

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: $f = 835 \text{ MHz}$; $\sigma = 0.906 \text{ S/m}$; $\epsilon_r = 41.45$; $\rho = 1000 \text{ kg/m}^3$

DASY5 Configuration:

- Probe: ET3DV6 - SN1679; ConvF(6.38, 6.38, 6.38); Calibrated: 8/16/2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/27/2013
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

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

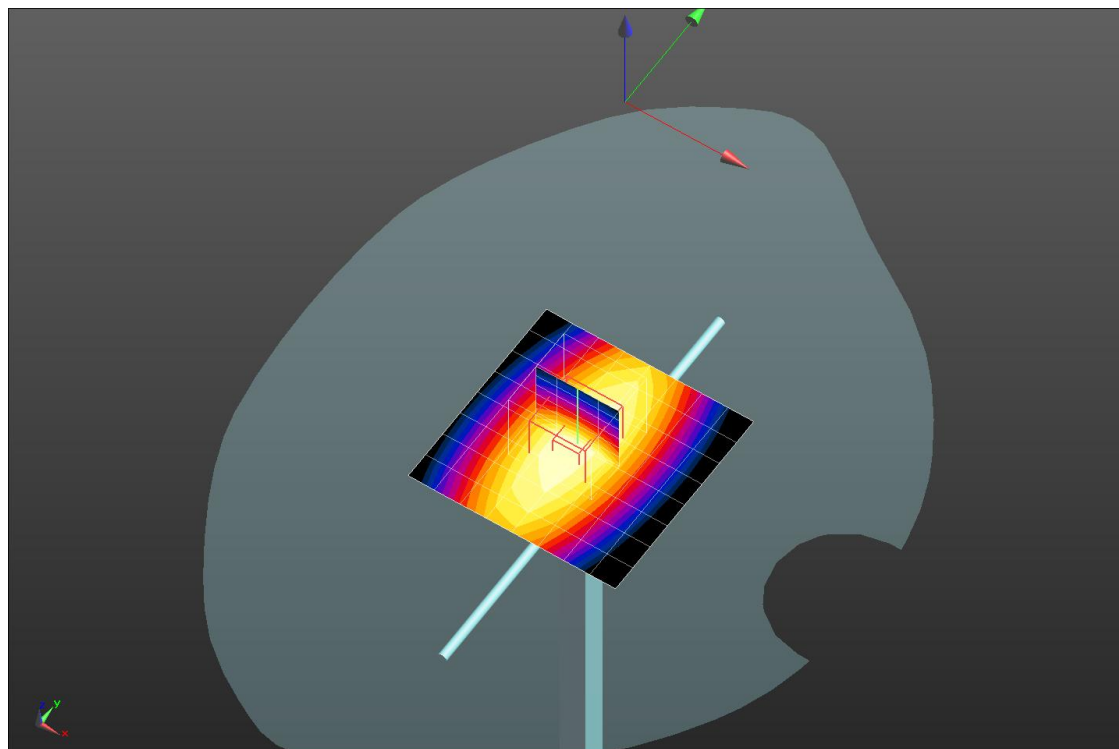
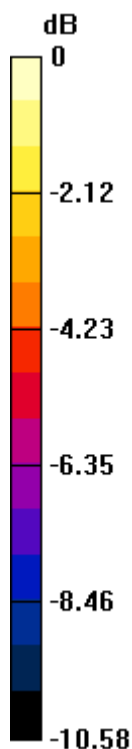
Dipole/Input 250 mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 54.573 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 3.44 W/kg

SAR(1 g) = 2.34 W/kg; SAR(10 g) = 1.53 W/kg

Maximum value of SAR (measured) = 2.53 W/kg



0 dB = 2.53 W/kg = 4.03 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: $f = 835 \text{ MHz}$; $\sigma = 0.978 \text{ S/m}$; $\epsilon_r = 54.831$; $\rho = 1000 \text{ kg/m}^3$

DASY5 Configuration:

- Probe: ET3DV6 - SN1679; ConvF(6.04, 6.04, 6.04); Calibrated: 8/16/2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/27/2013
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

