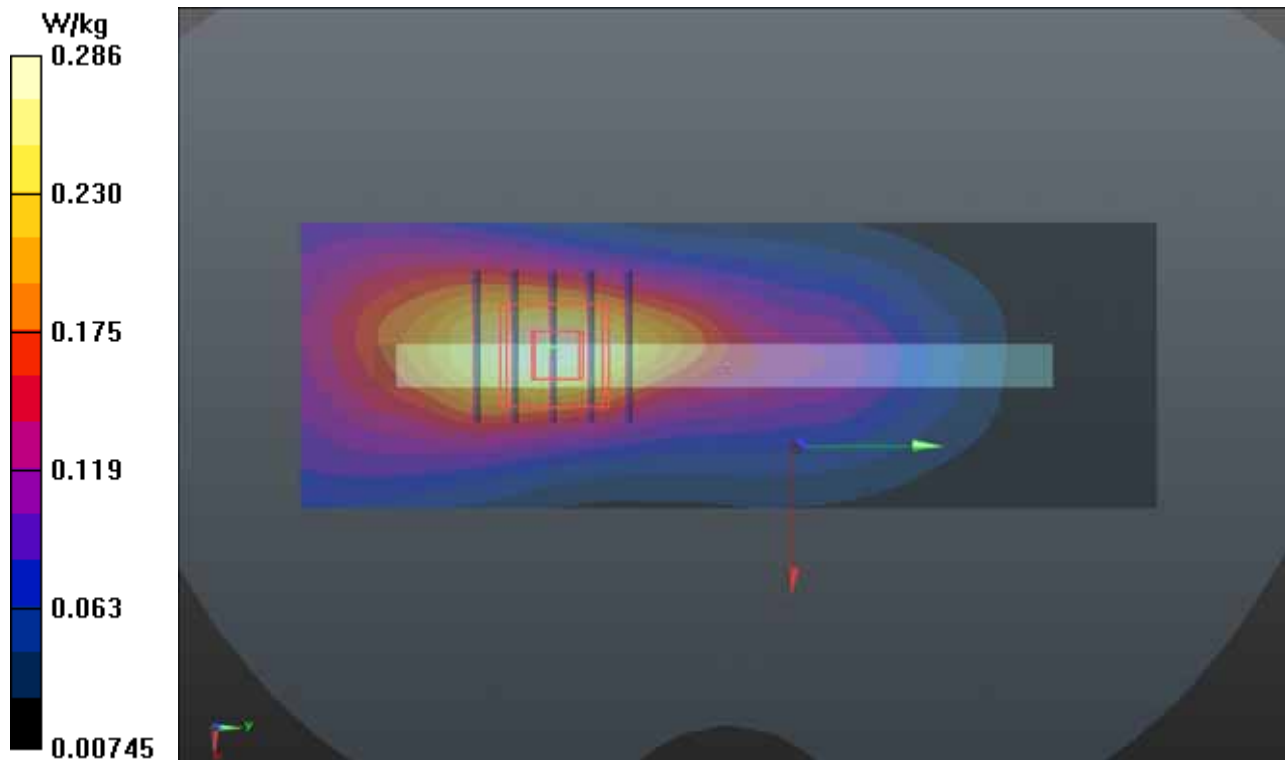
Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.025 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.394 mW/g

SAR(1 g) = 0.240 mW/g; SAR(10 g) = 0.140 mW/g

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



P32 GSM1900_GPRS12_Right Side_1cm_Ch512

DUT: 121025C24

Communication System: GPRS12; Frequency: 1850.2 MHz; Duty Cycle: 1:1.99986

Medium: B1900_1101 Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 53.591$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.69, 6.69, 6.69); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch512/Area Scan (31x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.398 W/kg

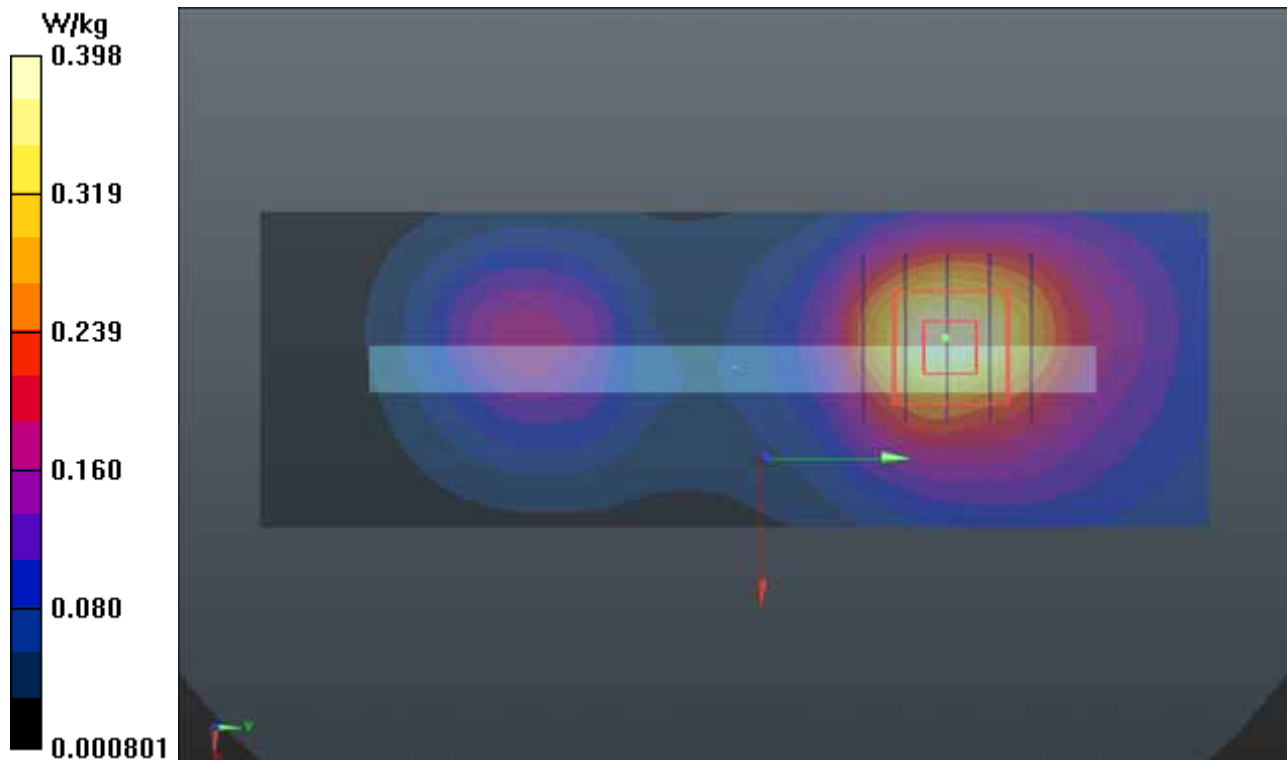
Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.241 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.527 mW/g

SAR(1 g) = 0.331 mW/g; SAR(10 g) = 0.194 mW/g

Maximum value of SAR (measured) = 0.436 W/kg



P57 GSM1900_GPRS12_Buttom Side_1cm_Ch512

DUT: 121025C24

Communication System: GPRS12; Frequency: 1850.2 MHz; Duty Cycle: 1:2

Medium: B1900_1102 Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch512/Area Scan (31x51x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.877 mW/g

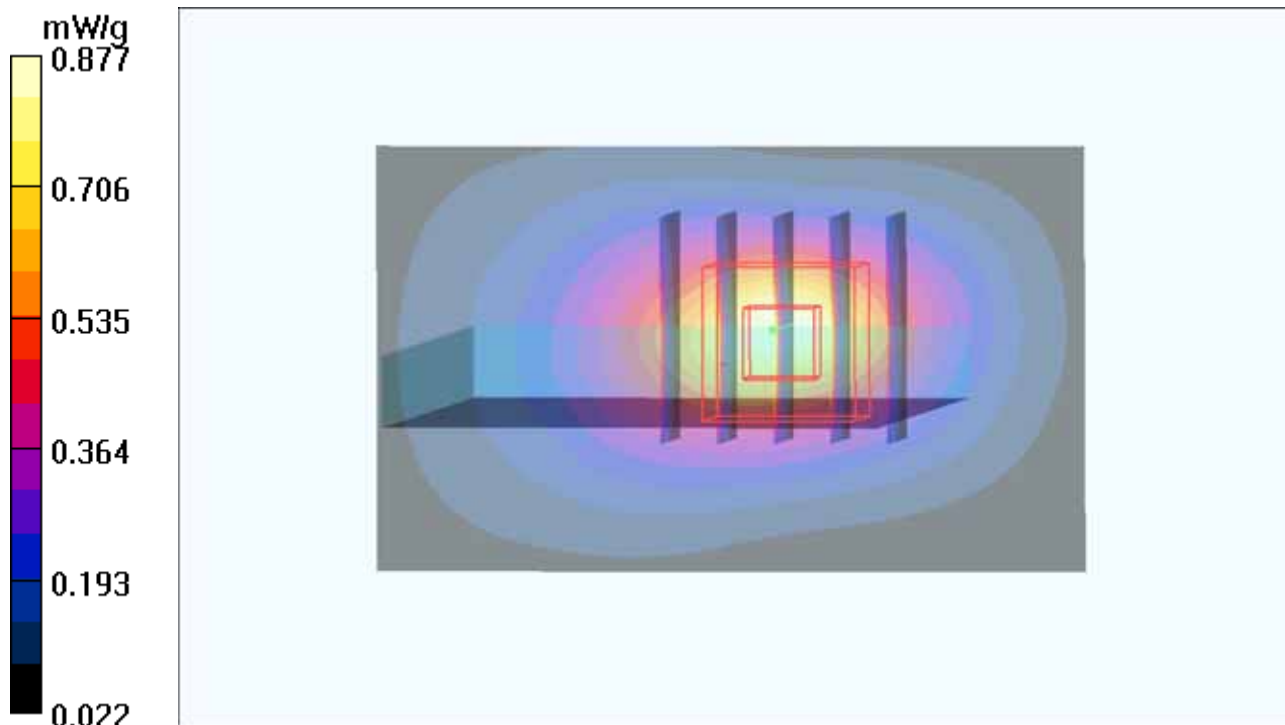
Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 27.1 V/m; Power Drift = -0.027 dB

Peak SAR (extrapolated) = 1.42 W/kg

SAR(1 g) = 0.832 mW/g; SAR(10 g) = 0.432 mW/g

Maximum value of SAR (measured) = 1.12 mW/g



P58 GSM1900_GPRS12_Buttom Side_1cm_Ch661

DUT: 121025C24

Communication System: GPRS12; Frequency: 1880 MHz; Duty Cycle: 1:2

Medium: B1900_1102 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 53.1$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch661/Area Scan (31x51x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 1.22 mW/g

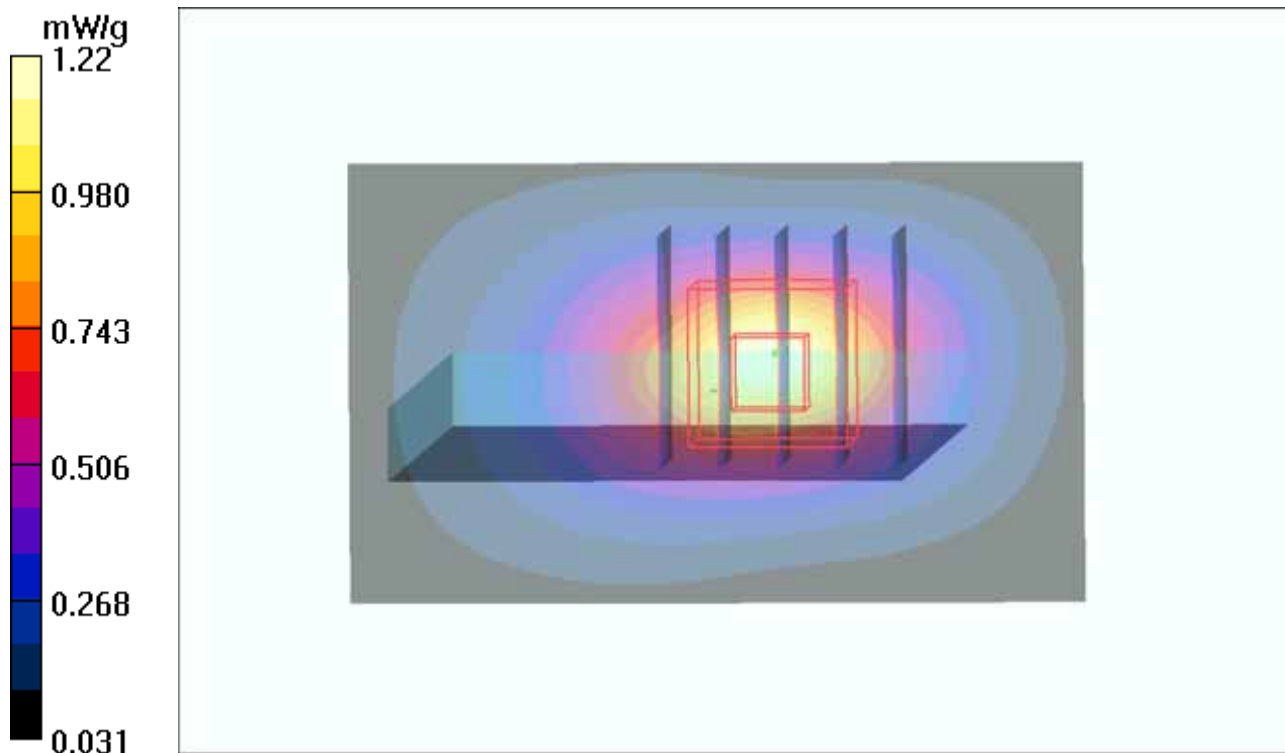
Ch661/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 31.6 V/m; Power Drift = -0.072 dB

Peak SAR (extrapolated) = 1.98 W/kg

SAR(1 g) = 1.15 mW/g; SAR(10 g) = 0.591 mW/g

Maximum value of SAR (measured) = 1.53 mW/g



P59 GSM1900_GPRS12_Buttom Side_1cm_Ch810

DUT: 121025C24

Communication System: GPRS12; Frequency: 1909.8 MHz; Duty Cycle: 1:2

Medium: B1900_1102 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (31x51x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 1.23 mW/g

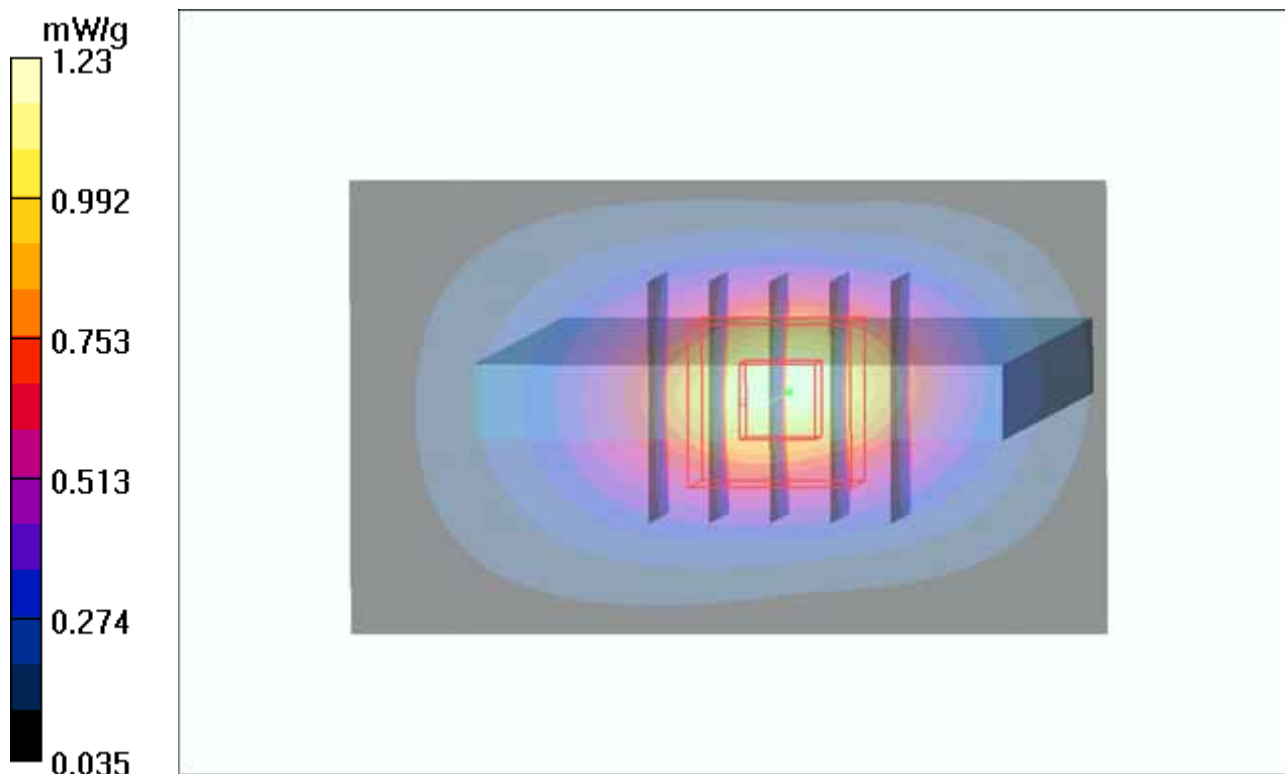
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 31.5 V/m; Power Drift = -0.053 dB

Peak SAR (extrapolated) = 2.07 W/kg

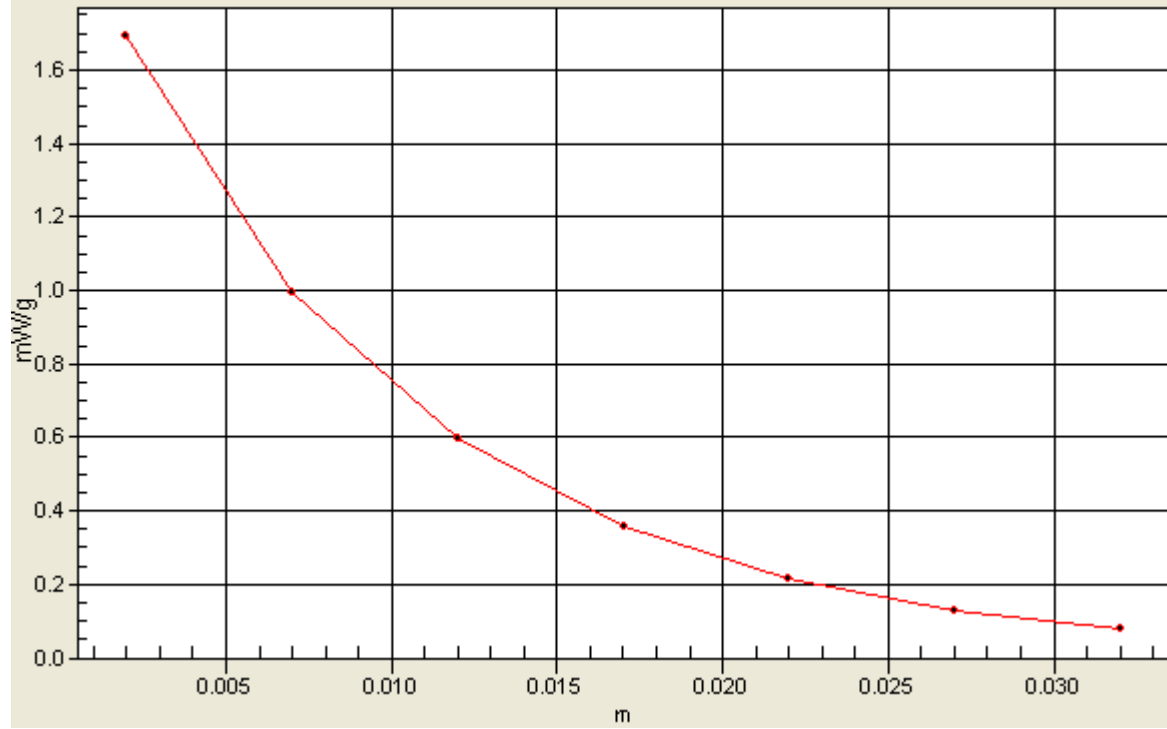
SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.599 mW/g

Maximum value of SAR (measured) = 1.69 mW/g



1g/10g Averaged SAR

SAR; Zoom Scan: Value Along Z, X=2, Y=2



P34 GSM1900_GSM_Front Face_1cm_Ch512_Earphone

DUT: 121025C24

Communication System: GSM; Frequency: 1850.2 MHz; Duty Cycle: 1:8.30042

Medium: B1900_1101 Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 53.591$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.69, 6.69, 6.69); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch512/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20 mm

Maximum value of SAR (interpolated) = 0.630 W/kg

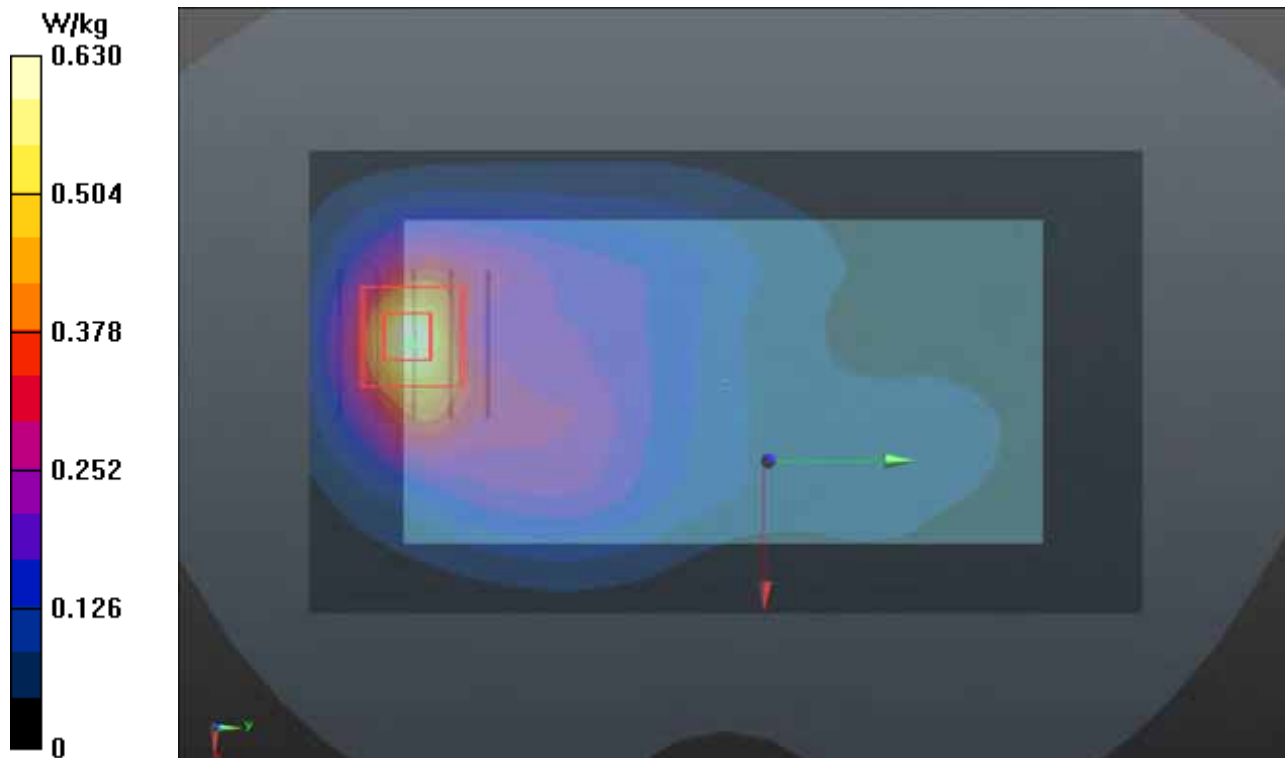
Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.383 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.762 mW/g

SAR(1 g) = 0.440 mW/g; SAR(10 g) = 0.241 mW/g

Maximum value of SAR (measured) = 0.613 W/kg



P35 GSM1900_GSM_Rear Face_1cm_Ch512_Earphone

DUT: 121025C24

Communication System: GSM; Frequency: 1850.2 MHz; Duty Cycle: 1:8.30042

Medium: B1900_1101 Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 53.591$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.69, 6.69, 6.69); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM with CRP v5.0 Front; Type: QD000P40CD; Serial: TP:1653
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch512/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.616 W/kg

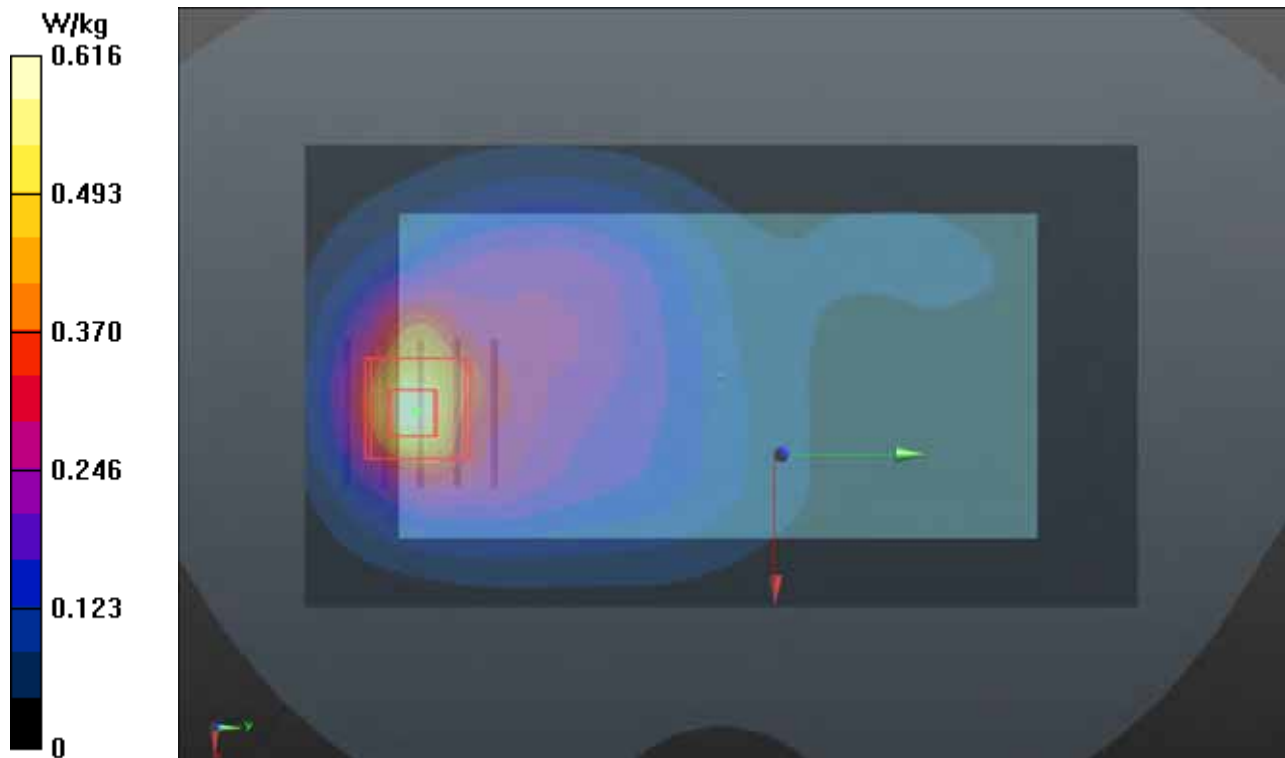
Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.645 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.728 mW/g

SAR(1 g) = 0.428 mW/g; SAR(10 g) = 0.239 mW/g

Maximum value of SAR (measured) = 0.592 W/kg



P43 WCDMA V_RMC12.2K_Front Face_1cm_Ch4132

DUT: 121025C24

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

Medium: B835_1101 Medium parameters used: $f = 826.4$ MHz; $\sigma = 0.954$ mho/m; $\epsilon_r = 54.796$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch4132/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.764 W/kg

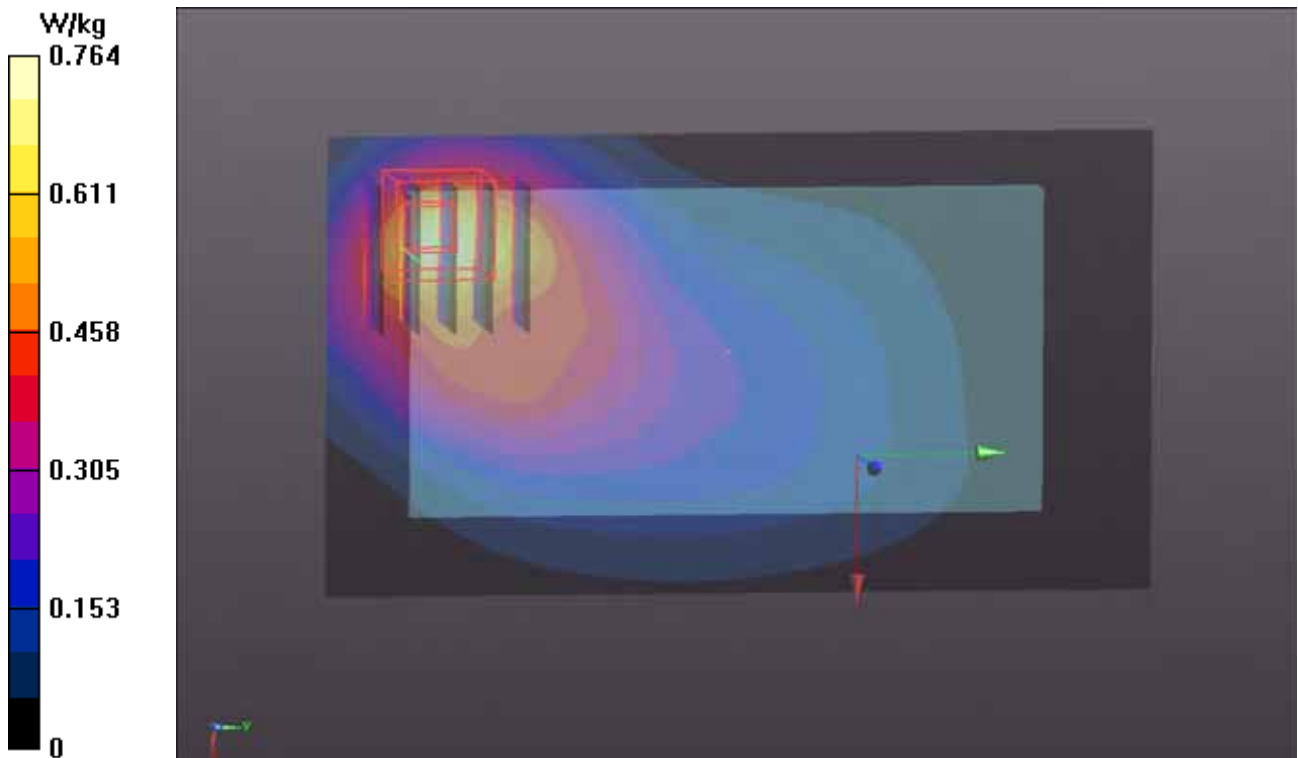
Ch4132/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.896 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.845 mW/g

SAR(1 g) = 0.471 mW/g; SAR(10 g) = 0.270 mW/g

Maximum value of SAR (measured) = 0.638 W/kg



P44 WCDMA V_RMC12.2K_Rear Face_1cm_Ch4132

DUT: 121025C24

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

Medium: B835_1101 Medium parameters used: $f = 826.4$ MHz; $\sigma = 0.954$ mho/m; $\epsilon_r = 54.796$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch4132/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.845 W/kg

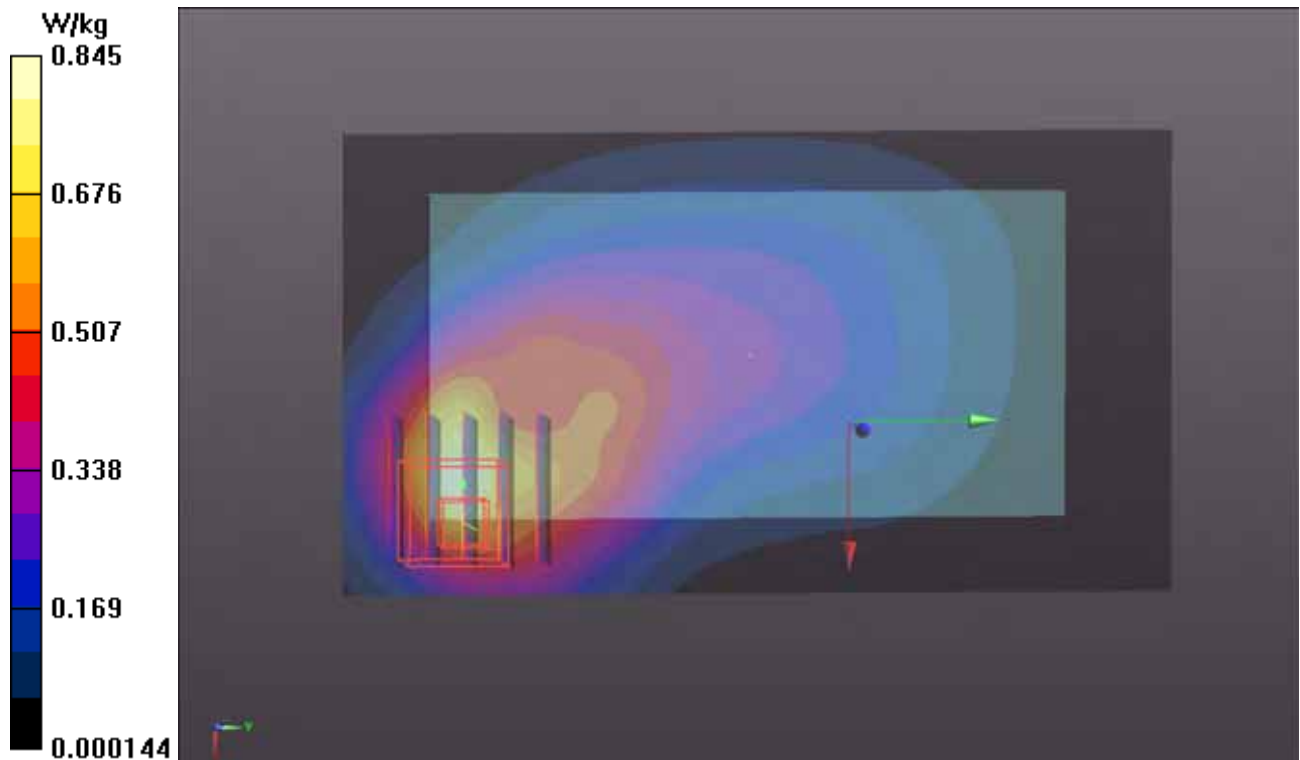
Ch4132/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.932 V/m; Power Drift = 0.05 dB

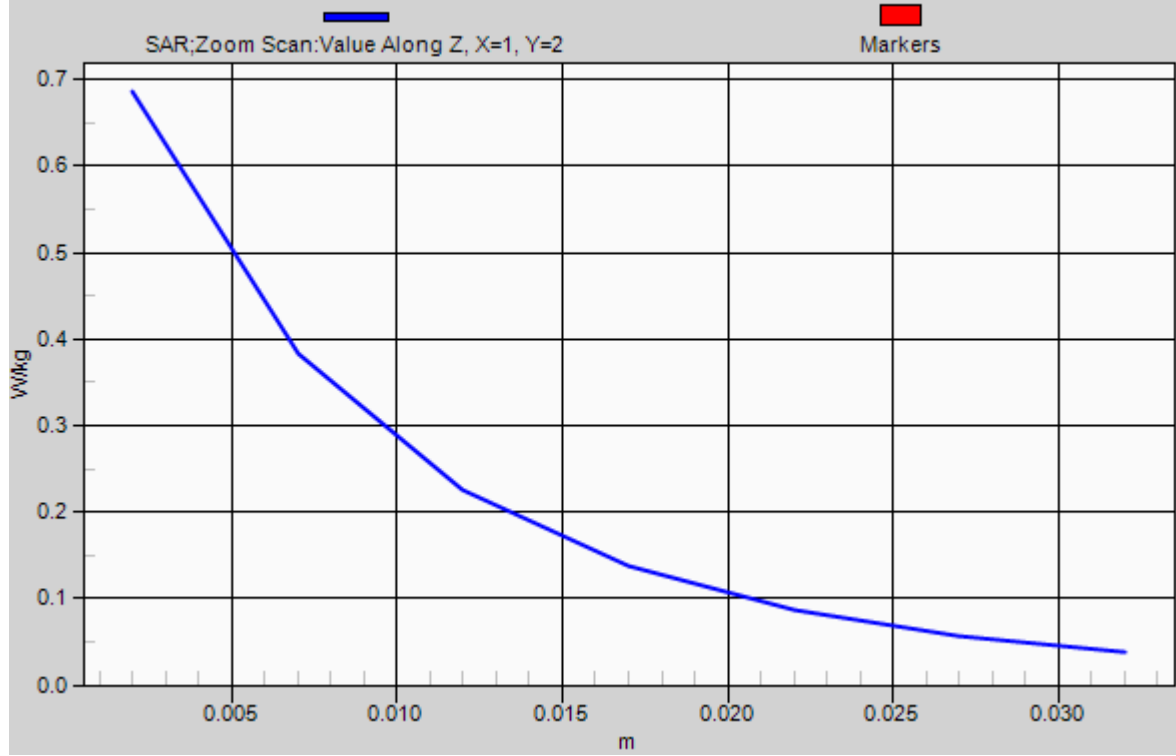
Peak SAR (extrapolated) = 0.883 mW/g

SAR(1 g) = 0.488 mW/g; SAR(10 g) = 0.280 mW/g

Maximum value of SAR (measured) = 0.686 W/kg



1g/10g Averaged SAR



P45 WCDMA V_RMC12.2K_Left Side_1cm_Ch4132

DUT: 121025C24

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

Medium: B835_1101 Medium parameters used: $f = 826.4$ MHz; $\sigma = 0.954$ mho/m; $\epsilon_r = 54.796$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C; Liquid Temperature : 20.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch4132/Area Scan (31x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.196 W/kg

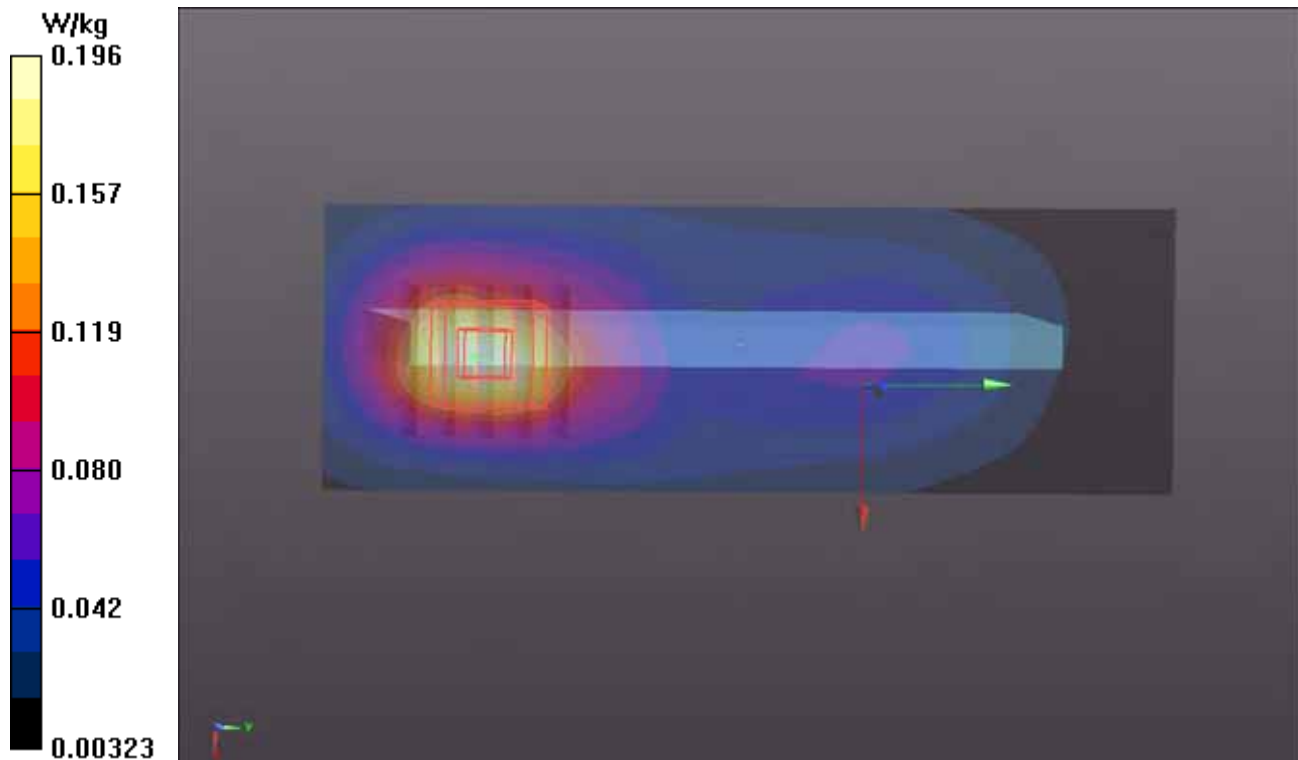
Ch4132/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.376 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.390 mW/g

SAR(1 g) = 0.212 mW/g; SAR(10 g) = 0.111 mW/g

Maximum value of SAR (measured) = 0.300 W/kg



P46 WCDMA V_RMC12.2K_Right Side_1cm_Ch4132

DUT: 121025C24

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

Medium: B835_1101 Medium parameters used: $f = 826.4$ MHz; $\sigma = 0.954$ mho/m; $\epsilon_r = 54.796$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch4132/Area Scan (31x91x1): Measurement grid: dx=20mm, dy=20mm

