

APPENDIX A: SYSTEM CHECKING SCANS

SystemPerformanceCheck-D835 for Head

Date:2015.08.17

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: $f = 835 \text{ MHz}$; $\sigma = 0.91 \text{ mho/m}$; $\epsilon_r = 41.1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASYS (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: DASYS2, 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 = 58.063 V/m; Power Drift = -0.82 dB

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

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

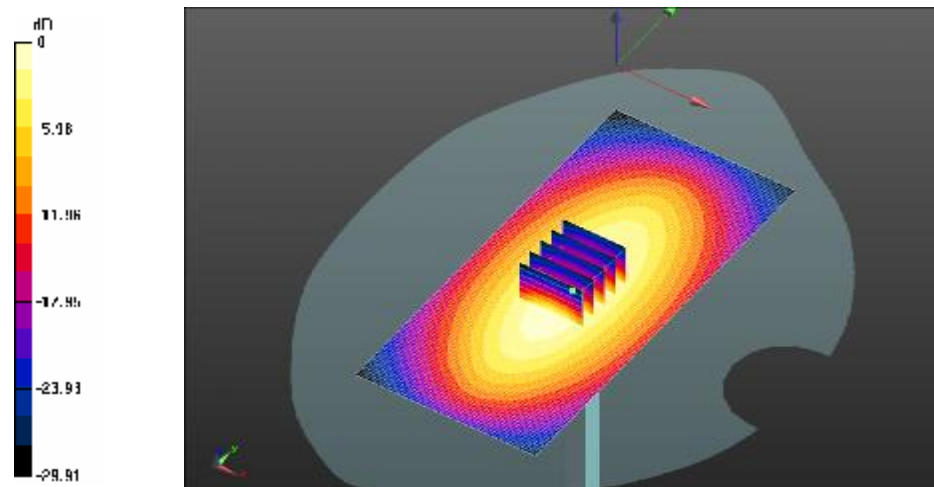
Head/Dipole835/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 58.063 V/m; Power Drift = -0.82 dB

Peak SAR (extrapolated) = 3.527 mW/g

SAR(1 g) = 2.3 mW/g; SAR(10 g) = 1.49 mW/g

Maximum value of SAR (measured) = 2.50 W/kg



0 dB = 2.52 W/kg = 8.04 dB W/kg

SystemPerformanceCheck-D835 for Body

Date:2015.08.17

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: DASYS (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: DASYS2, 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 = 52.934 V/m; Power Drift = -0.06 dB

Fast SAR: SAR(1 g) = 2.43 mW/g; SAR(10 g) = 1.6 mW/g

Maximum value of SAR (interpolated) = 2.63 W/kg

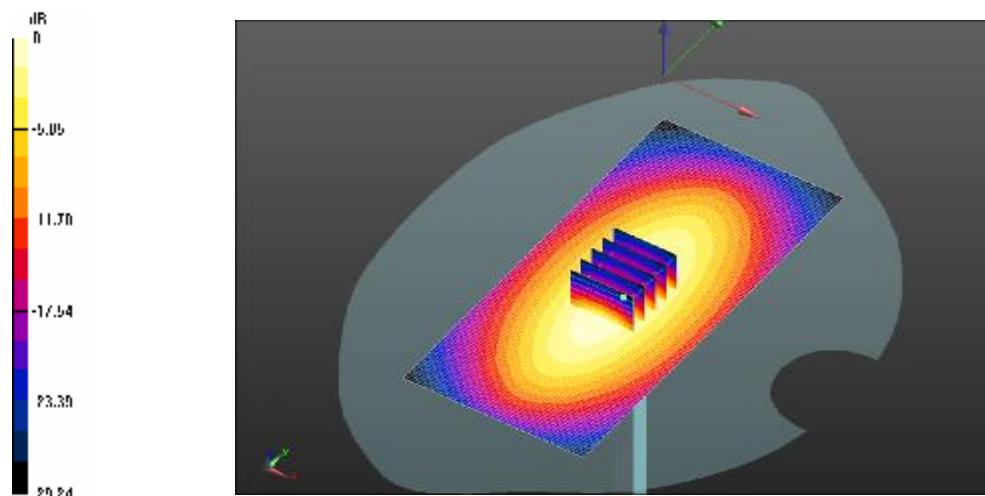
Body/Dipole835 /Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 52.934 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 3.723 mW/g

