

APPENDIX A: SYSTEM CHECKING SCANS

SystemPerformanceCheck-D750 for Head

Date:2015.08.31

DUT: Dipole 750 MHz D750V3; Type: D750V3 SN:1103;

Communication System: CW; Communication System Band: D750 (750.0 MHz); Frequency: 750 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 750$ MHz; $\sigma = 0.96$ mho/m; $\epsilon_r = 41.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3203; ConvF(8.54, 8.54, 8.54); Calibrated: 2014.11.03.;
- 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/Dipole750/Area Scan (61x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 53.222 V/m; Power Drift = 0.00 dB

Fast SAR: SAR(1 g) = 2.13 mW/g; SAR(10 g) = 1.33 mW/g

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

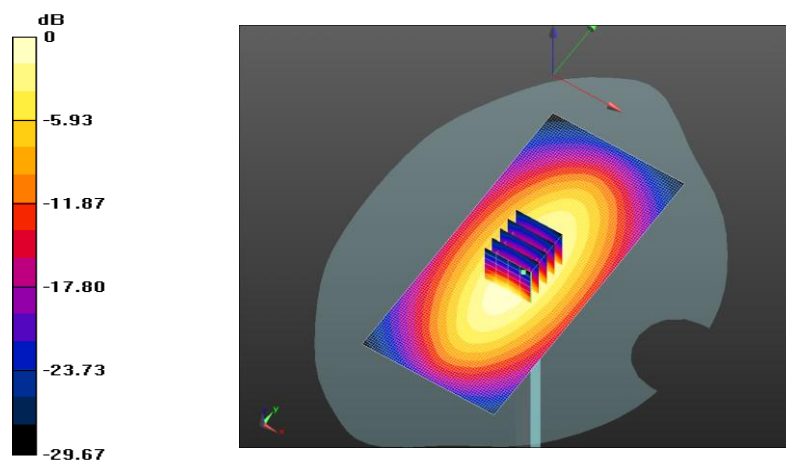
Head/Dipole750/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 53.222 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 3.557 mW/g

SAR(1 g) = 2.13 mW/g; SAR(10 g) = 1.31 mW/g

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



$$0 \text{ dB} = 2.52 \text{ W/kg} = 8.02 \text{ dB W/kg}$$

SystemPerformanceCheck-D750 for Body

Date:2015.08.31

DUT: Dipole 750 MHz D750V2; Type: D750V3 SN:1103;

Communication System: CW; Communication System Band: D750 (750.0 MHz); Frequency: 750 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 750$ MHz; $\sigma = 0.97$ mho/m; $\epsilon_r = 55.46$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3203; ConvF(6.75, 6.75, 6.75); Calibrated: 2014.11.03.;
- 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/Dipole 750MHz /Area Scan (61x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 54.872 V/m; Power Drift = 0.01 dB

Fast SAR: SAR(1 g) = 2.38 mW/g; SAR(10 g) = 1.35 mW/g

Maximum value of SAR (interpolated) = 3.02 W/kg

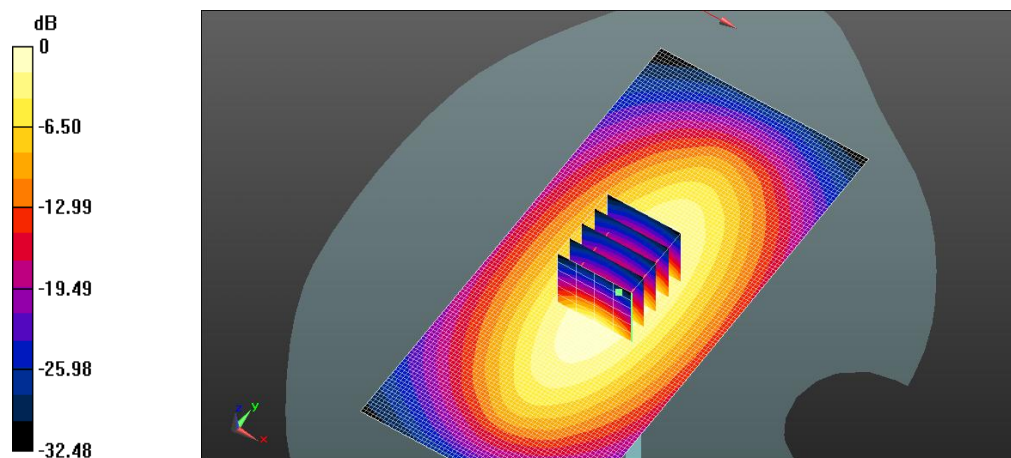
Body/Dipole 750MHz /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 54.872 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 4.270 mW/g