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

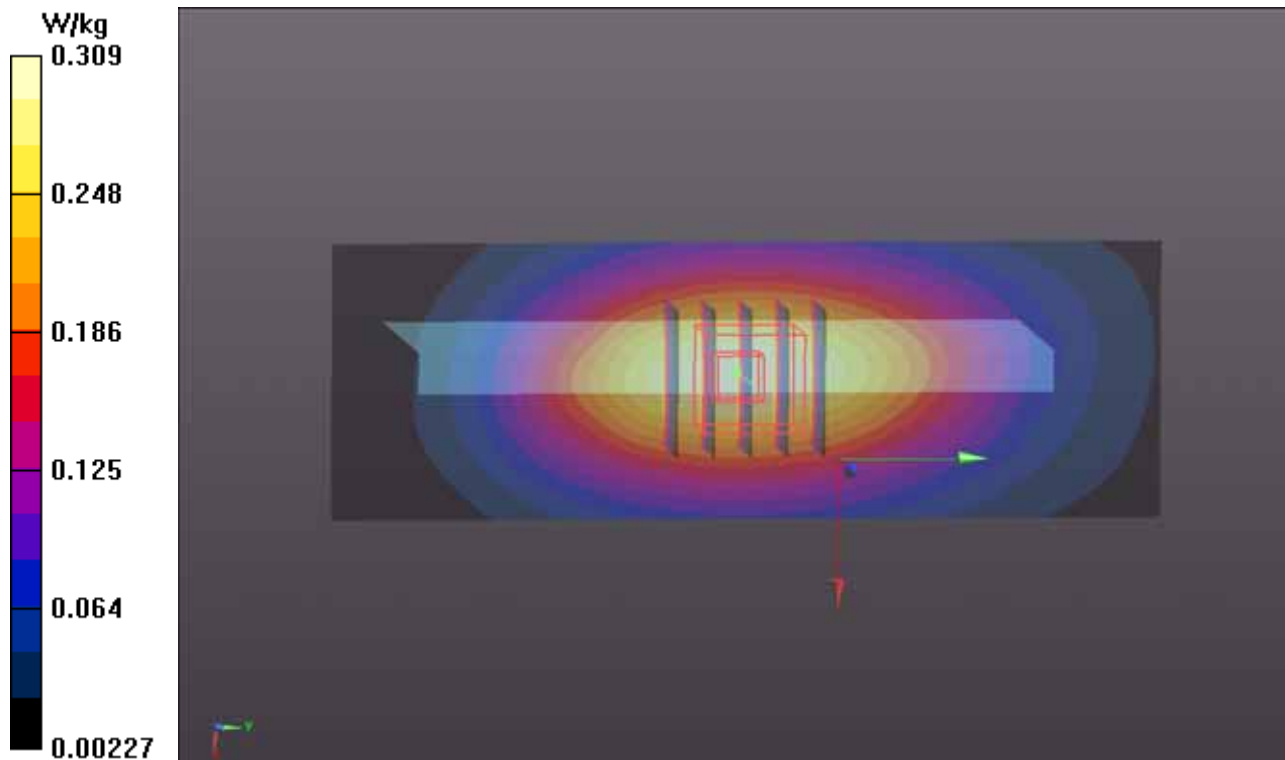
Ch4132/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.553 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.358 mW/g

SAR(1 g) = 0.262 mW/g; SAR(10 g) = 0.184 mW/g

Maximum value of SAR (measured) = 0.317 W/kg



P47 WCDMA V_RMC12.2K_Bottom Side_1cm_Ch4132

DUT: 121025C24

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

Medium: B835_1101 Medium parameters used: $f = 826.4$ MHz; $\sigma = 0.954$ mho/m; $\epsilon_r = 54.796$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch4132/Area Scan (31x61x1): Measurement grid: dx=20mm, dy=20mm

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

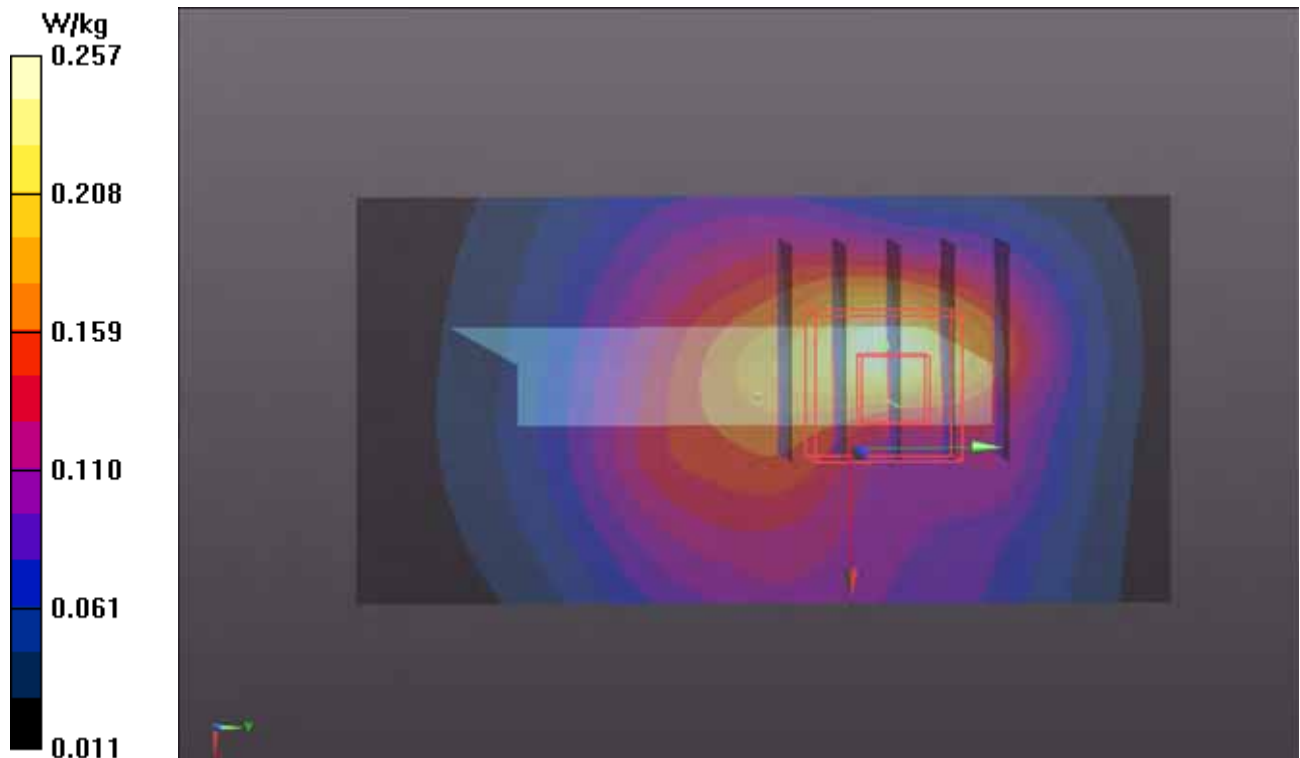
Ch4132/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.475 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.768 mW/g

SAR(1 g) = 0.402 mW/g; SAR(10 g) = 0.197 mW/g

Maximum value of SAR (measured) = 0.580 W/kg



P48 WCDMA V_RMC12.2K_Front Face_1cm_Ch4132_Earphone

DUT: 121025C24

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

Medium: B835_1101 Medium parameters used: $f = 826.4$ MHz; $\sigma = 0.954$ mho/m; $\epsilon_r = 54.796$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch4132/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.560 W/kg

Ch4132/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.353 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.544 mW/g

SAR(1 g) = 0.398 mW/g; SAR(10 g) = 0.279 mW/g

Maximum value of SAR (measured) = 0.467 W/kg

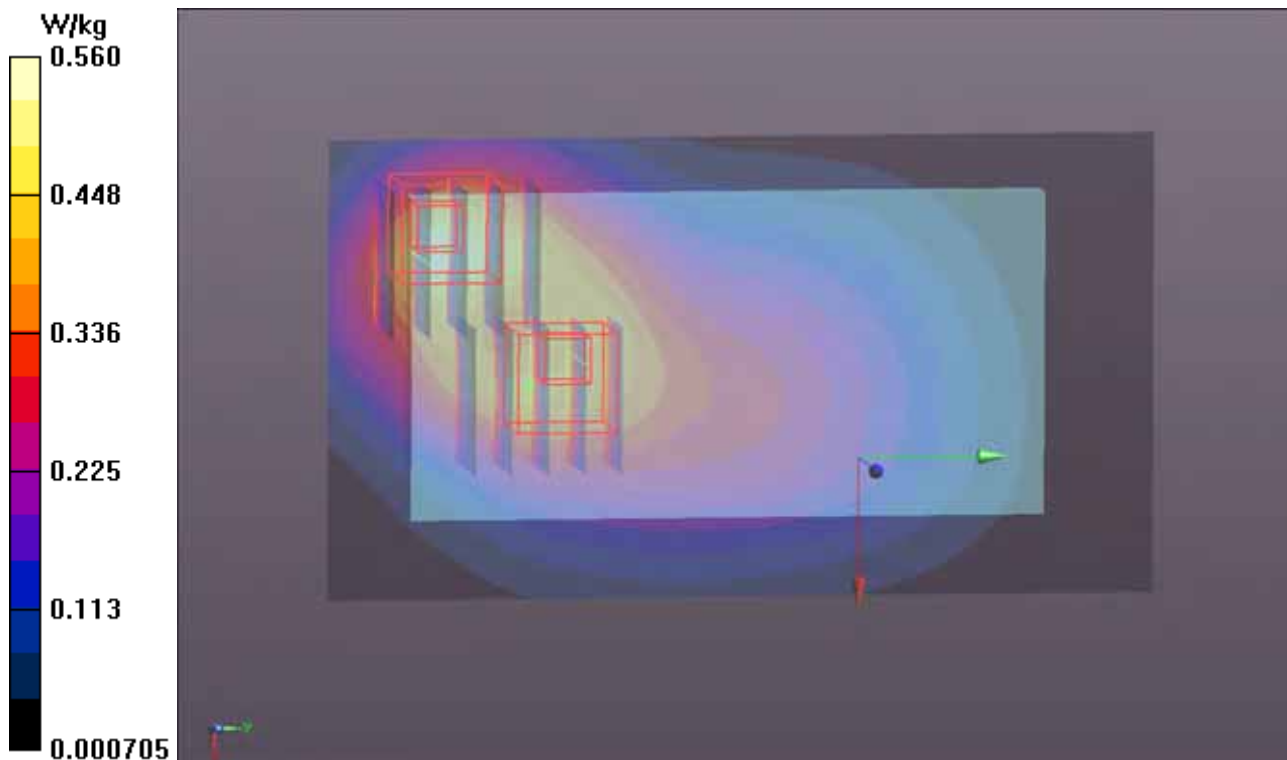
Ch4132/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.353 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.605 mW/g

SAR(1 g) = 0.345 mW/g; SAR(10 g) = 0.202 mW/g

Maximum value of SAR (measured) = 0.470 W/kg



P49 WCDMA V_RMC12.2K_Rear Face_1cm_Ch4132_Earphone

DUT: 121025C24

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

Medium: B835_1101 Medium parameters used: $f = 826.4$ MHz; $\sigma = 0.954$ mho/m; $\epsilon_r = 54.796$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch4132/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.697 W/kg

Ch4132/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.418 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.616 mW/g

SAR(1 g) = 0.449 mW/g; SAR(10 g) = 0.319 mW/g

Maximum value of SAR (measured) = 0.527 W/kg

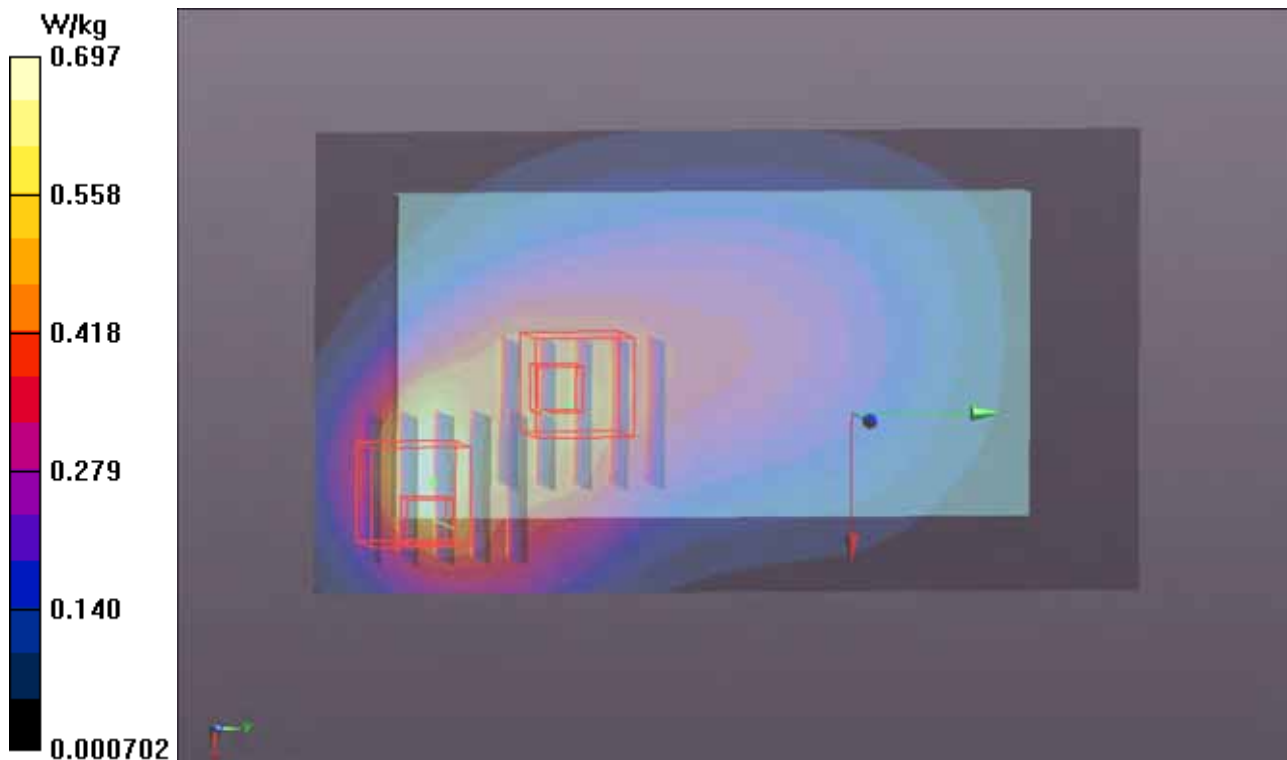
Ch4132/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.418 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.742 mW/g

SAR(1 g) = 0.409 mW/g; SAR(10 g) = 0.236 mW/g

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



P36 WCDMA II_RMC12.2K_Front Face_1cm_Ch9400

DUT: 121025C24

Communication System: WCDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: B1900_1102 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 53.1$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch9400/Area Scan (61x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 1.29 mW/g

Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.5 V/m; Power Drift = -0.016 dB

Peak SAR (extrapolated) = 1.71 W/kg

SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.569 mW/g

Maximum value of SAR (measured) = 1.41 mW/g

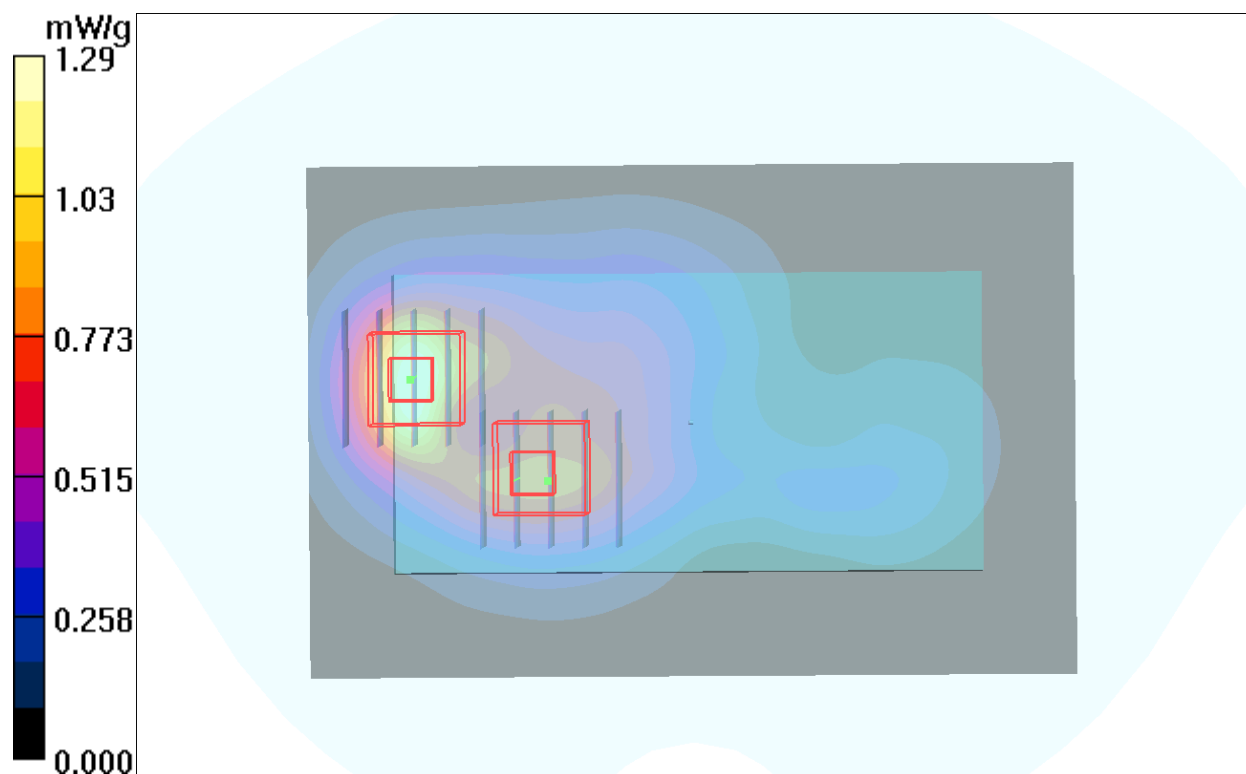
Ch9400/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.5 V/m; Power Drift = -0.016 dB

Peak SAR (extrapolated) = 0.979 W/kg

SAR(1 g) = 0.640 mW/g; SAR(10 g) = 0.407 mW/g

Maximum value of SAR (measured) = 0.816 mW/g



P37 WCDMA II_RMC12.2K_Rear Face_1cm_Ch9400

DUT: 121025C24

Communication System: WCDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: B1900_1102 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 53.1$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch9400/Area Scan (61x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 1.50 mW/g

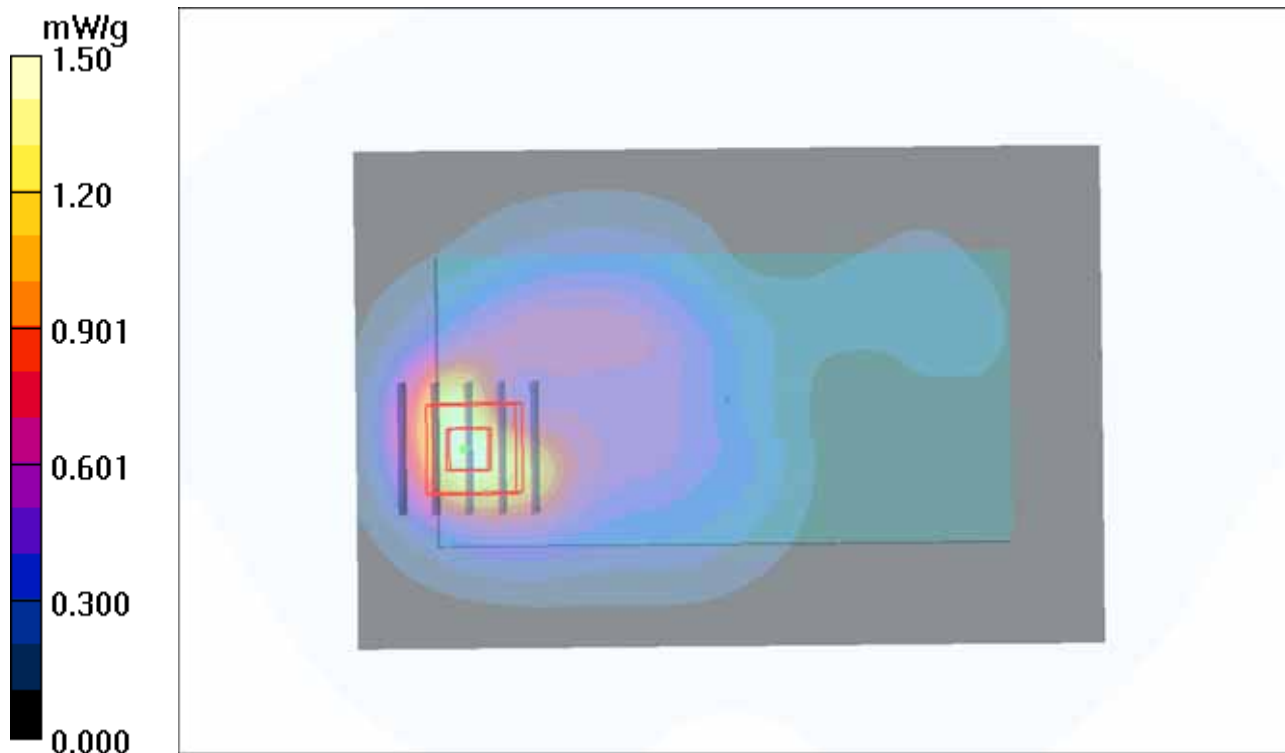
Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.6 V/m; Power Drift = 0.040 dB

Peak SAR (extrapolated) = 2.13 W/kg

SAR(1 g) = 1.25 mW/g; SAR(10 g) = 0.692 mW/g

Maximum value of SAR (measured) = 1.73 mW/g



P38 WCDMA II_RMC12.2K_Left Side_1cm_Ch9400

DUT: 121025C24

Communication System: WCDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: B1900_1102 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 53.1$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch9400/Area Scan (31x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.384 mW/g

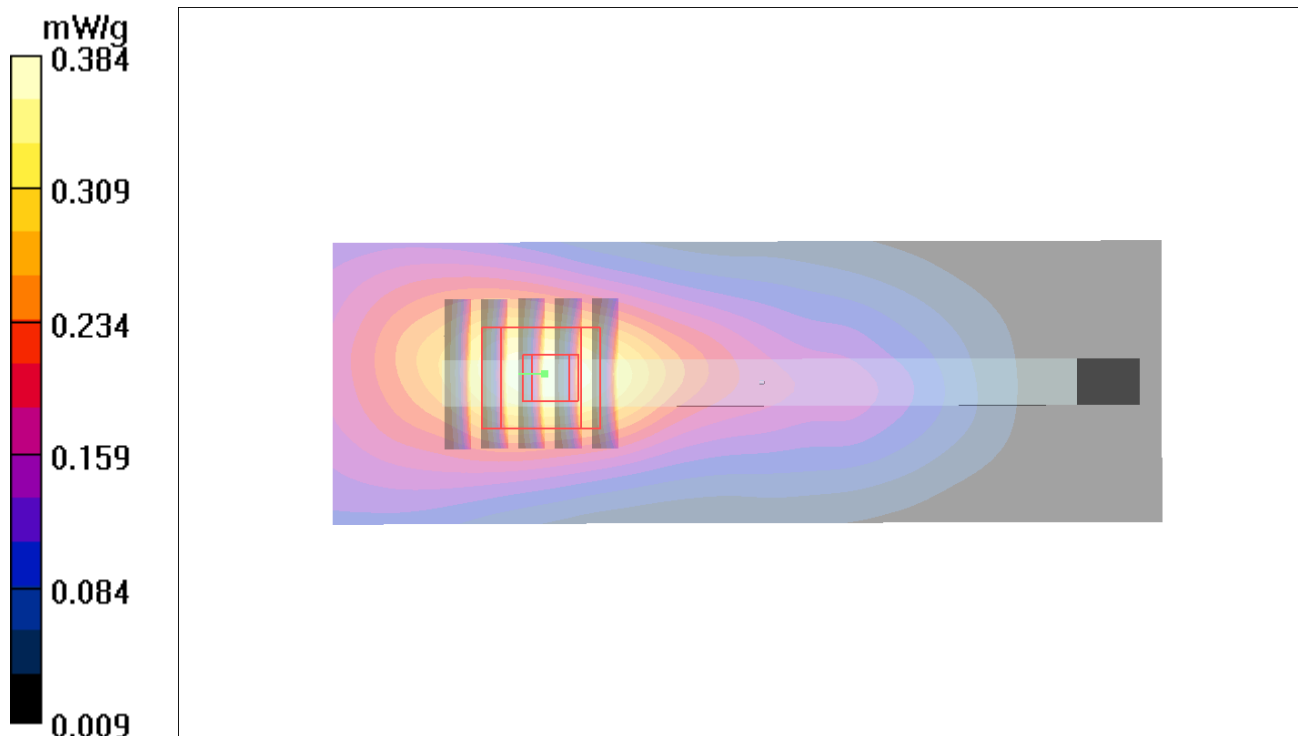
Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.9 V/m; Power Drift = -0.081 dB

Peak SAR (extrapolated) = 0.566 W/kg

SAR(1 g) = 0.338 mW/g; SAR(10 g) = 0.196 mW/g

Maximum value of SAR (measured) = 0.456 mW/g



P39 WCDMA II_RMC12.2K_Right Side_1cm_Ch9400

DUT: 121025C24

Communication System: WCDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: B1900_1102 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 53.1$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch9400/Area Scan (31x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.491 mW/g

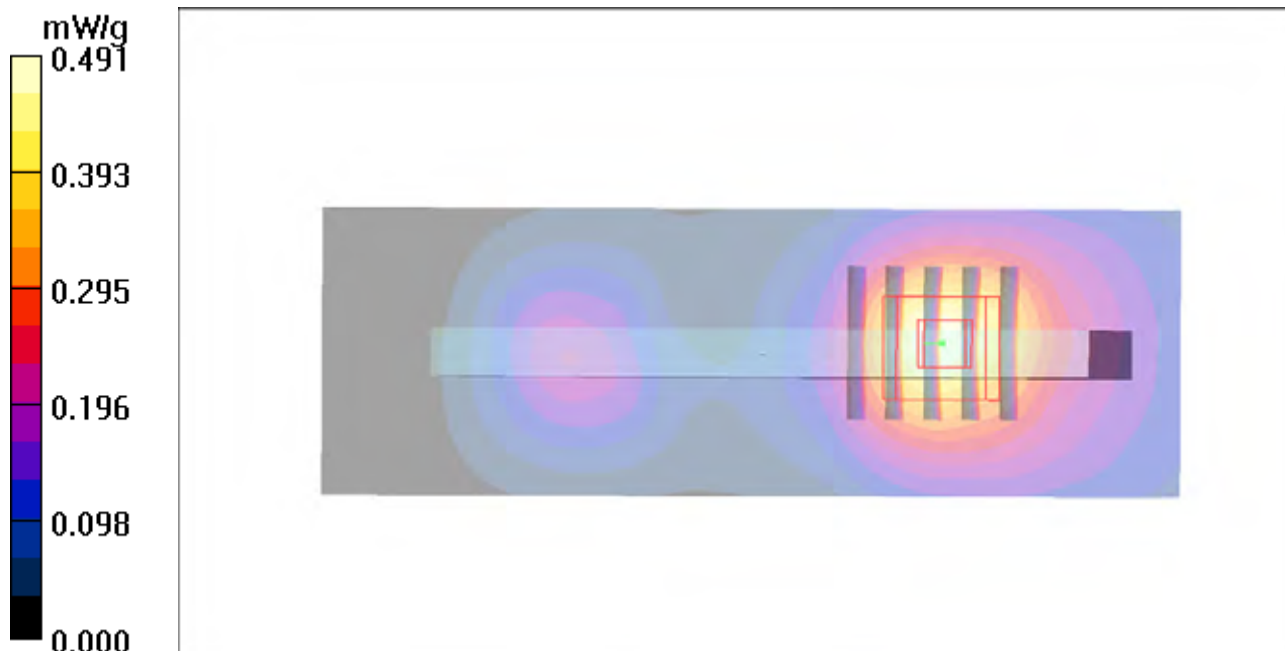
Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.03 V/m; Power Drift = -0.113 dB

Peak SAR (extrapolated) = 0.682 W/kg

SAR(1 g) = 0.432 mW/g; SAR(10 g) = 0.255 mW/g

Maximum value of SAR (measured) = 0.571 mW/g



P40 WCDMA II_RMC12.2K_Bottom Side_1cm_Ch9400

DUT: 121025C24

Communication System: WCDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: B1900_1102 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 53.1$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch9400/Area Scan (31x61x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 1.52 mW/g

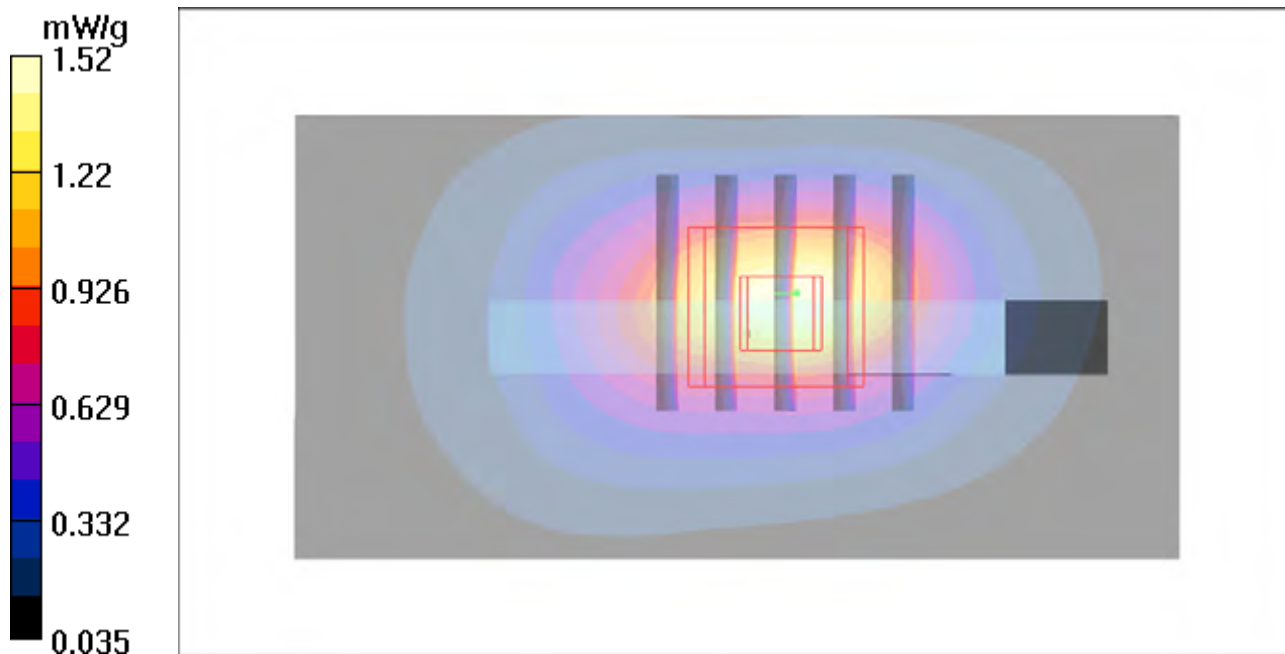
Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 33.1 V/m; Power Drift = -0.013 dB

Peak SAR (extrapolated) = 2.34 W/kg

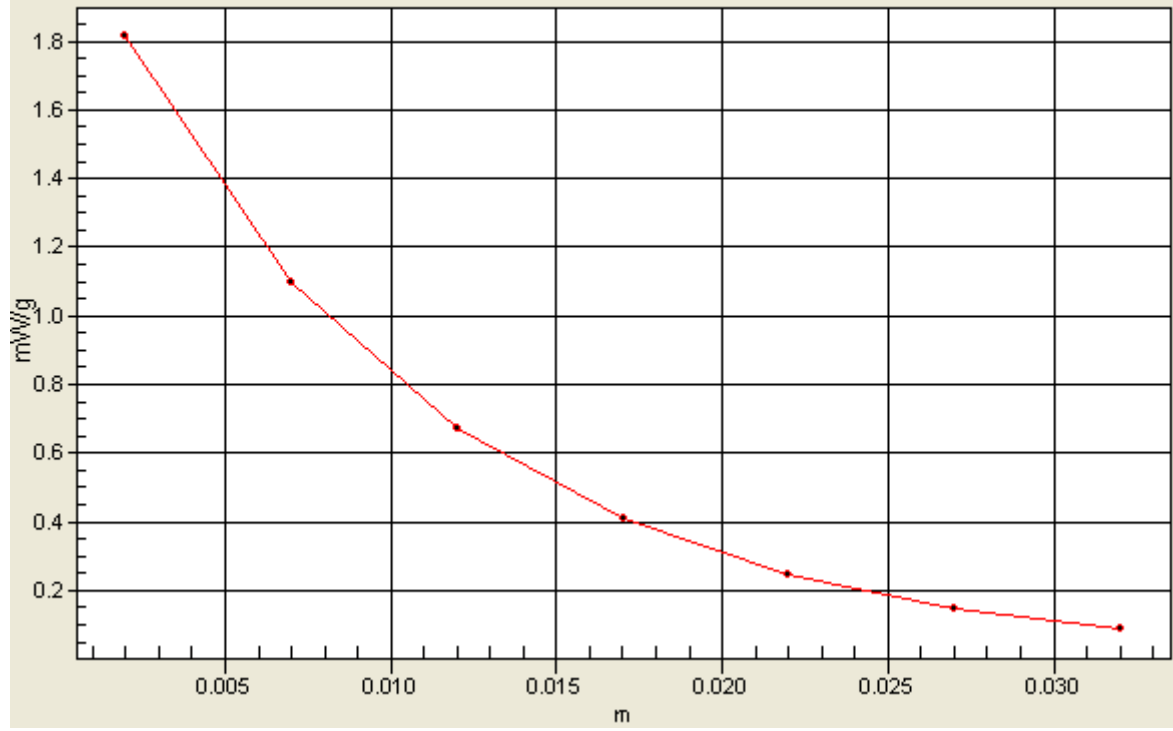
SAR(1 g) = 1.35 mW/g; SAR(10 g) = 0.699 mW/g

Maximum value of SAR (measured) = 1.81 mW/g



1g/10g Averaged SAR

SAR; Zoom Scan: Value Along Z, X=2, Y=2



P60 WCDMA II_RMC12.2K_Front Face_1cm_Ch9262

DUT: 121025C24

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

Medium: B1900_1102 Medium parameters used: $f = 1852.4$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch9262/Area Scan (61x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 1.26 mW/g

Ch9262/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.2 V/m; Power Drift = 0.103 dB

Peak SAR (extrapolated) = 1.64 W/kg

SAR(1 g) = 0.988 mW/g; SAR(10 g) = 0.557 mW/g

Maximum value of SAR (measured) = 1.34 mW/g

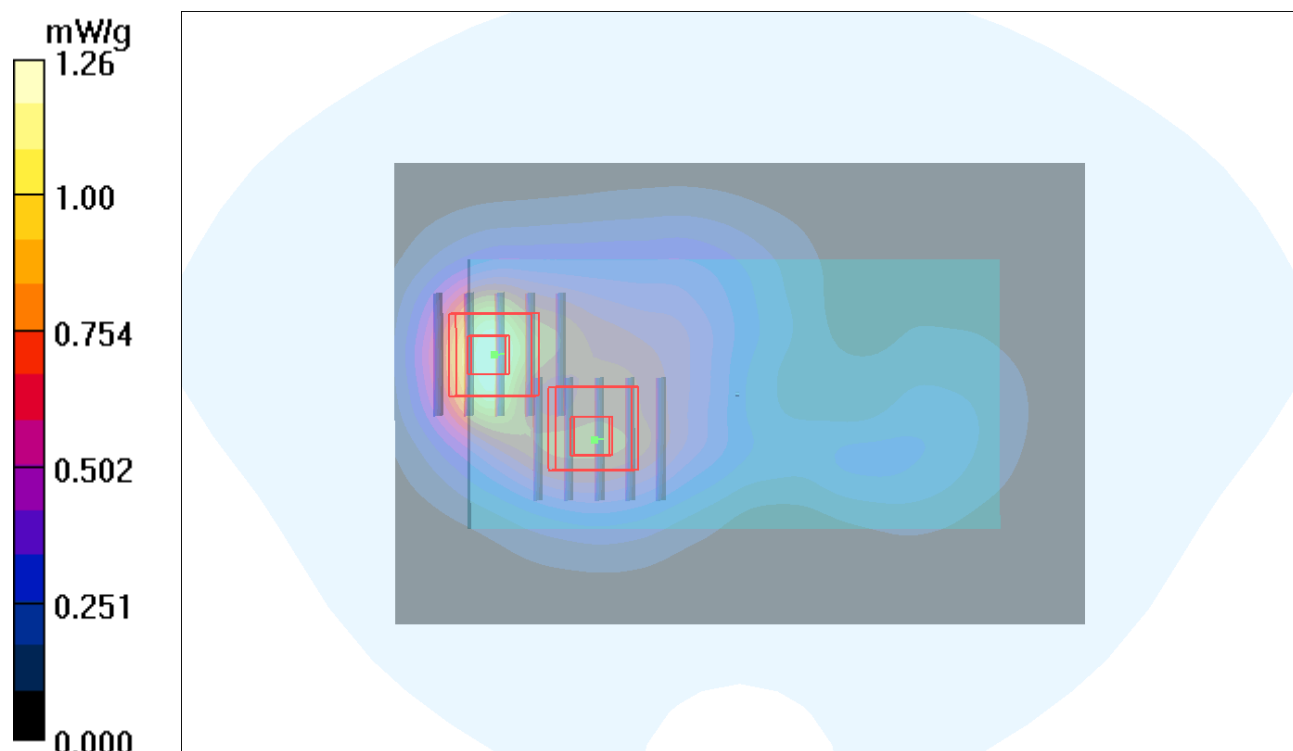
Ch9262/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.2 V/m; Power Drift = 0.103 dB

Peak SAR (extrapolated) = 0.943 W/kg

SAR(1 g) = 0.620 mW/g; SAR(10 g) = 0.397 mW/g

Maximum value of SAR (measured) = 0.788 mW/g



P61 WCDMA II_RMC12.2K_Front Face_1cm_Ch9538

DUT: 121025C24

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

Medium: B1900_1102 Medium parameters used: $f = 1908$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch9538/Area Scan (61x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 1.25 mW/g

Ch9538/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.6 V/m; Power Drift = -0.037 dB

Peak SAR (extrapolated) = 1.69 W/kg

SAR(1 g) = 0.979 mW/g; SAR(10 g) = 0.537 mW/g

Maximum value of SAR (measured) = 1.37 mW/g

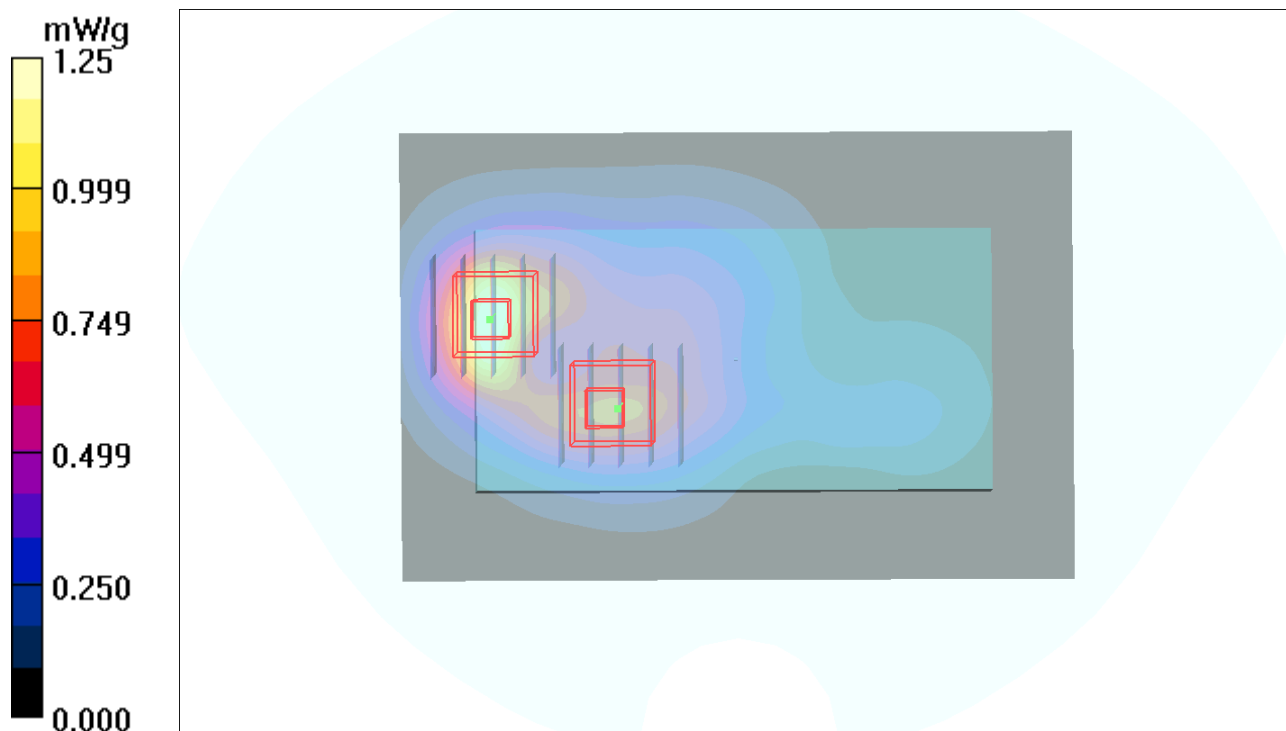
Ch9538/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.6 V/m; Power Drift = -0.037 dB

Peak SAR (extrapolated) = 0.895 W/kg

SAR(1 g) = 0.585 mW/g; SAR(10 g) = 0.369 mW/g

Maximum value of SAR (measured) = 0.749 mW/g



P64 WCDMA II_RMC12.2K_Rear Face_1cm_Ch9262

DUT: 121025C24

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

Medium: B1900_1102 Medium parameters used: $f = 1852.4$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch9262/Area Scan (61x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 1.44 mW/g

