

Appendix 1 – System Performance Check Plots

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d081

Frequency: 835 MHz; Duty Cycle: 1:1

Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.907 \text{ S/m}$; $\epsilon_r = 42.045$; $\rho = 1000 \text{ kg/m}^3$

DASY5 Configuration:

- Probe: ET3DV6 - SN1679; ConvF(6.4, 6.4, 6.4); Calibrated: 8/12/2015;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/23/2015
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Dipole/Input 250 mW/Area Scan (9x9x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

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

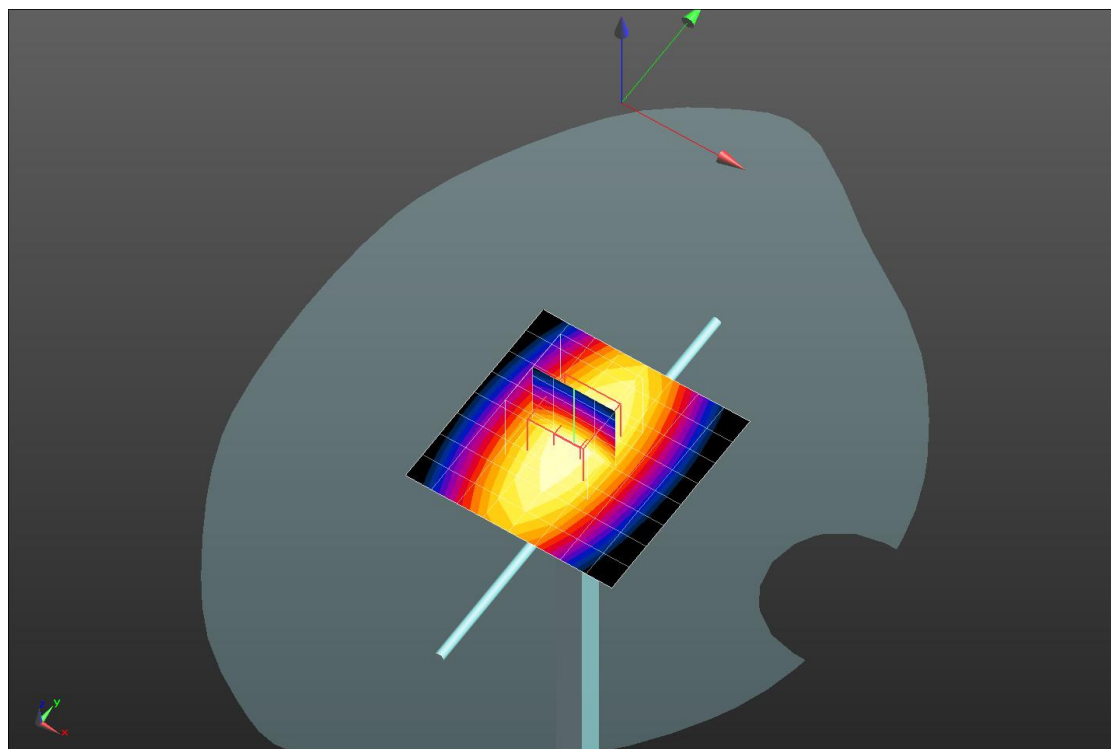
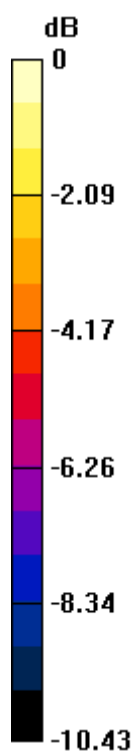
Dipole/Input 250 mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 55.05 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 3.39 W/kg

SAR(1 g) = 2.35 W/kg; SAR(10 g) = 1.55 W/kg

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



0 dB = 2.54 W/kg = 4.05 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d081

Frequency: 835 MHz; Duty Cycle: 1:1

Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C

Medium parameters used: $f = 835$ MHz; $\sigma = 0.982$ S/m; $\epsilon_r = 54.769$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: ET3DV6 - SN1679; ConvF(6.33, 6.33, 6.33); Calibrated: 8/12/2015;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/23/2015
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Dipole/Input 250 mW/Area Scan (9x9x1): Measurement grid: dx=10mm, dy=10mm

