

APPENDIX A: SYSTEM CHECKING SCANS

SystemPerformanceCheck-D835 for Body

Date: 2018.03.26

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

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.95$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration: Probe: EX3DV4 - SN3881; ConvF(9.53, 9.53, 9.53); Calibrated: 2017.07.21.;

Electronics: DAE4 Sn876; Calibrated: 2018.03.22.

Body/Dipole835/Area Scan (61x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 48.690 V/m; Power Drift = -0.01 dB

Fast SAR: SAR(1 g) = 2.59 mW/g; SAR(10 g) = 1.4 mW/g

Maximum value of SAR (interpolated) = 2.24 W/kg

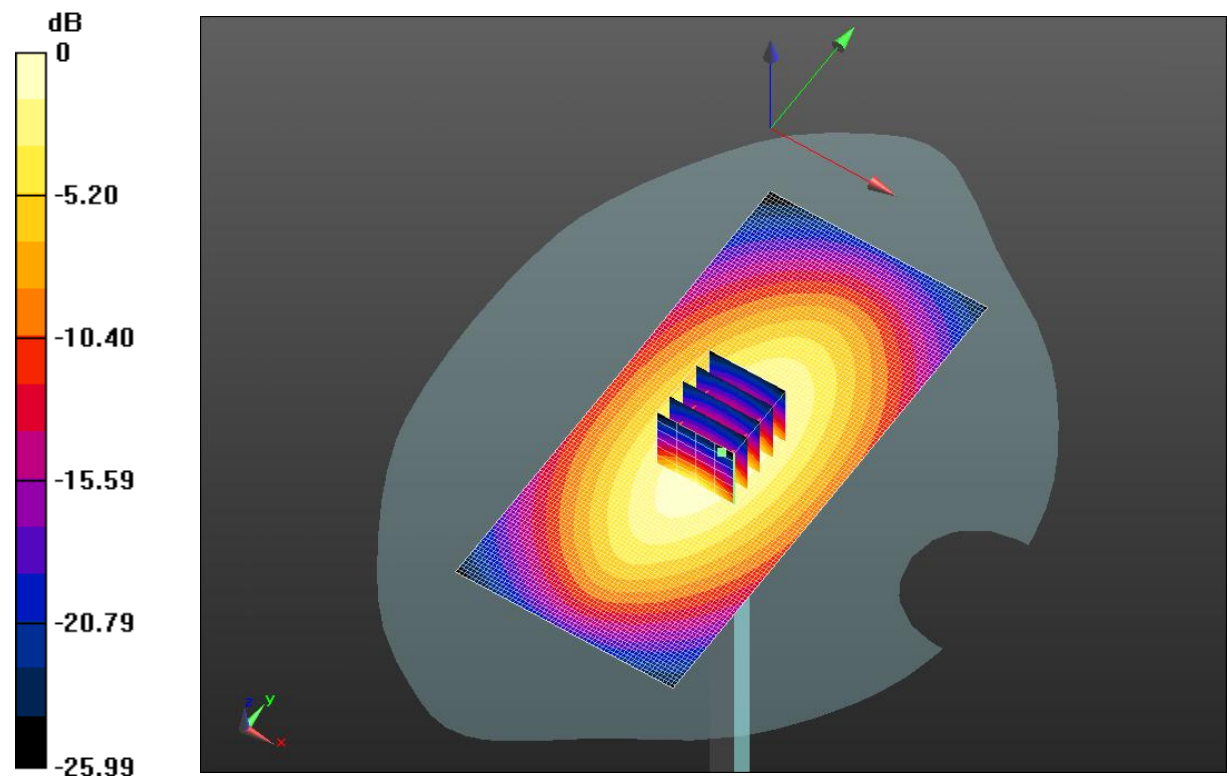
Body/Dipole835/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 48.690 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 2.789 mW/g

SAR(1 g) = 2.38 mW/g; SAR(10 g) = 1.49 mW/g

Maximum value of SAR (measured) = 2.22 W/kg



0 dB = 2.24 W/kg = 7.01 dB W/kg

SystemPerformanceCheck-D1750 for Body

Date: 2018.03.28.

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

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

Medium parameters used (interpolated): $f = 1750$ MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 55.38$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration: Probe: EX3DV4 - SN3881; ConvF(7.99, 7.99, 7.99); Calibrated: 2017.07.21.;

Electronics: DAE4 Sn876; Calibrated: 2018.03.22.

Body/Dipole1750/Area Scan (61x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 88.035 V/m; Power Drift = -0.07 dB

Fast SAR: SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.45 mW/g

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

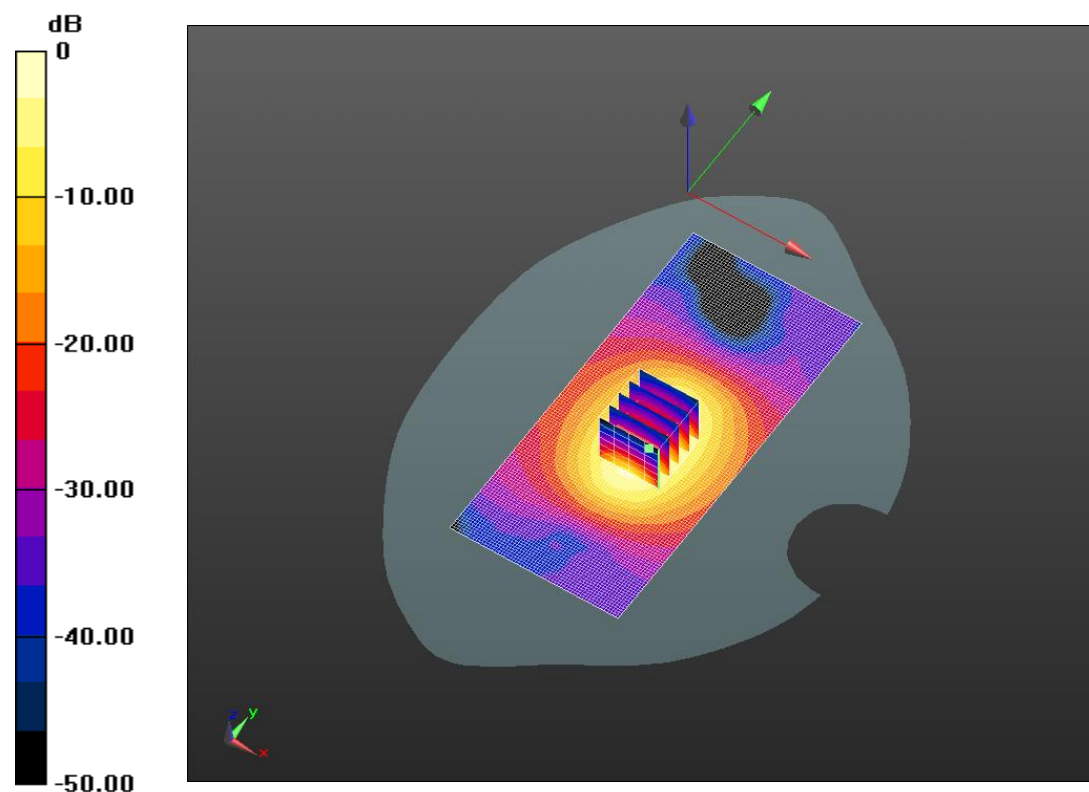
Body/Dipole1750/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 88.035 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 18.284 mW/g

