
APPENDIX A: SYSTEM CHECKING SCANS

Date: 2015.06.30

Test Laboratory: SMQ SAR Test

SystemPerformanceCheck-D835 Head

DUT: Dipole 835 MHz D835V2; Type: D835V2;

Communication System: CW; Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.88 \text{ mho/m}$; $\epsilon_r = 41.41$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3203; ConvF(6.55, 6.55, 6.55); Calibrated: 2014.12.19.;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn876; Calibrated: 2015.03.09.
- Phantom: SAM 1; Type: QD000P40CC; Serial: TP:1504
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Head/Dipole835/Area Scan (61x131x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Reference Value = 53.212 V/m ; Power Drift = 0.01 dB

Fast SAR: SAR(1 g) = 2.32 mW/g ; SAR(10 g) = 1.54 mW/g

Maximum value of SAR (interpolated) = 2.52 W/kg

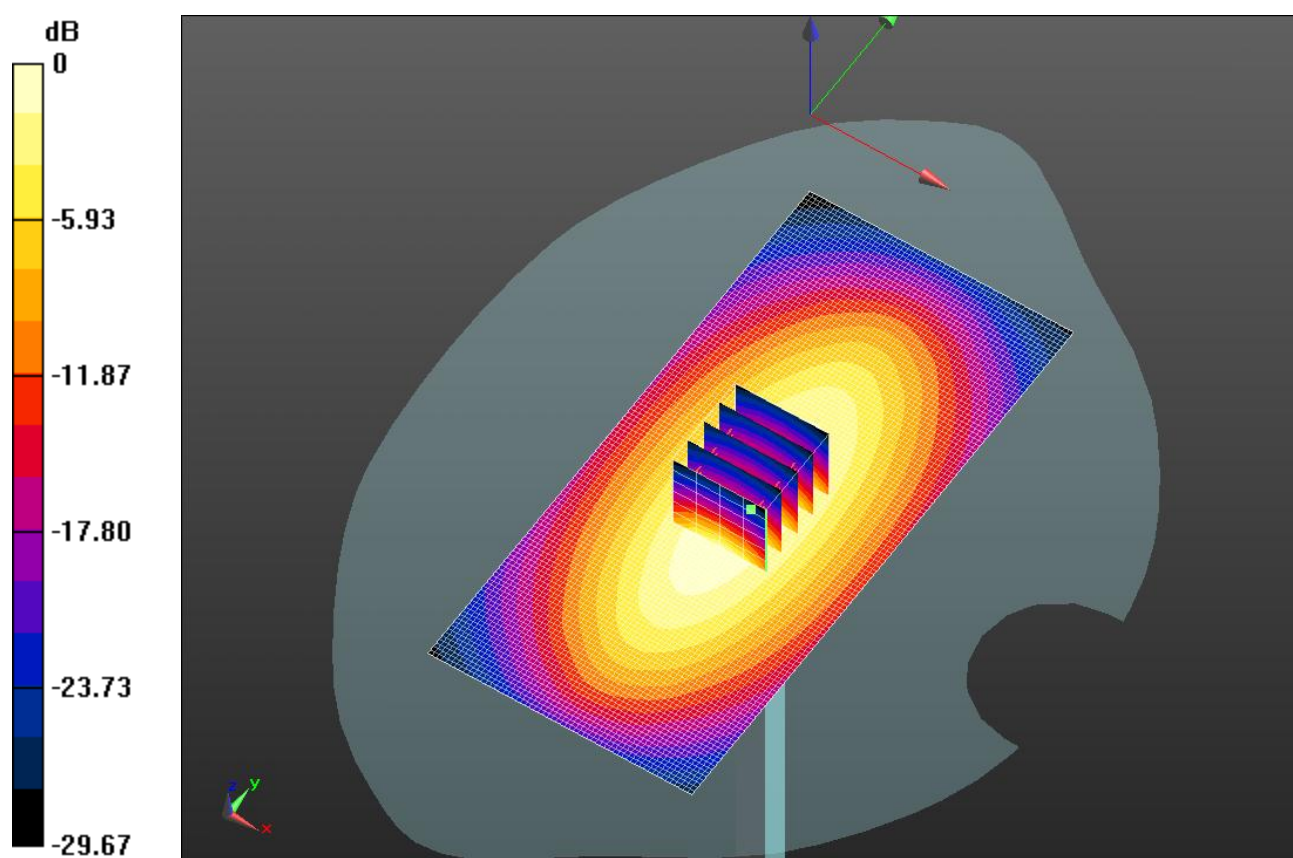
Head/Dipole835/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 53.222 V/m ; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 3.537 mW/g