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

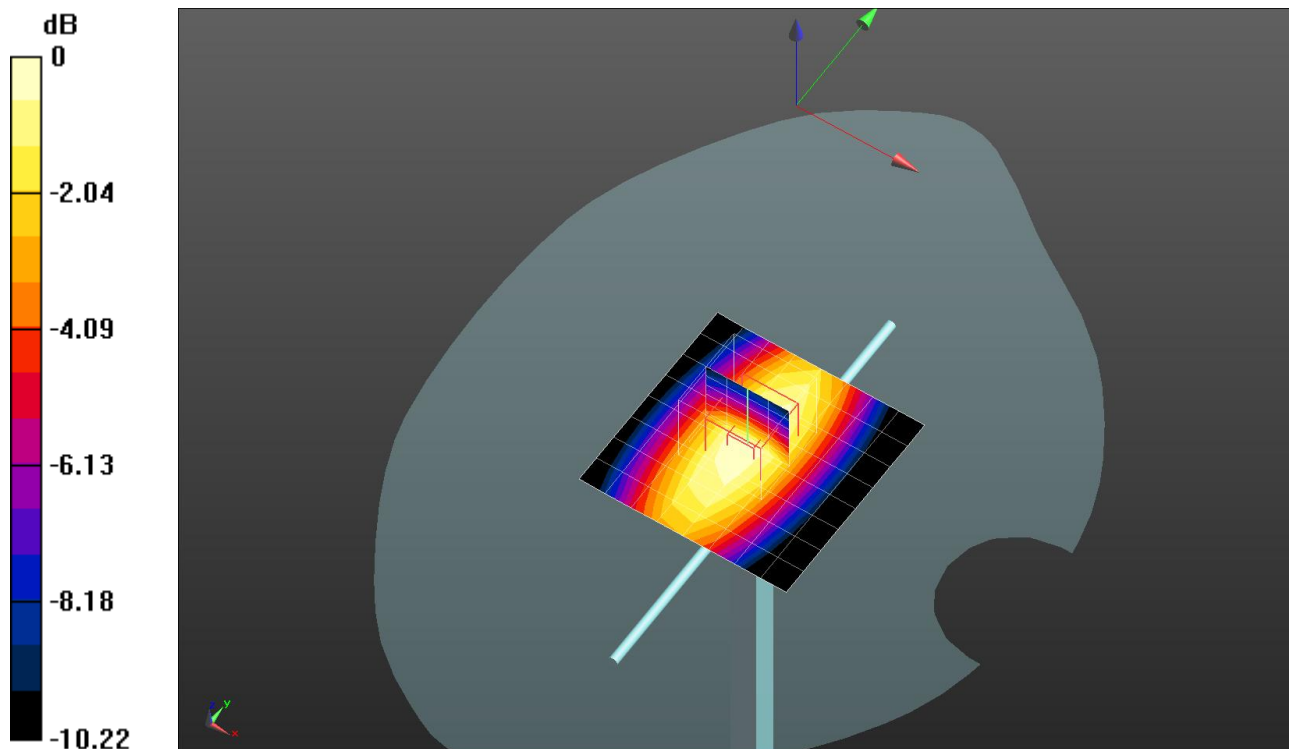
Dipole/Input 250 mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 53.565 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 3.51 W/kg

SAR(1 g) = 2.46 W/kg; SAR(10 g) = 1.62 W/kg

Maximum value of SAR (measured) = 2.68 W/kg



0 dB = 2.68 W/kg = 4.28 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; $\sigma = 1.448$ S/m; $\epsilon_r = 39.437$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: ET3DV6 - SN1679; ConvF(5.04, 5.04, 5.04); Calibrated: 8/16/2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/27/2013
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

Maximum value of SAR (measured) = 10.7 W/kg

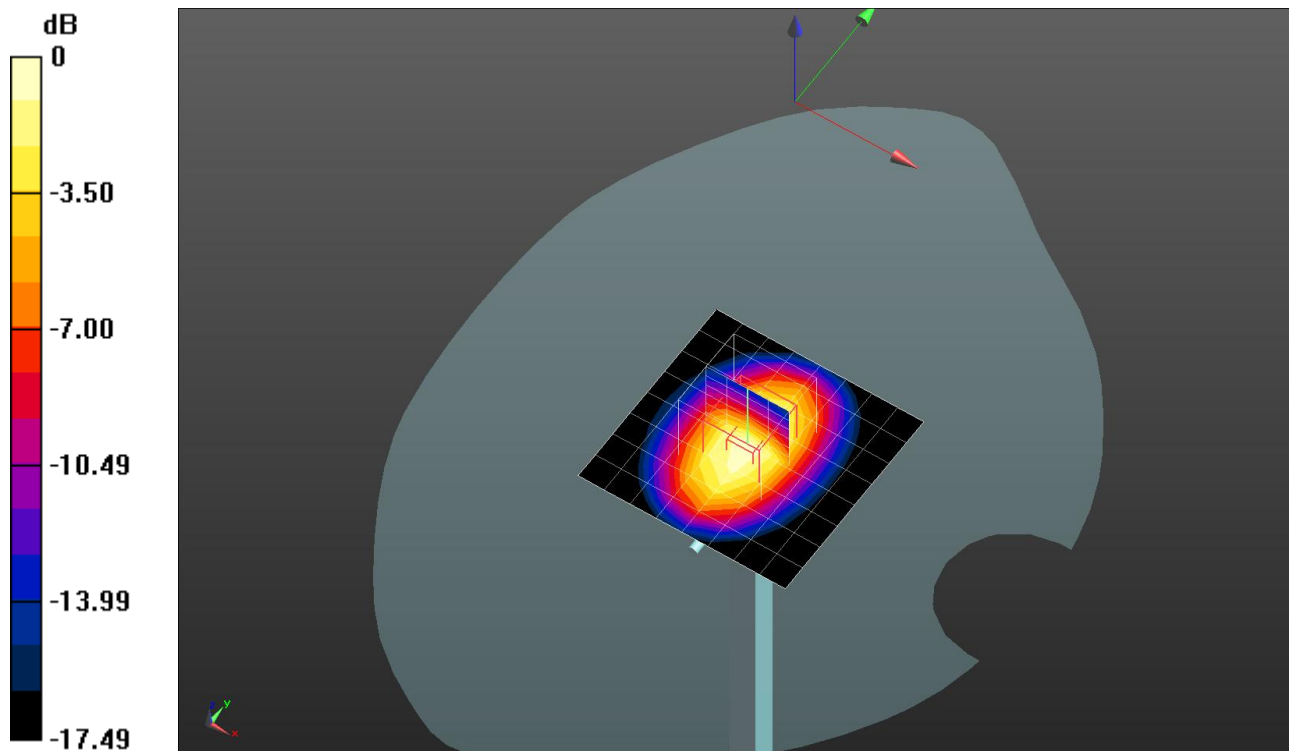
Dipole/Input 250 mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 90.511 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 15.8 W/kg

SAR(1 g) = 9.47 W/kg; SAR(10 g) = 5.03 W/kg

Maximum value of SAR (measured) = 10.7 W/kg



0 dB = 10.7 W/kg = 10.29 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; $\sigma = 1.562$ S/m; $\epsilon_r = 52.568$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: ET3DV6 - SN1679; ConvF(4.48, 4.48, 4.48); Calibrated: 8/16/2013;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/27/2013
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