SAR(1 g) = 2.24 mW/g; SAR(10 g) = 1.3 mW/g

Maximum value of SAR (measured) = 3.03 W/kg



0 dB = 3.02 W/kg = 9.61 dB W/kg

SystemPerformanceCheck-D835 for Head

Date:2015.08.28

DUT: Dipole 835 MHz D835V2; Type: D835V2 SN:4d141;

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

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.89 \text{ mho/m}$; $\epsilon_r = 41.3$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3203; ConvF(8.54, 8.54, 8.54); 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 = 53.502 V/m; Power Drift = 0.01 dB

Fast SAR: SAR(1 g) = 2.35 mW/g; SAR(10 g) = 1.55 mW/g

Maximum value of SAR (interpolated) = 2.54 W/kg

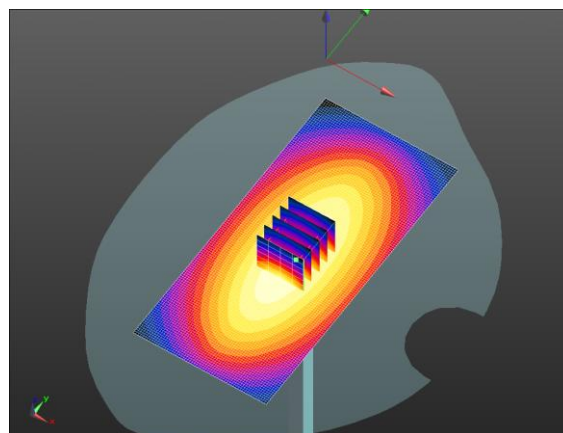
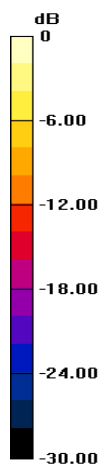
Head/Dipole835 /Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 53.502 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 3.605 mW/g

SAR(1 g) = 2.46 mW/g; SAR(10 g) = 1.63 mW/g

Maximum value of SAR (measured) = 2.56 W/kg



0 dB = 2.54 W/kg = 8.11 dB W/kg

SystemPerformanceCheck-D835 for Body

Date:2015.08.28

DUT: Dipole 835 MHz D835V2; Type: D835V2 SN:4d141;

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

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.98 \text{ mho/m}$; $\epsilon_r = 56.1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3203; ConvF(8.68, 8.68, 8.68); 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 = 52.361 V/m; Power Drift = -0.04 dB

Fast SAR: SAR(1 g) = 2.42 mW/g; SAR(10 g) = 1.59 mW/g

Maximum value of SAR (interpolated) = 2.62 W/kg

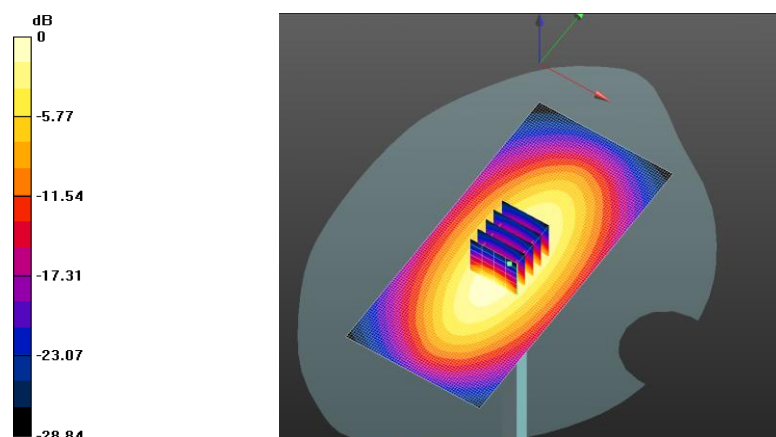
Body/Dipole835 /Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 52.361 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 3.682 mW/g

SAR(1 g) = 2.48 mW/g; SAR(10 g) = 1.62 mW/g

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



0 dB = 2.62 W/kg = 8.36 dB W/kg

SystemPerformanceCheck-D1750 for Head

Date:2015.08.28

DUT: Dipole 1750 MHz D1750V2; Type: D1750V2 SN:1108;