SAR(1 g) = 2.19 mW/g ; SAR(10 g) = 1.50 mW/g

Maximum value of SAR (measured) = 2.52 W/kg



0 dB = 2.52 W/kg = 8.02 dB W/kg

Date: 2015.06.30

Test Laboratory: SMQ SAR Test

SystemPerformanceCheck-D835 Body

DUT: Dipole 835 MHz D835V2; Type: D835V2;

Communication System: CW; Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.98 \text{ mho/m}$; $\epsilon_r = 55.61$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3203; ConvF(6.2, 6.2, 6.2); Calibrated: 2014.12.19.;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn876; Calibrated: 2015.03.09.
- Phantom: SAM 1; Type: QD000P40CC; Serial: TP:1504
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Body/Dipole835/Area Scan (61x131x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Reference Value = 55.912 V/m ; Power Drift = -0.51 dB

Fast SAR: SAR(1 g) = 2.54 mW/g ; SAR(10 g) = 1.66 mW/g

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

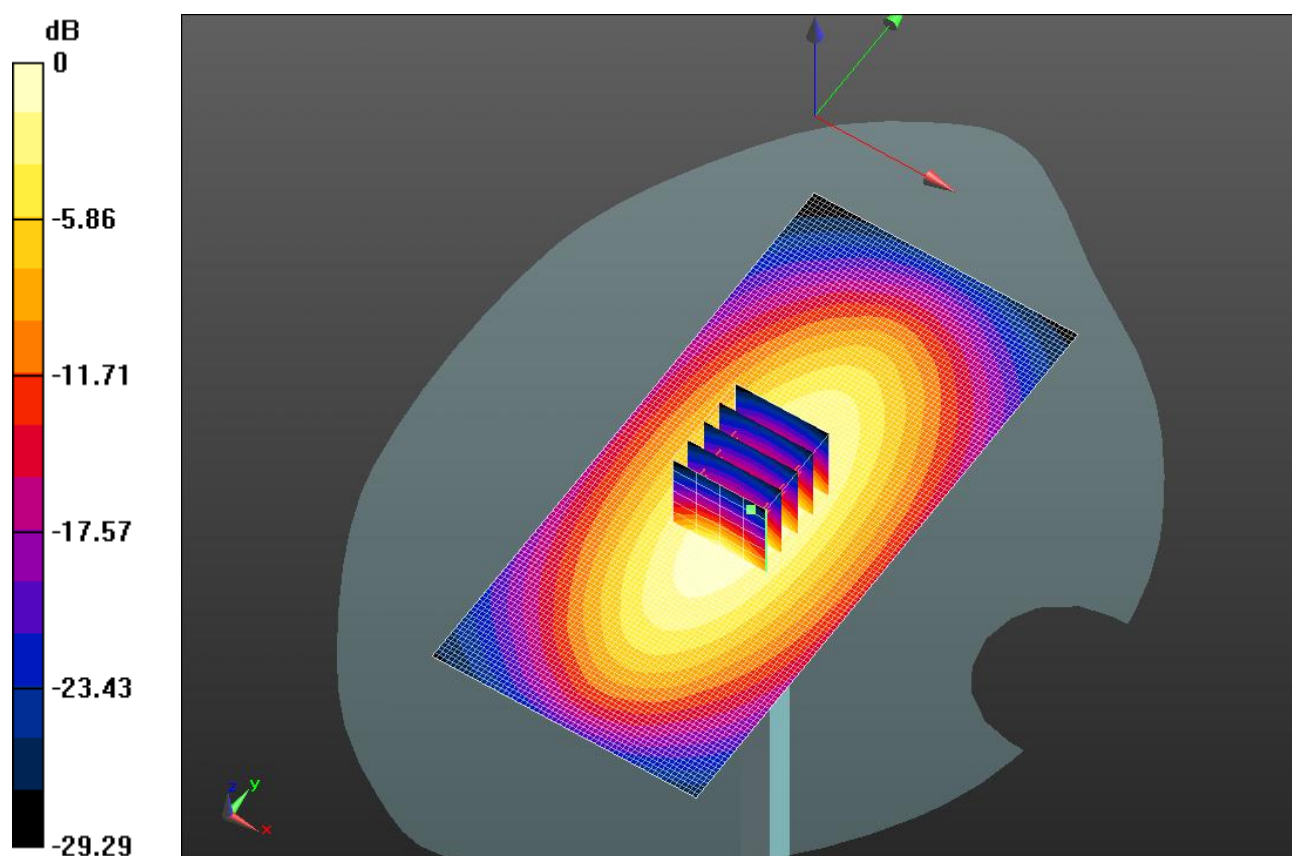
Body/Dipole835/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 55.901 V/m ; Power Drift = -0.51 dB