SAR(1 g) = 9.89 mW/g; SAR(10 g) = 5.17 mW/g

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



0 dB = 11.6 W/kg = 21.29 dB W/kg

SystemPerformanceCheck-D1900 for Body

Date: 2018.03.26.

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

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 54.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration: Probe: EX3DV4 - SN3881; ConvF(7.85, 7.85, 7.85); Calibrated: 2017.07.21.;

Electronics: DAE4 Sn876; Calibrated: 2018.03.22.

Body/Dipole1900/Area Scan (61x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 88.213 V/m; Power Drift = 0.03 dB

Fast SAR: SAR(1 g) = 10.2 mW/g; SAR(10 g) = 5.49 mW/g

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

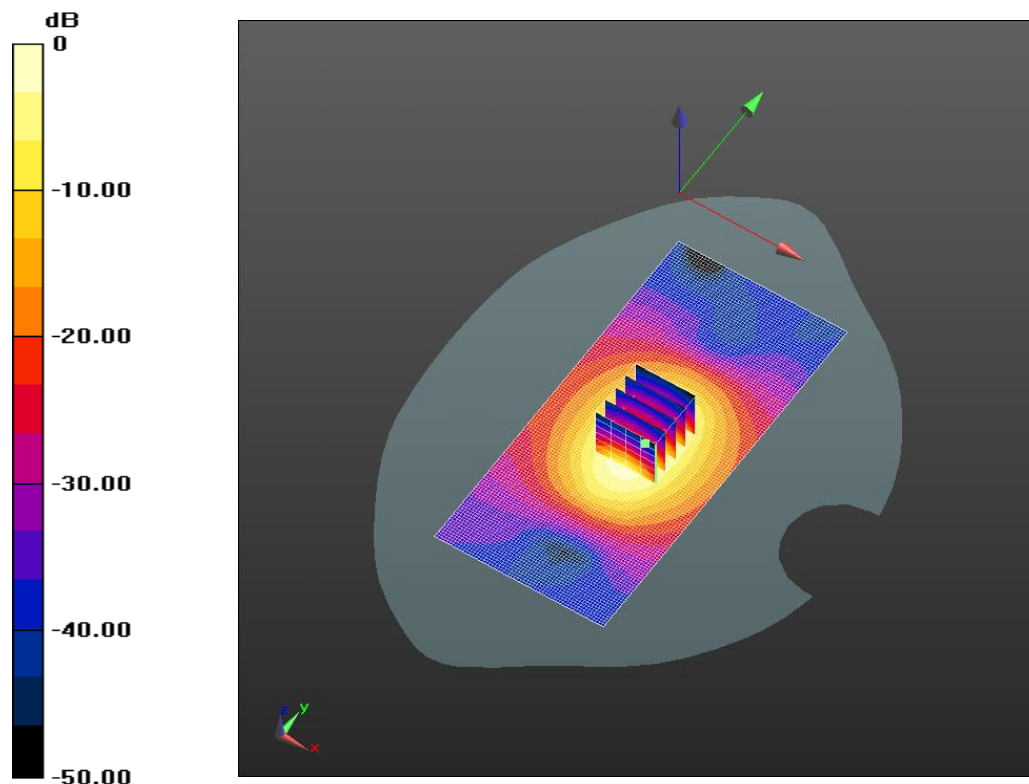
Body/Dipole1900 /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 88.213 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 18.811 mW/g

SAR(1 g) = 10.2 mW/g; SAR(10 g) = 5.3 mW/g

Maximum value of SAR (measured) = 11.3 W/kg



$$0 \text{ dB} = 11.7 \text{ W/kg} = 21.37 \text{ dB W/kg}$$

SystemPerformanceCheck-D2450 for Body

Date: 2018.04.08.

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

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

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.94$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration: Probe: EX3DV4 - SN3881; ConvF(7.42, 7.42, 7.42); Calibrated: 2017.07.21.;

Electronics: DAE4 Sn876; Calibrated: 2018.03.22.

Body/Dipole2450 /Area Scan (61x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 85.741 V/m; Power Drift = -0.05 dB

