

System Check_Body_2300MHz_20160702

Communication System: UID 0, CW; Frequency: 2300 MHz; Duty Cycle: 1:1

Medium: MSL_2300_2016/07/02 Medium parameters used: $f = 2300$ MHz; $\sigma = 1.768$ S/m; $\epsilon_r = 53.269$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.72, 7.72, 7.72); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 18.6 W/kg

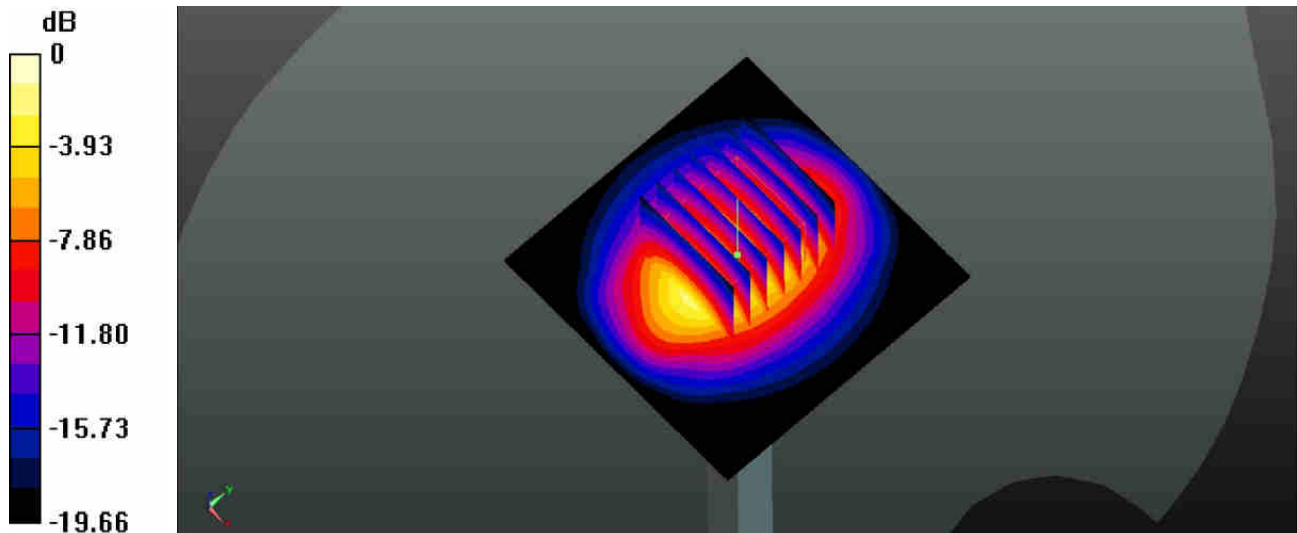
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 102.2 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 24.1 W/kg

SAR(1 g) = 12.5 W/kg; SAR(10 g) = 6.07 W/kg

Maximum value of SAR (measured) = 18.5 W/kg



0 dB = 18.5 W/kg

System Check_Body_2600MHz_20160702

DUT: Dipole 2600 MHz D2600V2

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: MSL_2600_2016/07/02 Medium parameters used: $f = 2600$ MHz; $\sigma = 2.178$ S/m; $\epsilon_r = 52.247$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.37, 7.37, 7.37); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 21.9 W/kg

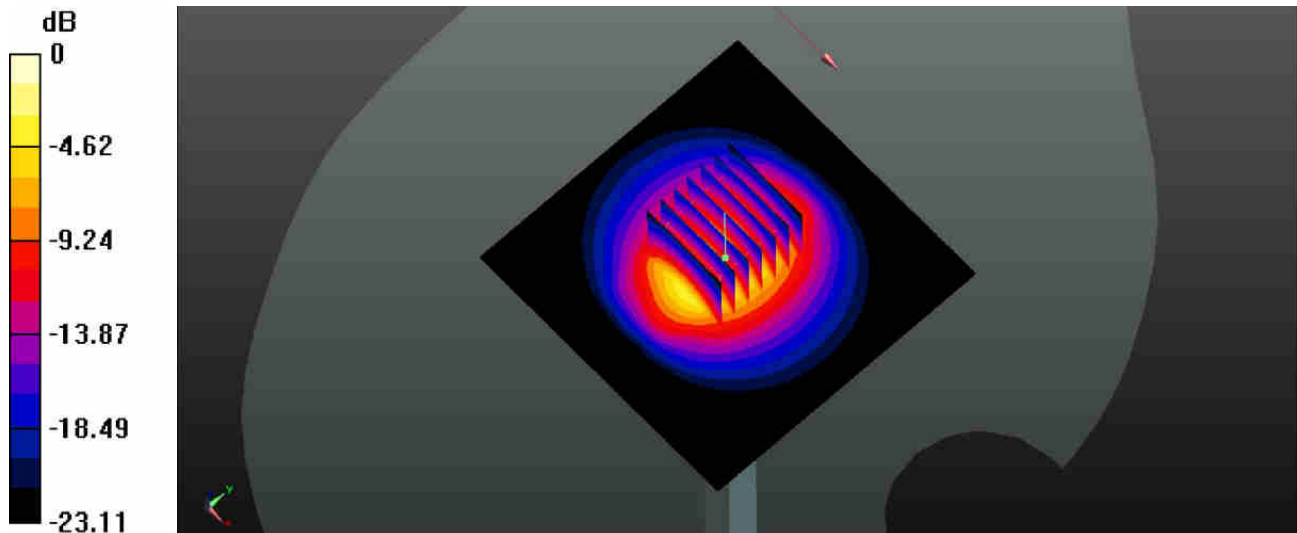
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 84.11 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 30.5 W/kg

SAR(1 g) = 14.4 W/kg; SAR(10 g) = 6.38 W/kg

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



0 dB = 22.4 W/kg

System Check_Head_2450MHz_20160721

DUT: Dipole 2450 MHz D2450V2

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: HSL_2450_2016/07/21 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.845$ S/m; $\epsilon_r = 37.668$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.49, 7.49, 7.49); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (71x71x1): Interpolated grid: dx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 22.3 W/kg

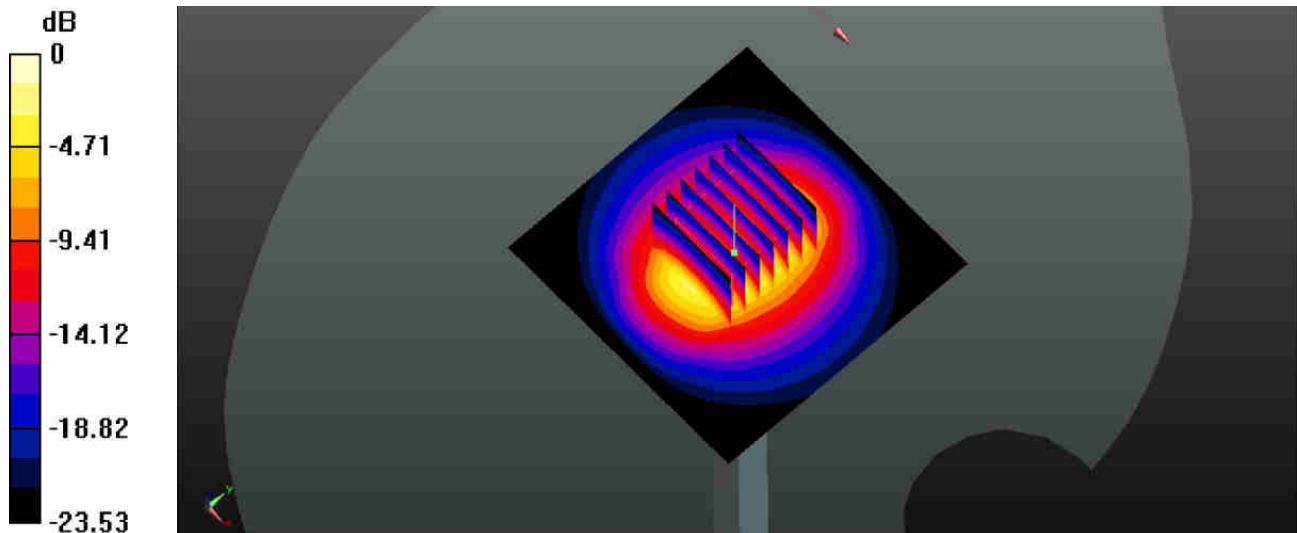
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 92.41 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 29.8 W/kg

SAR(1 g) = 13.7 W/kg; SAR(10 g) = 6.17 W/kg

Maximum value of SAR (measured) = 21.5 W/kg



0 dB = 21.5 W/kg

System Check_Head_5250MHz_20160722

DUT: Dipole 5GHz

Communication System: UID 0, CW (0); Frequency: 5250 MHz; Duty Cycle: 1:1

Medium: HSL_5G_2016/07/22 Medium parameters used: $f = 5250$ MHz; $\sigma = 4.588$ S/m; $\epsilon_r = 36.661$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C; Liquid Temperature : 22.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(5.11, 5.11, 5.11); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 17.8 W/kg

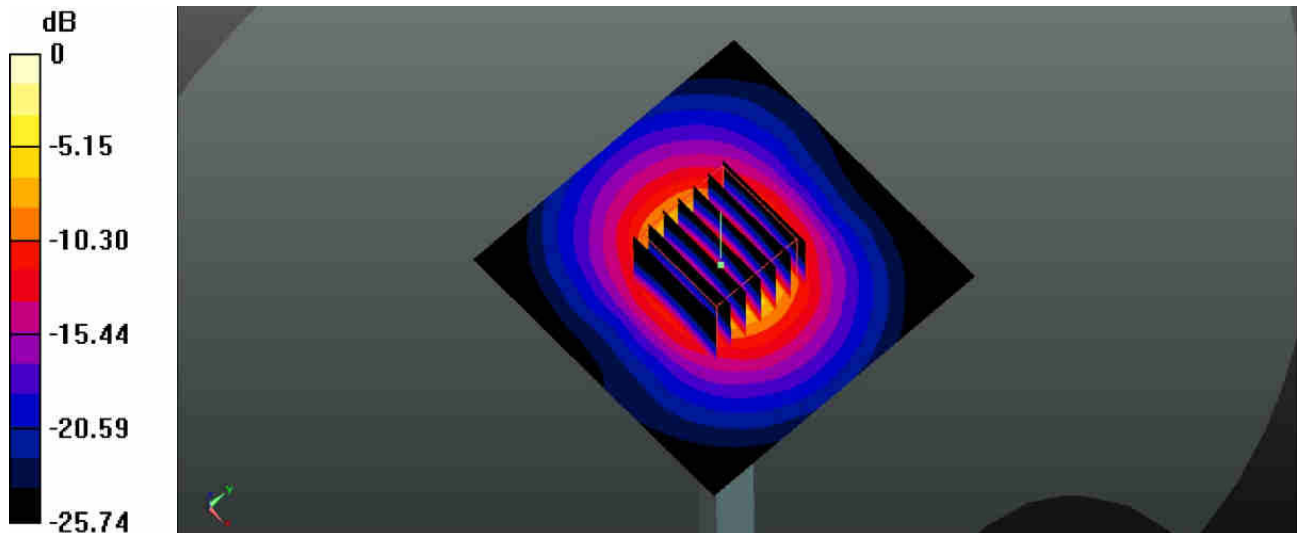
Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 57.09 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 29.7 W/kg

SAR(1 g) = 7.6 W/kg; SAR(10 g) = 2.1 W/kg

Maximum value of SAR (measured) = 18.8 W/kg



0 dB = 18.8 W/kg

System Check_Head_5750MHz_20160722**DUT: Dipole 5GHz**

Communication System: UID 0, CW (0); Frequency: 5750 MHz; Duty Cycle: 1:1

Medium: HSL_5G_2016/07/22 Medium parameters used: $f = 5750$ MHz; $\sigma = 5.164$ S/m; $\epsilon_r = 35.867$;
 $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(4.37, 4.37, 4.37); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=10mm, dy=10mm

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

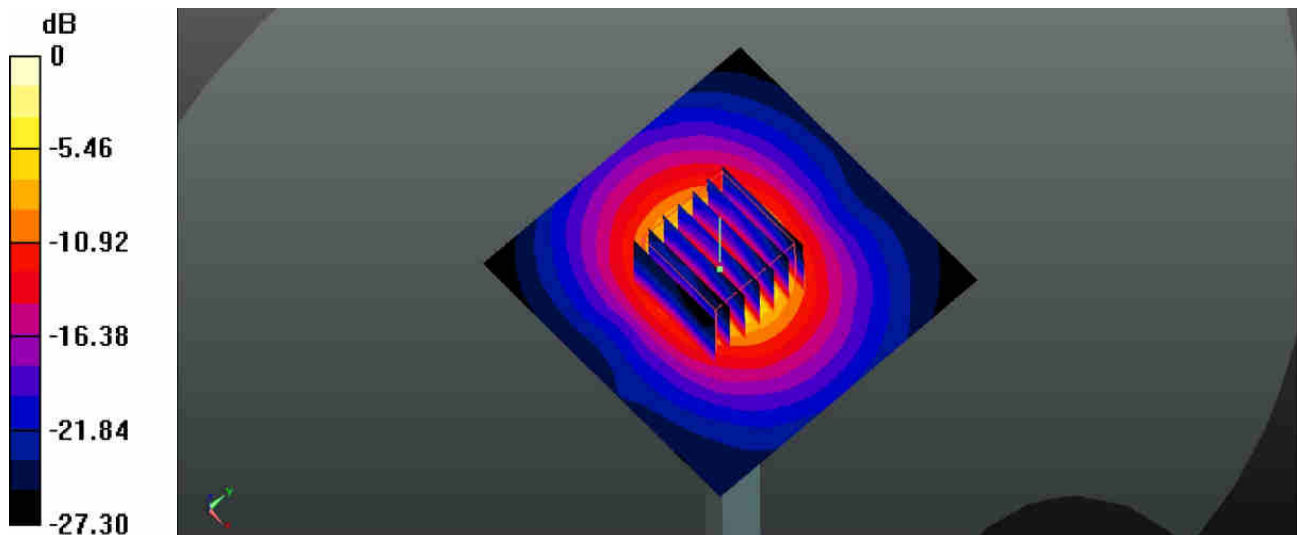
Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 55.10 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 32.2 W/kg

SAR(1 g) = 8.06 W/kg; SAR(10 g) = 2.28 W/kg

Maximum value of SAR (measured) = 19.9 W/kg



0 dB = 19.9 W/kg

System Check_Body_2450MHz_20160722

DUT: Dipole 2450 MHz D2450V2

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: MSL_2450_2016/07/22 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.972$ S/m; $\epsilon_r = 51.844$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.55, 7.55, 7.55); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 18.8 W/kg

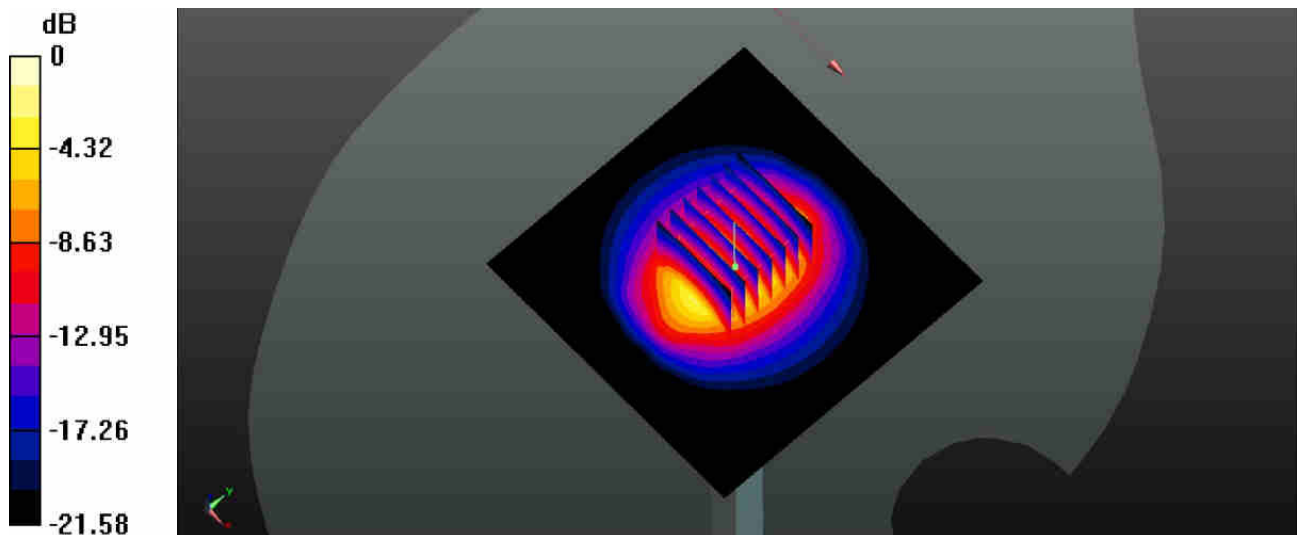
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 84.65 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 25.3 W/kg

SAR(1 g) = 12.4 W/kg; SAR(10 g) = 5.75 W/kg

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



0 dB = 19.0 W/kg

System Check_Body_5250MHz_20160722

DUT: Dipole 5GHz

Communication System: UID 0, CW (0); Frequency: 5250 MHz; Duty Cycle: 1:1

Medium: MSL_5G_2016/07/22 Medium parameters used: $f = 5250$ MHz; $\sigma = 5.437$ S/m; $\epsilon_r = 48.733$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(4.35, 4.35, 4.35); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 17.7 W/kg

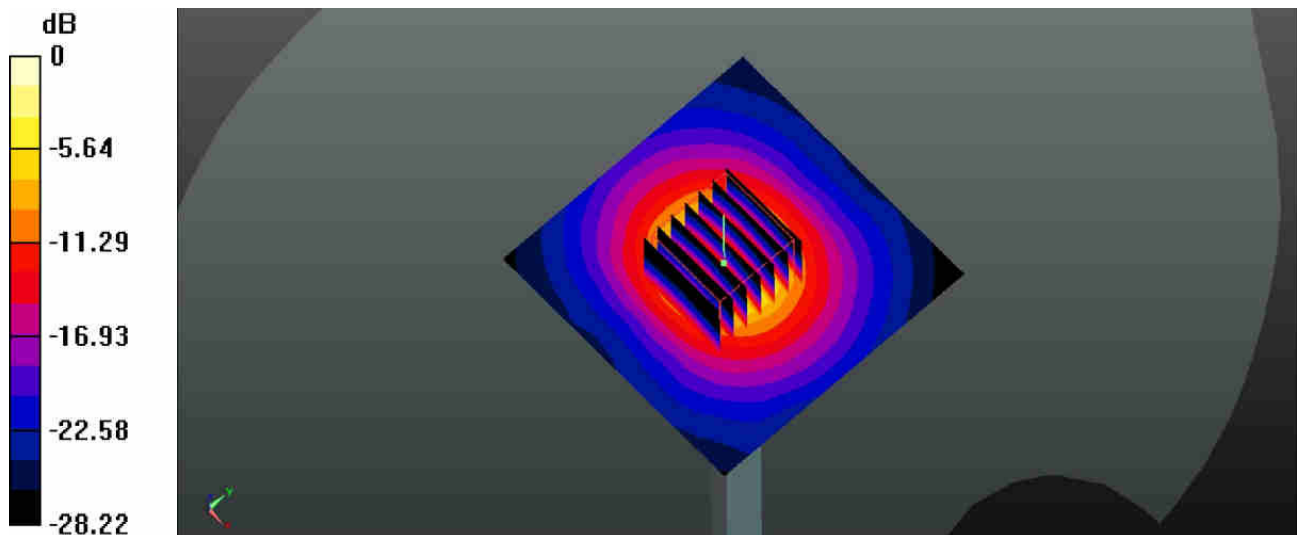
Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 48.06 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 29.5 W/kg

SAR(1 g) = 7.7 W/kg; SAR(10 g) = 2.08 W/kg

Maximum value of SAR (measured) = 18.6 W/kg



0 dB = 18.6 W/kg

System Check_Body_5750MHz_20160722

DUT: Dipole 5GHz

Communication System: UID 0, CW (0); Frequency: 5750 MHz; Duty Cycle: 1:1

Medium: MSL_5G_2016/07/22 Medium parameters used: $f = 5750$ MHz; $\sigma = 6.112$ S/m; $\epsilon_r = 47.895$;
 $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(3.81, 3.81, 3.81); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 19.2 W/kg

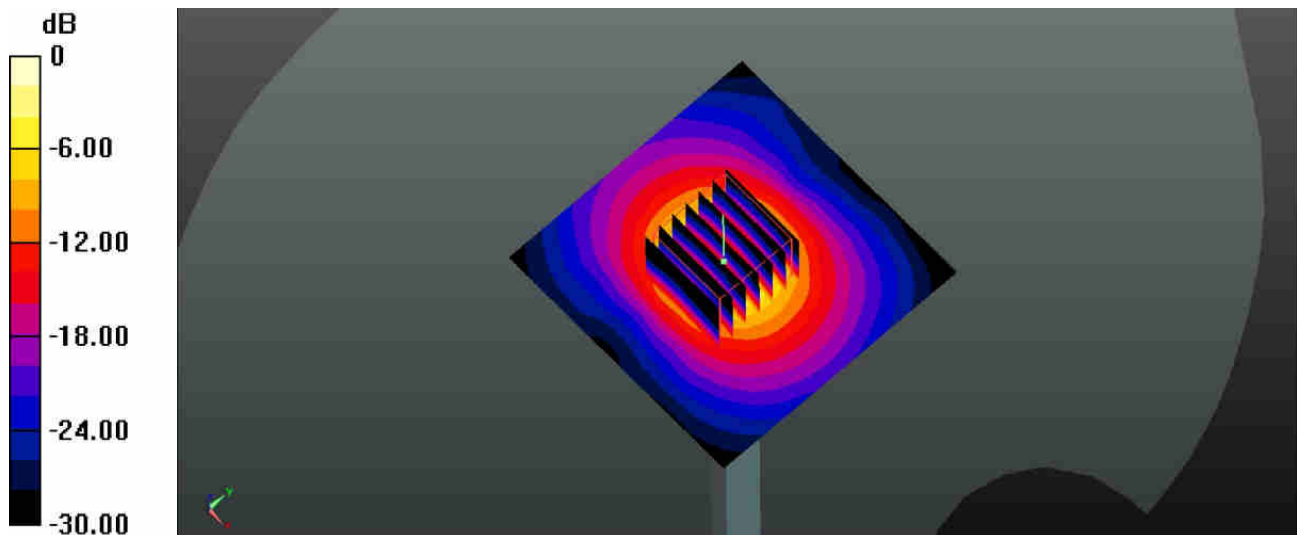
Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 45.59 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 32.5 W/kg

SAR(1 g) = 7.7 W/kg; SAR(10 g) = 2.11 W/kg

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



0 dB = 19.4 W/kg



Appendix B. Plots of High SAR Measurement

The plots are shown as follows.

01_GSM850_GPRS(2 Tx slots)_Right Cheek_0mm_Ch251_Top Ant

Communication System: UID 0, GPRS (GMSK 2 Tx slot) (0); Frequency: 848.8 MHz; Duty Cycle: 1:4.15

Medium: HSL_835_2016/07/19 Medium parameters used: $f = 849$ MHz; $\sigma = 0.913$ S/m; $\epsilon_r = 41.583$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.15, 10.15, 10.15); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch251/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.35 W/kg

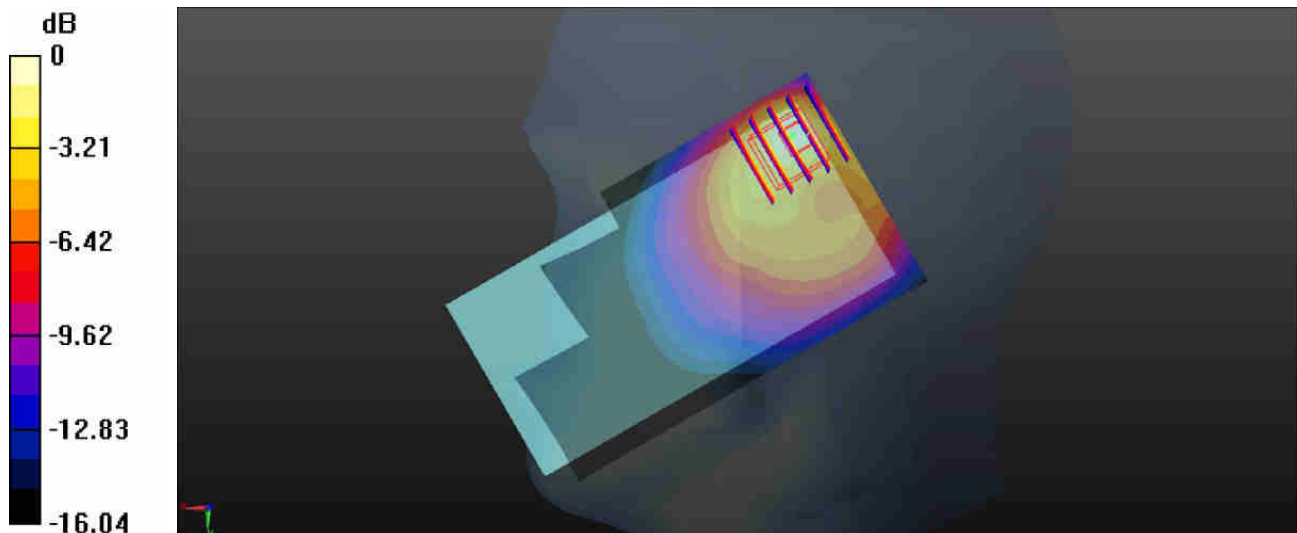
Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.27 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.57 W/kg

SAR(1 g) = 0.693 W/kg; SAR(10 g) = 0.372 W/kg

Maximum value of SAR (measured) = 1.13 W/kg



0 dB = 1.13 W/kg

02_GSM1900_GPRS(4 Tx slots)_Right Cheek_0mm_Ch810_Top Ant

Communication System: UID 0, GPRS (GMSK 4 Tx slot) (0); Frequency: 1909.8 MHz; Duty Cycle: 1:2.08

Medium: HSL_1900_2016/07/20 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.43$ S/m; $\epsilon_r = 41.238$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.37, 8.37, 8.37); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch810/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.31 W/kg

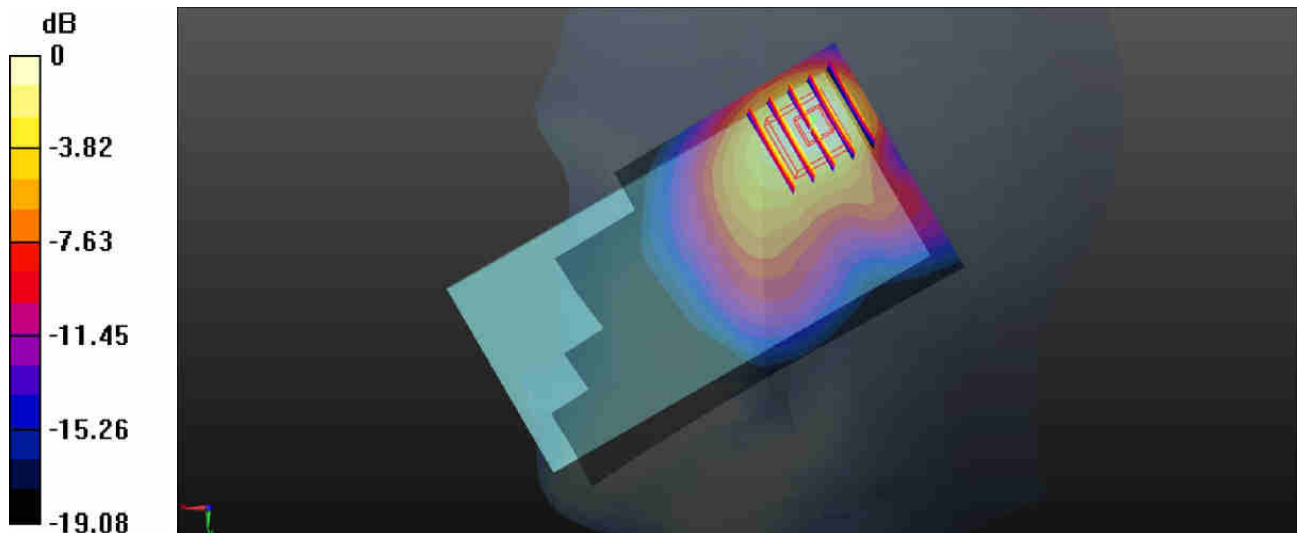
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.40 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 1.40 W/kg

SAR(1 g) = 0.792 W/kg; SAR(10 g) = 0.431 W/kg

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



0 dB = 1.06 W/kg

03_WCDMA V_RMC 12.2Kbps_Right Cheek_0mm_Ch4182_Top Ant

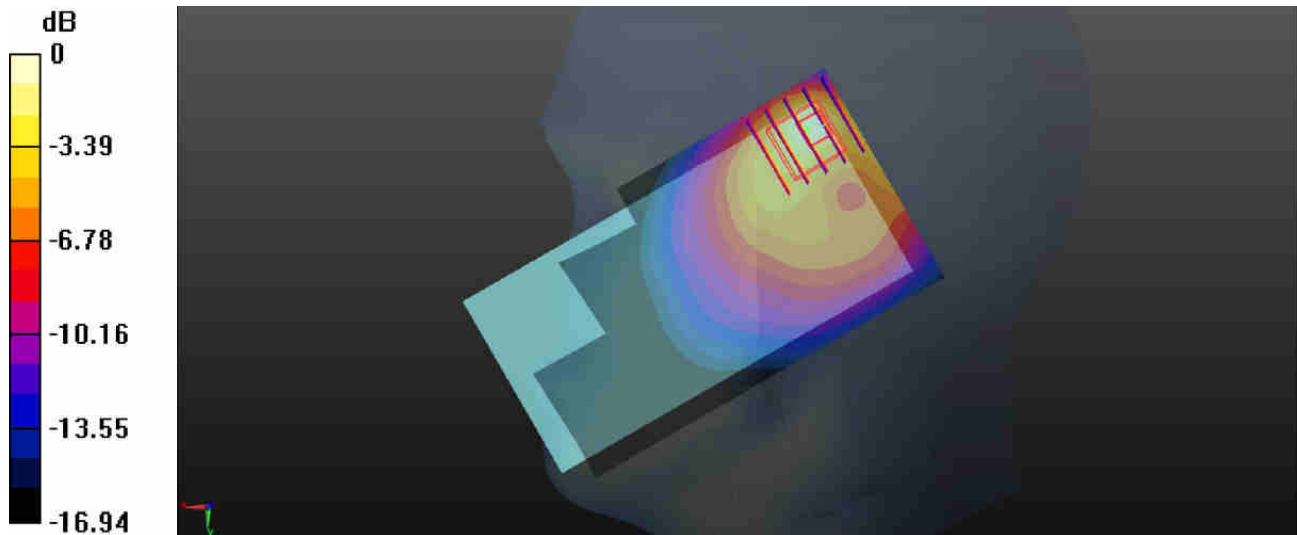
Communication System: UID 0, WCDMA (0); Frequency: 836.4 MHz; Duty Cycle: 1:1
Medium: HSL_835_2016/07/19 Medium parameters used: $f = 836.4$ MHz; $\sigma = 0.901$ S/m; $\epsilon_r = 41.734$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.8 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.15, 10.15, 10.15); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch4182/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.51 W/kg

Ch4182/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.75 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.96 W/kg
SAR(1 g) = 0.791 W/kg; SAR(10 g) = 0.412 W/kg
Maximum value of SAR (measured) = 1.42 W/kg



0 dB = 1.42 W/kg

04_WCDMA IV_RMC 12.2Kbps_Right Cheek_0mm_Ch1413_Top Ant

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium: HSL_1750_2016/07/20 Medium parameters used: $f = 1733$ MHz; $\sigma = 1.35$ S/m; $\epsilon_r = 40.809$;
 $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.69, 8.69, 8.69); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch1413/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.73 W/kg