SAR(1 g) = 2.44 mW/g; SAR(10 g) = 1.58 mW/g

Maximum value of SAR (measured) = 2.64 W/kg



0 dB = 2.63 W/kg = 8.40 dB W/kg

SystemPerformanceCheck-D1800 for Head

Date:2015.08.17

DUT: Dipole 1800 MHz D1800V2; Type: D1800V2 SN:2d171

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

Medium parameters used: $f = 1800$ MHz; $\sigma = 1.41$ 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(5.31, 5.31, 5.31); 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/Dipole1800/Area Scan (61x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 87.799 V/m; Power Drift = -0.00 dB

Fast SAR: SAR(1 g) = 9.39 mW/g; SAR(10 g) = 4.89 mW/g

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

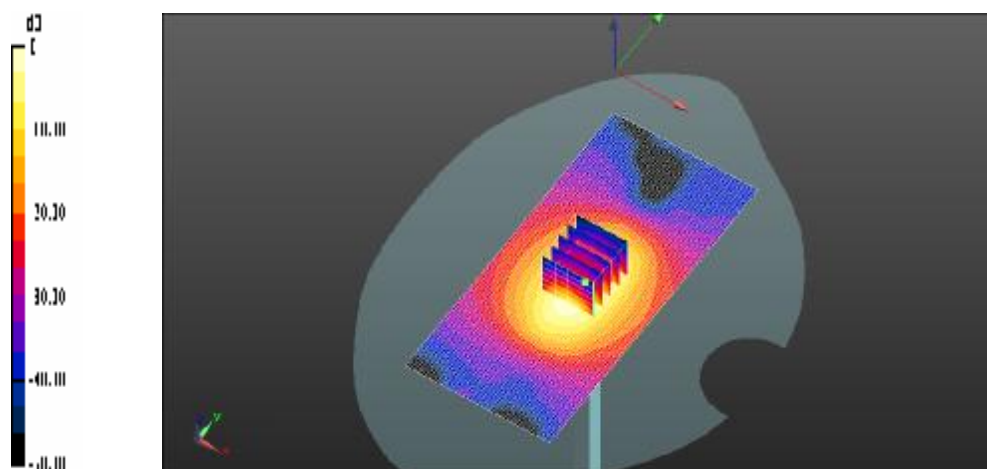
Head/Dipole1800/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 87.799 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 16.933 mW/g

SAR(1 g) = 9.39 mW/g; SAR(10 g) = 4.94 mW/g

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



0 dB = 11.1 W/kg = 20.88 dB W/kg

SystemPerformanceCheck-D1800 for Body

Date:2015.08.17

DUT: Dipole 1800 MHz D1800V2; Type: D1800V2 SN:2d171

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

Medium parameters used: $f = 1800$ MHz; $\sigma = 1.50$ mho/m; $\epsilon_r = 53.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3203; ConvF(4.82, 4.82, 4.82); 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 = 87.054 V/m; Power Drift = -0.04 dB

Fast SAR: SAR(1 g) = 9.84 mW/g; SAR(10 g) = 5.09 mW/g

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

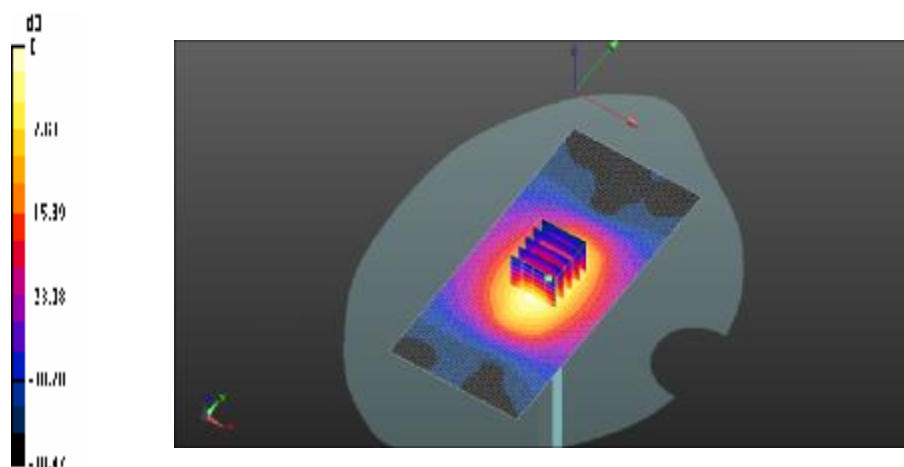
Body/Dipole1800/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 87.054 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 17.305 mW/g