Maximum value of SAR (measured) = 11.4 W/kg

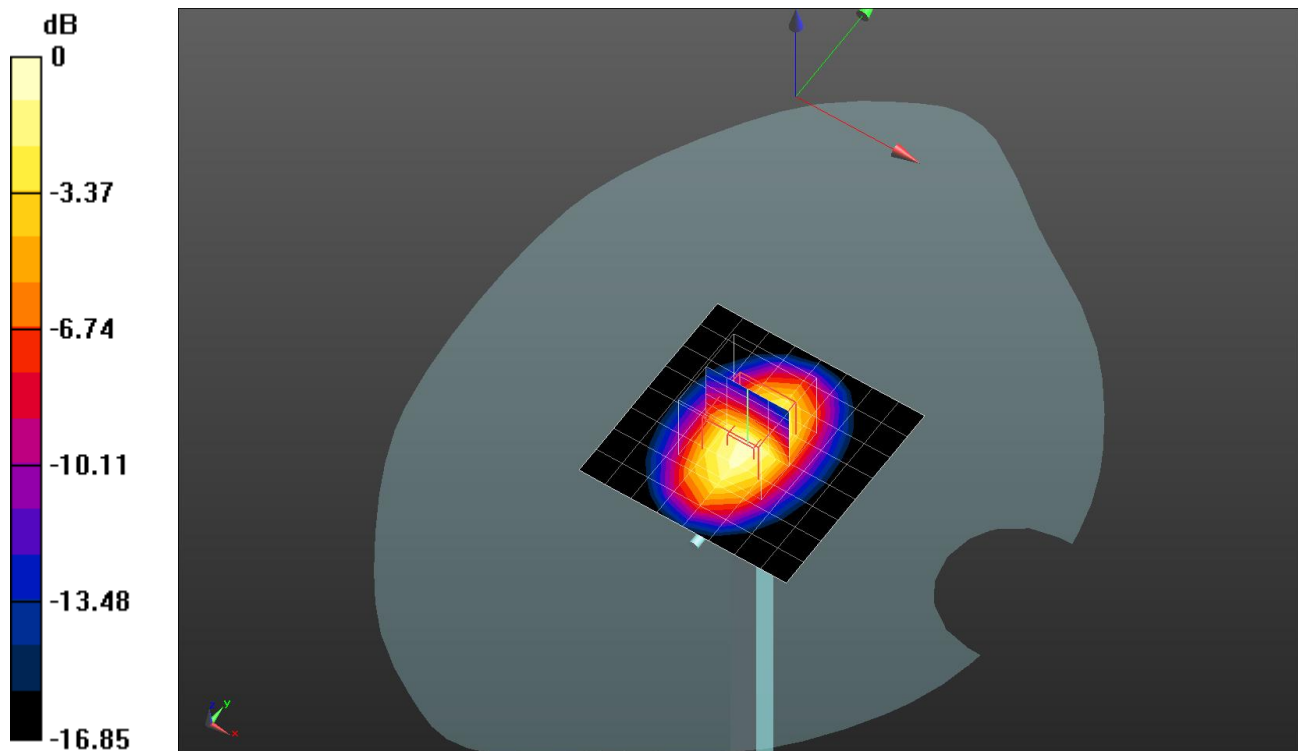
Dipole/Input 250 mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 92.722 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 16.7 W/kg

SAR(1 g) = 10.2 W/kg; SAR(10 g) = 5.44 W/kg

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



0 dB = 11.5 W/kg = 10.61 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; $\sigma = 1.876$ S/m; $\epsilon_r = 38.047$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: EX3DV4 - SN3808; ConvF(6.95, 6.95, 6.95); Calibrated: 9/12/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/27/2013
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

Maximum value of SAR (measured) = 20.4 W/kg

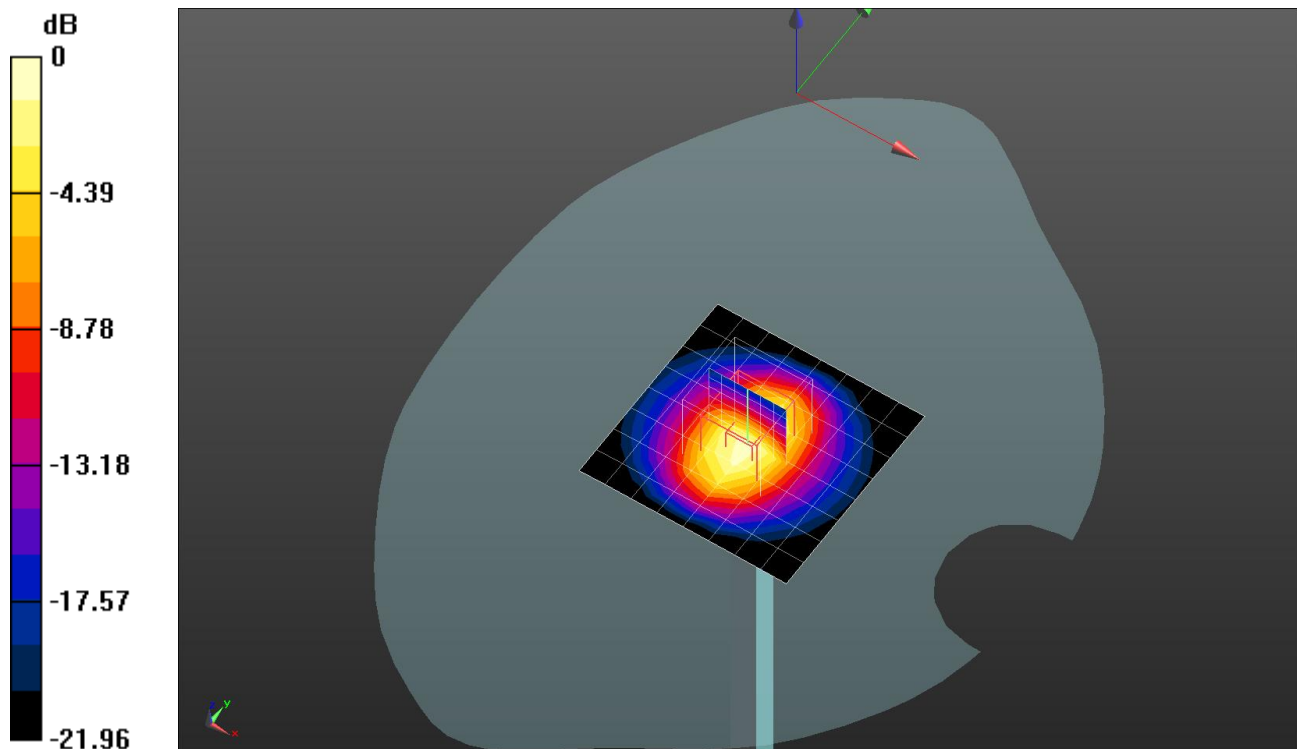
Dipole/Input 250 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 105.5 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 28.0 W/kg