Peak SAR (extrapolated) = 3.791 mW/g

SAR(1 g) = 2.49 mW/g ; SAR(10 g) = 1.60 mW/g

Maximum value of SAR (measured) = 2.69 W/kg



0 dB = 2.76 W/kg = 8.82 dB W/kg

Date: 2015.07.01.

Test Laboratory: SMQ SAR Test

SystemPerformanceCheck – D1800 Head

DUT: Dipole 1800 MHz D1800V2; Type: D1800V2;

Communication System: CW; Communication System Band: D1800 (1800.0 MHz); Frequency: 1800 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1800$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.17$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3203; ConvF(5.20, 5.20, 5.20); Calibrated: 2014.12.19.;

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- Sensor-Surface: 4mm (Mechanical Surface Detection)
 - Electronics: DAE4 Sn876; Calibrated: 2015.03.09.
 - Phantom: SAM 1; Type: QD000P40CC; Serial: TP:1504
 - Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Head/Dipole1800/Area Scan (61x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 11.1 W/kg

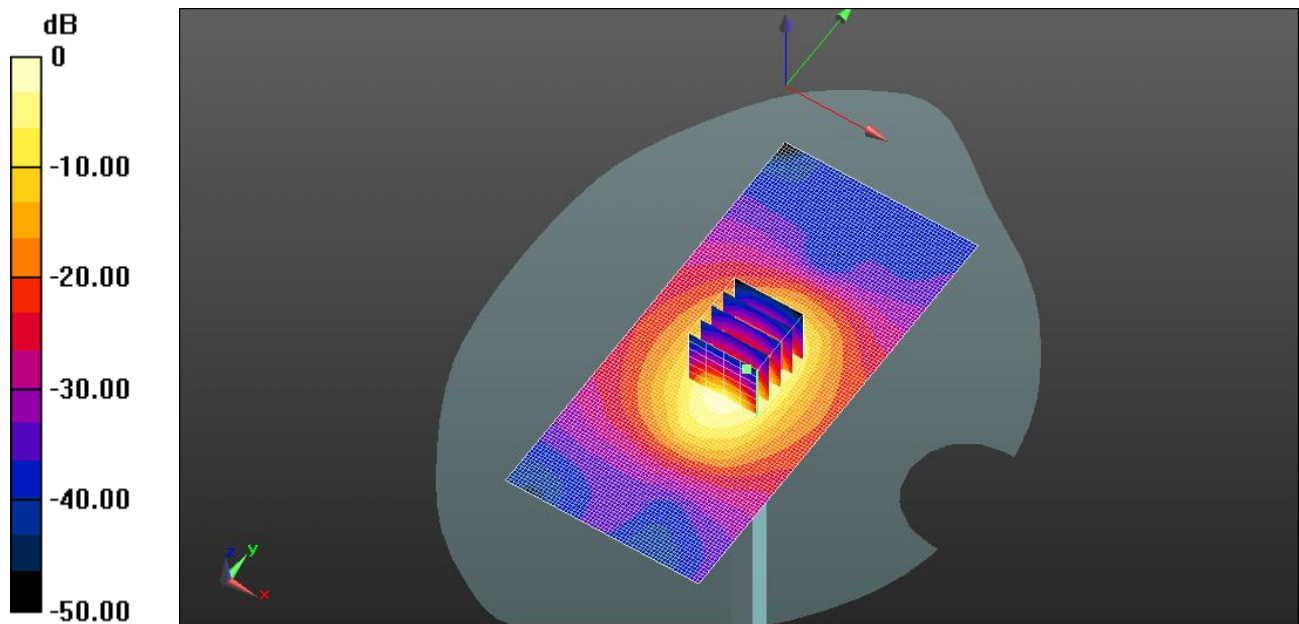
Head/Dipole1800/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 87.499 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 17.043 mW/g

