

## Appendix 1 – System Performance Check Plots

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;  $\sigma = 1.43$  S/m;  $\epsilon_r = 39.816$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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 SN1200; Type: QD000P40CC; Serial: TP 1200
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

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

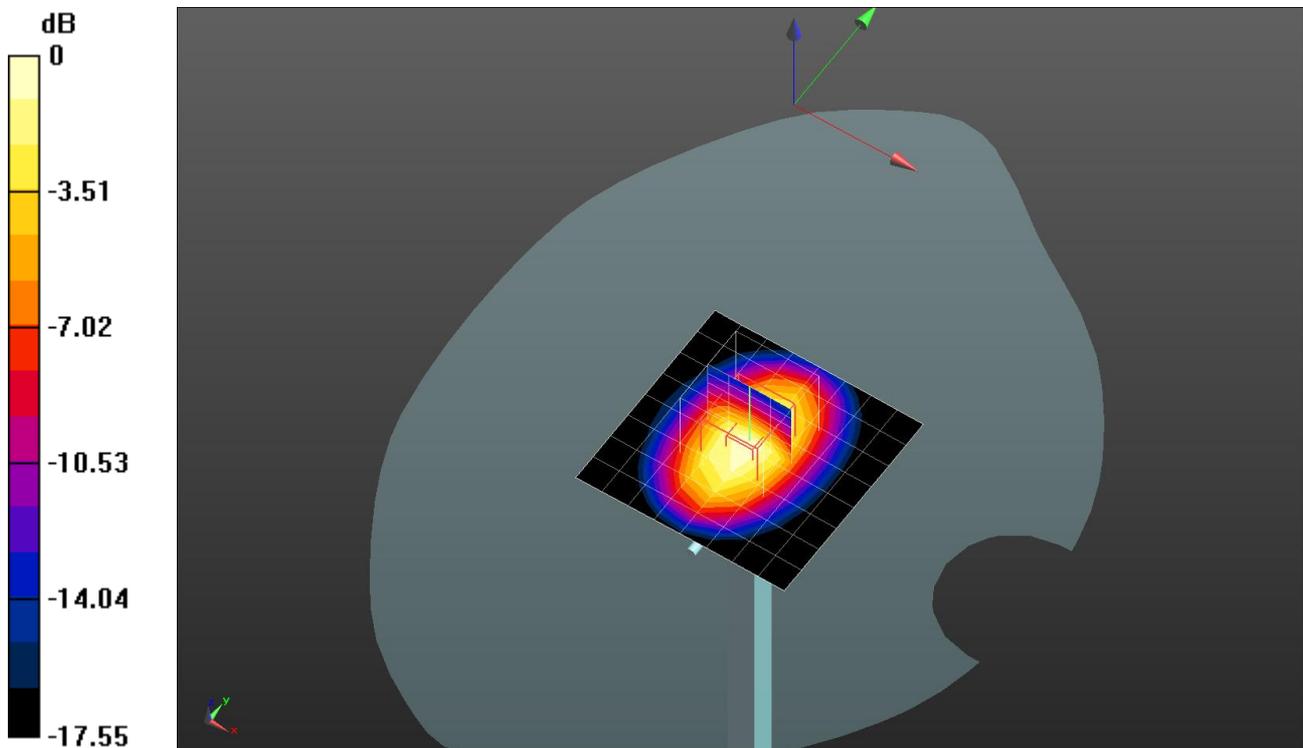
**Head/Input 250 mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 91.138 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 16.1 W/kg

**SAR(1 g) = 9.63 W/kg; SAR(10 g) = 5.11 W/kg**

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



0 dB = 10.9 W/kg = 10.37 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;  $\sigma = 1.552$  S/m;  $\epsilon_r = 52.724$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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 SN1200; Type: QD000P40CC; Serial: TP 1200
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