Communication System: CW; Communication System Band: D1750 (1750.0 MHz); Frequency: 1750 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1750$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 40.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3203; ConvF(5.41, 5.41, 5.41); 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/Dipole1750MHz/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 87.103 V/m; Power Drift = 0.04 dB

Fast SAR: SAR(1 g) = 9.69 mW/g; SAR(10 g) = 5.02 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

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

Head/Dipole1750MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

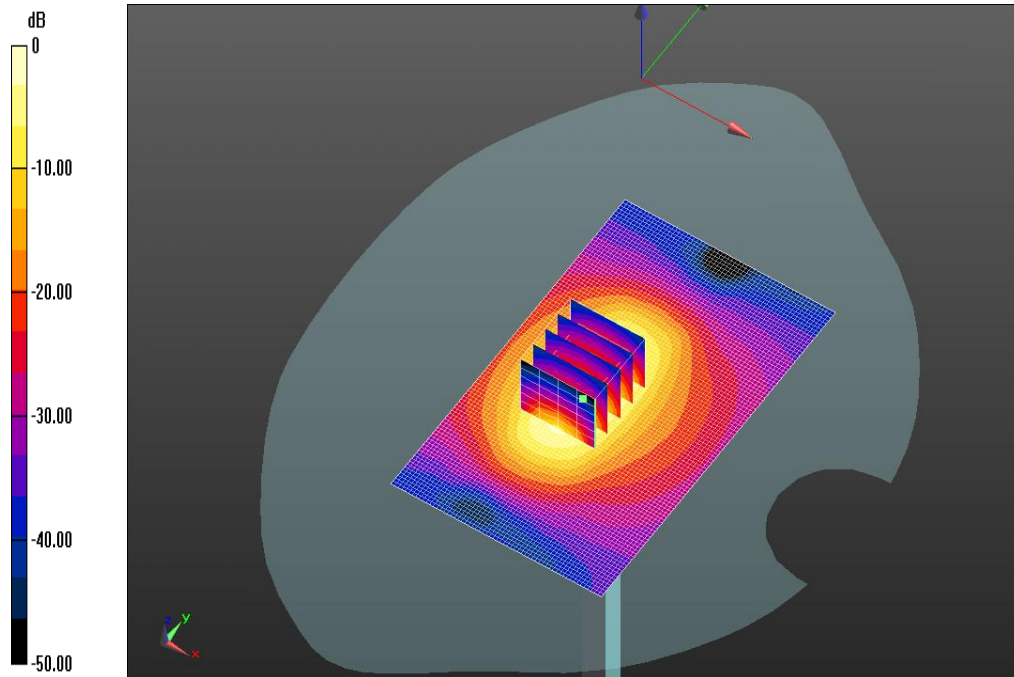
Reference Value = 87.103 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 16.962 mW/g

SAR(1 g) = 9.6 mW/g; SAR(10 g) = 5.04 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

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



0 dB = 11.9 W/kg = 21.51 dB W/kg

SystemPerformanceCheck-D1750 for Body

Date:2015.08.28

DUT: Dipole 1750 MHz D1750V2; Type: D1750V2 SN:1108;

Communication System: CW; Communication System Band: D1750 (1750.0 MHz); Frequency: 1750 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1750$ MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 53.45$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3203; ConvF(5.12, 5.12, 5.12); 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/Dipole1750MHz/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 89.117 V/m; Power Drift = 0.05 dB

Fast SAR: SAR(1 g) = 9.86 mW/g; SAR(10 g) = 5.16 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (interpolated) = 12.0 W/kg