SAR(1 g) = 9.42 mW/g; SAR(10 g) = 4.95 mW/g

Maximum value of SAR (measured) = 10.5 W/kg



0 dB = 11.1 W/kg = 20.89 dB W/kg

Date: 2015.07.01.

Test Laboratory: SMQ SAR Test

SystemPerformanceCheck – D1800 Body

DUT: Dipole 1800 MHz D1800V2; Type: D1800V2;

Communication System: CW; Communication System Band: D1800 (1800.0 MHz); Frequency: 1800 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1800$ MHz; $\sigma = 1.48$ mho/m; $\epsilon_r = 51.39$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3203; ConvF(6.55, 6.55, 6.55); Calibrated: 2014.12.19.;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn876; Calibrated: 2015.03.09.
- Phantom: SAM 1; Type: QD000P40CC; Serial: TP:1504
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Body/Dipole1800/Area Scan (61x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 89.509 V/m; Power Drift = -0.25 dB

Fast SAR: SAR(1 g) = 9.94 mW/g; SAR(10 g) = 5.15 mW/g

Maximum value of SAR (interpolated) = 11.7 W/kg

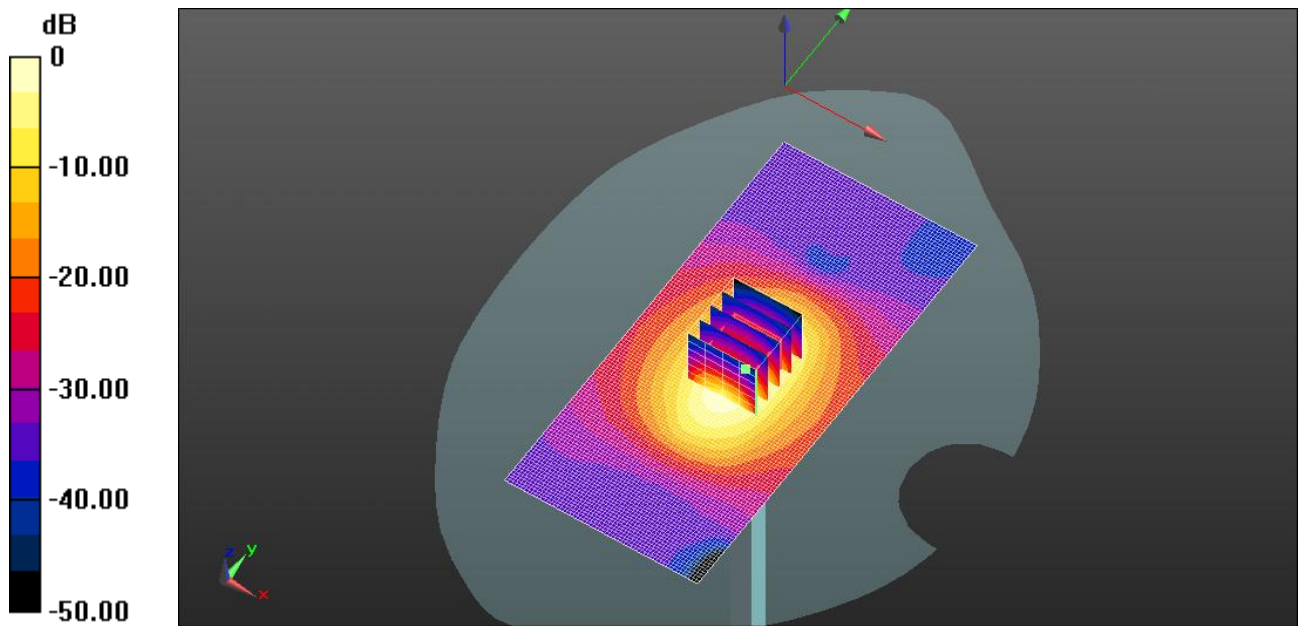
Body/Dipole1800/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 89.509 V/m; Power Drift = -0.25 dB

Peak SAR (extrapolated) = 17.398 mW/g

SAR(1 g) = 9.75 mW/g; SAR(10 g) = 5.15 mW/g

Maximum value of SAR (measured) = 10.9 W/kg



0 dB = 11.7 W/kg = 21.39 dB W/kg

Date: 2015.07.01.