Fast SAR: SAR(1 g) = 13.55 mW/g; SAR(10 g) = 5.83 mW/g

Maximum value of SAR (interpolated) = 18.7 W/kg

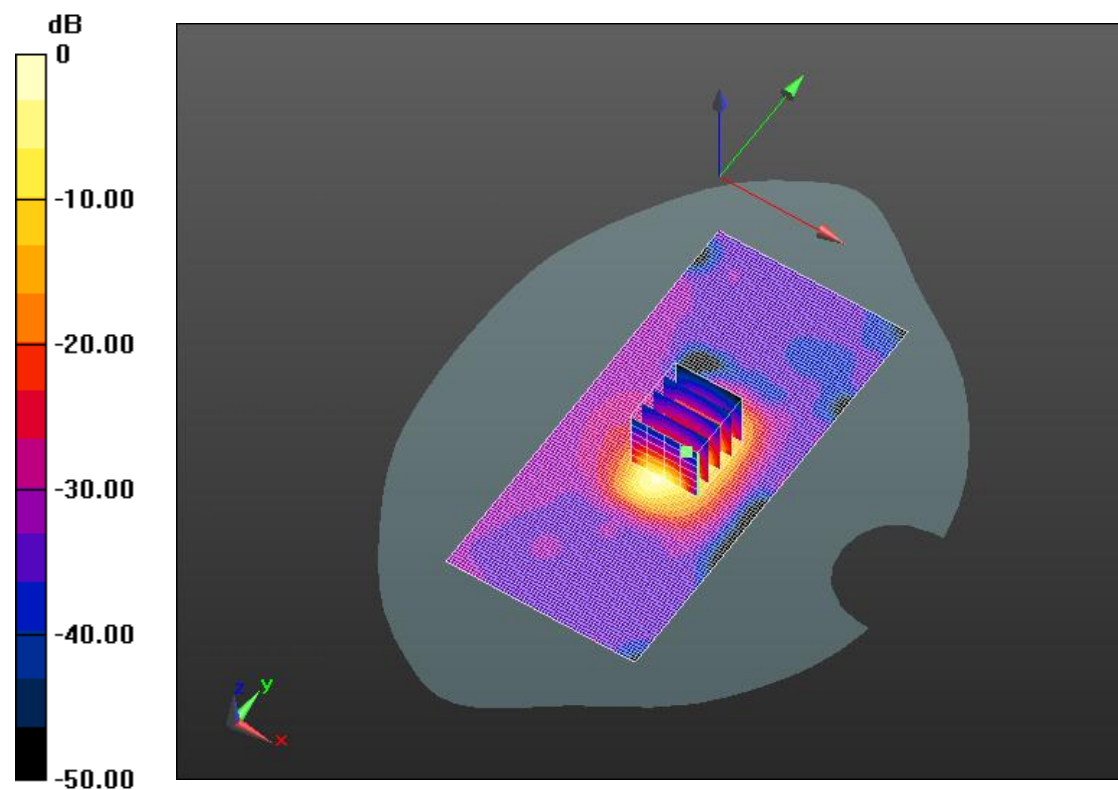
Body/Dipole2450/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 85.741 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 31.683 mW/g

SAR(1 g) = 12.8 mW/g; SAR(10 g) = 5.62 mW/g

Maximum value of SAR (measured) = 14.8 W/kg



0 dB = 18.7 W/kg = 25.45 dB W/kg

SystemPerformanceCheck-D2600 for Body

Date: 2018.03.27

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

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

Medium parameters used: $f = 2600$ MHz; $\sigma = 2.20$ mho/m; $\epsilon_r = 53.66$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration: Probe: EX3DV4 - SN3881; ConvF(7.33, 7.33, 7.33); Calibrated: 2017.07.21.;

Electronics: DAE4 Sn876; Calibrated: 2018.03.22.

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

Reference Value = 84.543 V/m; Power Drift = 0.03 dB

Fast SAR: SAR(1 g) = 13.3 mW/g; SAR(10 g) = 6.2 mW/g

Maximum value of SAR (interpolated) = 16.6 W/kg

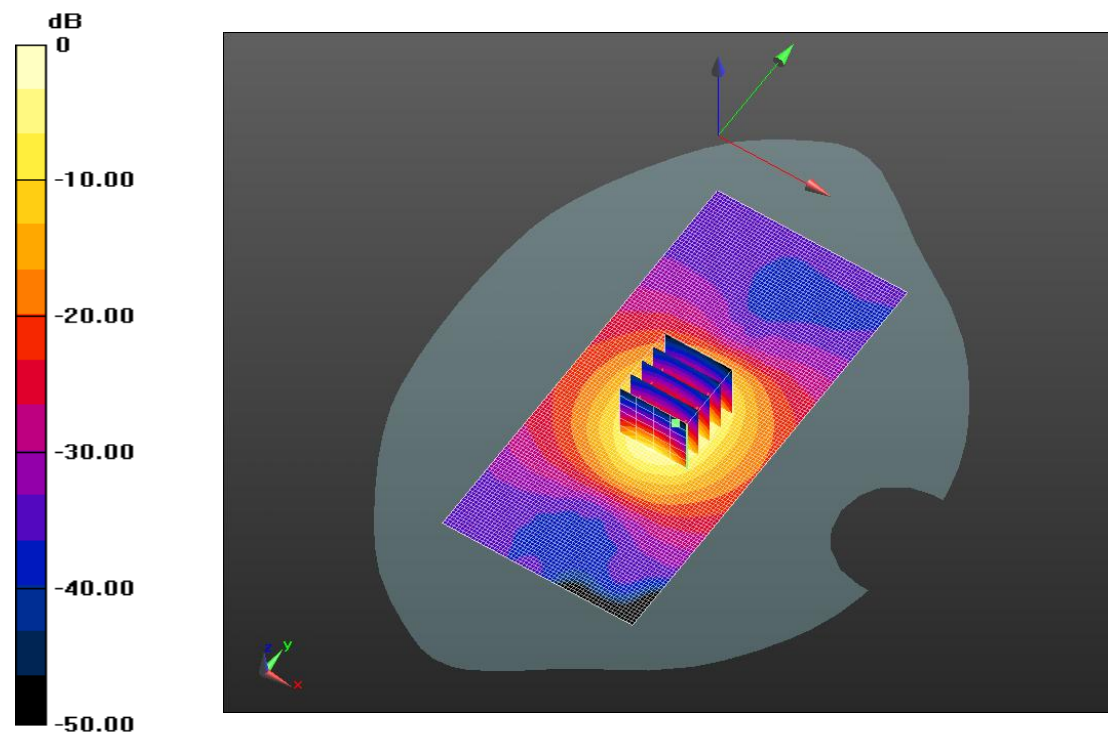
Body/Dipole2600MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 84.543 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 33.359 mW/g

SAR(1 g) = 13.7 mW/g; SAR(10 g) = 5.92 mW/g

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



0 dB = 16.6 W/kg = 24.39 dB W/kg

SystemPerformanceCheck-D5.25GHz for Body

Date: 2018.03.28

DUT: Dipole 5GHz D5GHzV2; Type: D5GHzV2 SN:1185;

Communication System: CW; Communication System Band: D5GHz (5000.0 - 6000.0 MHz);

Frequency: 5250 MHz;Duty Cycle: 1:1

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

Medium parameters used: $f = 5250$ MHz; $\sigma = 5.22$ mho/m; $\epsilon_r = 49.58$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:Probe: EX3DV4 - SN3881; ConvF(4.82, 4.82, 4.82); Calibrated: 2017.07.21.;

Electronics: DAE4 Sn876; Calibrated: 2018.03.22.