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

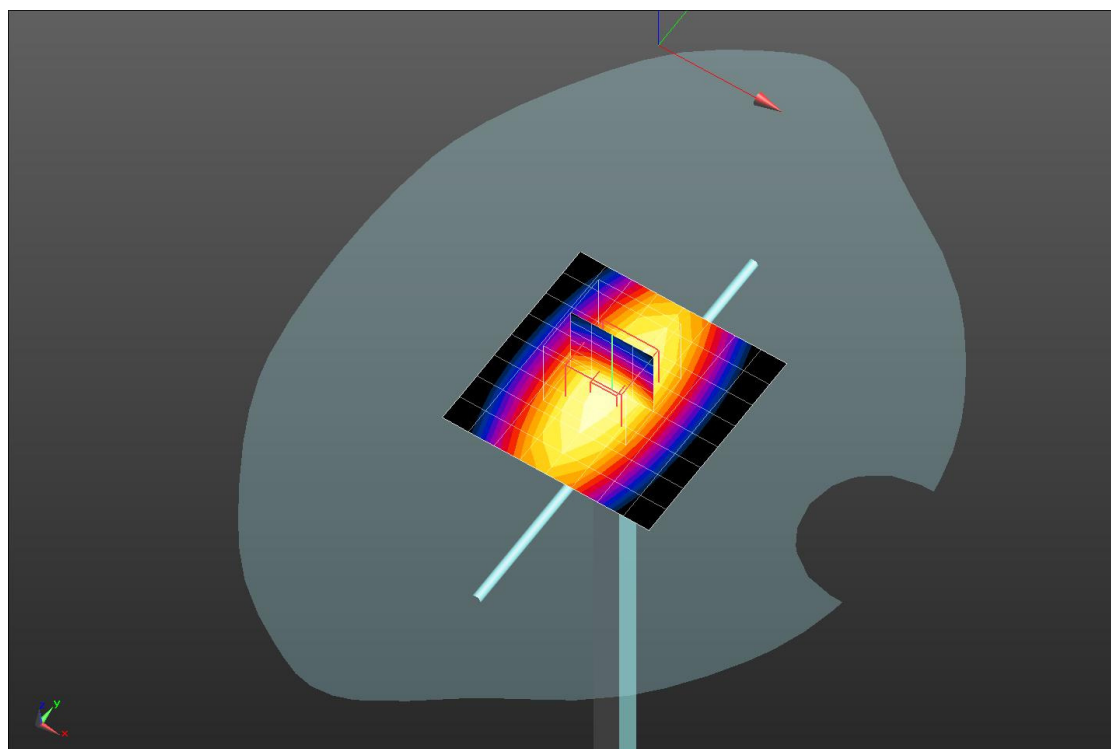
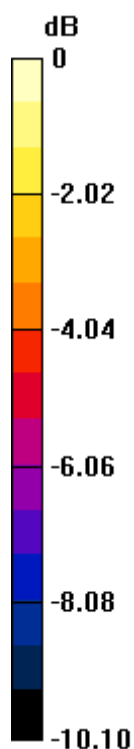
Dipole/Input 250 mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 53.54 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 3.44 W/kg

SAR(1 g) = 2.44 W/kg; SAR(10 g) = 1.62 W/kg

Maximum value of SAR (measured) = 2.66 W/kg



0 dB = 2.66 W/kg = 4.25 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d112

Frequency: 1900 MHz; Duty Cycle: 1:1

Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.42$ S/m; $\epsilon_r = 40.258$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: ET3DV6 - SN1679; ConvF(5.08, 5.08, 5.08); Calibrated: 8/12/2015;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/23/2015
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Dipole/Input 250 mW/Area Scan (9x9x1): Measurement grid: dx=10mm, dy=10mm

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

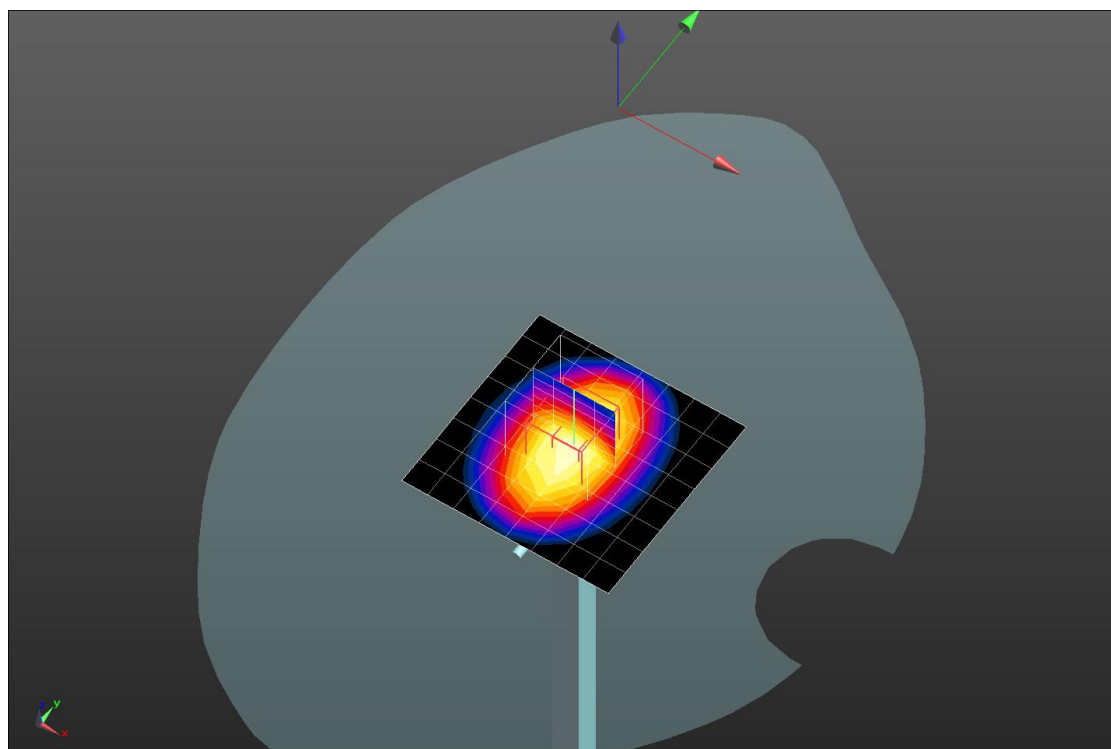
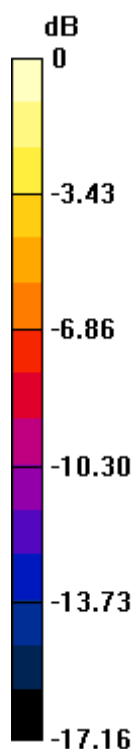
Dipole/Input 250 mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 92.22 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 16.5 W/kg