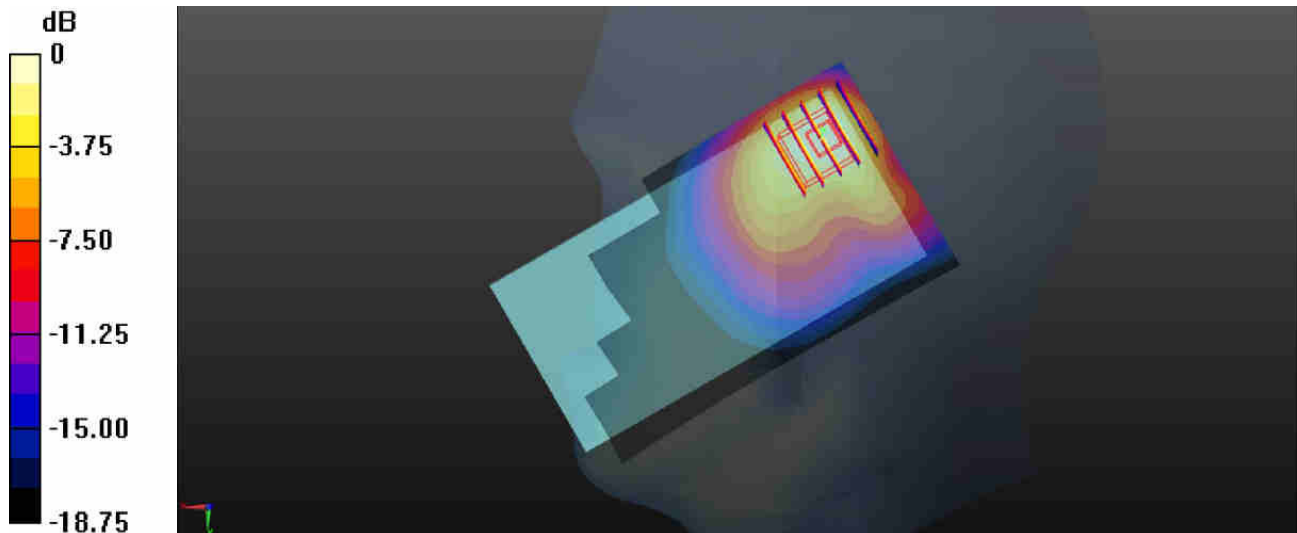
Ch1413/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.57 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 1.81 W/kg

SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.584 W/kg

Maximum value of SAR (measured) = 1.42 W/kg



0 dB = 1.42 W/kg

05_WCDMA II_RMC 12.2Kbps_Right Cheek_0mm_Ch9262_Top Ant

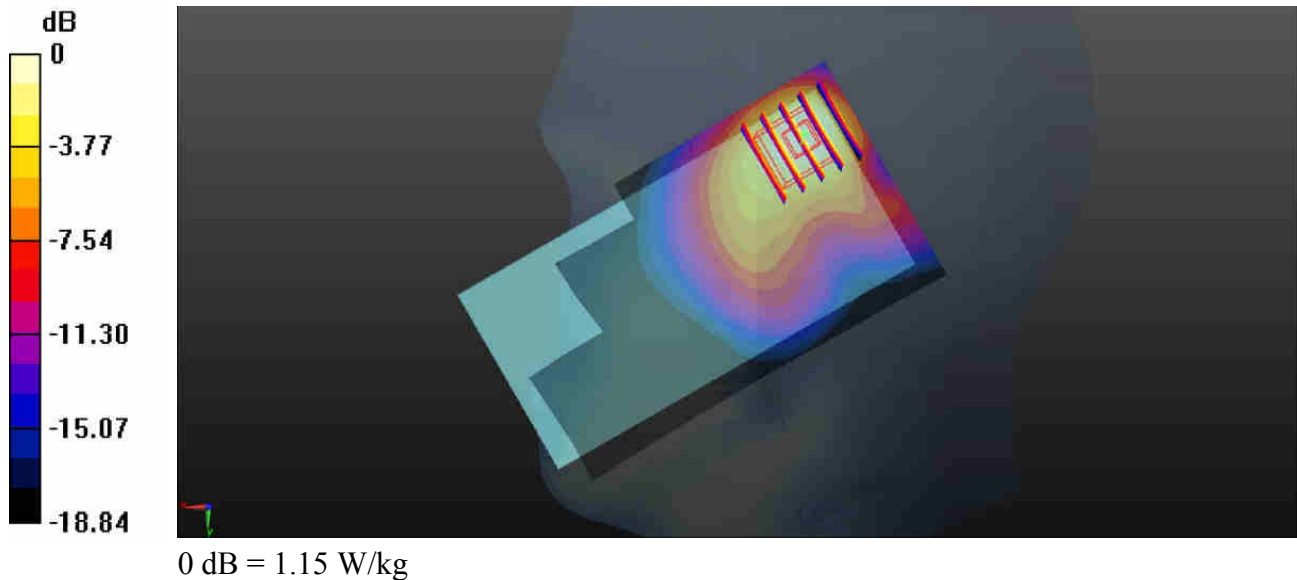
Communication System: UID 0, WCDMA (0); Frequency: 1852.4 MHz; Duty Cycle: 1:1
Medium: HSL_1900_2016/07/20 Medium parameters used: $f = 1852.4$ MHz; $\sigma = 1.372$ S/m; $\epsilon_r = 41.492$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.7 °C; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.37, 8.37, 8.37); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch9262/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.42 W/kg

Ch9262/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.92 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.39 W/kg
SAR(1 g) = 0.807 W/kg; SAR(10 g) = 0.446 W/kg
Maximum value of SAR (measured) = 1.15 W/kg



06_CDMA2000 BC10_1xRTT RC3 SO55_Right Cheek_0mm_Ch476_Top Ant

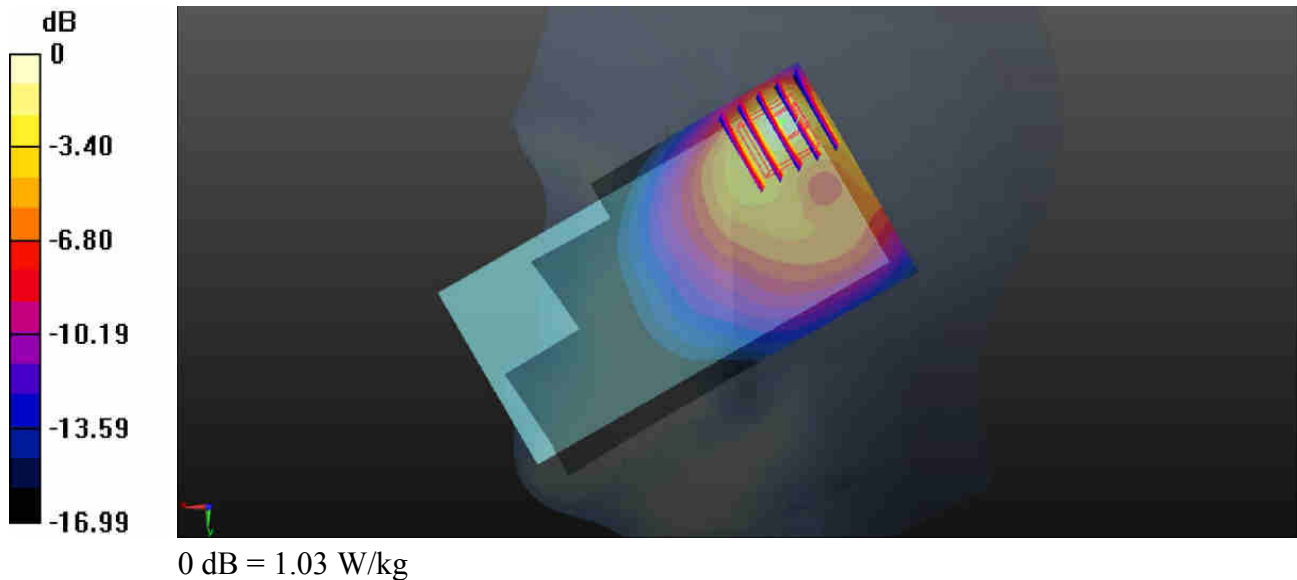
Communication System: UID 0, CDMA2000 (0); Frequency: 817.9 MHz; Duty Cycle: 1:1
 Medium: HSL_835_2016/07/19 Medium parameters used: $f = 817.9 \text{ MHz}$; $\sigma = 0.883 \text{ S/m}$; $\epsilon_r = 41.972$; $\rho = 1000 \text{ kg/m}^3$
 Ambient Temperature : $23.8 \text{ }^{\circ}\text{C}$; Liquid Temperature : $22.5 \text{ }^{\circ}\text{C}$

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.15, 10.15, 10.15); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch476/Area Scan (61x111x1): Interpolated grid: $dx=15\text{mm}$, $dy=15\text{mm}$
 Maximum value of SAR (interpolated) = 1.13 W/kg

Ch476/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
 Reference Value = 13.02 V/m ; Power Drift = 0.07 dB
 Peak SAR (extrapolated) = 1.44 W/kg
SAR(1 g) = 0.581 W/kg ; SAR(10 g) = 0.305 W/kg
 Maximum value of SAR (measured) = 1.03 W/kg



07_CDMA2000 BC0_1xRTT RC3 SO55_Right Cheek_0mm_Ch1013_Top Ant

Communication System: UID 0, CDMA2000 (0); Frequency: 824.7 MHz; Duty Cycle: 1:1
 Medium: HSL_835_2016/07/19 Medium parameters used: $f = 825 \text{ MHz}$; $\sigma = 0.89 \text{ S/m}$; $\epsilon_r = 41.88$; $\rho = 1000 \text{ kg/m}^3$
 Ambient Temperature : $23.8 \text{ }^\circ\text{C}$; Liquid Temperature : $22.5 \text{ }^\circ\text{C}$

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.15, 10.15, 10.15); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch1013/Area Scan (61x111x1): Interpolated grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 1.15 W/kg

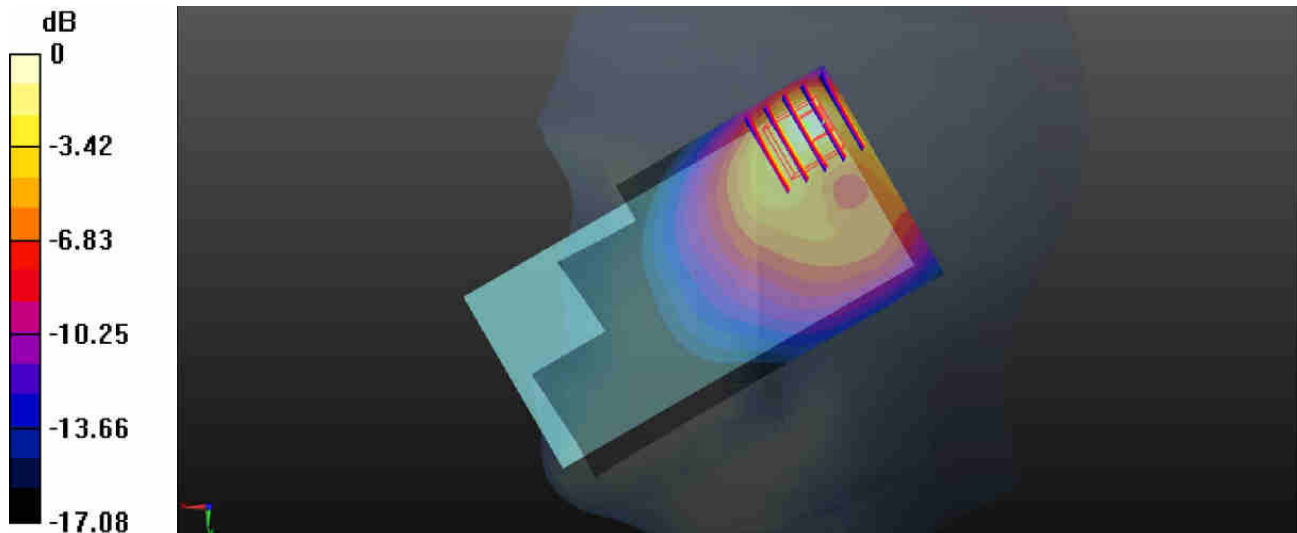
Ch1013/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.05 V/m ; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.48 W/kg

SAR(1 g) = 0.594 W/kg ; SAR(10 g) = 0.312 W/kg

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



0 dB = 1.06 W/kg

08_CDMA2000 BC1_1xRTT RC3 SO55_Right Cheek_0mm_Ch1175_Top Ant

Communication System: UID 0, CDMA2000 (0); Frequency: 1908.75 MHz; Duty Cycle: 1:1

Medium: HSL_1900_2016/07/20 Medium parameters used: $f = 1909$ MHz; $\sigma = 1.43$ S/m; $\epsilon_r = 41.242$;
 $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.37, 8.37, 8.37); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch1175/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.91 W/kg

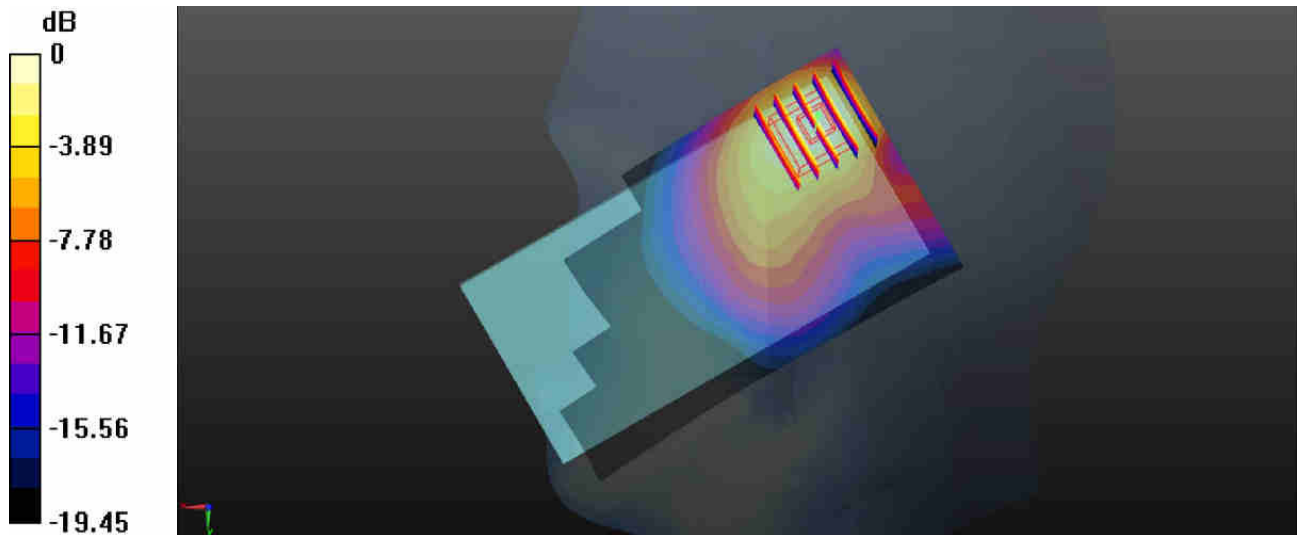
Ch1175/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.59 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.96 W/kg

SAR(1 g) = 1.1 W/kg; SAR(10 g) = 0.608 W/kg

Maximum value of SAR (measured) = 1.60 W/kg



0 dB = 1.60 W/kg

09_LTE Band 12_10M_QPSK_1RB_0offset_Right Cheek_0mm_Ch23095_Top Ant

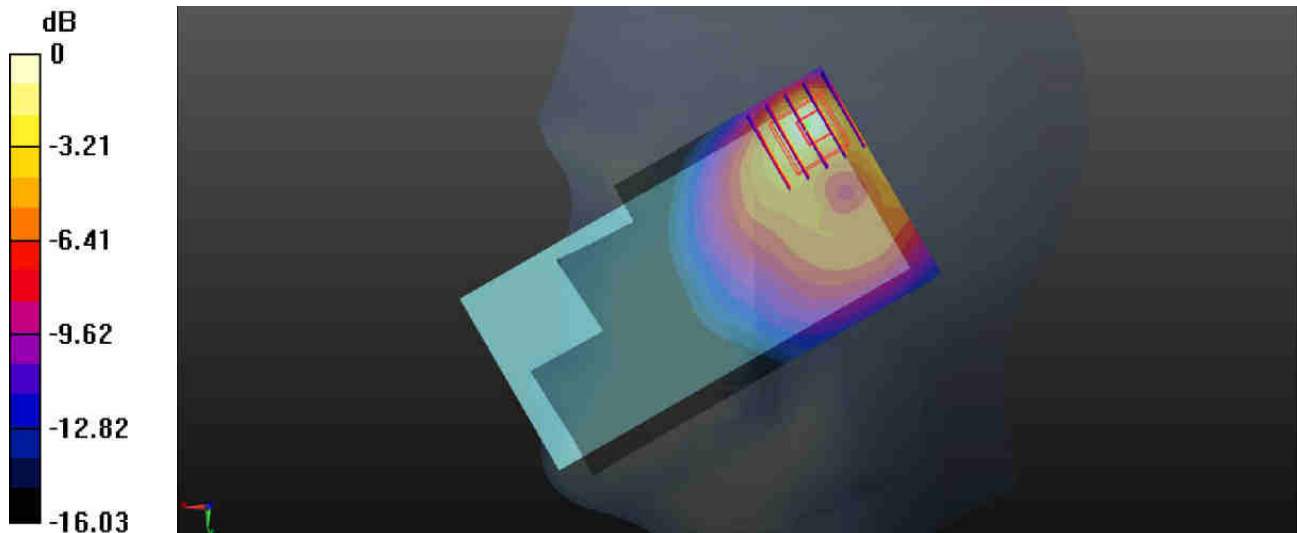
Communication System: UID 0, FDD-LTE (0); Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: HSL_750_2016/07/14 Medium parameters used: $f = 707.5$ MHz; $\sigma = 0.854$ S/m; $\epsilon_r = 42.573$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.72, 10.72, 10.72); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch23095/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.893 W/kg

Ch23095/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.08 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 1.14 W/kg
SAR(1 g) = 0.474 W/kg; SAR(10 g) = 0.239 W/kg
Maximum value of SAR (measured) = 0.816 W/kg



0 dB = 0.816 W/kg

10_LTE Band 13_10M_QPSK_1RB_0offset_Right Cheek_0mm_Ch23230_Top Ant

Communication System: UID 0, FDD-LTE (0); Frequency: 782 MHz; Duty Cycle: 1:1

Medium: HSL_750_2016/07/14 Medium parameters used: $f = 782 \text{ MHz}$; $\sigma = 0.922 \text{ S/m}$; $\epsilon_r = 41.571$;

$\rho = 1000 \text{ kg/m}^3$

Ambient Temperature : $23.5 \text{ }^\circ\text{C}$; Liquid Temperature : $22.5 \text{ }^\circ\text{C}$

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.72, 10.72, 10.72); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch23230/Area Scan (61x111x1): Interpolated grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

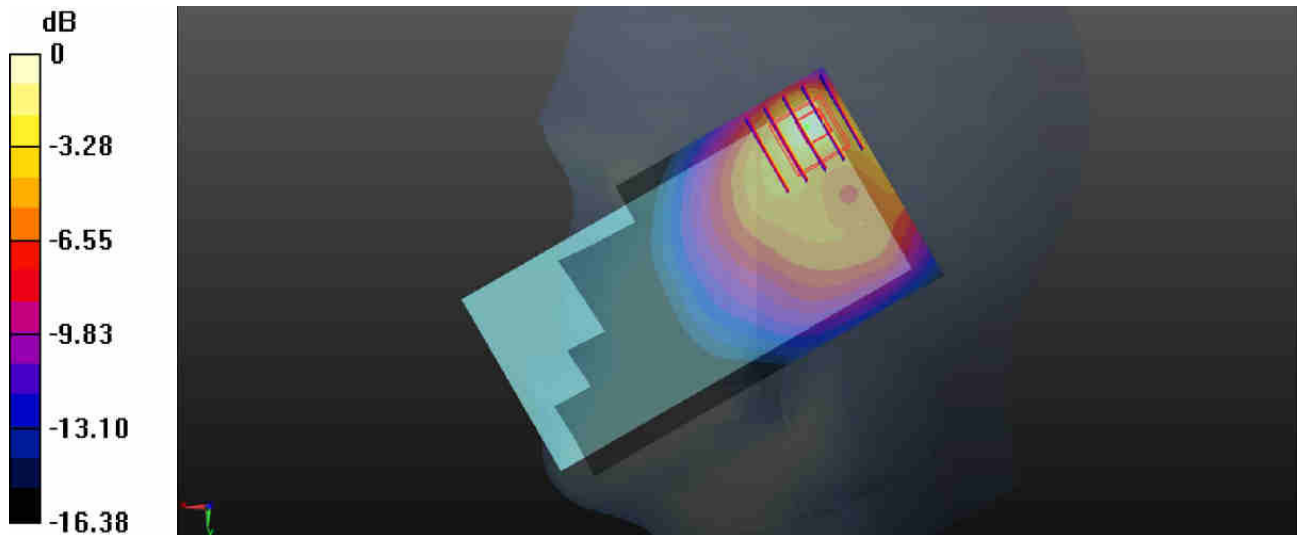
Ch23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.17 V/m ; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.32 W/kg

SAR(1 g) = 0.538 W/kg ; SAR(10 g) = 0.274 W/kg

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



0 dB = 0.957 W/kg

11_LTE Band 26_15M_QPSK_1RB_0offset_Right Cheek_0mm_Ch26865_Top Ant

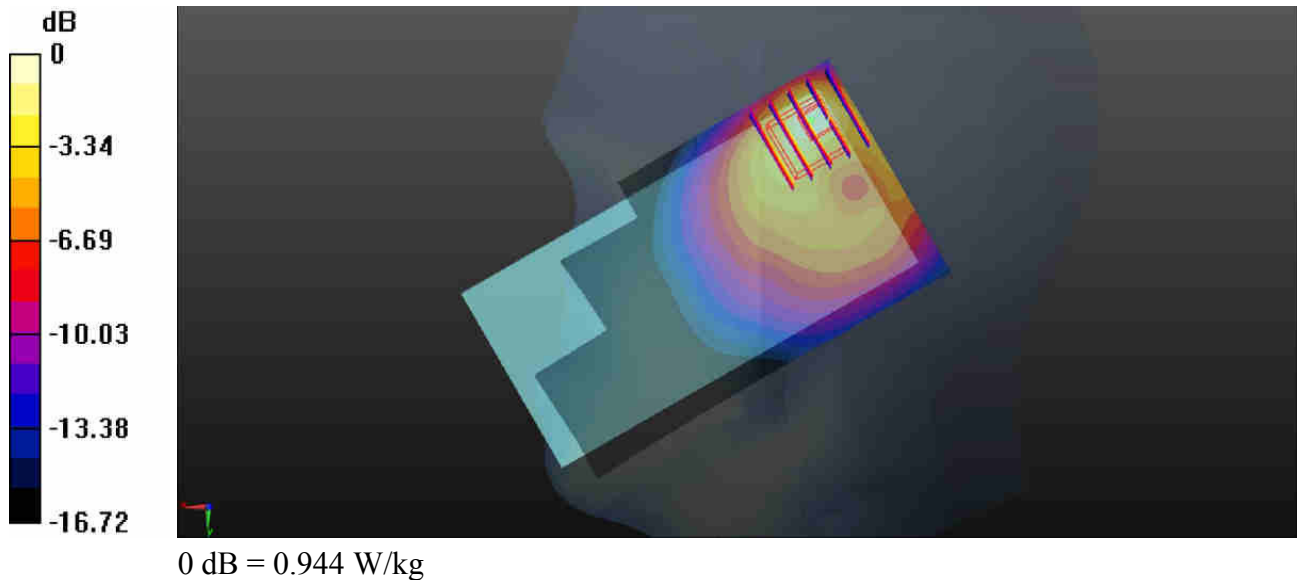
Communication System: UID 0, FDD-LTE (0); Frequency: 831.5 MHz; Duty Cycle: 1:1
Medium: HSL_835_2016/07/19 Medium parameters used: $f = 831.5$ MHz; $\sigma = 0.896$ S/m; $\epsilon_r = 41.792$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.8 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.15, 10.15, 10.15); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch26865/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.07 W/kg

Ch26865/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.81 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.31 W/kg
SAR(1 g) = 0.549 W/kg; SAR(10 g) = 0.294 W/kg
Maximum value of SAR (measured) = 0.944 W/kg



12_LTE Band 4_20M_QPSK_1RB_0offset_Right Cheek_0mm_Ch20175_Top Ant

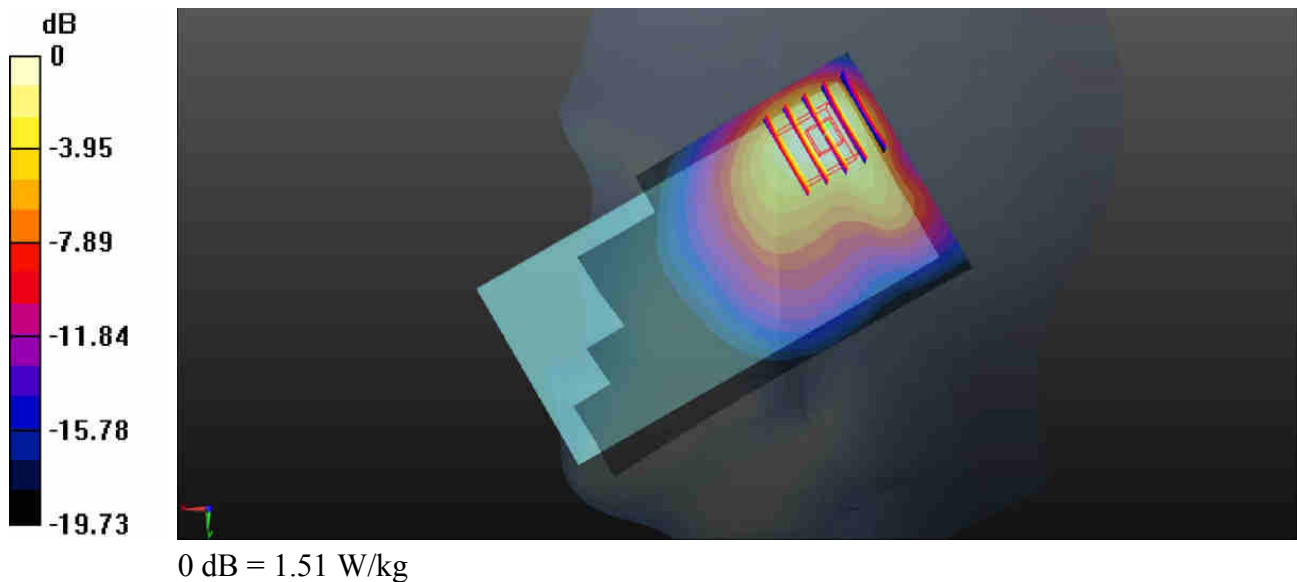
Communication System: UID 0, FDD-LTE (0); Frequency: 1732.5 MHz; Duty Cycle: 1:1
Medium: HSL_1750_2016/07/20 Medium parameters used: $f = 1732.5$ MHz; $\sigma = 1.349$ S/m; $\epsilon_r = 40.812$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.69, 8.69, 8.69); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch20175/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.87 W/kg

Ch20175/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.11 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 1.90 W/kg
SAR(1 g) = 1.07 W/kg; SAR(10 g) = 0.602 W/kg
Maximum value of SAR (measured) = 1.51 W/kg



13_LTE Band 25_20M_QPSK_1RB_0offset_Right Cheek_0mm_Ch26590_Top Ant

Communication System: UID 0, FDD-LTE (0); Frequency: 1905 MHz; Duty Cycle: 1:1

Medium: HSL_1900_2016/07/20 Medium parameters used: $f = 1905 \text{ MHz}$; $\sigma = 1.426 \text{ S/m}$; $\epsilon_r = 41.26$;
 $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature : 23.7°C ; Liquid Temperature : 22.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.37, 8.37, 8.37); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch26590/Area Scan (61x111x1): Interpolated grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 1.77 W/kg

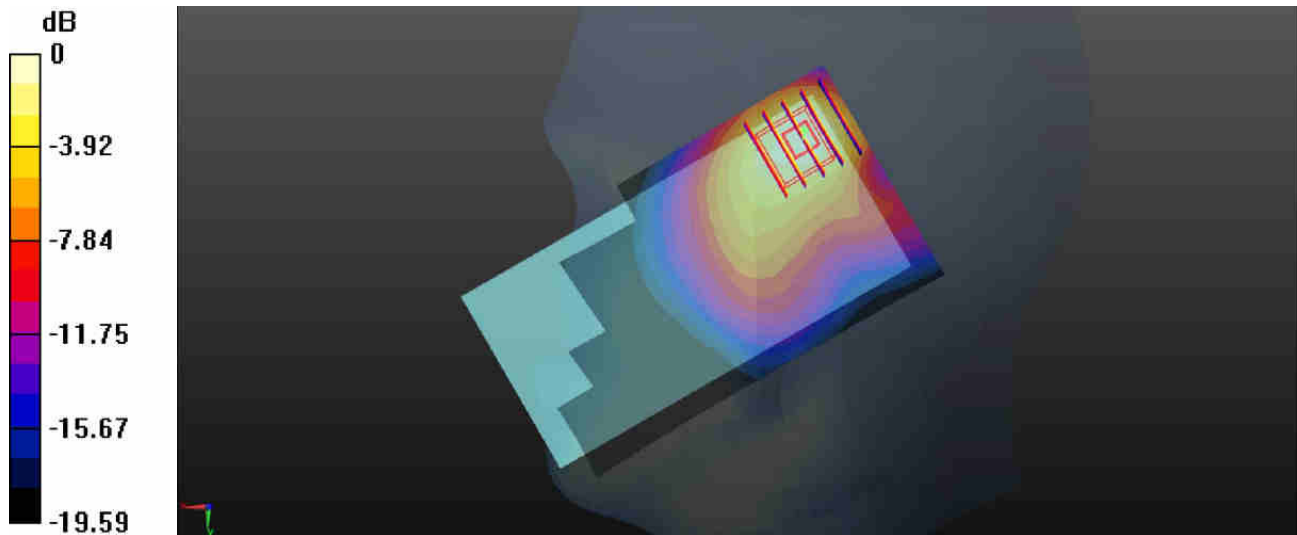
Ch26590/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 11.69 V/m ; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.78 W/kg

SAR(1 g) = 1.01 W/kg ; SAR(10 g) = 0.555 W/kg

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



0 dB = 1.47 W/kg

14_LTE Band 30_10M_QPSK_1RB_25offset_Right Cheek_0mm_Ch27710

Communication System: UID 0, FDD_LTE (0); Frequency: 2310 MHz; Duty Cycle: 1:1

Medium: HSL_2300_2016/08/02 Medium parameters used: $f = 2310$ MHz; $\sigma = 1.699$ S/m; $\epsilon_r = 38.749$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3857; ConvF(7.44, 7.44, 7.44); Calibrated: 2016.5.25;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2016.5.18
- Phantom: SAM2; Type: SAM; Serial: TP-1477
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch27710/Area Scan (81x151x1): Interpolated grid: dx=12mm, dy=12mm

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

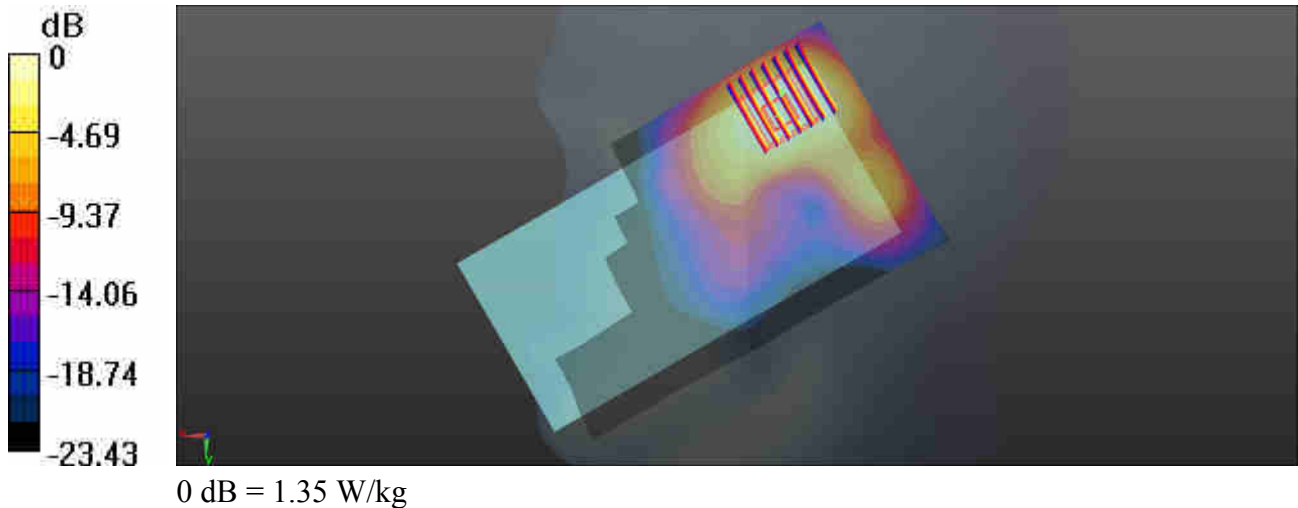
Ch27710/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.76 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.94 W/kg