Body/5.25G/Area Scan (81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Reference Value = 34.922 V/m; Power Drift = -0.02 dB

Fast SAR: SAR(1 g) = 8.54 mW/g; SAR(10 g) = 2.33 mW/g

Maximum value of SAR (interpolated) = 6.41 W/kg

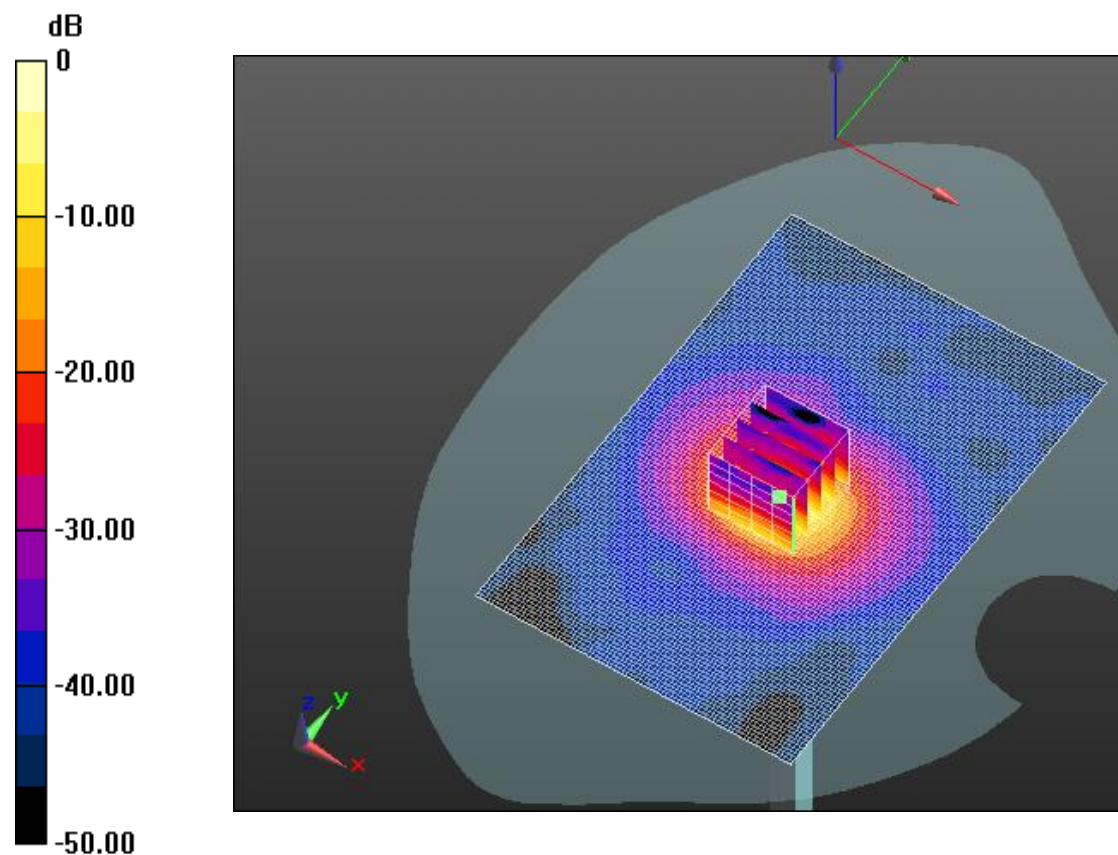
Body/5.25G/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 34.922 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 23.484 mW/g

SAR(1 g) = 7.43 mW/g; SAR(10 g) = 2.23 mW/g

Maximum value of SAR (measured) = 6.82 W/kg



$$0 \text{ dB} = 6.41 \text{ W/kg} = 16.14 \text{ dB W/kg}$$

SystemPerformanceCheck-D5.6GHz for Body

Date: 2018.03.29

DUT: Dipole 5GHz D5GHzV2; Type: D5GHzV2 SN:1185;

Communication System: CW; Communication System Band: D5GHz (5000.0 - 6000.0 MHz);

Frequency: 5600 MHz;Duty Cycle: 1:1

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

Medium parameters used: $f = 5600$ MHz; $\sigma = 4.84$ mho/m; $\epsilon_r = 49.31$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:Probe: EX3DV4 - SN3881; ConvF(4.05, 4.05, 4.05); Calibrated:

2017.07.21.; Electronics: DAE4 Sn876; Calibrated: 2018.03.22.

Body5.6/5.6G/Area Scan (81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Reference Value = 40.125 V/m; Power Drift = 0.01 dB