SAR(1 g) = 9.8 W/kg; SAR(10 g) = 5.25 W/kg

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



0 dB = 11.1 W/kg = 10.45 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d112

Frequency: 1900 MHz; Duty Cycle: 1:1

Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.545$ S/m; $\epsilon_r = 52.994$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: ET3DV6 - SN1679; ConvF(4.6, 4.6, 4.6); Calibrated: 8/12/2015;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/23/2015
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Dipole/Input 250 mW/Area Scan (9x9x1): Measurement grid: dx=10mm, dy=10mm

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

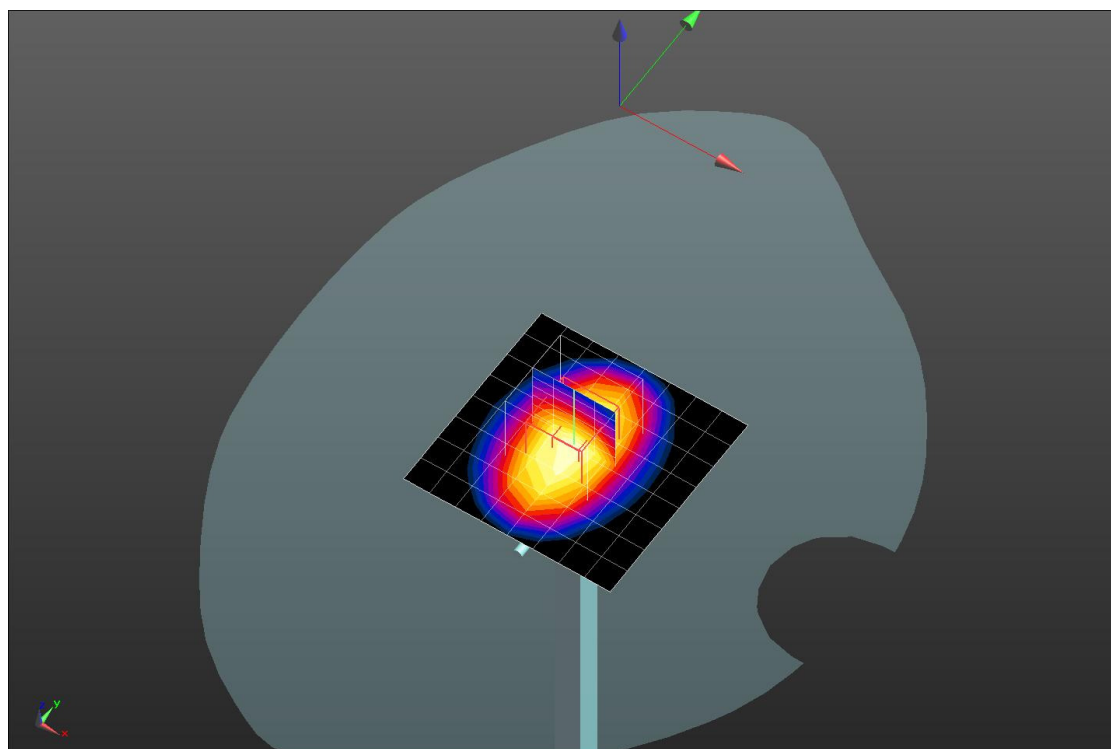
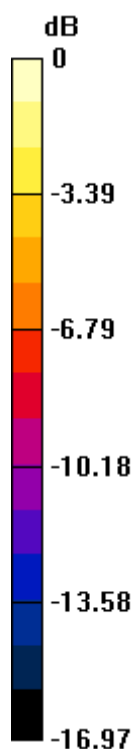
Dipole/Input 250 mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 89.19 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 15.2 W/kg

SAR(1 g) = 9.42 W/kg; SAR(10 g) = 5.08 W/kg

Maximum value of SAR (measured) = 10.6 W/kg



0 dB = 10.6 W/kg = 10.25 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 714

Frequency: 2450 MHz; Duty Cycle: 1:1

Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.86$ S/m; $\epsilon_r = 38.617$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: EX3DV4 - SN7321; ConvF(7, 7, 7); Calibrated: 8/18/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/23/2015
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Dipole/Input 250 mW/Area Scan (9x9x1): Measurement grid: dx=10mm, dy=10mm