SAR(1 g) = 13.4 W/kg; SAR(10 g) = 6.2 W/kg

Maximum value of SAR (measured) = 20.7 W/kg



0 dB = 20.7 W/kg = 13.16 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

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

Frequency: 5200 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 5200$ MHz; $\sigma = 5.33$ S/m; $\epsilon_r = 47.524$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: EX3DV4 - SN3808; ConvF(4.27, 4.27, 4.27); Calibrated: 9/12/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/27/2013
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

Maximum value of SAR (measured) = 38.5 W/kg

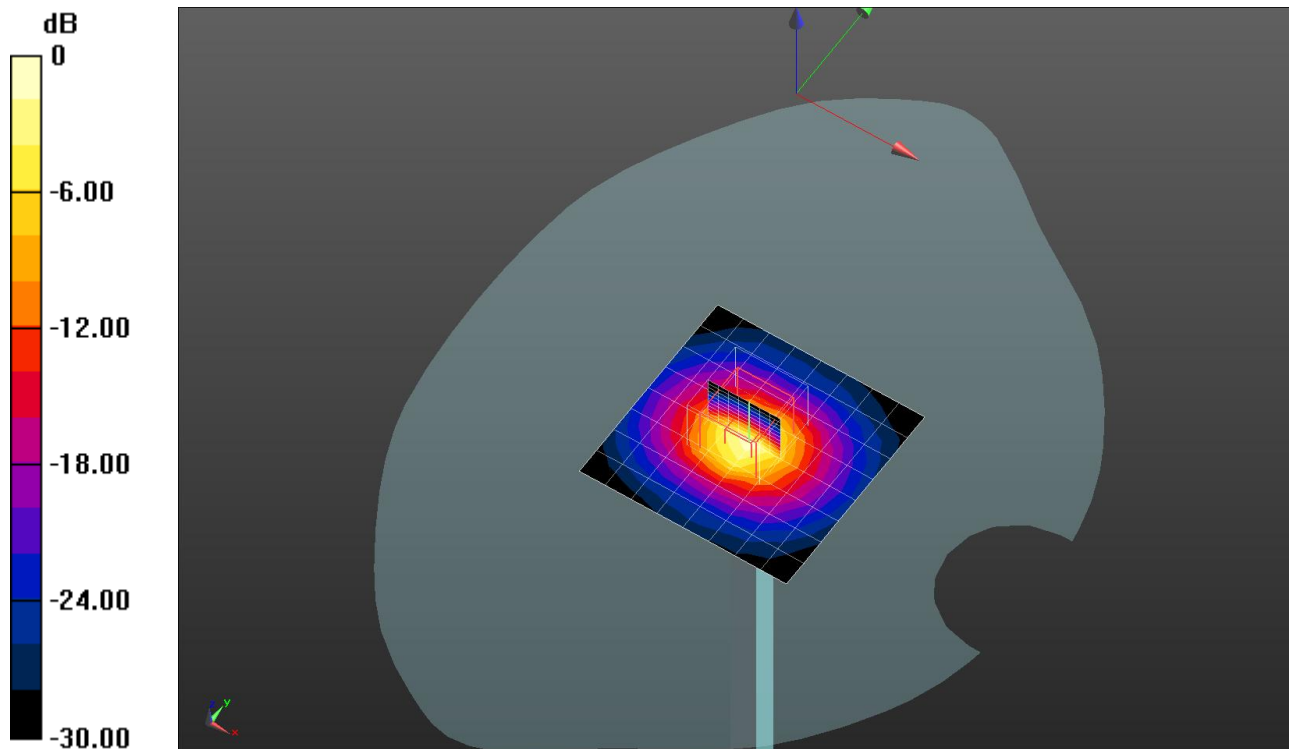
Dipole/Input 250 mW/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 91.086 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 76.8 W/kg

SAR(1 g) = 19.2 W/kg; SAR(10 g) = 5.47 W/kg

Maximum value of SAR (measured) = 39.9 W/kg



0 dB = 39.9 W/kg = 16.01 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

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

Frequency: 5300 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 5300$ MHz; $\sigma = 5.452$ S/m; $\epsilon_r = 47.361$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: EX3DV4 - SN3808; ConvF(4.07, 4.07, 4.07); Calibrated: 9/12/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/27/2013
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