Fast SAR: SAR(1 g) = 8.51 mW/g; SAR(10 g) = 2.41 mW/g

Maximum value of SAR (interpolated) = 9.14 W/kg

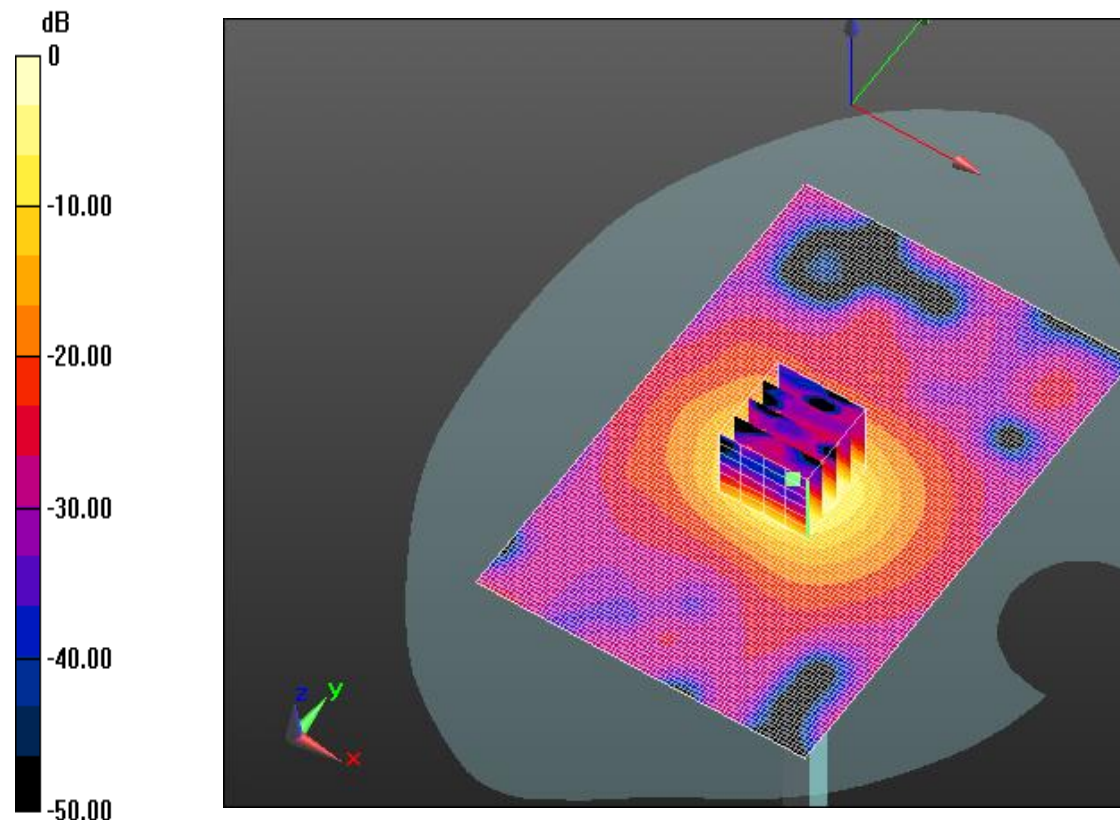
Body5.6/5.6G/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 40.125 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 22.801 mW/g

SAR(1 g) = 7.49 mW/g; SAR(10 g) = 2.26 mW/g

Maximum value of SAR (measured) = 9.33 W/kg



$$0 \text{ dB} = 9.26 \text{ W/kg} = 19.33 \text{ dB W/kg}$$

SystemPerformanceCheck-D5.75GHz for Body

Date: 2018.03.29

DUT: Dipole 5GHz D5GHzV2; Type: D5GHzV2 SN:1185;

Communication System: CW; Communication System Band: D5GHz (5000.0 - 6000.0 MHz);

Frequency: 5750 MHz;Duty Cycle: 1:1

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

Medium parameters used: $f = 5750$ MHz; $\sigma = 5.84$ mho/m; $\epsilon_r = 49.22$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:Probe: EX3DV4 - SN3881; ConvF(4.35, 4.35, 4.35); Calibrated:

2017.07.21.; Electronics: DAE4 Sn876; Calibrated: 2018.03.22.

Body5.75/5.75G/Area Scan (81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Reference Value = 43.402 V/m; Power Drift = 0.01 dB

Fast SAR: SAR(1 g) = 8.76 mW/g; SAR(10 g) = 2.43 mW/g

Maximum value of SAR (interpolated) = 9.45 W/kg

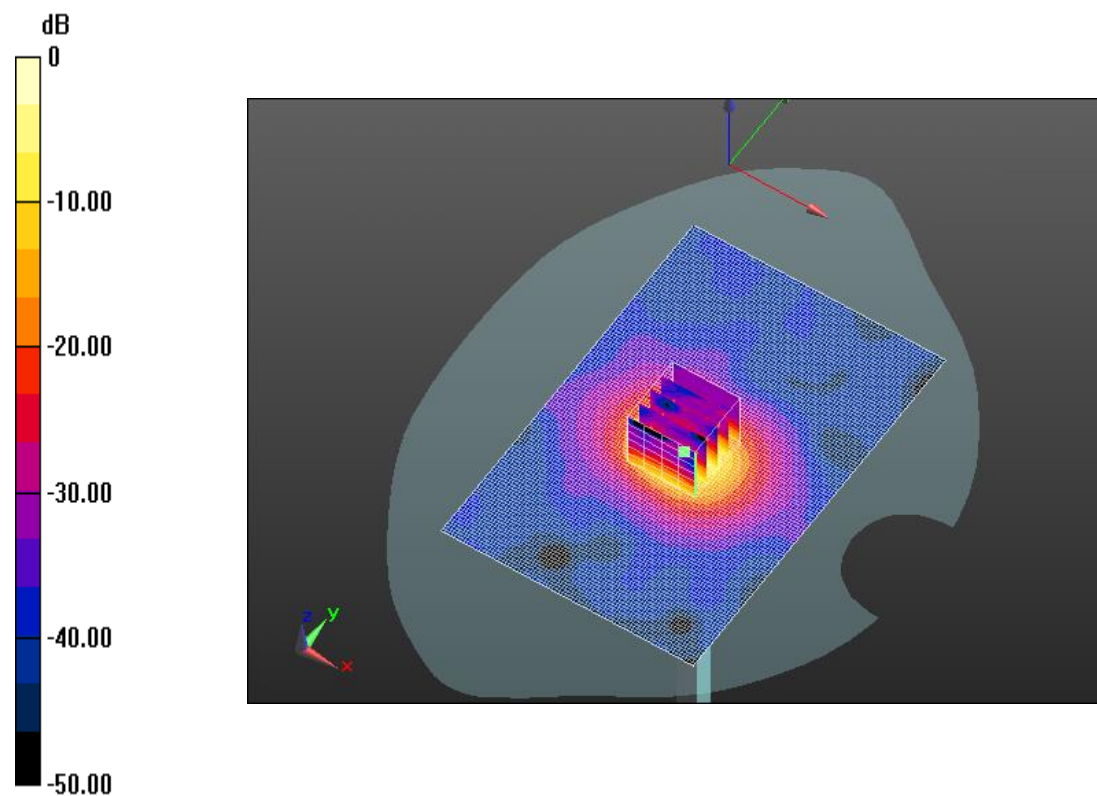
Body5.75/5.75G/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 43.402/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 23.886 mW/g

SAR(1 g) = 7.65 mW/g; SAR(10 g) = 2.22 mW/g

Maximum value of SAR (measured) = 9.58 W/kg



0 dB = 9.45 W/kg = 19.51 dB W/kg

SystemPerformanceCheck-D835 for Body

Date: 2018.04.08

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

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.99$ mho/m; $\epsilon_r = 55.0$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration: Probe: EX3DV4 - SN3881; ConvF(9.53, 9.53, 9.53); Calibrated: 2017.07.21.;

Electronics: DAE4 Sn876; Calibrated: 2018.03.22.