SAR(1 g) = 0.969 W/kg; SAR(10 g) = 0.501 W/kg

Maximum value of SAR (measured) = 1.35 W/kg



15_LTE Band 7_20M_QPSK_1RB_0offset_Left Cheek_0mm_Ch21350_Bottom Ant

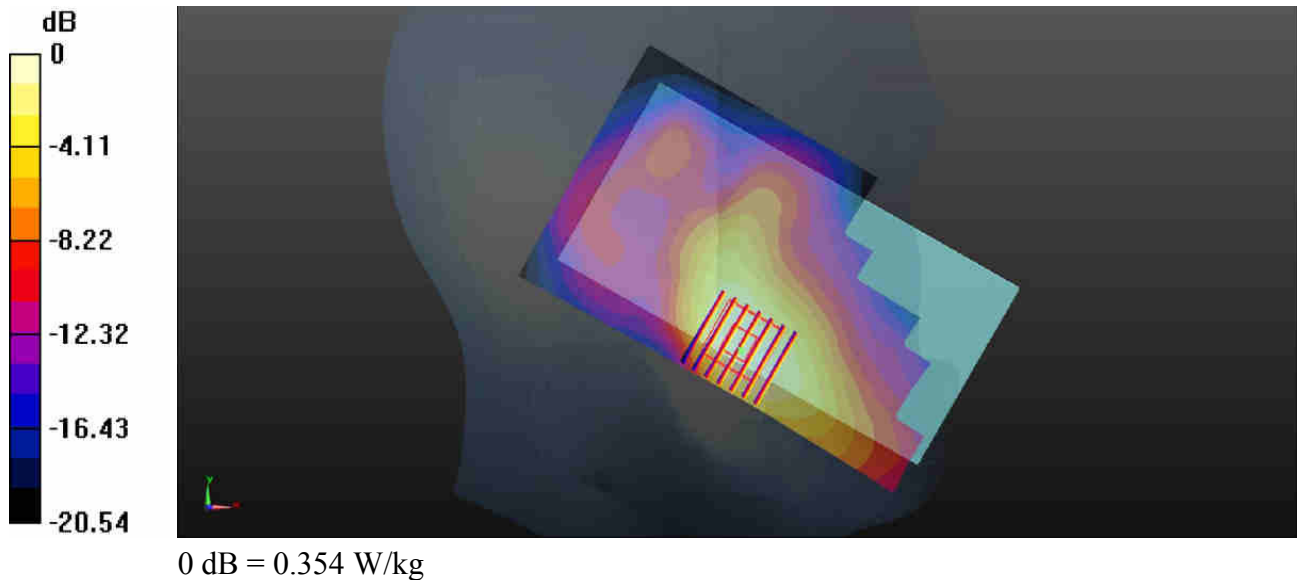
Communication System: UID 0, FDD-LTE (0); Frequency: 2560 MHz; Duty Cycle: 1:1
Medium: HSL_2600_2016/07/02 Medium parameters used: $f = 2560$ MHz; $\sigma = 2.008$ S/m; $\epsilon_r = 38.536$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.26, 7.26, 7.26); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch21350/Area Scan (81x141x1): Interpolated grid: $dx=12$ mm, $dy=12$ mm
Maximum value of SAR (interpolated) = 0.376 W/kg

Ch21350/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm
Reference Value = 3.475 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.446 W/kg
SAR(1 g) = 0.257 W/kg; SAR(10 g) = 0.141 W/kg
Maximum value of SAR (measured) = 0.354 W/kg



16_LTE Band 41_20M_QPSK_1RB_0offset_Left Cheek_0mm_Ch40185_Bottom Ant

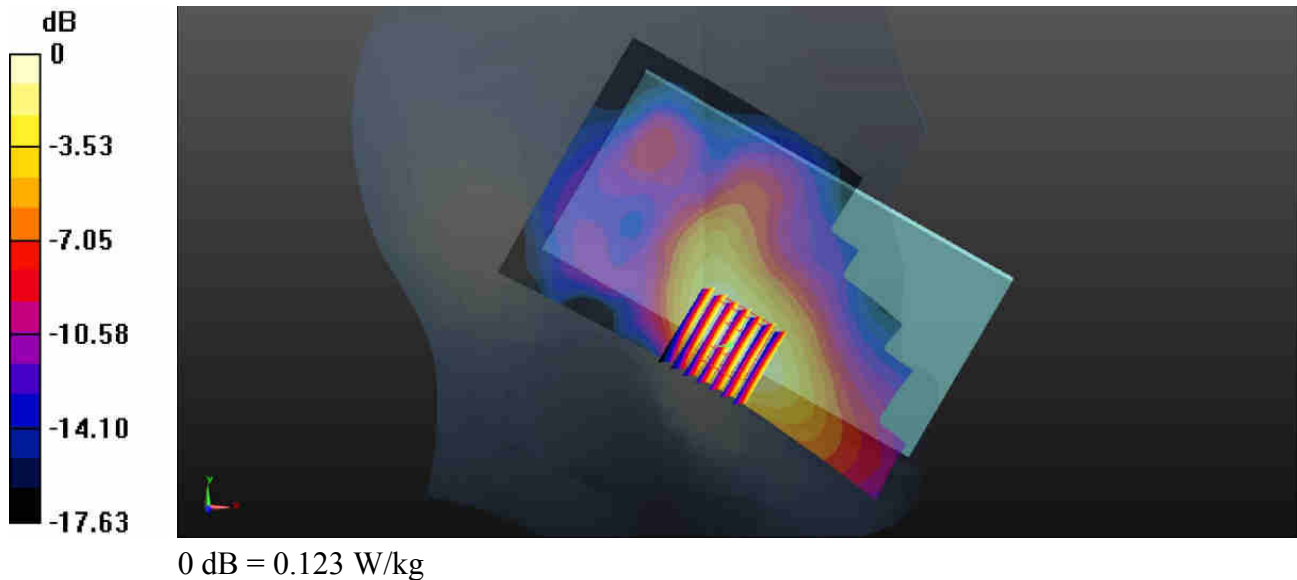
Communication System: UID 0, TDD-LTE (0); Frequency: 2549.5 MHz; Duty Cycle: 1:1.59
Medium: HSL_2600_2016/07/02 Medium parameters used: $f = 2549.5$ MHz; $\sigma = 1.996$ S/m; $\epsilon_r = 38.575$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.26, 7.26, 7.26); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch40185/Area Scan (81x141x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.128 W/kg

Ch40185/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.182 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.157 W/kg
SAR(1 g) = 0.091 W/kg; SAR(10 g) = 0.050 W/kg
Maximum value of SAR (measured) = 0.123 W/kg



17_WLAN2.4GHz_802.11b 1Mbps_Left Cheek_0mm_Ch11_Ant 1

Communication System: UID 0, 802.11b (0); Frequency: 2462 MHz; Duty Cycle: 1:1.011

Medium: HSL_2450_2016/07/21 Medium parameters used: $f = 2462$ MHz; $\sigma = 1.86$ S/m; $\epsilon_r = 37.621$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.49, 7.49, 7.49); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch11/Area Scan (81x151x1): Interpolated grid: dx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 1.49 W/kg

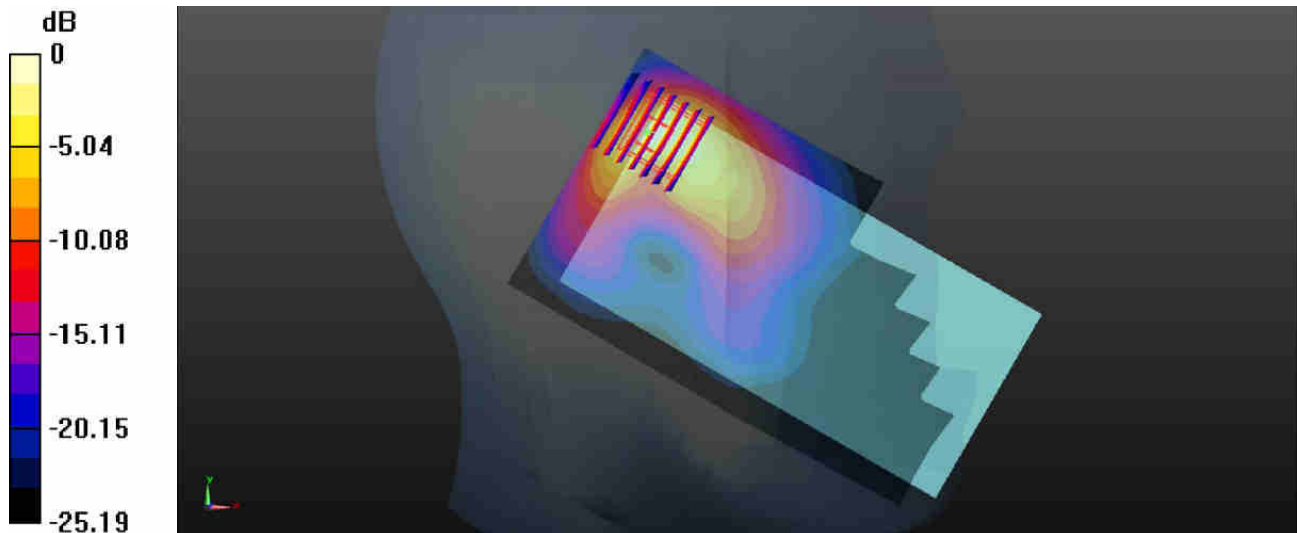
Ch11/Zoom Scan (7x7x4)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.702 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 2.41 W/kg

SAR(1 g) = 0.883 W/kg; SAR(10 g) = 0.353 W/kg

Maximum value of SAR (measured) = 1.71 W/kg



0 dB = 1.71 W/kg

18_WLAN2.4GHz_802.11b 1Mbps_Right Cheek_0mm_Ch11_Ant 2

Communication System: UID 0, 802.11b (0); Frequency: 2462 MHz; Duty Cycle: 1:1.011

Medium: HSL_2450_2016/07/21 Medium parameters used: $f = 2462$ MHz; $\sigma = 1.86$ S/m; $\epsilon_r = 37.621$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.49, 7.49, 7.49); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch11/Area Scan (81x151x1): Interpolated grid: dx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 0.312 W/kg

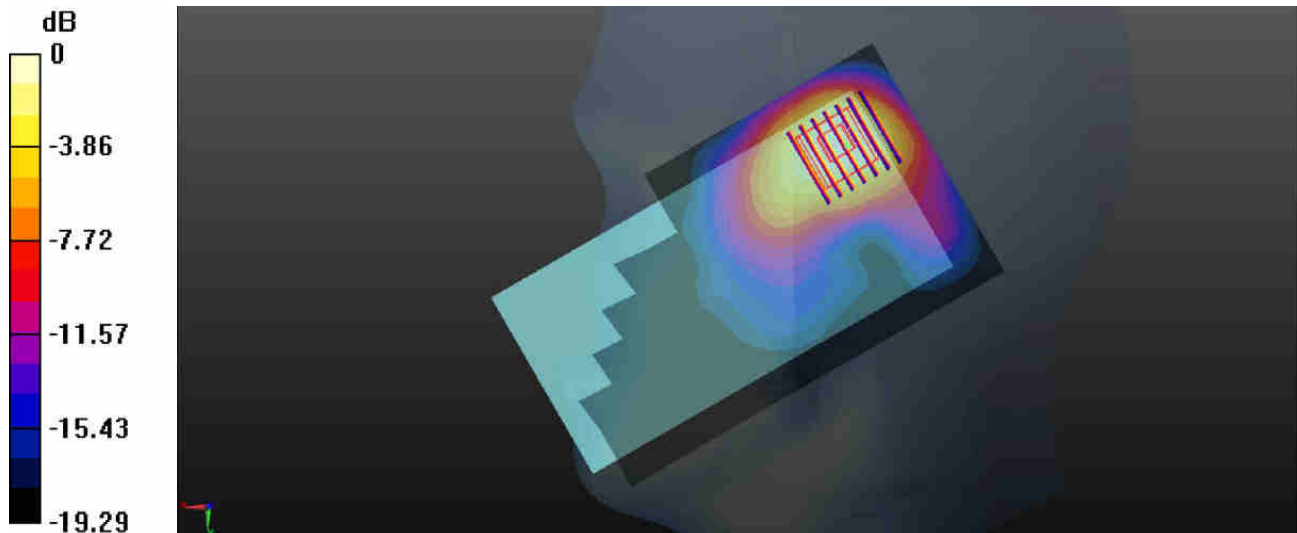
Ch11/Zoom Scan (7x7x4)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.499 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.400 W/kg

SAR(1 g) = 0.180 W/kg; SAR(10 g) = 0.097 W/kg

Maximum value of SAR (measured) = 0.284 W/kg



0 dB = 0.284 W/kg

19_WLAN2.4GHz_802.11b 1Mbps_Left Cheek_0mm_Ch11_Ant 1+2

Communication System: UID 0, 802.11b (0); Frequency: 2462 MHz; Duty Cycle: 1:1.009

Medium: HSL_2450_2016/07/21 Medium parameters used: $f = 2462$ MHz; $\sigma = 1.86$ S/m; $\epsilon_r = 37.621$;
 $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.49, 7.49, 7.49); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch11/Area Scan (81x141x1): Interpolated grid: dx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 0.789 W/kg

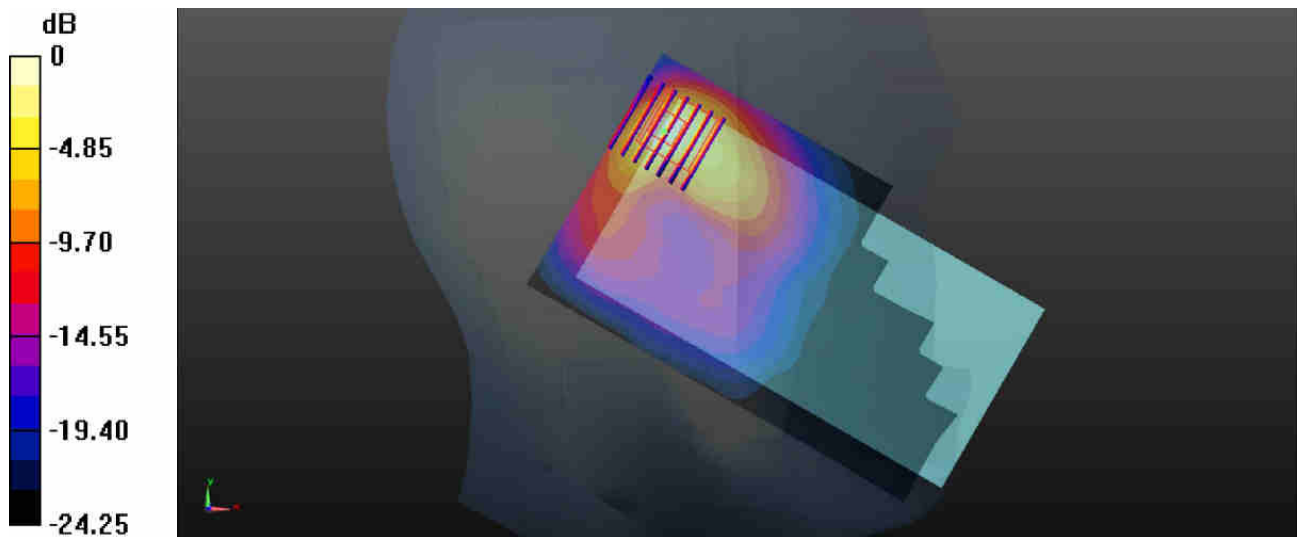
Ch11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.738 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.00 W/kg

SAR(1 g) = 0.364 W/kg; SAR(10 g) = 0.143 W/kg

Maximum value of SAR (measured) = 0.748 W/kg



0 dB = 0.748 W/kg

20_WLAN5.2GHz_802.11a 6Mbps_Left Cheek_0mm_Ch36_Ant 1

Communication System: UID 0, 802.11a (0); Frequency: 5180 MHz; Duty Cycle: 1:1.042

Medium: HSL_5G_2016/07/22 Medium parameters used: $f = 5180$ MHz; $\sigma = 4.51$ S/m; $\epsilon_r = 36.77$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C; Liquid Temperature : 22.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(5.11, 5.11, 5.11); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch36/Area Scan (101x171x1): Interpolated grid: dx=10mm, dy=10mm

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

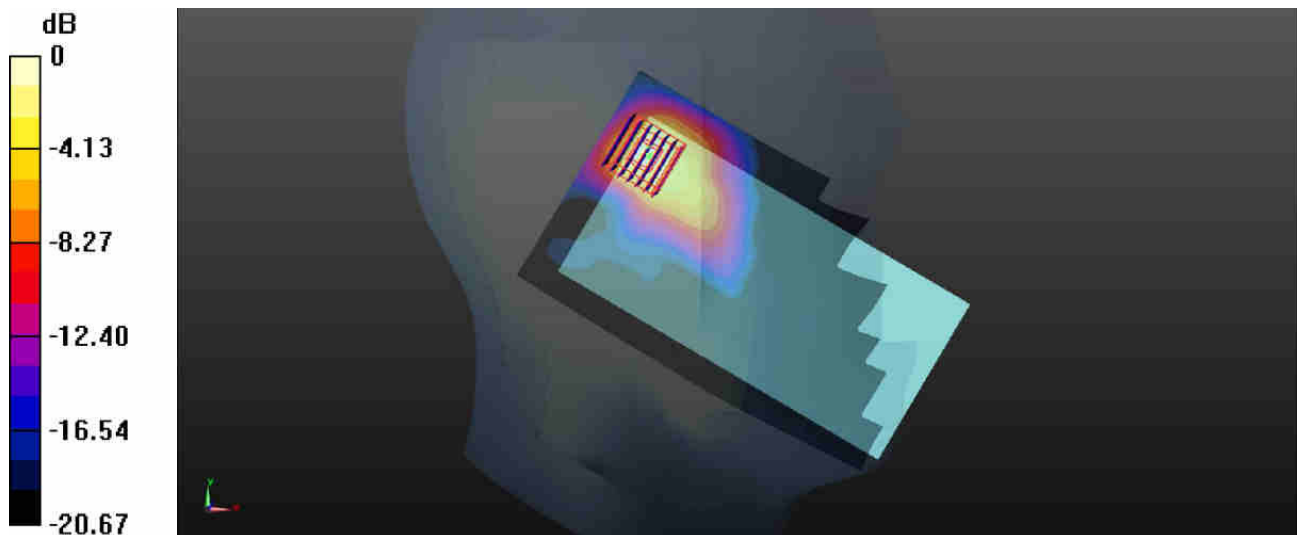
Ch36/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 2.309 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.77 W/kg

SAR(1 g) = 0.463 W/kg; SAR(10 g) = 0.163 W/kg

Maximum value of SAR (measured) = 1.09 W/kg



0 dB = 1.09 W/kg

21_WLAN5.8GHz_802.11a 6Mbps_Left Cheek_0mm_Ch165_Ant 1

Communication System: UID 0, 802.11a (0); Frequency: 5825 MHz; Duty Cycle: 1:1.042

Medium: HSL_5G_2016/07/22 Medium parameters used: $f = 5825$ MHz; $\sigma = 5.25$ S/m; $\epsilon_r = 35.758$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C; Liquid Temperature : 22.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(4.37, 4.37, 4.37); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch165/Area Scan (101x171x1): Interpolated grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.184 W/kg

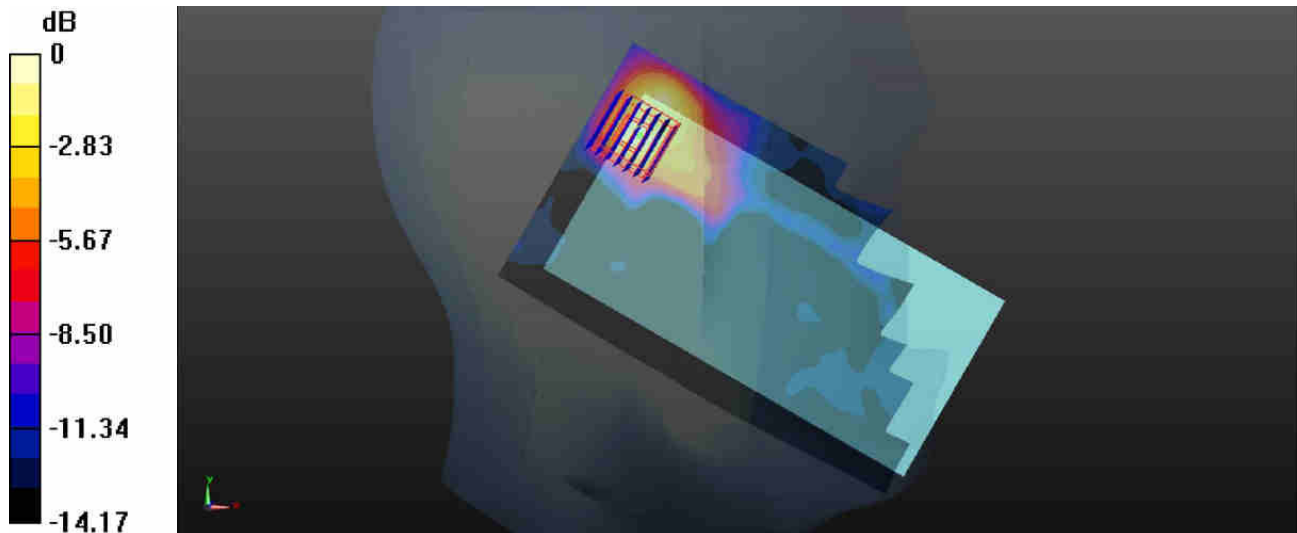
Ch165/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 1.830 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.356 W/kg

SAR(1 g) = 0.089 W/kg; SAR(10 g) = 0.035 W/kg

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



0 dB = 0.214 W/kg

22_GSM850_GPRS(2 Tx slots)_Back_10mm_Ch189_Top Ant

Communication System: UID 0, GPRS (GMSK 2 Tx slot) (0); Frequency: 836.4 MHz; Duty Cycle: 1:4.15

Medium: MSL_835_2016/07/19 Medium parameters used: $f = 836.4$ MHz; $\sigma = 0.979$ S/m; $\epsilon_r = 54.452$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.3, 10.3, 10.3); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch189/Area Scan (61x121x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.383 W/kg

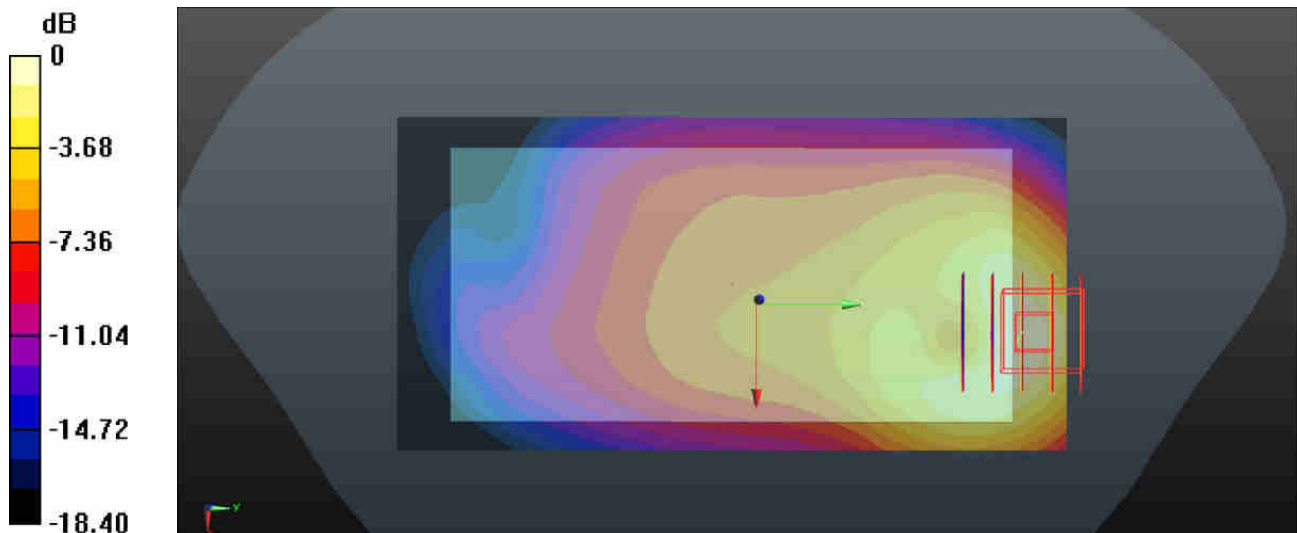
Ch189/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.548 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.549 W/kg

SAR(1 g) = 0.290 W/kg; SAR(10 g) = 0.158 W/kg

Maximum value of SAR (measured) = 0.441 W/kg



0 dB = 0.441 W/kg

23_GSM1900_GPRS(4 Tx slots)_Back_10mm_Ch810_Bottom Ant

Communication System: UID 0, GPRS (GMSK 4 Tx slot) (0); Frequency: 1909.8 MHz; Duty Cycle: 1:2.08

Medium: MSL_1900_2016/07/20 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.539$ S/m; $\epsilon_r = 55.176$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.3 °C; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.99, 7.99, 7.99); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch810/Area Scan (61x121x1): Interpolated grid: dx=15mm, dy=15mm

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

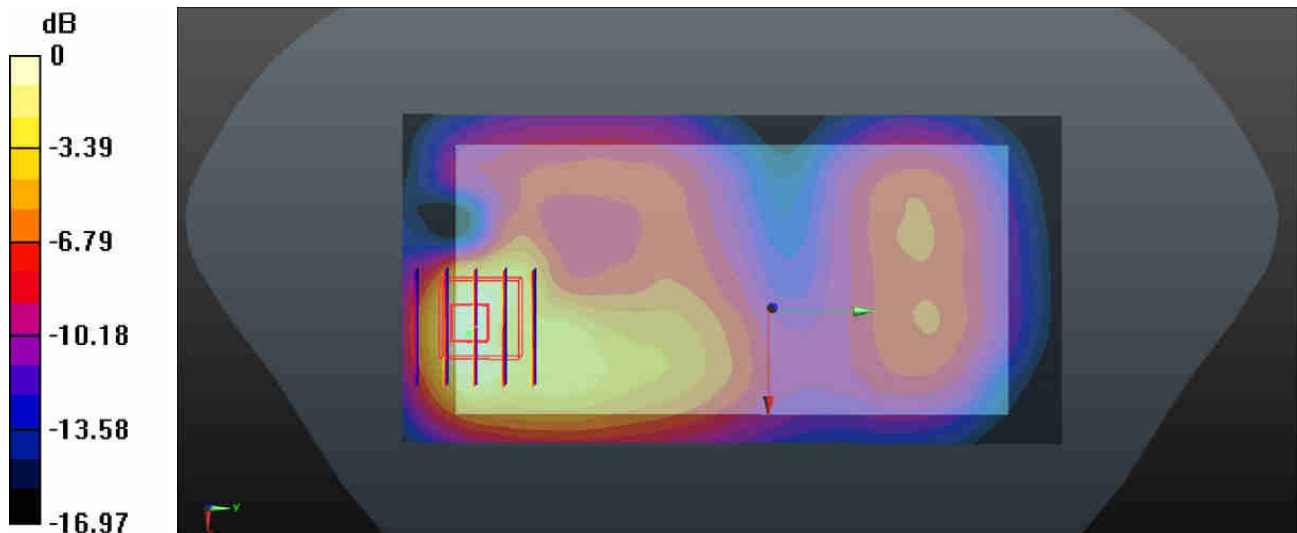
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.143 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 1.16 W/kg

SAR(1 g) = 0.602 W/kg; SAR(10 g) = 0.308 W/kg

Maximum value of SAR (measured) = 0.976 W/kg



0 dB = 0.976 W/kg

24_WCDMA V_RMC 12.2Kbps_Back_10mm_Ch4132_Bottom Ant

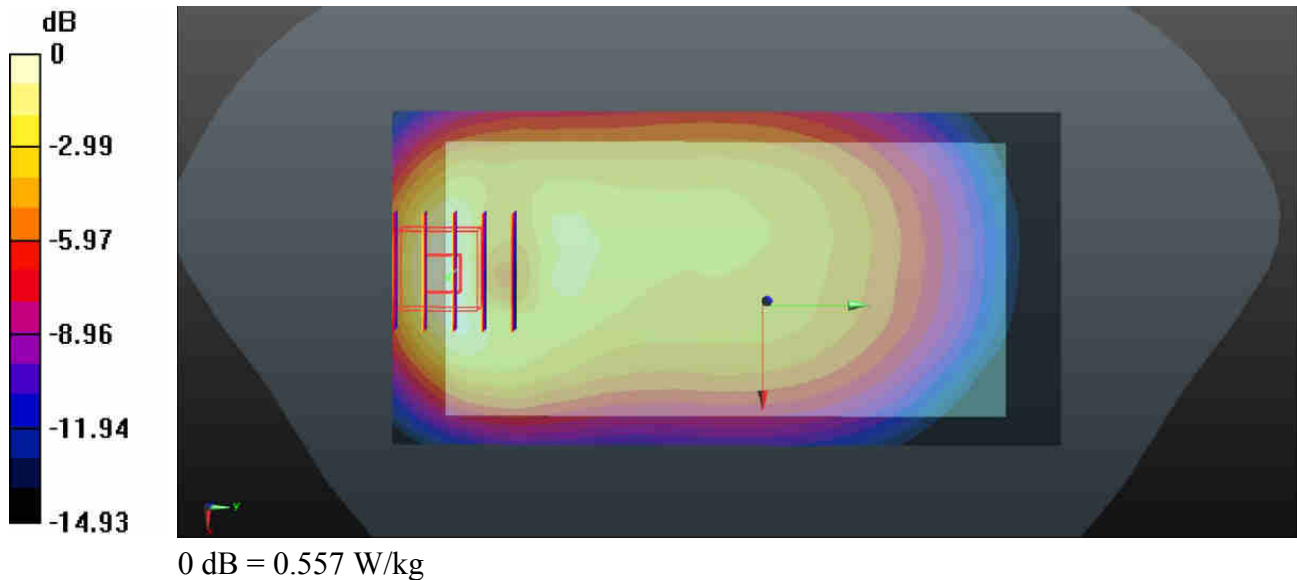
Communication System: UID 0, WCDMA (0); Frequency: 826.4 MHz; Duty Cycle: 1:1
Medium: MSL_835_2016/07/19 Medium parameters used: $f = 826.4$ MHz; $\sigma = 0.967$ S/m; $\epsilon_r = 54.561$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.8 °C; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.3, 10.3, 10.3); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch4132/Area Scan (61x121x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.553 W/kg

Ch4132/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.76 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.675 W/kg
SAR(1 g) = 0.373 W/kg; SAR(10 g) = 0.209 W/kg
Maximum value of SAR (measured) = 0.557 W/kg



25_WCDMA IV_RMC 12.2Kbps_Bottom side_10mm_Ch1413_Bottom Ant

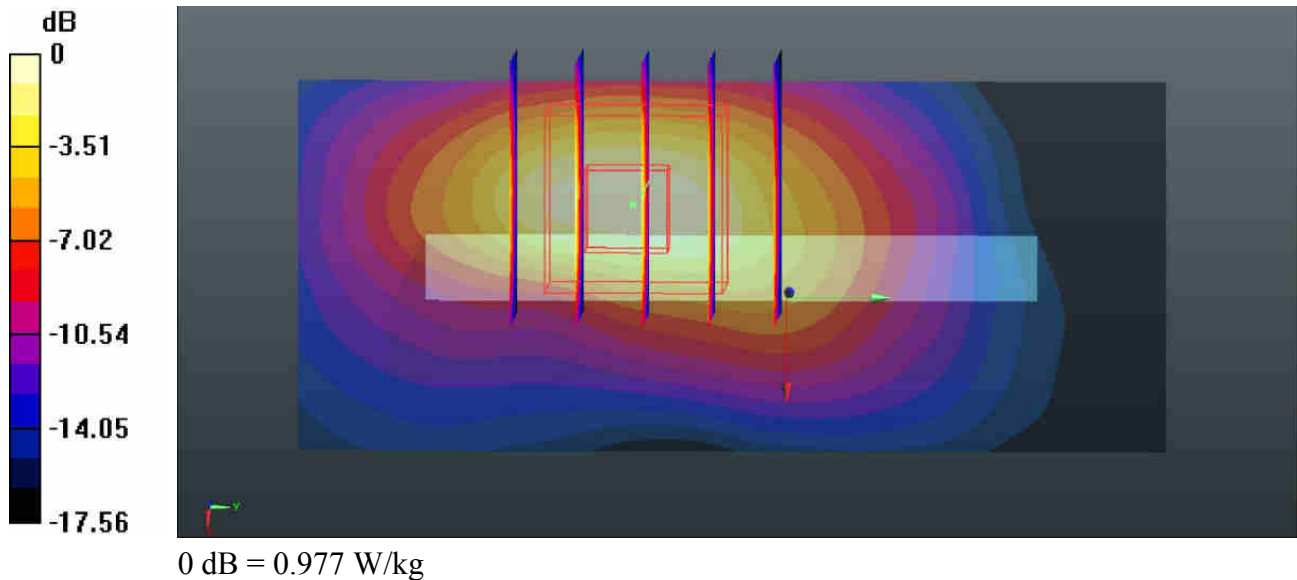
Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1
Medium: MSL_1750_2016/07/05 Medium parameters used: $f = 1733$ MHz; $\sigma = 1.499$ S/m; $\epsilon_r = 53.179$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.24, 8.24, 8.24); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch1413/Area Scan (31x71x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.947 W/kg