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

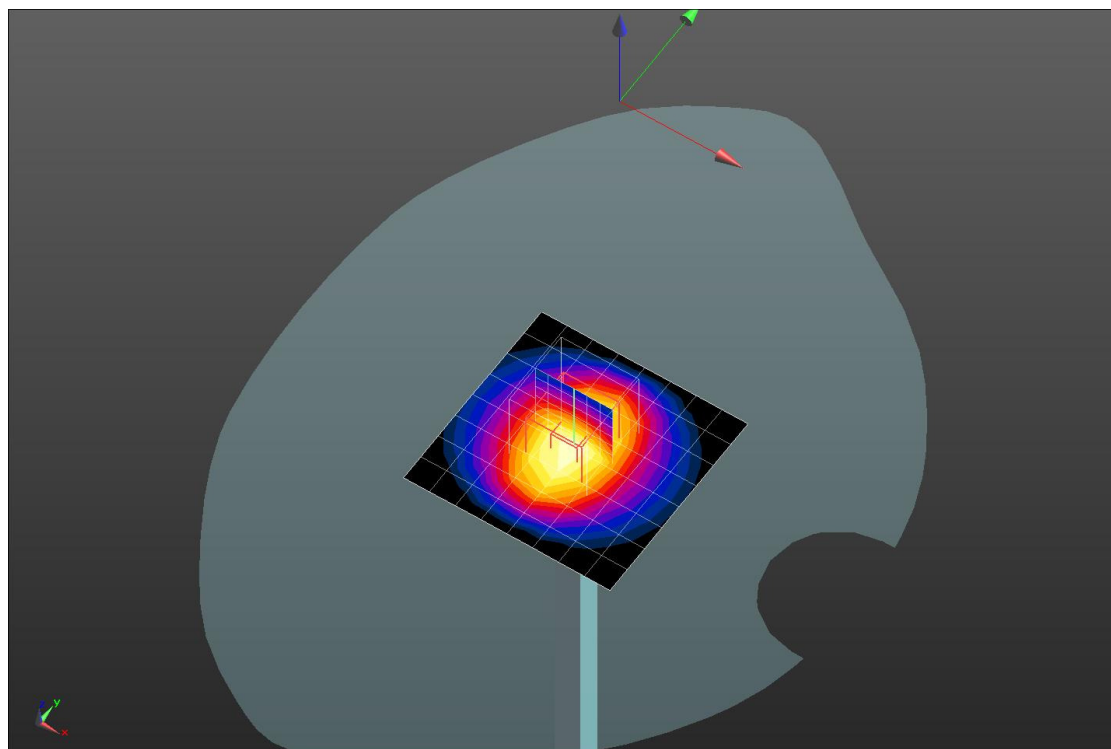
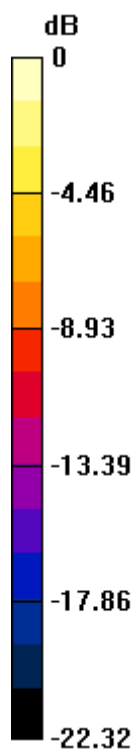
Dipole/Input 250 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 102.9 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 26.7 W/kg

SAR(1 g) = 12.9 W/kg; SAR(10 g) = 5.97 W/kg

Maximum value of SAR (measured) = 19.7 W/kg



0 dB = 19.7 W/kg = 12.94 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 714

Frequency: 2450 MHz; Duty Cycle: 1:1

Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.965$ S/m; $\epsilon_r = 51.869$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: EX3DV4 - SN7321; ConvF(7.09, 7.09, 7.09); Calibrated: 8/18/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/23/2015
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Dipole/Input 250 mW/Area Scan (9x9x1): Measurement grid: dx=10mm, dy=10mm

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

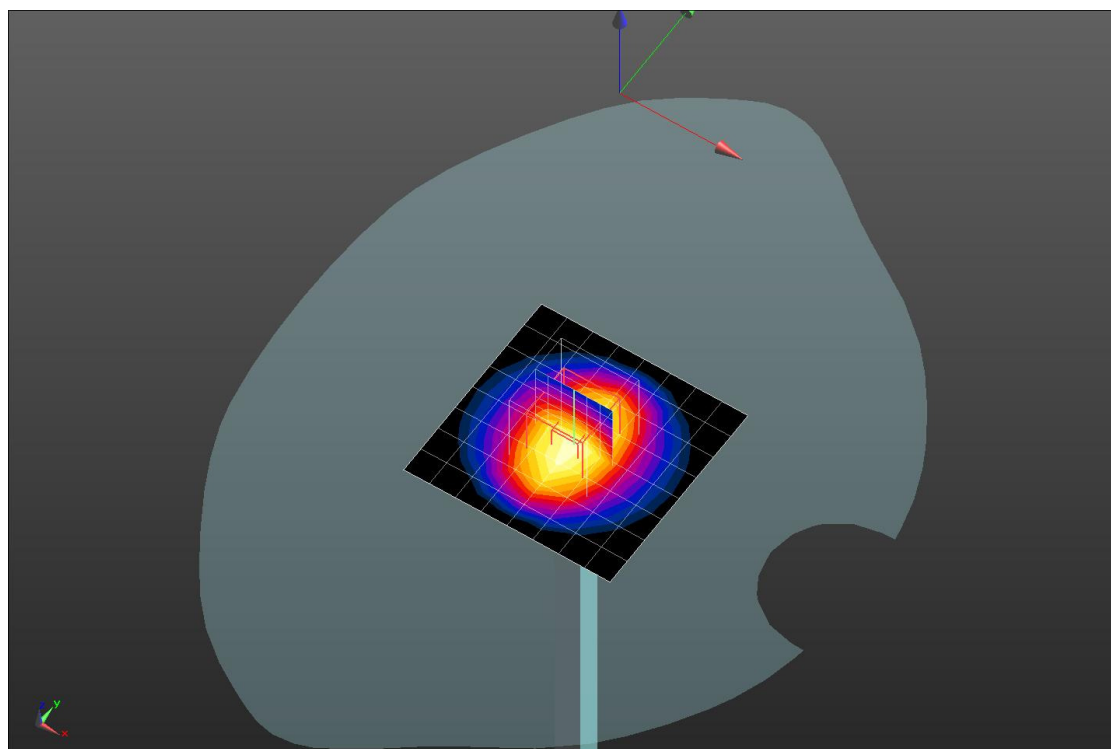
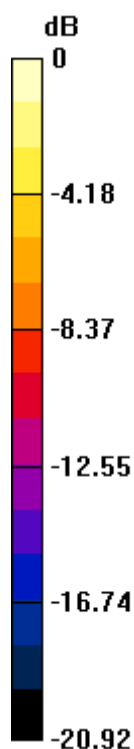
Dipole/Input 250 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 100.6 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 24.9 W/kg