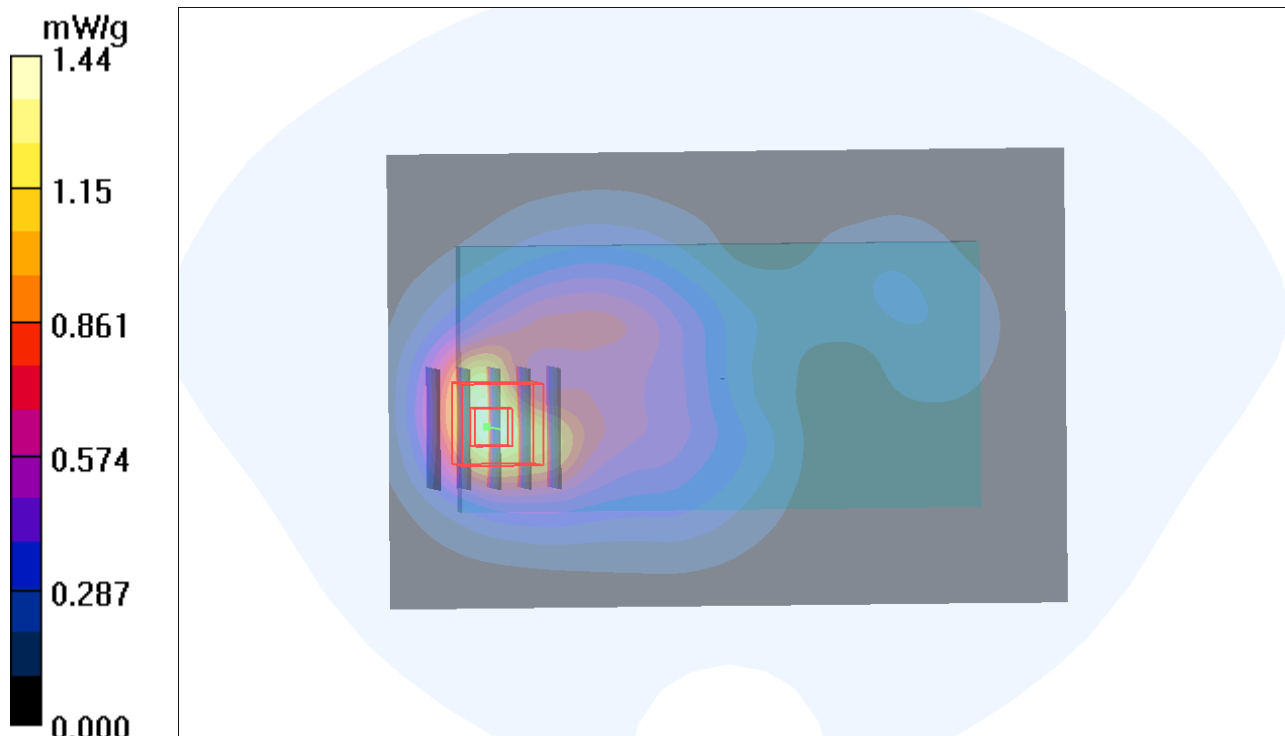
Ch9262/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.7 V/m; Power Drift = 0.016 dB

Peak SAR (extrapolated) = 1.95 W/kg

SAR(1 g) = 1.16 mW/g; SAR(10 g) = 0.651 mW/g

Maximum value of SAR (measured) = 1.59 mW/g



P65 WCDMA II_RMC12.2K_Rear Face_1cm_Ch9538

DUT: 121025C24

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

Medium: B1900_1102 Medium parameters used: $f = 1908$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch9538/Area Scan (61x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 1.46 mW/g

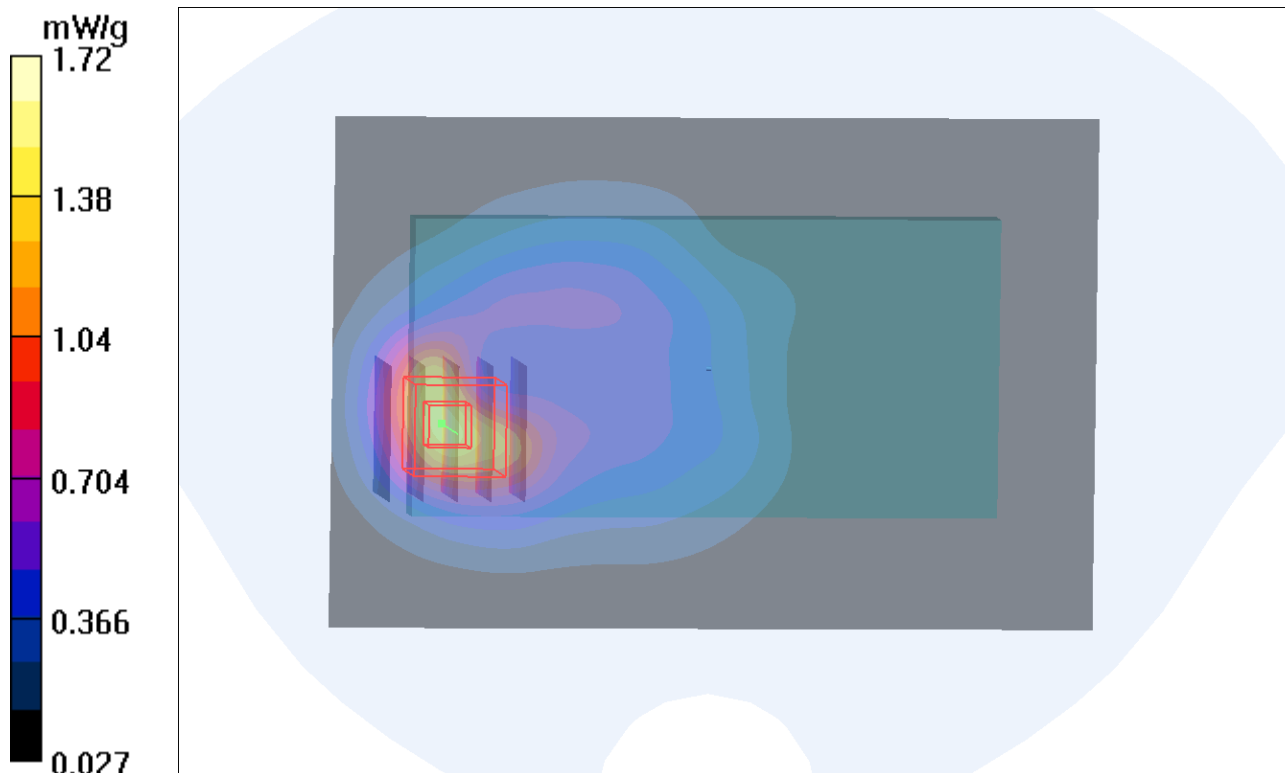
Ch9538/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.9 V/m; Power Drift = 0.003 dB

Peak SAR (extrapolated) = 2.15 W/kg

SAR(1 g) = 1.25 mW/g; SAR(10 g) = 0.682 mW/g

Maximum value of SAR (measured) = 1.72 mW/g



P68 WCDMA II_RMC12.2K_Bottom Side_1cm_Ch9262

DUT: 121025C24

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

Medium: B1900_1102 Medium parameters used: $f = 1852.4$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch9262/Area Scan (31x61x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 1.41 mW/g

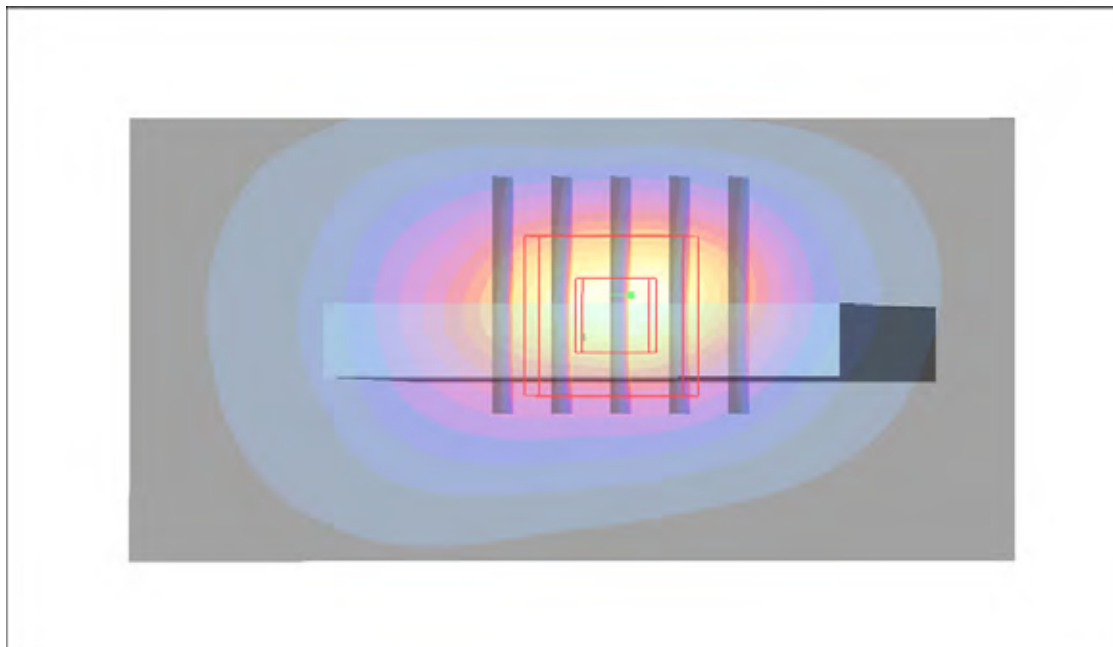
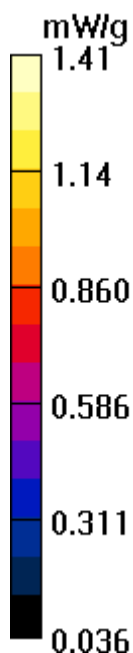
Ch9262/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 32.9 V/m; Power Drift = -0.158 dB

Peak SAR (extrapolated) = 2.16 W/kg

SAR(1 g) = 1.25 mW/g; SAR(10 g) = 0.653 mW/g

Maximum value of SAR (measured) = 1.65 mW/g



P69 WCDMA II_RMC12.2K_Bottom Side_1cm_Ch9538

DUT: 121025C24

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

Medium: B1900_1102 Medium parameters used: $f = 1908$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch9538/Area Scan (31x61x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 1.44 mW/g

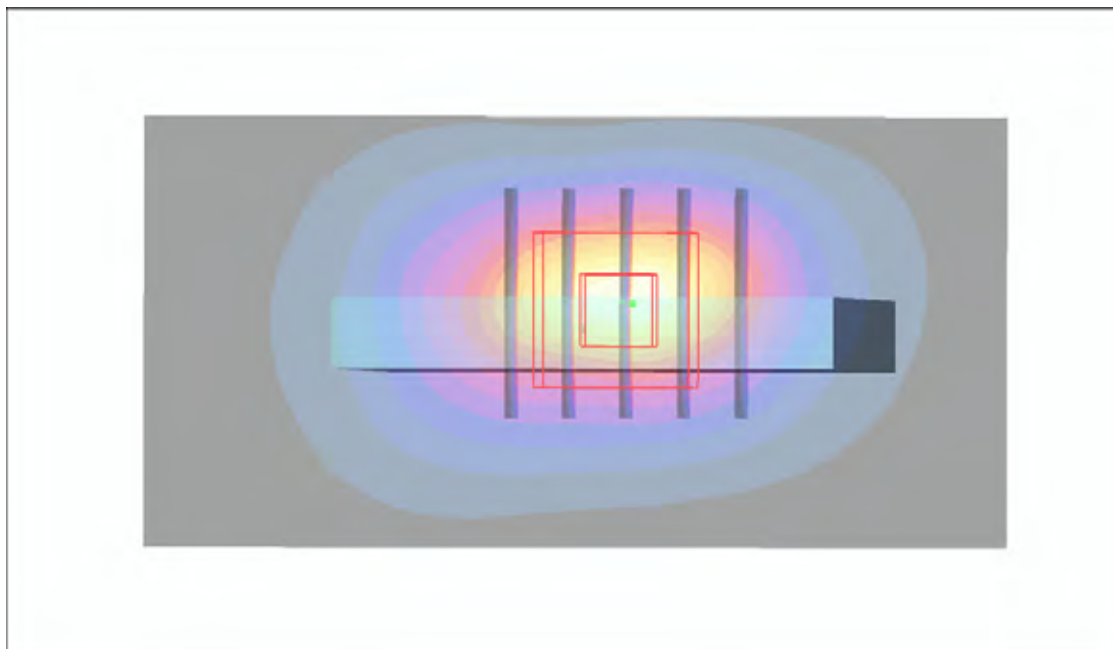
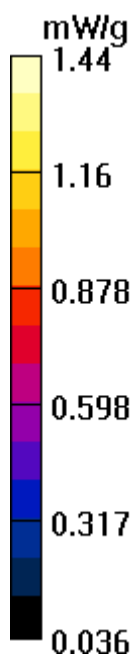
Ch9538/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 31.7 V/m; Power Drift = 0.047 dB

Peak SAR (extrapolated) = 2.20 W/kg

SAR(1 g) = 1.27 mW/g; SAR(10 g) = 0.652 mW/g

Maximum value of SAR (measured) = 1.80 mW/g



P41 WCDMA II_RMC12.2K_Front Face_1cm_Ch9400_Earphone

DUT: 121025C24

Communication System: WCDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: B1900_1102 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 53.1$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch9400/Area Scan (61x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 1.32 mW/g

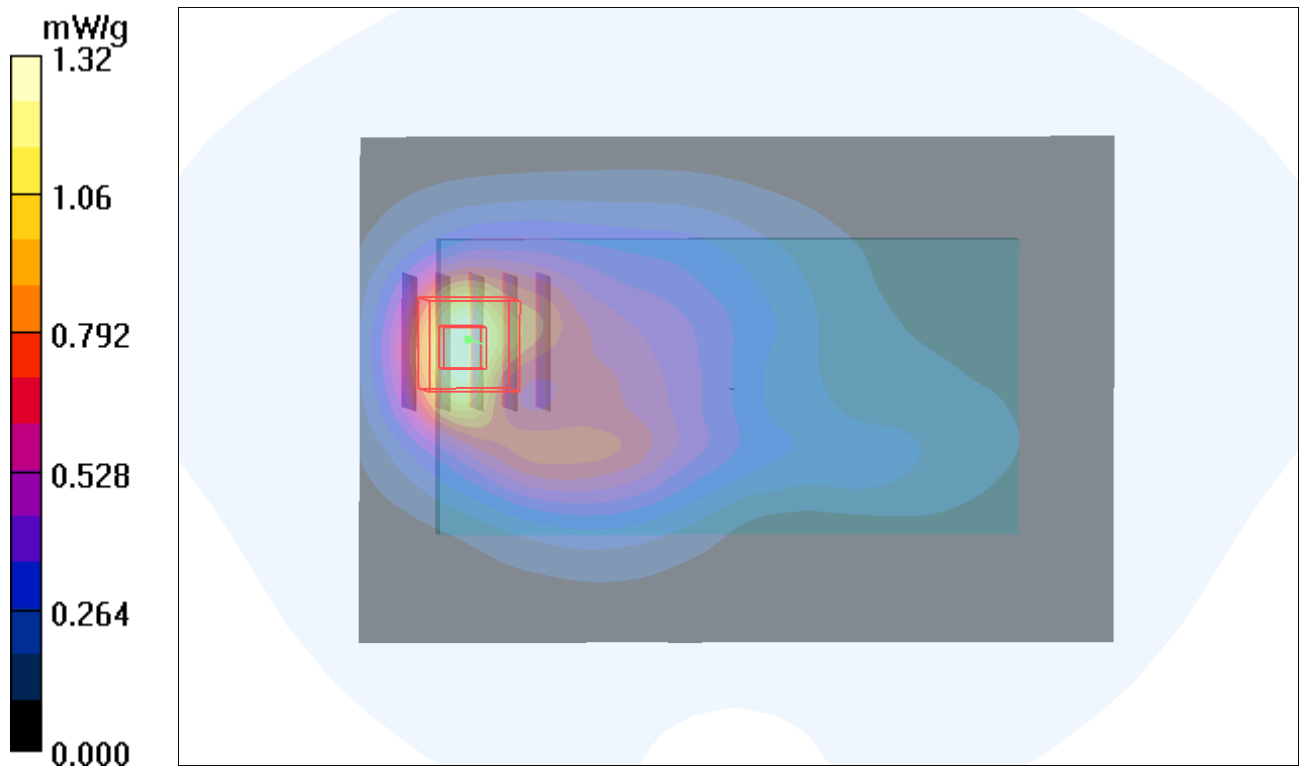
Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.3 V/m; Power Drift = -0.065 dB

Peak SAR (extrapolated) = 1.75 W/kg

SAR(1 g) = 1.05 mW/g; SAR(10 g) = 0.584 mW/g

Maximum value of SAR (measured) = 1.42 mW/g



P42 WCDMA II_RMC12.2K_Rear Face_1cm_Ch9400_Earphone

DUT: 121025C24

Communication System: WCDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: B1900_1102 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 53.1$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch9400/Area Scan (61x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 1.48 mW/g

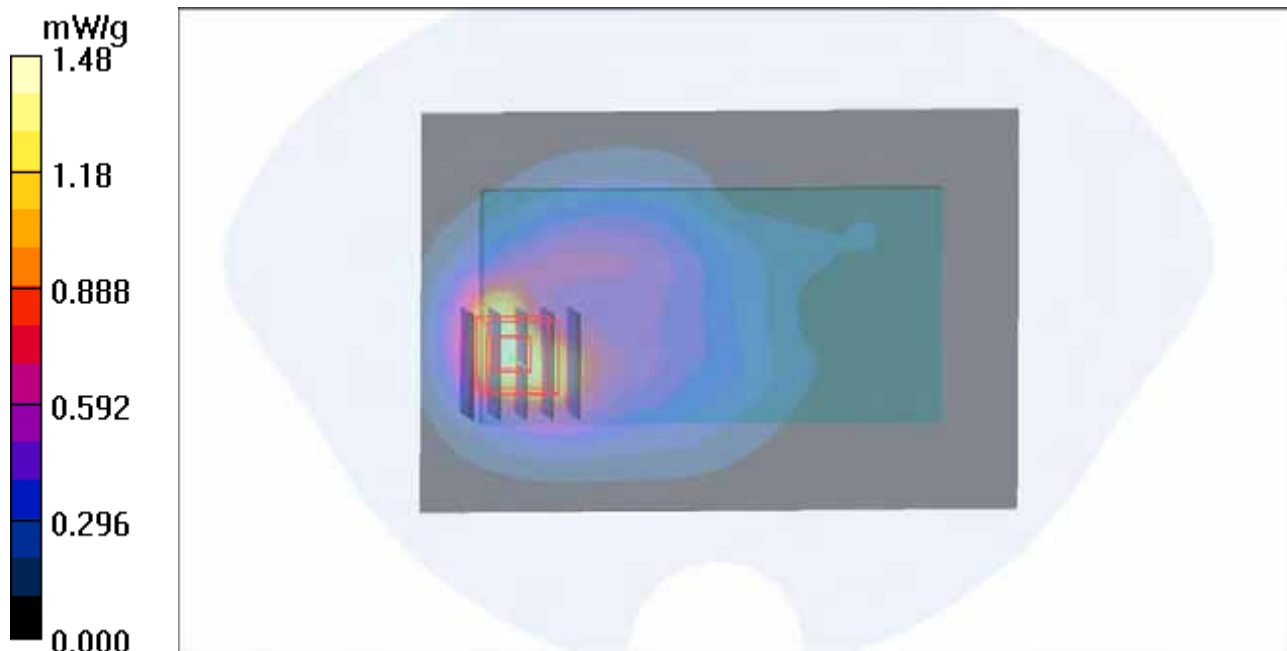
Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.7 V/m; Power Drift = -0.083 dB

Peak SAR (extrapolated) = 2.13 W/kg

SAR(1 g) = 1.26 mW/g; SAR(10 g) = 0.695 mW/g

Maximum value of SAR (measured) = 1.74 mW/g



P62 WCDMA II_RMC12.2K_Front Face_1cm_Ch9262_Earphone

DUT: 121025C24

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

Medium: B1900_1102 Medium parameters used: $f = 1852.4$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch9262/Area Scan (61x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 1.24 mW/g

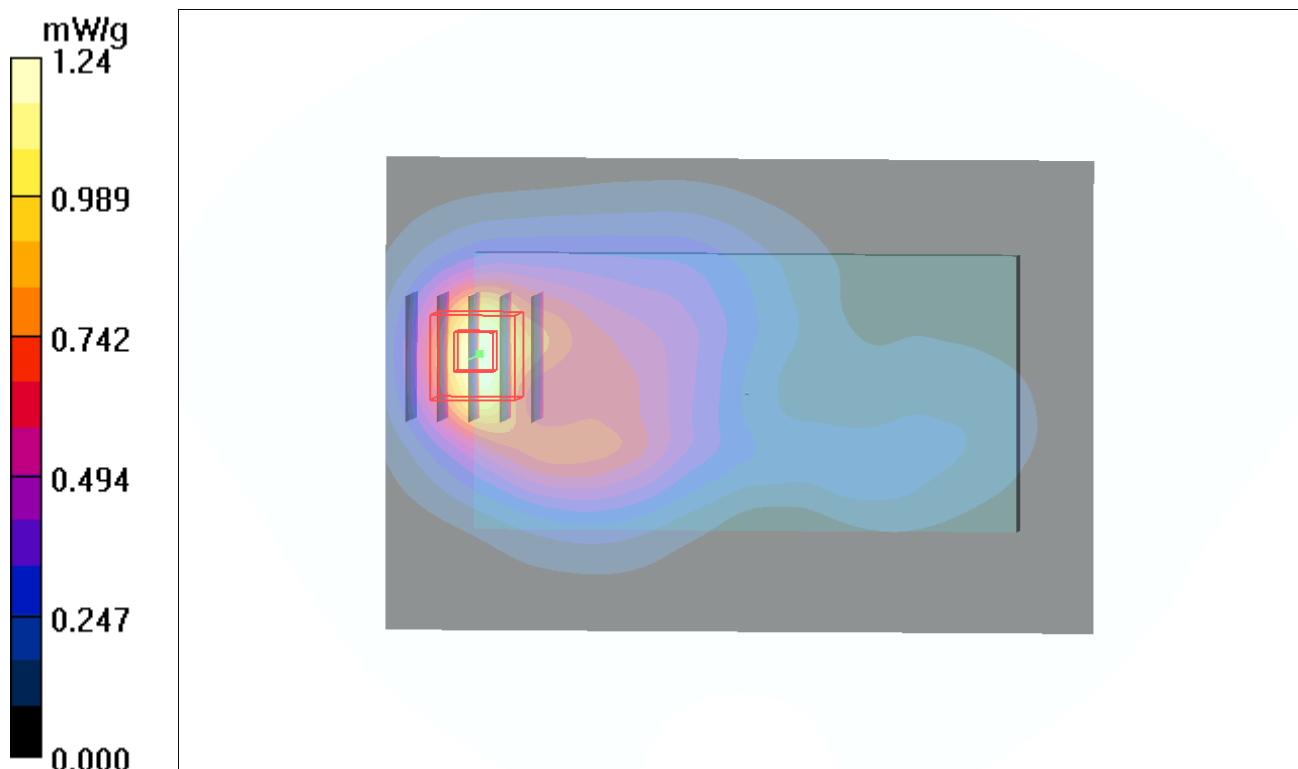
Ch9262/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.5 V/m; Power Drift = 0.192 dB

Peak SAR (extrapolated) = 1.56 W/kg

SAR(1 g) = 0.942 mW/g; SAR(10 g) = 0.535 mW/g

Maximum value of SAR (measured) = 1.28 mW/g



P63 WCDMA II_RMC12.2K_Front Face_1cm_Ch9538_Earphone

DUT: 121025C24

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

Medium: B1900_1102 Medium parameters used: $f = 1908$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch9538/Area Scan (61x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 1.25 mW/g

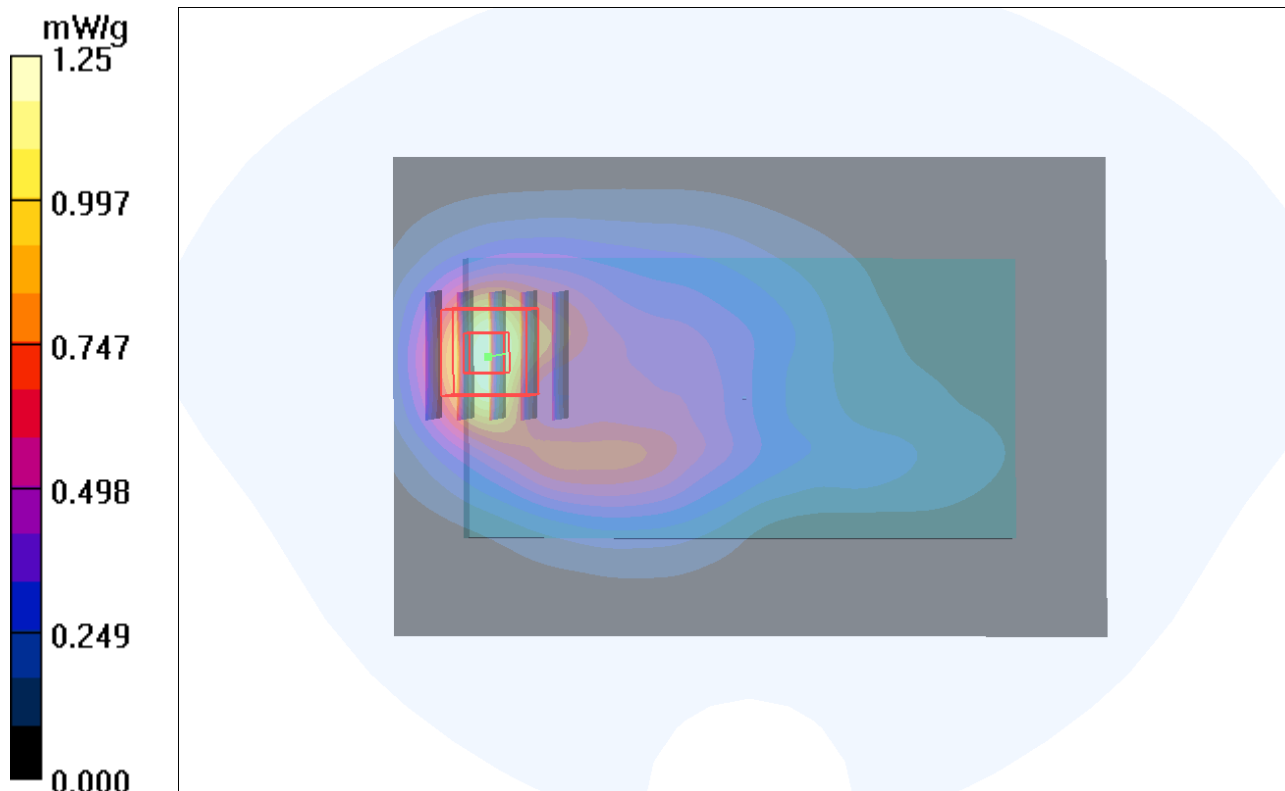
Ch9538/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.1 V/m; Power Drift = -0.004 dB

Peak SAR (extrapolated) = 1.56 W/kg

SAR(1 g) = 0.933 mW/g; SAR(10 g) = 0.518 mW/g

Maximum value of SAR (measured) = 1.27 mW/g



P66 WCDMA II_RMC12.2K_Rear Face_1cm_Ch9262_Earphone

DUT: 121025C24

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

Medium: B1900_1102 Medium parameters used: $f = 1852.4$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch9262/Area Scan (61x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 1.44 mW/g

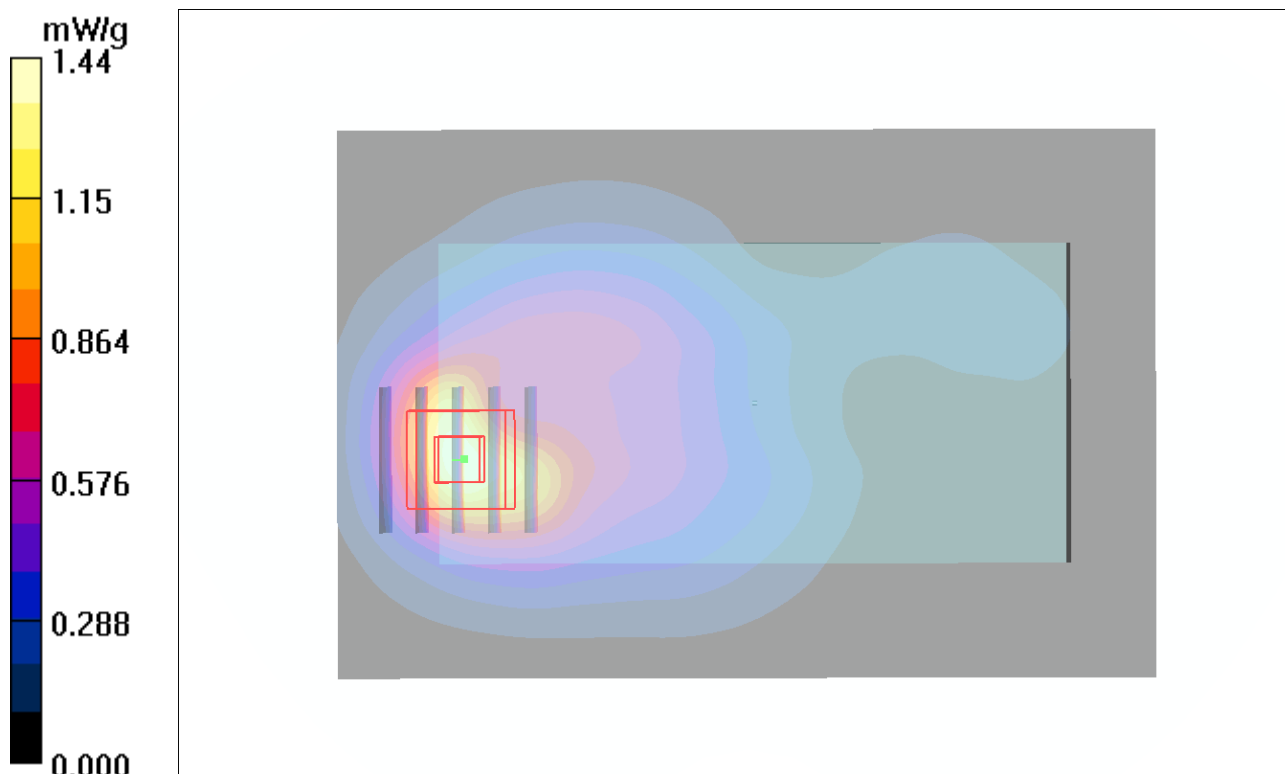
Ch9262/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.6 V/m; Power Drift = -0.020 dB

Peak SAR (extrapolated) = 1.94 W/kg

SAR(1 g) = 1.16 mW/g; SAR(10 g) = 0.651 mW/g

Maximum value of SAR (measured) = 1.59 mW/g



P67 WCDMA II_RMC12.2K_Rear Face_1cm_Ch9538_Earphone

DUT: 121025C24

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

Medium: B1900_1102 Medium parameters used: $f = 1908$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.88, 7.88, 7.88); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1652
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch9538/Area Scan (61x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 1.46 mW/g

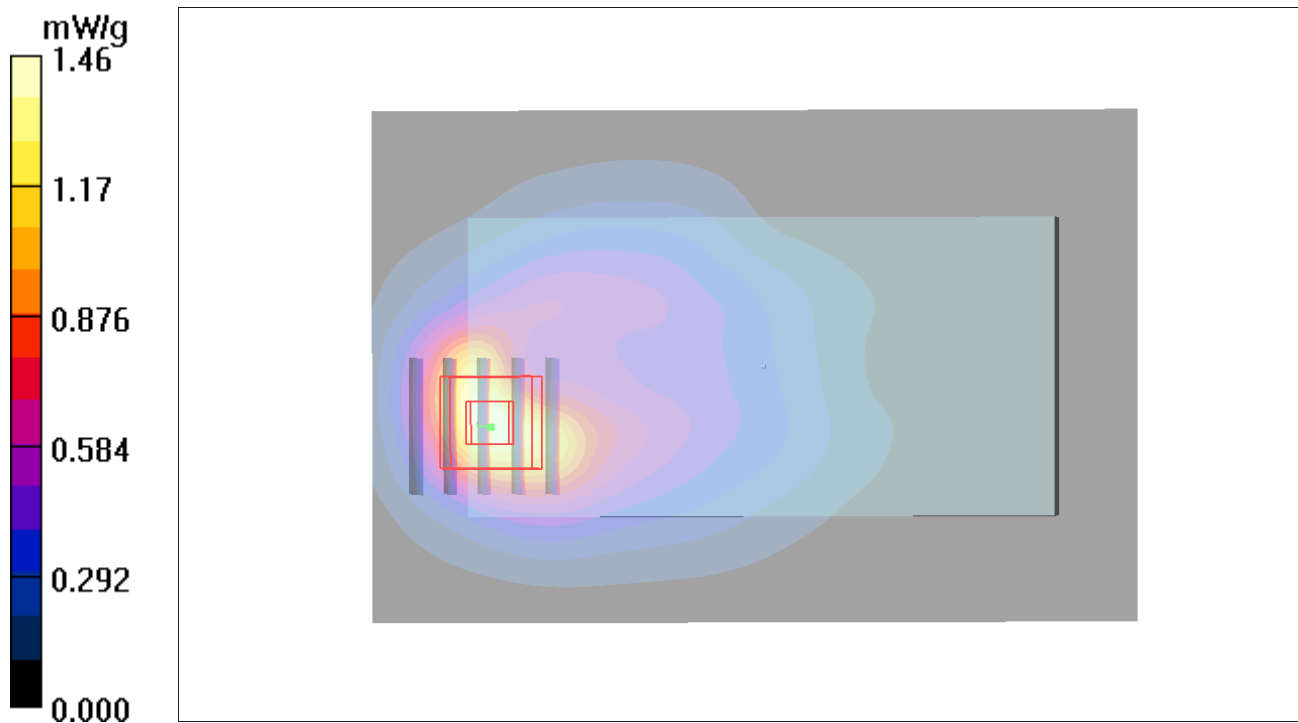
Ch9538/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.1 V/m; Power Drift = -0.004 dB

Peak SAR (extrapolated) = 2.13 W/kg

SAR(1 g) = 1.23 mW/g; SAR(10 g) = 0.672 mW/g

Maximum value of SAR (measured) = 1.73 mW/g



P50 CDMA2000 BC0_RC3+SO32_Front Face_1cm_Ch1013

DUT: 121025C24

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: B835_1101 Medium parameters used: $f = 825$ MHz; $\sigma = 0.952$ mho/m; $\epsilon_r = 54.81$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch1013/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.634 W/kg

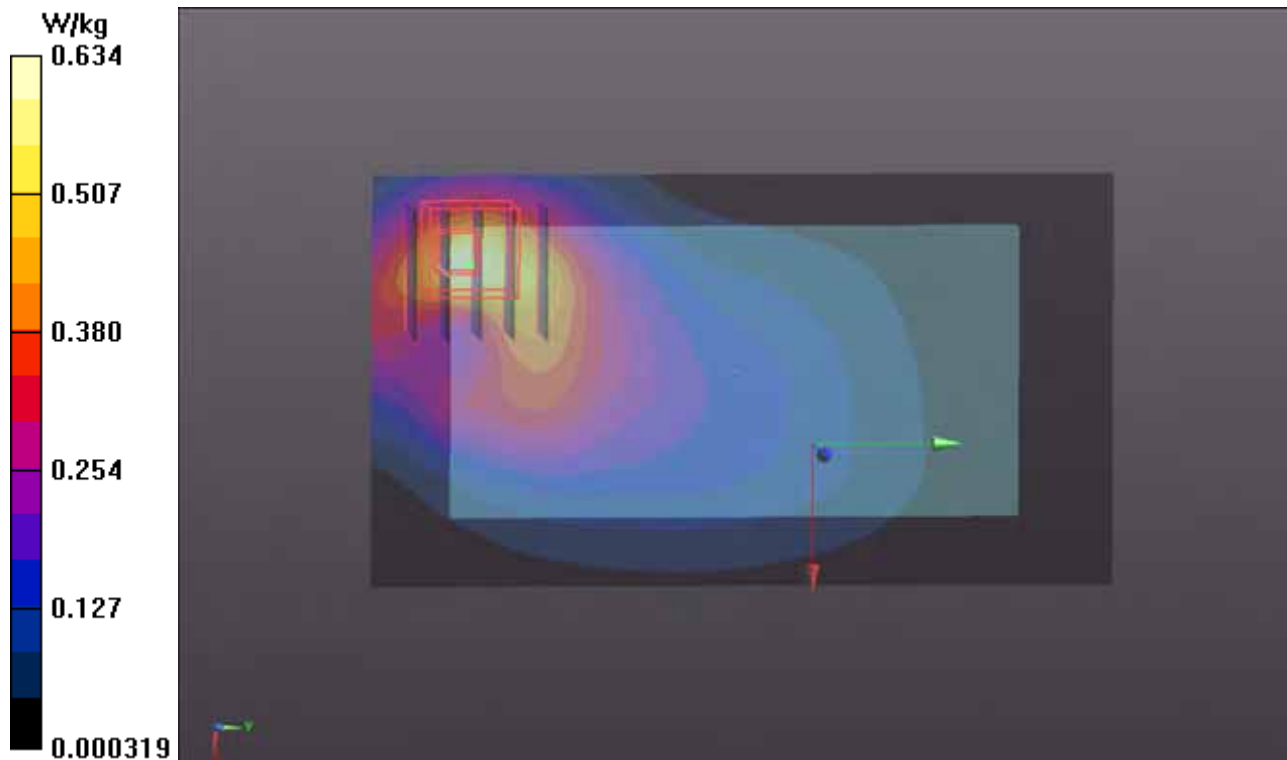
Ch1013/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.629 V/m; Power Drift = 0.18 dB

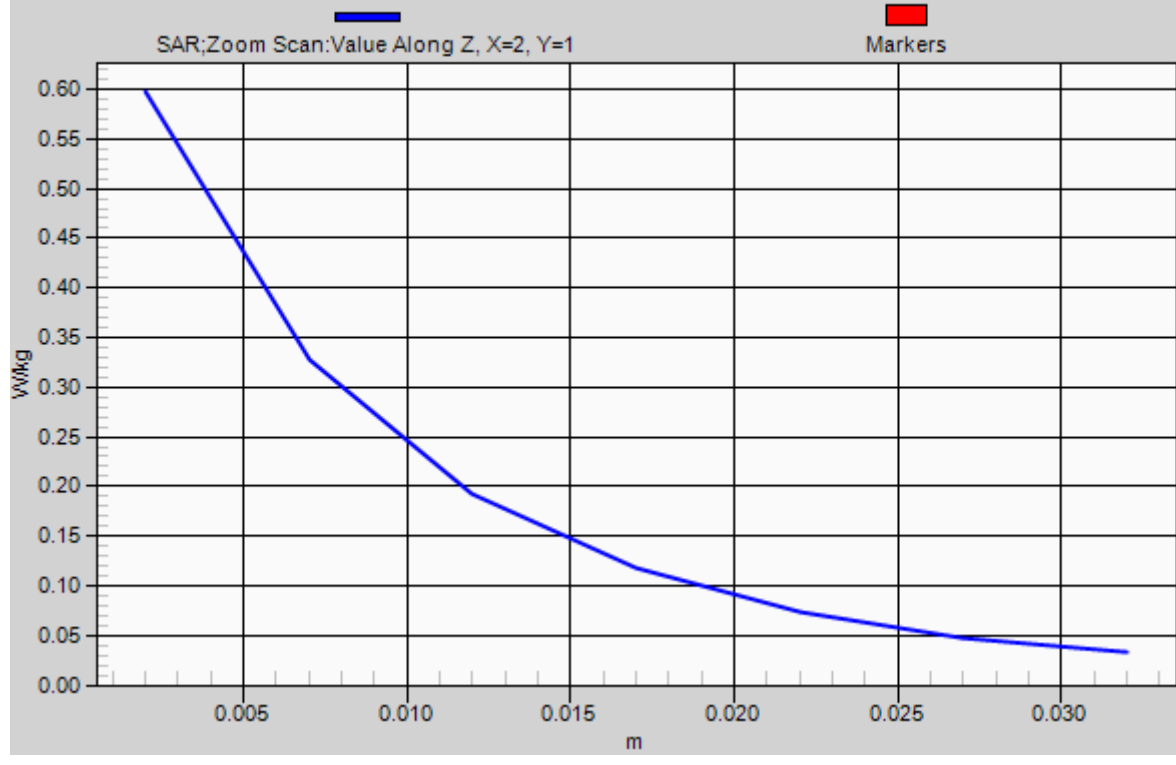
Peak SAR (extrapolated) = 0.782 mW/g

SAR(1 g) = 0.433 mW/g; SAR(10 g) = 0.248 mW/g

Maximum value of SAR (measured) = 0.597 W/kg



1g/10g Averaged SAR



P51 CDMA2000 BC0_RC3+SO32_Rear Face_1cm_Ch1013

DUT: 121025C24

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1
Medium: B835_1101 Medium parameters used: $f = 825 \text{ MHz}$; $\sigma = 0.952 \text{ mho/m}$; $\epsilon_r = 54.81$; $\rho = 1000 \text{ kg/m}^3$
Ambient Temperature : $21.7 \text{ }^\circ\text{C}$; Liquid Temperature : $20.7 \text{ }^\circ\text{C}$