Ch1413/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.48 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.750 W/kg; SAR(10 g) = 0.334 W/kg
Maximum value of SAR (measured) = 0.977 W/kg



26_WCDMA II_RMC 12.2Kbps_Back_10mm_Ch9538_Bottom Ant

Communication System: UID 0, WCDMA (0); Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: MSL_1900_2016/07/20 Medium parameters used: $f = 1908$ MHz; $\sigma = 1.536$ S/m; $\epsilon_r = 55.192$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.3 °C ; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.99, 7.99, 7.99); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch9538/Area Scan (61x121x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.22 W/kg

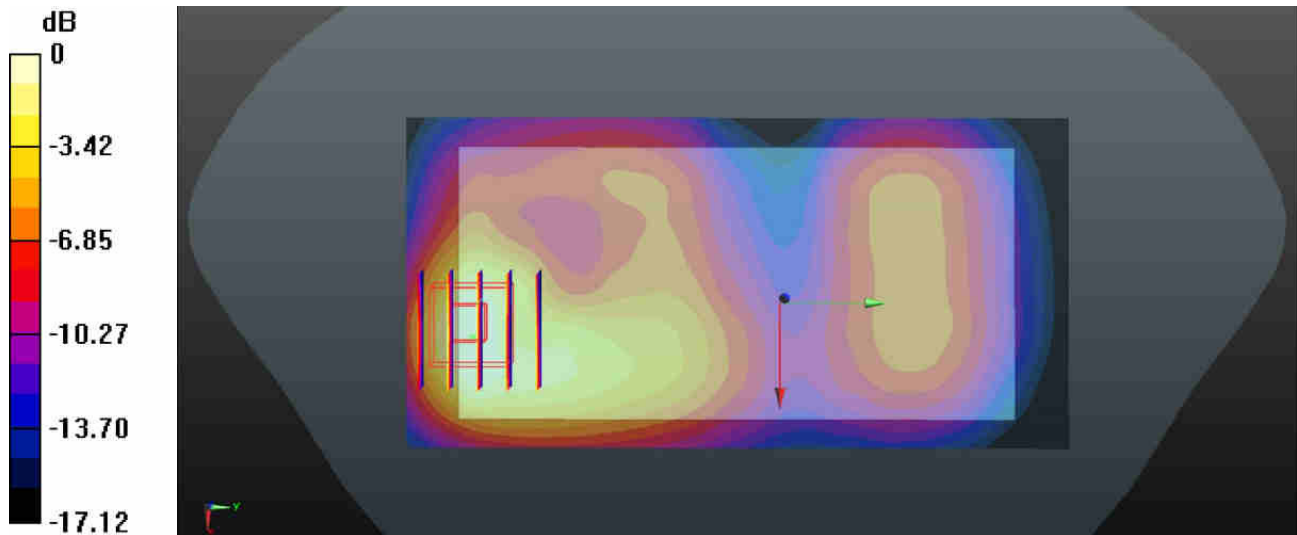
Ch9538/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.754 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.659 W/kg; SAR(10 g) = 0.333 W/kg

Maximum value of SAR (measured) = 0.983 W/kg



0 dB = 0.983 W/kg

27_CDMA2000 BC10_RTAP 153.6K_Right side_10mm_Ch476_Bottom Ant

Communication System: UID 0, CDMA2000 (0); Frequency: 817.9 MHz; Duty Cycle: 1:1

Medium: MSL_835_2016/07/19 Medium parameters used: $f = 818 \text{ MHz}$; $\sigma = 0.957 \text{ S/m}$; $\epsilon_r = 54.681$;
 $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature : 23.8°C ; Liquid Temperature : 22.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.3, 10.3, 10.3); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch476/Area Scan (31x121x1): Interpolated grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.534 W/kg

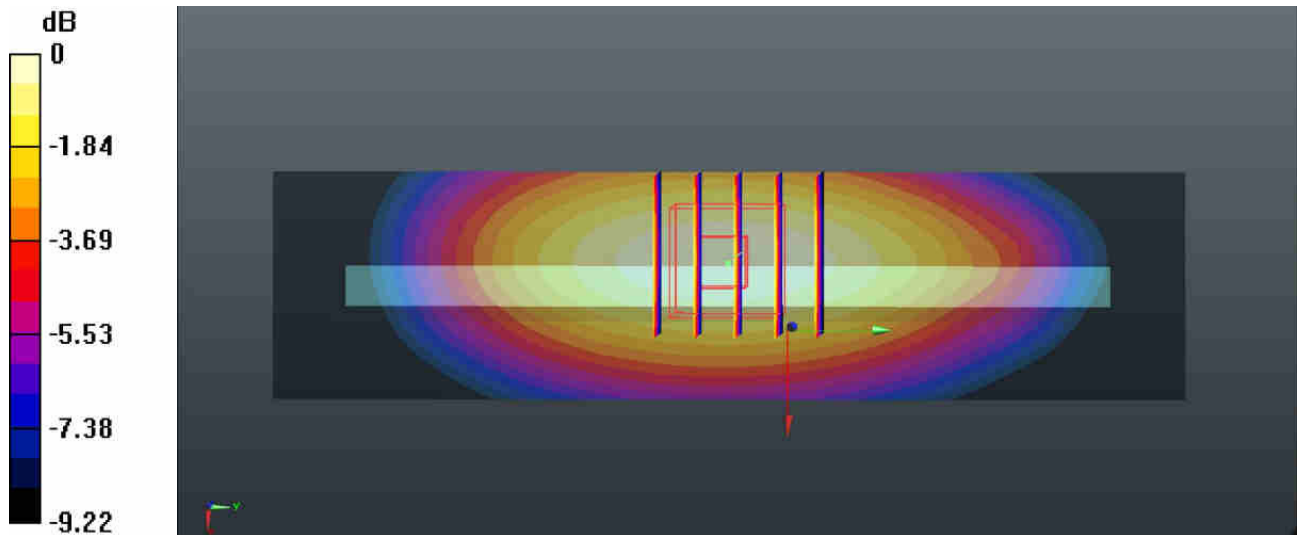
Ch476/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 20.59 V/m ; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.604 W/kg

SAR(1 g) = 0.410 W/kg ; SAR(10 g) = 0.283 W/kg

Maximum value of SAR (measured) = 0.532 W/kg



0 dB = 0.532 W/kg

28_CDMA2000 BC0_RTAP 153.6K_Right side_10mm_Ch1013_Bottom Ant

Communication System: UID 0, CDMA2000 (0); Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: MSL_835_2016/07/19 Medium parameters used: $f = 825$ MHz; $\sigma = 0.966$ S/m; $\epsilon_r = 54.574$;

$\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.3, 10.3, 10.3); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch1013/Area Scan (31x121x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.482 W/kg

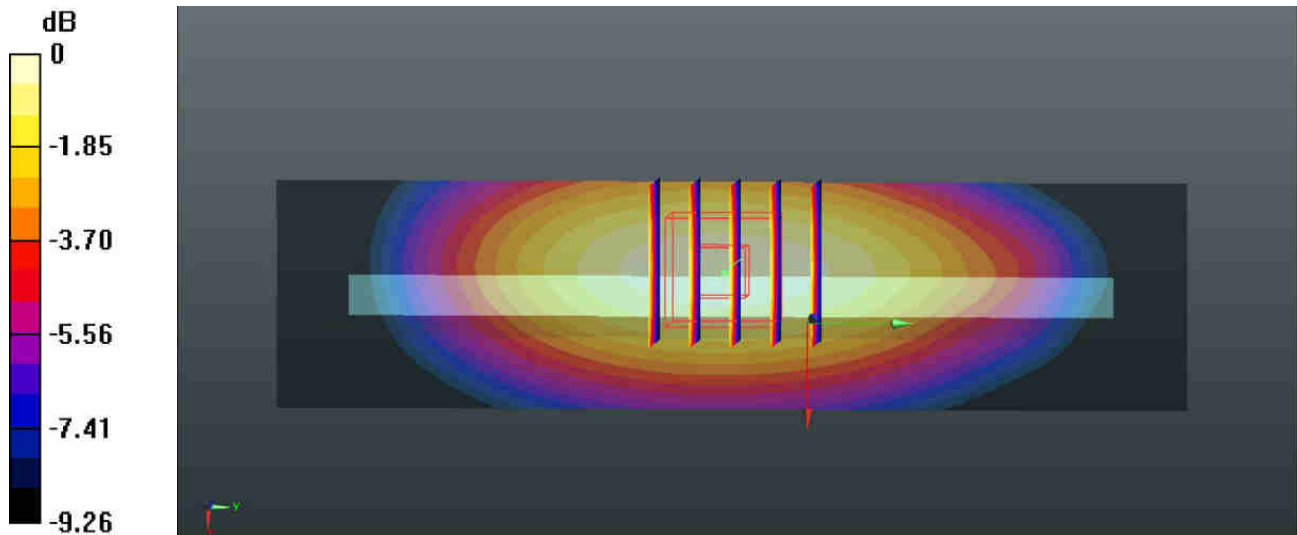
Ch1013/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.56 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.556 W/kg

SAR(1 g) = 0.374 W/kg; SAR(10 g) = 0.258 W/kg

Maximum value of SAR (measured) = 0.491 W/kg



0 dB = 0.491 W/kg

29_CDMA2000 BC1_RTAP153.6Kbps_Back_10mm_Ch1175_Bottom Ant

Communication System: UID 0, CDMA2000 (0); Frequency: 1908.75 MHz; Duty Cycle: 1:1
Medium: MSL_1900_2016/07/20 Medium parameters used: $f = 1909$ MHz; $\sigma = 1.538$ S/m; $\epsilon_r = 55.185$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.99, 7.99, 7.99); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch1175/Area Scan (61x121x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.61 W/kg

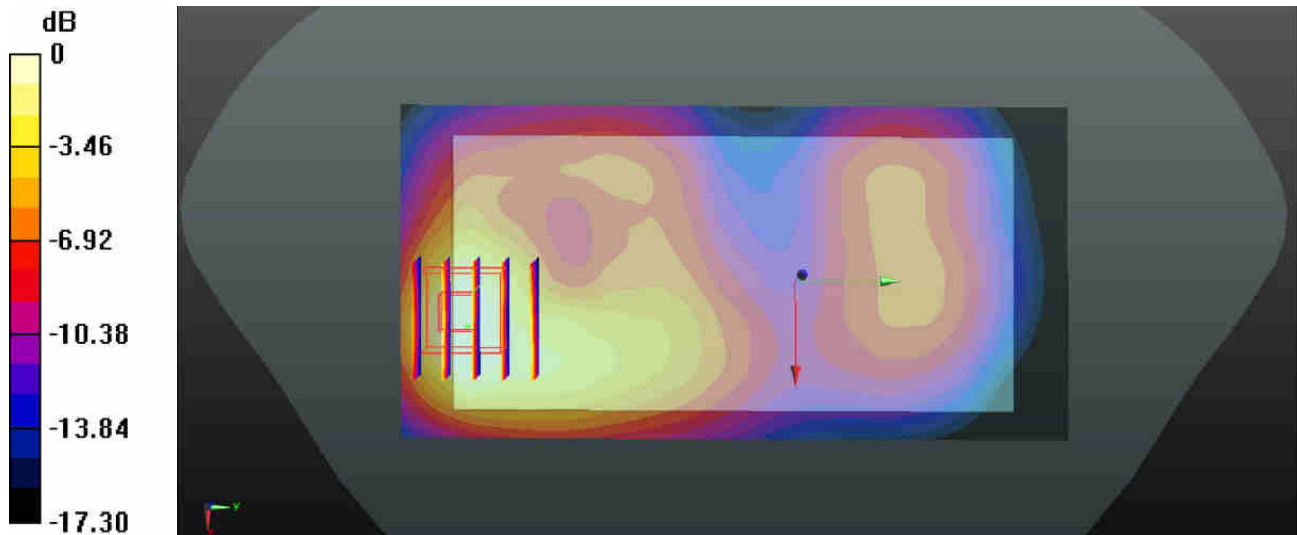
Ch1175/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.716 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.70 W/kg

SAR(1 g) = 0.902 W/kg; SAR(10 g) = 0.464 W/kg

Maximum value of SAR (measured) = 1.28 W/kg



0 dB = 1.28 W/kg

30_LTE Band 12_10M_QPSK_25RB_0offset_Back_10mm_Ch23095_Bottom Ant

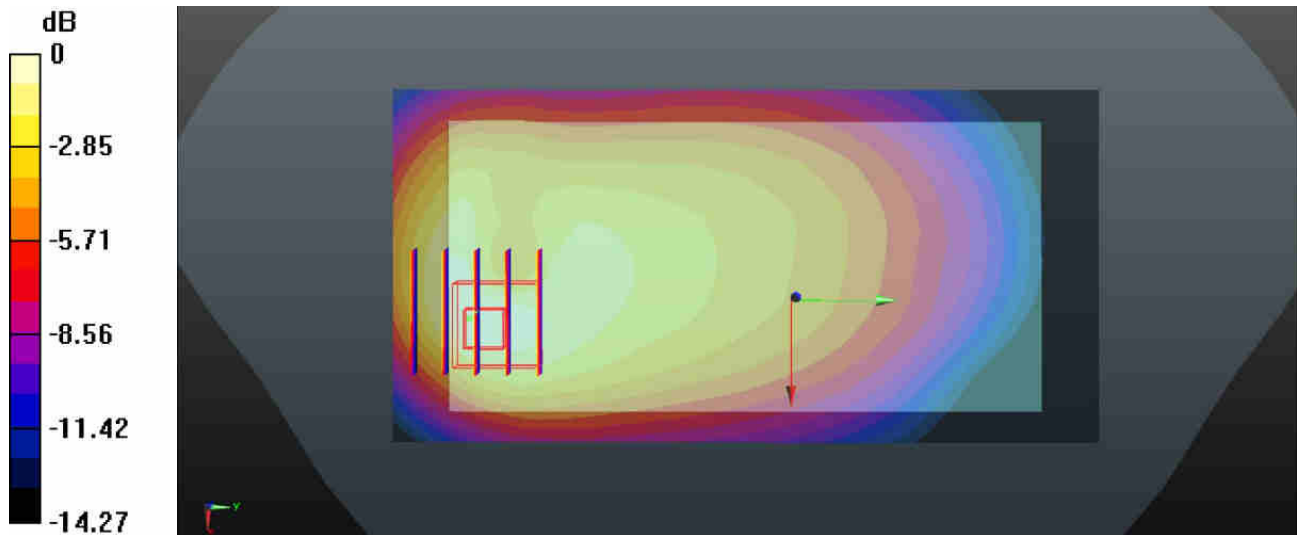
Communication System: UID 0, FDD-LTE (0); Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: MSL_750_2016/07/19 Medium parameters used: $f = 707.5$ MHz; $\sigma = 0.925$ S/m; $\epsilon_r = 55.5$;
 $\rho = 1000$ kg/m³
Ambient Temperature : 23.8 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.59, 10.59, 10.59); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch23095/Area Scan (61x121x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.311 W/kg

Ch23095/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.82 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.391 W/kg
SAR(1 g) = 0.199 W/kg; SAR(10 g) = 0.116 W/kg
Maximum value of SAR (measured) = 0.311 W/kg



0 dB = 0.311 W/kg

31_LTE Band 13_10M_QPSK_1RB_0offset_Right side_10mm_Ch23230_Bottom Ant

Communication System: UID 0, FDD-LTE (0); Frequency: 782 MHz; Duty Cycle: 1:1

Medium: MSL_750_2016/07/19 Medium parameters used: $f = 782$ MHz; $\sigma = 0.995$ S/m; $\epsilon_r = 54.712$;
 $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.59, 10.59, 10.59); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch23230/Area Scan (31x121x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.569 W/kg

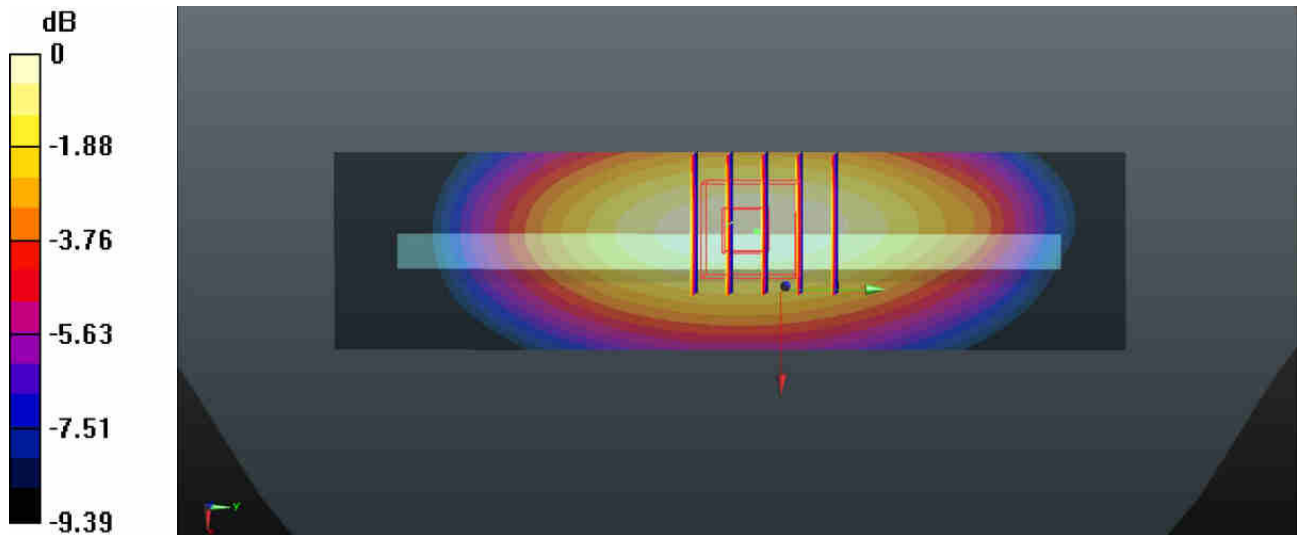
Ch23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 20.78 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.649 W/kg

SAR(1 g) = 0.437 W/kg; SAR(10 g) = 0.301 W/kg

Maximum value of SAR (measured) = 0.571 W/kg



0 dB = 0.571 W/kg

32_LTE Band 26_15M_QPSK_1RB_0offset_Back_10mm_Ch26865_Top Ant

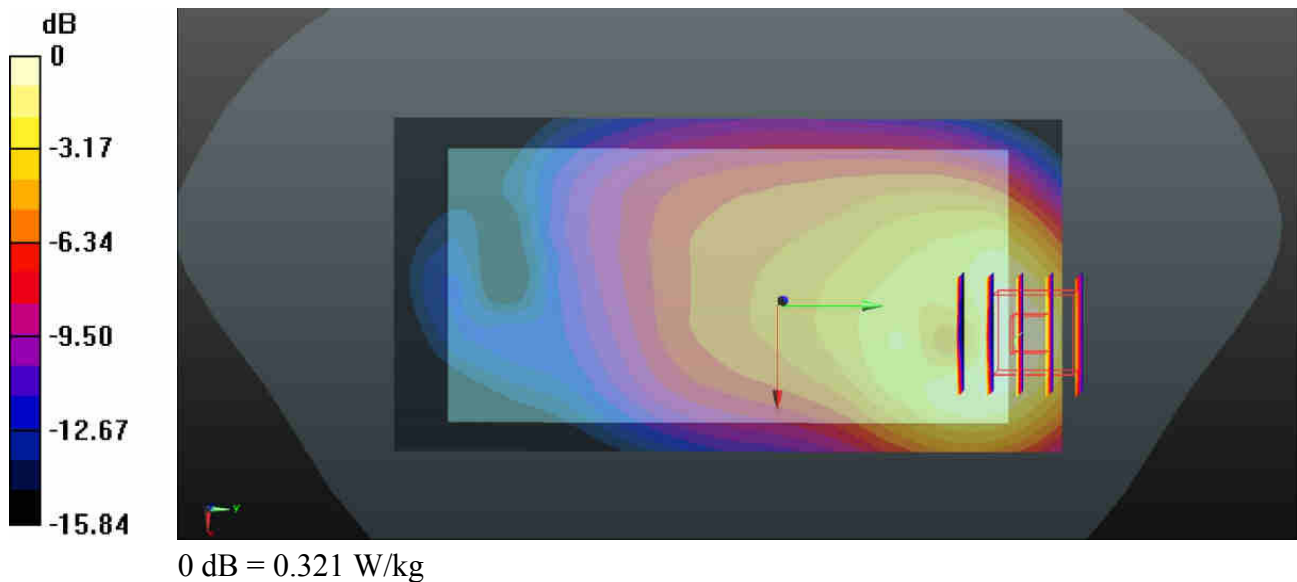
Communication System: UID 0, FDD-LTE (0); Frequency: 831.5 MHz; Duty Cycle: 1:1
Medium: MSL_835_2016/07/19 Medium parameters used: $f = 831.5$ MHz; $\sigma = 0.973$ S/m; $\epsilon_r = 54.503$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.8 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.3, 10.3, 10.3); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch26865/Area Scan (61x121x1): Interpolated grid: $dx=15$ mm, $dy=15$ mm
Maximum value of SAR (interpolated) = 0.300 W/kg

Ch26865/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm
Reference Value = 8.576 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.395 W/kg
SAR(1 g) = 0.214 W/kg; SAR(10 g) = 0.117 W/kg
Maximum value of SAR (measured) = 0.321 W/kg



33_LTE Band 4_20M_QPSK_1RB_0offset_Bottom side_10mm_Ch20175_Bottom Ant

Communication System: UID 0, FDD-LTE (0); Frequency: 1732.5 MHz; Duty Cycle: 1:1

Medium: MSL_1750_2016/07/05 Medium parameters used: $f = 1732.5$ MHz; $\sigma = 1.498$ S/m; $\epsilon_r = 53.18$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.24, 8.24, 8.24); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch20175/Area Scan (31x71x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.866 W/kg

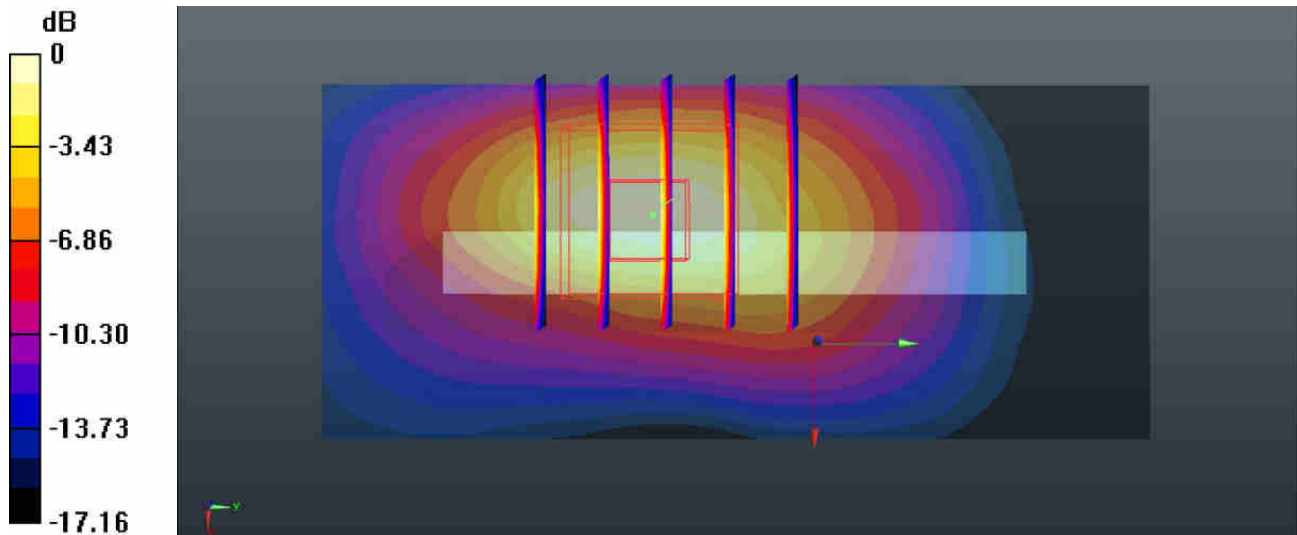
Ch20175/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.63 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.11 W/kg

SAR(1 g) = 0.602 W/kg; SAR(10 g) = 0.302 W/kg

Maximum value of SAR (measured) = 0.878 W/kg



0 dB = 0.878 W/kg

34_LTE Band 25_20M_QPSK_1RB_0offset_Back_10mm_Ch26340_Bottom Ant

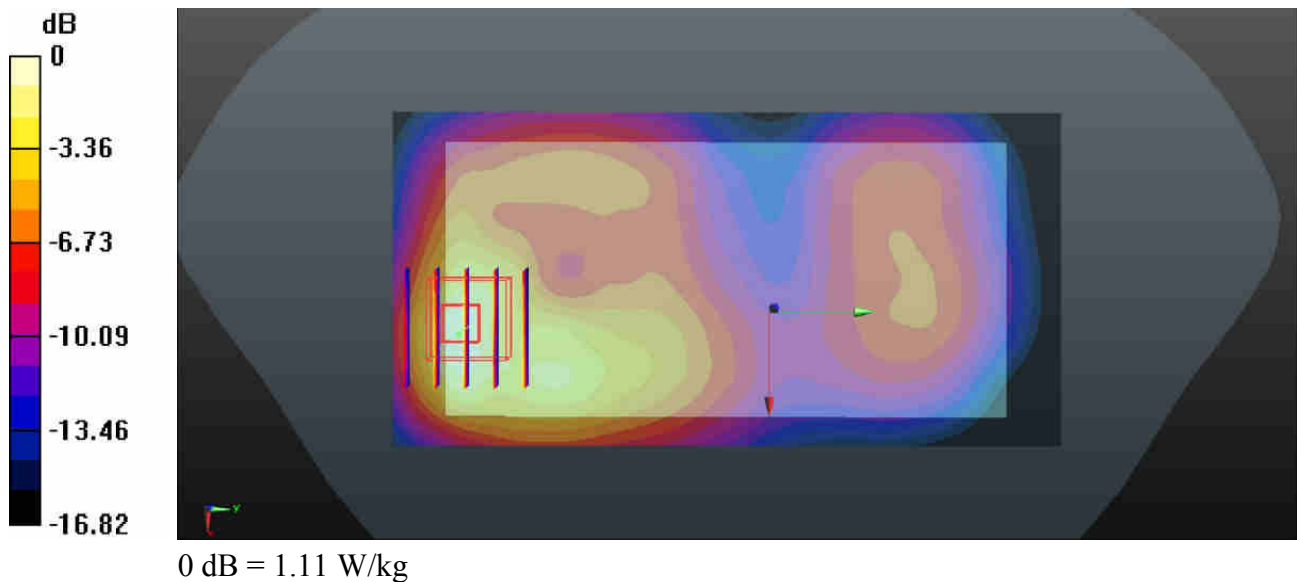
Communication System: UID 0, FDD-LTE (0); Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: MSL_1900_2016/07/20 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.508$ S/m; $\epsilon_r = 55.364$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.3 °C ; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.99, 7.99, 7.99); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch26340/Area Scan (61x121x1): Interpolated grid: $dx=15$ mm, $dy=15$ mm
Maximum value of SAR (interpolated) = 1.15 W/kg

Ch26340/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm
Reference Value = 8.232 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 1.32 W/kg
SAR(1 g) = 0.689 W/kg; SAR(10 g) = 0.355 W/kg
Maximum value of SAR (measured) = 1.11 W/kg



35_LTE Band 30_10M_QPSK_1RB_25offset_Back_10mm_Ch27710_Bottom Ant

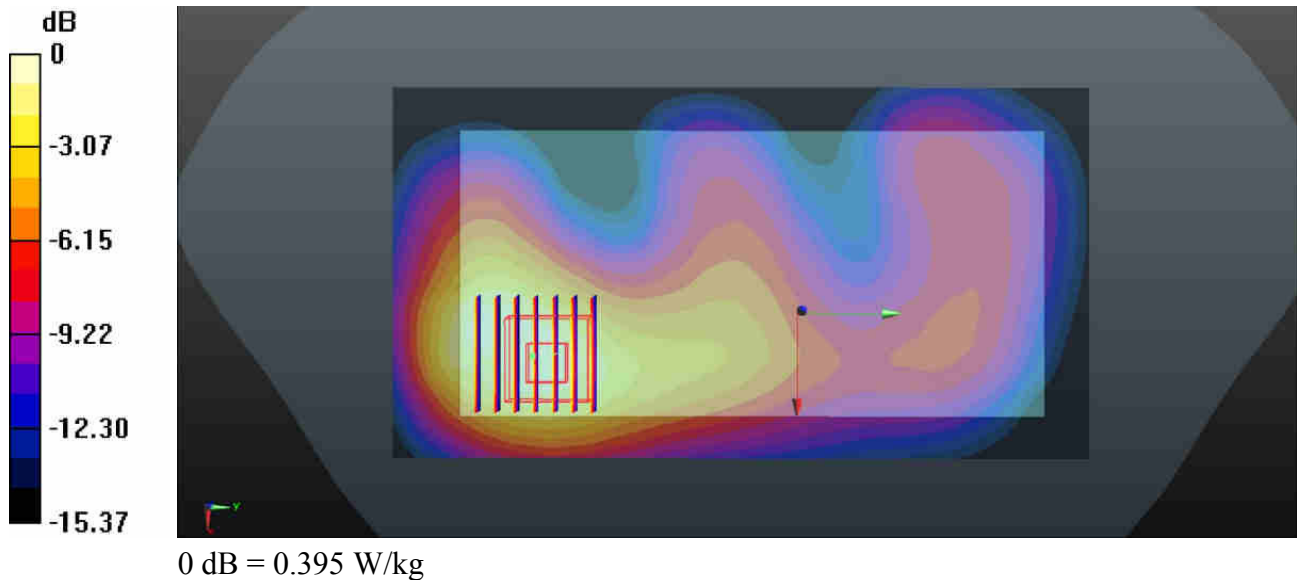
Communication System: UID 0, FDD-LTE (0); Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: MSL_2300_2016/07/02 Medium parameters used: $f = 2310$ MHz; $\sigma = 1.782$ S/m; $\epsilon_r = 53.246$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.72, 7.72, 7.72); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch27710/Area Scan (81x151x1): Interpolated grid: $dx=12$ mm, $dy=12$ mm
Maximum value of SAR (interpolated) = 0.399 W/kg

Ch27710/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm
Reference Value = 6.766 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 0.497 W/kg
SAR(1 g) = 0.296 W/kg; SAR(10 g) = 0.164 W/kg
Maximum value of SAR (measured) = 0.395 W/kg