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

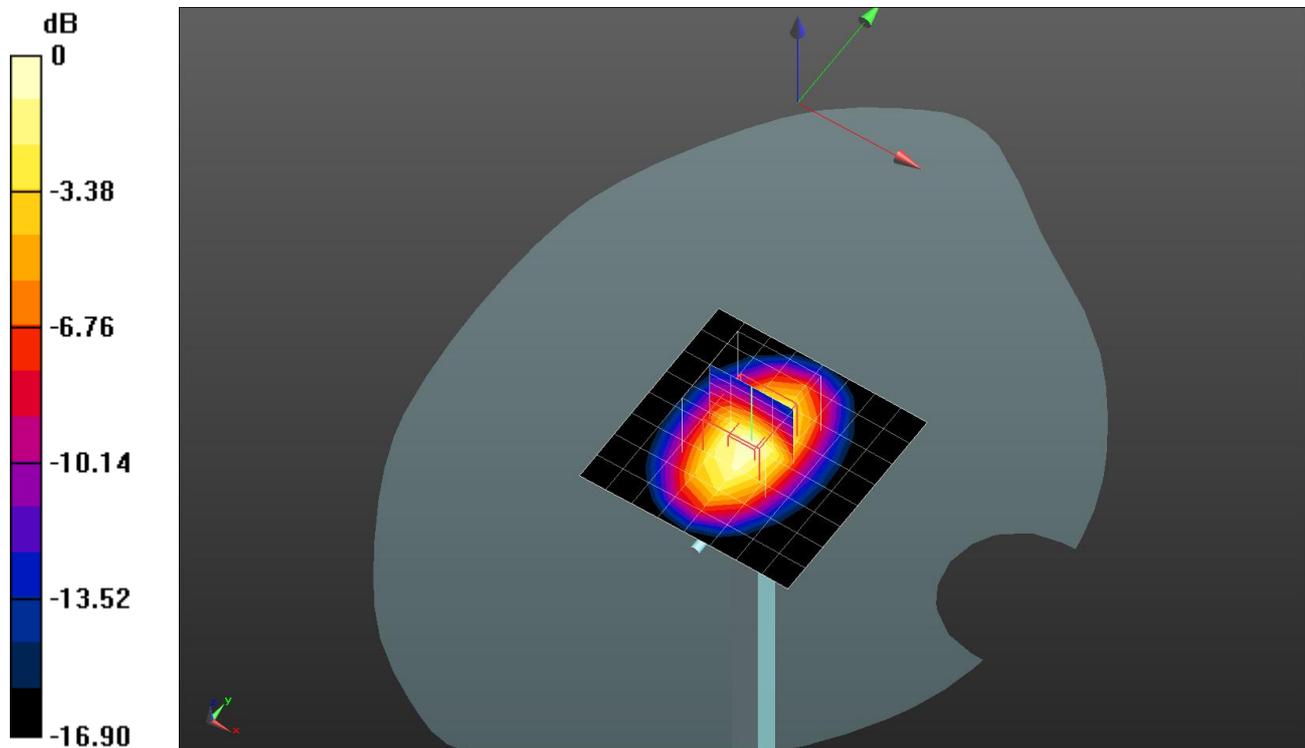
**Body/Input 250 mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 90.312 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 16.4 W/kg

**SAR(1 g) = 10.1 W/kg; SAR(10 g) = 5.41 W/kg**

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



0 dB = 11.3 W/kg = 10.53 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;  $\sigma = 1.873$  S/m;  $\epsilon_r = 38.661$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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 SN1200; Type: QD000P40CC; Serial: TP 1200
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