SAR(1 g) = 9.65 mW/g; SAR(10 g) = 5.08 mW/g

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



$$0 \text{ dB} = 11.6 \text{ W/kg} = 21.31 \text{ dB W/kg}$$

SystemPerformanceCheck-D1900 for Head

Date:2015.08.17

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; $\sigma = 1.42$ mho/m; $\epsilon_r = 41.0$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: ES3DV4 - SN3881; 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 = 87.472 V/m; Power Drift = 0.08 dB

Fast SAR: SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.01 mW/g

Maximum value of SAR (interpolated) = 12.2 W/kg

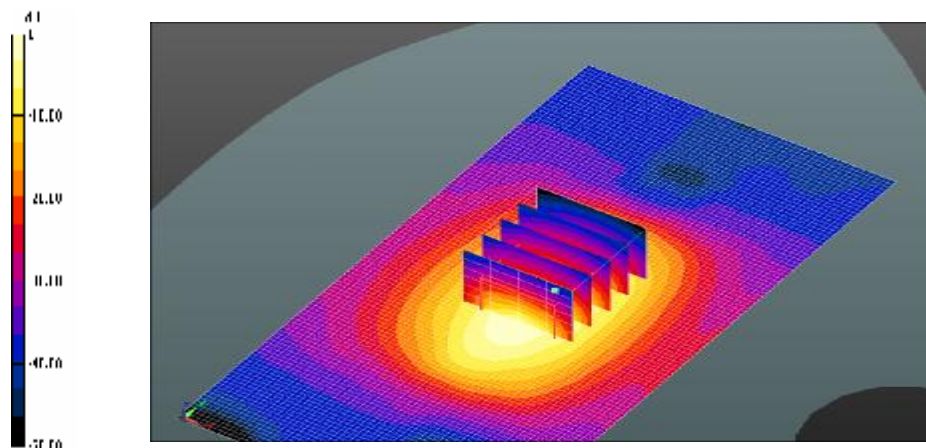
Head/Dipole1900/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 87.472 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 20.329 mW/g

SAR(1 g) = 10.4 mW/g; SAR(10 g) = 5.12 mW/g

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



0 dB = 12.2 W/kg = 21.69 dB W/kg

SystemPerformanceCheck-D1900 for Body

Date:2015.08.17

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; $\sigma = 1.58$ mho/m; $\epsilon_r = 54.0$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: ES3DV4 - SN3881; 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 = 86.853 V/m; Power Drift = 0.08 dB

Fast SAR: SAR(1 g) = 11 mW/g; SAR(10 g) = 5.36 mW/g

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

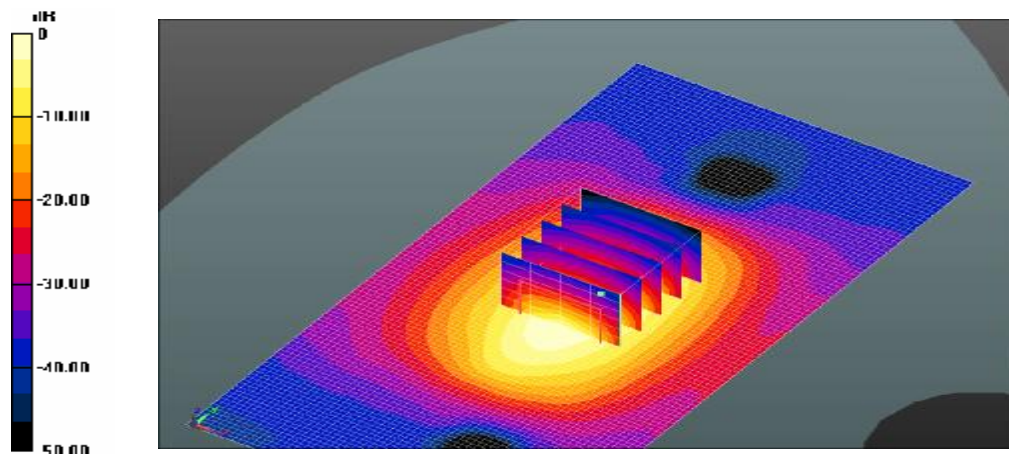
Body/Dipole1900/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 86.853 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 21.380 mW/g