36_LTE Band 7_20M_QPSK_1RB_0offset_Back_10mm_Ch21350_Bottom Ant

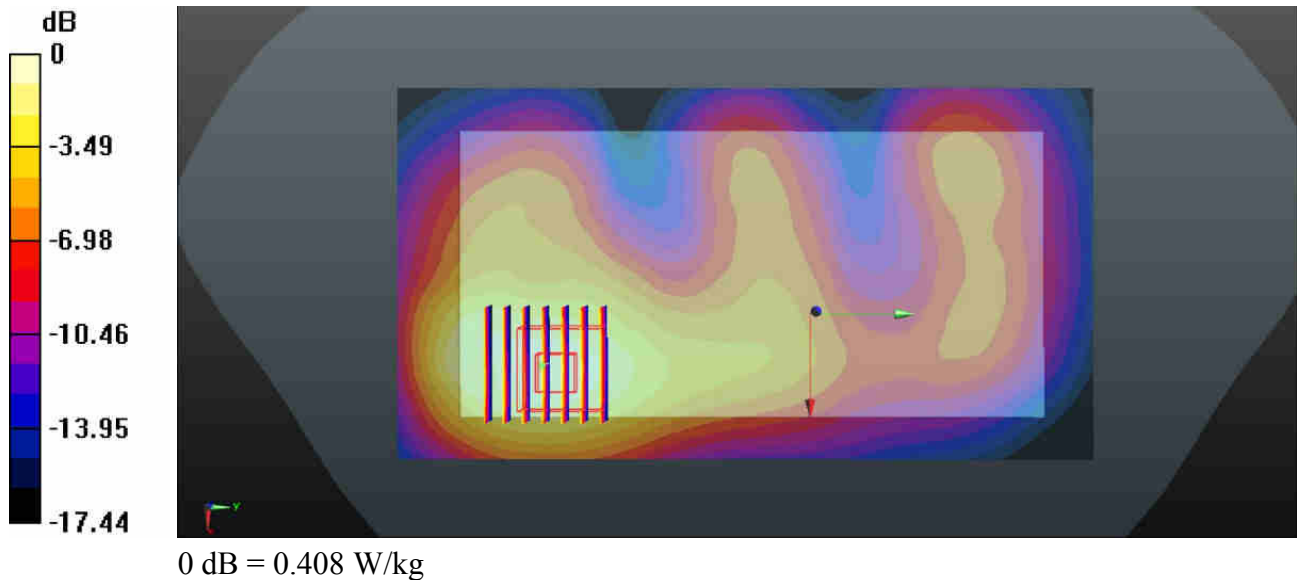
Communication System: UID 0, FDD-LTE (0); Frequency: 2560 MHz; Duty Cycle: 1:1
Medium: MSL_2600_2016/07/02 Medium parameters used: $f = 2560$ MHz; $\sigma = 2.121$ S/m; $\epsilon_r = 52.405$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.37, 7.37, 7.37); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch21350/Area Scan (81x151x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.403 W/kg

Ch21350/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.157 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.535 W/kg
SAR(1 g) = 0.296 W/kg; SAR(10 g) = 0.158 W/kg
Maximum value of SAR (measured) = 0.408 W/kg



37_LTE Band 41_20M_QPSK_1RB_0offset_Back_10mm_Ch40185_Bottom Ant

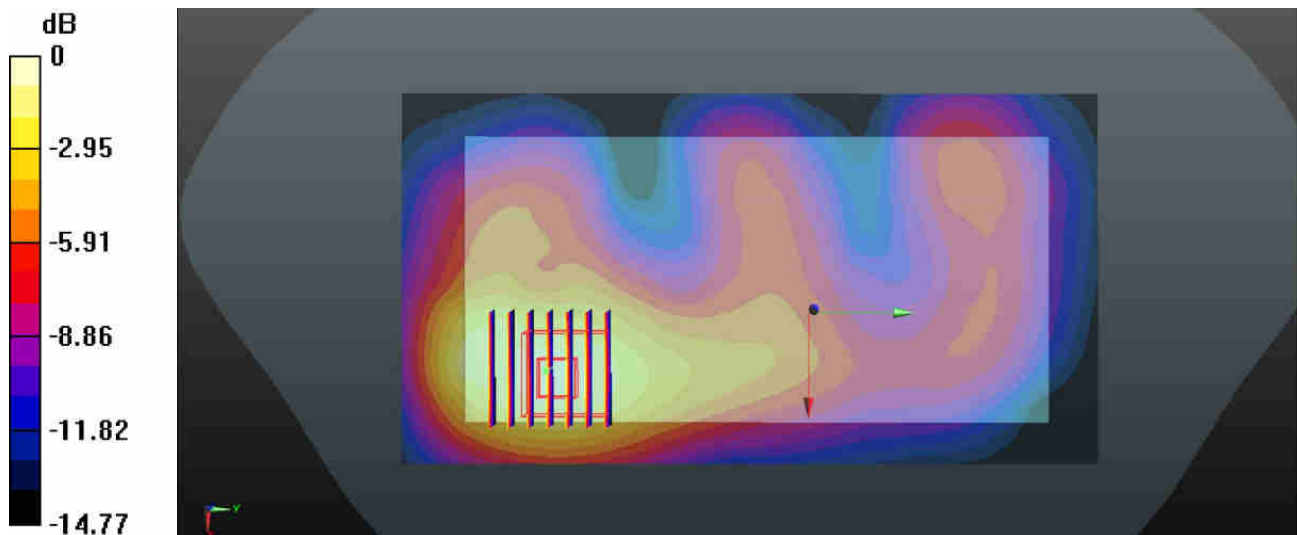
Communication System: UID 0, TDD-LTE (0); Frequency: 2549.5 MHz; Duty Cycle: 1:1.59
Medium: MSL_2600_2016/07/02 Medium parameters used: $f = 2549.5$ MHz; $\sigma = 2.106$ S/m; $\epsilon_r = 52.446$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C; Liquid Temperature : 22.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.37, 7.37, 7.37); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch40185/Area Scan (81x151x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.125 W/kg

Ch40185/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.707 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.175 W/kg
SAR(1 g) = 0.097 W/kg; SAR(10 g) = 0.053 W/kg
Maximum value of SAR (measured) = 0.133 W/kg



0 dB = 0.133 W/kg

38_WLAN2.4GHz_802.11b 1Mbps_Front_10mm_Ch11_Ant 1

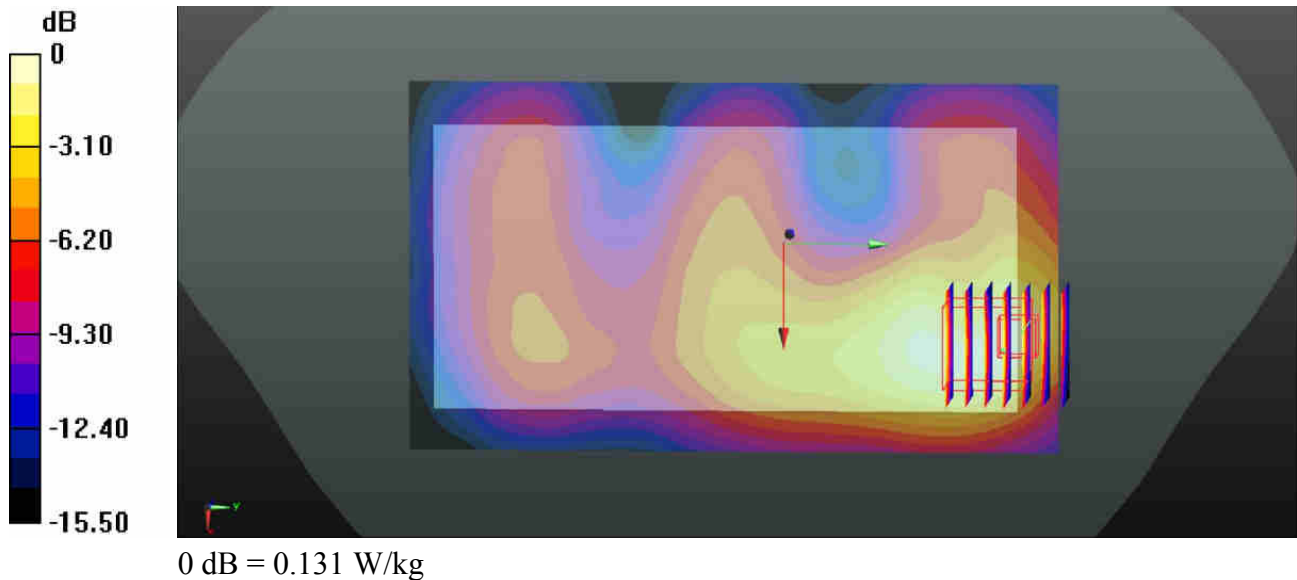
Communication System: UID 0, 802.11b (0); Frequency: 2462 MHz; Duty Cycle: 1:1.011
Medium: MSL_2450_2016/07/22 Medium parameters used: $f = 2462$ MHz; $\sigma = 1.988$ S/m; $\epsilon_r = 51.797$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.55, 7.55, 7.55); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch11/Area Scan (81x141x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.135 W/kg

Ch11/Zoom Scan (7x7x4)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.231 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.161 W/kg
SAR(1 g) = 0.080 W/kg; SAR(10 g) = 0.043 W/kg
Maximum value of SAR (measured) = 0.131 W/kg



39_WLAN2.4GHz_802.11b 1Mbps_Front_10mm_Ch11_Ant 2

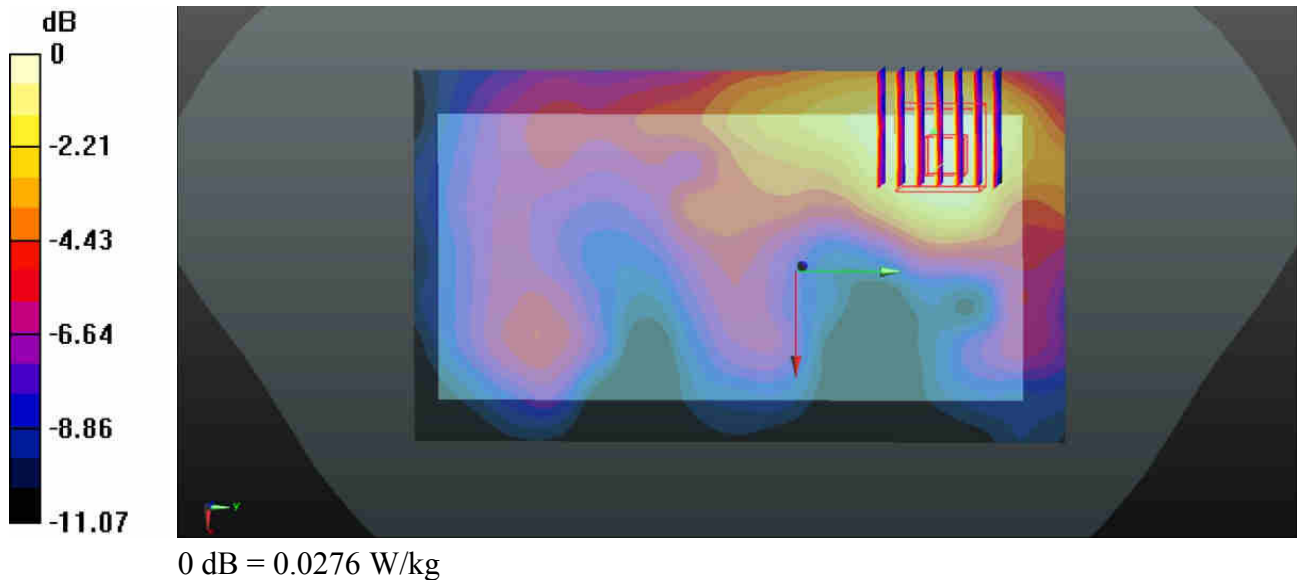
Communication System: UID 0, 802.11b (0); Frequency: 2462 MHz; Duty Cycle: 1:1.011
Medium: MSL_2450_2016/07/22 Medium parameters used: $f = 2462$ MHz; $\sigma = 1.988$ S/m; $\epsilon_r = 51.797$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.55, 7.55, 7.55); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch11/Area Scan (81x141x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.0296 W/kg

Ch11/Zoom Scan (7x7x4)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.952 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.0330 W/kg
SAR(1 g) = 0.019 W/kg; SAR(10 g) = 0.012 W/kg
Maximum value of SAR (measured) = 0.0276 W/kg



40_WLAN2.4GHz_802.11b 1Mbps_Front_10mm_Ch11_Ant 1+2

Communication System: UID 0, 802.11b (0); Frequency: 2462 MHz; Duty Cycle: 1:1.009
Medium: MSL_2450_2016/07/22 Medium parameters used: $f = 2462$ MHz; $\sigma = 1.988$ S/m; $\epsilon_r = 51.797$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.55, 7.55, 7.55); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch11/Area Scan (81x141x1): Interpolated grid: dx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 0.0605 W/kg

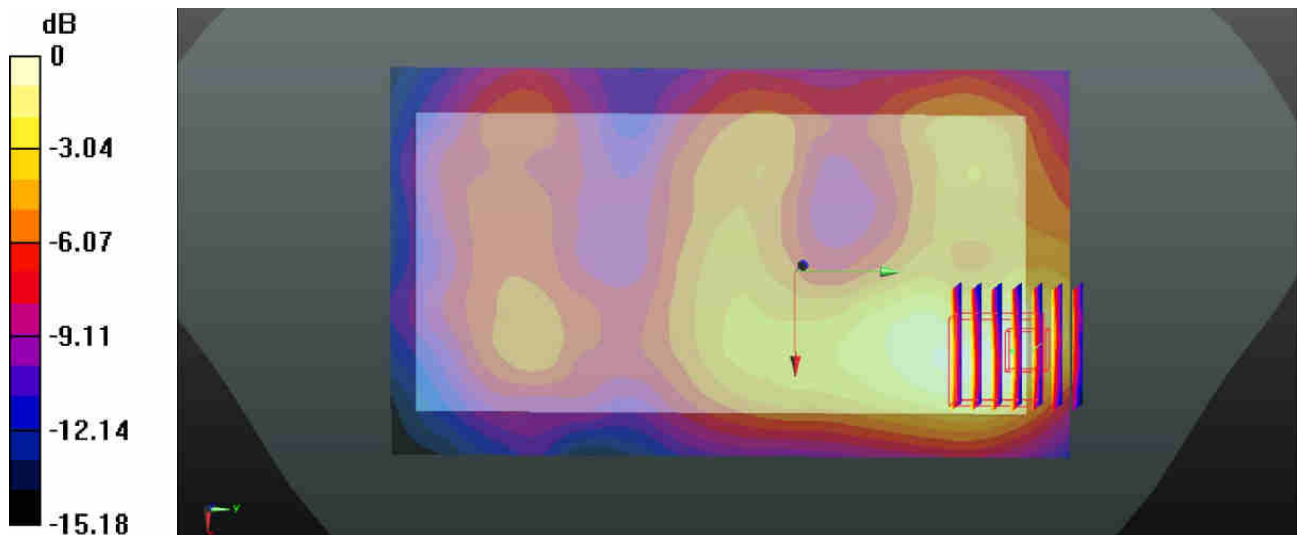
Ch11/Zoom Scan (7x7x4)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.068 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.0740 W/kg

SAR(1 g) = 0.037 W/kg; SAR(10 g) = 0.021 W/kg

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



41_GSM850_GPRS(2 Tx slots)_Back_10mm_Ch189_Top Ant

Communication System: UID 0, GPRS (GMSK 2 Tx slot) (0); Frequency: 836.4 MHz; Duty Cycle: 1:4.15

Medium: MSL_835_2016/07/19 Medium parameters used: $f = 836.4$ MHz; $\sigma = 0.979$ S/m; $\epsilon_r = 54.452$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.3, 10.3, 10.3); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch189/Area Scan (61x121x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.383 W/kg

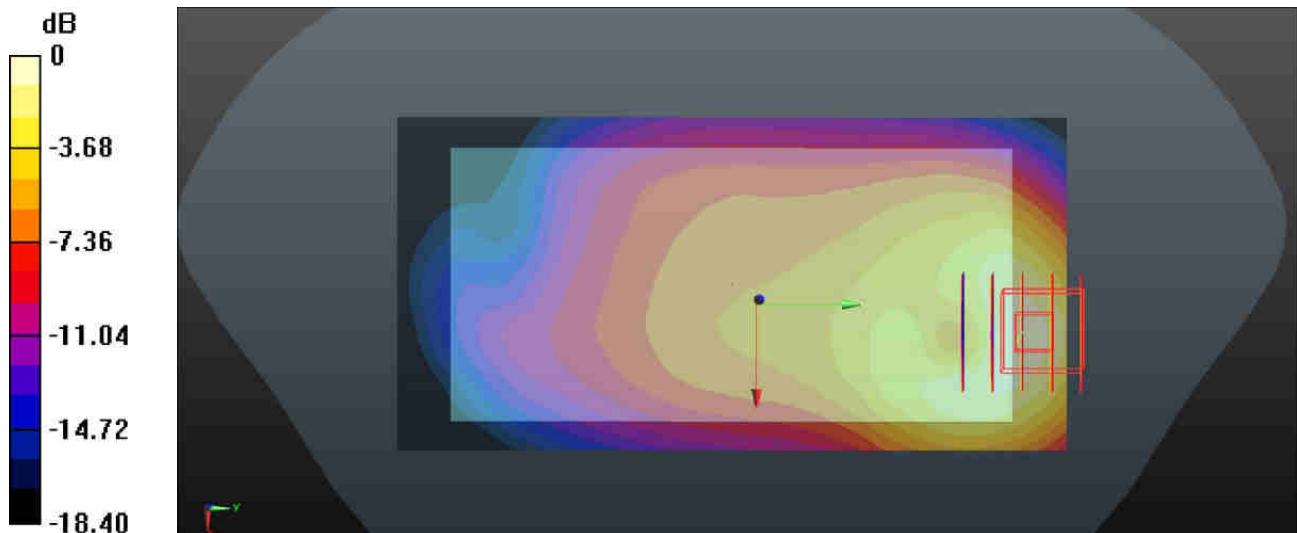
Ch189/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.548 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.549 W/kg

SAR(1 g) = 0.290 W/kg; SAR(10 g) = 0.158 W/kg

Maximum value of SAR (measured) = 0.441 W/kg



0 dB = 0.441 W/kg

42_GSM1900_GPRS(4 Tx slots)_Back_10mm_Ch810_Bottom Ant

Communication System: UID 0, GPRS (GMSK 4 Tx slot) (0); Frequency: 1909.8 MHz; Duty Cycle: 1:2.08

Medium: MSL_1900_2016/07/20 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.539$ S/m; $\epsilon_r = 55.176$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.3 °C; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.99, 7.99, 7.99); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch810/Area Scan (61x121x1): Interpolated grid: dx=15mm, dy=15mm

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

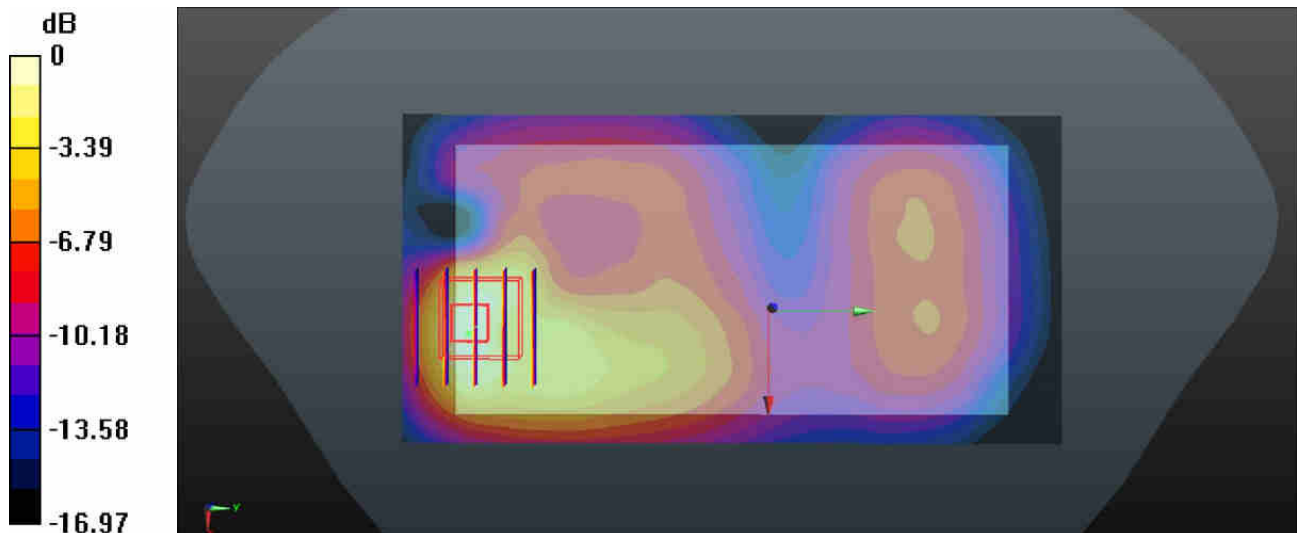
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.143 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 1.16 W/kg

SAR(1 g) = 0.602 W/kg; SAR(10 g) = 0.308 W/kg

Maximum value of SAR (measured) = 0.976 W/kg



0 dB = 0.976 W/kg

43_WCDMA V_RMC 12.2Kbps_Back_10mm_Ch4132_Bottom Ant

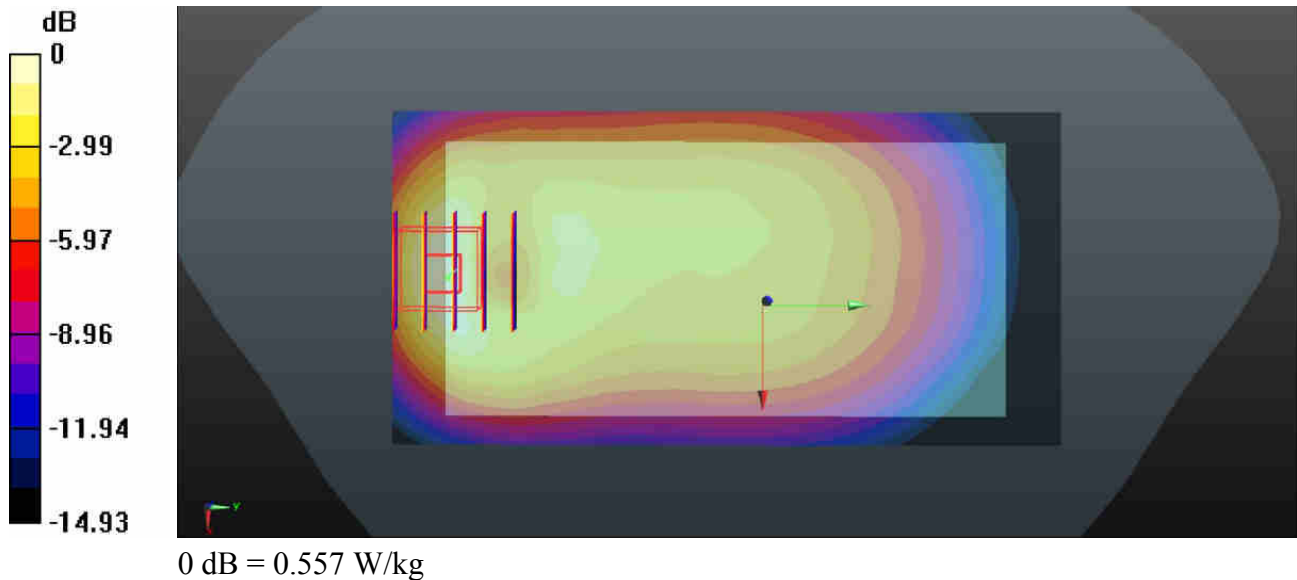
Communication System: UID 0, WCDMA (0); Frequency: 826.4 MHz; Duty Cycle: 1:1
Medium: MSL_835_2016/07/19 Medium parameters used: $f = 826.4$ MHz; $\sigma = 0.967$ S/m; $\epsilon_r = 54.561$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.8 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.3, 10.3, 10.3); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch4132/Area Scan (61x121x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.553 W/kg

Ch4132/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.76 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.675 W/kg
SAR(1 g) = 0.373 W/kg; SAR(10 g) = 0.209 W/kg
Maximum value of SAR (measured) = 0.557 W/kg



44_WCDMA IV_RMC 12.2Kbps_Back_10mm_Ch1413_Bottom Ant

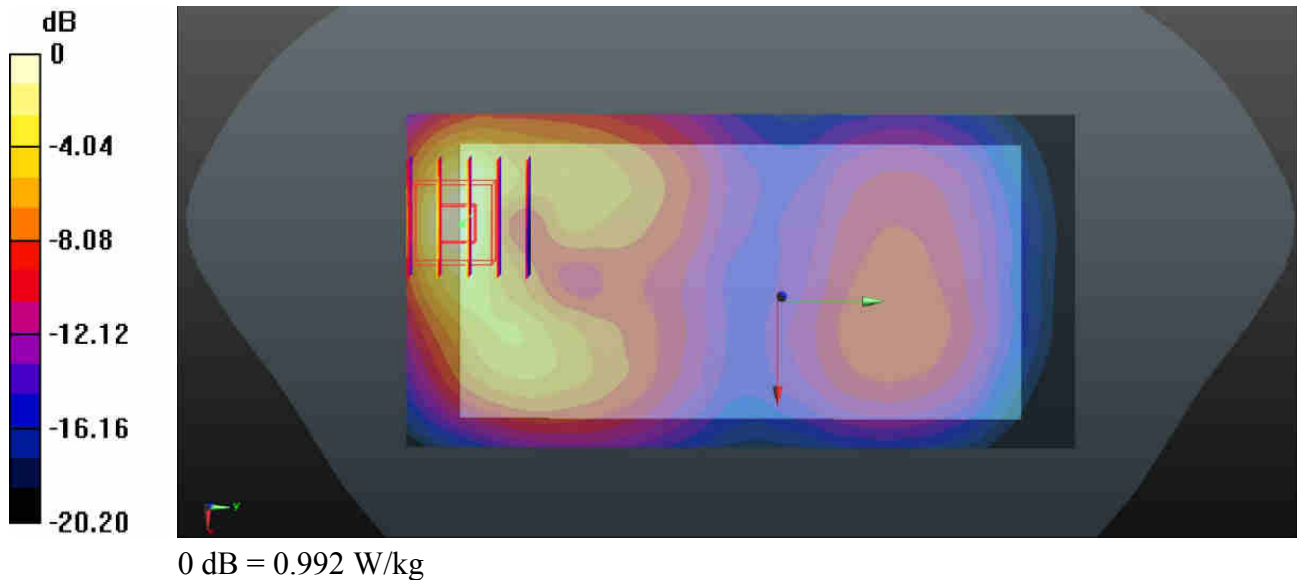
Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1
Medium: MSL_1750_2016/07/05 Medium parameters used: $f = 1733$ MHz; $\sigma = 1.499$ S/m; $\epsilon_r = 53.179$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.24, 8.24, 8.24); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch1413/Area Scan (61x121x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.04 W/kg

Ch1413/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.616 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.19 W/kg
SAR(1 g) = 0.646 W/kg; SAR(10 g) = 0.315 W/kg
Maximum value of SAR (measured) = 0.992 W/kg



45_WCDMA II_RMC 12.2Kbps_Back_10mm_Ch9538_Bottom Ant

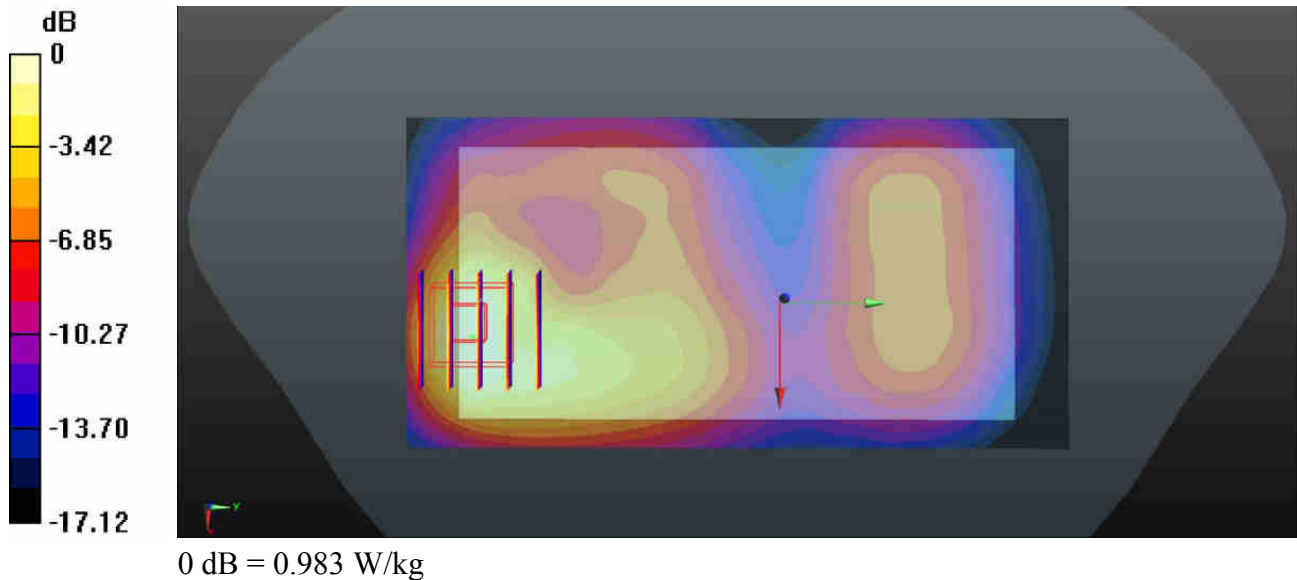
Communication System: UID 0, WCDMA (0); Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: MSL_1900_2016/07/20 Medium parameters used: $f = 1908$ MHz; $\sigma = 1.536$ S/m; $\epsilon_r = 55.192$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.3 °C ; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.99, 7.99, 7.99); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch9538/Area Scan (61x121x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.22 W/kg

Ch9538/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.754 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 0.659 W/kg; SAR(10 g) = 0.333 W/kg
Maximum value of SAR (measured) = 0.983 W/kg



46_CDMA2000 BC10_1xRTT RC3 SO32_Back_10mm_Ch1013_Bottom Ant

Communication System: UID 0, CDMA2000 (0); Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: MSL_835_2016/07/19 Medium parameters used: $f = 825$ MHz; $\sigma = 0.966$ S/m; $\epsilon_r = 54.574$;
 $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.3, 10.3, 10.3); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch1013/Area Scan (61x121x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.441 W/kg

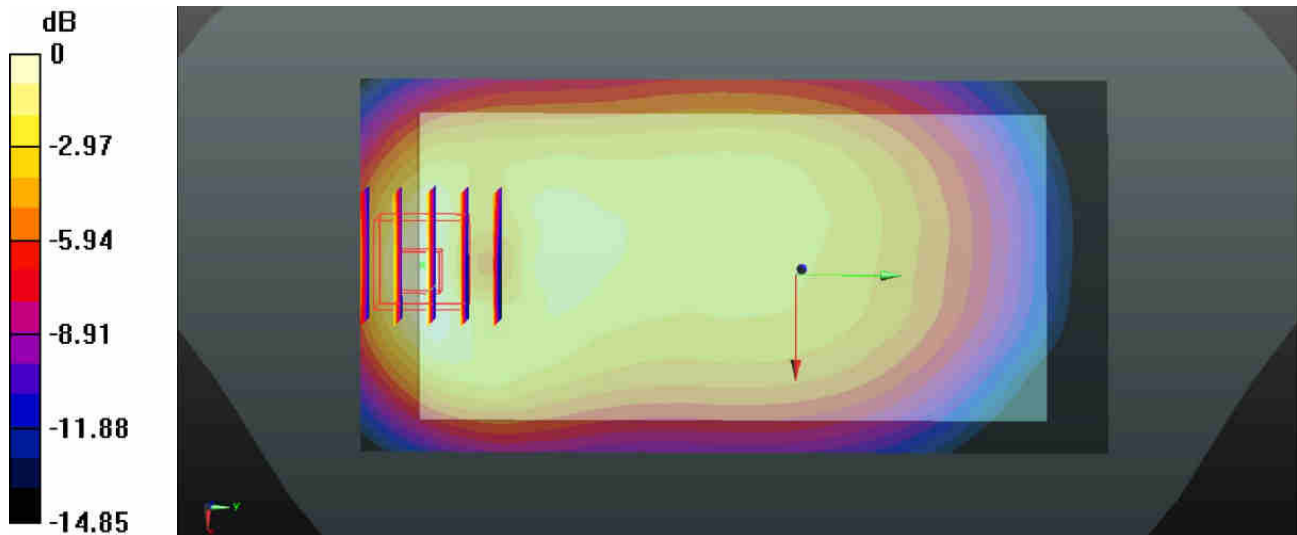
Ch1013/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.75 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.520 W/kg

SAR(1 g) = 0.296 W/kg; SAR(10 g) = 0.169 W/kg

Maximum value of SAR (measured) = 0.440 W/kg



0 dB = 0.440 W/kg

47_CDMA2000 BC0_1xRTT RC3 SO32_Back_10mm_Ch476_Bottom Ant

Communication System: UID 0, CDMA2000 (0); Frequency: 817.9 MHz; Duty Cycle: 1:1

Medium: MSL_835_2016/07/19 Medium parameters used: $f = 818 \text{ MHz}$; $\sigma = 0.957 \text{ S/m}$; $\epsilon_r = 54.681$;
 $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature : 23.8°C ; Liquid Temperature : 22.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.3, 10.3, 10.3); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch476/Area Scan (61x121x1): Interpolated grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.439 W/kg