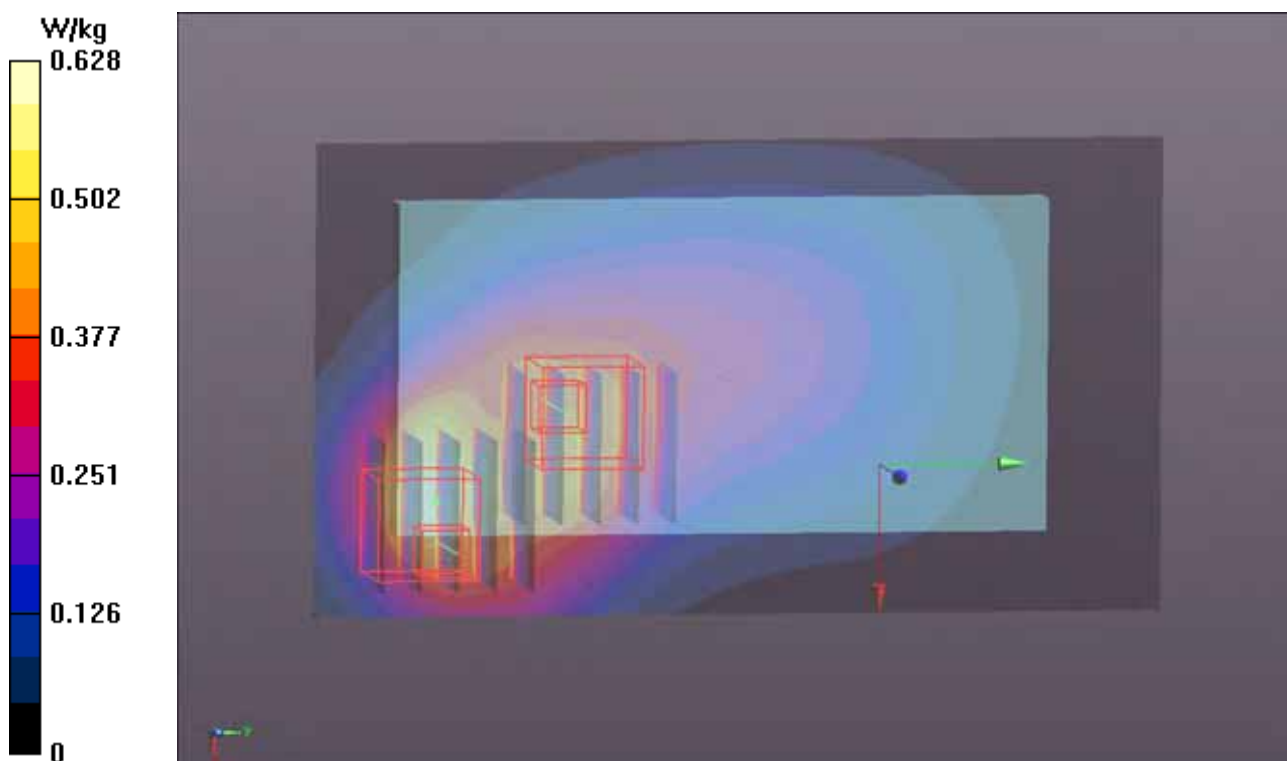
DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch1013/Area Scan (51x91x1): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$
Maximum value of SAR (interpolated) = 0.628 W/kg

Ch1013/Zoom Scan (5x5x7)/Cube 1: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
Reference Value = 16.821 V/m ; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 0.557 mW/g
SAR(1 g) = 0.389 mW/g ; SAR(10 g) = 0.274 mW/g
Maximum value of SAR (measured) = 0.462 W/kg

Ch1013/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
Reference Value = 16.821 V/m ; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 0.679 mW/g
SAR(1 g) = 0.378 mW/g ; SAR(10 g) = 0.218 mW/g
Maximum value of SAR (measured) = 0.527 W/kg



P52 CDMA2000 BC0_RC3+SO32_Left Side_1cm_Ch1013

DUT: 121025C24

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: B835_1101 Medium parameters used: $f = 825$ MHz; $\sigma = 0.952$ mho/m; $\epsilon_r = 54.81$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch1013/Area Scan (31x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.0772 W/kg

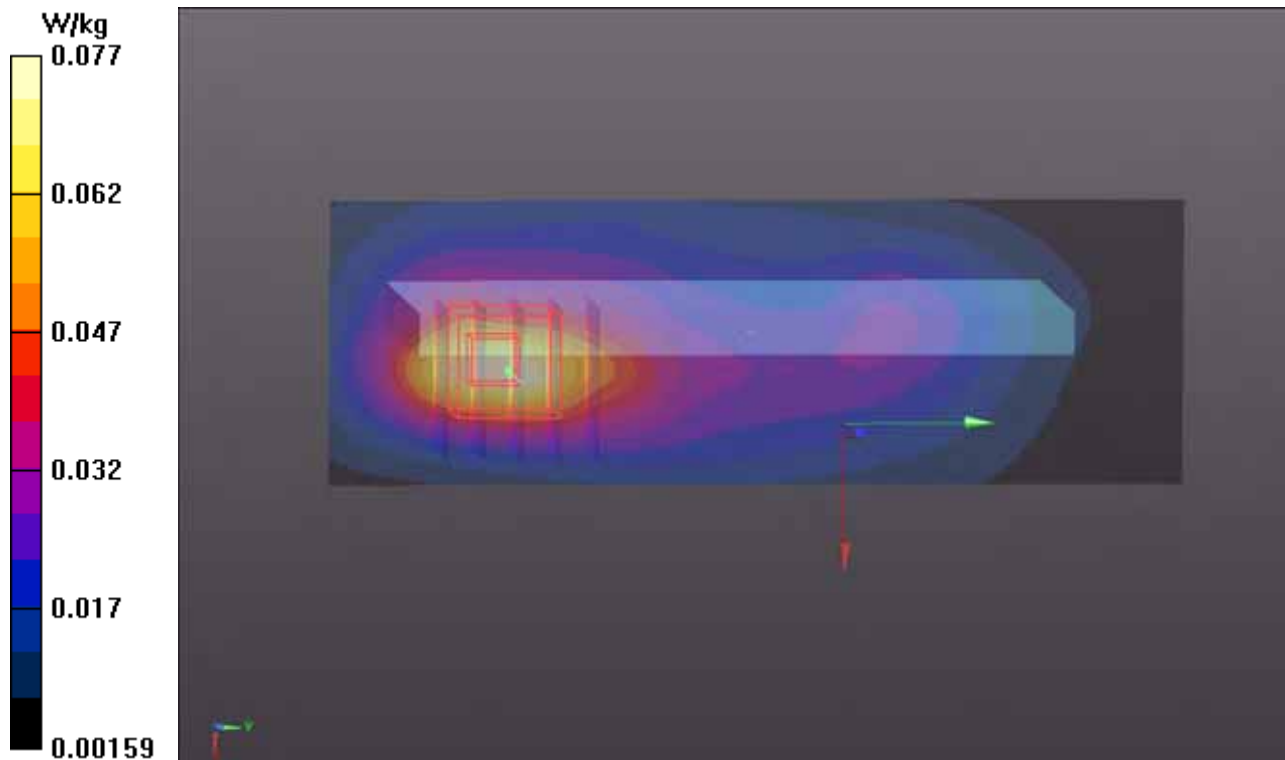
Ch1013/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.474 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.169 mW/g

SAR(1 g) = 0.092 mW/g; SAR(10 g) = 0.049 mW/g

Maximum value of SAR (measured) = 0.120 W/kg



P53 CDMA2000 BC0_RC3+SO32_Right Side_1cm_Ch1013

DUT: 121025C24

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: B835_1101 Medium parameters used: $f = 825$ MHz; $\sigma = 0.952$ mho/m; $\epsilon_r = 54.81$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch1013/Area Scan (31x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.148 W/kg

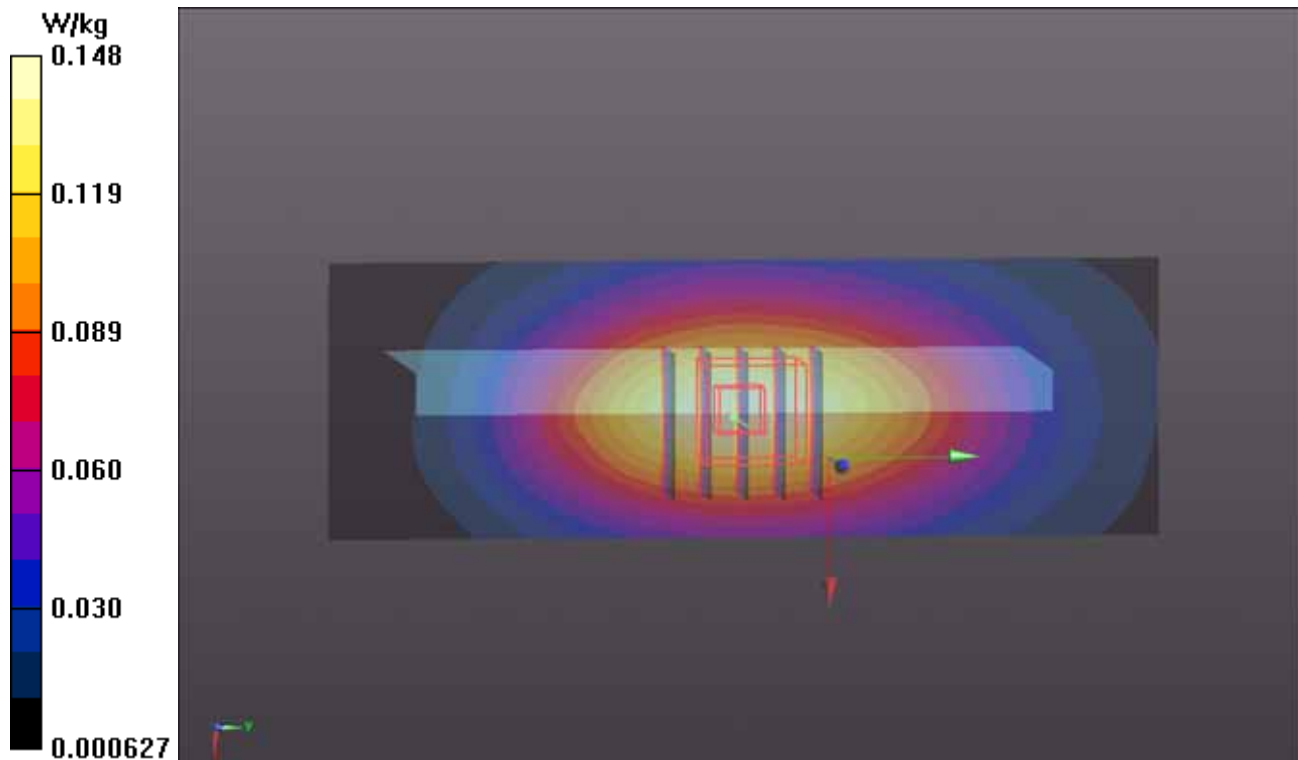
Ch1013/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.899 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.169 mW/g

SAR(1 g) = 0.124 mW/g; SAR(10 g) = 0.088 mW/g

Maximum value of SAR (measured) = 0.149 W/kg



P54 CDMA2000 BC0_RC3+SO32_Bottom Side_1cm_Ch1013

DUT: 121025C24

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: B835_1101 Medium parameters used: $f = 825$ MHz; $\sigma = 0.952$ mho/m; $\epsilon_r = 54.81$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch1013/Area Scan (31x91x1): Measurement grid: dx=20mm, dy=20mm

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

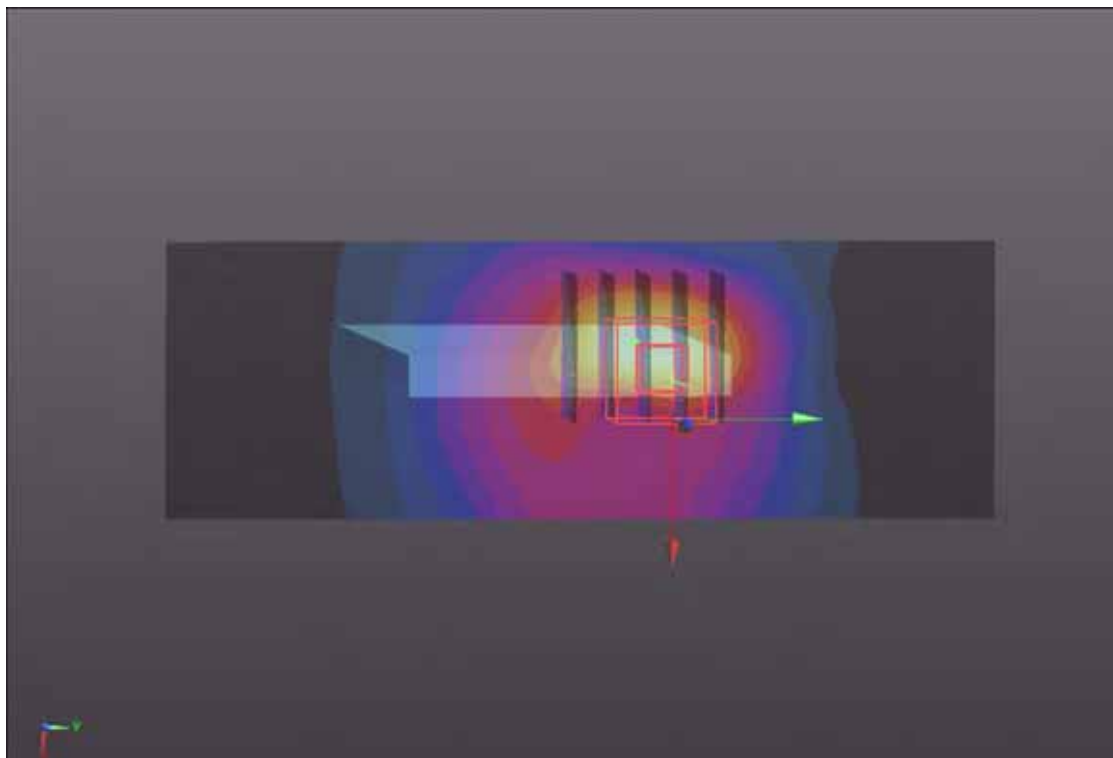
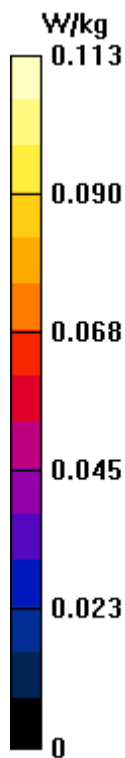
Ch1013/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.797 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.319 mW/g

SAR(1 g) = 0.165 mW/g; SAR(10 g) = 0.080 mW/g

Maximum value of SAR (measured) = 0.233 W/kg



P55 CDMA2000 BC0_RC3+SO32_Front Face_1cm_Ch1013_Earphone

DUT: 121025C24

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: B835_1101 Medium parameters used: $f = 825$ MHz; $\sigma = 0.952$ mho/m; $\epsilon_r = 54.81$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch1013/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.579 W/kg

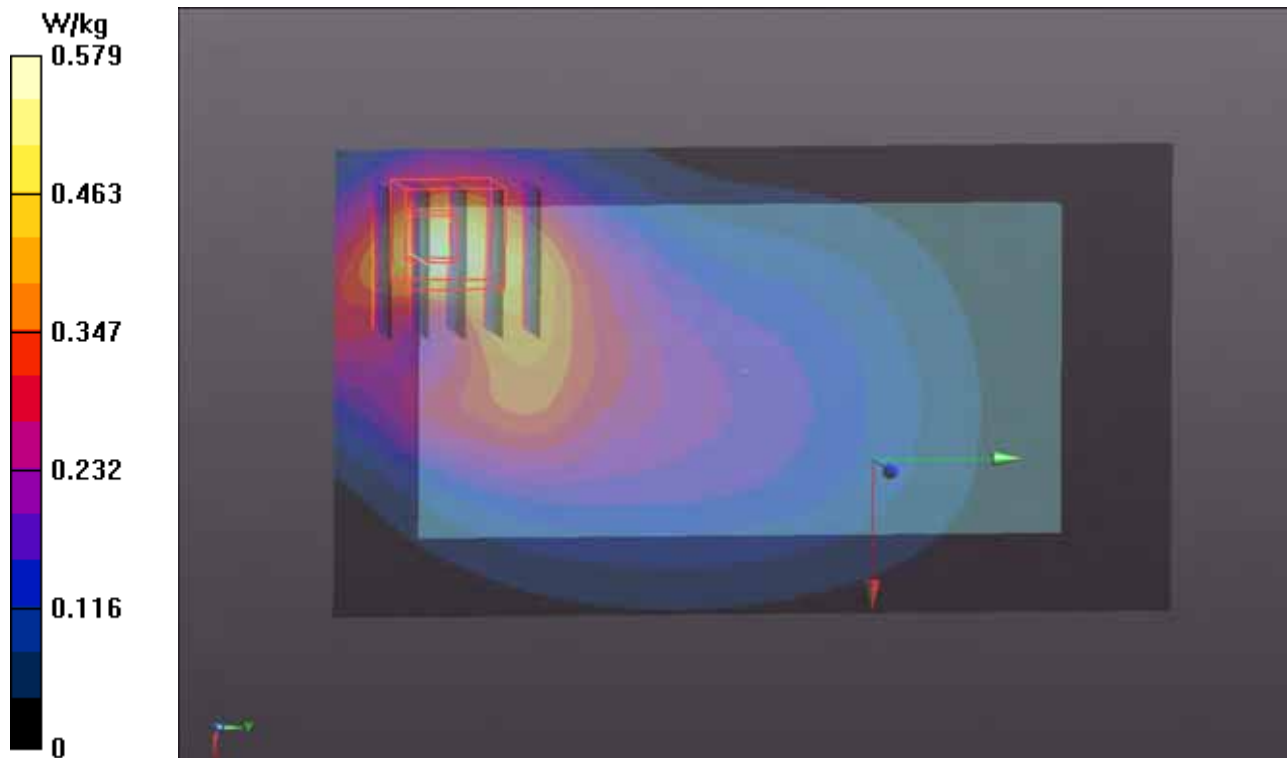
Ch1013/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.820 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.713 mW/g

SAR(1 g) = 0.396 mW/g; SAR(10 g) = 0.226 mW/g

Maximum value of SAR (measured) = 0.547 W/kg



P56 CDMA2000 BC0_RC3+SO32_Rear Face_1cm_Ch1013_Earphone

DUT: 121025C24

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1
Medium: B835_1101 Medium parameters used: $f = 825$ MHz; $\sigma = 0.952$ mho/m; $\epsilon_r = 54.81$; $\rho = 1000$ kg/m³
Ambient Temperature : 21.7 °C ; Liquid Temperature : 20.7 °C

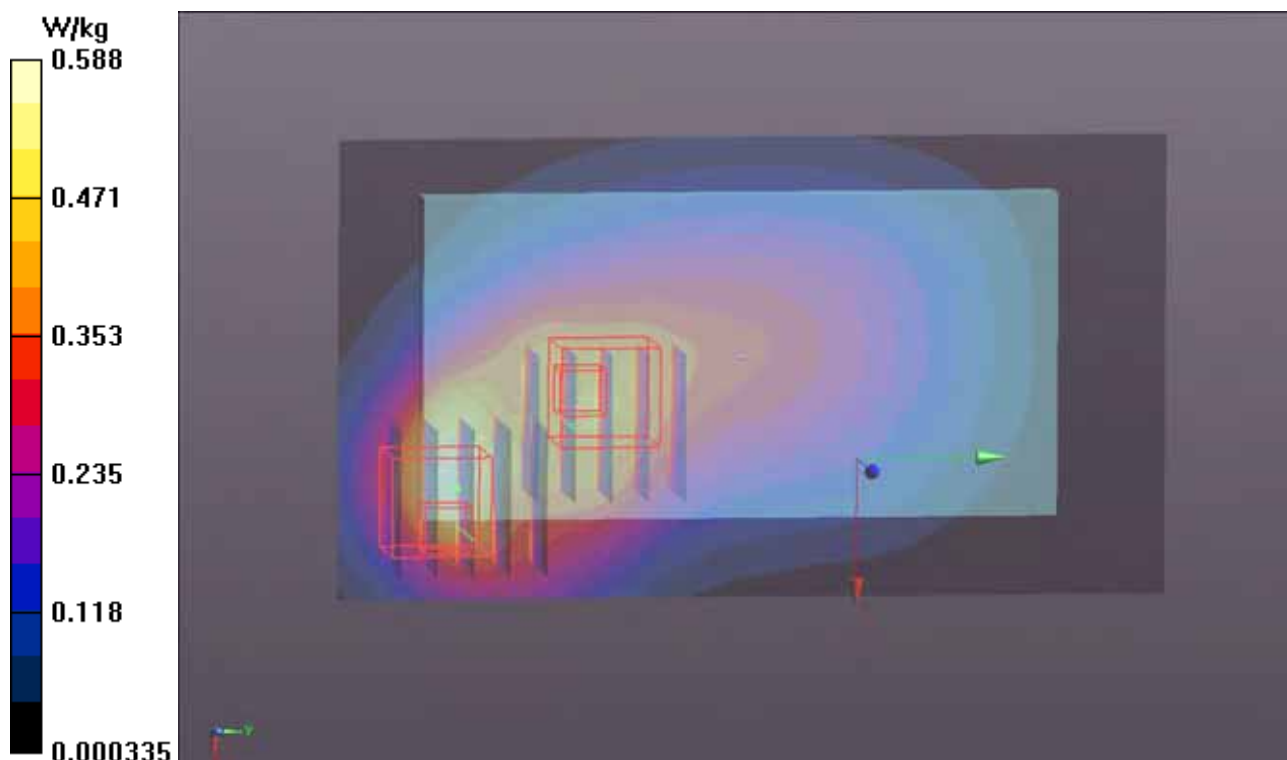
DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.45, 8.45, 8.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: ELI v4.0; Type: QDOVA001BA; Serial: TP:1043
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch1013/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.588 W/kg

Ch1013/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.304 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.544 mW/g
SAR(1 g) = 0.400 mW/g; SAR(10 g) = 0.286 mW/g
Maximum value of SAR (measured) = 0.465 W/kg

Ch1013/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.304 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 0.628 mW/g
SAR(1 g) = 0.351 mW/g; SAR(10 g) = 0.204 mW/g
Maximum value of SAR (measured) = 0.491 W/kg



P105 802.11b Front Face_Ch6

DUT: 121025C24

Communication System: WLAN_2.4G; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: B2450_1101 Medium parameters used: $f = 2437$ MHz; $\sigma = 2$ mho/m; $\epsilon_r = 53.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.4 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.49, 7.49, 7.49); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1039
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.045 mW/g

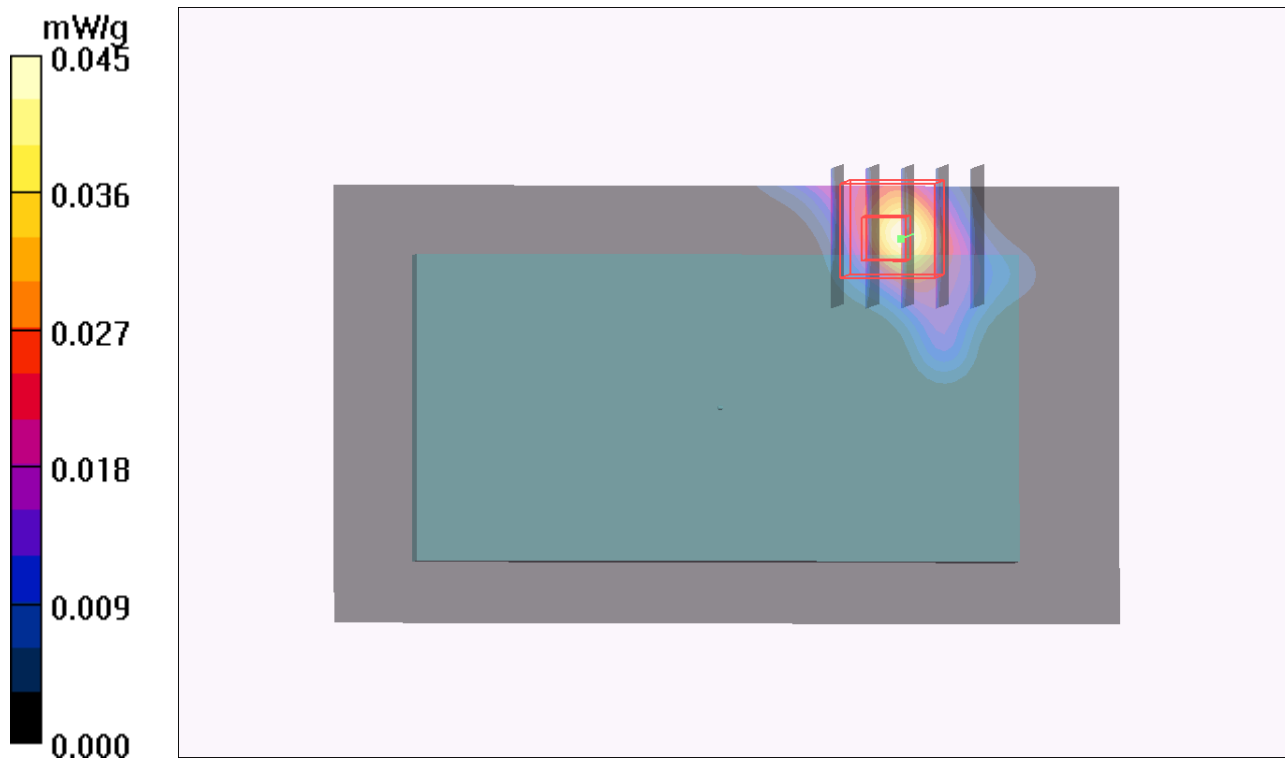
Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0.711 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.050 W/kg

SAR(1 g) = 0.026 mW/g; SAR(10 g) = 0.00944 mW/g

Maximum value of SAR (measured) = 0.035 mW/g



P106 802.11b Rear Face_Ch6

DUT: 121025C24

Communication System: WLAN_2.4G; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: B2450_1101 Medium parameters used: $f = 2437$ MHz; $\sigma = 2$ mho/m; $\epsilon_r = 53.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.4 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.49, 7.49, 7.49); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1039
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.146 mW/g

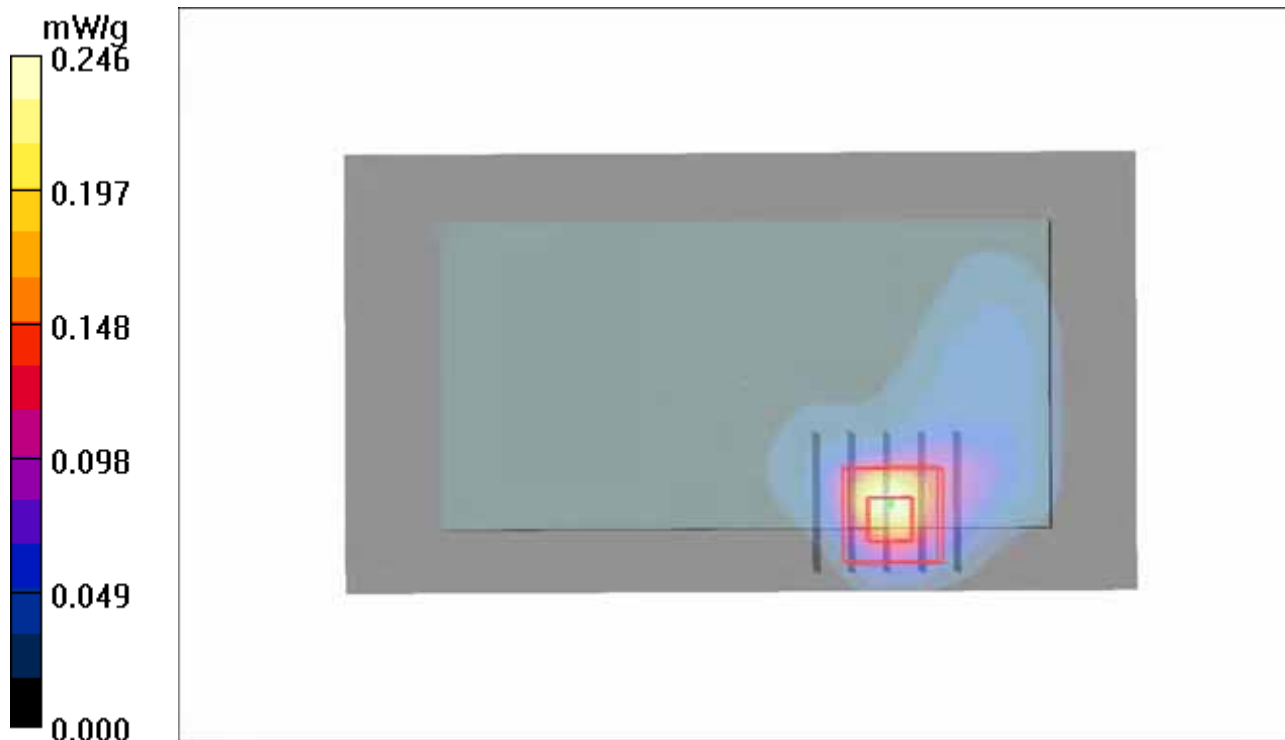
Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.16 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.427 W/kg

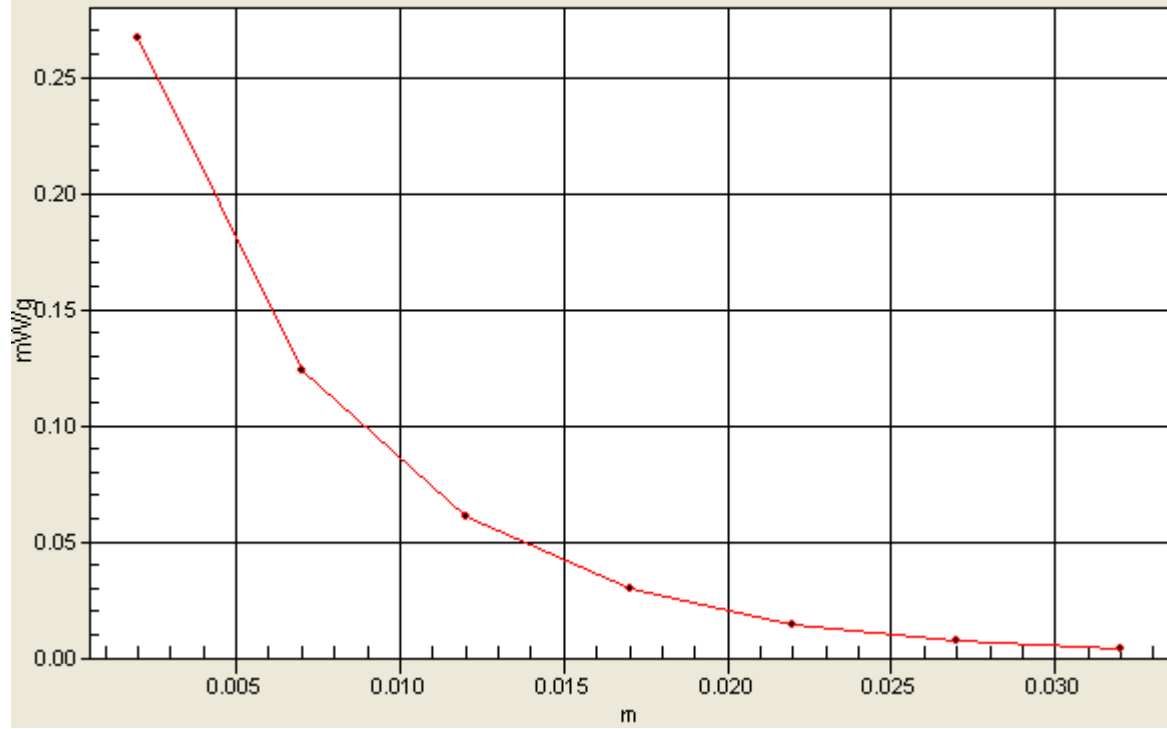
SAR(1 g) = 0.184 mW/g; SAR(10 g) = 0.075 mW/g

Maximum value of SAR (measured) = 0.267 mW/g



1g/10g Averaged SAR

SAR; Zoom Scan: Value Along Z, X=2, Y=2



P107 802.11b Left Side_Ch6

DUT: 121025C24

Communication System: WLAN_2.4G; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: B2450_1101 Medium parameters used: $f = 2437$ MHz; $\sigma = 2$ mho/m; $\epsilon_r = 53.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.4 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.49, 7.49, 7.49); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1039
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (31x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.125 mW/g

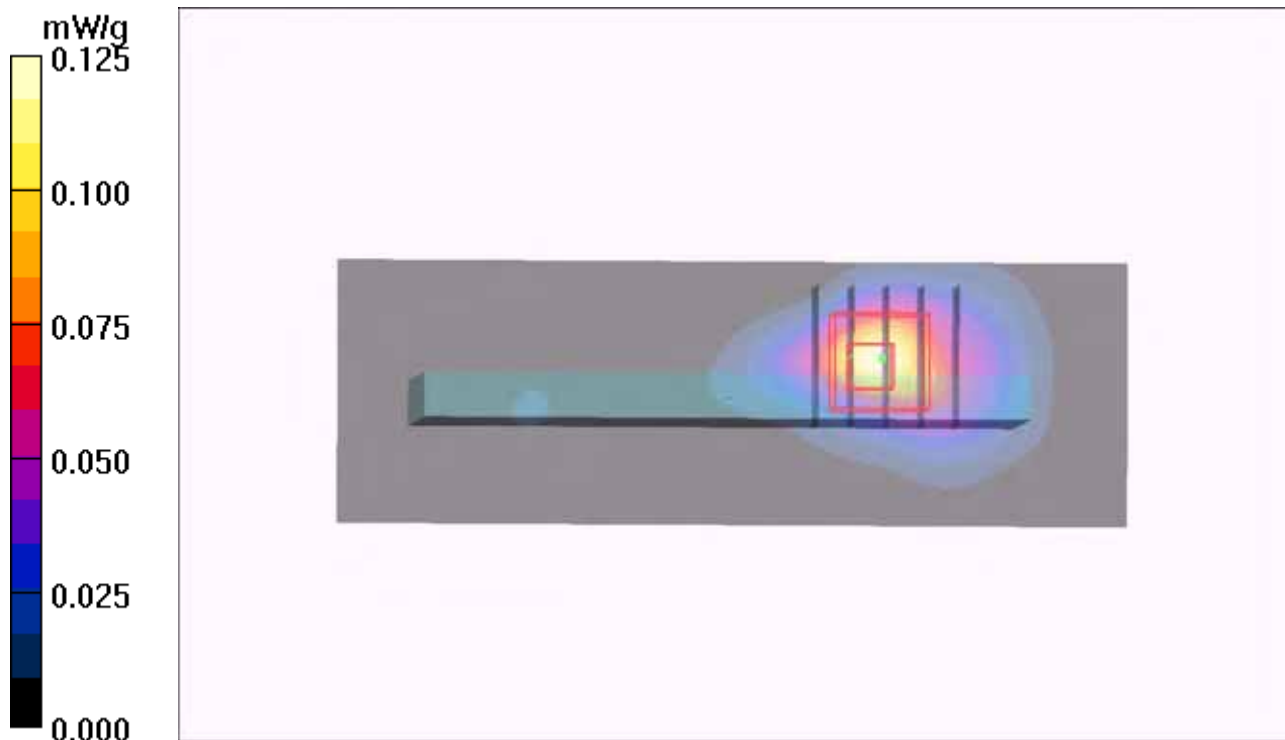
Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.72 V/m; Power Drift = 0.113 dB

Peak SAR (extrapolated) = 0.163 W/kg

SAR(1 g) = 0.081 mW/g; SAR(10 g) = 0.038 mW/g

Maximum value of SAR (measured) = 0.117 mW/g



P108 802.11b Front Face_Ch6_Earphone

DUT: 121025C24

Communication System: WLAN_2.4G; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: B2450_1101 Medium parameters used: $f = 2437$ MHz; $\sigma = 2$ mho/m; $\epsilon_r = 53.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.4 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.49, 7.49, 7.49); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1039
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.021 mW/g

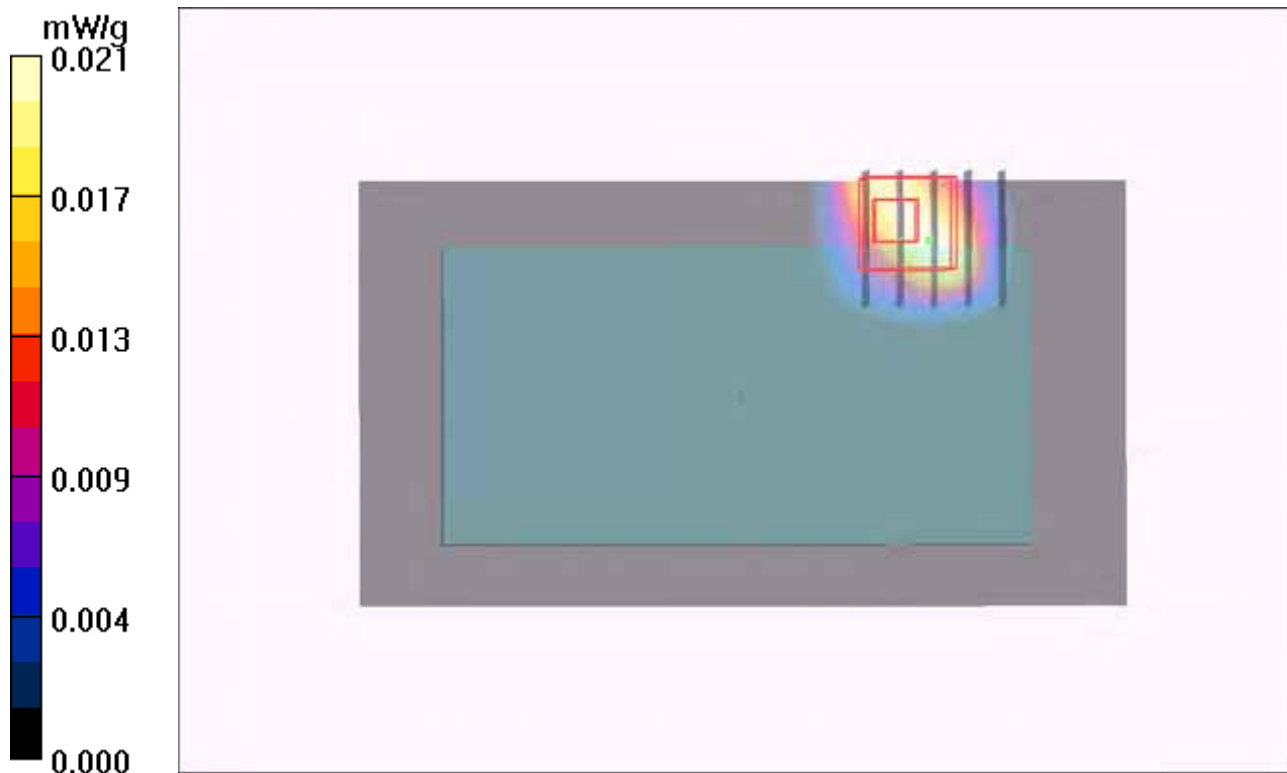
Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0.000 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.060 W/kg

SAR(1 g) = 0.021 mW/g; SAR(10 g) = 0.00809 mW/g

Maximum value of SAR (measured) = 0.029 mW/g



P109 802.11b Rear Face_Ch6_Earphone

DUT: 121025C24

Communication System: WLAN_2.4G; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: B2450_1101 Medium parameters used: $f = 2437$ MHz; $\sigma = 2$ mho/m; $\epsilon_r = 53.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.4 °C ; Liquid Temperature : 20.3 °C

DASY4 Configuration:

- Probe: EX3DV4 - SN3864; ConvF(7.49, 7.49, 7.49); Calibrated: 2012/07/19
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn579; Calibrated: 2012/04/27
- Phantom: Flat Phantom ELI4.0; Type: QDOVA001BA; Serial: SN:1039
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (51x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.251 mW/g

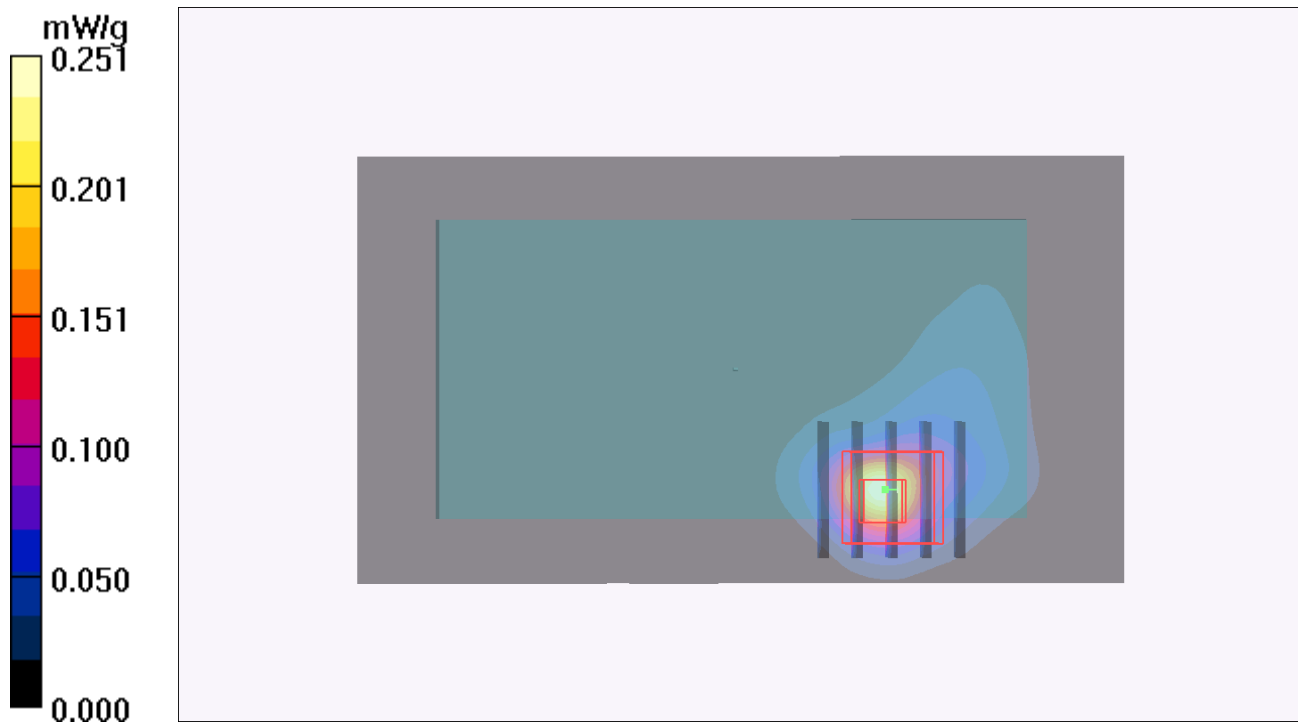
Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.83 V/m; Power Drift = 0.117 dB