SAR(1 g) = 12.6 W/kg; SAR(10 g) = 5.96 W/kg

Maximum value of SAR (measured) = 18.9 W/kg



0 dB = 18.9 W/kg = 12.76 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1111

Frequency: 5250 MHz; Duty Cycle: 1:1

Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C

Medium parameters used: $f = 5250$ MHz; $\sigma = 5.525$ S/m; $\epsilon_r = 47.015$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: EX3DV4 - SN7321; ConvF(4.34, 4.34, 4.34); Calibrated: 8/18/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/23/2015
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Dipole/Input 100 mW/Area Scan (9x9x1): Measurement grid: dx=10mm, dy=10mm

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

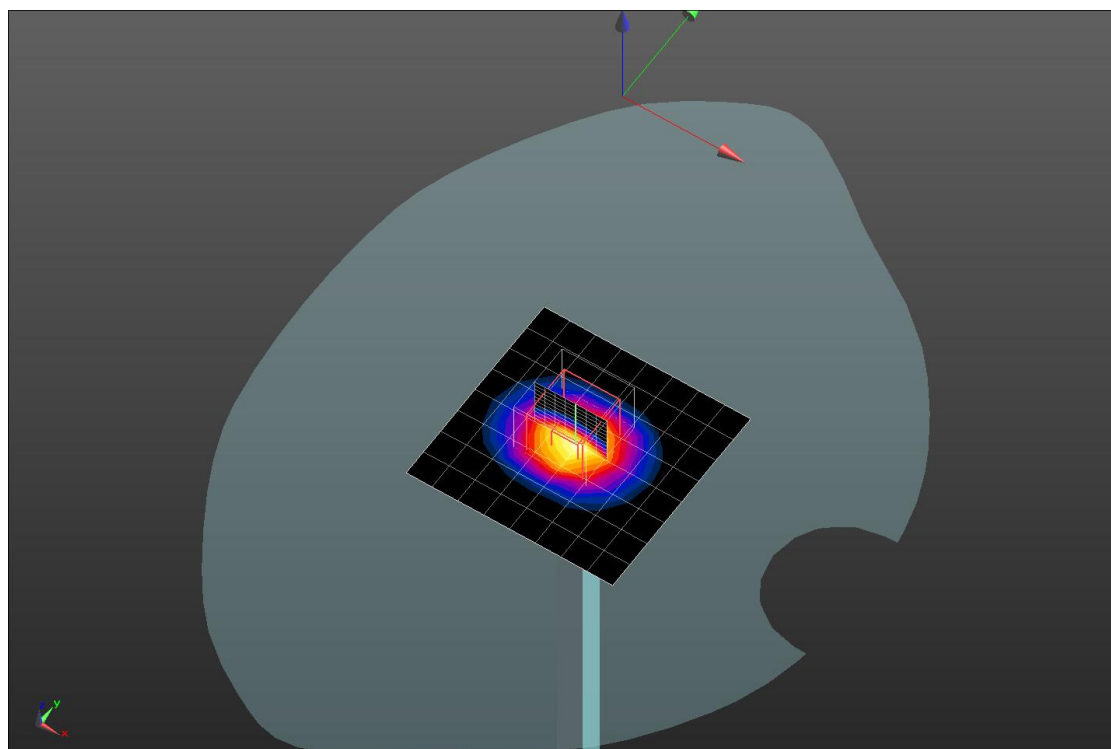
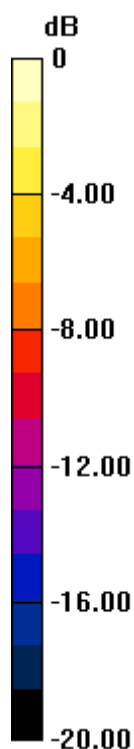
Dipole/Input 100 mW/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 56.44 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 31.0 W/kg