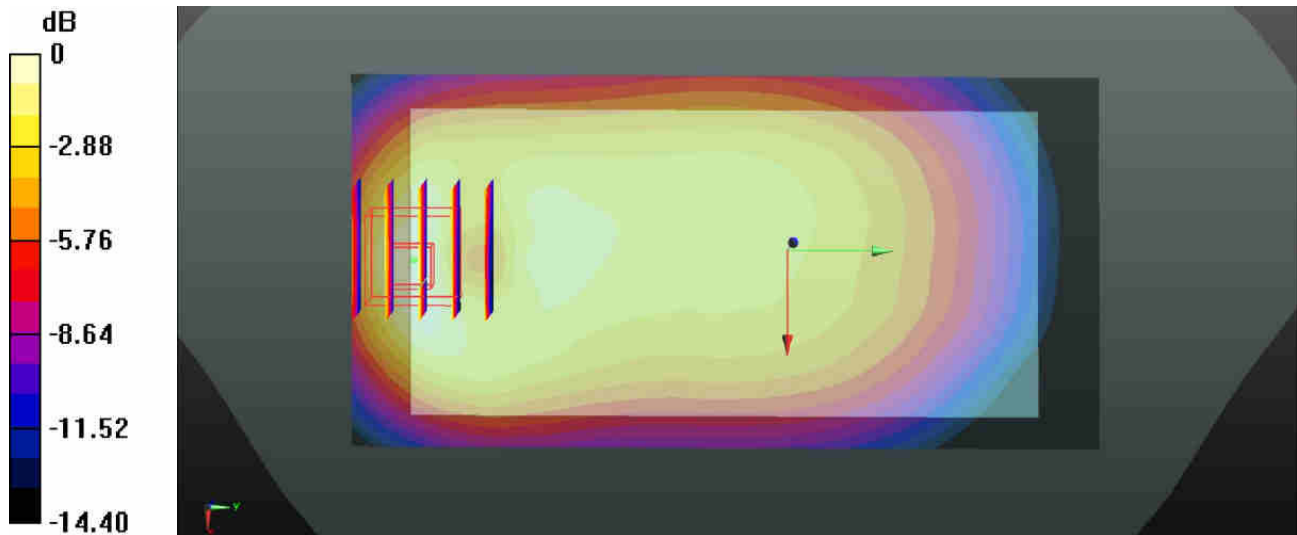
Ch476/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.04 V/m ; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.524 W/kg

SAR(1 g) = 0.298 W/kg ; SAR(10 g) = 0.171 W/kg

Maximum value of SAR (measured) = 0.444 W/kg



0 dB = 0.444 W/kg

48_CDMA2000 BC1_1xRTT RC3 SO32_Back_10mm_Ch1175_Bottom Ant

Communication System: UID 0, CDMA2000 (0); Frequency: 1908.75 MHz; Duty Cycle: 1:1
Medium: MSL_1900_2016/07/20 Medium parameters used: $f = 1909$ MHz; $\sigma = 1.538$ S/m; $\epsilon_r = 55.185$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.3 °C ; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.99, 7.99, 7.99); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch1175/Area Scan (61x121x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.32 W/kg

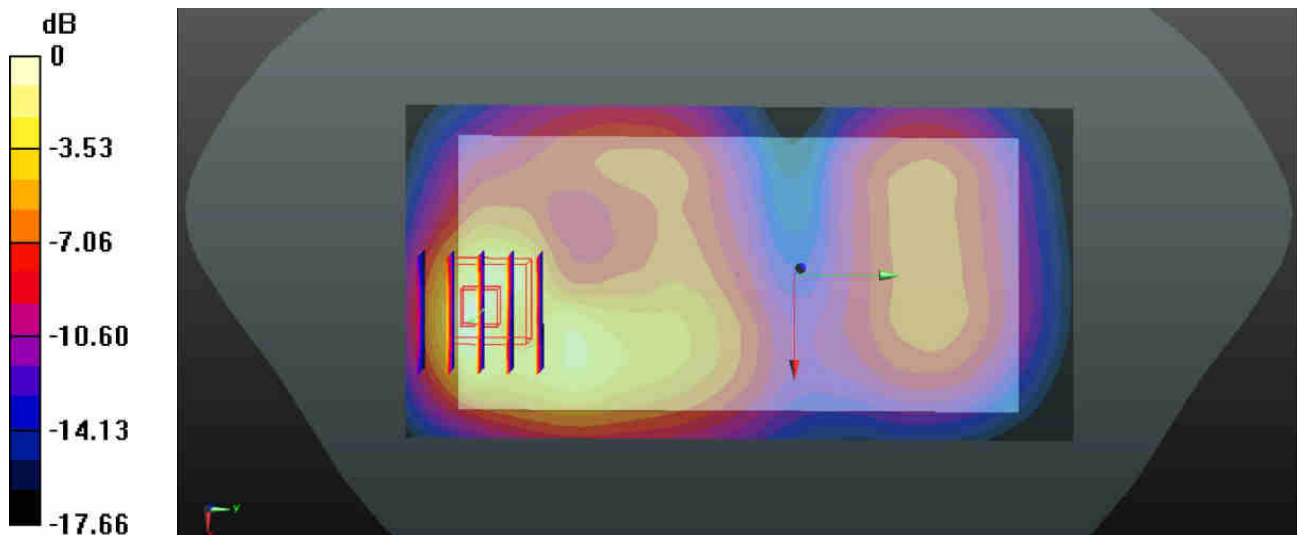
Ch1175/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.16 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 1.77 W/kg

SAR(1 g) = 0.904 W/kg; SAR(10 g) = 0.458 W/kg

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



0 dB = 1.47 W/kg

49_LTE Band 12_10M_QPSK_25RB_0offset_Back_10mm_Ch23095_Bottom Ant

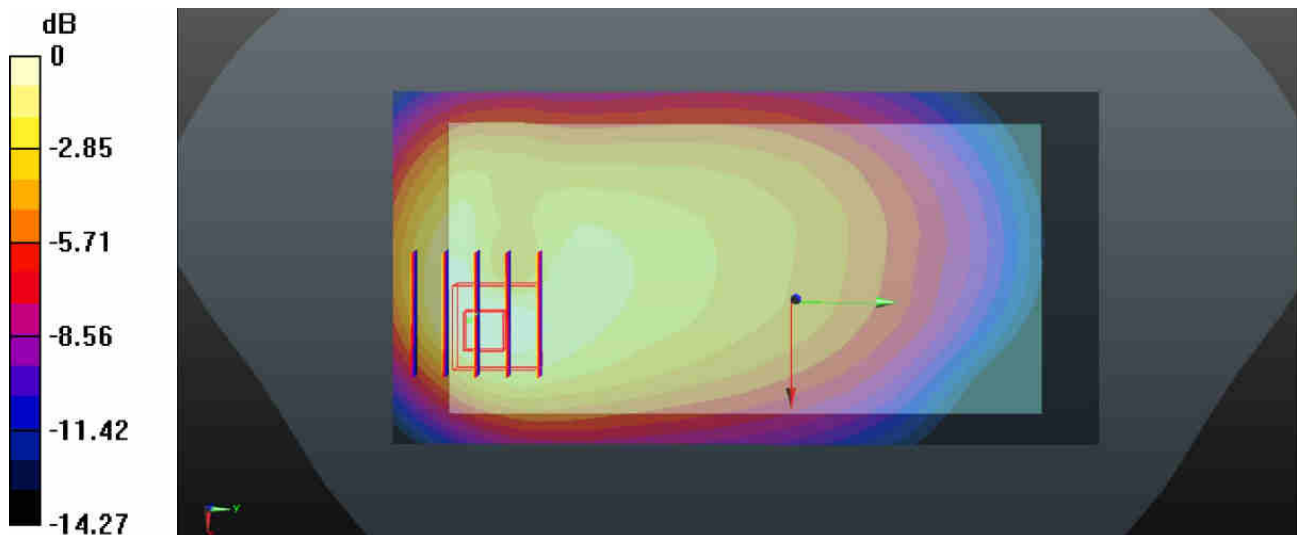
Communication System: UID 0, FDD-LTE (0); Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: MSL_750_2016/07/19 Medium parameters used: $f = 707.5$ MHz; $\sigma = 0.925$ S/m; $\epsilon_r = 55.5$;
 $\rho = 1000$ kg/m³
Ambient Temperature : 23.8 °C; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.59, 10.59, 10.59); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch23095/Area Scan (61x121x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.311 W/kg

Ch23095/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.82 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.391 W/kg
SAR(1 g) = 0.199 W/kg; SAR(10 g) = 0.116 W/kg
Maximum value of SAR (measured) = 0.311 W/kg



0 dB = 0.311 W/kg

50_LTE Band 13_10M_QPSK_1RB_0offset_Back_10mm_Ch23230_Bottom Ant

Communication System: UID 0, FDD-LTE (0); Frequency: 782 MHz; Duty Cycle: 1:1

Medium: MSL_750_2016/07/19 Medium parameters used: $f = 782$ MHz; $\sigma = 0.995$ S/m; $\epsilon_r = 54.712$;
 $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.59, 10.59, 10.59); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch23230/Area Scan (61x121x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.617 W/kg

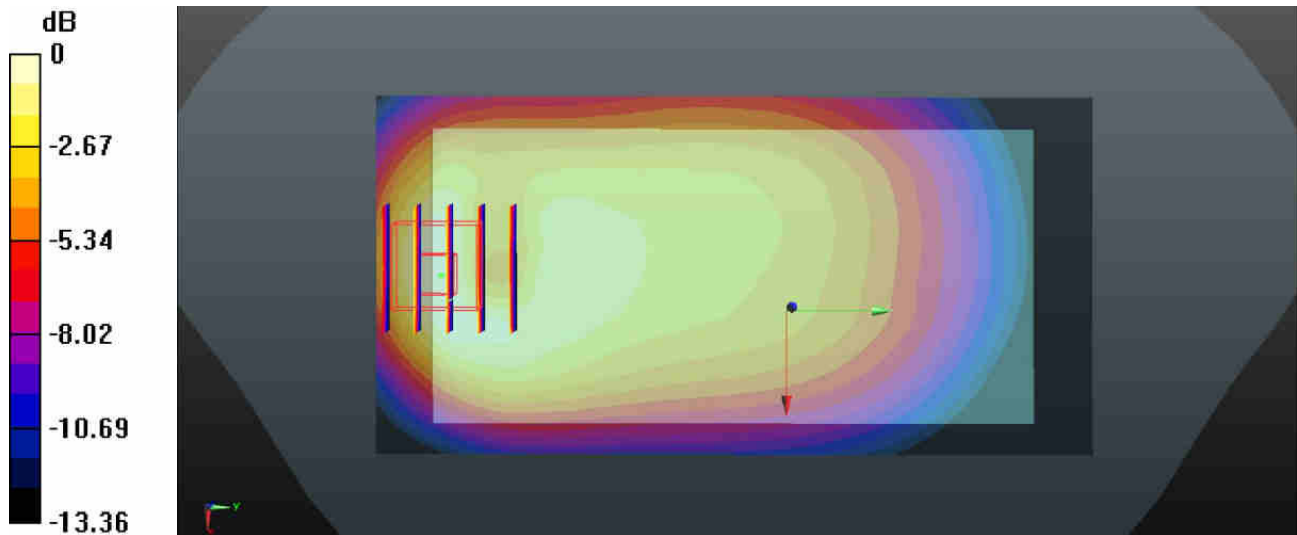
Ch23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.13 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.736 W/kg

SAR(1 g) = 0.402 W/kg; SAR(10 g) = 0.229 W/kg

Maximum value of SAR (measured) = 0.610 W/kg



0 dB = 0.610 W/kg

51_LTE Band 26_15M_QPSK_1RB_0offset_Back_10mm_Ch26865_Top Ant

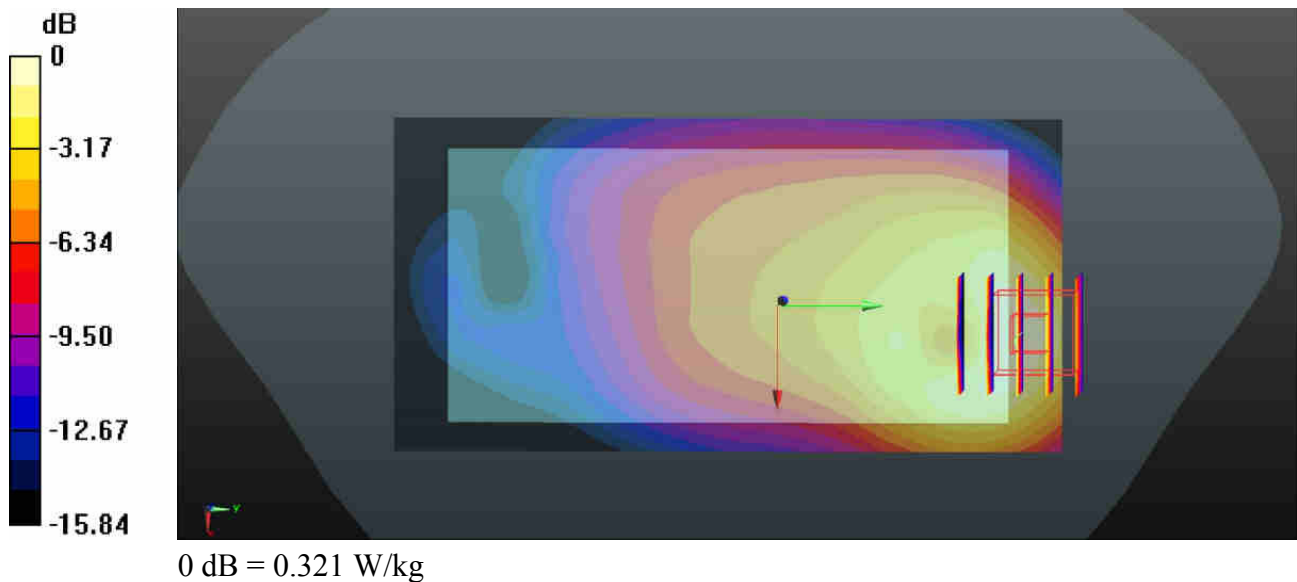
Communication System: UID 0, FDD-LTE (0); Frequency: 831.5 MHz; Duty Cycle: 1:1
Medium: MSL_835_2016/07/19 Medium parameters used: $f = 831.5$ MHz; $\sigma = 0.973$ S/m; $\epsilon_r = 54.503$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.8 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.3, 10.3, 10.3); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1754
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch26865/Area Scan (61x121x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.300 W/kg

Ch26865/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.576 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.395 W/kg
SAR(1 g) = 0.214 W/kg; SAR(10 g) = 0.117 W/kg
Maximum value of SAR (measured) = 0.321 W/kg



52_LTE Band 4_20M_QPSK_1RB_0offset_Back_10mm_Ch20175_Bottom Ant

Communication System: UID 0, FDD-LTE (0); Frequency: 1732.5 MHz; Duty Cycle: 1:1

Medium: MSL_1750_2016/07/05 Medium parameters used: $f = 1732.5$ MHz; $\sigma = 1.498$ S/m; $\epsilon_r = 53.18$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.24, 8.24, 8.24); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch20175/Area Scan (61x121x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.810 W/kg

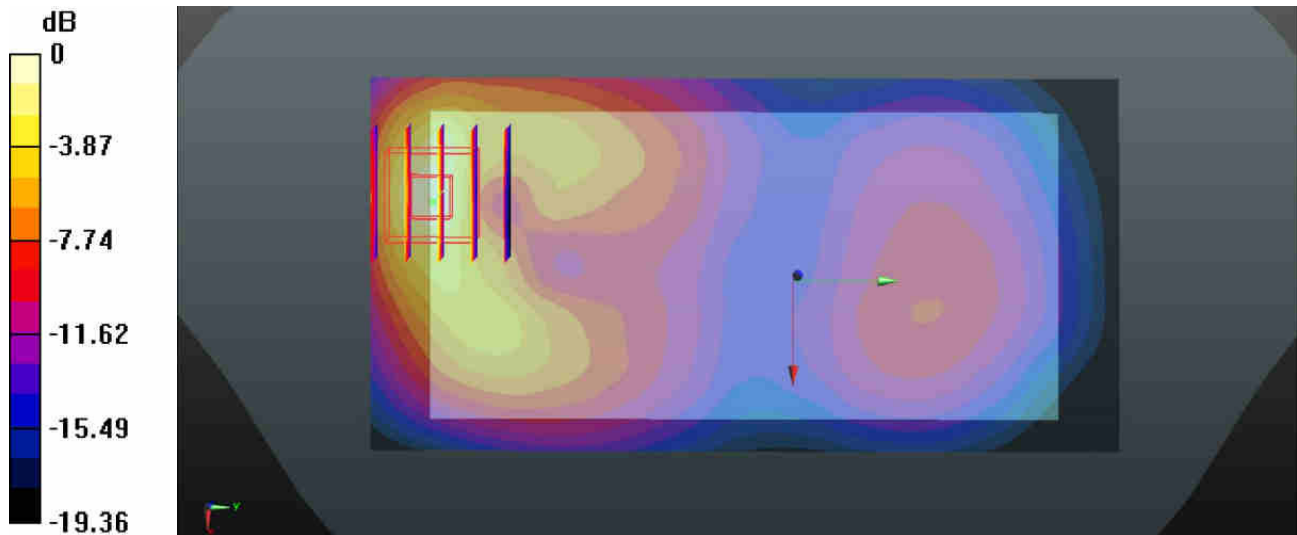
Ch20175/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.448 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.932 W/kg

SAR(1 g) = 0.514 W/kg; SAR(10 g) = 0.255 W/kg

Maximum value of SAR (measured) = 0.805 W/kg



0 dB = 0.805 W/kg

53_LTE Band 25_20M_QPSK_1RB_0offset_Back_10mm_Ch26340_Bottom Ant

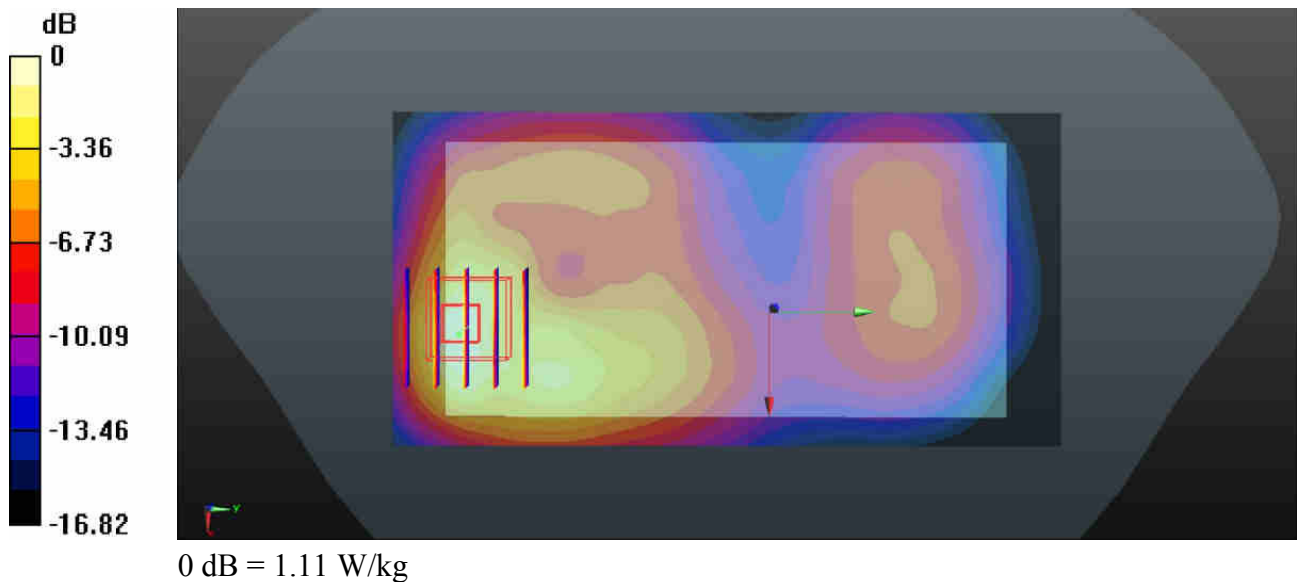
Communication System: UID 0, FDD-LTE (0); Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: MSL_1900_2016/07/20 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.508$ S/m; $\epsilon_r = 55.364$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.3 °C ; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.99, 7.99, 7.99); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch26340/Area Scan (61x121x1): Interpolated grid: $dx=15$ mm, $dy=15$ mm
Maximum value of SAR (interpolated) = 1.15 W/kg

Ch26340/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm
Reference Value = 8.232 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 1.32 W/kg
SAR(1 g) = 0.689 W/kg; SAR(10 g) = 0.355 W/kg
Maximum value of SAR (measured) = 1.11 W/kg



54_LTE Band 30_10M_QPSK_1RB_25offset_Back_10mm_Ch27710_Bottom Ant

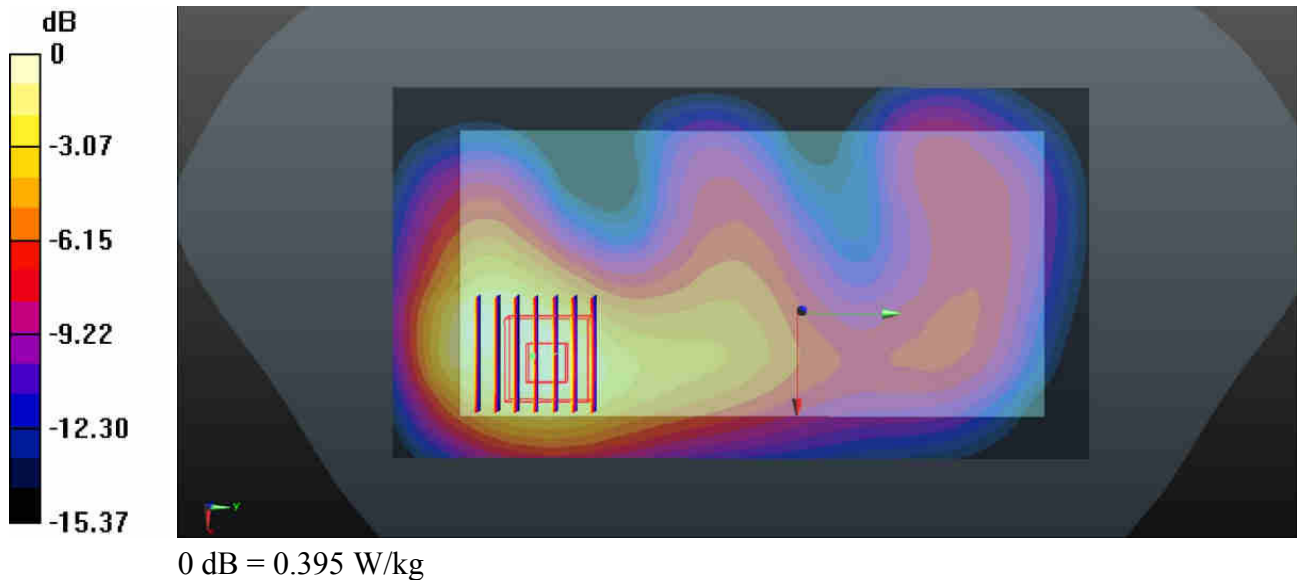
Communication System: UID 0, FDD-LTE (0); Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: MSL_2300_2016/07/02 Medium parameters used: $f = 2310$ MHz; $\sigma = 1.782$ S/m; $\epsilon_r = 53.246$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.72, 7.72, 7.72); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch27710/Area Scan (81x151x1): Interpolated grid: $dx=12$ mm, $dy=12$ mm
Maximum value of SAR (interpolated) = 0.399 W/kg

Ch27710/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm
Reference Value = 6.766 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 0.497 W/kg
SAR(1 g) = 0.296 W/kg; SAR(10 g) = 0.164 W/kg
Maximum value of SAR (measured) = 0.395 W/kg



55_LTE Band 7_20M_QPSK_1RB_0offset_Back_10mm_Ch21350_Bottom Ant

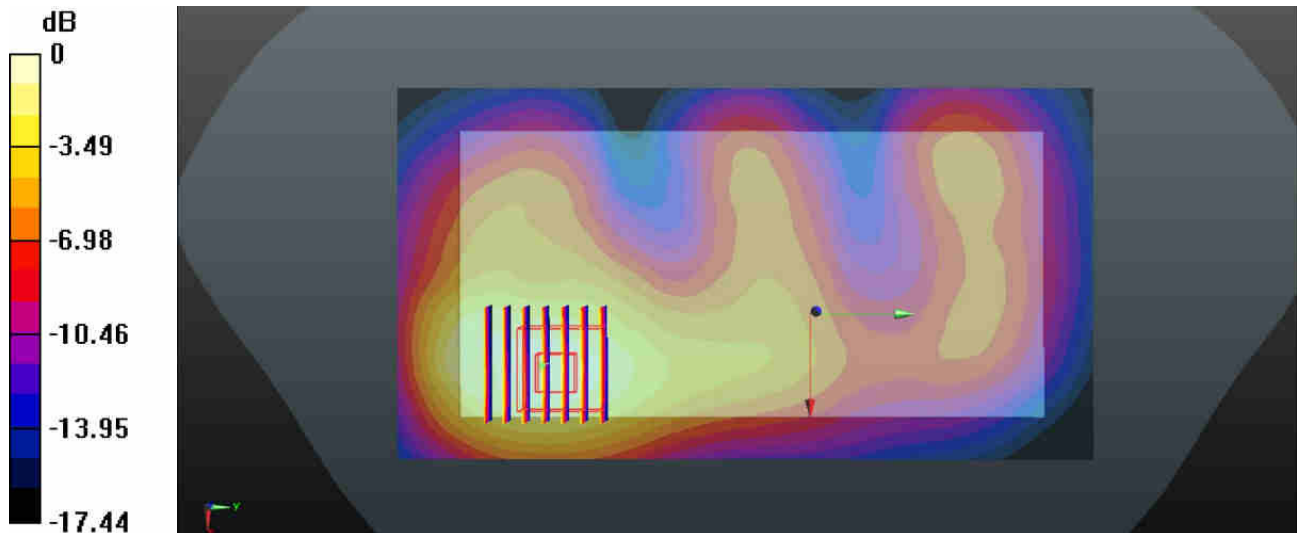
Communication System: UID 0, FDD-LTE (0); Frequency: 2560 MHz; Duty Cycle: 1:1
Medium: MSL_2600_2016/07/02 Medium parameters used: $f = 2560$ MHz; $\sigma = 2.121$ S/m; $\epsilon_r = 52.405$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.37, 7.37, 7.37); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch21350/Area Scan (81x151x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.403 W/kg

Ch21350/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.157 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.535 W/kg
SAR(1 g) = 0.296 W/kg; SAR(10 g) = 0.158 W/kg
Maximum value of SAR (measured) = 0.408 W/kg



0 dB = 0.408 W/kg

56_LTE Band 41_20M_QPSK_1RB_0offset_Back_10mm_Ch40185_Bottom Ant

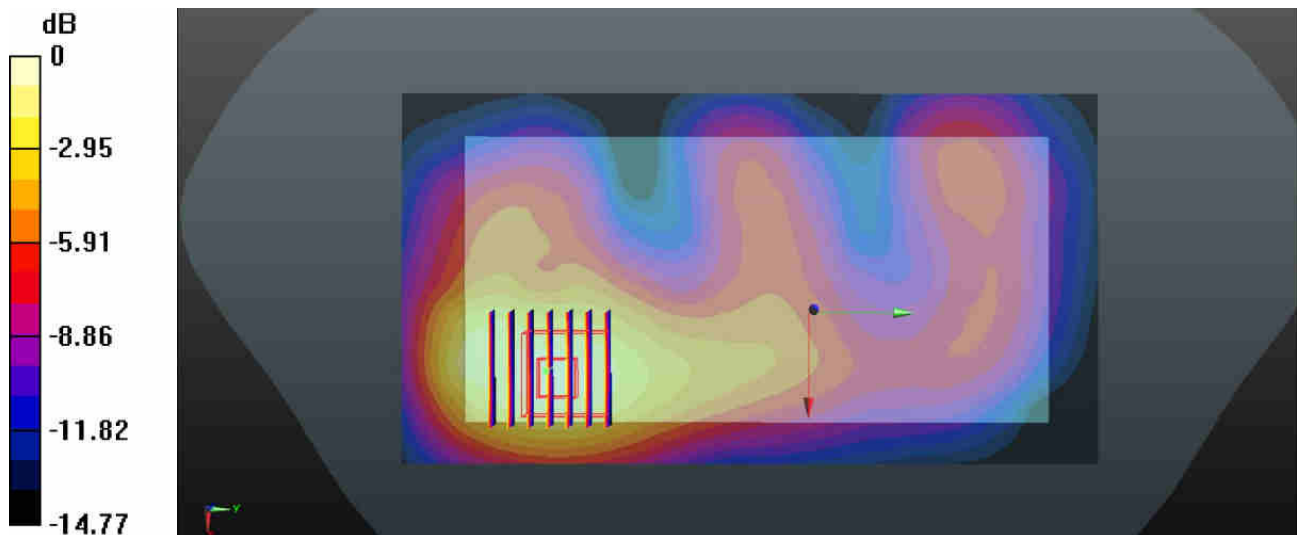
Communication System: UID 0, TDD-LTE (0); Frequency: 2549.5 MHz; Duty Cycle: 1:1.59
Medium: MSL_2600_2016/07/02 Medium parameters used: $f = 2549.5$ MHz; $\sigma = 2.106$ S/m; $\epsilon_r = 52.446$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C; Liquid Temperature : 22.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.37, 7.37, 7.37); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch40185/Area Scan (81x151x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.125 W/kg

Ch40185/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.707 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.175 W/kg
SAR(1 g) = 0.097 W/kg; SAR(10 g) = 0.053 W/kg
Maximum value of SAR (measured) = 0.133 W/kg



0 dB = 0.133 W/kg

57_WLAN2.4GHz_802.11b 1Mbps_Front_10mm_Ch11_Ant 1

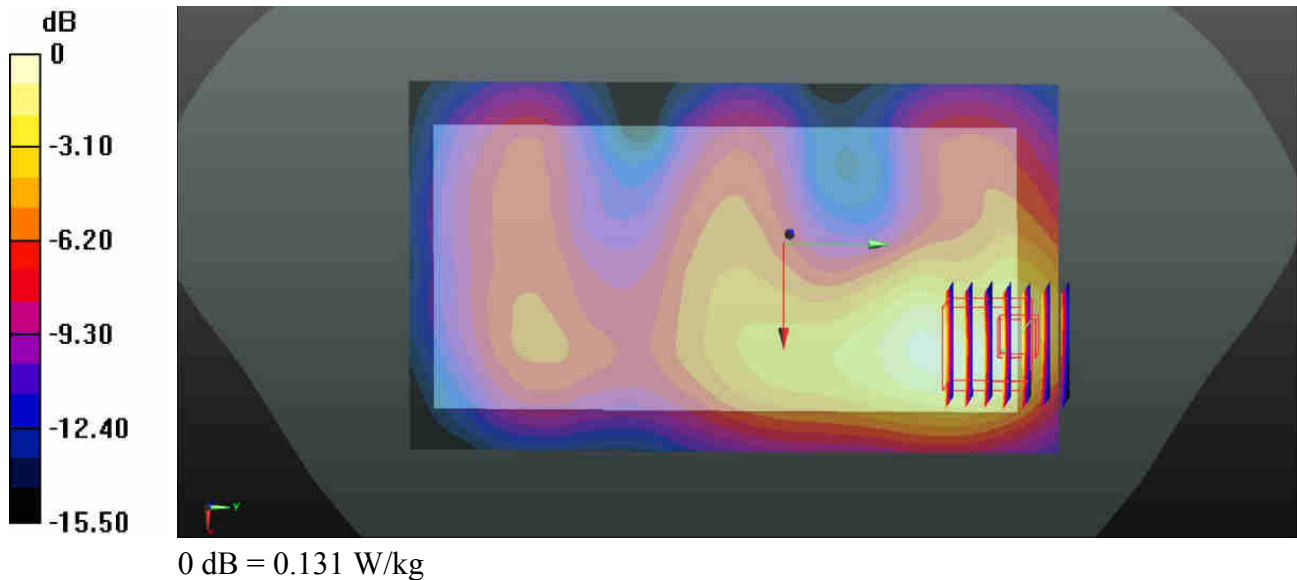
Communication System: UID 0, 802.11b (0); Frequency: 2462 MHz; Duty Cycle: 1:1.011
Medium: MSL_2450_2016/07/22 Medium parameters used: $f = 2462$ MHz; $\sigma = 1.988$ S/m; $\epsilon_r = 51.797$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.55, 7.55, 7.55); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch11/Area Scan (81x141x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.135 W/kg

Ch11/Zoom Scan (7x7x4)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.231 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.161 W/kg
SAR(1 g) = 0.080 W/kg; SAR(10 g) = 0.043 W/kg
Maximum value of SAR (measured) = 0.131 W/kg