Body/Dipole835/Area Scan (61x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 47.453 V/m; Power Drift = 0.01 dB

Fast SAR: SAR(1 g) = 2.69 mW/g; SAR(10 g) = 1.41 mW/g

Maximum value of SAR (interpolated) = 2.15 W/kg

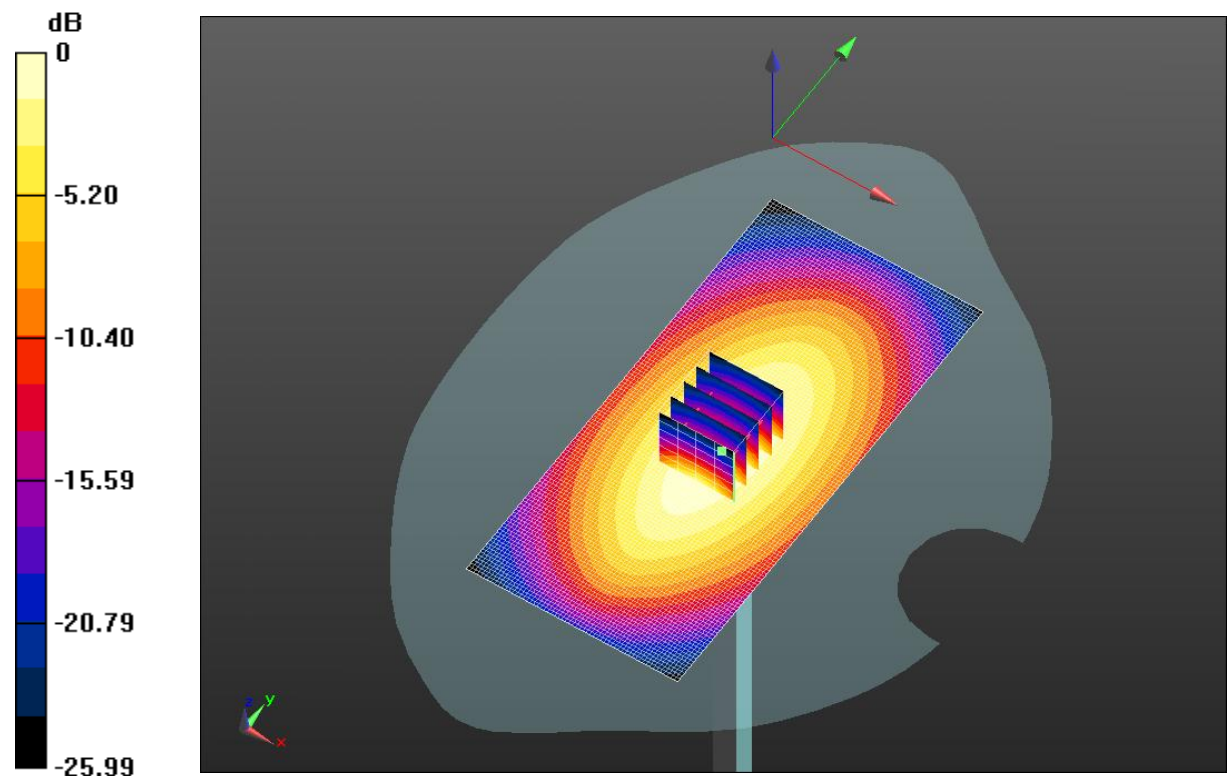
Body/Dipole835/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 47.453 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 2.681 mW/g

SAR(1 g) = 2.39 mW/g; SAR(10 g) = 1.5 mW/g

Maximum value of SAR (measured) = 2.13 W/kg



0 dB = 2.15 W/kg = 6.63 dB W/kg

SystemPerformanceCheck-D1750 for Body

Date: 2018.04.08.

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

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

Medium parameters used (interpolated): $f = 1750$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 55.21$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration: Probe: EX3DV4 - SN3881; ConvF(7.99, 7.99, 7.99); Calibrated: 2017.07.21.;

Electronics: DAE4 Sn876; Calibrated: 2018.03.22.

Body/Dipole1750/Area Scan (61x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Reference Value = 85.013 V/m; Power Drift = 0.02 dB

Fast SAR: SAR(1 g) = 10.2 mW/g; SAR(10 g) = 5.49 mW/g

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

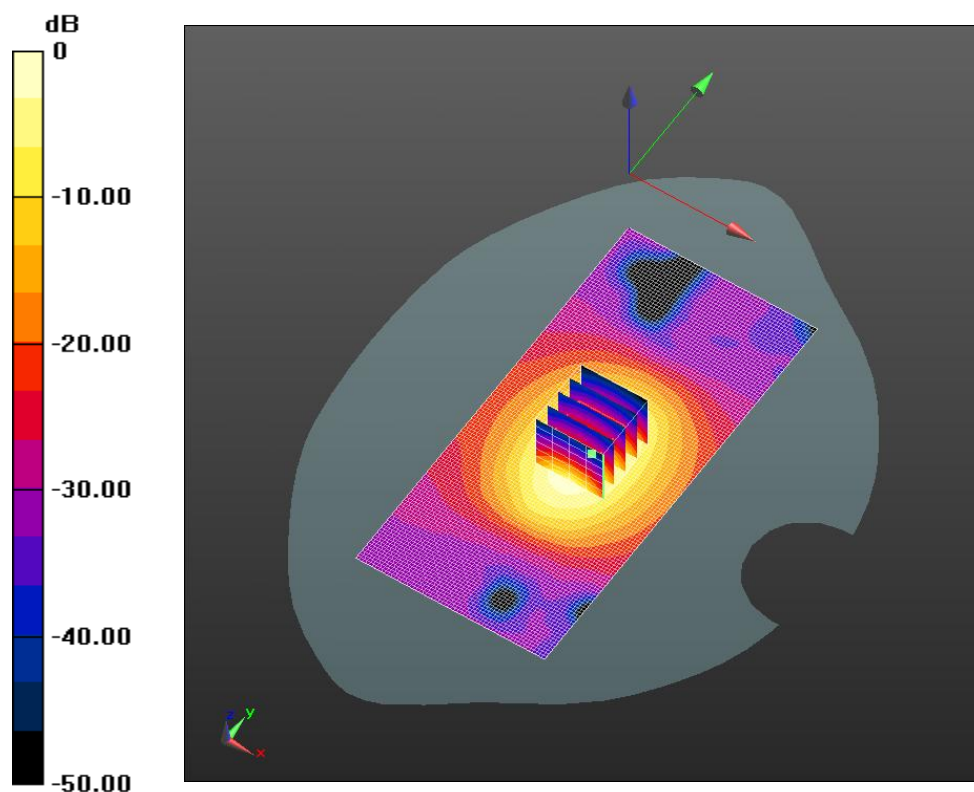
Body/Dipole1750/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 85.013 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 17.452 mW/g