SAR(1 g) = 7.68 W/kg; SAR(10 g) = 2.15 W/kg

Maximum value of SAR (measured) = 15.7 W/kg



0 dB = 15.7 W/kg = 11.96 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1111

Frequency: 5600 MHz; Duty Cycle: 1:1

Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.988$ S/m; $\epsilon_r = 46.395$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: EX3DV4 - SN7321; ConvF(3.75, 3.75, 3.75); Calibrated: 8/18/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/23/2015
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Dipole/Input 100 mW/Area Scan (9x9x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 17.5 W/kg

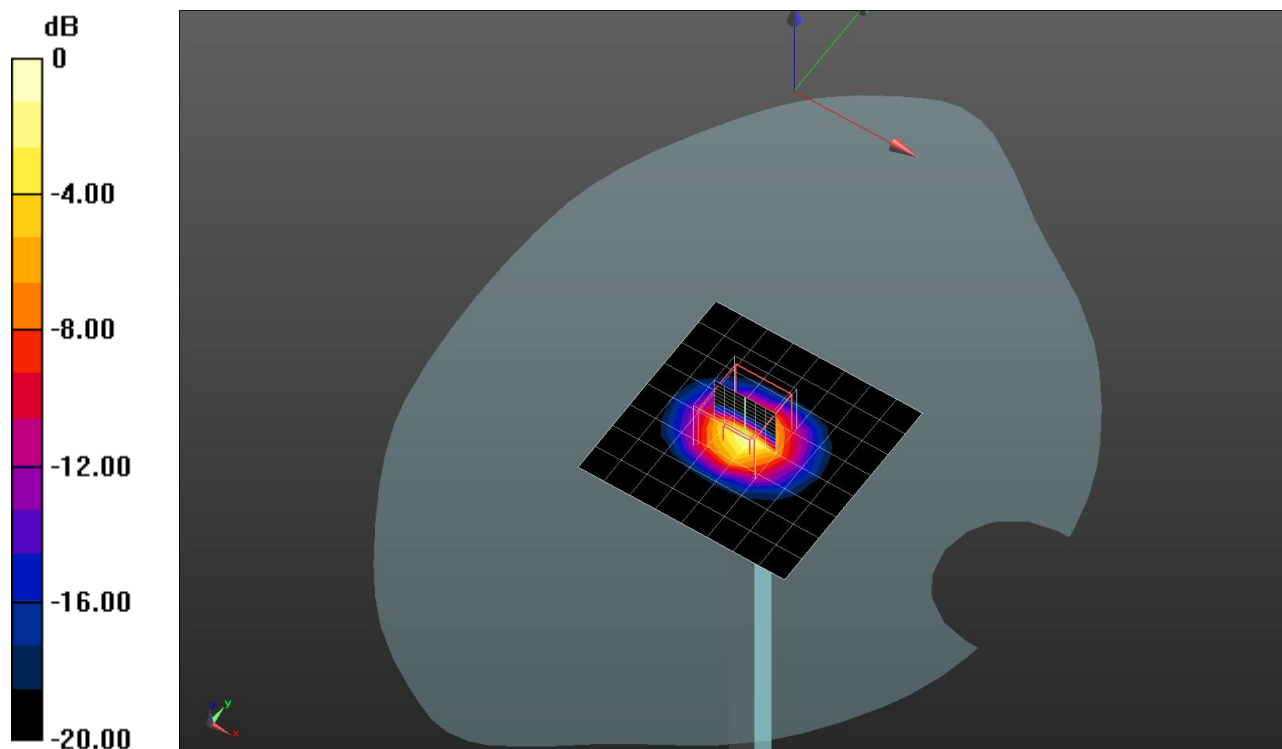
Dipole/Input 100 mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 58.86 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 36.1 W/kg

SAR(1 g) = 8.42 W/kg; SAR(10 g) = 2.34 W/kg

Maximum value of SAR (measured) = 18.1 W/kg



0 dB = 18.1 W/kg = 12.58 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1111

Frequency: 5250 MHz; Duty Cycle: 1:1

Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C

Medium parameters used: $f = 5250$ MHz; $\sigma = 4.593$ S/m; $\epsilon_r = 35.261$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: EX3DV4 - SN7321; ConvF(5.16, 5.16, 5.16); Calibrated: 8/18/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/23/2015
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Dipole/Input 100 mW/Area Scan (9x9x1): Measurement grid: dx=10mm, dy=10mm