58_WLAN2.4GHz_802.11b 1Mbps_Front_10mm_Ch11_Ant 2

Communication System: UID 0, 802.11b (0); Frequency: 2462 MHz; Duty Cycle: 1:1.011
Medium: MSL_2450_2016/07/22 Medium parameters used: $f = 2462$ MHz; $\sigma = 1.988$ S/m; $\epsilon_r = 51.797$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.55, 7.55, 7.55); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch11/Area Scan (81x141x1): Interpolated grid: dx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 0.0296 W/kg

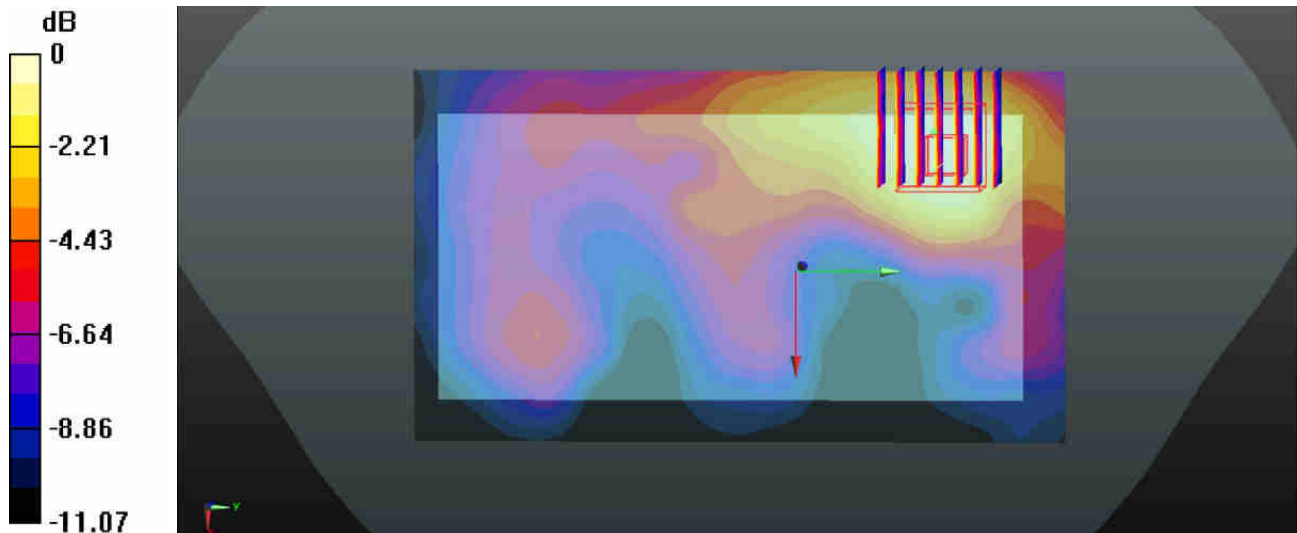
Ch11/Zoom Scan (7x7x4)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.952 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.0330 W/kg

SAR(1 g) = 0.019 W/kg; SAR(10 g) = 0.012 W/kg

Maximum value of SAR (measured) = 0.0276 W/kg



0 dB = 0.0276 W/kg

59_WLAN2.4GHz_802.11b 1Mbps_Front_10mm_Ch11_Ant 1+2

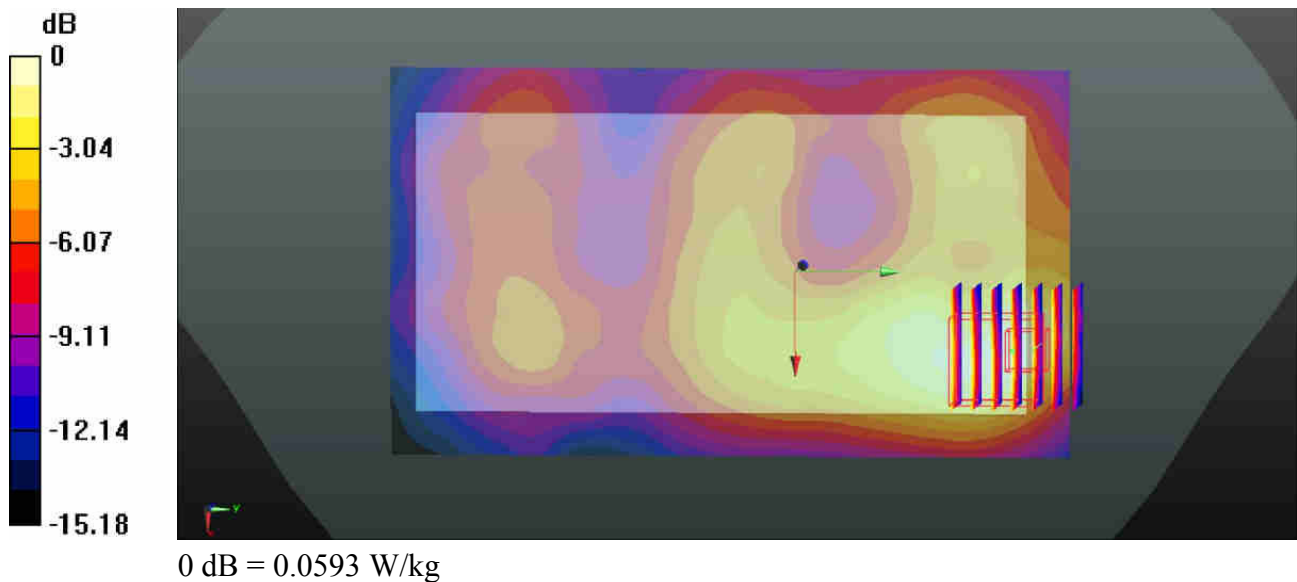
Communication System: UID 0, 802.11b (0); Frequency: 2462 MHz; Duty Cycle: 1:1.009
Medium: MSL_2450_2016/07/22 Medium parameters used: $f = 2462$ MHz; $\sigma = 1.988$ S/m; $\epsilon_r = 51.797$; $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.55, 7.55, 7.55); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch11/Area Scan (81x141x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.0605 W/kg

Ch11/Zoom Scan (7x7x4)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.068 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.0740 W/kg
SAR(1 g) = 0.037 W/kg; SAR(10 g) = 0.021 W/kg
Maximum value of SAR (measured) = 0.0593 W/kg



60_WLAN5.2GHz_802.11a 6Mbps_Front_10mm_Ch36_Ant 1

Communication System: UID 0, 802.11a (0); Frequency: 5180 MHz; Duty Cycle: 1:1.042

Medium: MSL_5G_2016/07/22 Medium parameters used: $f = 5180$ MHz; $\sigma = 5.344$ S/m; $\epsilon_r = 48.864$;
 $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(4.35, 4.35, 4.35); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch36/Area Scan (91x171x1): Interpolated grid: dx=10mm, dy=10mm

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

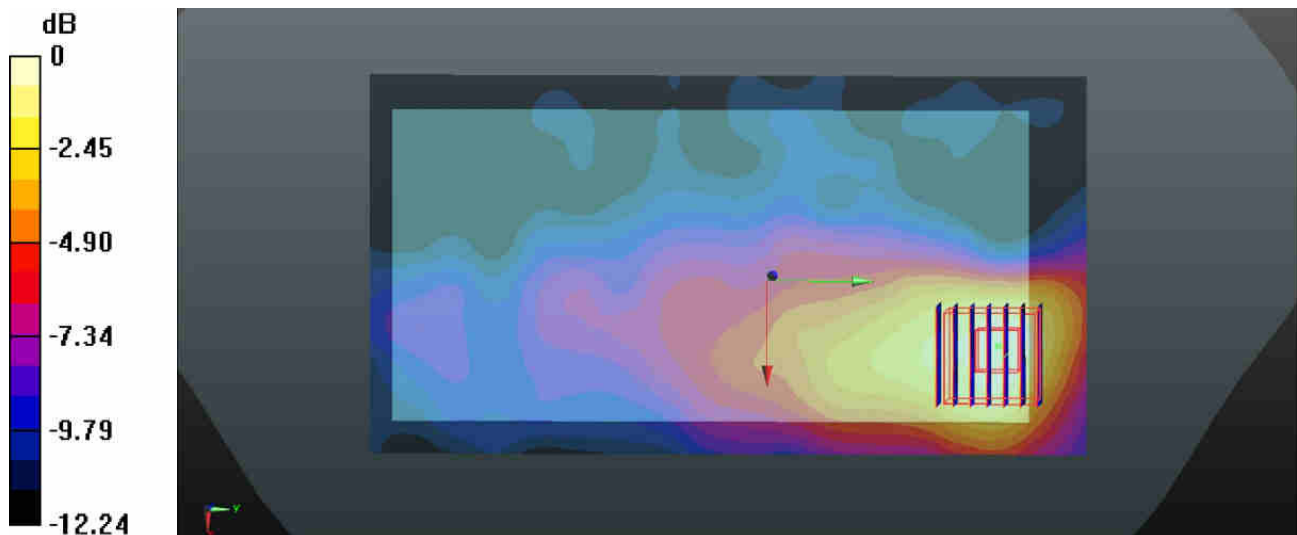
Ch36/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 1.984 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.205 W/kg

SAR(1 g) = 0.070 W/kg; SAR(10 g) = 0.036 W/kg

Maximum value of SAR (measured) = 0.135 W/kg



0 dB = 0.135 W/kg

61_WLAN5.8GHz_802.11a 6Mbps_Front_10mm_Ch165_Ant 1

Communication System: UID 0, 802.11a (0); Frequency: 5825 MHz; Duty Cycle: 1:1.042

Medium: MSL_5G_2016/07/22 Medium parameters used: $f = 5825$ MHz; $\sigma = 6.22$ S/m; $\epsilon_r = 47.78$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(3.81, 3.81, 3.81); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch165/Area Scan (91x171x1): Interpolated grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.0331 W/kg

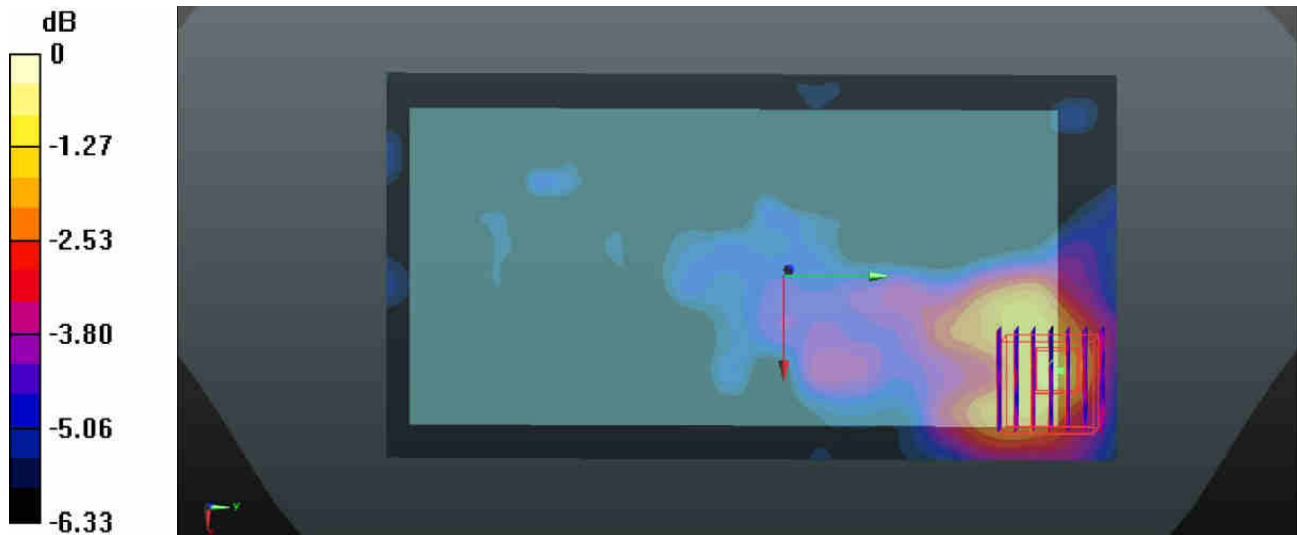
Ch165/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 1.674 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.125 W/kg

SAR(1 g) = 0.025 W/kg; SAR(10 g) = 0.019 W/kg

Maximum value of SAR (measured) = 0.0415 W/kg



62_WLAN5.2GHz_802.11a 6Mbps_Front_0mm_Ch36_Ant 1

Communication System: UID 0, 802.11a (0); Frequency: 5180 MHz; Duty Cycle: 1:1.042

Medium: MSL_5G_2016/07/22 Medium parameters used: $f = 5180$ MHz; $\sigma = 5.344$ S/m; $\epsilon_r = 48.864$;
 $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(4.35, 4.35, 4.35); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch36/Area Scan (101x171x1): Interpolated grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.91 W/kg

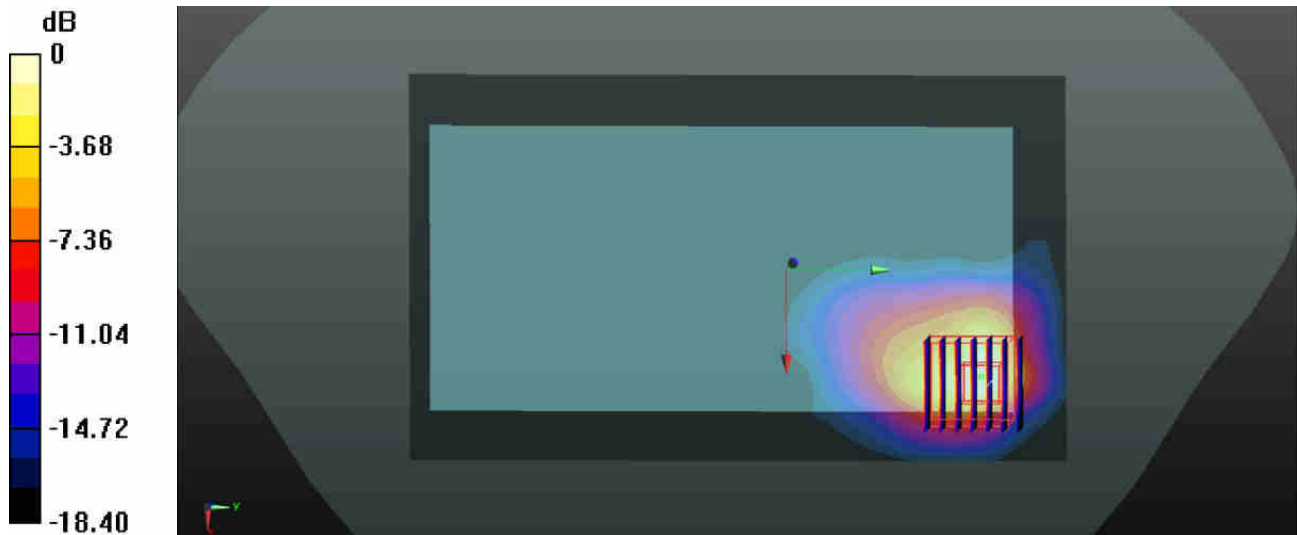
Ch36/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 2.040 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 2.62 W/kg

SAR(1 g) = 0.646 W/kg; SAR(10 g) = 0.228 W/kg

Maximum value of SAR (measured) = 1.57 W/kg



0 dB = 1.57 W/kg

63_WLAN5.8GHz_802.11a 6Mbps_Right side_0mm_Ch165_Ant 1

Communication System: UID 0, 802.11a (0); Frequency: 5825 MHz; Duty Cycle: 1:1.042

Medium: MSL_5G_2016/07/22 Medium parameters used: $f = 5825$ MHz; $\sigma = 6.22$ S/m; $\epsilon_r = 47.78$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(3.81, 3.81, 3.81); Calibrated: 2015/11/27;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1358; Calibrated: 2015/8/27
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1753
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch165/Area Scan (31x171x1): Interpolated grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.819 W/kg

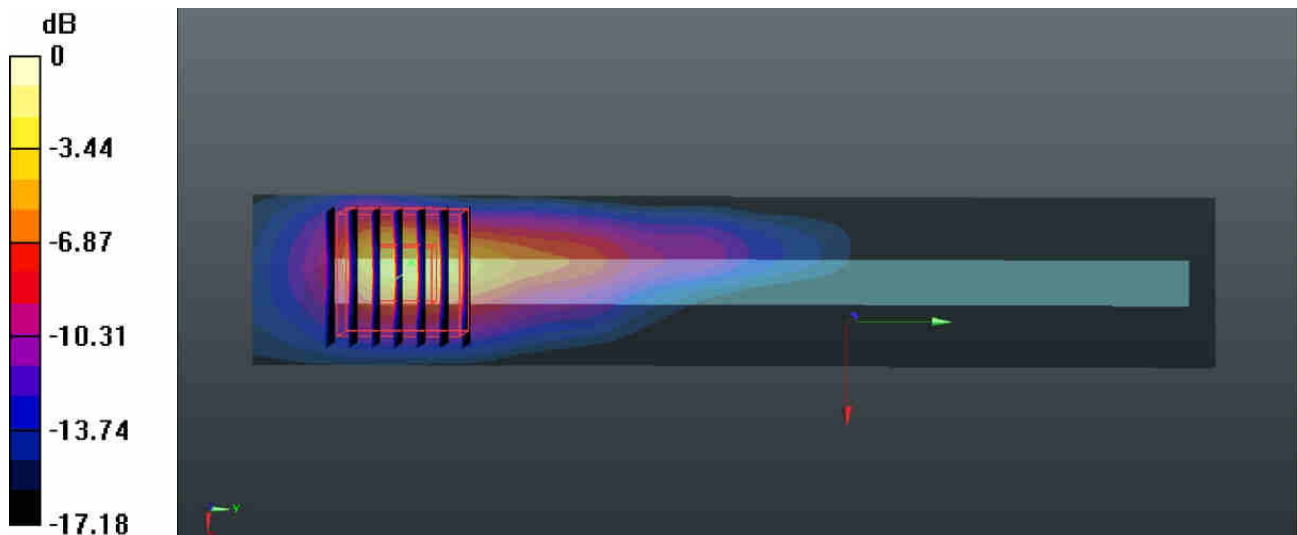
Ch165/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 3.328 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 2.79 W/kg

SAR(1 g) = 0.477 W/kg; SAR(10 g) = 0.133 W/kg

Maximum value of SAR (measured) = 1.42 W/kg



0 dB = 1.42 W/kg



Appendix C. DASY Calibration Certificate

The DASY 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 0108**

Client **Sporton-CN (Auden)**

Certificate No: **D750V3-1087_Mar16**

CALIBRATION CERTIFICATE

Object **D750V3 - SN:1087**

Calibration procedure(s) **QA CAL-05.v9**
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **March 16, 2016**

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	07-Oct-15 (No. 217-02222)	Oct-16
Power sensor HP 8481A	US37292783	07-Oct-15 (No. 217-02222)	Oct-16
Power sensor HP 8481A	MY41092317	07-Oct-15 (No. 217-02223)	Oct-16
Reference 20 dB Attenuator	SN: 5058 (20k)	01-Apr-15 (No. 217-02131)	Mar-16
Type-N mismatch combination	SN: 5047.2 / 06327	01-Apr-15 (No. 217-02134)	Mar-16
Reference Probe EX3DV4	SN: 7349	31-Dec-15 (No. EX3-7349_Dec15)	Dec-16
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100972	15-Jun-15 (in house check Jun-15)	In house check: Jun-18
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

Calibrated by:	Name Jeton Kastrati	Function Laboratory Technician	Signature
Approved by:	Katja Pokovic	Technical Manager	

Issued: March 16, 2016

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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 0108**

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 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- 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
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

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	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	750 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.9	0.89 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	41.9 $\pm$ 6 %	0.91 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	2.11 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	8.30 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.38 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	5.45 W/kg $\pm$ 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.5	0.96 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	54.7 $\pm$ 6 %	0.98 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	2.20 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	8.64 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.46 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	5.75 W/kg $\pm$ 16.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	53.0 Ω - 1.8 j Ω
Return Loss	- 29.3 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	48.8 Ω - 3.5 j Ω
Return Loss	- 28.5 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.031 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 04, 2013

DASY5 Validation Report for Head TSL

Date: 16.03.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1087

Communication System: UID 0 - CW; Frequency: 750 MHz

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.91 \text{ S/m}$; $\epsilon_r = 41.9$; $\rho = 1000 \text{ kg/m}^3$

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.28, 10.28, 10.28); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom Type: QD000P49AA
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

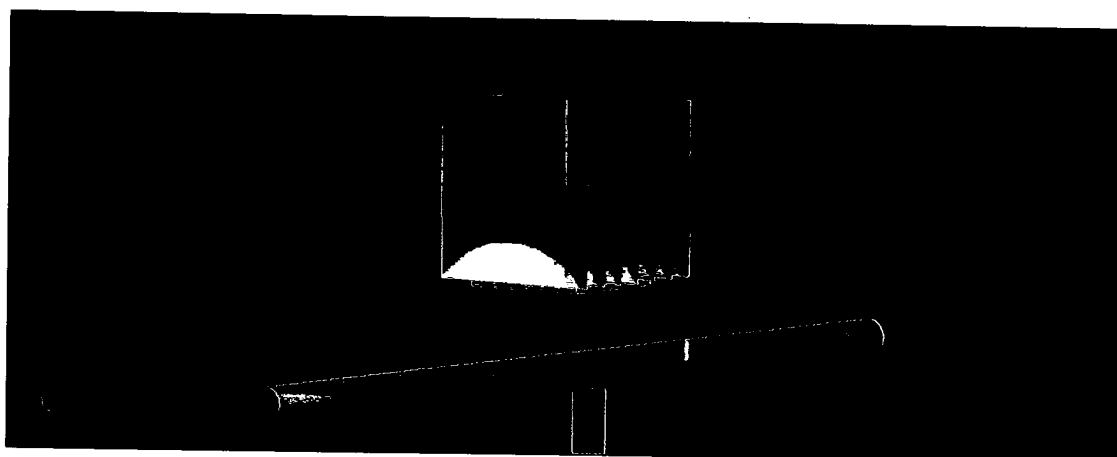
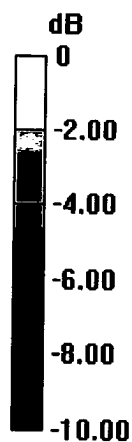
Dipole Calibration for Head Tissue EX-Probe/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 58.15 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 3.14 W/kg

SAR(1 g) = 2.11 W/kg; SAR(10 g) = 1.38 W/kg

Maximum value of SAR (measured) = 2.79 W/kg



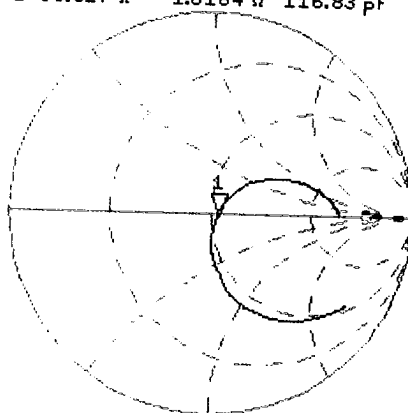
0 dB = 2.79 W/kg = 4.46 dBW/kg

Impedance Measurement Plot for Head TSL

CH1 S11 1 U FS

16 Mar 2016 13:57:40
1: 53.027 Ω -1.8164 Ω 116.83 pF 750.000 000 MHz

*
De1
CA



Avg
16

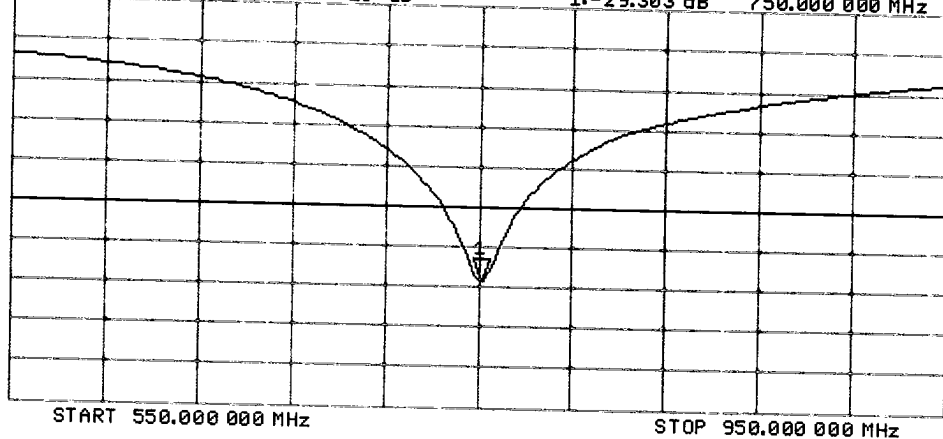
H1d

CH2 S11 LOG 5 dB/REF -20 dB 1:-29.303 dB 750.000 000 MHz

CA

Avg
16

H1d



START 550.000 000 MHz

STOP 950.000 000 MHz

DASY5 Validation Report for Body TSL

Date: 16.03.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1087

Communication System: UID 0 - CW; Frequency: 750 MHz

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.98 \text{ S/m}$; $\epsilon_r = 54.7$; $\rho = 1000 \text{ kg/m}^3$

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(9.99, 9.99, 9.99); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom Type: QD000P49AA
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

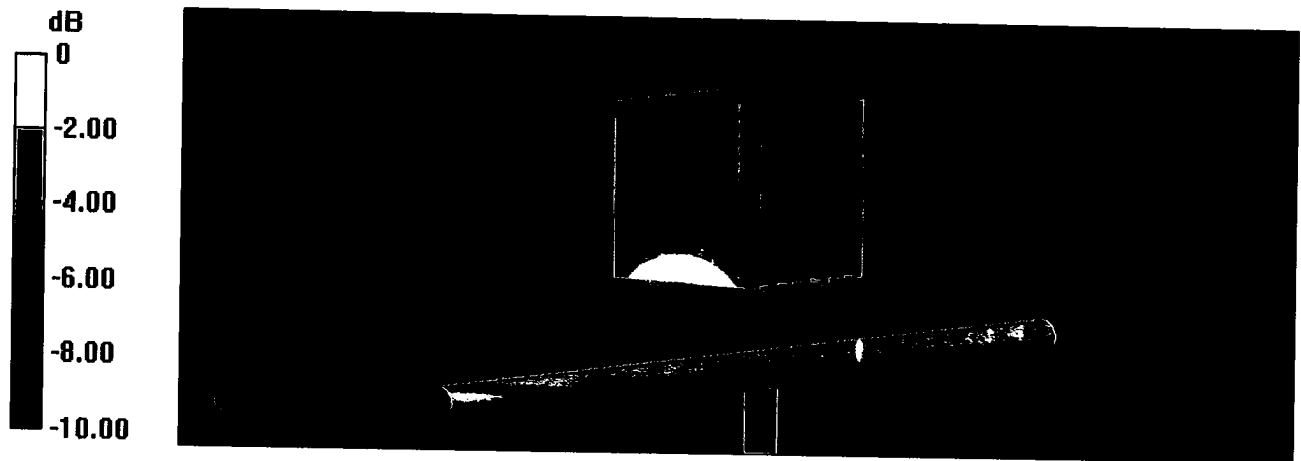
Dipole Calibration for Body Tissue EX-Probe/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 58.44 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 3.26 W/kg

SAR(1 g) = 2.2 W/kg; SAR(10 g) = 1.46 W/kg

Maximum value of SAR (measured) = 2.91 W/kg



Impedance Measurement Plot for Body TSL

CH1 S11 1 U FS

16 Mar 2016 11:39:47
1: 48.750 Ω -3.5117 Ω 60.428 pF 750.000 000 MHz

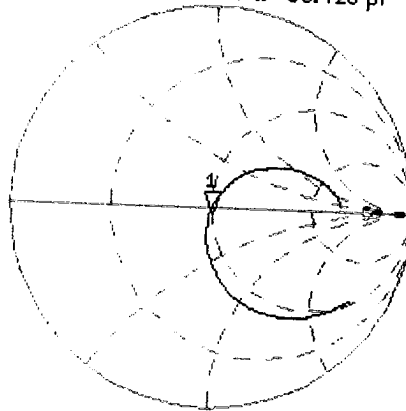
*

De1

CA

Av9
16

H1d



CH2 S11 LOG

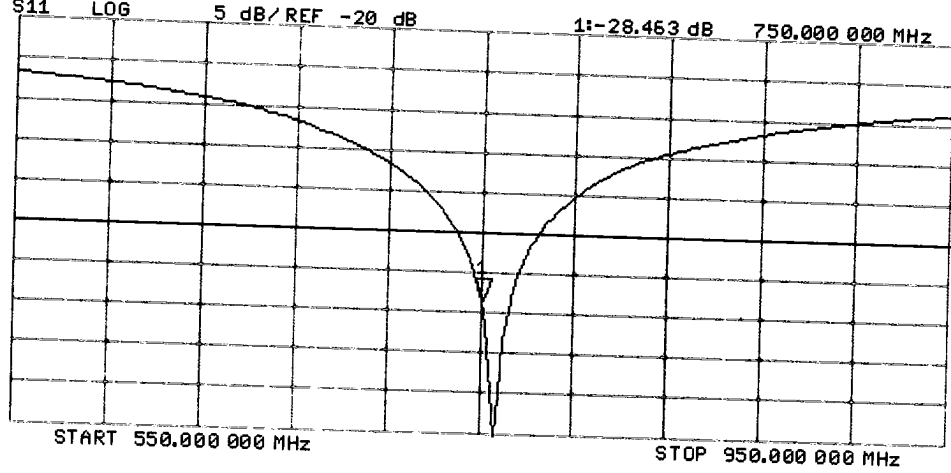
5 dB/REF -20 dB

1: -28.463 dB 750.000 000 MHz

CA

Av9
16

H1d





Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Client **Sporton-CN (Auden)**

Certificate No: **D835V2-4d151_Mar16**

CALIBRATION CERTIFICATE

Object **D835V2 - SN:4d151**

Calibration procedure(s) **QA CAL-05.v9
Calibration procedure for dipole validation kits above 700 MHz**

Calibration date: **March 16, 2016**

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	07-Oct-15 (No. 217-02222)	Oct-16
Power sensor HP 8481A	US37292783	07-Oct-15 (No. 217-02222)	Oct-16
Power sensor HP 8481A	MY41092317	07-Oct-15 (No. 217-02223)	Oct-16
Reference 20 dB Attenuator	SN: 5058 (20k)	01-Apr-15 (No. 217-02131)	Mar-16
Type-N mismatch combination	SN: 5047.2 / 06327	01-Apr-15 (No. 217-02134)	Mar-16
Reference Probe EX3DV4	SN: 7349	31-Dec-15 (No. EX3-7349_Dec15)	Dec-16
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100972	15-Jun-15 (in house check Jun-15)	In house check: Jun-18
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: March 16, 2016

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 0108**

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 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- 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
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

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	V52.8.8
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	41.7 $\pm$ 6 %	0.93 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	2.37 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	9.26 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.54 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	6.05 W/kg $\pm$ 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 cm ³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.46 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	9.52 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.61 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	6.28 W/kg $\pm$ 16.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	52.2 Ω - 3.3 j Ω
Return Loss	- 28.3 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.9 Ω - 4.5 j Ω
Return Loss	- 25.9 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.390 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	March 27, 2012

DASY5 Validation Report for Head TSL

Date: 16.03.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d151

Communication System: UID 0 - CW; Frequency: 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.93 \text{ S/m}$; $\epsilon_r = 41.7$; $\rho = 1000 \text{ kg/m}^3$

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(9.83, 9.83, 9.83); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom Type: QD000P49AA
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Head Tissue EX-Probe/Pin=250 mW, $d=15\text{mm}$ /Zoom Scan

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

Reference Value = 61.40 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 3.57 W/kg