SAR(1 g) = 10.9 mW/g; SAR(10 g) = 5.5 mW/g

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



0 dB = 13.0 W/kg = 22.27 dB W/kg

SystemPerformanceCheck-D2450 for Head

Date:2015.08.17

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; $\epsilon_r = 40.0$; $\rho = 1000$ 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 = 94.235 V/m; Power Drift = -0.02 dB

Fast SAR: SAR(1 g) = 13.5 mW/g; SAR(10 g) = 5.79 mW/g

Maximum value of SAR (interpolated) = 17.1 W/kg

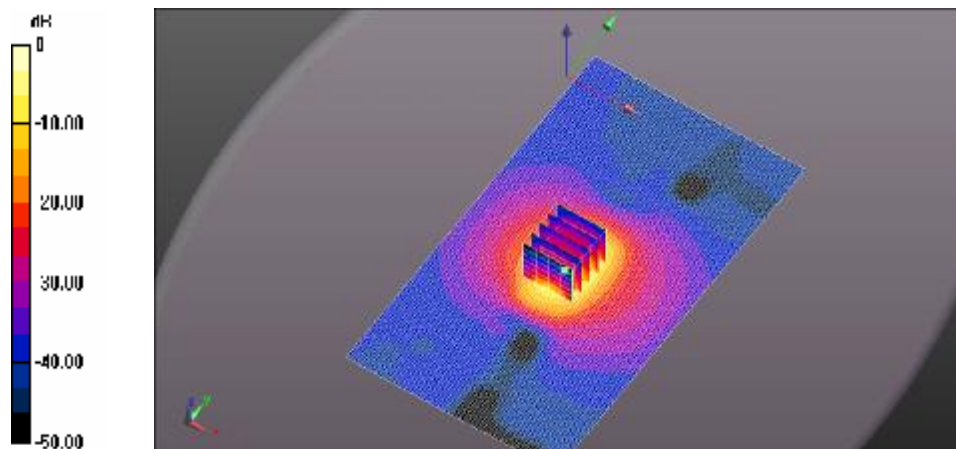
Head/Dipole2450/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 94.235 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 35.749 mW/g

SAR(1 g) = 14.2 mW/g; SAR(10 g) = 5.87 mW/g

Maximum value of SAR (measured) = 16.0 W/kg



0 dB = 17.1 W/kg = 24.66 dB W/kg

SystemPerformanceCheck-D2450 for Body

Date:2015.08.17

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; $\sigma = 1.96$ 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 = 86.618 V/m; Power Drift = -0.02 dB

Fast SAR: SAR(1 g) = 12.7 mW/g; SAR(10 g) = 5.79 mW/g

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

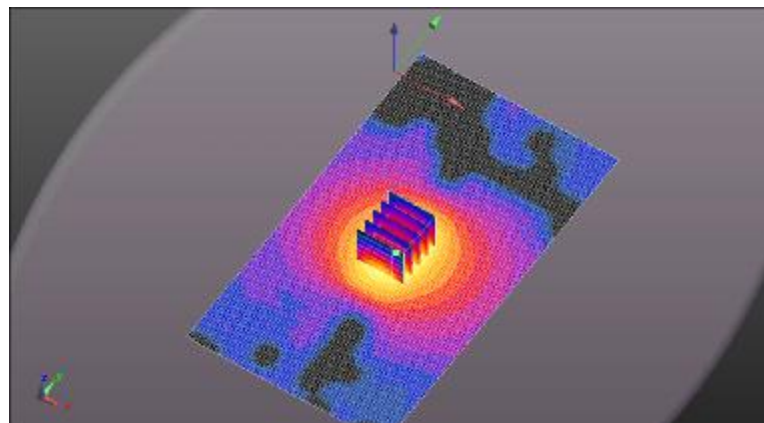
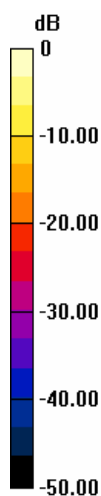
Body/Dipole2450/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 86.618 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 30.135 mW/g