Test Laboratory: SMQ SAR Test

SystemPerformanceCheck-D1900-Head

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2;

Communication System: CW; Communication System Band: D1900 (1900.0 MHz); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.72$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: Ex3DV4- SN3881; ConvF(8.09, 8.09, 8.09); Calibrated: 2014.07.22.;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn876; Calibrated: 2015.03.09.
- Phantom: SAM 1; Type: QD000P40CC; Serial: TP:1504
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Head/Dipole1900/Area Scan (61x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 86.429 V/m; Power Drift = 0.03dB

Fast SAR: SAR(1 g) = 10.1 mW/g; SAR(10 g) = 4.8 mW/g

Maximum value of SAR (interpolated) = 11.9 W/kg

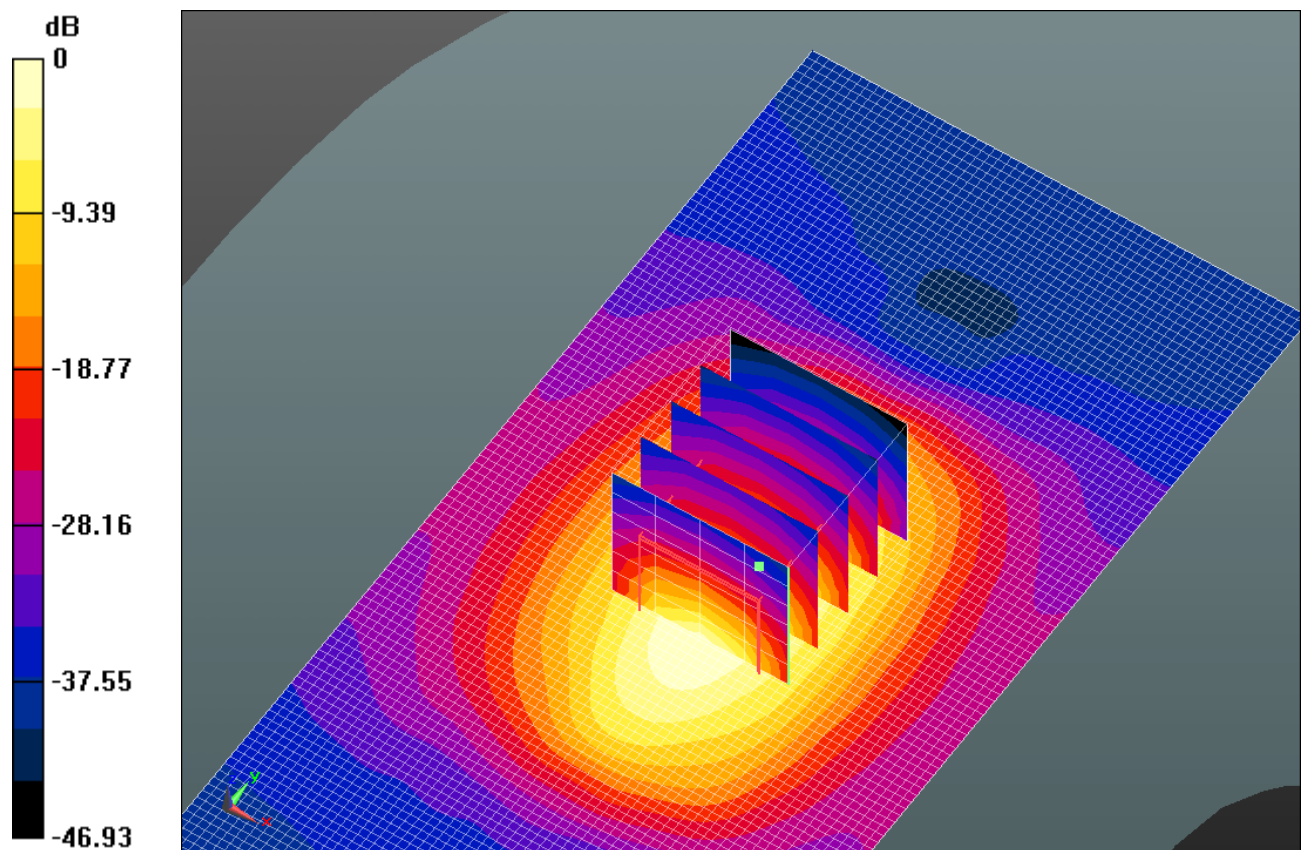
Head/Dipole1900/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 86.469 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 19.751 mW/g