SAR(1 g) = 10.09 mW/g; SAR(10 g) = 5.18 mW/g

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



0 dB = 10.9 W/kg = 20.73 dB W/kg

SystemPerformanceCheck-D2600 for Body

Date: 2018.04.08

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

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

Medium parameters used: $f = 2600$ MHz; $\sigma = 2.21$ mho/m; $\epsilon_r = 53.75$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration: Probe: EX3DV4 - SN3881; ConvF(7.33, 7.33, 7.33); Calibrated: 2017.07.21.;

Electronics: DAE4 Sn876; Calibrated: 2018.03.22.

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

Reference Value = 84.667 V/m; Power Drift = 0.02 dB

Fast SAR: SAR(1 g) = 13.33 mW/g; SAR(10 g) = 6.22 mW/g

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

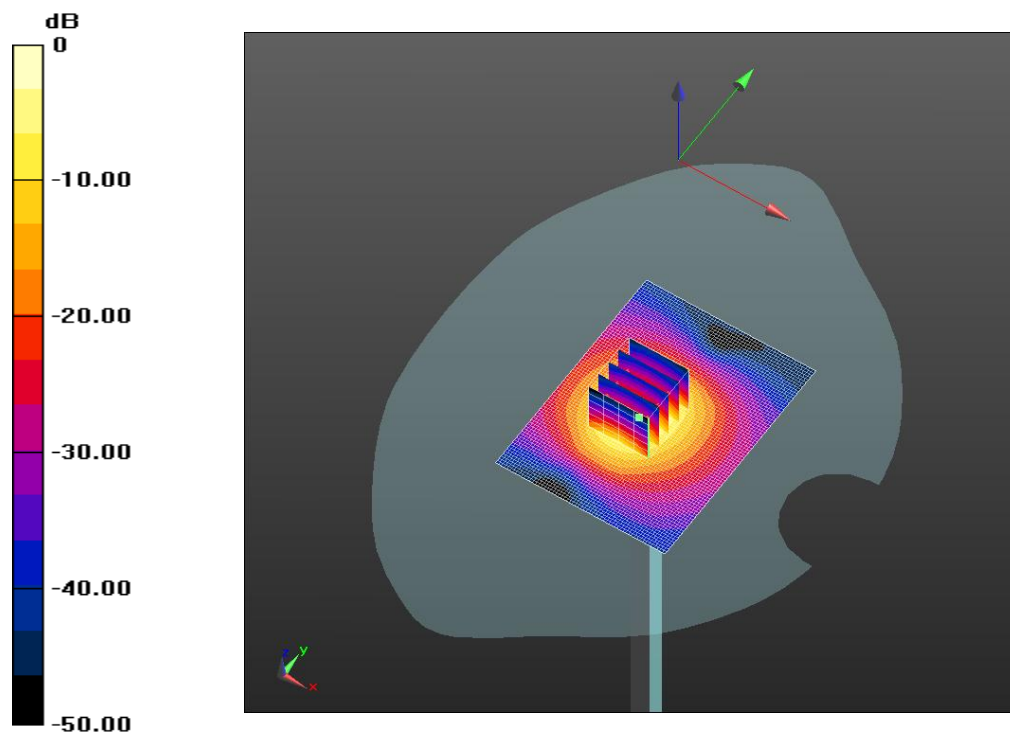
Body/Dipole2600MHz/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 84.667 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 33.570 mW/g

SAR(1 g) = 13.69 mW/g; SAR(10 g) = 5.91 mW/g

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



$$0 \text{ dB} = 16.7 \text{ W/kg} = 24.47 \text{ dB W/kg}$$

SystemPerformanceCheck-D5.25GHz for Body

Date: 2018.04.08

DUT: Dipole 5GHz D5GHzV2; Type: D5GHzV2 SN:1185;

Communication System: CW; Communication System Band: D5GHz (5000.0 - 6000.0 MHz);

Frequency: 5250 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 5250$ MHz; $\sigma = 5.28$ mho/m; $\epsilon_r = 49.44$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASYS5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration: Probe: EX3DV4 - SN3881; ConvF(4.82, 4.82, 4.82); Calibrated: 2017.07.21.;

Electronics: DAE4 Sn876; Calibrated: 2018.03.22.

Body/5.25G/Area Scan (81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Reference Value = 31.861 V/m; Power Drift = -0.01 dB