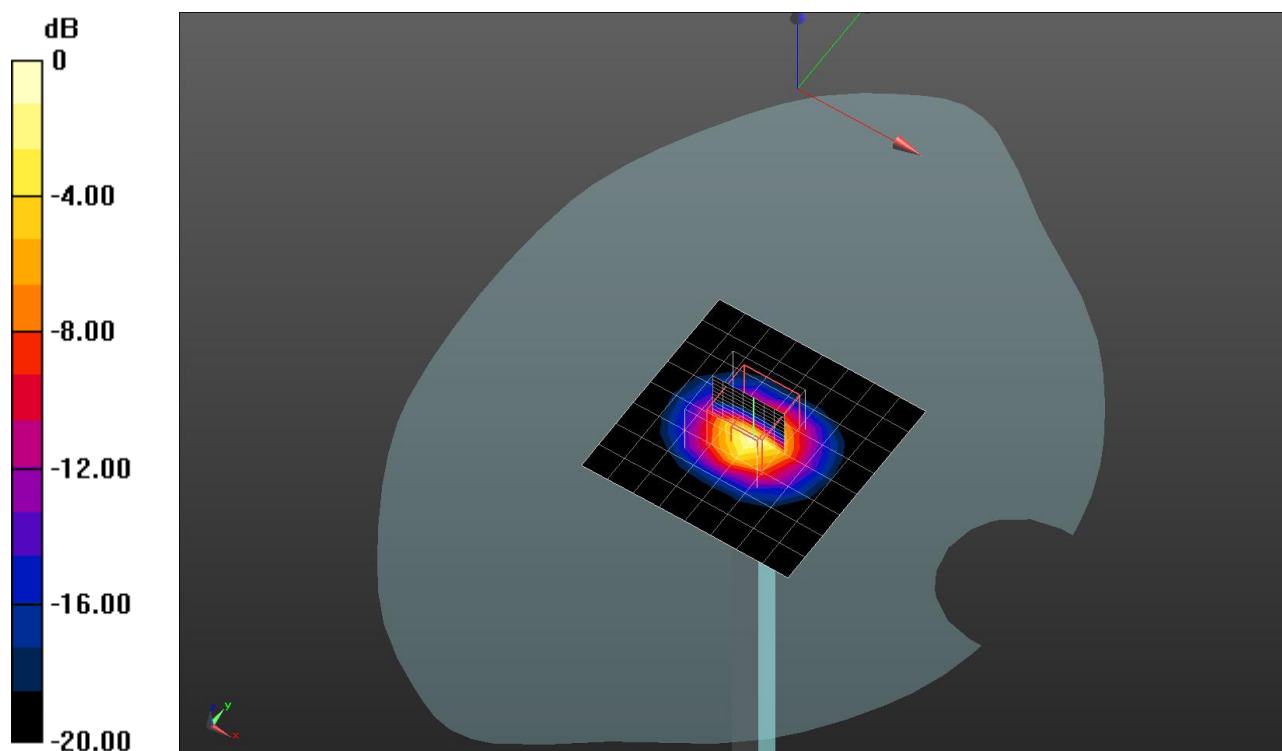
Maximum value of SAR (measured) = 15.8 W/kg

Dipole/Input 100 mW/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 62.31 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 31.5 W/kg

SAR(1 g) = 7.64 W/kg; SAR(10 g) = 2.18 W/kg



0 dB = 15.8 W/kg = 11.99 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1111

Frequency: 5250 MHz; Duty Cycle: 1:1

Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C

Medium parameters used: $f = 5250$ MHz; $\sigma = 4.6$ S/m; $\epsilon_r = 35.218$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: EX3DV4 - SN7321; ConvF(5.16, 5.16, 5.16); Calibrated: 8/18/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/23/2015
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Dipole/Input 100 mW/Area Scan (9x9x1): Measurement grid: dx=10mm, dy=10mm

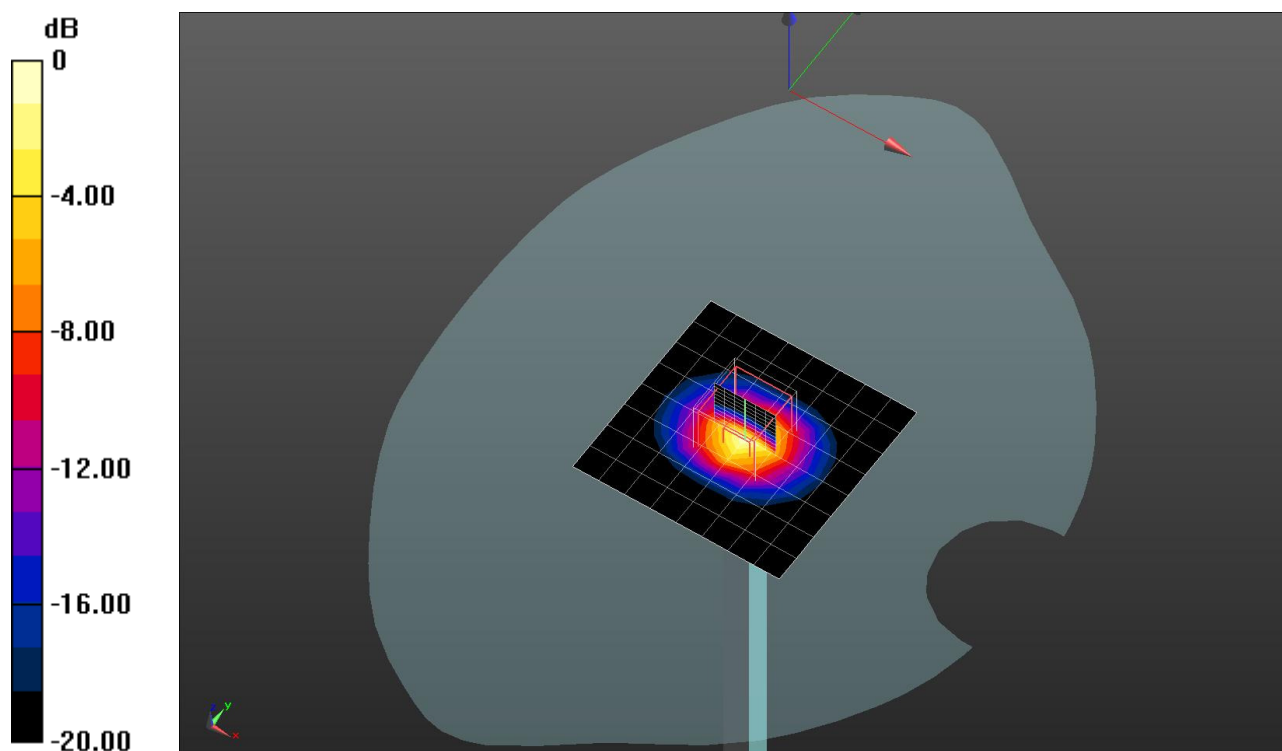
Maximum value of SAR (measured) = 15.8 W/kg