SAR(1 g) = 10.2 mW/g; SAR(10 g) = 5.04 mW/g

Maximum value of SAR (measured) = 11.6 W/kg



0 dB = 11.9 W/kg = 21.50 dB W/kg

Date: 2015.07.01.

Test Laboratory: SMQ SAR Test

SystemPerformanceCheck-D1900-Body

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2;

Communication System: CW; Communication System Band: D1900 (1900.0 MHz); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 51.12$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN3881; ConvF(8.25, 8.25, 8.25); Calibrated: 2014.07.22.;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn876; Calibrated: 2015.03.09.
- Phantom: SAM 1; Type: QD000P40CC; Serial: TP:1504
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Body/Dipole1900 2/Area Scan (61x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 87.234 V/m; Power Drift = 0.04 dB

Fast SAR: SAR(1 g) = 11.04 mW/g; SAR(10 g) = 5.32 mW/g

Maximum value of SAR (interpolated) = 12.9 W/kg

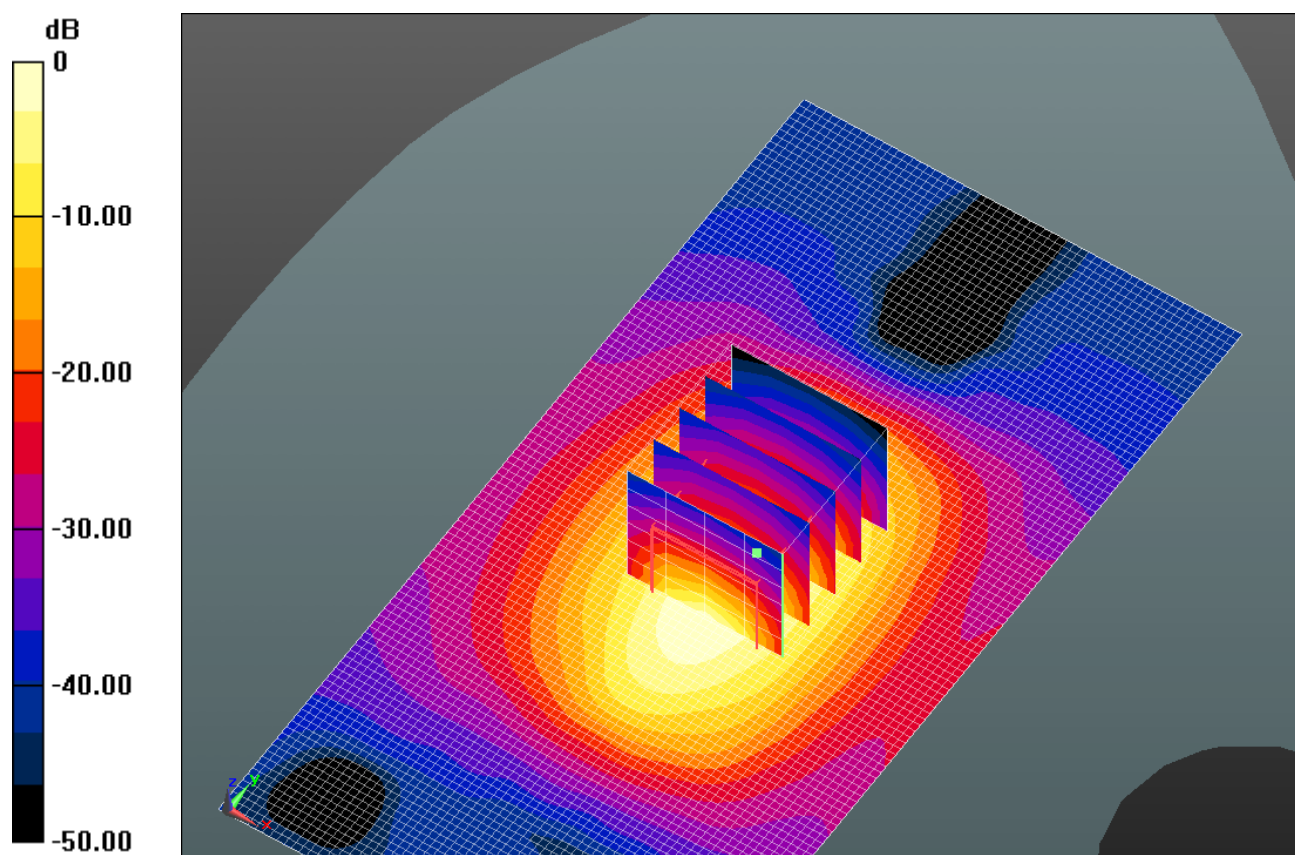
Body/Dipole1900 2/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 87.274 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 21.346 mW/g