Body/Dipole1750MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

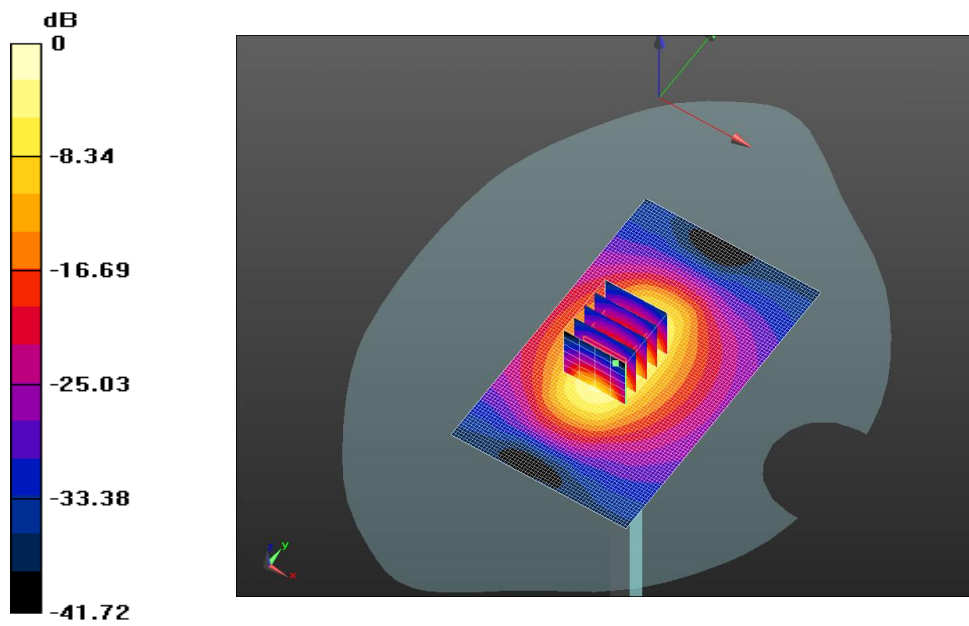
Reference Value = 89.117 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 16.474 mW/g

SAR(1 g) = 9.71 mW/g; SAR(10 g) = 5.22 mW/g

[Info: Interpolated medium parameters used for SAR evaluation.](#)

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



0 dB = 12.0 W/kg = 21.58 dB W/kg

SystemPerformanceCheck-D1900 for Head

Date:2015.09.01

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2 SN:5d162;

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.41$ mho/m; $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3203; ConvF(5.23, 5.23, 5.23); Calibrated: 2015.07.24.;
- 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 = 87.742 V/m; Power Drift = 0.05 dB

Fast SAR: SAR(1 g) = 10 mW/g; SAR(10 g) = 5.26 mW/g

Maximum value of SAR (interpolated) = 11.5 W/kg

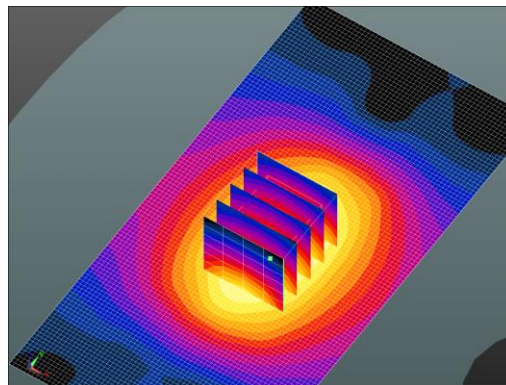
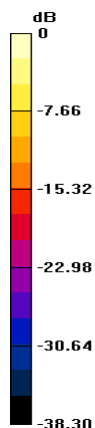
Head/Dipole1900 /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 87.742 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 19.018 mW/g

SAR(1 g) = 9.94 mW/g; SAR(10 g) = 5.04 mW/g

Maximum value of SAR (measured) = 11.0 W/kg



$$0 \text{ dB} = 11.5 \text{ W/kg} = 21.24 \text{ dB W/kg}$$

SystemPerformanceCheck-D1900 for Body

Date:2015.09.01

DUT: Dipole 1900 MHz D1900V2; Type: D1900V2 SN:5d162;

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

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

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3203; ConvF(4.7, 4.7, 4.7); Calibrated: 2015.07.24.;
- 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 /Area Scan (61x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 86.711 V/m; Power Drift = 0.09 dB

Fast SAR: SAR(1 g) = 10.5 mW/g; SAR(10 g) = 4.94 mW/g

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

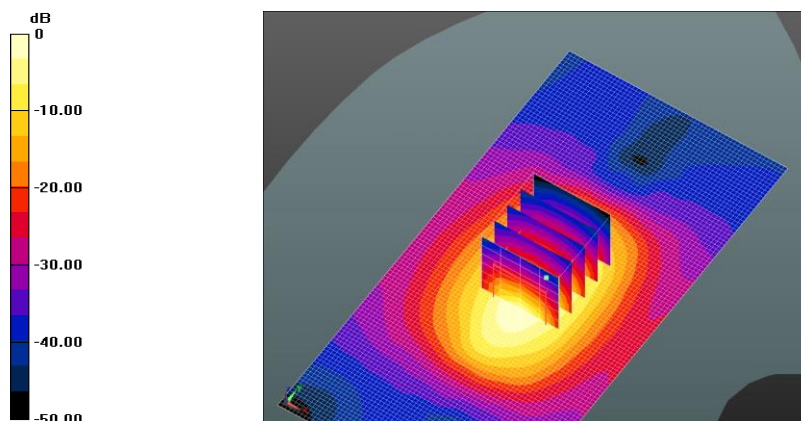
Body/Dipole1900 /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 86.711 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 21.345 mW/g

SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.01 mW/g

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



0 dB = 13.0 W/kg = 22.25 dB W/kg

SystemPerformanceCheck-D2450 for Head

Date:2015.09.01

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

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

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.79$ mho/m; $\epsilon_r = 39.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3203; ConvF(6.63, 6.63, 6.63); 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)

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

Reference Value = 94.182 V/m; Power Drift = -0.02 dB

Fast SAR: SAR(1 g) = 13.4 mW/g; SAR(10 g) = 5.76 mW/g

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

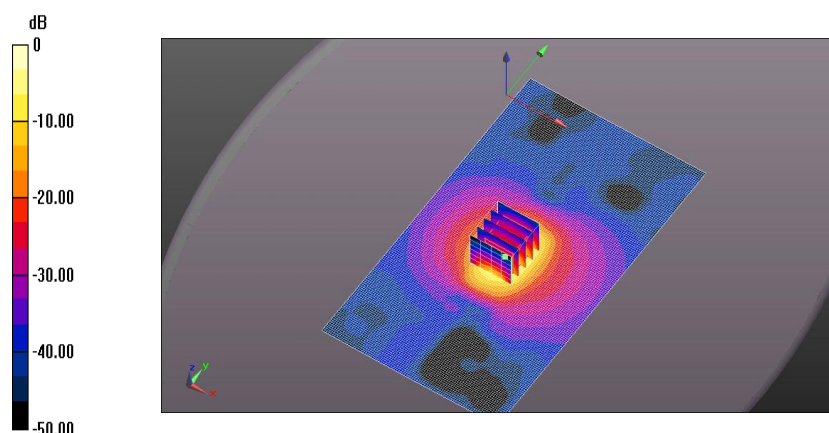
Head/Dipole2450 /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 94.182 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 35.898 mW/g

SAR(1 g) = 13.9 mW/g; SAR(10 g) = 5.86 mW/g

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



$$0 \text{ dB} = 17.0 \text{ W/kg} = 24.61 \text{ dB W/kg}$$

SystemPerformanceCheck-D2450 for Body

Date:2015.09.01

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

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

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.94$ mho/m; $\epsilon_r = 53.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3203; ConvF(4.28, 4.28, 4.28); 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)

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

Reference Value = 85.831 V/m; Power Drift = -0.08 dB

Fast SAR: SAR(1 g) = 12.3 mW/g; SAR(10 g) = 5.62 mW/g

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

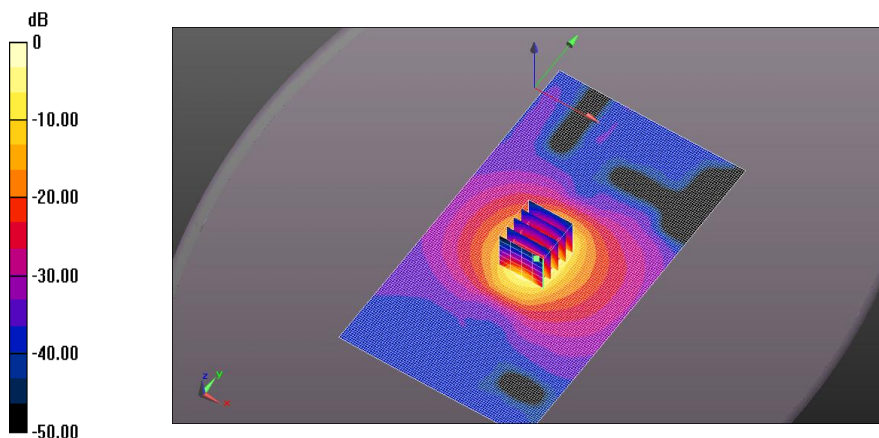
Body/Dipole2450 /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 85.831 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 28.900 mW/g

SAR(1 g) = 12.8 mW/g; SAR(10 g) = 5.72 mW/g

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



$$0 \text{ dB} = 14.9 \text{ W/kg} = 23.47 \text{ dB W/kg}$$