Peak SAR (extrapolated) = 0.360 W/kg

SAR(1 g) = 0.158 mW/g; SAR(10 g) = 0.065 mW/g

Maximum value of SAR (measured) = 0.235 mW/g



P110 802.11a_Front Face_1cm_Ch36

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5180 MHz; Duty Cycle: 1:1

Medium: B5G_1102 Medium parameters used: $f = 5180$ MHz; $\sigma = 5.244$ mho/m; $\epsilon_r = 49.11$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.9 °C ; Liquid Temperature : 20.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.93, 3.93, 3.93); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch36/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

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

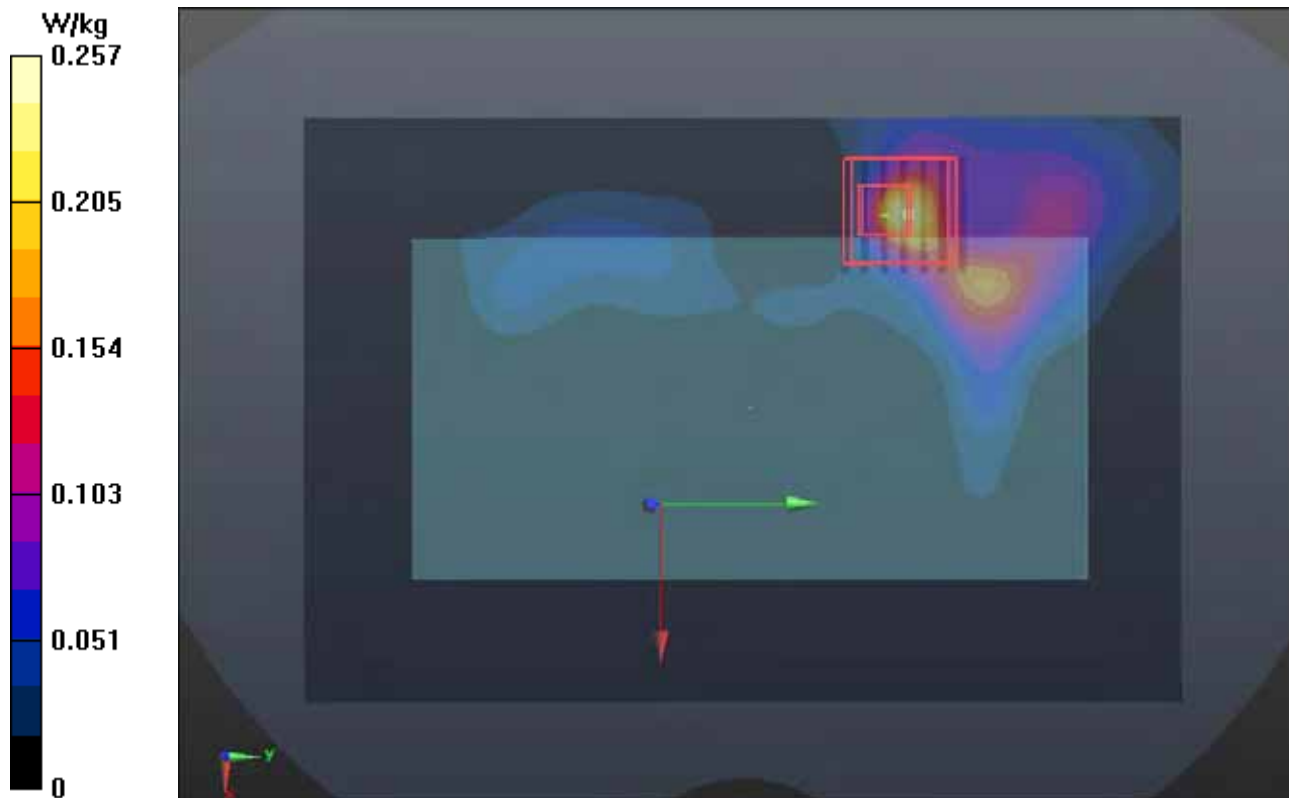
Ch36/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 1.127 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.370 mW/g

SAR(1 g) = 0.112 mW/g; SAR(10 g) = 0.036 mW/g

Maximum value of SAR (measured) = 0.211 W/kg



P111 802.11a_Rear Face_1cm_Ch36

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5180 MHz; Duty Cycle: 1:1

Medium: B5G_1102 Medium parameters used: $f = 5180$ MHz; $\sigma = 5.244$ mho/m; $\epsilon_r = 49.11$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.9 °C ; Liquid Temperature : 20.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.93, 3.93, 3.93); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch36/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.693 W/kg

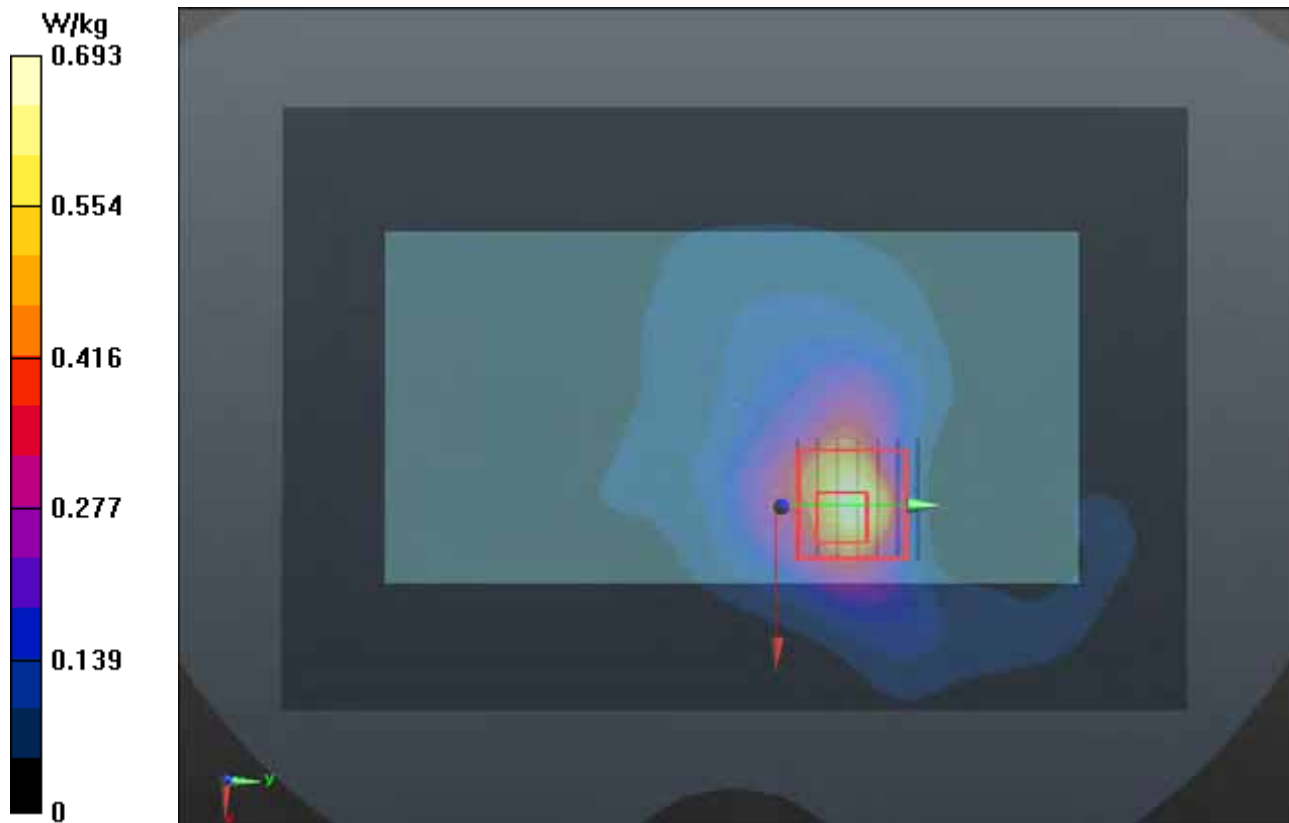
Ch36/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 5.091 V/m; Power Drift = 0.06 dB

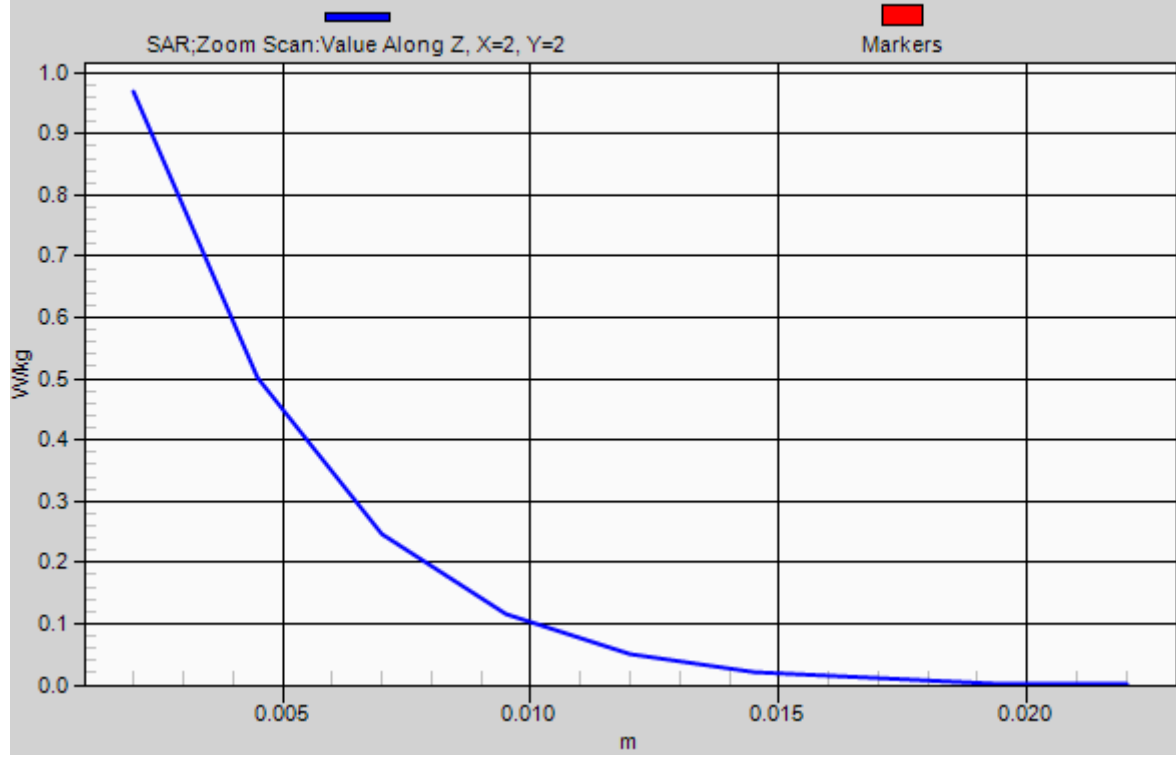
Peak SAR (extrapolated) = 1.685 mW/g

SAR(1 g) = 0.515 mW/g; SAR(10 g) = 0.172 mW/g

Maximum value of SAR (measured) = 0.969 W/kg



1g/10g Averaged SAR



P112 802.11a_Left Side_1cm_Ch36

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5180 MHz; Duty Cycle: 1:1

Medium: B5G_1102 Medium parameters used: $f = 5180$ MHz; $\sigma = 5.244$ mho/m; $\epsilon_r = 49.11$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.9 °C ; Liquid Temperature : 20.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.93, 3.93, 3.93); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch36/Area Scan (61x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.644 W/kg

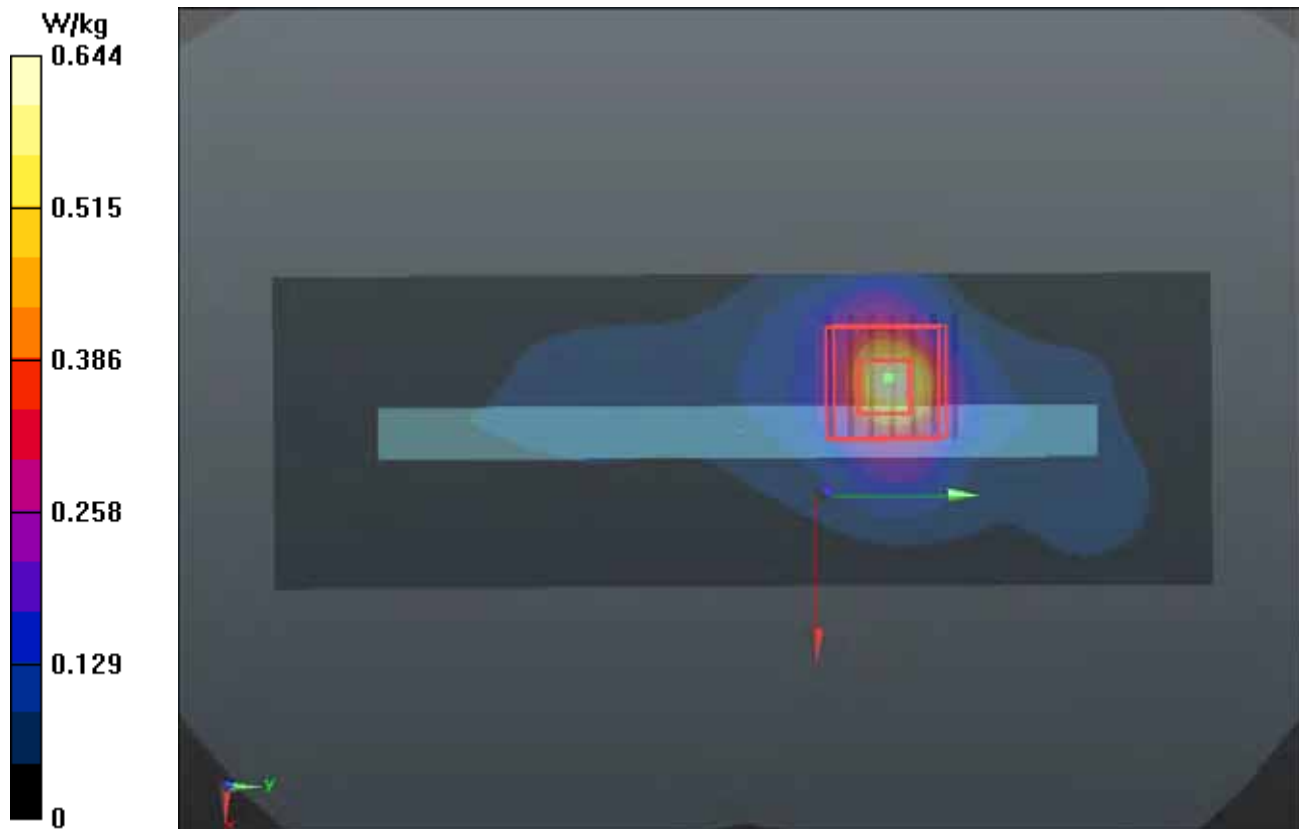
Ch36/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 5.125 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.119 mW/g

SAR(1 g) = 0.361 mW/g; SAR(10 g) = 0.130 mW/g

Maximum value of SAR (measured) = 0.654 W/kg



P113 802.11a_Front Face_1cm_Ch36_Earphone

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5180 MHz; Duty Cycle: 1:1

Medium: B5G_1102 Medium parameters used: $f = 5180$ MHz; $\sigma = 5.244$ mho/m; $\epsilon_r = 49.11$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.9 °C ; Liquid Temperature : 20.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.93, 3.93, 3.93); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch36/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.221 W/kg

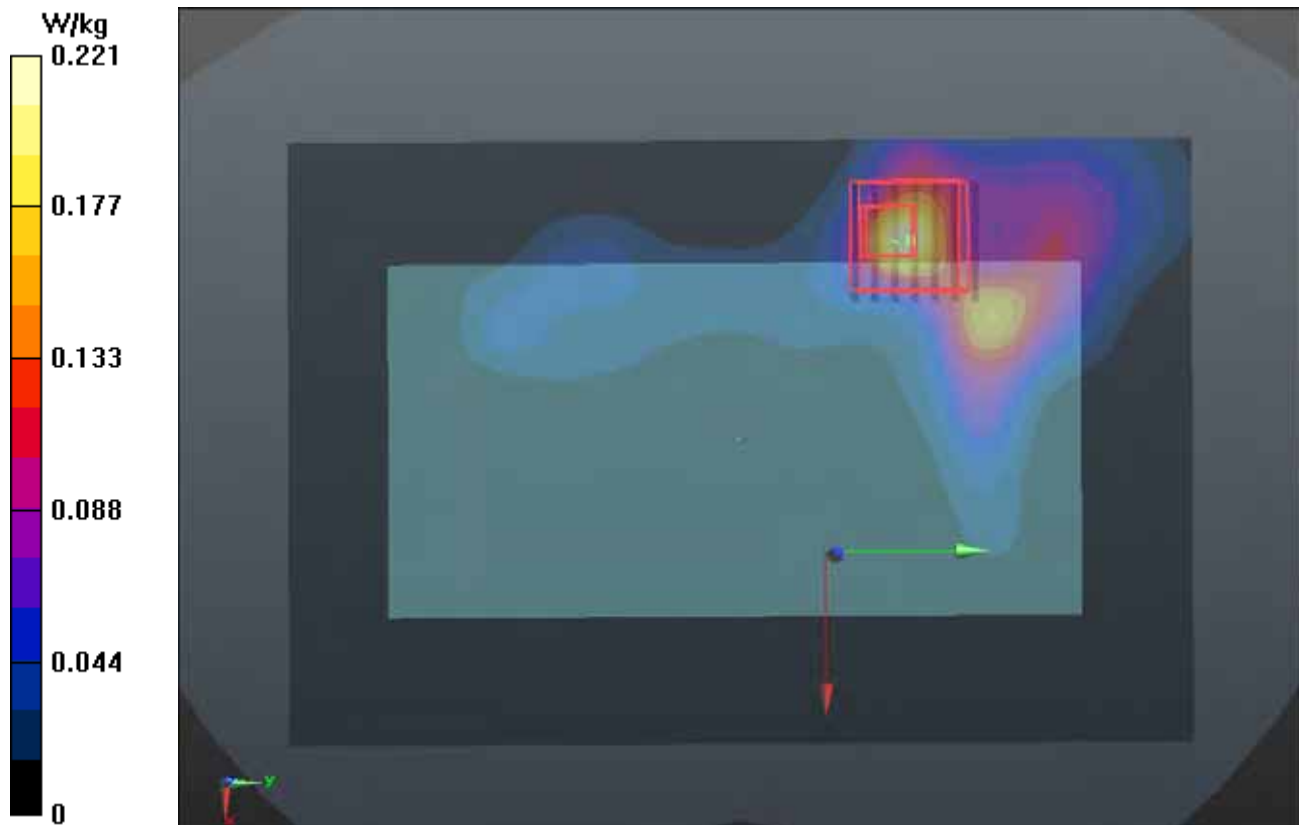
Ch36/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 1.278 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.363 mW/g

SAR(1 g) = 0.110 mW/g; SAR(10 g) = 0.036 mW/g

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



P114 802.11a_Rear Face_1cm_Ch36_Earphone

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5180 MHz; Duty Cycle: 1:1

Medium: B5G_1102 Medium parameters used: $f = 5180$ MHz; $\sigma = 5.244$ mho/m; $\epsilon_r = 49.11$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.9 °C ; Liquid Temperature : 20.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.93, 3.93, 3.93); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch36/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.827 W/kg

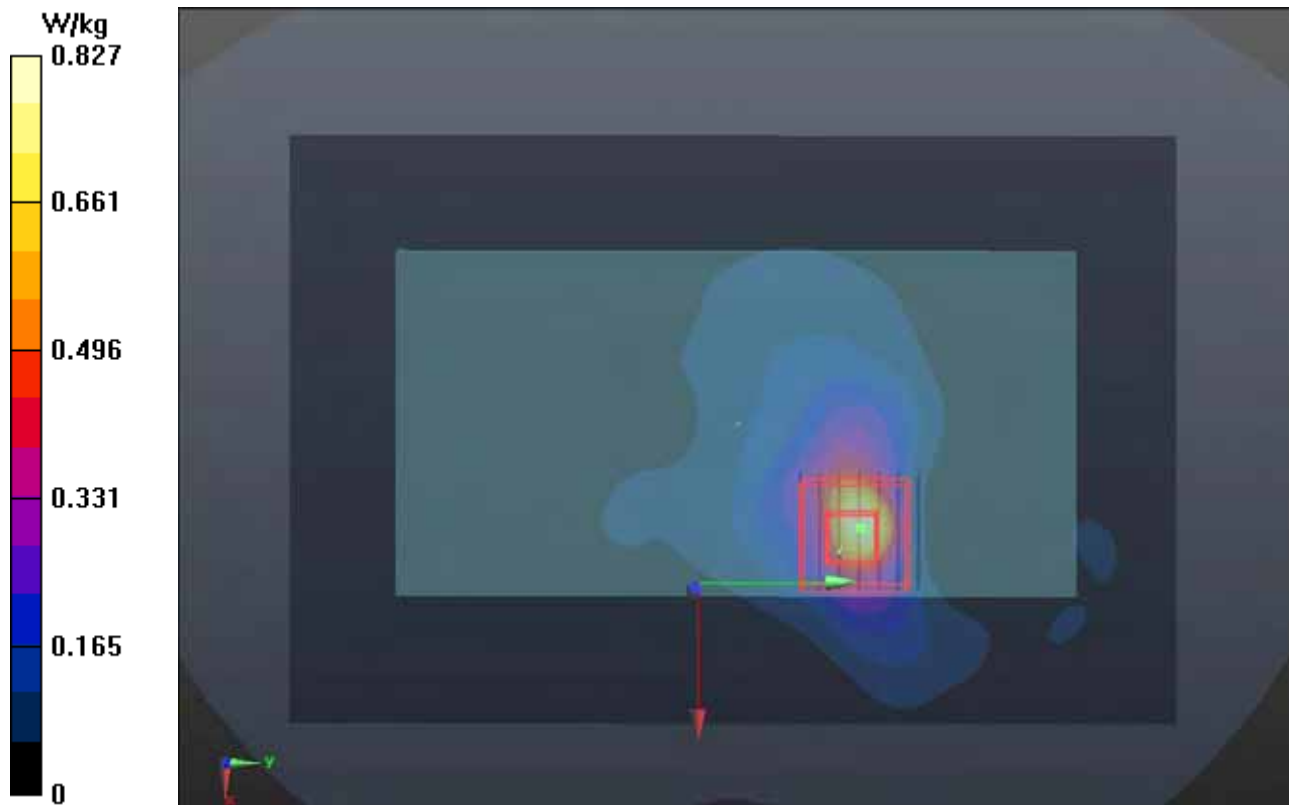
Ch36/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.871 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 1.695 mW/g

SAR(1 g) = 0.505 mW/g; SAR(10 g) = 0.171 mW/g

Maximum value of SAR (measured) = 0.919 W/kg



P115 802.11a_Front Face_1cm_Ch64_Earphone

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5320 MHz; Duty Cycle: 1:1

Medium: B5G_1102 Medium parameters used: $f = 5320$ MHz; $\sigma = 5.424$ mho/m; $\epsilon_r = 48.73$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.9 °C ; Liquid Temperature : 20.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.66, 3.66, 3.66); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch64/Area Scan (61x91x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.311 W/kg

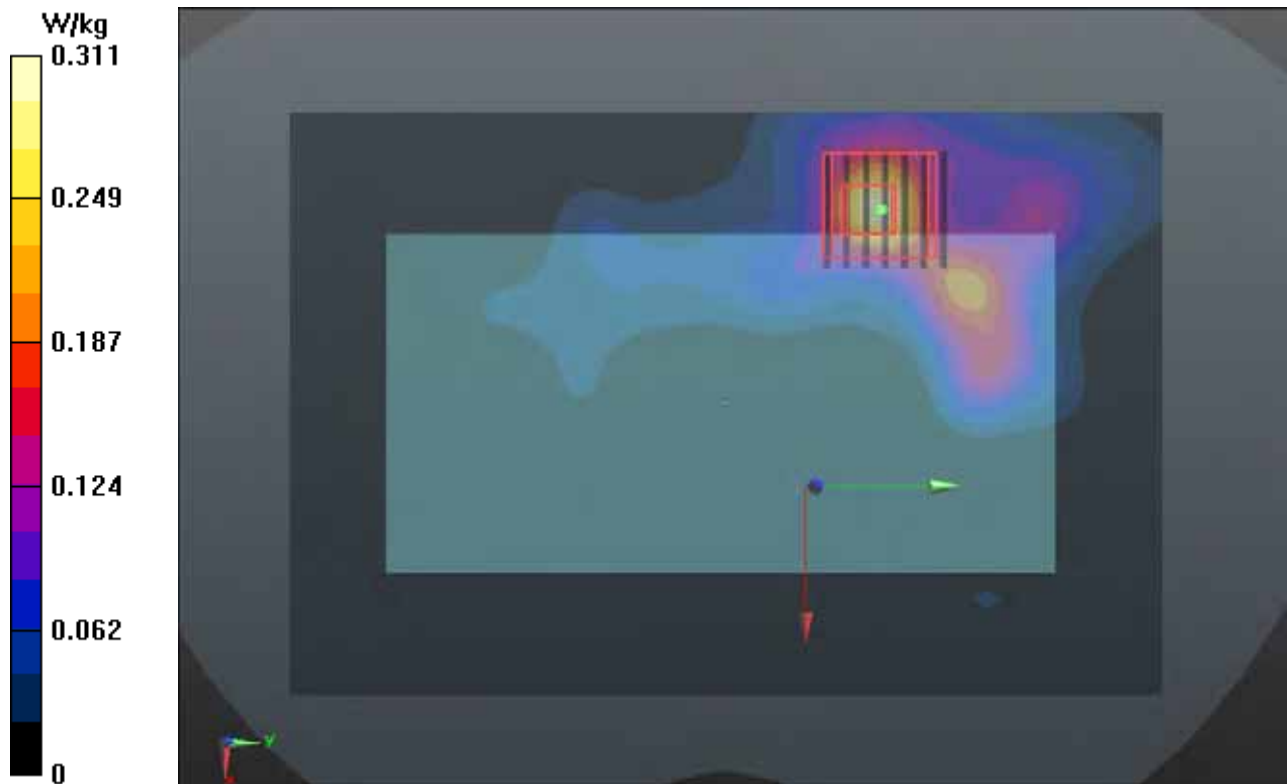
Ch64/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 1.980 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.472 mW/g

SAR(1 g) = 0.156 mW/g; SAR(10 g) = 0.054 mW/g

Maximum value of SAR (measured) = 0.295 W/kg



P116 802.11a_Raer Face_1cm_Ch64_Earphone

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5320 MHz; Duty Cycle: 1:1

Medium: B5G_1102 Medium parameters used: $f = 5320$ MHz; $\sigma = 5.424$ mho/m; $\epsilon_r = 48.73$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.9 °C ; Liquid Temperature : 20.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.66, 3.66, 3.66); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch64/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

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

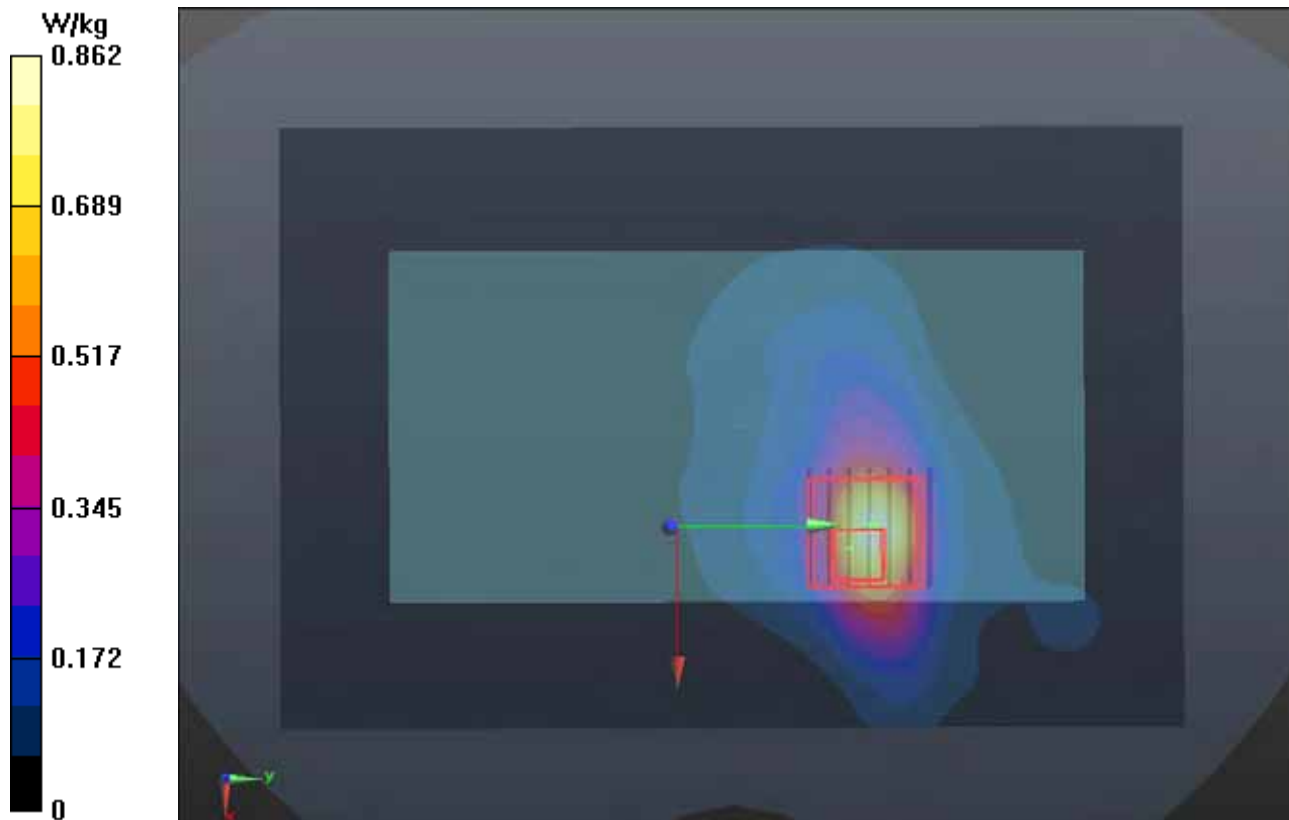
Ch64/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.343 V/m; Power Drift = 0.01 dB

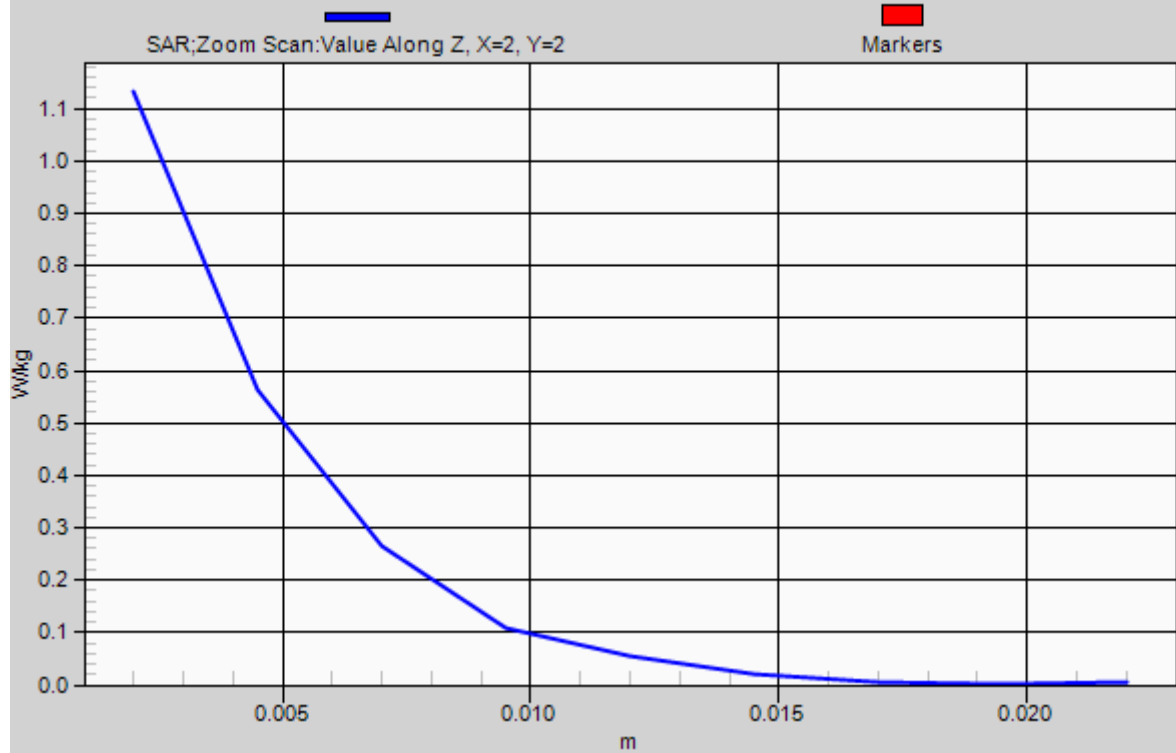
Peak SAR (extrapolated) = 2.018 mW/g

SAR(1 g) = 0.608 mW/g; SAR(10 g) = 0.204 mW/g

Maximum value of SAR (measured) = 1.13 W/kg



1g/10g Averaged SAR



P117 802.11a_Front Face_1cm_Ch116_Earphone

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5580 MHz; Duty Cycle: 1:1

Medium: B5G_1102 Medium parameters used: $f = 5580$ MHz; $\sigma = 5.818$ mho/m; $\epsilon_r = 48.209$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.9 °C ; Liquid Temperature : 20.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.25, 3.25, 3.25); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch116/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.411 W/kg

Ch116/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 2.801 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.748 mW/g

SAR(1 g) = 0.230 mW/g; SAR(10 g) = 0.082 mW/g

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



P118 802.11a_Rear Face_1cm_Ch116_Earphone

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5580 MHz; Duty Cycle: 1:1

Medium: B5G_1102 Medium parameters used: $f = 5580$ MHz; $\sigma = 5.818$ mho/m; $\epsilon_r = 48.209$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.9 °C ; Liquid Temperature : 20.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.25, 3.25, 3.25); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch116/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.72 W/kg

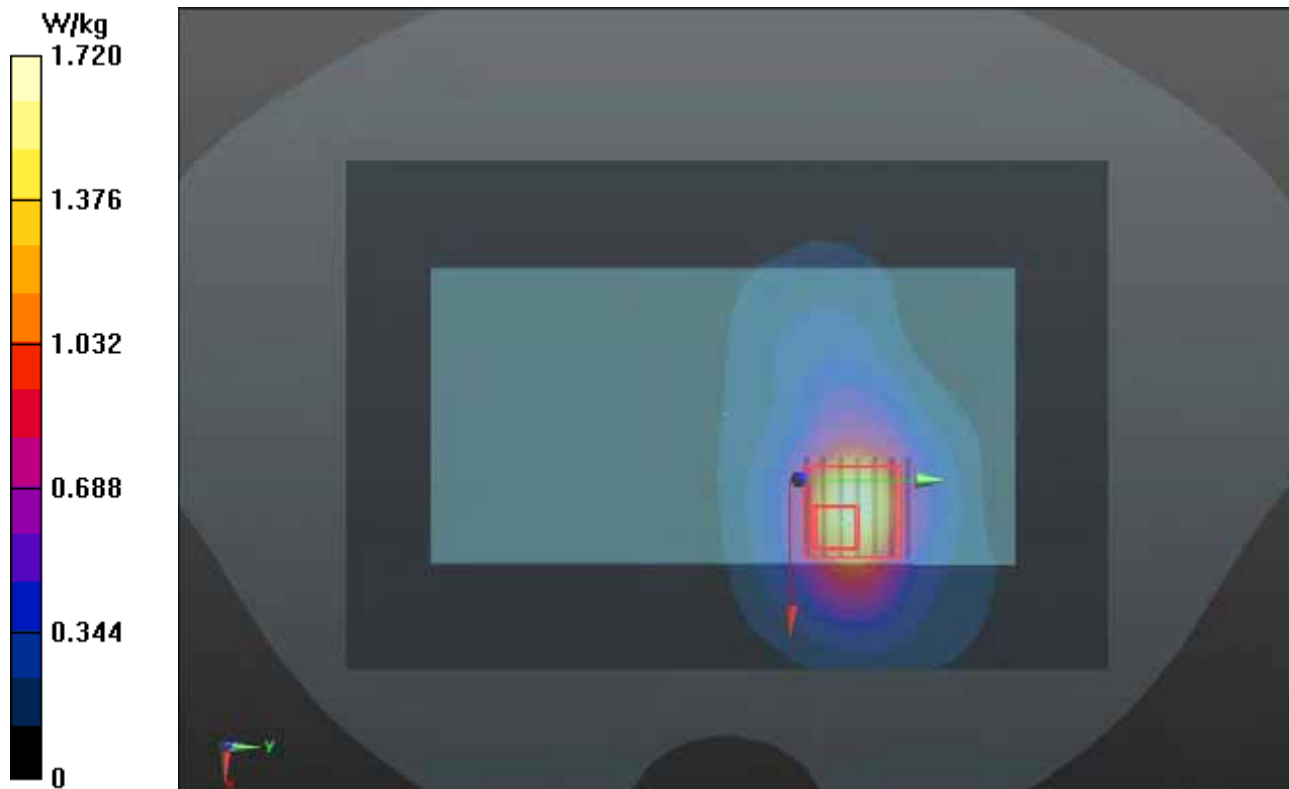
Ch116/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.872 V/m; Power Drift = 0.12 dB

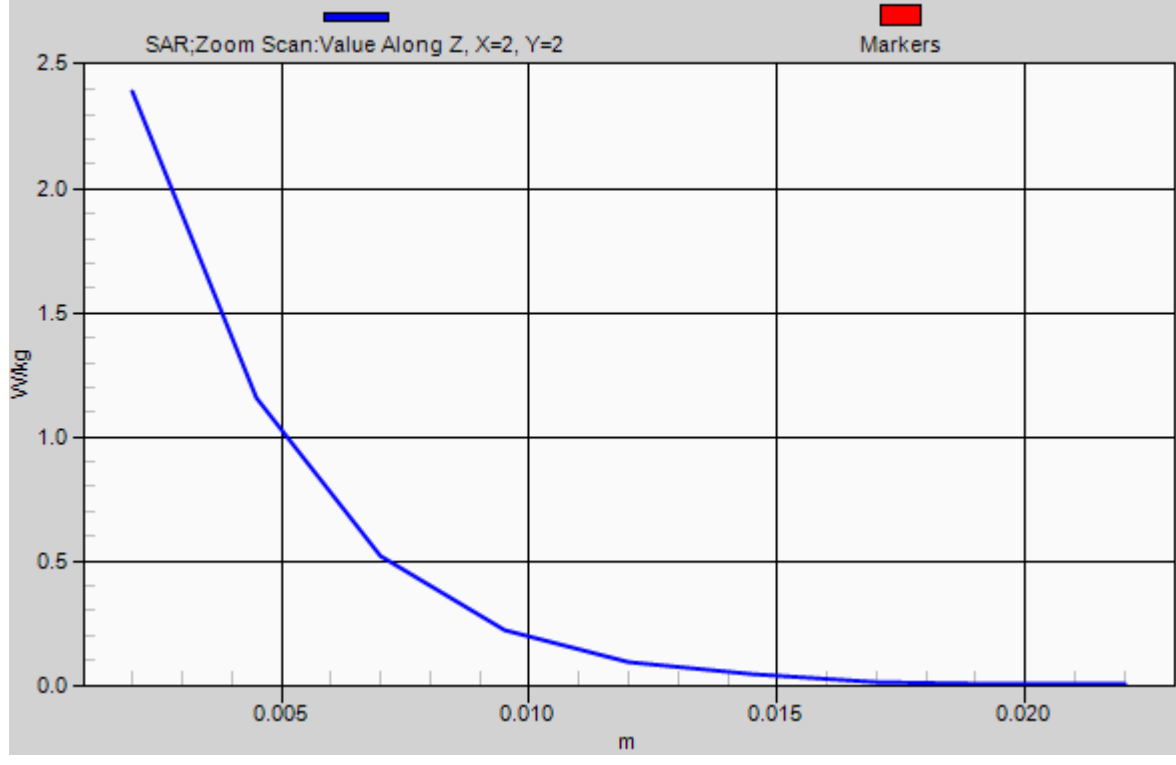
Peak SAR (extrapolated) = 4.177 mW/g

SAR(1 g) = 1.22 mW/g; SAR(10 g) = 0.402 mW/g

Maximum value of SAR (measured) = 2.39 W/kg



1g/10g Averaged SAR



P126 802.11a_Rear Face_1cm_Ch108_Earphone

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5540 MHz; Duty Cycle: 1:1

Medium: B5G_1102 Medium parameters used: $f = 5540$ MHz; $\sigma = 5.711$ mho/m; $\epsilon_r = 48.346$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.9 °C ; Liquid Temperature : 20.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.45, 3.45, 3.45); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch108/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.57 W/kg