Maximum value of SAR (measured) = 20.2 W/kg

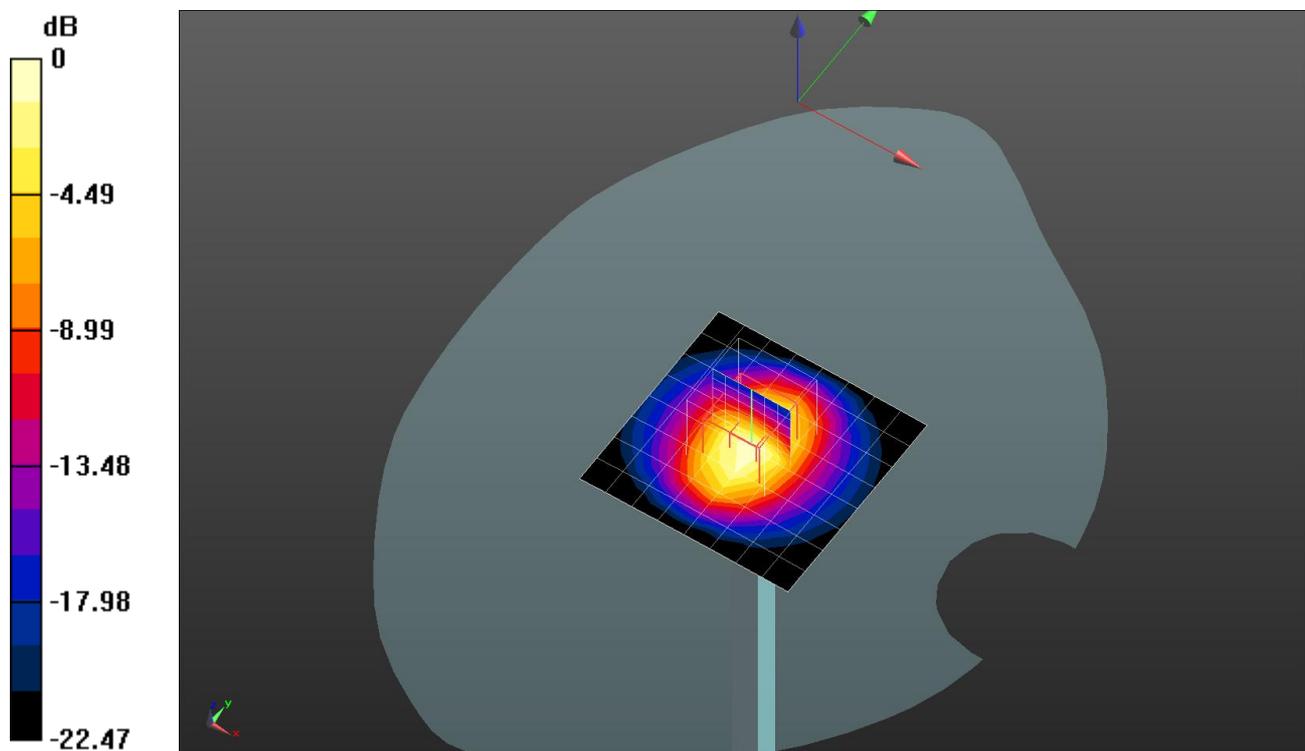
**Head/Input 250 mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 106.1 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 28.0 W/kg

**SAR(1 g) = 13.3 W/kg; SAR(10 g) = 6.12 W/kg**

Maximum value of SAR (measured) = 20.5 W/kg



0 dB = 20.5 W/kg = 13.12 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;  $\sigma = 1.948$  S/m;  $\epsilon_r = 51.435$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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 SN1200; Type: QD000P40CC; Serial: TP 1200
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

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

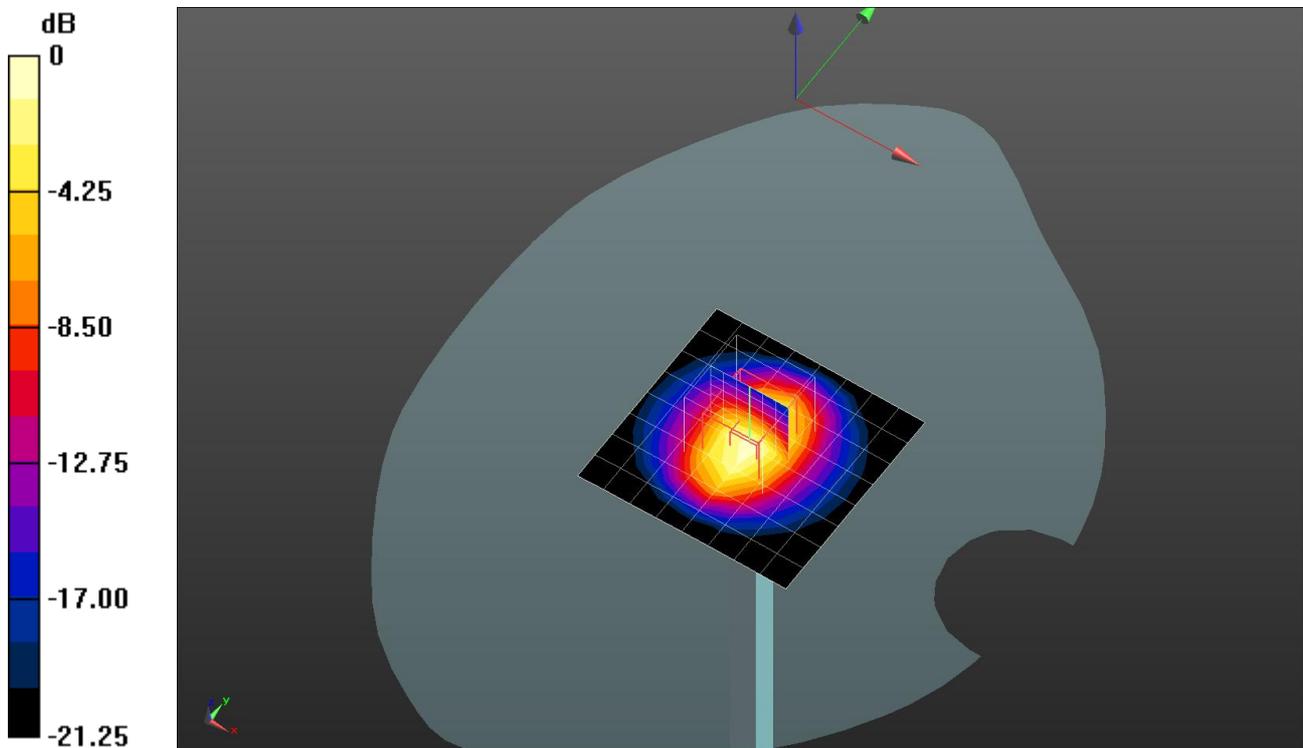
**Body/Input 250 mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 96.742 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 25.2 W/kg