Maximum value of SAR (measured) = 42.1 W/kg

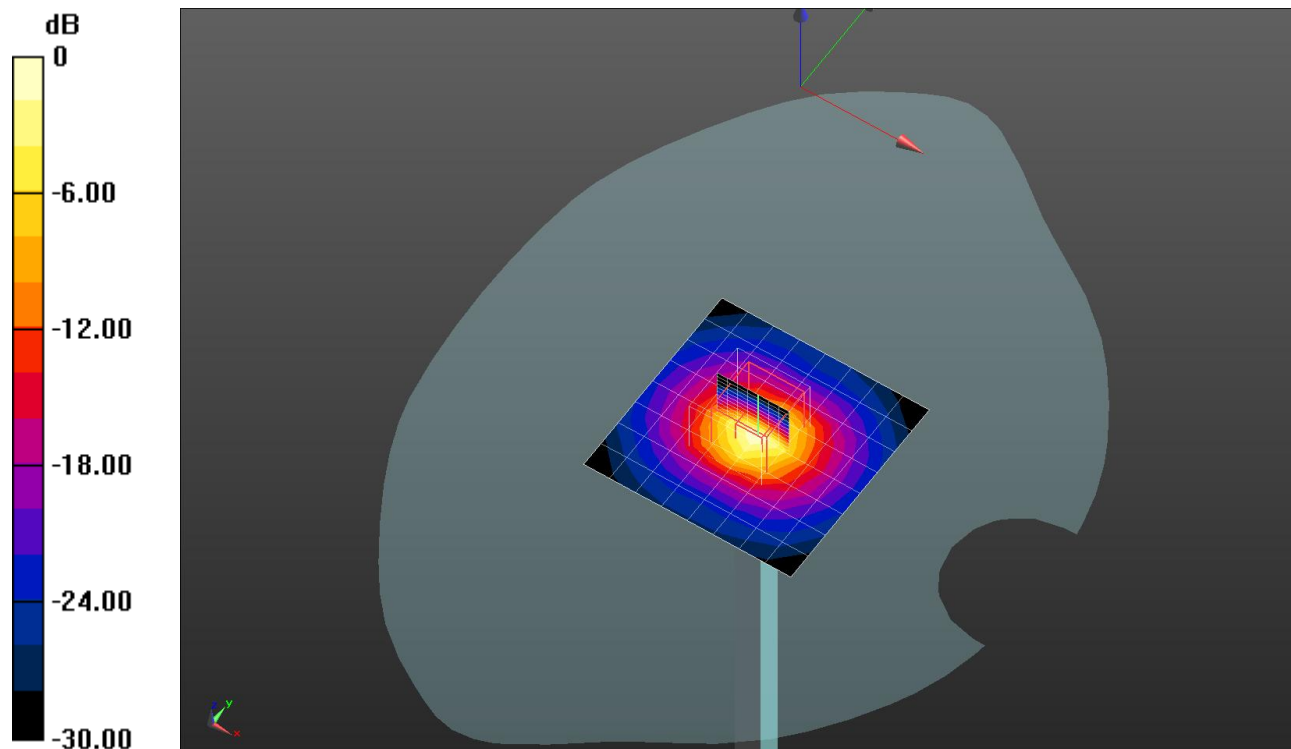
Dipole/Input 250 mW/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 95.040 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 79.6 W/kg

SAR(1 g) = 19.7 W/kg; SAR(10 g) = 5.54 W/kg

Maximum value of SAR (measured) = 40.3 W/kg



0 dB = 40.3 W/kg = 16.05 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; $\sigma = 5.847$ S/m; $\epsilon_r = 46.891$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: EX3DV4 - SN3808; ConvF(3.86, 3.86, 3.86); Calibrated: 9/12/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/27/2013
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

Maximum value of SAR (measured) = 43.3 W/kg

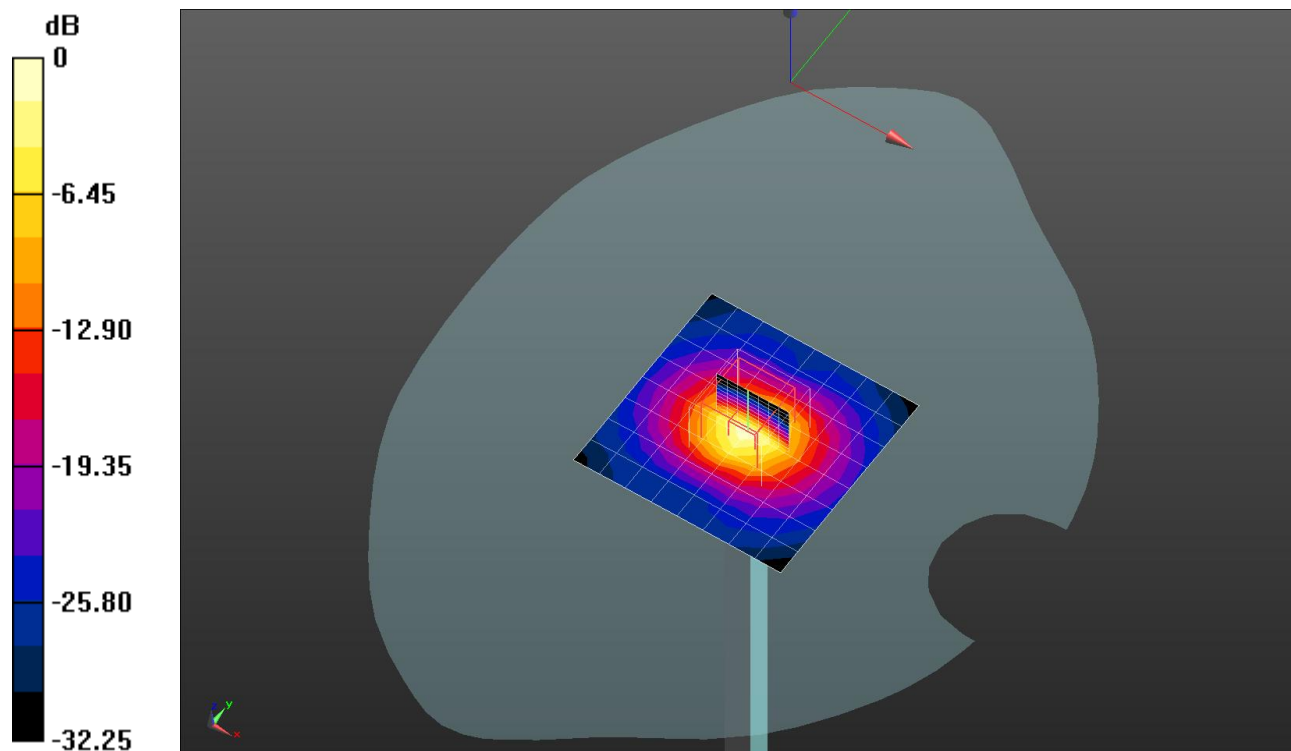
Dipole/Input 250 mW/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 94.161 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 88.4 W/kg