Fast SAR: SAR(1 g) = 8.66 mW/g; SAR(10 g) = 2.43 mW/g

Maximum value of SAR (interpolated) = 8.54 W/kg

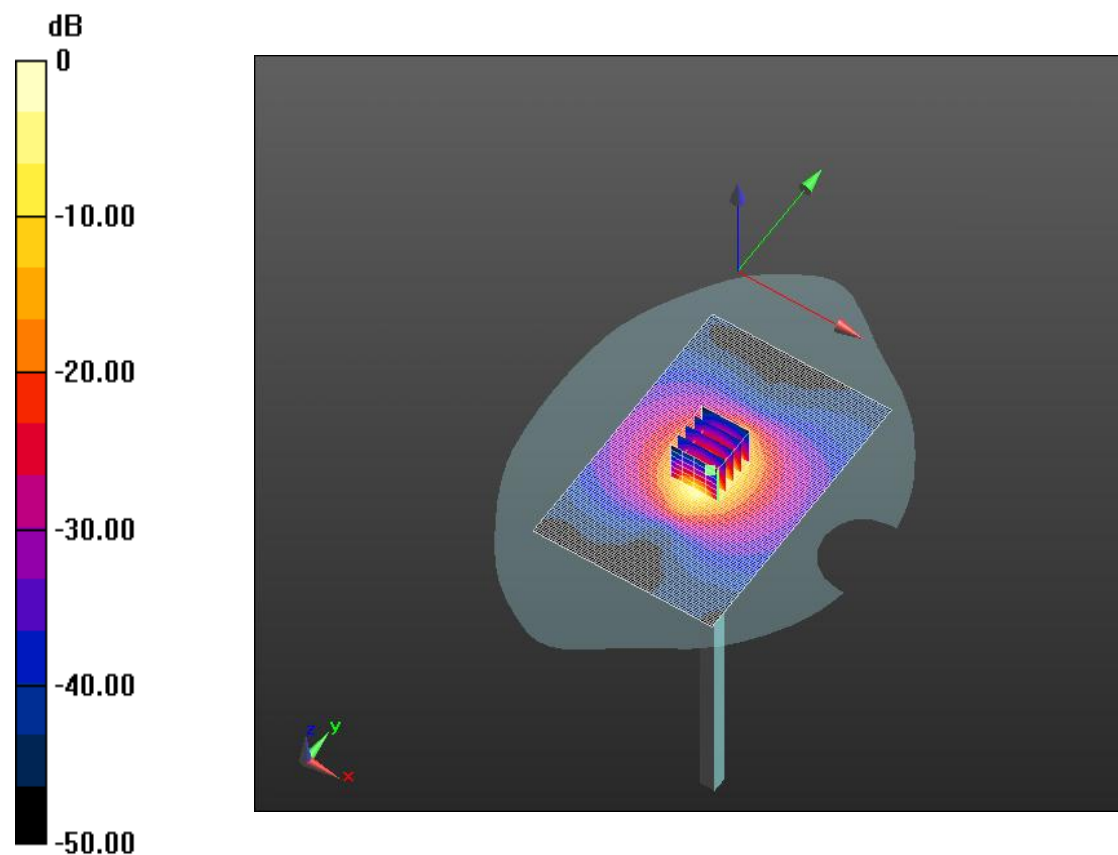
Body/5.25G/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 31.861 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 23.484 mW/g

SAR(1 g) = 7.53 mW/g; SAR(10 g) = 2.26 mW/g

Maximum value of SAR (measured) = 9.12 W/kg



SystemPerformanceCheck-D5.75GHz for Body

Date: 2018.04.08

DUT: Dipole 5GHz D5GHzV2; Type: D5GHzV2 SN:1185;

Communication System: CW; Communication System Band: D5GHz (5000.0 – 6000.0 MHz);

Frequency: 5750 MHz;Duty Cycle: 1:1

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

Medium parameters used: $f = 5750$ MHz; $\sigma = 5.95$ mho/m; $\epsilon_r = 49.15$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

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

DASY5 Configuration:Probe: EX3DV4 – SN3881; ConvF(4.35, 4.35, 4.35); Calibrated:

2017.07.21.; Electronics: DAE4 Sn876; Calibrated: 2018.03.22.

Body5.75/5.75G/Area Scan (81x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Reference Value = 42.674 V/m; Power Drift = -0.01 dB

Fast SAR: SAR(1 g) = 8.78 mW/g; SAR(10 g) = 2.44 mW/g

Maximum value of SAR (interpolated) = 9.45 W/kg

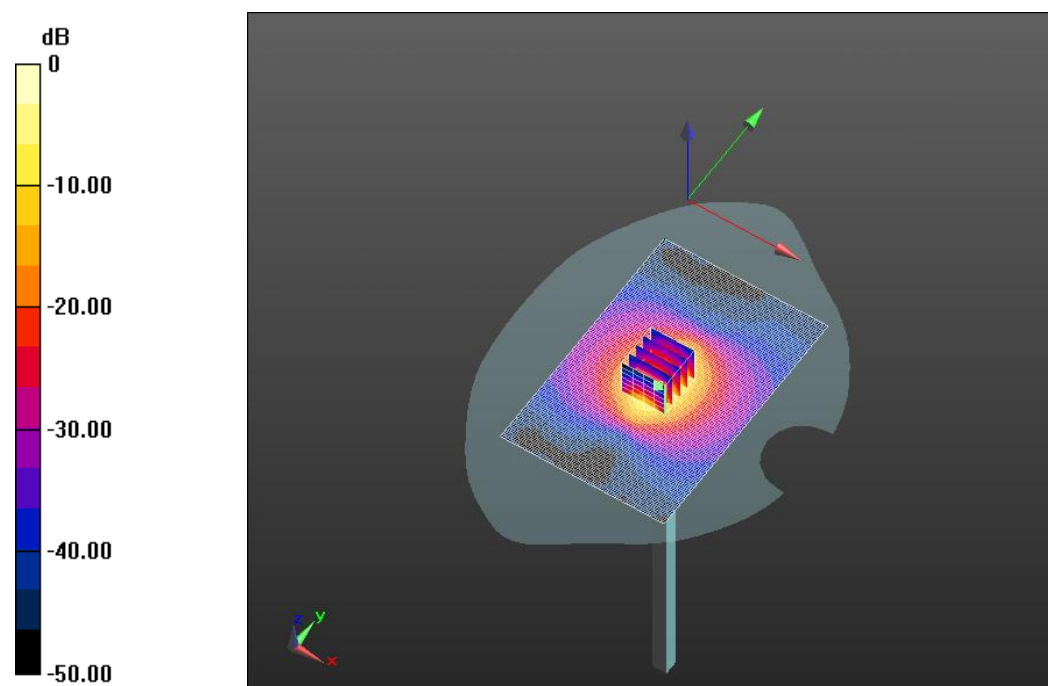
Body5.75/5.75G/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 42.674 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 23.886 mW/g

SAR(1 g) = 7.66 mW/g; SAR(10 g) = 2.23 mW/g

Maximum value of SAR (measured) = 9.40 W/kg



$$0 \text{ dB} = 9.45 \text{ W/kg} = 19.51 \text{ dB W/kg}$$