**SAR(1 g) = 12.1 W/kg; SAR(10 g) = 5.66 W/kg**

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



0 dB = 18.7 W/kg = 12.72 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;  $\sigma = 4.892$  S/m;  $\epsilon_r = 35.18$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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 SN1200; Type: QD000P40CC; Serial: TP 1200
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

Maximum value of SAR (measured) = 41.5 W/kg

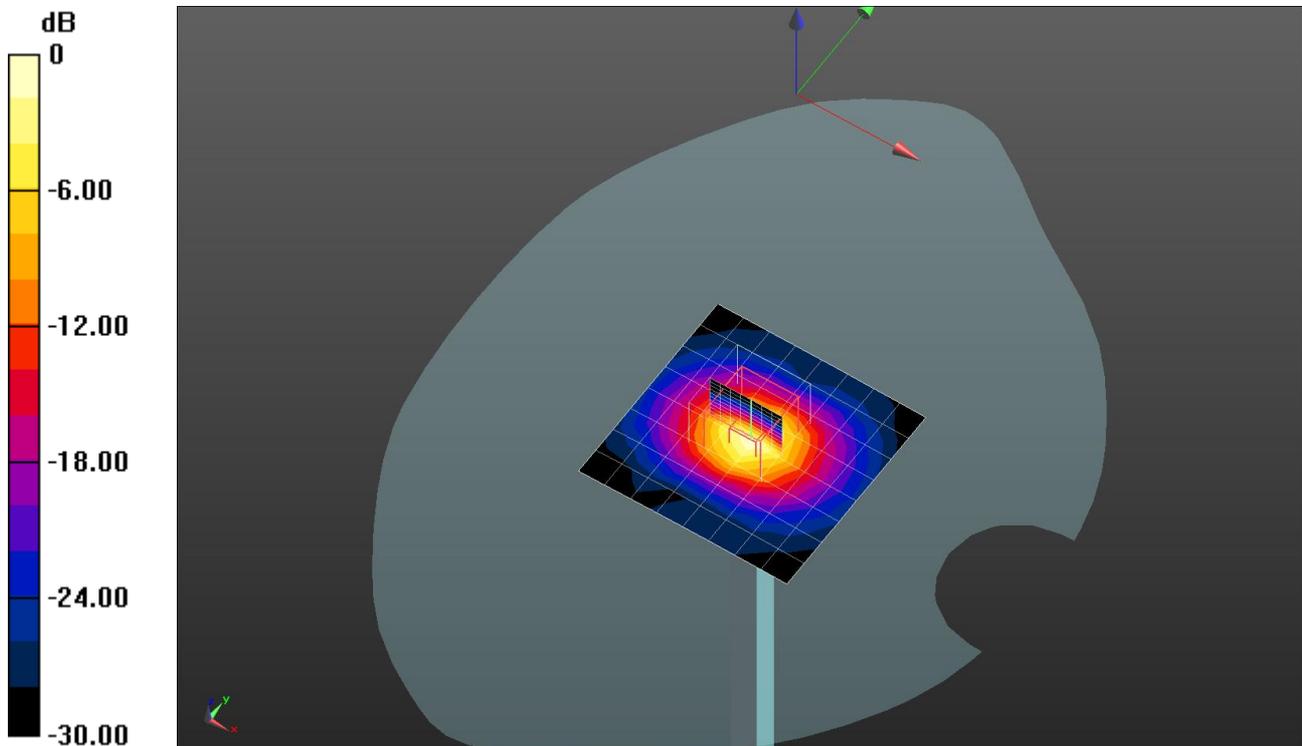
**Head/Input 250 mW/Zoom Scan (8x8x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 99.176 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 81.7 W/kg