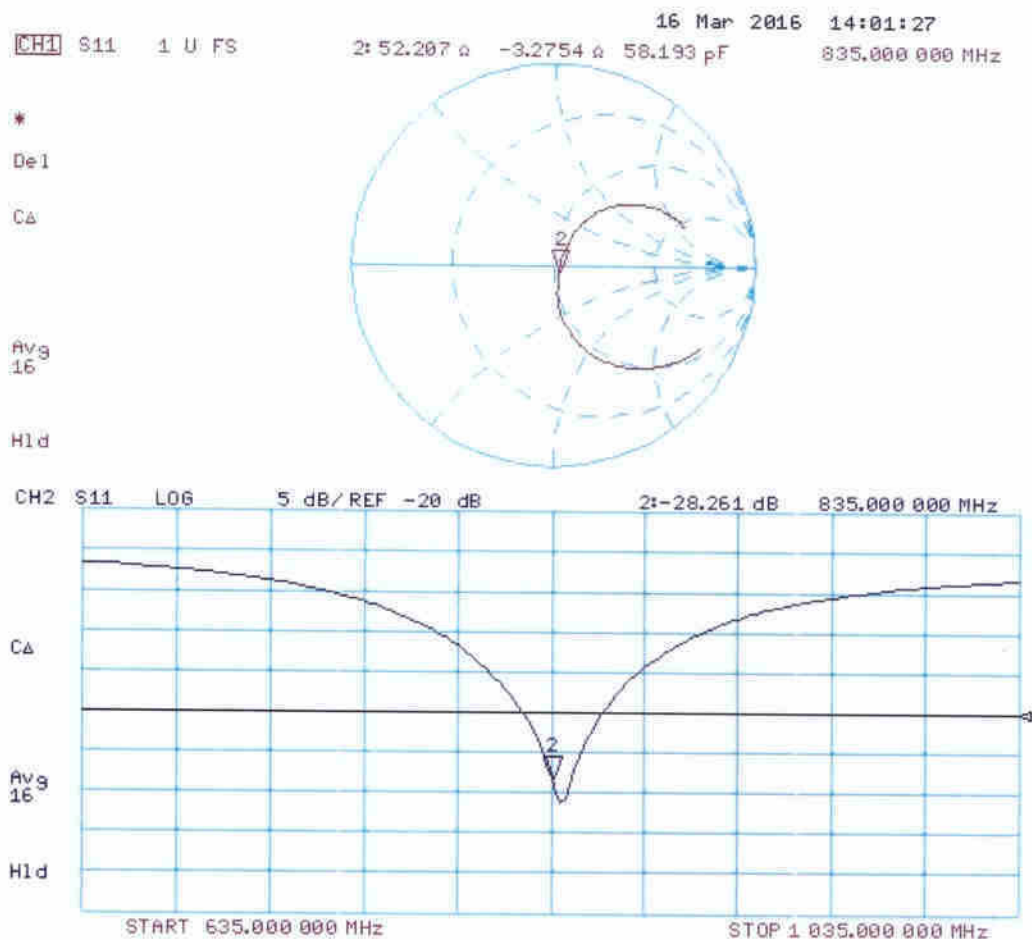
SAR(1 g) = 2.37 W/kg; SAR(10 g) = 1.54 W/kg

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



0 dB = 3.18 W/kg = 5.02 dBW/kg

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 16.03.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d151

Communication System: UID 0 - CW; Frequency: 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 1.01 \text{ S/m}$; $\epsilon_r = 54.5$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(9.73, 9.73, 9.73); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Body Tissue EX-Probe/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 60.04 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 3.65 W/kg

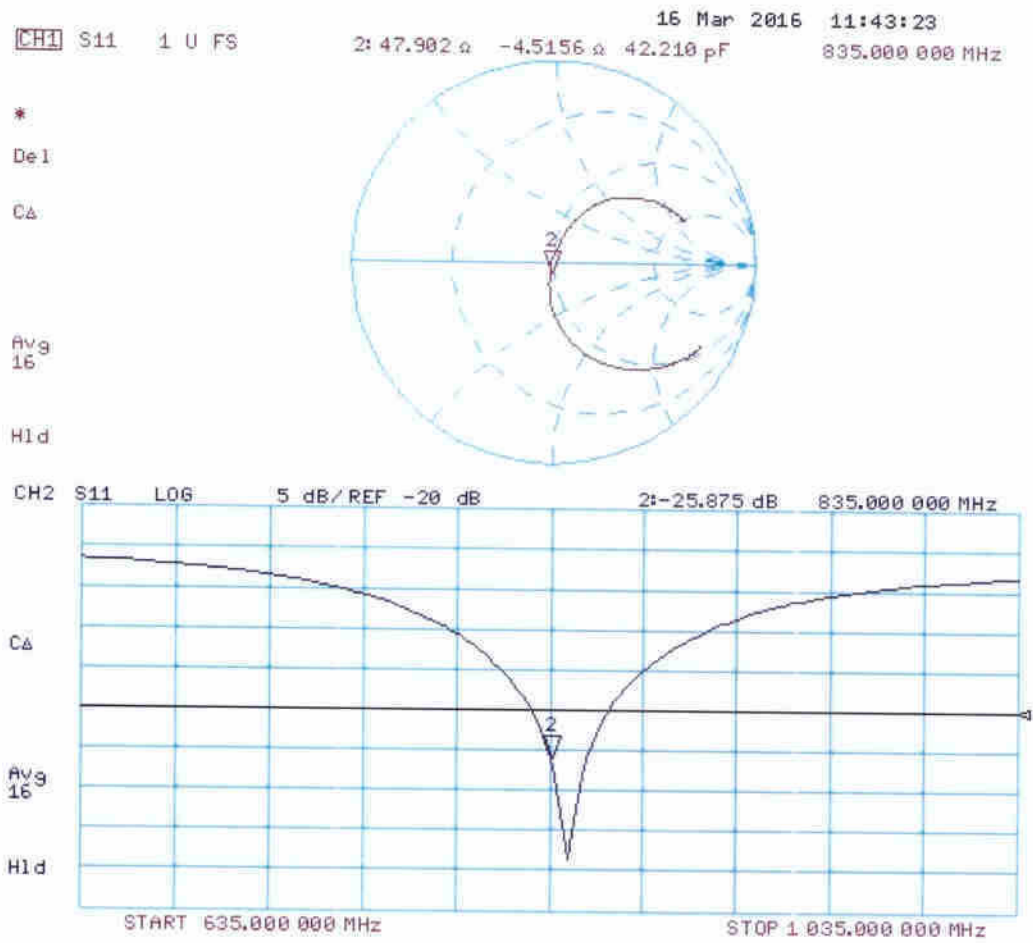
SAR(1 g) = 2.46 W/kg; SAR(10 g) = 1.61 W/kg

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



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

Impedance Measurement Plot for Body TSL





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 0108**

Client **Sporton-CN (Auden)**

Certificate No: **D1750V2-1090_Mar16**

CALIBRATION CERTIFICATE

Object **D1750V2 - SN: 1090**

Calibration procedure(s) **QA CAL-05.v9**
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **March 22, 2016**

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	07-Oct-15 (No. 217-02222)	Oct-16
Power sensor HP 8481A	US37292783	07-Oct-15 (No. 217-02222)	Oct-16
Power sensor HP 8481A	MY41092317	07-Oct-15 (No. 217-02223)	Oct-16
Reference 20 dB Attenuator	SN: 5058 (20k)	01-Apr-15 (No. 217-02131)	Mar-16
Type-N mismatch combination	SN: 5047.2 / 06327	01-Apr-15 (No. 217-02134)	Mar-16
Reference Probe EX3DV4	SN: 7349	31-Dec-15 (No. EX3-7349_Dec15)	Dec-16
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100972	15-Jun-15 (in house check Jun-15)	In house check: Jun-18
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

Calibrated by: **Claudio Leubler** **Name** **Function**
Laboratory Technician

Approved by: **Katja Pokovic** **Technical Manager**

Signature

Issued: March 22, 2016

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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 0108**

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 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- 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
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

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	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1750 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.1	1.37 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	39.9 $\pm$ 6 %	1.35 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	8.71 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	35.1 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	4.63 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	18.6 W/kg $\pm$ 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.4	1.49 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	53.0 $\pm$ 6 %	1.46 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	8.88 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	35.9 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	4.73 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	19.1 W/kg $\pm$ 16.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	48.3 Ω - 3.5 j Ω
Return Loss	- 27.9 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	45.4 Ω - 3.0 j Ω
Return Loss	- 24.8 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.221 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	November 07, 2012

DASY5 Validation Report for Head TSL

Date: 22.03.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1090

Communication System: UID 0 - CW; Frequency: 1750 MHz

Medium parameters used: $f = 1750$ MHz; $\sigma = 1.35$ S/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.54, 8.54, 8.54); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

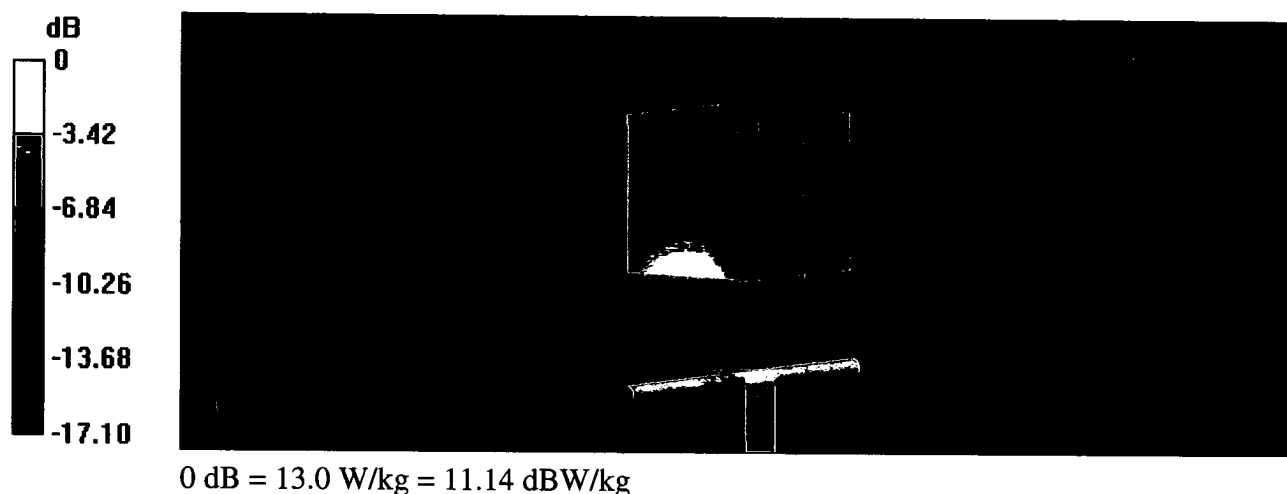
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 102.4 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 15.8 W/kg

SAR(1 g) = 8.71 W/kg; SAR(10 g) = 4.63 W/kg

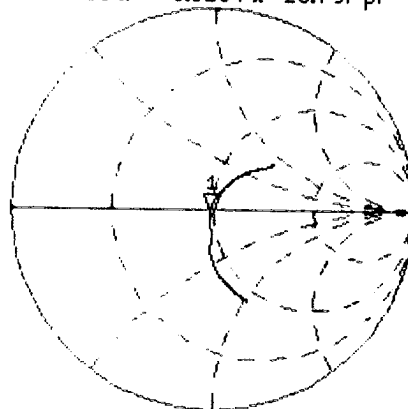
Maximum value of SAR (measured) = 13.0 W/kg



Impedance Measurement Plot for Head TSL

22 Mar 2016 12:35:16
 [CH1] S11 1 U FS 1: 48.250 Ω -3.5254 Ω 25.797 pF 1 750.000 000 MHz

*
 De1
 CA



Avg
 16

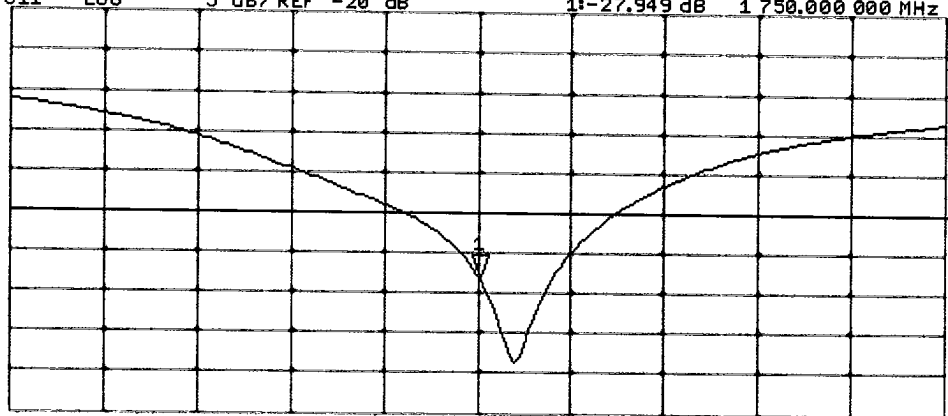
H1d

CH2 S11 LOG 5 dB/REF -20 dB 1: -27.949 dB 1 750.000 000 MHz

CA

Avg
 16

H1d



START 1 550.000 000 MHz

STOP 1 950.000 000 MHz

DASY5 Validation Report for Body TSL

Date: 22.03.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1090

Communication System: UID 0 - CW; Frequency: 1750 MHz

Medium parameters used: $f = 1750$ MHz; $\sigma = 1.46$ S/m; $\epsilon_r = 53$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.25, 8.25, 8.25); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

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 = 99.20 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 15.6 W/kg

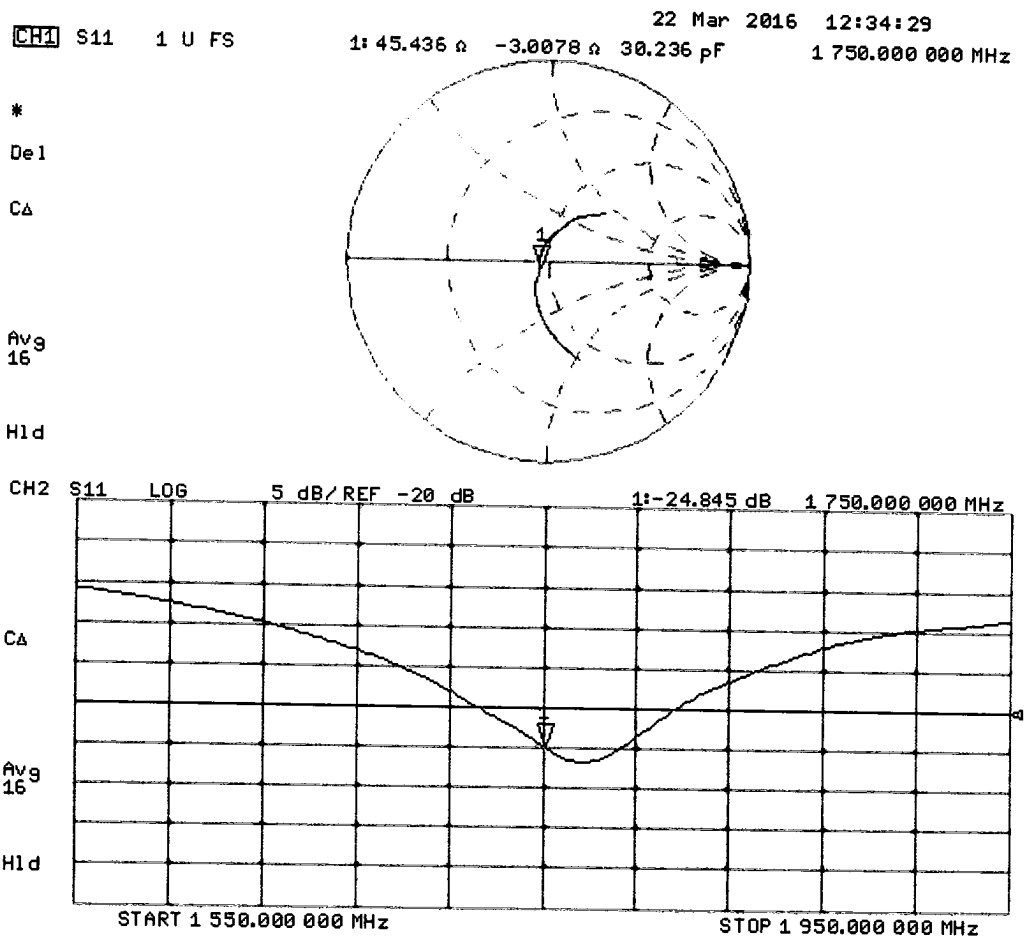
SAR(1 g) = 8.88 W/kg; SAR(10 g) = 4.73 W/kg

Maximum value of SAR (measured) = 13.2 W/kg



0 dB = 13.2 W/kg = 11.21 dBW/kg

Impedance Measurement Plot for Body TSL





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 0108**

Client **Sporton-CN (Auden)**

Certificate No: **D1900V2-5d170_Mar16**

CALIBRATION CERTIFICATE

Object **D1900V2 - SN: 5d170**

Calibration procedure(s) **QA CAL-05.v9**
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **March 21, 2016**

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	07-Oct-15 (No. 217-02222)	Oct-16
Power sensor HP 8481A	US37292783	07-Oct-15 (No. 217-02222)	Oct-16
Power sensor HP 8481A	MY41092317	07-Oct-15 (No. 217-02223)	Oct-16
Reference 20 dB Attenuator	SN: 5058 (20k)	01-Apr-15 (No. 217-02131)	Mar-16
Type-N mismatch combination	SN: 5047.2 / 06327	01-Apr-15 (No. 217-02134)	Mar-16
Reference Probe EX3DV4	SN: 7349	31-Dec-15 (No. EX3-7349_Dec15)	Dec-16
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100972	15-Jun-15 (in house check Jun-15)	In house check: Jun-18
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

Calibrated by: **Name**
Michael Weber **Function**
Laboratory Technician

Approved by: **Katja Pokovic** **Technical Manager**

Signature

M. Weber

K. Pokovic

Issued: March 21, 2016

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 0108**

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 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- 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
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

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	V52.8.8
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 $\pm$ 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 $\pm$ 0.2) °C	39.8 $\pm$ 6 %	1.39 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	9.50 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	38.1 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	4.99 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	20.0 W/kg $\pm$ 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	52.9 $\pm$ 6 %	1.51 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	9.71 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	38.9 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.15 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	20.6 W/kg $\pm$ 16.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$54.2 \Omega + 5.3 j\Omega$
Return Loss	- 23.8 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	$50.0 \Omega + 7.8 j\Omega$
Return Loss	- 22.2 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.201 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	June 08, 2012

DASY5 Validation Report for Head TSL

Date: 21.03.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d170

Communication System: UID 0 - CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.39$ S/m; $\epsilon_r = 39.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.2, 8.2, 8.2); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

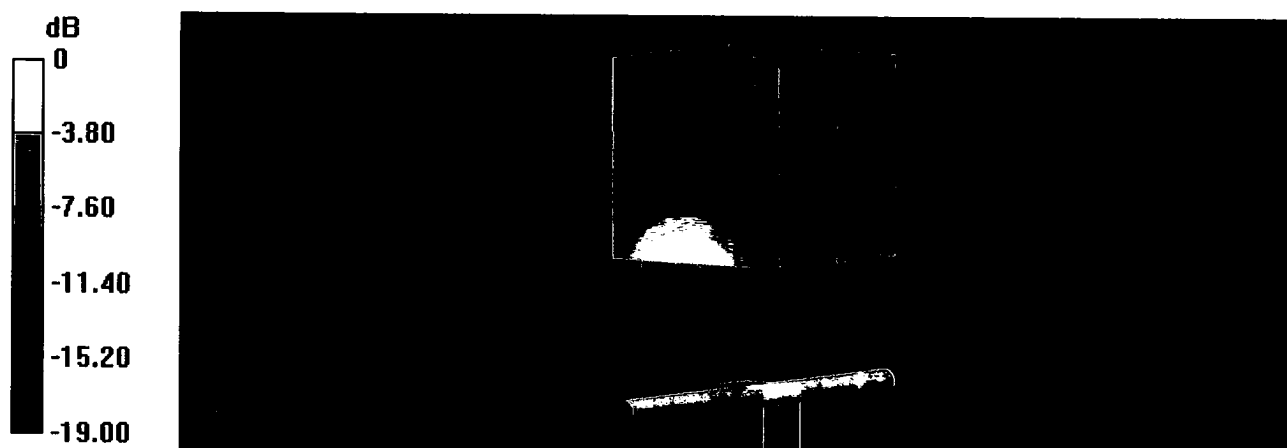
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 105.8 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 17.4 W/kg

SAR(1 g) = 9.5 W/kg; SAR(10 g) = 4.99 W/kg

Maximum value of SAR (measured) = 14.3 W/kg



0 dB = 14.3 W/kg = 11.55 dBW/kg

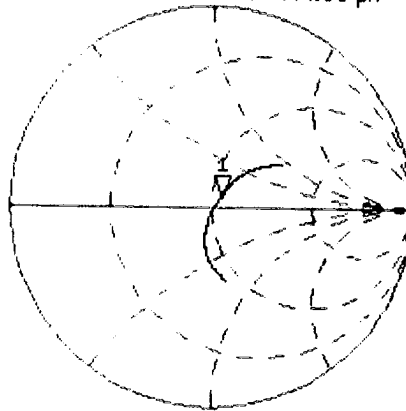
Impedance Measurement Plot for Head TSL

21 Mar 2016 14:05:29
 CH1 S11 1 U FS 1: 54.199 Ω 5.3047 Ω 444.35 μH 1 900.000 000 MHz

*
 Del
 CA

Avg
 16

H1d



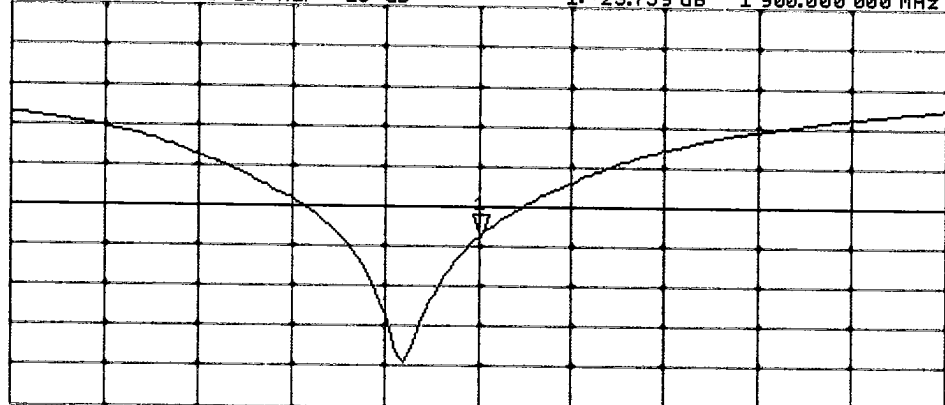
CH2 S11 LOG 5 dB/REF -20 dB 1:-23.759 dB 1 900.000 000 MHz

Del

CA

Avg
 16

H1d



START 1 700.000 000 MHz

STOP 2 100.000 000 MHz

DASY5 Validation Report for Body TSL

Date: 21.03.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d170

Communication System: UID 0 - CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.51$ S/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011).

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.03, 8.03, 8.03); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

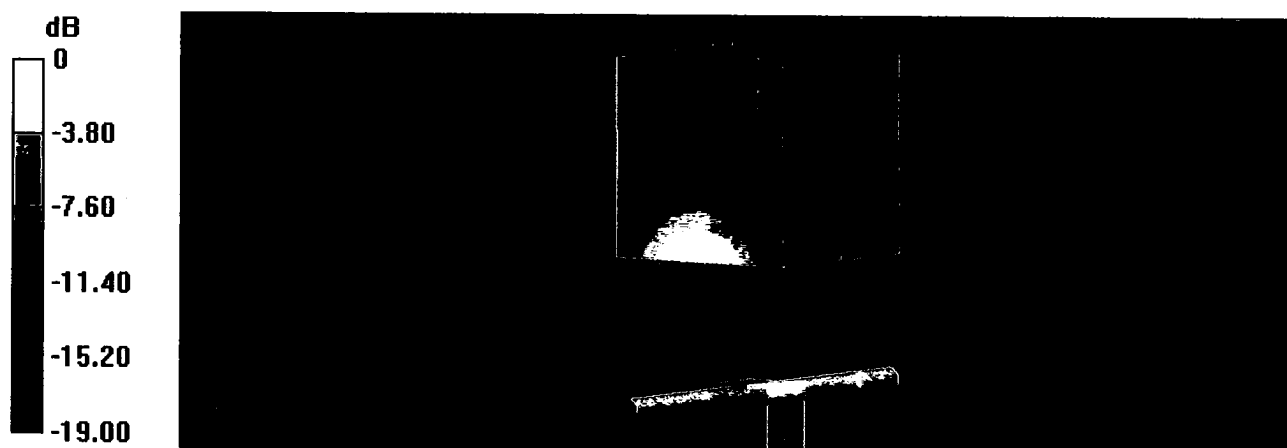
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 102.8 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 17.0 W/kg

SAR(1 g) = 9.71 W/kg; SAR(10 g) = 5.15 W/kg

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

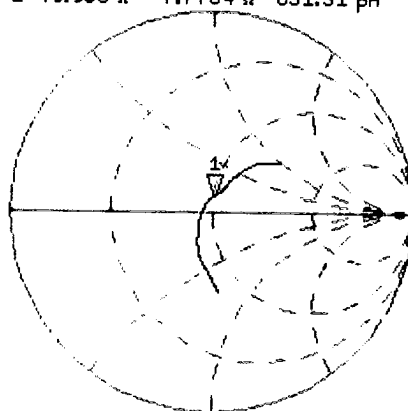


0 dB = 14.7 W/kg = 11.67 dBW/kg

Impedance Measurement Plot for Body TSL

21 Mar 2016 14:05:05
CH1 S11 1 U FS 1: 49.963 Ω 7.7754 Ω 651.31 μH 1 900.000 000 MHz

*
 Del
 CA



Avg
 16

H1d

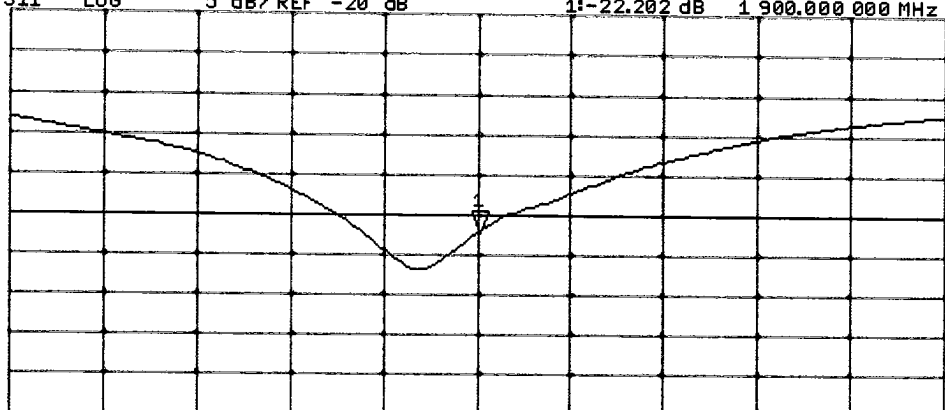
CH2 S11 LOG 5 dB/REF -20 dB 1: -22.202 dB 1 900.000 000 MHz

Del

CA

Avg
 16

H1d



START 1 700.000 000 MHz

STOP 2 100.000 000 MHz



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 0108**

Client **Sporton-TW (Auden)**

Certificate No: **D2300V2-1006_Jan16**

CALIBRATION CERTIFICATE

Object **D2300V2 - SN:1006**

Calibration procedure(s) **QA CAL-05.v9**
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: **January 21, 2016**

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	07-Oct-15 (No. 217-02222)	Oct-16
Power sensor HP 8481A	US37292783	07-Oct-15 (No. 217-02222)	Oct-16
Power sensor HP 8481A	MY41092317	07-Oct-15 (No. 217-02223)	Oct-16
Reference 20 dB Attenuator	SN: 5058 (20k)	01-Apr-15 (No. 217-02131)	Mar-16
Type-N mismatch combination	SN: 5047.2 / 06327	01-Apr-15 (No. 217-02134)	Mar-16
Reference Probe EX3DV4	SN: 7349	31-Dec-15 (No. EX3-7349_Dec15)	Dec-16
DAE4	SN: 601	30-Dec-15 (No. DAE4-601_Dec15)	Dec-16

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100972	15-Jun-15 (in house check Jun-15)	In house check: Jun-18
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-15)	In house check: Oct-16

Calibrated by: **Leif Klysner** **Leif Klysner** **Laboratory Technician**

Approved by: **Katja Pokovic** **Katja Pokovic** **Technical Manager**

Signature

Issued: January 26, 2016

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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 0108**

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 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- 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
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

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	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2300 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.5	1.67 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	38.4 $\pm$ 6 %	1.71 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	12.4 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	48.7 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.87 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	23.2 W/kg $\pm$ 16.5 % (k=2)

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.9	1.81 mho/m
Measured Body TSL parameters	(22.0 $\pm$ 0.2) °C	52.5 $\pm$ 6 %	1.86 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	12.1 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	47.7 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.78 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	22.9 W/kg $\pm$ 16.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	48.3 Ω - 3.2 j Ω
Return Loss	- 28.6 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	45.1 Ω - 2.4 j Ω
Return Loss	- 24.7 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.166 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	December 23, 2006

DASY5 Validation Report for Head TSL

Date: 21.01.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2300 MHz; Type: D2300V2; Serial: D2300V2 - SN:1006

Communication System: UID 0 - CW; Frequency: 2300 MHz

Medium parameters used: $f = 2300$ MHz; $\sigma = 1.71$ S/m; $\epsilon_r = 38.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.99, 7.99, 7.99); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

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 = 113.5 V/m; Power Drift = 0.01 dB

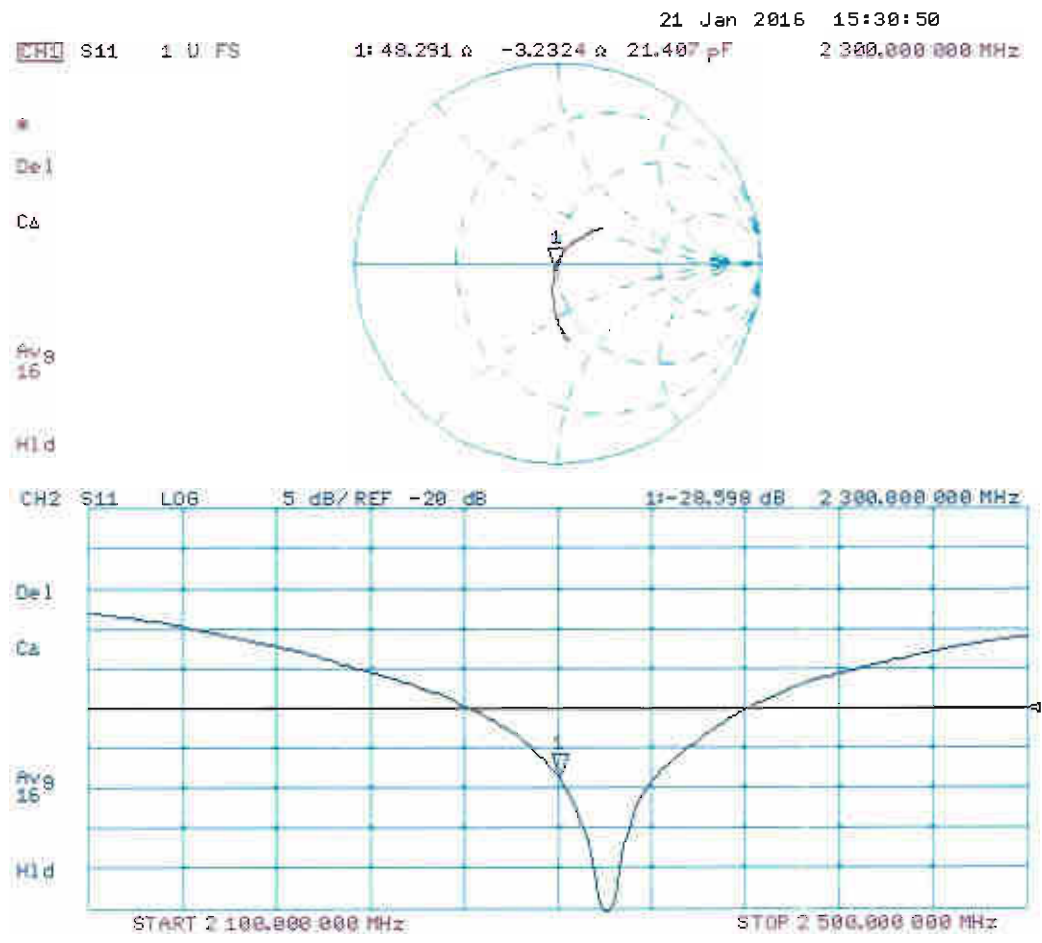
Peak SAR (extrapolated) = 24.8 W/kg

SAR(1 g) = 12.4 W/kg; SAR(10 g) = 5.87 W/kg

Maximum value of SAR (measured) = 20.2 W/kg



Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 21.01.2016

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2300 MHz; Type: D2300V2; Serial: D2300V2 - SN:1006

Communication System: UID 0 - CW; Frequency: 2300 MHz

Medium parameters used: $f = 2300$ MHz; $\sigma = 1.86$ S/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.79, 7.79, 7.79); Calibrated: 31.12.2015;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.12.2015
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1258); SEMCAD X 14.6.10(7372)

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 = 105.9 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 23.3 W/kg

SAR(1 g) = 12.1 W/kg; SAR(10 g) = 5.78 W/kg

Maximum value of SAR (measured) = 19.2 W/kg



0 dB = 19.2 W/kg = 12.83 dBW/kg

Impedance Measurement Plot for Body TSL