Dipole/Input 100 mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 62.17 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 31.3 W/kg

SAR(1 g) = 7.62 W/kg; SAR(10 g) = 2.19 W/kg



0 dB = 15.8 W/kg = 11.99 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1111

Frequency: 5600 MHz; Duty Cycle: 1:1

Room Ambient Temperature: 24.0°C; Liquid Temperature: 23.0°C

Medium parameters used: $f = 5600$ MHz; $\sigma = 4.935$ S/m; $\epsilon_r = 34.728$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: EX3DV4 - SN7321; ConvF(4.45, 4.45, 4.45); Calibrated: 8/18/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/23/2015
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Dipole/Input 100 mW/Area Scan (9x9x1): Measurement grid: dx=10mm, dy=10mm

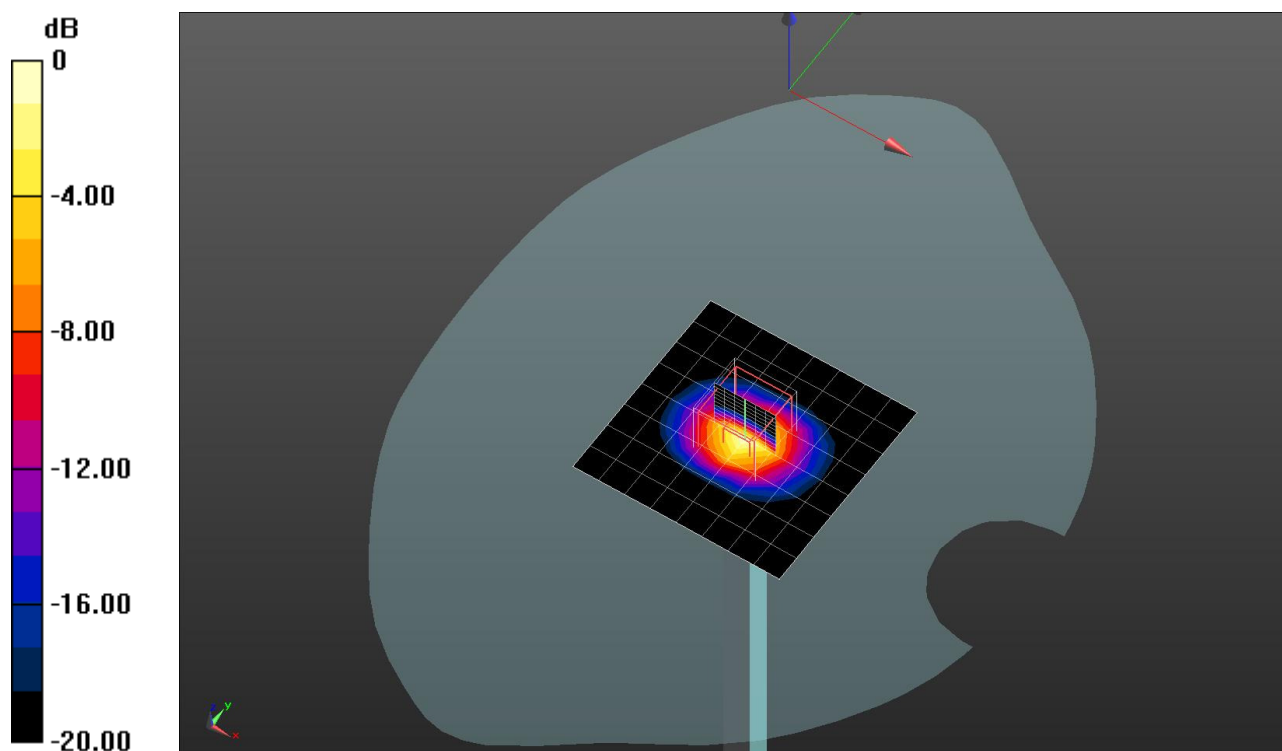
Maximum value of SAR (measured) = 17.6 W/kg

Dipole/Input 100 mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 63.92 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 36.1 W/kg

SAR(1 g) = 8.31 W/kg; SAR(10 g) = 2.36 W/kg



0 dB = 17.6 W/kg = 12.46 dBW/kg