SAR(1 g) = 20.1 W/kg; SAR(10 g) = 5.6 W/kg

Maximum value of SAR (measured) = 42.8 W/kg



0 dB = 42.8 W/kg = 16.31 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

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

Frequency: 5200 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 5200$ MHz; $\sigma = 4.534$ S/m; $\epsilon_r = 36.353$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: EX3DV4 - SN3808; ConvF(4.99, 4.99, 4.99); Calibrated: 9/12/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/27/2013
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

Maximum value of SAR (measured) = 39.1 W/kg

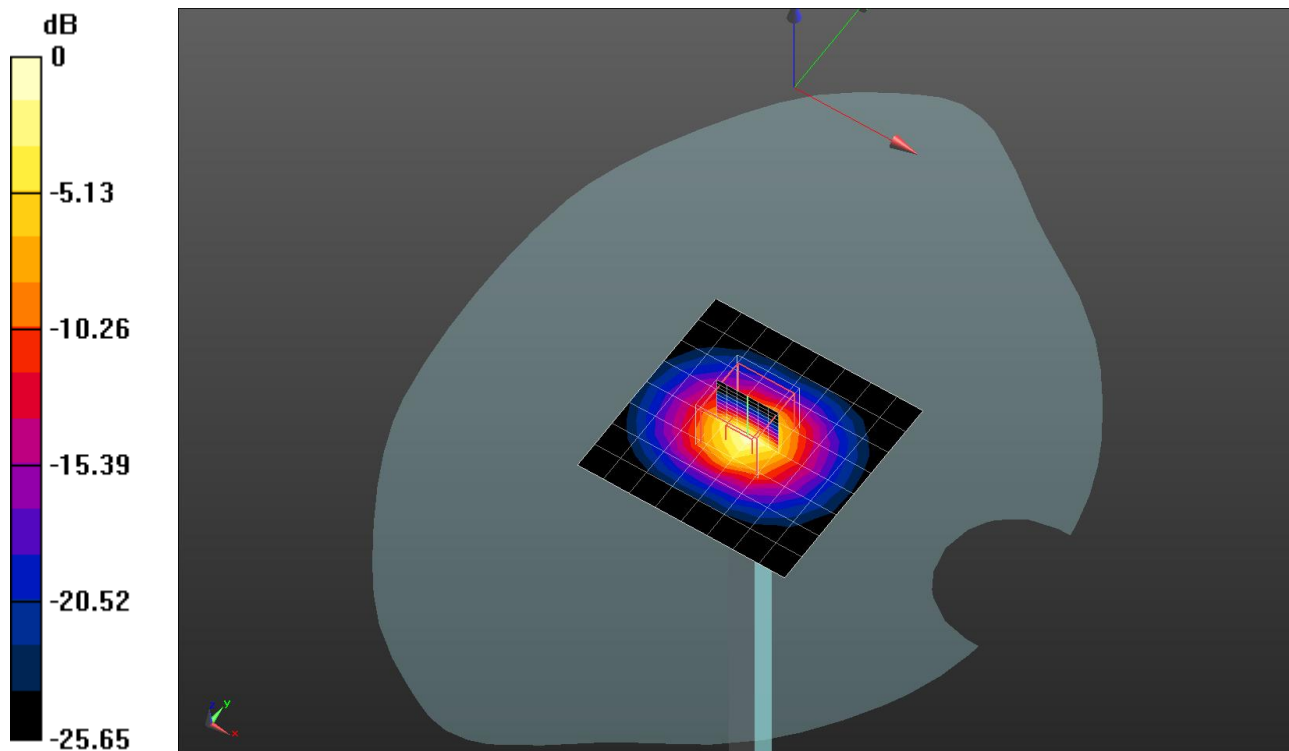
Dipole/Input 250 mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 96.838 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 76.0 W/kg

SAR(1 g) = 19 W/kg; SAR(10 g) = 5.48 W/kg

Maximum value of SAR (measured) = 39.4 W/kg



0 dB = 39.4 W/kg = 15.95 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

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

Frequency: 5300 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 5300$ MHz; $\sigma = 4.632$ S/m; $\epsilon_r = 36.2$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: EX3DV4 - SN3808; ConvF(4.85, 4.85, 4.85); Calibrated: 9/12/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/27/2013
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