SAR(1 g) = 13.3 mW/g; SAR(10 g) = 5.81 mW/g

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



0 dB = 15.3 W/kg = 23.69 dB W/kg

SystemPerformanceCheck-D2600 for Head

Date:2015.08.17

DUT: Dipole 2600 MHz D2600V2; Type: D2600V2 SN:1074

Communication System: CW; Communication System Band: D2600 (2600.0 MHz); Frequency: 2600 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 2560$ MHz; $\sigma = 1.99$ mho/m; $\epsilon_r = 39.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3881; ConvF(6.66, 6.66, 6.66); Calibrated: 2011.11.03.;
- 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/Dipole2600MHz/Area Scan (61x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 88.949 V/m; Power Drift = 0.02 dB

Fast SAR: SAR(1 g) = 14.2 mW/g; SAR(10 g) = 6.92 mW/g

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

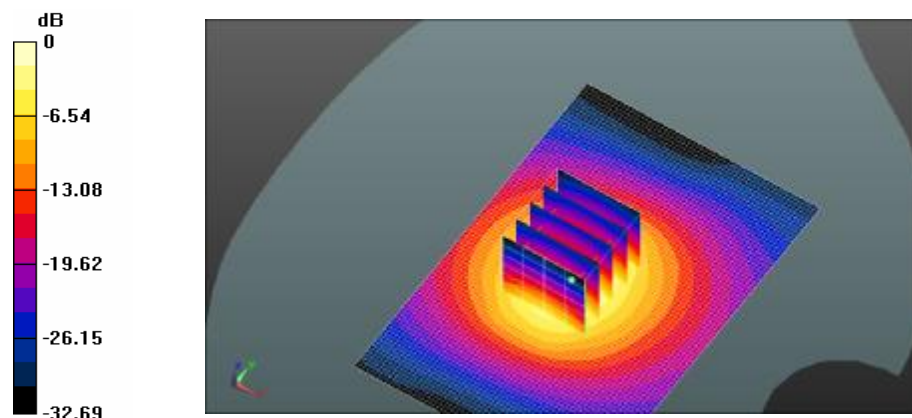
Head/Dipole2600MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 88.949 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 31.828 mW/g

SAR(1 g) = 14.2 mW/g; SAR(10 g) = 6.68 mW/g

Maximum value of SAR (measured) = 15.6 W/kg



0 dB = 17.0 W/kg = 24.61 dB W/kg

SystemPerformanceCheck-D2600 for Body

Date:2015.08.17

DUT: Dipole 2600 MHz D2600V2; Type: D2600V2 SN:1074

Communication System: CW; Communication System Band: D2600 (2600.0 MHz); Frequency: 2600 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 2560$ MHz; $\sigma = 1.70$ mho/m; $\epsilon_r = 51.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3881; ConvF(6.66, 6.66, 6.66); 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: DASYS2, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Body/Dipole2600MHz/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 85.269 V/m; Power Drift = -0.01 dB

Fast SAR: SAR(1 g) = 12.7 mW/g; SAR(10 g) = 6.26 mW/g

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

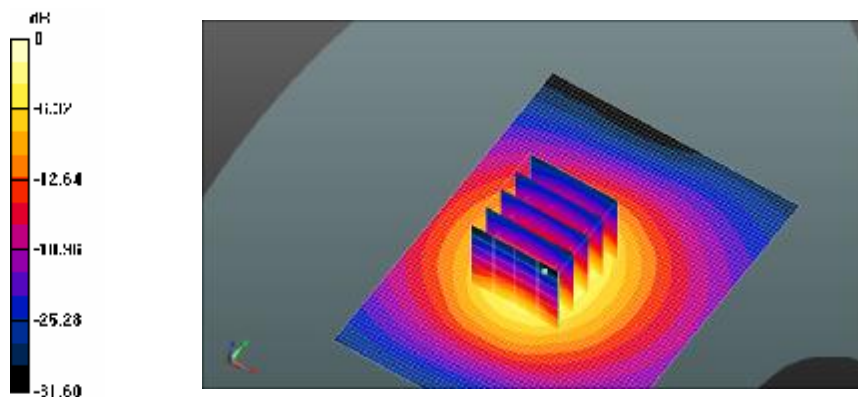
Body/Dipole2600MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 85.269 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 28.739 mW/g

SAR(1 g) = 12.9 mW/g; SAR(10 g) = 6.06 mW/g

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



0 dB = 14.9 W/kg = 23.48 dB W/kg