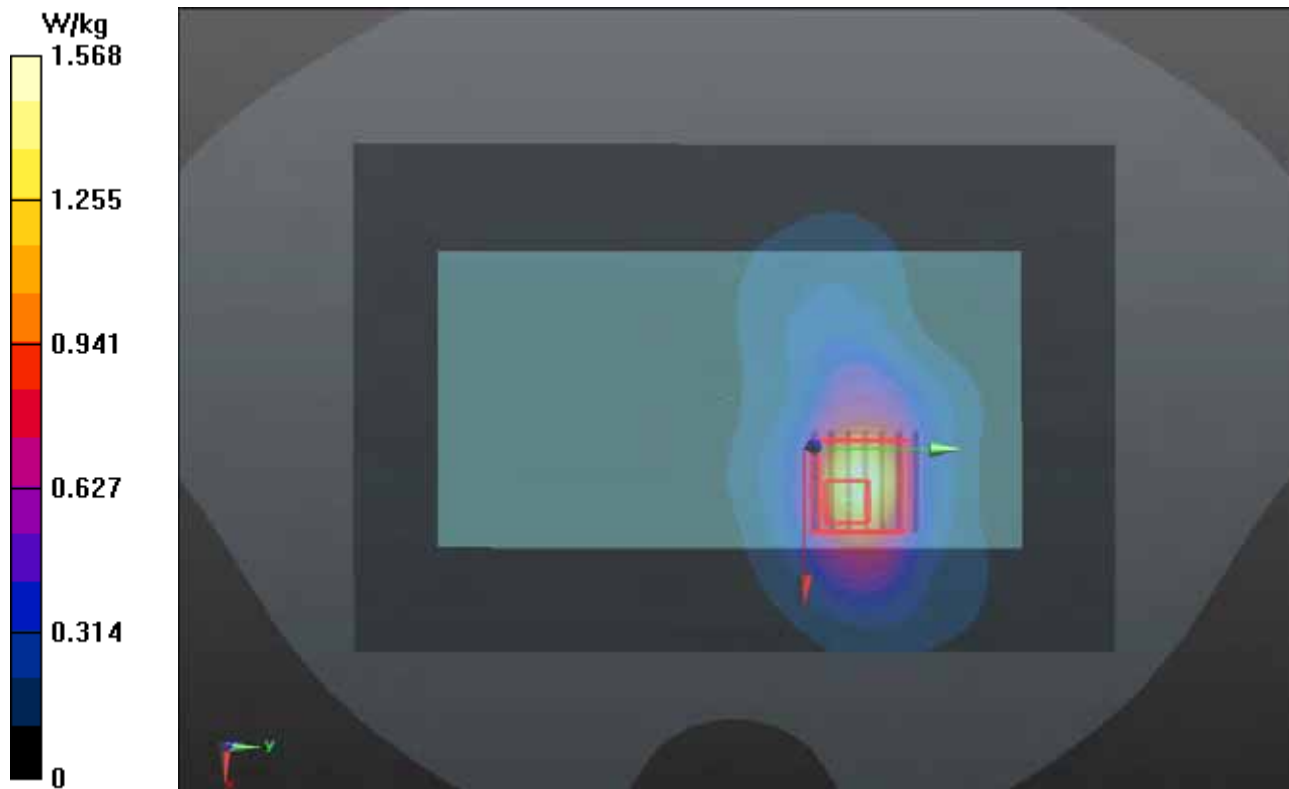
Ch108/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.599 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 3.229 mW/g

SAR(1 g) = 0.954 mW/g; SAR(10 g) = 0.323 mW/g

Maximum value of SAR (measured) = 1.86 W/kg



P127 802.11a_Rear Face_1cm_Ch136_Earphone

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5680 MHz; Duty Cycle: 1:1

Medium: B5G_1108 Medium parameters used: $f = 5680$ MHz; $\sigma = 5.936$ mho/m; $\epsilon_r = 48.024$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.25, 3.25, 3.25); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch136/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

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

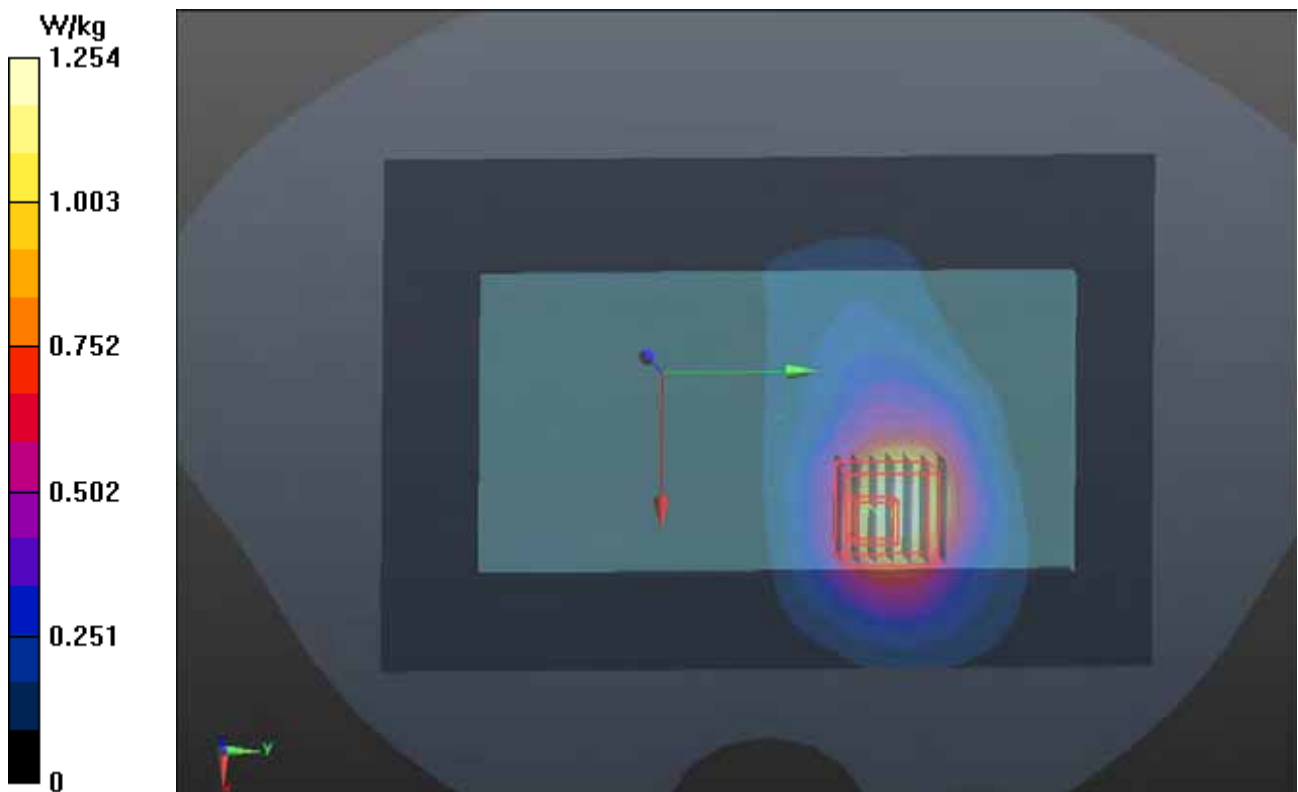
Ch136/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 4.352 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 2.883 mW/g

SAR(1 g) = 0.843 mW/g; SAR(10 g) = 0.287 mW/g

Maximum value of SAR (measured) = 1.61 W/kg



P119 802.11a_Front Face_1cm_Ch153

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5765 MHz; Duty Cycle: 1:1

Medium: B5G_1102 Medium parameters used: $f = 5765$ MHz; $\sigma = 6.025$ mho/m; $\epsilon_r = 48.02$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.9 °C ; Liquid Temperature : 20.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch153/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.410 W/kg

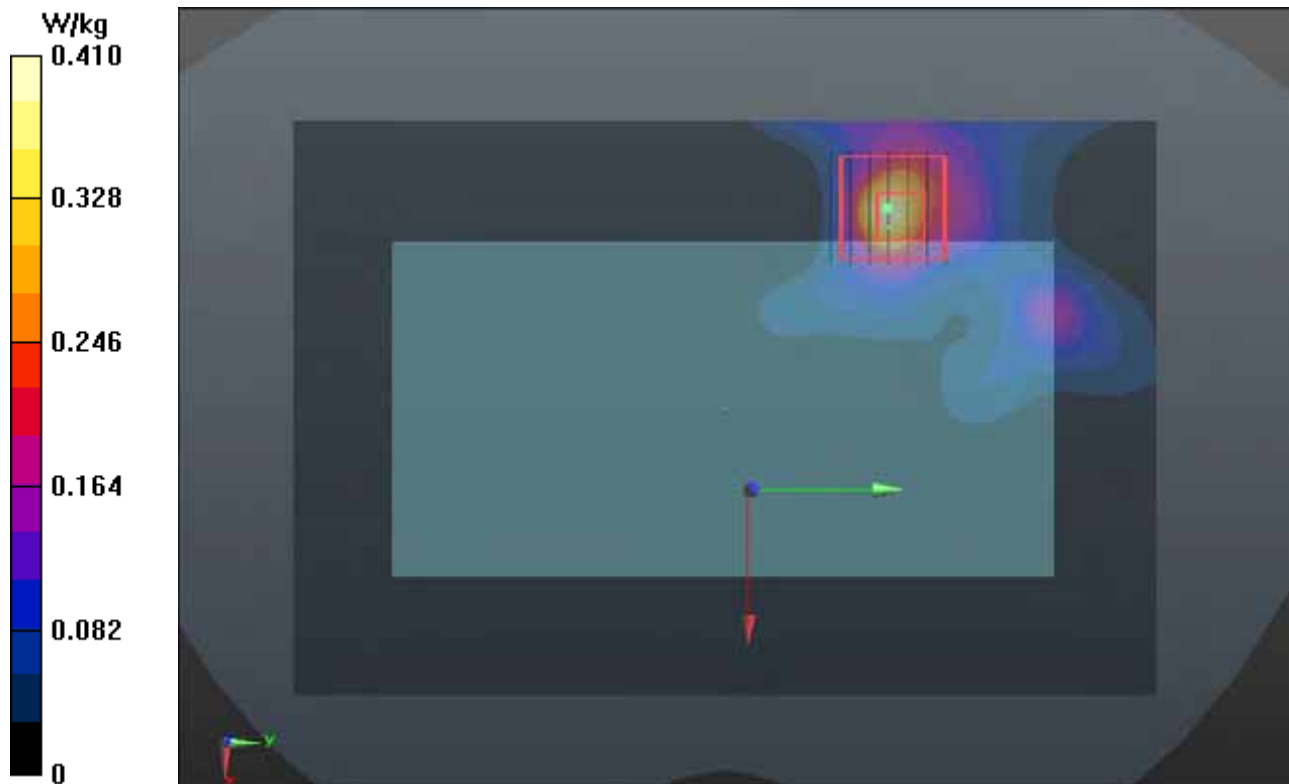
Ch153/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 2.318 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.662 mW/g

SAR(1 g) = 0.198 mW/g; SAR(10 g) = 0.072 mW/g

Maximum value of SAR (measured) = 0.383 W/kg



P120 802.11a_Rear Face_1cm_Ch153

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5765 MHz; Duty Cycle: 1:1

Medium: B5G_1102 Medium parameters used: $f = 5765$ MHz; $\sigma = 6.025$ mho/m; $\epsilon_r = 48.02$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.9 °C ; Liquid Temperature : 20.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Left; Type: SAM V4.0; Serial: TP 1202
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch153/Area Scan (61x91x1): Measurement grid: dx=20mm, dy=20mm

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

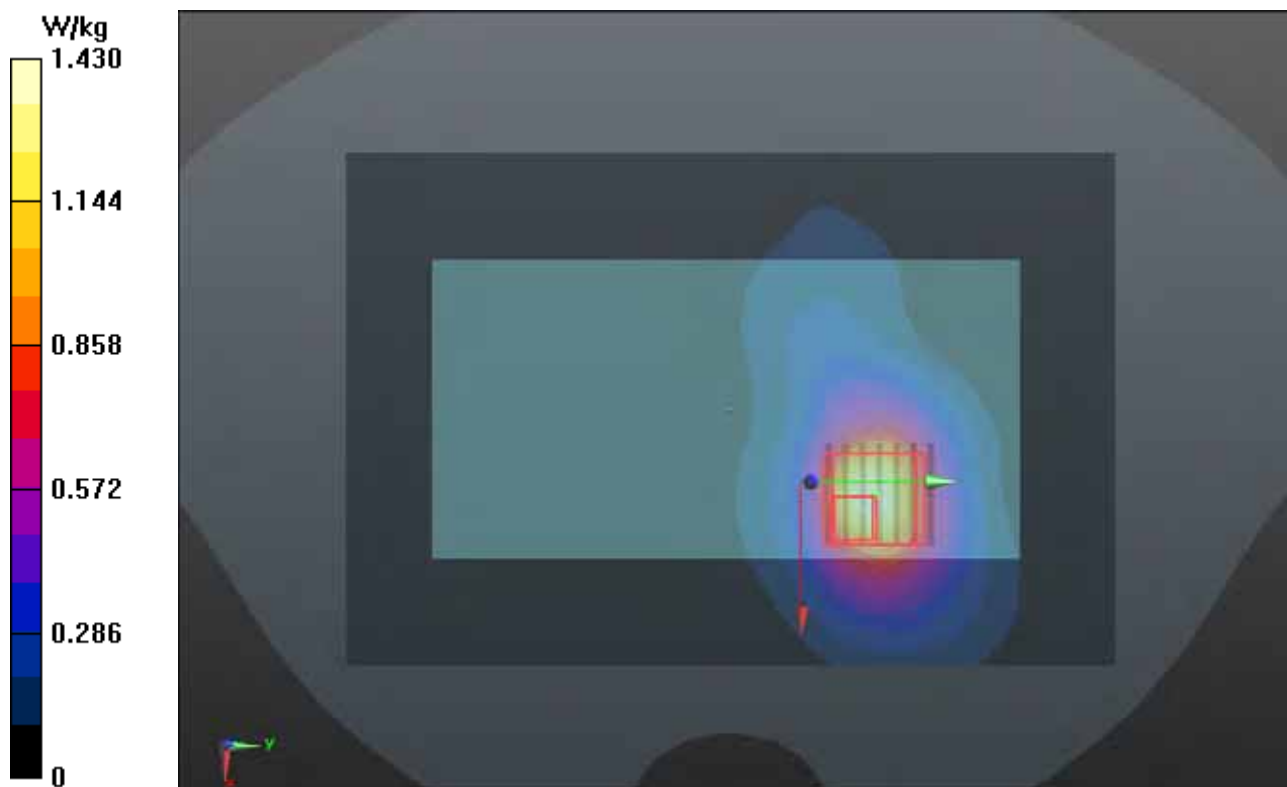
Ch153/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

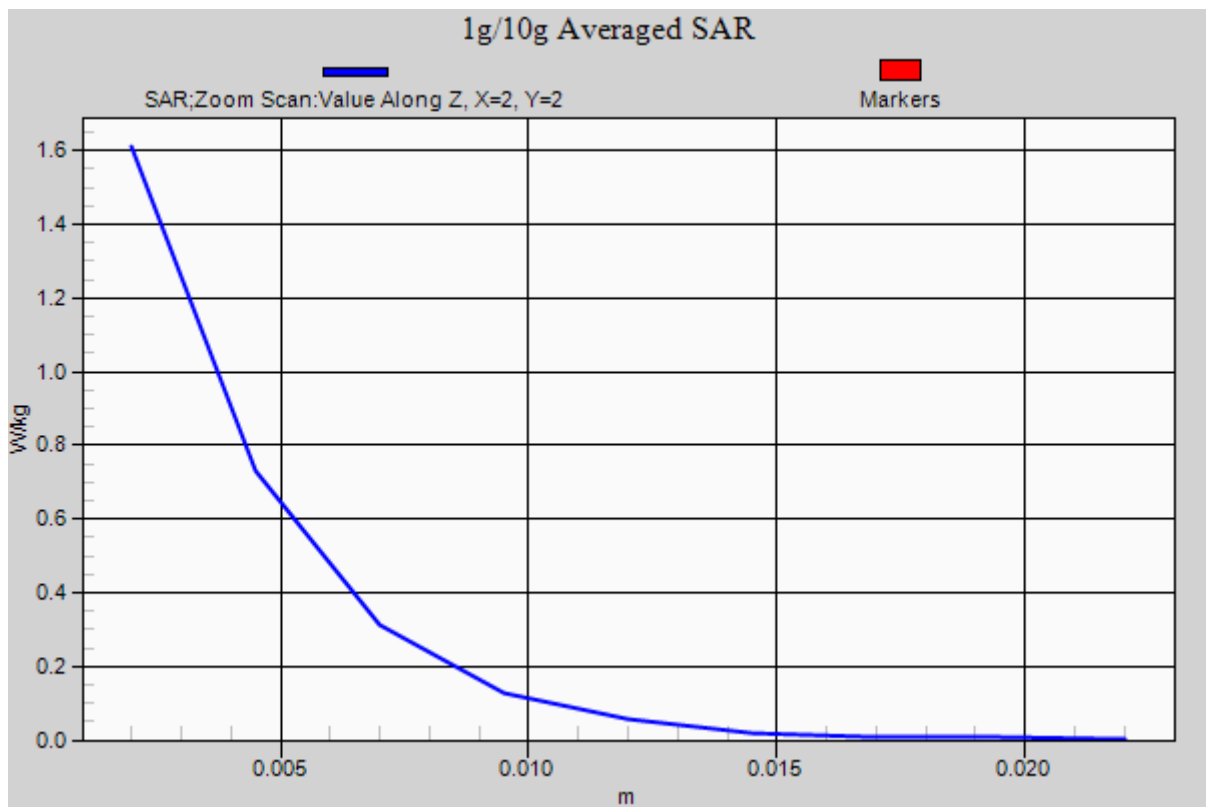
Reference Value = 3.186 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 2.988 mW/g

SAR(1 g) = 0.830 mW/g; SAR(10 g) = 0.264 mW/g

Maximum value of SAR (measured) = 1.61 W/kg





P121 802.11a_Left Side_1cm_Ch153

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5785 MHz; Duty Cycle: 1:1

Medium: B5G_1106 Medium parameters used: $f = 5785$ MHz; $\sigma = 6.074$ mho/m; $\epsilon_r = 47.886$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch157/Area Scan (101x201x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.969 W/kg

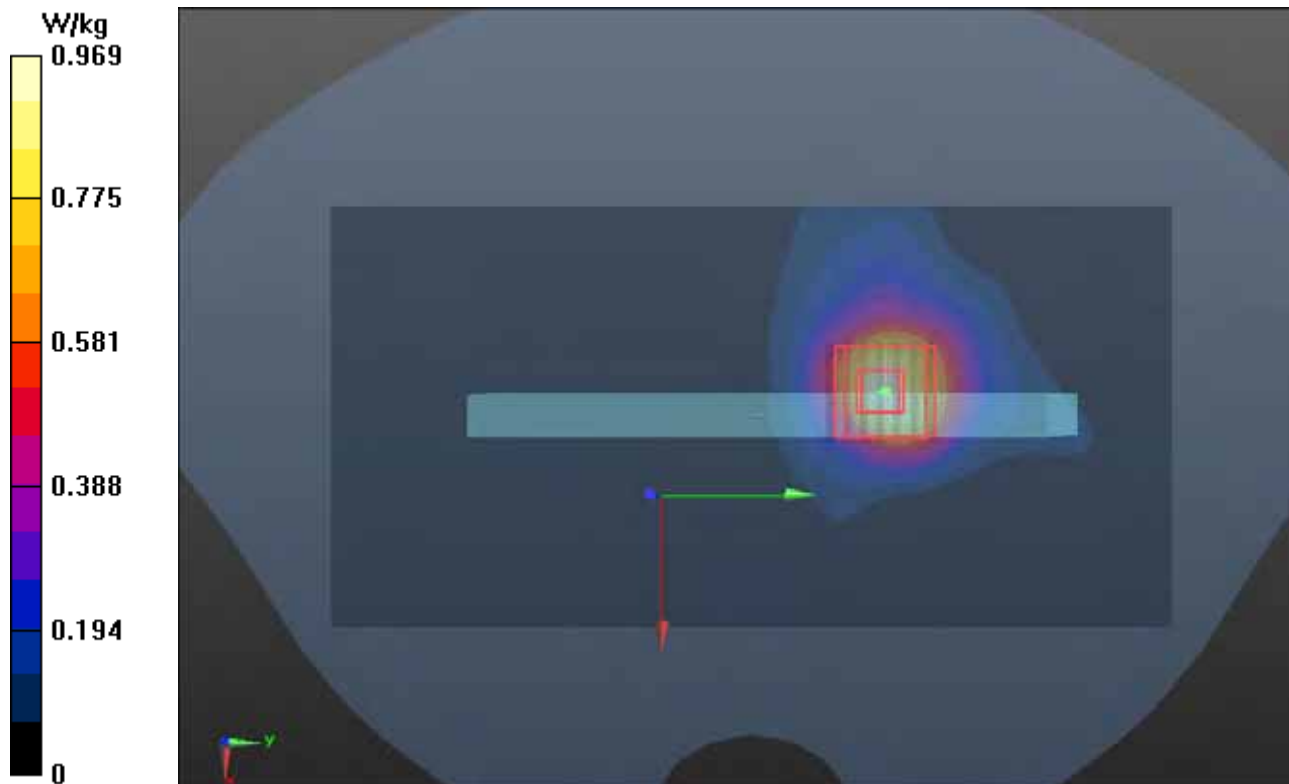
Ch157/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 2.537 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.713 mW/g

SAR(1 g) = 0.532 mW/g; SAR(10 g) = 0.207 mW/g

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



P128 802.11a_Rear Face_1cm_Ch157

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5785 MHz; Duty Cycle: 1:1

Medium: B5G_1106 Medium parameters used: $f = 5785$ MHz; $\sigma = 6.074$ mho/m; $\epsilon_r = 47.886$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch157/Area Scan (161x201x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.945 W/kg

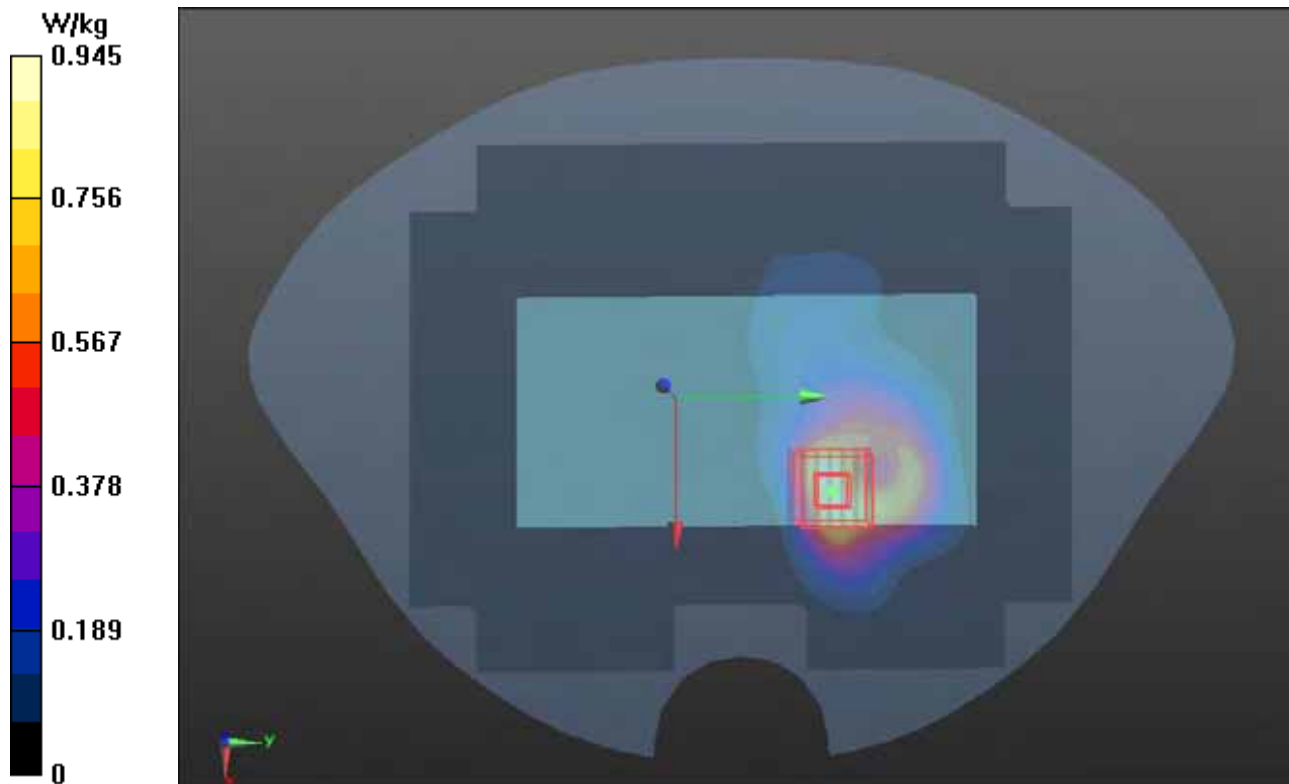
Ch157/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 2.767 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 2.237 mW/g

SAR(1 g) = 0.624 mW/g; SAR(10 g) = 0.221 mW/g

Maximum value of SAR (measured) = 1.23 W/kg



P122 802.11n_HT40_Rear Face_1cm_Ch159

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5795 MHz; Duty Cycle: 1:1

Medium: B5G_1108 Medium parameters used: $f = 5795$ MHz; $\sigma = 6.1$ mho/m; $\epsilon_r = 47.788$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch159/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.12 W/kg

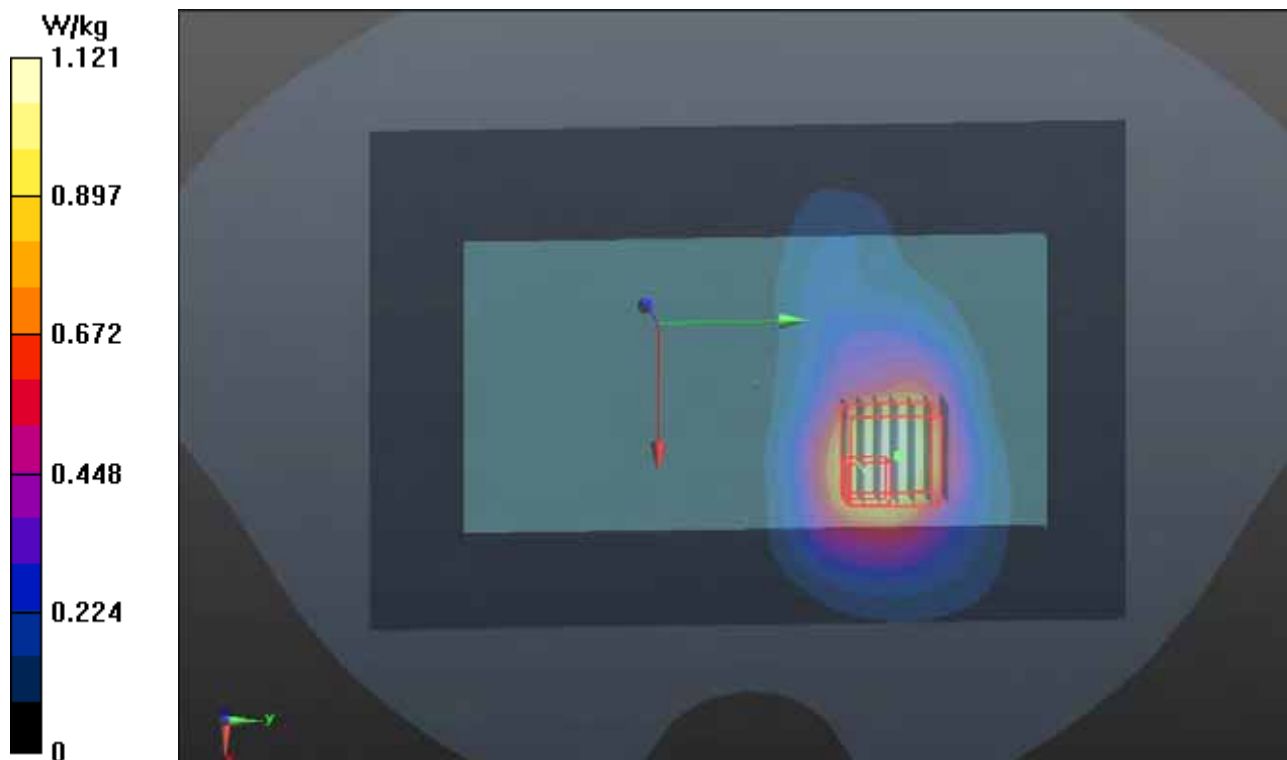
Ch159/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 3.042 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 2.343 mW/g

SAR(1 g) = 0.646 mW/g; SAR(10 g) = 0.193 mW/g

Maximum value of SAR (measured) = 1.28 W/kg



P123 802.11a_Front Face_1cm_Ch153_Earphone

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5765 MHz; Duty Cycle: 1:1

Medium: B5G_1106 Medium parameters used: $f = 5765$ MHz; $\sigma = 6.033$ mho/m; $\epsilon_r = 48.057$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch153/Area Scan (161x201x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.439 W/kg

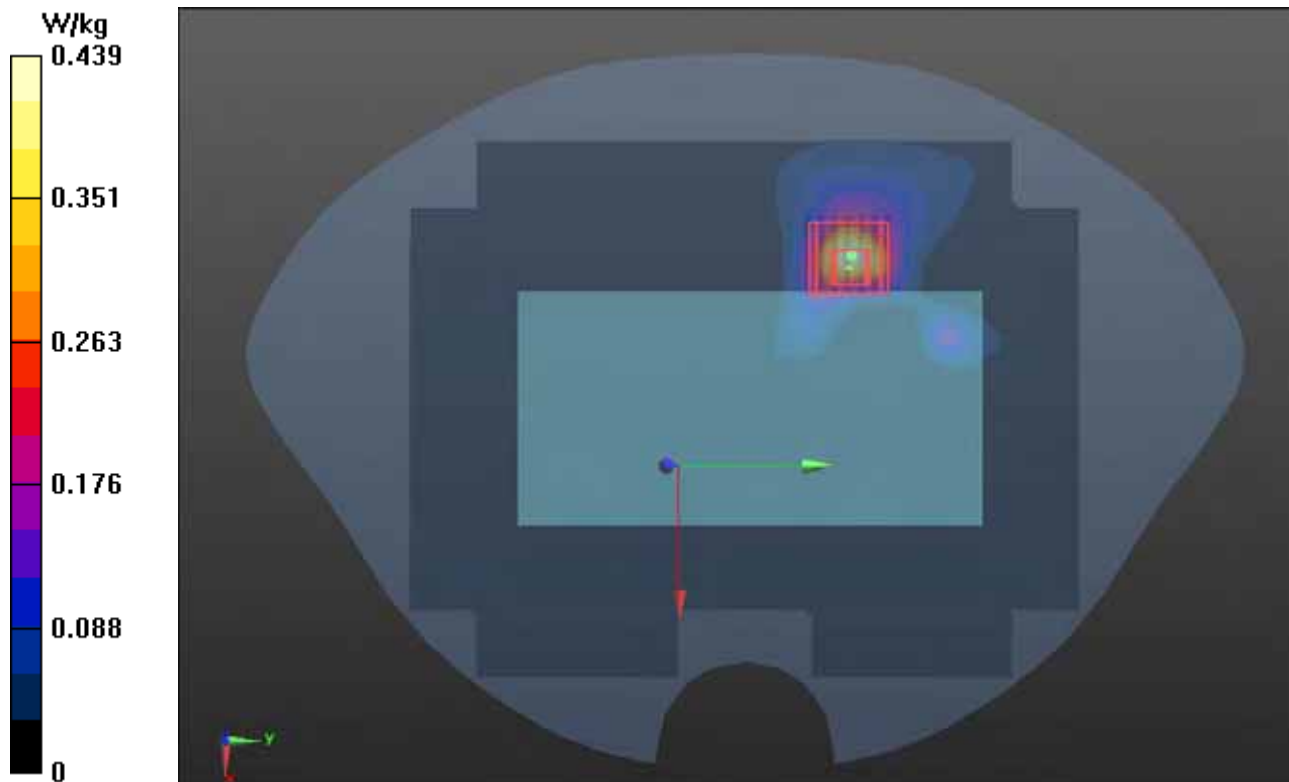
Ch153/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 1.305 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.626 mW/g

SAR(1 g) = 0.202 mW/g; SAR(10 g) = 0.072 mW/g

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



P124 802.11a_Rear Face_1cm_Ch153_Earphone

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5765 MHz; Duty Cycle: 1:1

Medium: B5G_1106 Medium parameters used: $f = 5765$ MHz; $\sigma = 6.033$ mho/m; $\epsilon_r = 48.057$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch153/Area Scan (161x201x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.36 W/kg

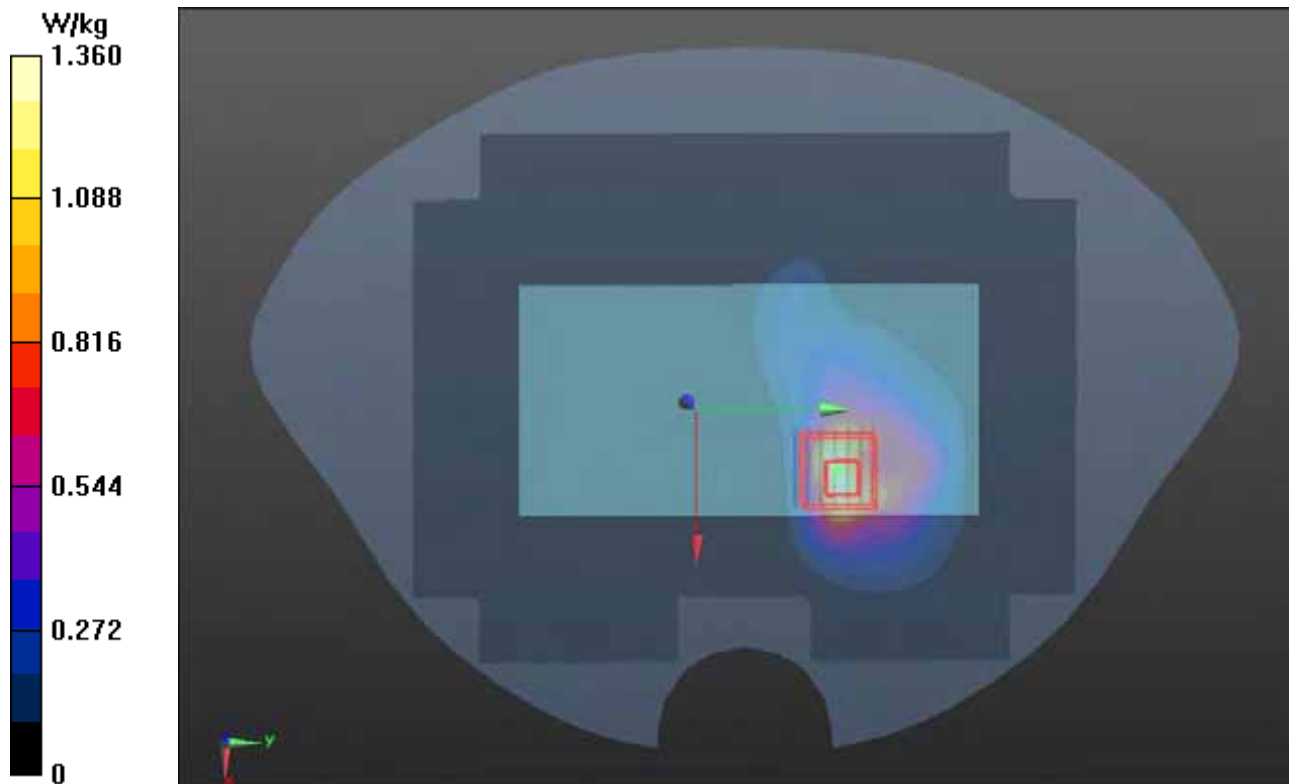
Ch153/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 2.968 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 2.852 mW/g

SAR(1 g) = 0.811 mW/g; SAR(10 g) = 0.285 mW/g

Maximum value of SAR (measured) = 1.56 W/kg



P130 802.11a_Rear Face_1cm_Ch157_Earphone

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5785 MHz; Duty Cycle: 1:1

Medium: B5G_1106 Medium parameters used: $f = 5785$ MHz; $\sigma = 6.074$ mho/m; $\epsilon_r = 47.886$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.6 °C ; Liquid Temperature : 20.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch157/Area Scan (161x201x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.12 W/kg

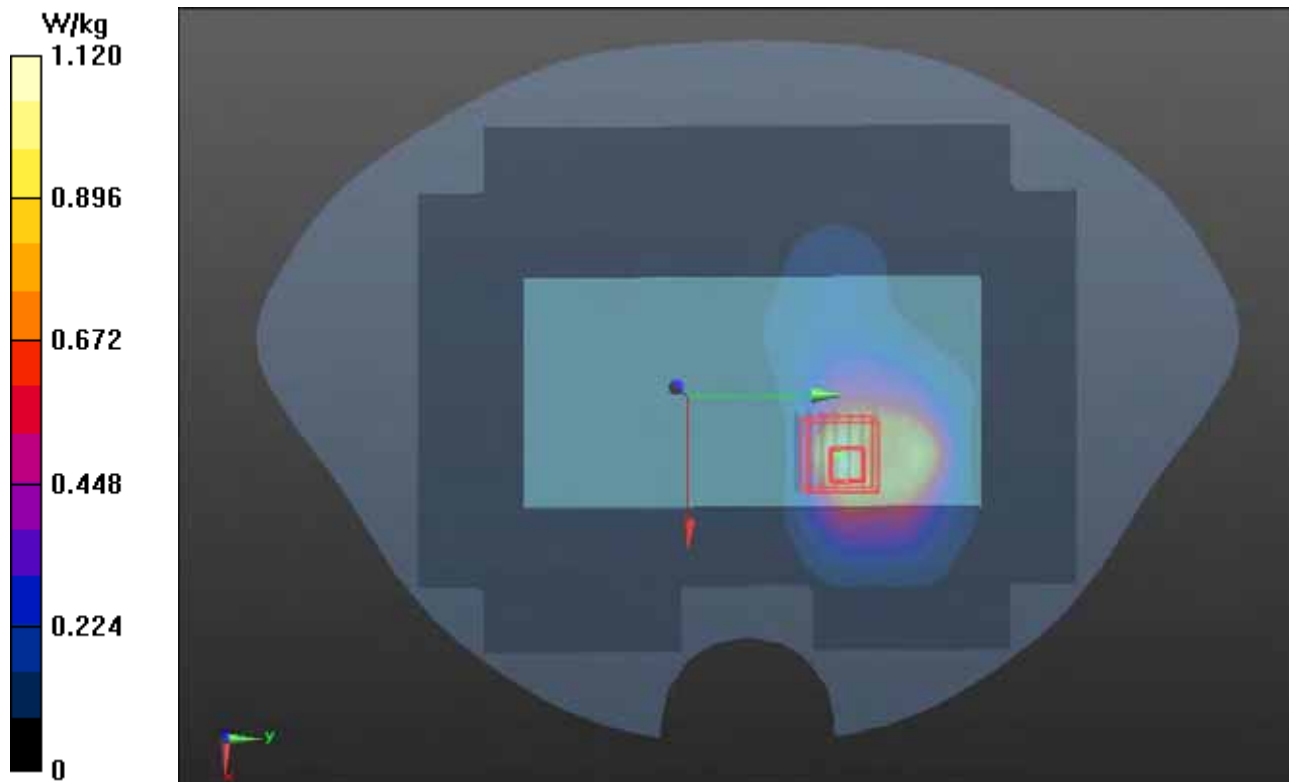
Ch157/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 1.846 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 2.759 mW/g

SAR(1 g) = 0.783 mW/g; SAR(10 g) = 0.267 mW/g

Maximum value of SAR (measured) = 1.54 W/kg



P125 802.11n_HT40_Rear Face_1cm_Ch159_Earphone

DUT: 121025C24

Communication System: WLAN_5G; Frequency: 5795 MHz; Duty Cycle: 1:1

Medium: B5G_1108 Medium parameters used: $f = 5795$ MHz; $\sigma = 6.1$ mho/m; $\epsilon_r = 47.788$; $\rho = 1000$ kg/m³

Ambient Temperature : 21.5 °C ; Liquid Temperature : 20.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/06/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2012/07/19
- Phantom: SAM Phantom_Front; Type: SAM V4.0; Serial: TP 1485
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch159/Area Scan (121x181x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.14 W/kg

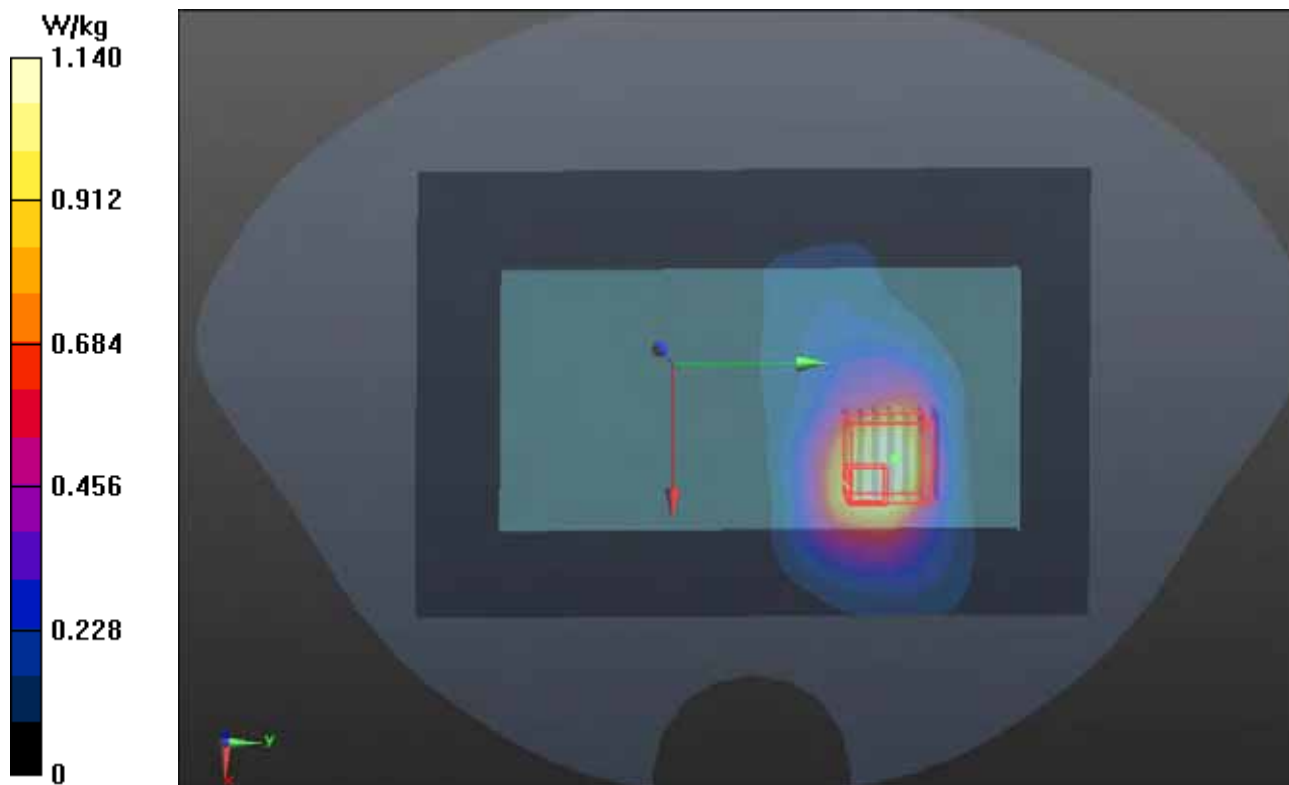
Ch159/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm

Reference Value = 3.287 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 2.319 mW/g

SAR(1 g) = 0.605 mW/g; SAR(10 g) = 0.168 mW/g

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





Appendix C. Calibration Certificate for Probe and Dipole

The SPEAG calibration certificates are shown as follows.



Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **B.V. ADT (Auden)**

Certificate No: **D835V2-4d021_Apr12**

CALIBRATION CERTIFICATE

Object **D835V2 - SN: 4d021**

Calibration procedure(s) **QA CAL-05.v8
Calibration procedure for dipole validation kits above 700 MHz**

Calibration date: **April 20, 2012**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	05-Oct-11 (No. 217-01451)	Oct-12
Power sensor HP 8481A	US37292783	05-Oct-11 (No. 217-01451)	Oct-12
Reference 20 dB Attenuator	SN: 5058 (20k)	27-Mar-12 (No. 217-01530)	Apr-13
Type-N mismatch combination	SN: 5047.2 / 06327	27-Mar-12 (No. 217-01533)	Apr-13
Reference Probe ES3DV3	SN: 3205	30-Dec-11 (No. ES3-3205_Dec11)	Dec-12
DAE4	SN: 601	04-Jul-11 (No. DAE4-601_Jul11)	Jul-12

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-11)	In house check: Oct-12

	Name	Function	Signature
Calibrated by:	Israe El-Naouq	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: April 20, 2012

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 108**

The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
- Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.1
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz \pm 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 \pm 0.2) °C	41.1 \pm 6 %	0.90 mho/m \pm 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.37 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	9.46 mW / g \pm 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.55 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	6.19 mW / g \pm 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 \pm 0.2) °C	54.5 \pm 6 %	1.01 mho/m \pm 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.48 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	9.60 mW / g \pm 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.63 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	6.35 mW / g \pm 16.5 % (k=2)

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	52.0 Ω - 2.1 j Ω
Return Loss	- 30.9 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.7 Ω - 3.5 j Ω
Return Loss	- 27.4 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.392 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	April 22, 2004

DASY5 Validation Report for Head TSL

Date: 20.04.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d021

Communication System: CW; Frequency: 835 MHz

Medium parameters used: $f = 835$ MHz; $\sigma = 0.9$ mho/m; $\epsilon_r = 41.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.07, 6.07, 6.07); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.1(838); SEMCAD X 14.6.5(6469)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

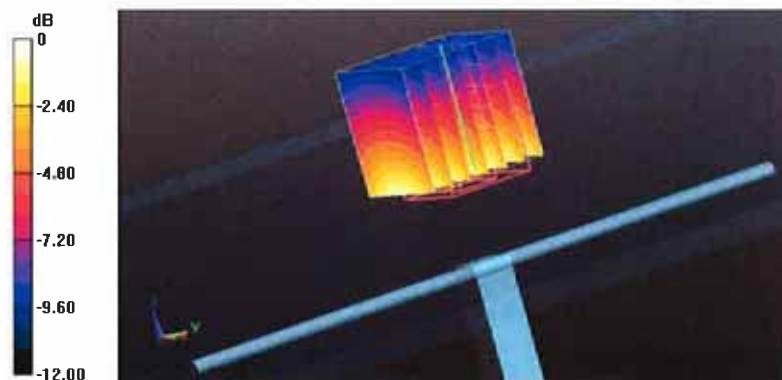
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 57.325 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 3.488 mW/g

SAR(1 g) = 2.37 mW/g; SAR(10 g) = 1.55 mW/g

Maximum value of SAR (measured) = 2.76 mW/g

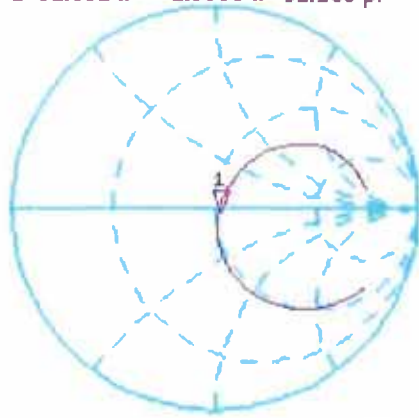


0 dB = 2.76 mW/g = 8.82 dB mW/g

Impedance Measurement Plot for Head TSL

20 Apr 2012 09:25:39
CH1 S11 1 U FS 1: 52.002 Ω -2.0898 Ω 91.205 pF 835.000 000 MHz

*
De1
Cor



Avg
16

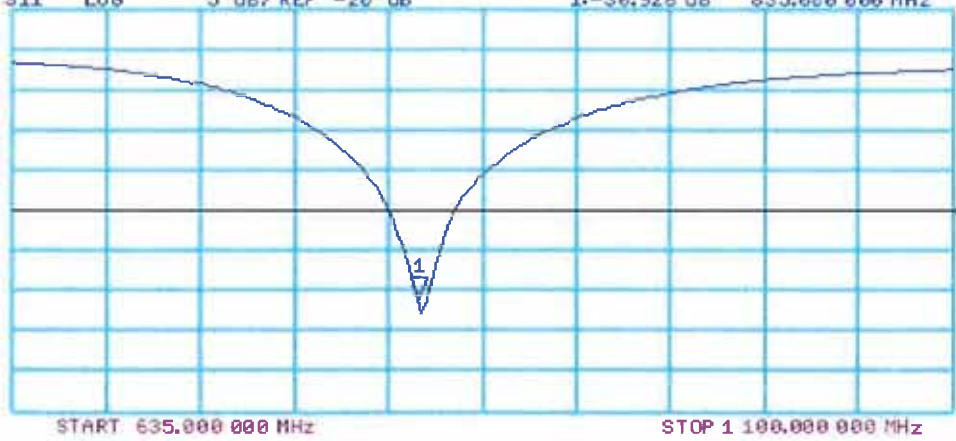
H1d

CH2 S11 LOG 5 dB/REF -20 dB 1:-30.926 dB 835.000 000 MHz

Cor

Avg
16

H1d



DASY5 Validation Report for Body TSL

Date: 19.04.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d021

Communication System: CW; Frequency: 835 MHz

Medium parameters used: $f = 835$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 54.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.02, 6.02, 6.02); Calibrated: 30.12.2011;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.1(838); SEMCAD X 14.6.5(6469)

Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

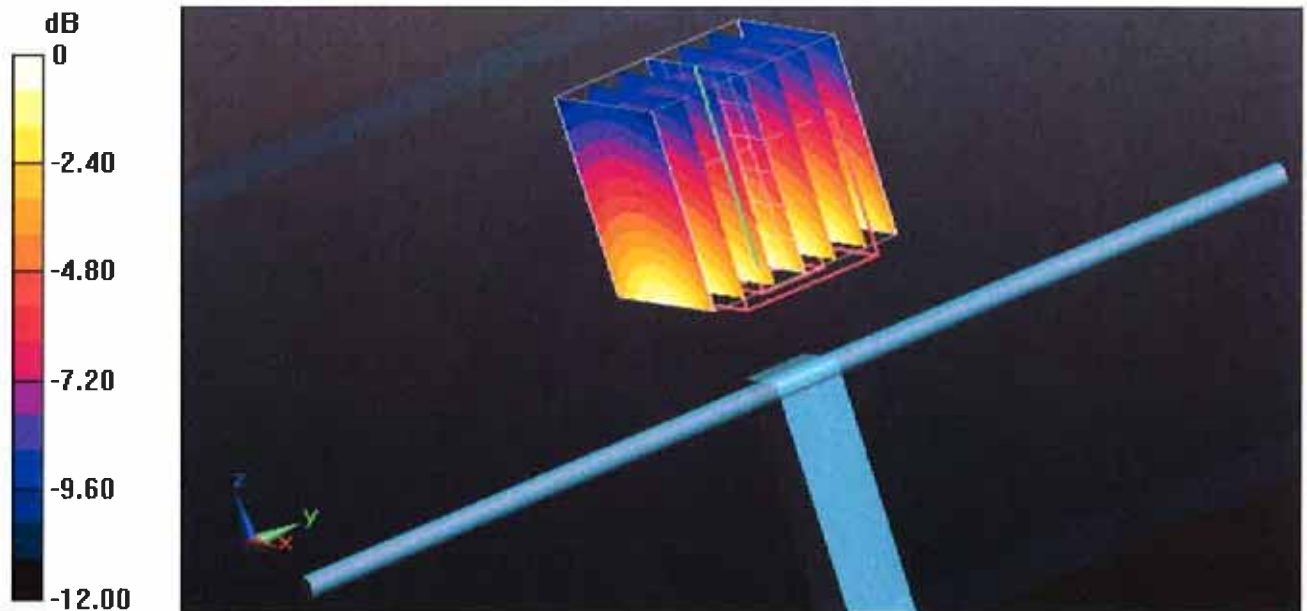
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 55.287 V/m; Power Drift = 0.01 dB

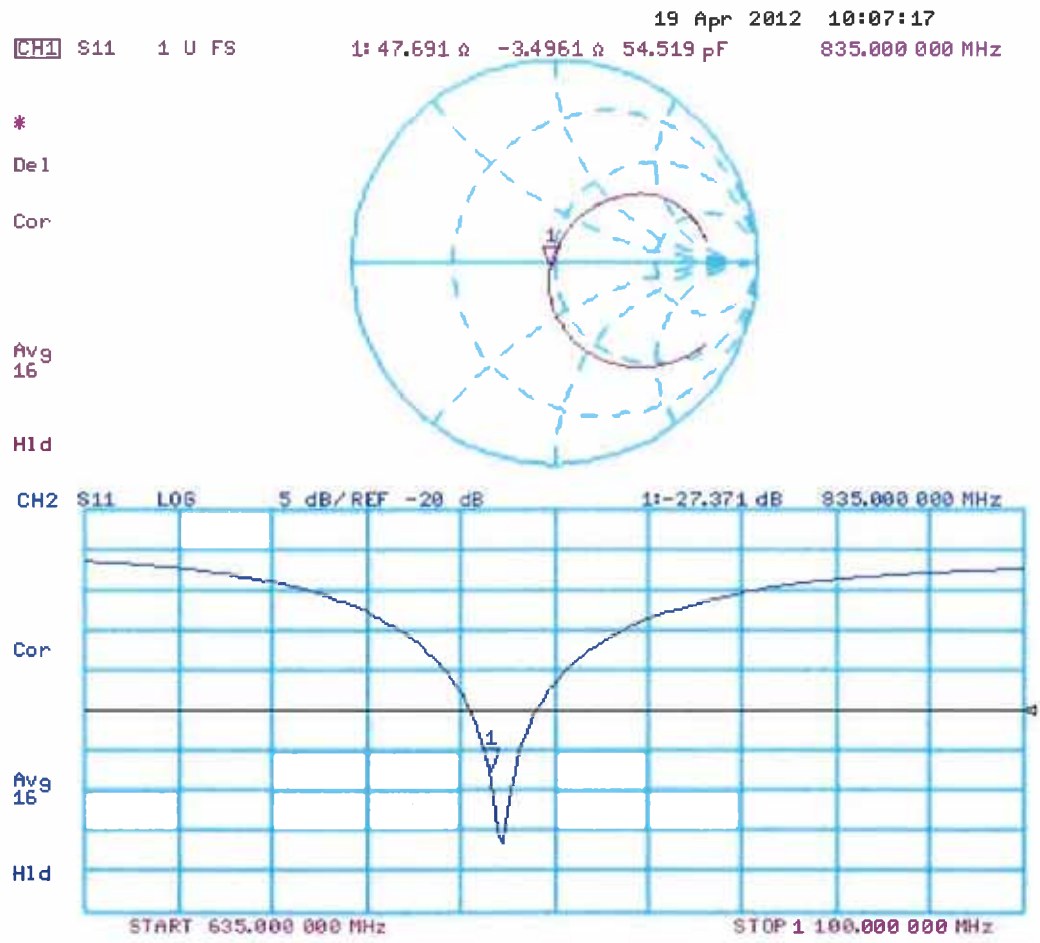
Peak SAR (extrapolated) = 3.590 mW/g

SAR(1 g) = 2.48 mW/g; SAR(10 g) = 1.63 mW/g

Maximum value of SAR (measured) = 2.88 mW/g



Impedance Measurement Plot for Body TSL





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Accreditation No.: **SCS 108**

Client **B.V.ADT (Auden)**

Certificate No: **D1900V2-5d036_Jan12**

CALIBRATION CERTIFICATE

Object **D1900V2 - SN: 5d036**

Calibration procedure(s) **QA CAL-05.v8
Calibration procedure for dipole validation kits above 700 MHz**

Calibration date: **January 26, 2012**



This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^\circ\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	05-Oct-11 (No. 217-01451)	Oct-12
Power sensor HP 8481A	US37292783	05-Oct-11 (No. 217-01451)	Oct-12
Reference 20 dB Attenuator	SN: 5086 (20g)	29-Mar-11 (No. 217-01368)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	30-Dec-11 (No. ES3-3205_Dec11)	Dec-12
DAE4	SN: 601	04-Jul-11 (No. DAE4-601_Jul11)	Jul-12

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-11)	In house check: Oct-12

Calibrated by:	Name Dimce Iliev	Function Laboratory Technician	Signature 
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 26, 2012

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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Glossary:

TSL tissue simulating liquid
ConvF sensitivity in TSL / NORM x,y,z
N/A not applicable or not measured

Calibration is Performed According to the Following Standards:

- a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
- c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

- d) DAS4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	40.8 ± 6 %	1.39 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	9.65 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	38.9 mW / g ± 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.05 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	20.3 mW / g ± 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.9 ± 6 %	1.52 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	9.74 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	38.9 mW / g ± 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.10 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	20.4 mW / g ± 16.5 % (k=2)

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	50.0 Ω + 4.9 j Ω
Return Loss	- 26.1 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.3 Ω + 5.6 j Ω
Return Loss	- 23.1 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.195 ns
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After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	May 08, 2003

DASY5 Validation Report for Head TSL

Date: 26.01.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d036

Communication System: CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 40.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.01, 5.01, 5.01); Calibrated: 30.12.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

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

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

Reference Value = 96.850 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 17.7040

SAR(1 g) = 9.65 mW/g; SAR(10 g) = 5.05 mW/g

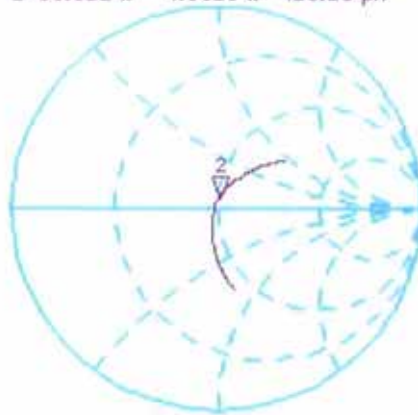
Maximum value of SAR (measured) = 12.055 mW/g



Impedance Measurement Plot for Head TSL

26 Jan 2012 11:20:39
[CH1] S11 1 U FS 2: 50.012 ω 4.9316 ω 413.10 pH 1 900.000 000 MHz

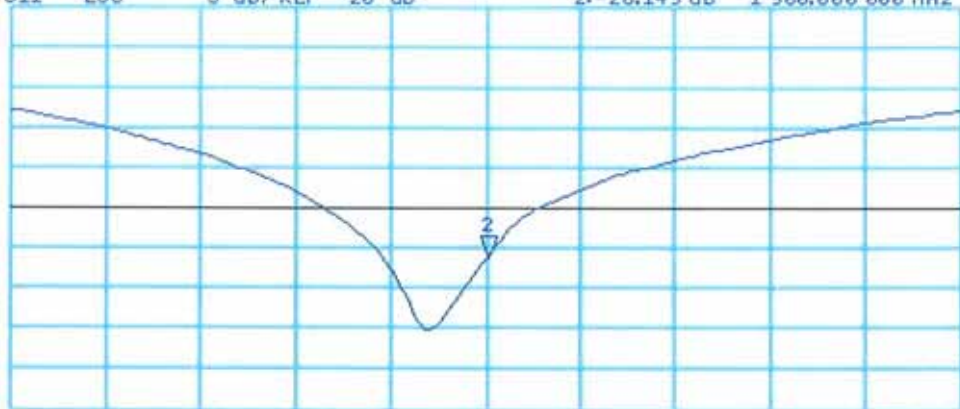
*
De1
Ca



Avg
16
HI d

CH2 S11 LOG 5 dB/REF -20 dB 2:-26.149 dB 1 900.000 000 MHz

Ca
Avg
16
HI d



START 1 700.000 000 MHz

STOP 2 100.000 000 MHz

DASY5 Validation Report for Body TSL

Date: 26.01.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d036

Communication System: CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.62, 4.62, 4.62); Calibrated: 30.12.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

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

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

Reference Value = 94.423 V/m; Power Drift = -0.0044 dB

Peak SAR (extrapolated) = 17.2700

SAR(1 g) = 9.74 mW/g; SAR(10 g) = 5.1 mW/g

Maximum value of SAR (measured) = 12.419 mW/g



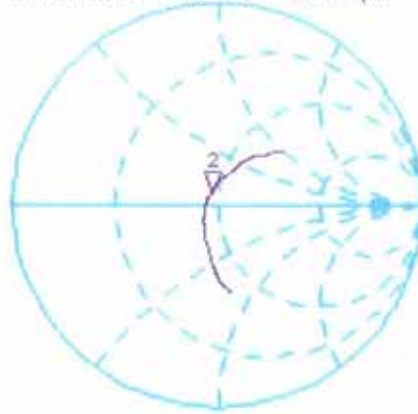
0 dB = 12.420mW/g = 21.88 dB mW/g

Impedance Measurement Plot for Body TSL

26 Jan 2012 11:19:41

CH1 S11 1 U FS 2: 46.256 Ω 5.6113 Ω 470.04 μ H 1 900.000 000 MHz

*
De1
CA



avg
16

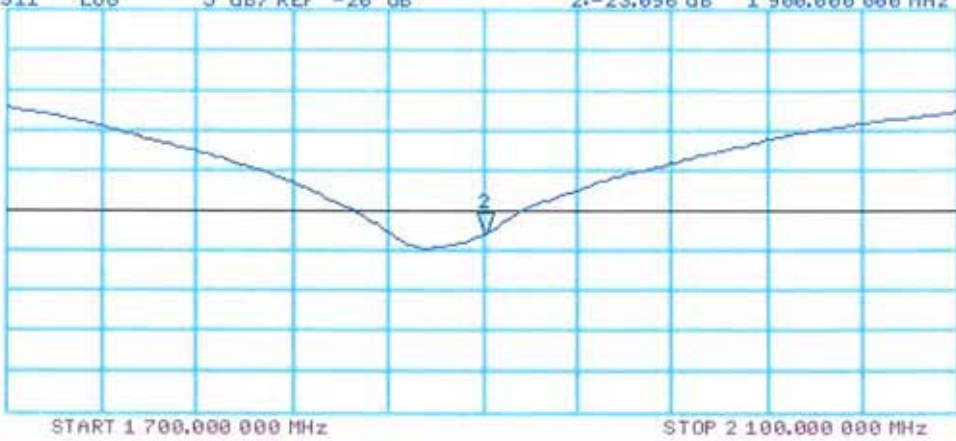
HI d

CH2 S11 LOG 5 dB/REF -20 dB 2:-23.096 dB 1 900.000 000 MHz

CA

avg
16

HI d





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Accreditation No.: **SCS 108**

Client **B.V.ADT (Auden)**

Certificate No: **D2450V2-737_Jan12**

CALIBRATION CERTIFICATE

Object **D2450V2 - SN: 737**

Calibration procedure(s) **QA CAL-05.v8
Calibration procedure for dipole validation kits above 700 MHz**

Calibration date: **January 24, 2012**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	05-Oct-11 (No. 217-01451)	Oct-12
Power sensor HP 8481A	US37292783	05-Oct-11 (No. 217-01451)	Oct-12
Reference 20 dB Attenuator	SN: 5086 (20g)	29-Mar-11 (No. 217-01368)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	30-Dec-11 (No. ES3-3205_Dec11)	Dec-12
DAE4	SN: 601	04-Jul-11 (No. DAE4-601_Jul11)	Jul-12
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-11)	In house check: Oct-12

	Name	Function	Signature
Calibrated by:	Israe El-Naouq	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 24, 2012

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Accreditation No.: **SCS 108**

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
- Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:* SAR measured at the stated antenna input power.
- SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz \pm 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 \pm 0.2) °C	39.2 \pm 6 %	1.85 mho/m \pm 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.4 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	52.9 mW / g \pm 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.18 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	24.5 mW / g \pm 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 \pm 0.2) °C	50.6 \pm 6 %	2.01 mho/m \pm 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	12.8 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	50.0 mW / g \pm 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.91 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	23.3 mW / g \pm 16.5 % (k=2)

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	54.3 Ω + 4.3 j Ω
Return Loss	- 24.7 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	50.6 Ω + 5.3 j Ω
Return Loss	- 25.6 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.161 ns
----------------------------------	----------

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	August 26, 2003

DASY5 Validation Report for Head TSL

Date: 24.01.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 737

Communication System: CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.85$ mho/m; $\epsilon_r = 39.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.45, 4.45, 4.45); Calibrated: 30.12.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

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

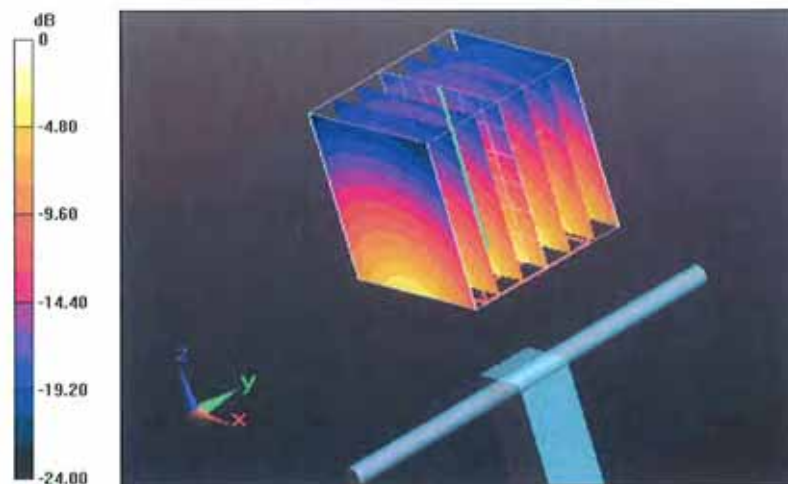
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 99.933 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 27.6400

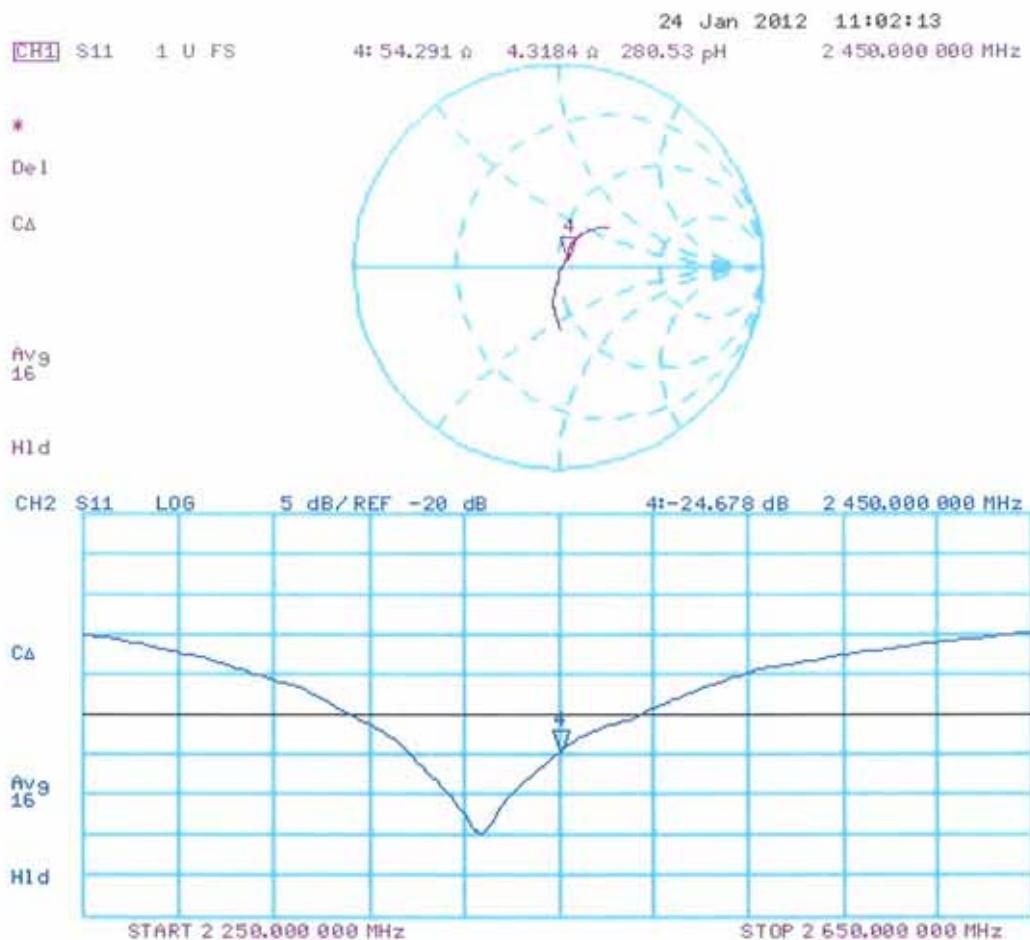
SAR(1 g) = 13.4 mW/g; SAR(10 g) = 6.18 mW/g

Maximum value of SAR (measured) = 17.183 mW/g



0 dB = 17.180mW/g = 24.70 dB mW/g

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 23.01.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 737

Communication System: CW; Frequency: 2450 MHz

Medium parameters used: $f = 2450$ MHz; $\sigma = 2.01$ mho/m; $\epsilon_r = 50.6$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.26, 4.26, 4.26); Calibrated: 30.12.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

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

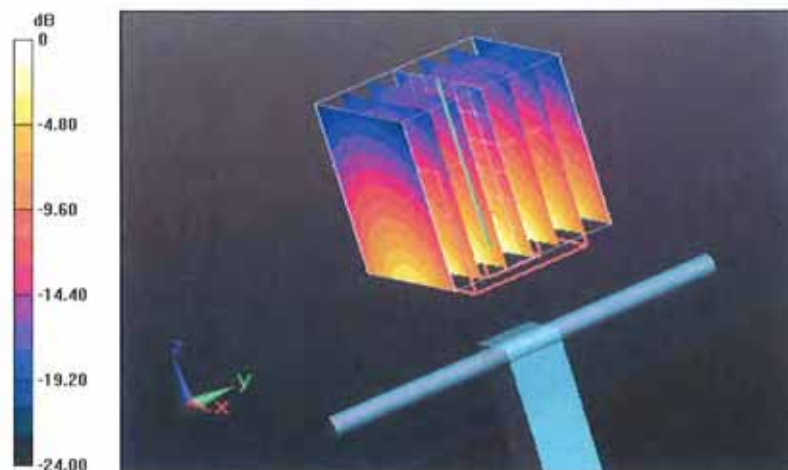
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 94.889 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 26.6520

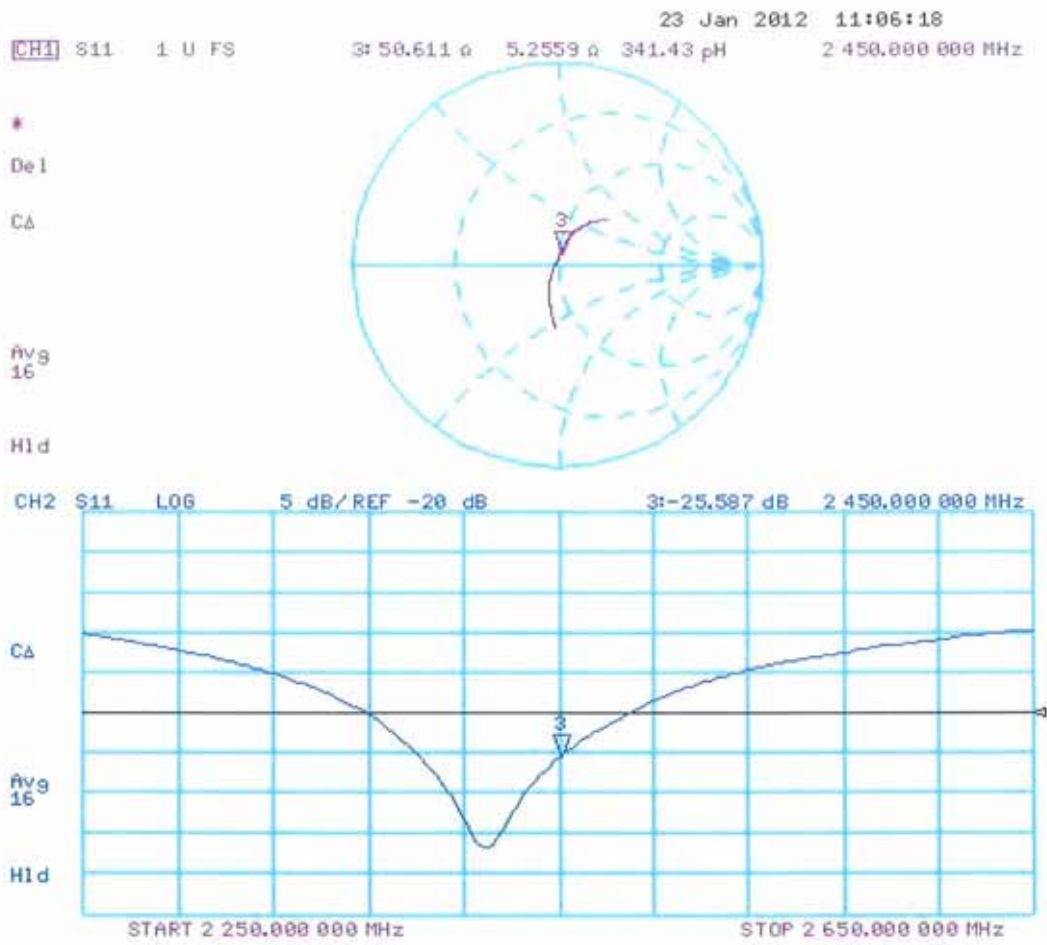
SAR(1 g) = 12.8 mW/g; SAR(10 g) = 5.91 mW/g

Maximum value of SAR (measured) = 17.026 mW/g



0 dB = 17.030mW/g = 24.62 dB mW/g

Impedance Measurement Plot for Body TSL





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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **B.V.ADT (Auden)**

Certificate No: **D5GHzV2-1018_Jan12**

CALIBRATION CERTIFICATE

Object **D5GHzV2 - SN: 1018**

Calibration procedure(s) **QA CAL-22.v1
Calibration procedure for dipole validation kits between 3-6 GHz**

Calibration date: **January 18, 2012**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	05-Oct-11 (No. 217-01451)	Oct-12
Power sensor HP 8481A	US37292783	05-Oct-11 (No. 217-01451)	Oct-12
Reference 20 dB Attenuator	SN: 5086 (20g)	29-Mar-11 (No. 217-01368)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe EX3DV4	SN: 3503	30-Dec-11 (No. EX3-3503_Dec11)	Dec-12
DAE4	SN: 601	04-Jul-11 (No. DAE4-601_Jul11)	Jul-12
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-11)	In house check: Oct-13
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-11)	In house check: Oct-13
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-11)	In house check: Oct-12

Calibrated by: **Jeton Kastrati** Name: **Jeton Kastrati** Function: **Laboratory Technician**

Approved by: **Katja Pokovic** Name: **Katja Pokovic** Function: **Technical Manager**

Signature

Issued: January 18, 2012

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
- Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy = 4.0 mm, dz = 1.4 mm	Graded Ratio = 1.4 (Z direction)
Frequency	5200 MHz ± 1 MHz 5500 MHz ± 1 MHz 5800 MHz ± 1 MHz	

Head TSL parameters at 5200 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	36.0	4.66 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	36.3 ± 6 %	4.60 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5200 MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.95 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	79.6 mW / g ± 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.27 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	22.7 mW / g ± 16.5 % (k=2)

Head TSL parameters at 5500 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.6	4.96 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	35.8 ± 6 %	4.90 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5500 MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	8.47 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	84.7 mW / g ± 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.41 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	24.1 mW / g ± 16.5 % (k=2)

Head TSL parameters at 5800 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.3	5.27 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	35.3 ± 6 %	5.22 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL at 5800 MHz

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	100 mW input power	7.86 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	78.6 mW / g ± 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.23 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	22.3 mW / g ± 16.5 % (k=2)

Body TSL parameters at 5200 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	49.0	5.30 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	49.2 ± 6 %	5.46 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5200 MHz

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.26 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	72.7 mW / g ± 18.1 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.04 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	20.5 mW / g ± 17.6 % (k=2)

Body TSL parameters at 5500 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.6	5.65 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	48.7 ± 6 %	5.86 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5500 MHz

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.82 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	78.3 mW / g ± 18.1 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.18 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	21.8 mW / g ± 17.6 % (k=2)

Body TSL parameters at 5800 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.2	6.00 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	48.2 ± 6 %	6.28 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL at 5800 MHz

SAR averaged over 1 cm ³ (1 g) of Body TSL	Condition	
SAR measured	100 mW input power	7.33 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	73.4 mW / g ± 18.1 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.03 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	20.3 mW / g ± 17.6 % (k=2)

Appendix

Antenna Parameters with Head TSL at 5200 MHz

Impedance, transformed to feed point	53.1 Ω - 9.5 j Ω
Return Loss	- 20.3 dB

Antenna Parameters with Head TSL at 5500 MHz

Impedance, transformed to feed point	50.7 Ω - 3.8 j Ω
Return Loss	- 28.4 dB

Antenna Parameters with Head TSL at 5800 MHz

Impedance, transformed to feed point	56.4 Ω + 1.4 j Ω
Return Loss	- 24.3 dB

Antenna Parameters with Body TSL at 5200 MHz

Impedance, transformed to feed point	52.3 Ω - 8.4 j Ω
Return Loss	- 21.4 dB

Antenna Parameters with Body TSL at 5500 MHz

Impedance, transformed to feed point	49.2 Ω + 0.0 j Ω
Return Loss	- 42.3 dB

Antenna Parameters with Body TSL at 5800 MHz

Impedance, transformed to feed point	54.4 Ω - 6.9 j Ω
Return Loss	- 22.1 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.106 ns
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After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	February 05, 2004

DASY5 Validation Report for Head TSL

Date: 17.01.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1018

Communication System: CW; Frequency: 5200 MHz, Frequency: 5500 MHz, Frequency: 5800 MHz
Medium parameters used: $f = 5200$ MHz; $\sigma = 4.6$ mho/m; $\epsilon_r = 36.3$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5500$ MHz; $\sigma = 4.9$ mho/m; $\epsilon_r = 35.8$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5800$ MHz; $\sigma = 5.22$ mho/m; $\epsilon_r = 35.3$; $\rho = 1000$ kg/m³
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.41, 5.41, 5.41), ConvF(4.91, 4.91, 4.91), ConvF(4.81, 4.81, 4.81); Calibrated: 30.12.2011
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5200 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:

Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 63.604 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 29.6500

SAR(1 g) = 7.95 mW/g; SAR(10 g) = 2.27 mW/g

Maximum value of SAR (measured) = 18.292 mW/g

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5500 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:

Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 63.798 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 33.9410

SAR(1 g) = 8.47 mW/g; SAR(10 g) = 2.41 mW/g

Maximum value of SAR (measured) = 20.236 mW/g

Dipole Calibration for Head Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0:

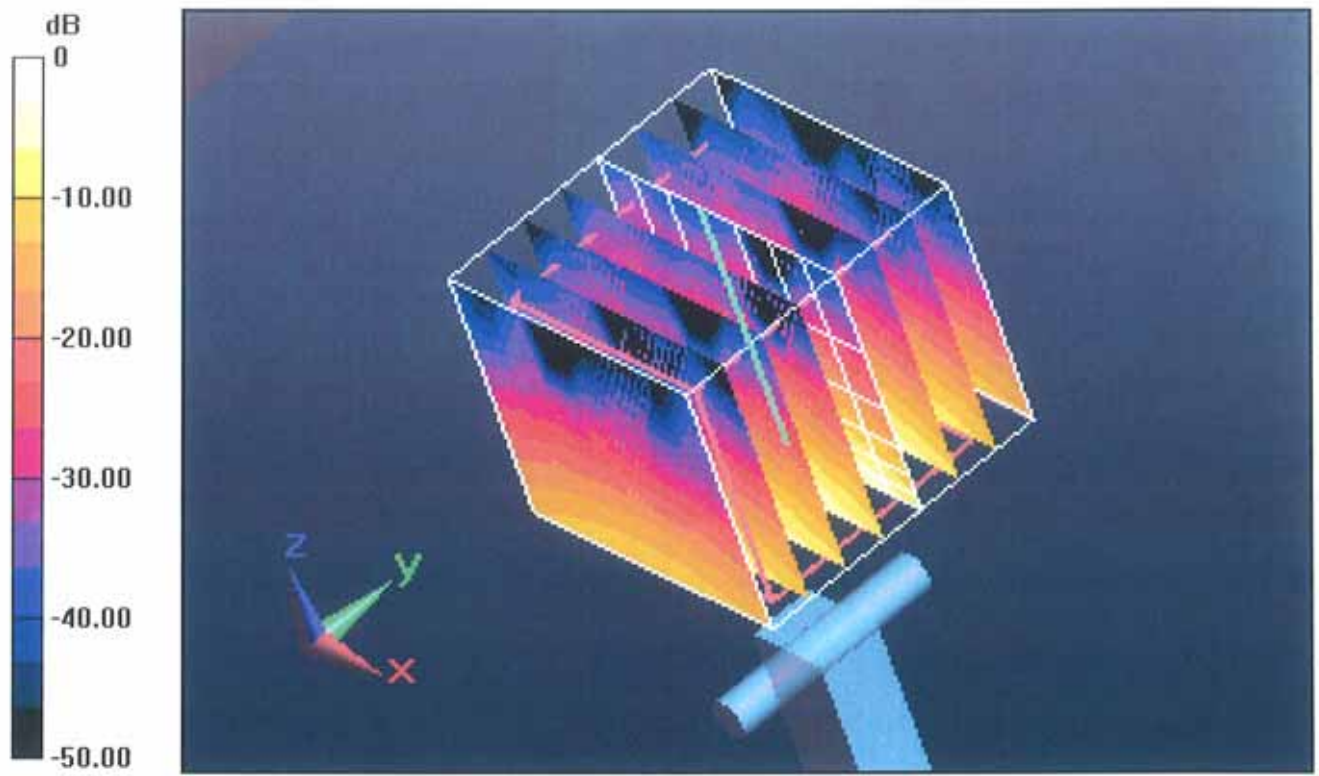
Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 60.556 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 33.2500

SAR(1 g) = 7.86 mW/g; SAR(10 g) = 2.23 mW/g

Maximum value of SAR (measured) = 19.231 mW/g



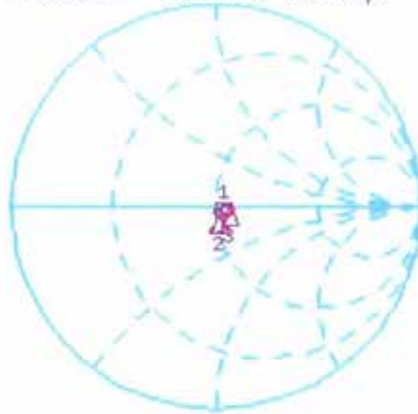
0 dB = 19.230mW/g = 25.68 dB mW/g

Impedance Measurement Plot for Head TSL

17 Jan 2012 10:23:09

CH1 S11 1 U FS 1: 53.109 Ω -9.4727 Ω 3.2311 pF 5 200.000 000 MHz

*
De1
Cor
Avg
16
HI d



CH1 Markers
2: 50.736 Ω
-3.7656 Ω
5.50000 GHz
3: 56.359 Ω
1.3555 Ω
5.80000 GHz

CH2 S11 LOG 5 dB/REF -20 dB 1: -20.329 dB 5 200.000 000 MHz

Cor
Avg
16
HI d



CH2 Markers
2: -20.385 dB
5.50000 GHz
3: -24.273 dB
5.80000 GHz

DASY5 Validation Report for Body TSL

Date: 18.01.2012

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1018

Communication System: CW; Frequency: 5200 MHz, Frequency: 5500 MHz, Frequency: 5800 MHz
Medium parameters used: $f = 5200$ MHz; $\sigma = 5.46$ mho/m; $\epsilon_r = 49.2$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5500$ MHz; $\sigma = 5.86$ mho/m; $\epsilon_r = 48.7$; $\rho = 1000$ kg/m³, Medium parameters used: $f = 5800$ MHz; $\sigma = 6.28$ mho/m; $\epsilon_r = 48.2$; $\rho = 1000$ kg/m³
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(4.91, 4.91, 4.91), ConvF(4.43, 4.43, 4.43), ConvF(4.38, 4.38, 4.38); Calibrated: 30.12.2011
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.0(692); SEMCAD X 14.6.4(4989)

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5200 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 57.349 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 28.4300

SAR(1 g) = 7.26 mW/g; SAR(10 g) = 2.04 mW/g

Maximum value of SAR (measured) = 17.187 mW/g

Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5500 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 57.629 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 33.3620