Maximum value of SAR (measured) = 42.8 W/kg

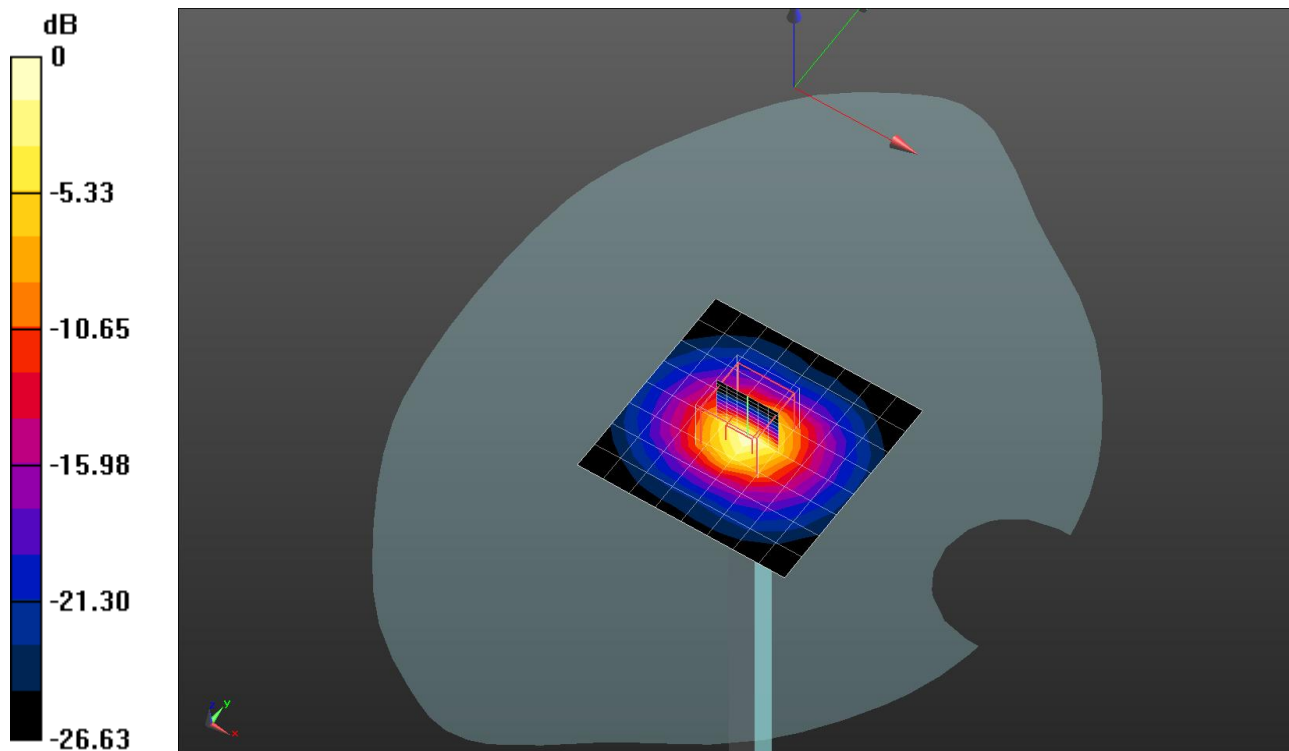
Dipole/Input 250 mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 103.4 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 79.8 W/kg

SAR(1 g) = 19.6 W/kg; SAR(10 g) = 5.58 W/kg

Maximum value of SAR (measured) = 39.8 W/kg



0 dB = 39.8 W/kg = 16.00 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; $\sigma = 4.941$ S/m; $\epsilon_r = 35.248$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: EX3DV4 - SN3808; ConvF(4.32, 4.32, 4.32); Calibrated: 9/12/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/27/2013
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

Maximum value of SAR (measured) = 41.8 W/kg

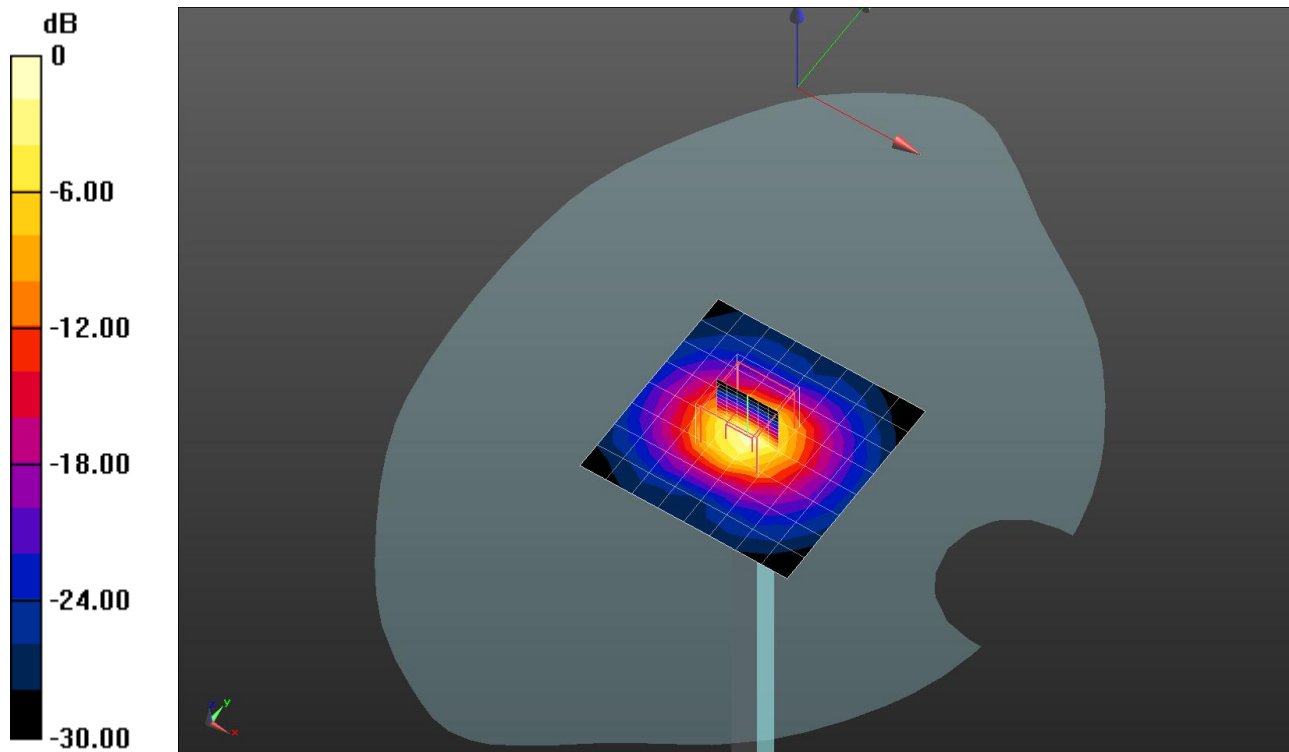
Dipole/Input 250 mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 98.950 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 82.7 W/kg