SAR(1 g) = 11.1mW/g; SAR(10 g) = 5.50 mW/g

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



0 dB = 12.9 W/kg = 22.24 dB W/kg

SystemPerformanceCheck-D2450-Head

Date: 2015.07.02.

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 – SN:818

Communication System: CW; Communication System Band: Not Specified; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.82$ mho/m; $\epsilon_r = 38.37$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3203; ConvF(4.55, 4.55, 4.55); Calibrated: 2014.12.19.;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn876; Calibrated: 2015.03.09.
- Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:xxxx
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Configuration/d=10mm, Pin=250mW, dist=3.4mm (ES-Probe)/Area

Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 16.9 mW/g

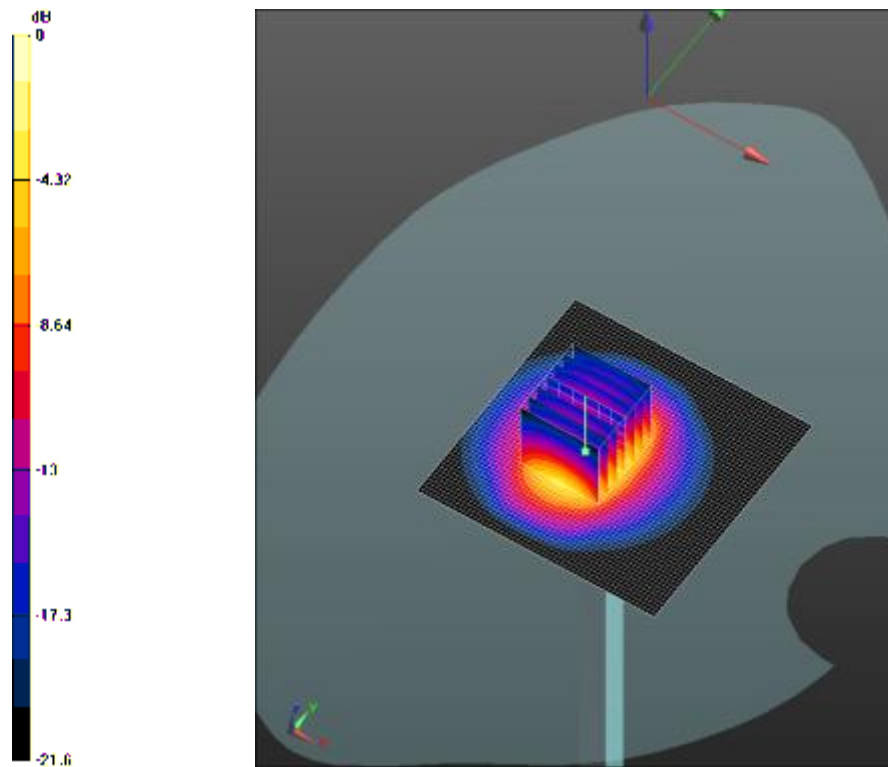
Configuration/d=10mm, Pin=250mW, dist=3.4mm (ES-Probe)/Zoom

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

Reference Value = 94.2 V/m; Power Drift = 0.103 dB

Peak SAR (extrapolated) = 26.3 W/kg

SAR(1 g) = 13.6 mW/g; SAR(10 g) = 6.35 mW/g
Maximum value of SAR (measured) = 16.5 mW/g



Date: 2015.07.02.