SAR(1 g) = 7.82 mW/g; SAR(10 g) = 2.18 mW/g

Maximum value of SAR (measured) = 19.092 mW/g

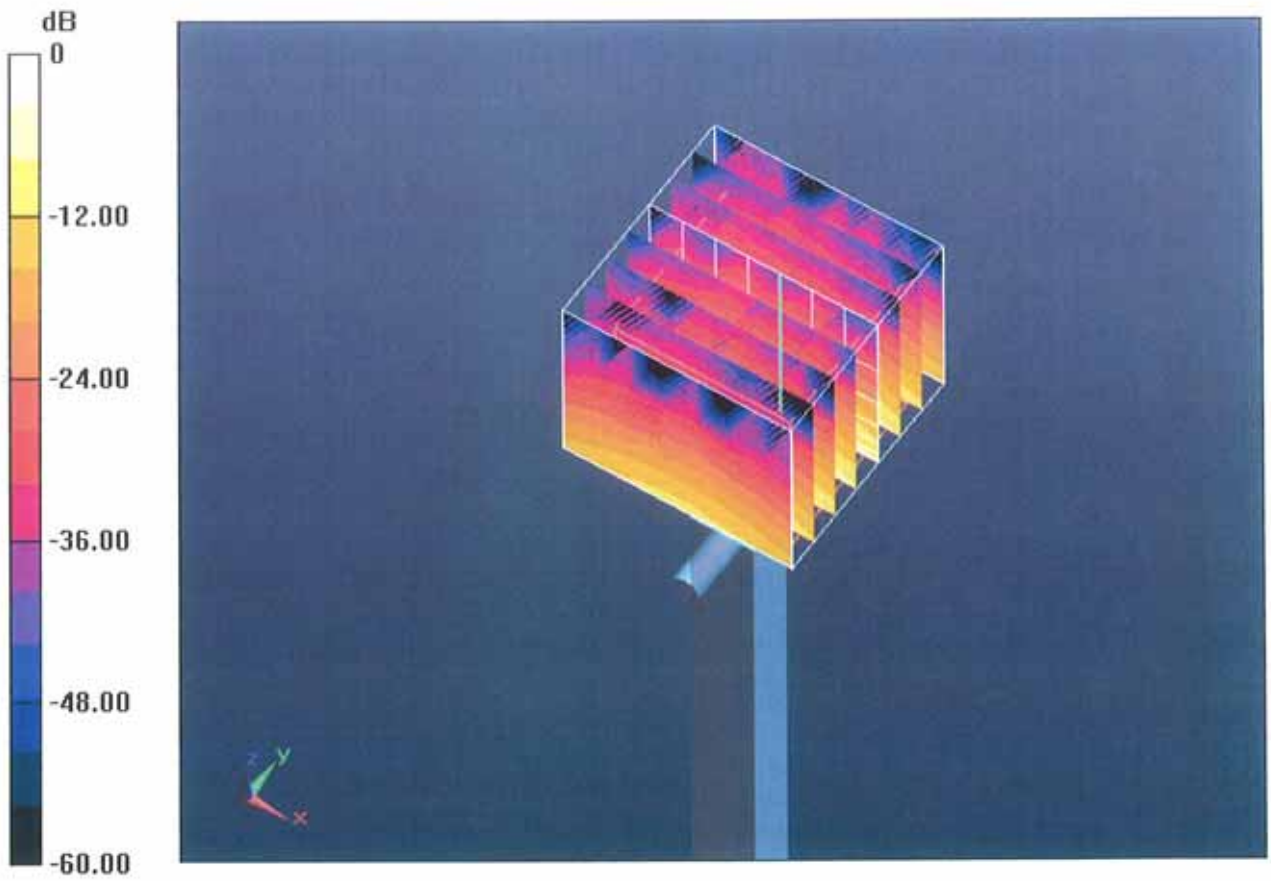
Dipole Calibration for Body Tissue/Pin=100mW, dist=10mm, f=5800 MHz/Zoom Scan, dist=1.4mm (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 54.181 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 34.3080

SAR(1 g) = 7.33 mW/g; SAR(10 g) = 2.03 mW/g

Maximum value of SAR (measured) = 18.527 mW/g



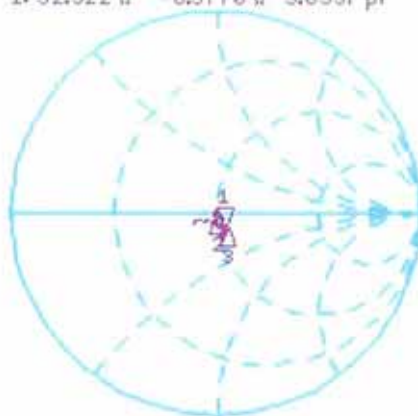
0 dB = 18.530mW/g = 25.36 dB mW/g

Impedance Measurement Plot for Body TSL

18 Jan 2012 10:59:45

CH1 S11 1 U FS 1: 52.322 Ω -8.3770 Ω 3.6537 pF 5 200.000 000 MHz

*
De1
Cor



CH1 Markers
2: 49.238 Ω
0.0313 Ω
5.50000 GHz
3: 54.357 Ω
-6.9395 Ω
5.80000 GHz

Avg
16
H1d

CH2 S11 LOG 5 dB/REF -20 dB 1: -21.442 dB 5 200.000 000 MHz

Cor



CH2 Markers
2: -42.283 dB
5.50000 GHz
3: -22.122 dB
5.80000 GHz

Avg
16
H1d

START 5 000.000 000 MHz 2 STOP 5 000.000 000 MHz



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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Auden**

Certificate No: **EX3-3578_Jun12**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3578**

Calibration procedure(s) **QA CAL-01.v8, QA CAL-14.v3, QA CAL-23.v4, QA CAL-25.v4
Calibration procedure for dosimetric E-field probes**

Calibration date: **June 21, 2012**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	29-Mar-12 (No. 217-01508)	Apr-13
Power sensor E4412A	MY41498087	29-Mar-12 (No. 217-01508)	Apr-13
Reference 3 dB Attenuator	SN: S5054 (3c)	27-Mar-12 (No. 217-01531)	Apr-13
Reference 20 dB Attenuator	SN: S5086 (20b)	27-Mar-12 (No. 217-01529)	Apr-13
Reference 30 dB Attenuator	SN: S5129 (30b)	27-Mar-12 (No. 217-01532)	Apr-13
Reference Probe ES3DV2	SN: 3013	29-Dec-11 (No. ES3-3013_Dec11)	Dec-12
DAE4	SN: 660	10-Jan-12 (No. DAE4-660_Jan12)	Jan-13
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-11)	In house check: Apr-13
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-11)	In house check: Oct-12

Calibrated by:	Name Jeton Kastrati	Function Laboratory Technician	Signature
Approved by:	Name Katja Pokovic	Function Technical Manager	
			Issued: June 22, 2012
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Accreditation No.: **SCS 108**

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Multilateral Agreement for the recognition of calibration certificates

Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not affect the E²-field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z} = NORM_{x,y,z} * frequency_response** (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; VR_{x,y,z}**: A, B, C are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Probe EX3DV4

SN:3578

Manufactured: November 4, 2005
Calibrated: June 21, 2012

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3578

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	0.53	0.50	0.55	$\pm 10.1 \%$
DCP (mV) ^B	102.4	101.5	103.4	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dB	C dB	VR mV	Unc ^E (k=2)
0	CW	0.00	X	0.00	0.00	1.00	166.9	$\pm 2.2 \%$
			Y	0.00	0.00	1.00	173.1	
			Z	0.00	0.00	1.00	178.2	

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of NormX,Y,Z do not affect the E^2 -field uncertainty inside TSL (see Pages 5 and 6).

^B Numerical linearization parameter: uncertainty not required.

^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3578

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	41.9	0.89	8.77	8.77	8.77	0.80	0.64	± 12.0 %
835	41.5	0.90	8.30	8.30	8.30	0.29	0.99	± 12.0 %
900	41.5	0.97	8.35	8.35	8.35	0.58	0.75	± 12.0 %
1750	40.1	1.37	7.50	7.50	7.50	0.80	0.62	± 12.0 %
1900	40.0	1.40	7.19	7.19	7.19	0.75	0.65	± 12.0 %
2000	40.0	1.40	7.13	7.13	7.13	0.77	0.58	± 12.0 %
2450	39.2	1.80	6.43	6.43	6.43	0.28	1.01	± 12.0 %
5200	36.0	4.66	4.55	4.55	4.55	0.40	1.80	± 13.1 %
5300	35.9	4.76	4.39	4.39	4.39	0.40	1.80	± 13.1 %
5500	35.6	4.96	4.07	4.07	4.07	0.50	1.80	± 13.1 %
5600	35.5	5.07	3.92	3.92	3.92	0.50	1.80	± 13.1 %
5800	35.3	5.27	3.72	3.72	3.72	0.55	1.80	± 13.1 %

^C Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3578

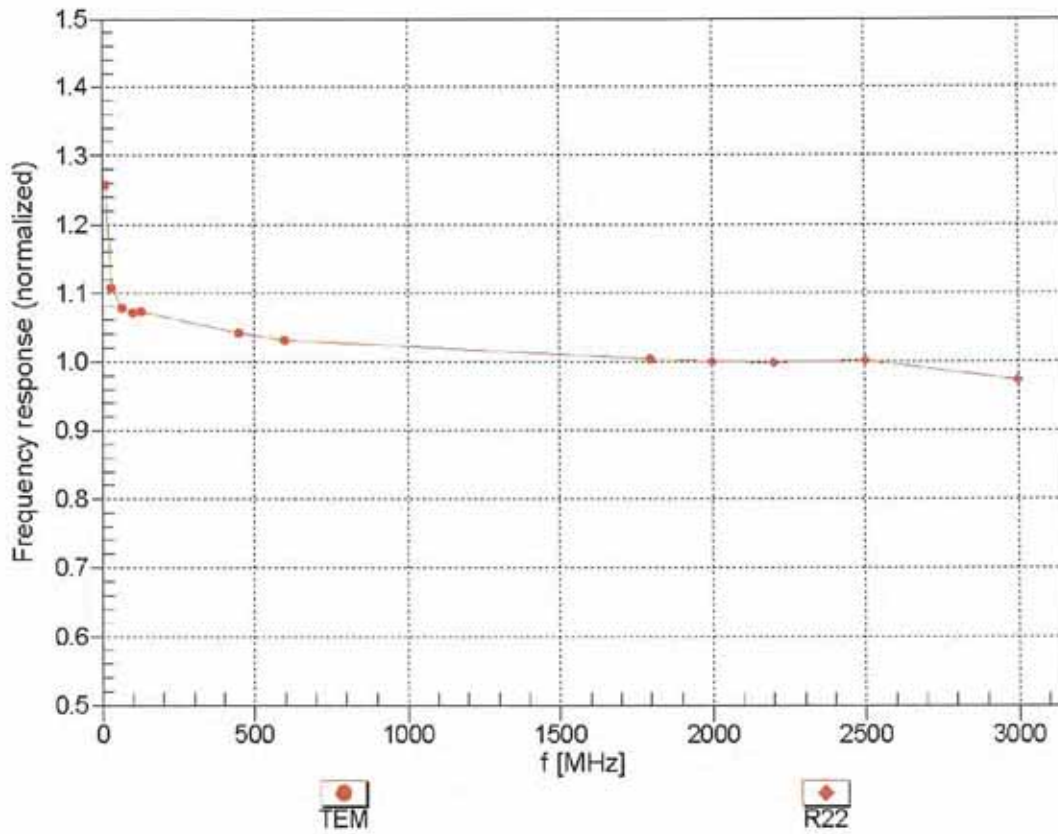
Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	55.5	0.96	8.52	8.52	8.52	0.42	0.88	± 12.0 %
835	55.2	0.97	8.45	8.45	8.45	0.32	1.06	± 12.0 %
900	55.0	1.05	8.33	8.33	8.33	0.36	0.95	± 12.0 %
1750	53.4	1.49	7.10	7.10	7.10	0.39	0.89	± 12.0 %
1900	53.3	1.52	6.69	6.69	6.69	0.69	0.68	± 12.0 %
2000	53.3	1.52	6.86	6.86	6.86	0.70	0.67	± 12.0 %
2450	52.7	1.95	6.43	6.43	6.43	0.80	0.50	± 12.0 %
5200	49.0	5.30	3.93	3.93	3.93	0.50	1.90	± 13.1 %
5300	48.9	5.42	3.66	3.66	3.66	0.50	1.90	± 13.1 %
5500	48.6	5.65	3.45	3.45	3.45	0.55	1.90	± 13.1 %
5600	48.5	5.77	3.25	3.25	3.25	0.55	1.90	± 13.1 %
5800	48.2	6.00	3.43	3.43	3.43	0.55	1.90	± 13.1 %

^C Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

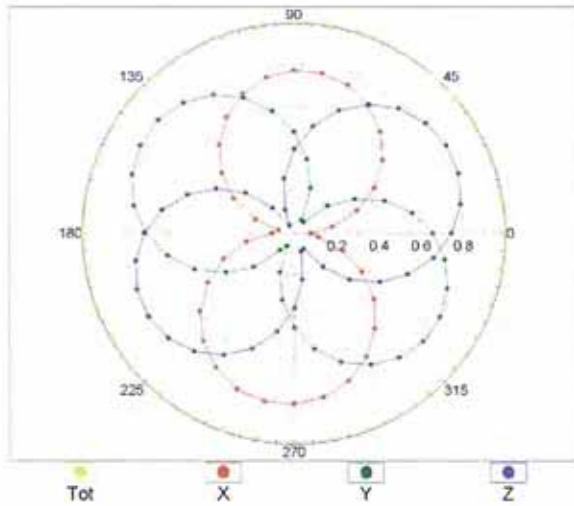
Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)



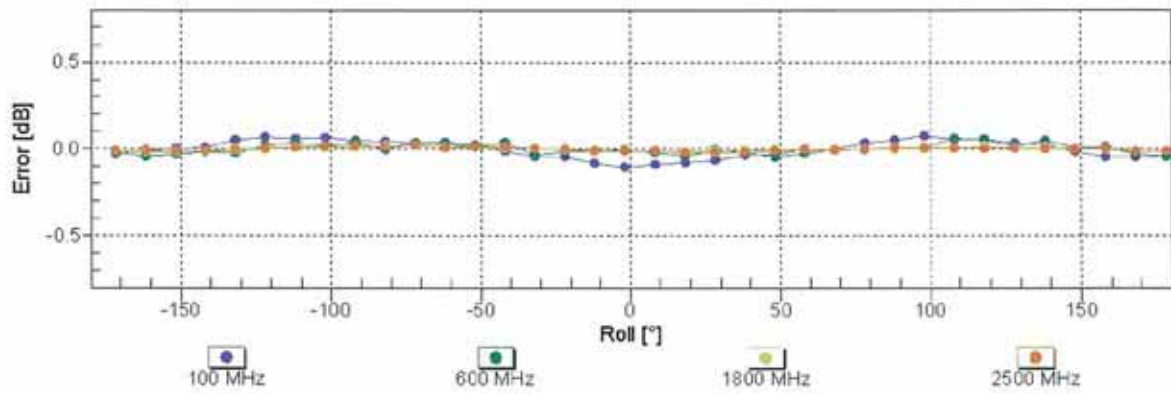
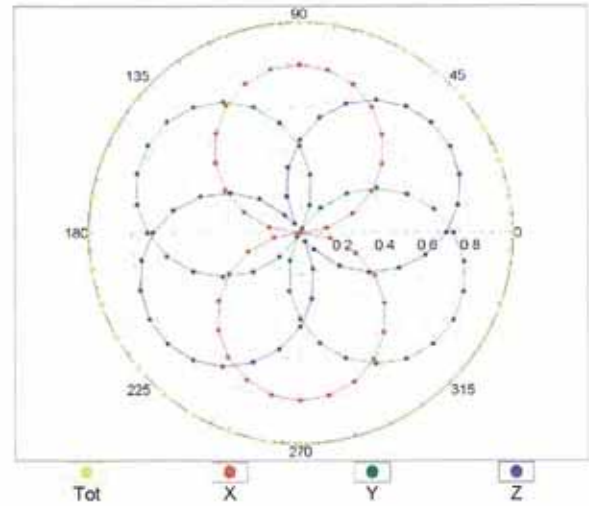
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

Receiving Pattern (ϕ), $\theta = 0^\circ$

f=600 MHz,TEM

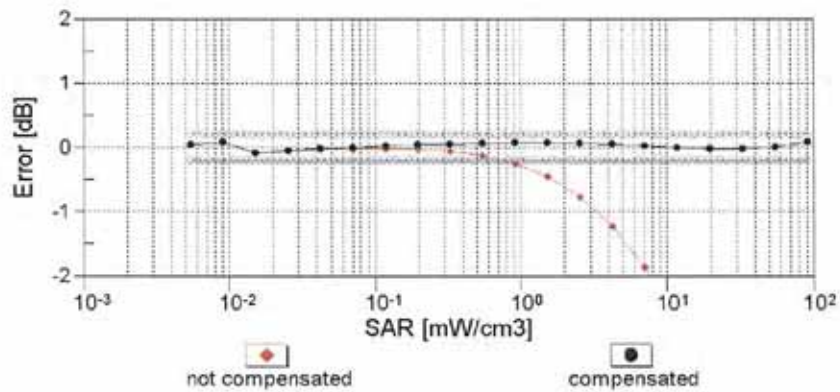
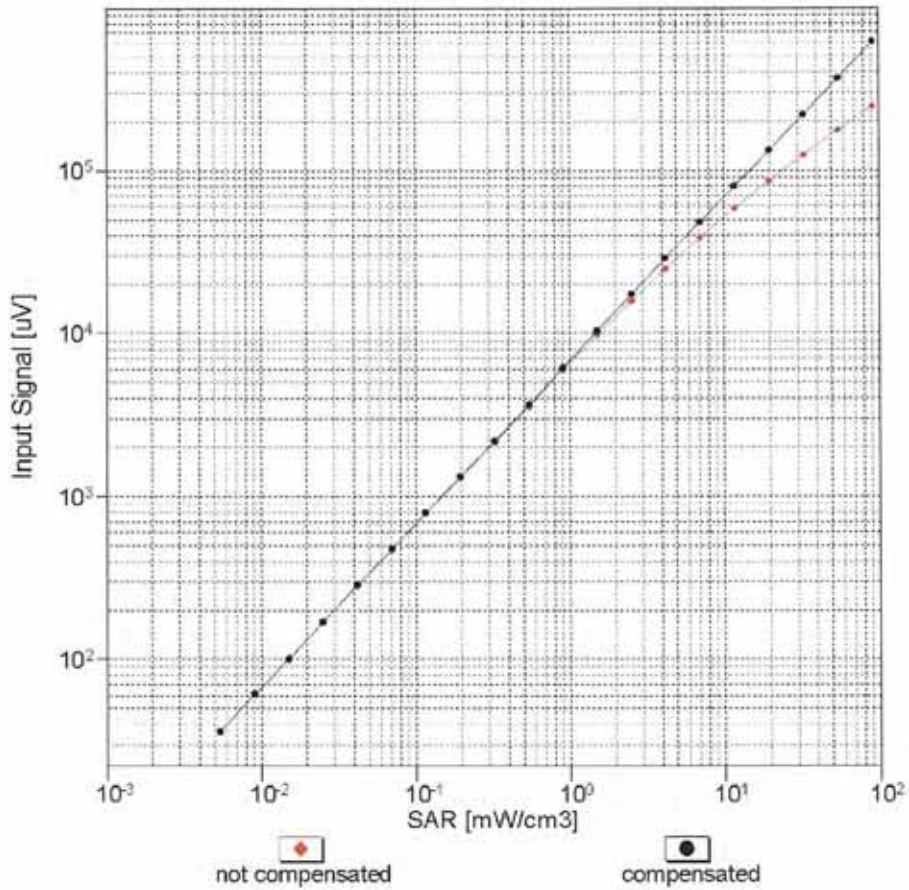


f=1800 MHz,R22



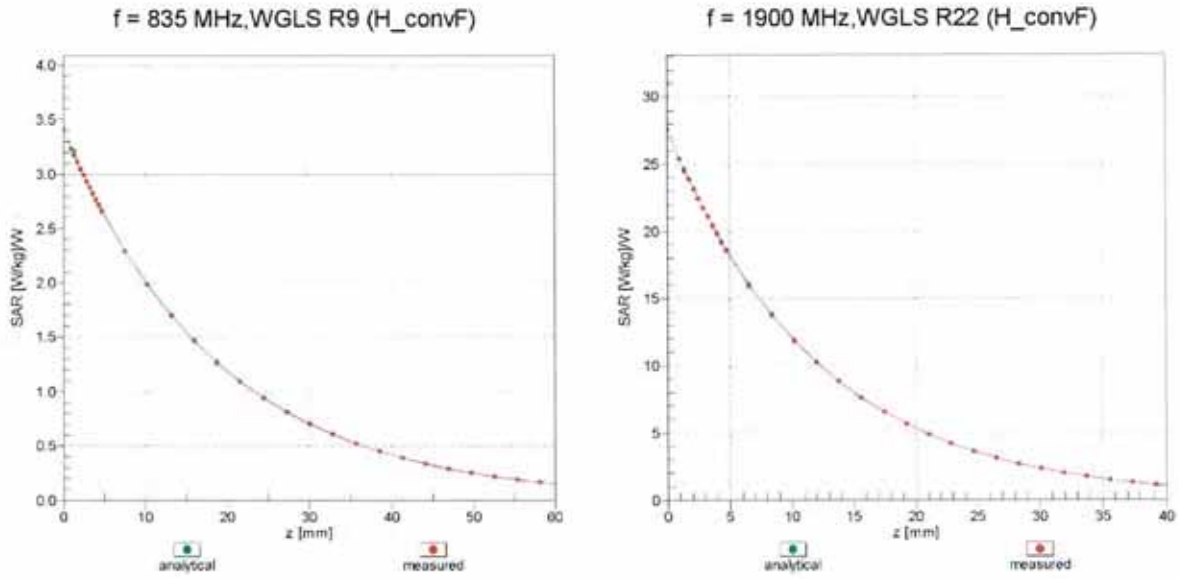
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

Dynamic Range f(SAR_{head}) (TEM cell , f = 900 MHz)

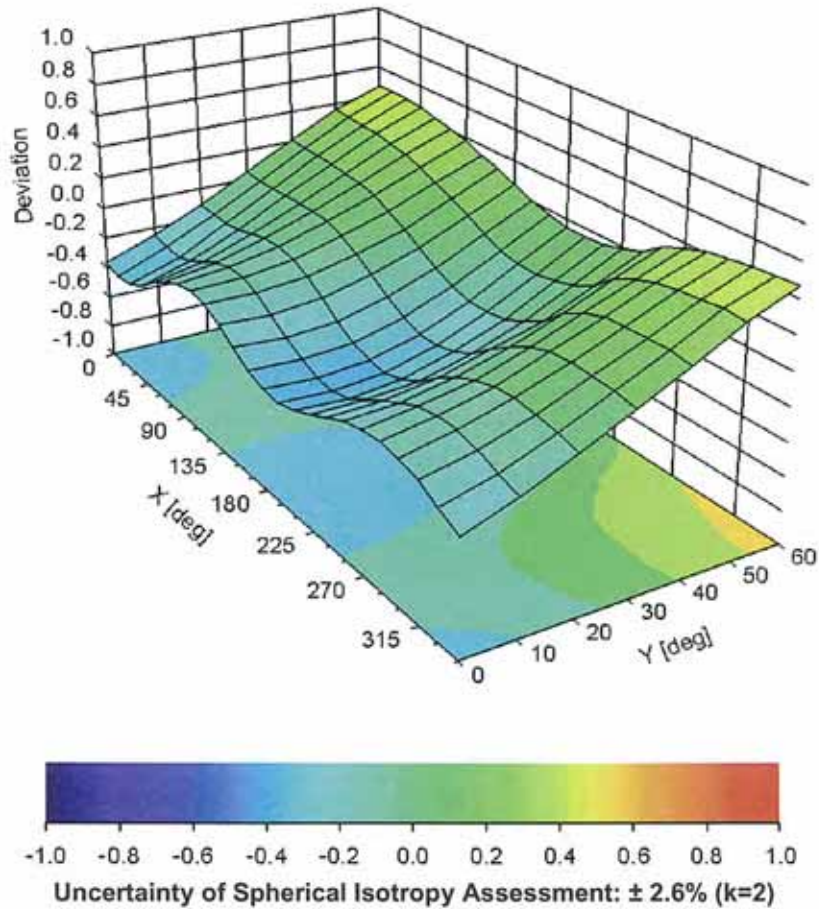


Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment



Deviation from Isotropy in Liquid Error (ϕ, ϑ), f = 900 MHz



DASY/EASY - Parameters of Probe: EX3DV4 - SN:3578

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	68.2
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	2 mm



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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **B.V. ADT (Auden)**

Certificate No: **EX3-3864_Jul12**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3864**

Calibration procedure(s) **QA CAL-01.v8, QA CAL-23.v4, QA CAL-25.v4
Calibration procedure for dosimetric E-field probes**

Calibration date: **July 19, 2012**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	29-Mar-12 (No. 217-01508)	Apr-13
Power sensor E4412A	MY41498087	29-Mar-12 (No. 217-01508)	Apr-13
Reference 3 dB Attenuator	SN: S5054 (3c)	27-Mar-12 (No. 217-01531)	Apr-13
Reference 20 dB Attenuator	SN: S5086 (20b)	27-Mar-12 (No. 217-01529)	Apr-13
Reference 30 dB Attenuator	SN: S5129 (30b)	27-Mar-12 (No. 217-01532)	Apr-13
Reference Probe ES3DV2	SN: 3013	29-Dec-11 (No. ES3-3013_Dec11)	Dec-12
DAE4	SN: 660	20-Jun-12 (No. DAE4-660_Jun12)	Jun-13
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Apr-11)	In house check: Apr-13
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-11)	In house check: Oct-12

Calibrated by:	Name Jeton Kastrat	Function Laboratory Technician	Signature
Approved by:	Name Katja Pokovic	Function Technical Manager	

Issued: July 20, 2012

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Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not affect the E²-field uncertainty inside TSL (see below *ConvF*).
- NORM(f)_{x,y,z}** = NORM_{x,y,z} * *frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; VR_{x,y,z}**: A, B, C are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * *ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Probe EX3DV4

SN:3864

Manufactured: February 2, 2012
Calibrated: July 19, 2012

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3864

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	0.47	0.44	0.49	$\pm 10.1 \%$
DCP (mV) ^B	97.6	98.0	97.9	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dB	C dB	VR mV	Unc ^E (k=2)
0	CW	0.00	X	0.00	0.00	1.00	154.8	$\pm 4.1 \%$
			Y	0.00	0.00	1.00	146.9	
			Z	0.00	0.00	1.00	162.0	

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of NormX,Y,Z do not affect the E^2 -field uncertainty inside TSL (see Pages 5 and 6).

^B Numerical linearization parameter: uncertainty not required.

^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3864

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
835	41.5	0.90	9.80	9.80	9.80	0.58	0.65	± 12.0 %
1750	40.1	1.37	8.56	8.56	8.56	0.43	0.82	± 12.0 %
1900	40.0	1.40	8.13	8.13	8.13	0.42	0.79	± 12.0 %
2450	39.2	1.80	7.28	7.28	7.28	0.43	0.80	± 12.0 %

^C Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3864

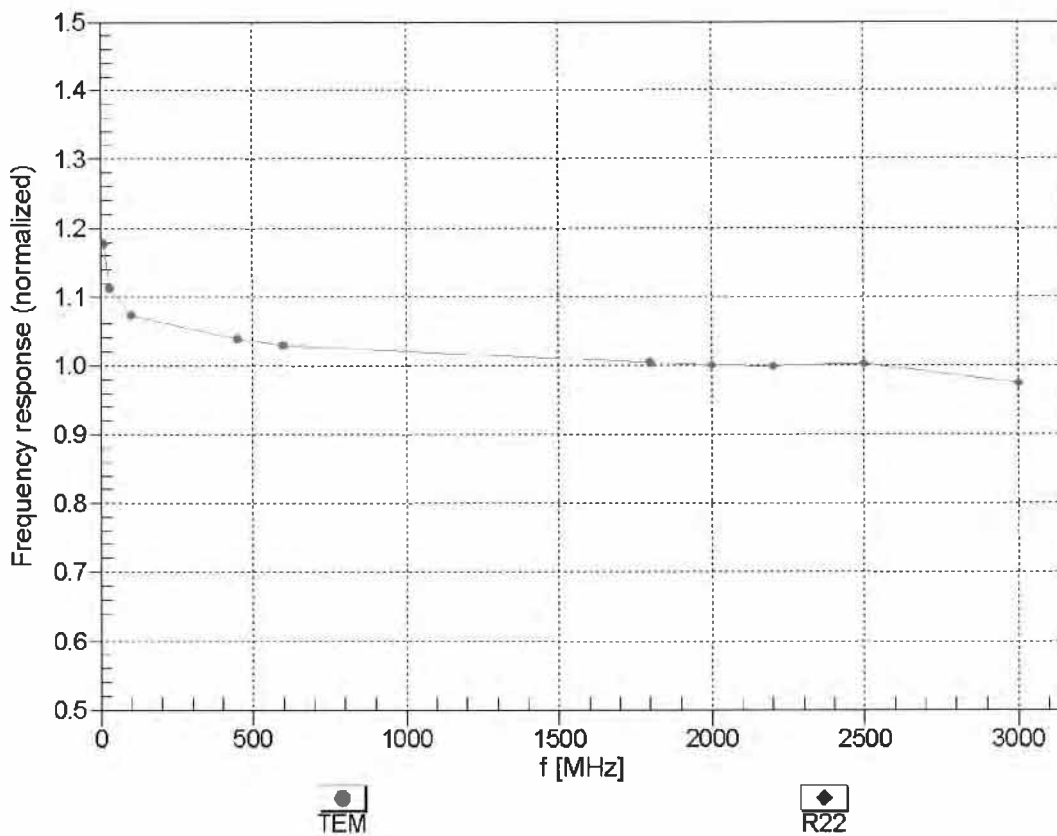
Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) ^C	Relative Permittivity ^F	Conductivity (S/m) ^F	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
835	55.2	0.97	9.94	9.94	9.94	0.58	0.72	± 12.0 %
1750	53.4	1.49	8.45	8.45	8.45	0.41	0.87	± 12.0 %
1900	53.3	1.52	7.88	7.88	7.88	0.48	0.77	± 12.0 %
2450	52.7	1.95	7.49	7.49	7.49	0.80	0.50	± 12.0 %

^C Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

^F At frequencies below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)

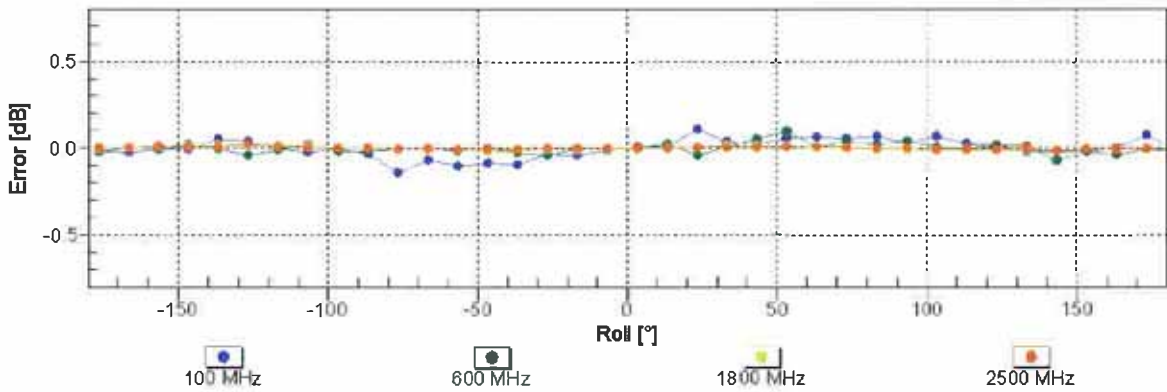
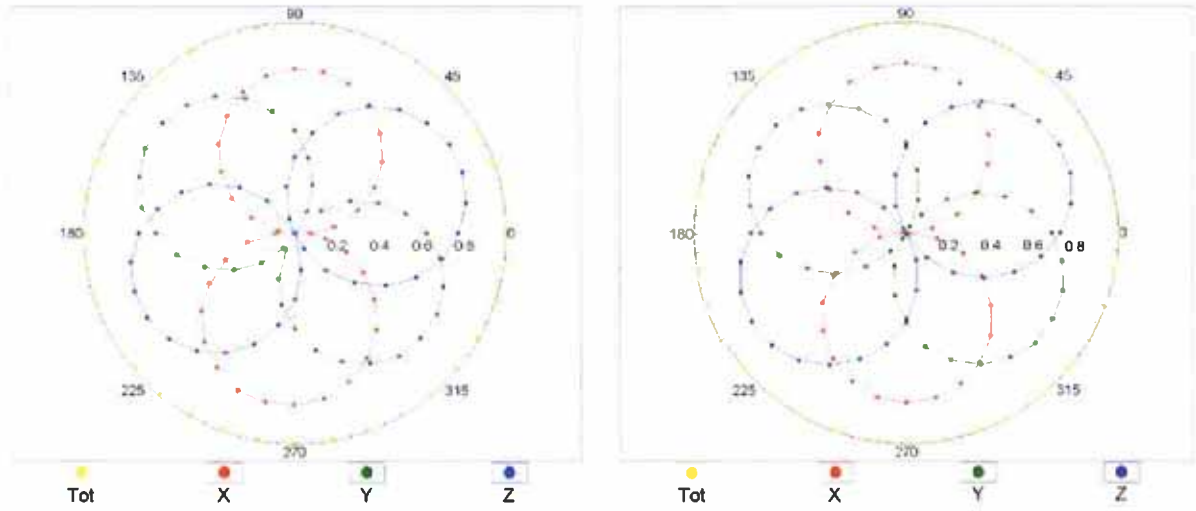


Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ (k=2)

Receiving Pattern (ϕ), $\theta = 0^\circ$

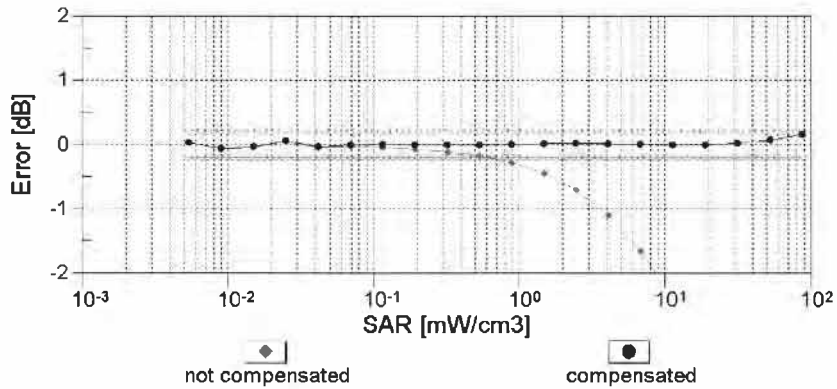
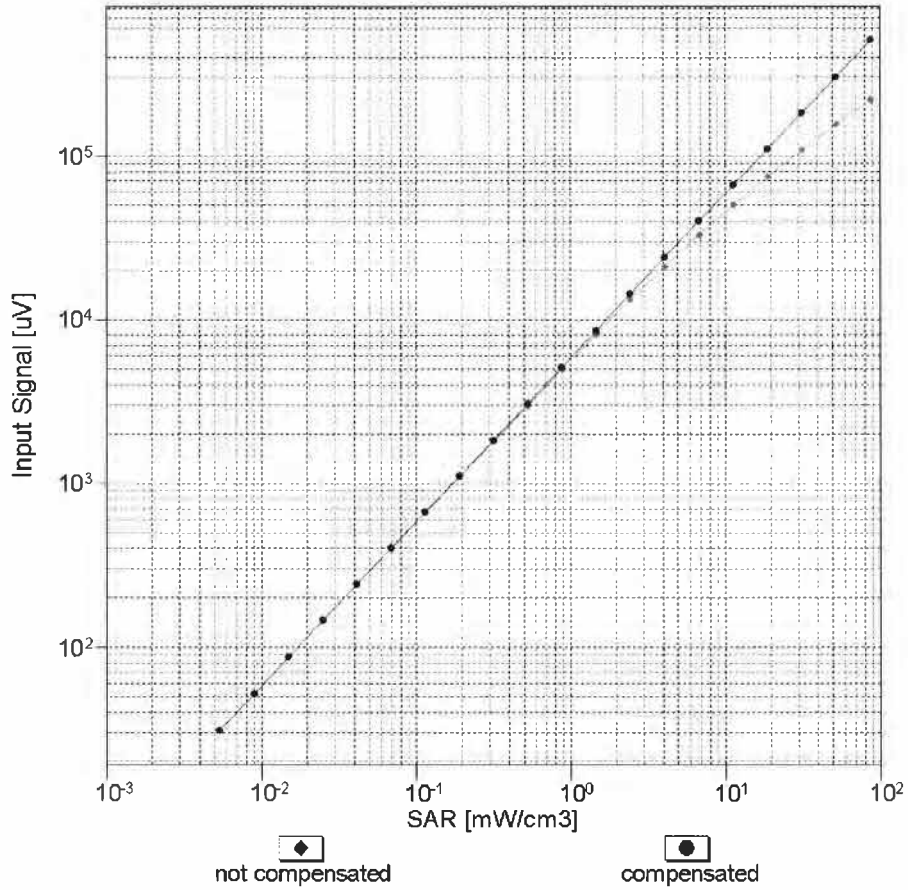
f=600 MHz,TEM

f=1800 MHz,R22



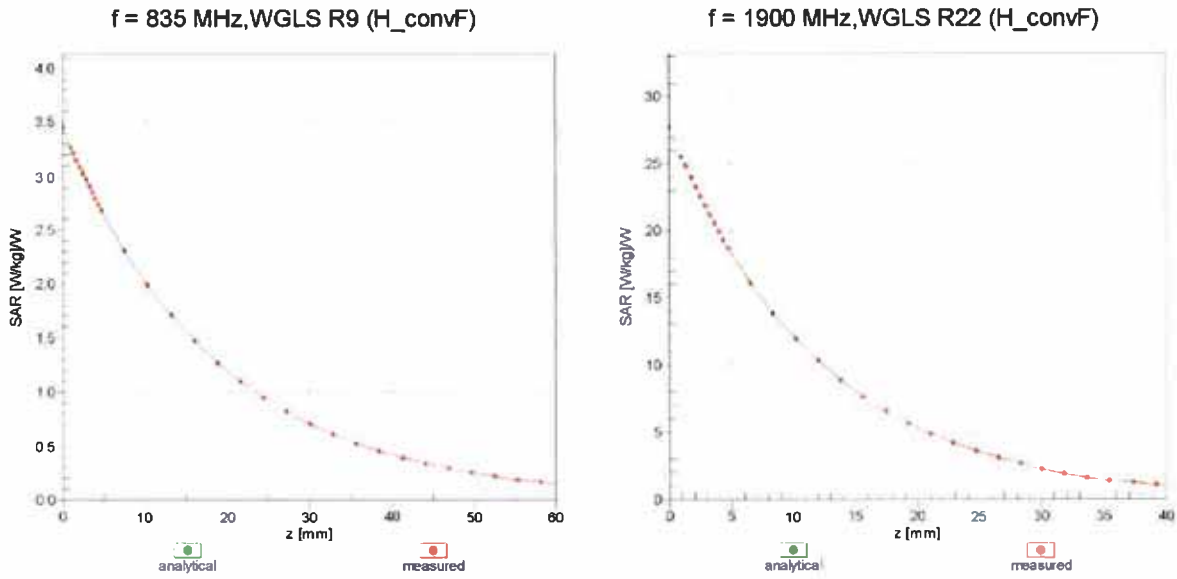
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

Dynamic Range f(SAR_{head}) (TEM cell , f = 900 MHz)

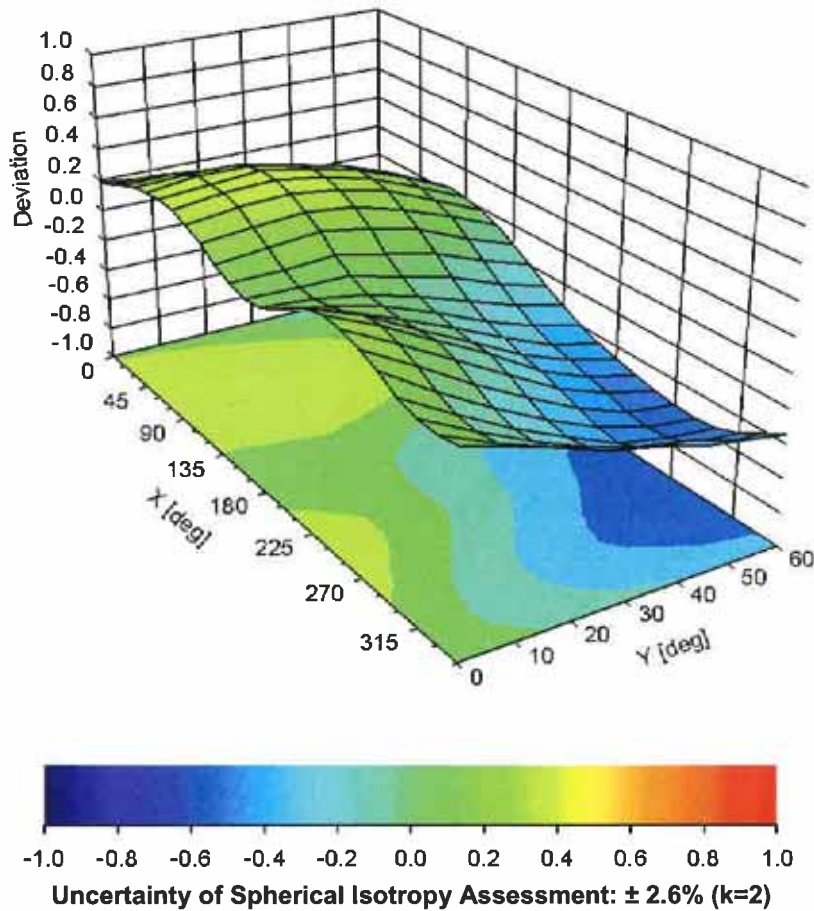


Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment



Deviation from Isotropy in Liquid Error (ϕ, ϑ), f = 900 MHz



DASY/EASY - Parameters of Probe: EX3DV4 - SN:3864**Other Probe Parameters**

Sensor Arrangement	Triangular
Connector Angle (°)	63.3
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	2 mm