SAR(1 g) = 20.4 W/kg; SAR(10 g) = 5.82 W/kg

Maximum value of SAR (measured) = 42.6 W/kg



0 dB = 42.6 W/kg = 16.29 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; $\sigma = 1.936$ S/m; $\epsilon_r = 52.039$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: EX3DV4 - SN3808; ConvF(7.14, 7.14, 7.14); Calibrated: 9/12/2013;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/27/2013
- Phantom: SAM v4.0 SN1194; Type: QD000P40CA; Serial: TP 1194
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

Maximum value of SAR (measured) = 17.9 W/kg

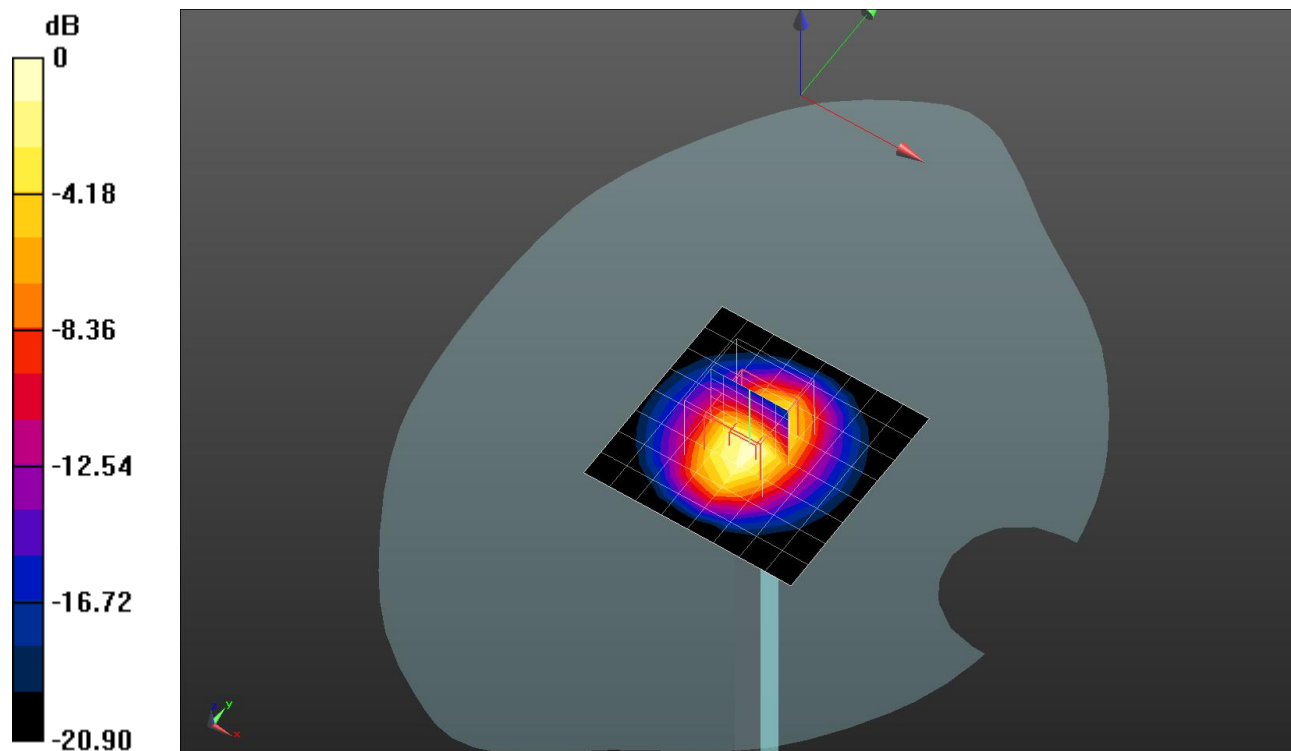
Dipole/Input 250 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 98.315 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 24.7 W/kg

SAR(1 g) = 12.2 W/kg; SAR(10 g) = 5.72 W/kg

Maximum value of SAR (measured) = 18.5 W/kg



0 dB = 18.5 W/kg = 12.67 dBW/kg