Test Laboratory: SMQ SAR Test

SystemPerformanceCheck-D2450-Body

DUT: Dipole 2450 MHz D2450V2; Type: D2450V2;

Communication System: CW; Communication System Band: D2450 (2450.0 MHz); Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2450$ MHz; $\sigma = 2.01$ mho/m; $\epsilon_r = 50.59$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3203; ConvF(4.55, 4.55, 4.55); Calibrated: 2014.12.19.;
- Sensor-Surface: 4mm (Mechanical Surface Detection)

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- Electronics: DAE4 Sn876; Calibrated: 2015.03.09.
 - Phantom: ELI v4.0; Type: QDOVA001BB; Serial: TP:xxxx
 - Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Body/Dipole2450/Area Scan (91x161x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 92.222 V/m; Power Drift = 0.00 dB

Fast SAR: SAR(1 g) = 14.12mW/g; SAR(10 g) = 6.22 mW/g

Maximum value of SAR (interpolated) = 17.3 W/kg

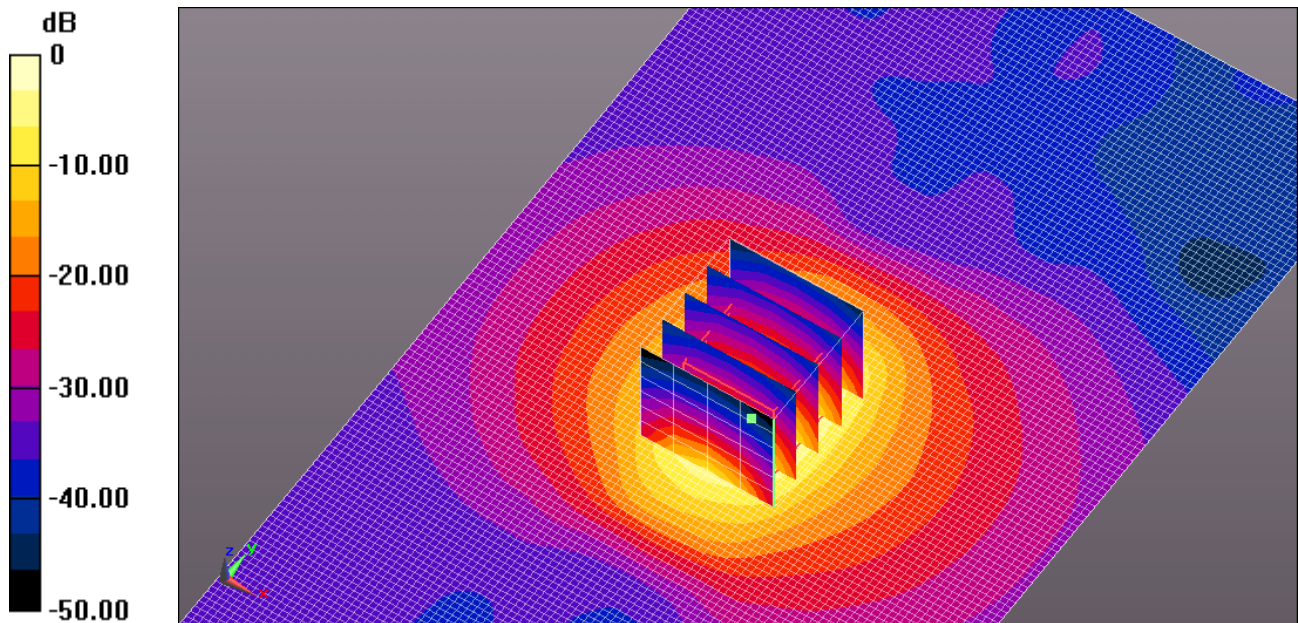
Body/Dipole2450/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 92.292 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 33.353 mW/g

SAR(1 g) = 13.74mW/g; SAR(10 g) = 6.21 mW/g

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



0 dB = 17.3 W/kg = 24.78 dB W/kg