**SAR(1 g) = 19.8 W/kg; SAR(10 g) = 5.6 W/kg**

Maximum value of SAR (measured) = 41.3 W/kg



0 dB = 41.3 W/kg = 16.16 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;  $\sigma = 4.551$  S/m;  $\epsilon_r = 36.316$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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 SN1200; Type: QD000P40CC; Serial: TP 1200
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

Maximum value of SAR (measured) = 39.7 W/kg

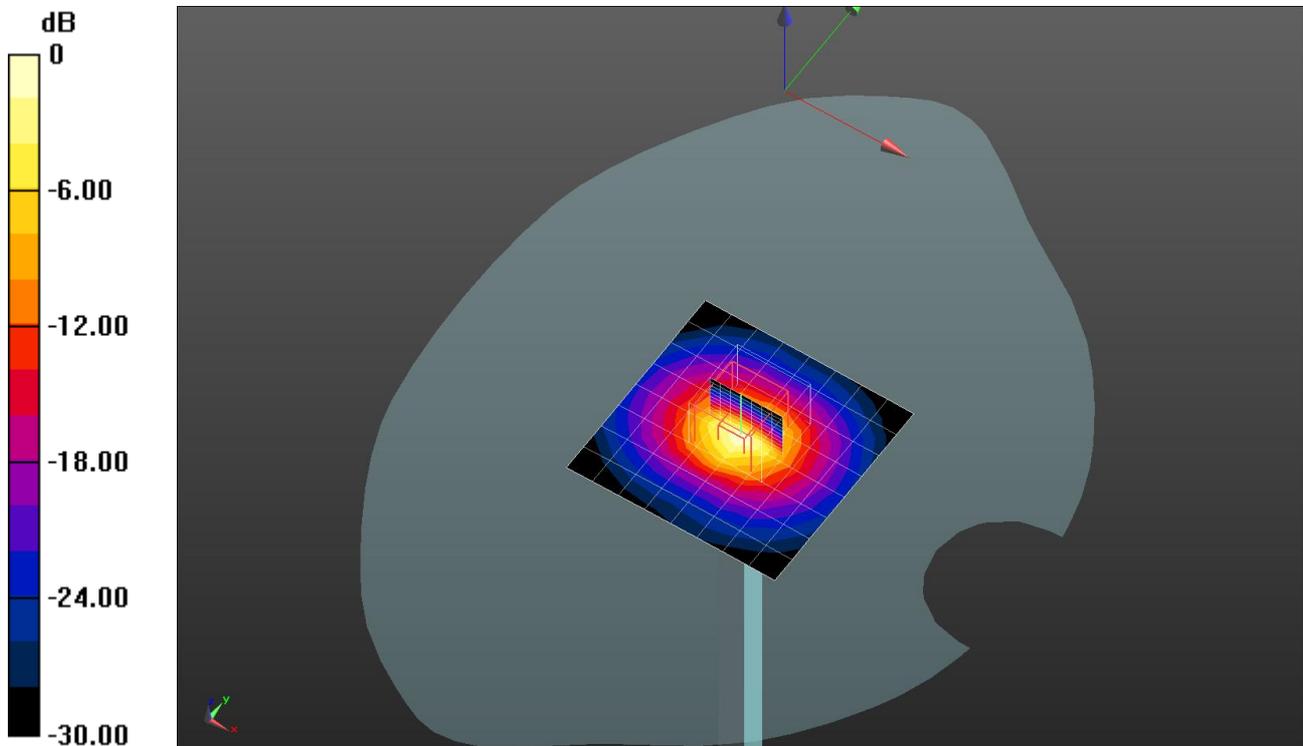
**Head/Input 250 mW/Zoom Scan (8x8x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 99.091 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 76.8 W/kg

**SAR(1 g) = 19.1 W/kg; SAR(10 g) = 5.48 W/kg**

Maximum value of SAR (measured) = 39.6 W/kg



0 dB = 39.6 W/kg = 15.98 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;  $\sigma = 4.653$  S/m;  $\epsilon_r = 36.165$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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 SN1200; Type: QD000P40CC; Serial: TP 1200
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

Maximum value of SAR (measured) = 38.0 W/kg

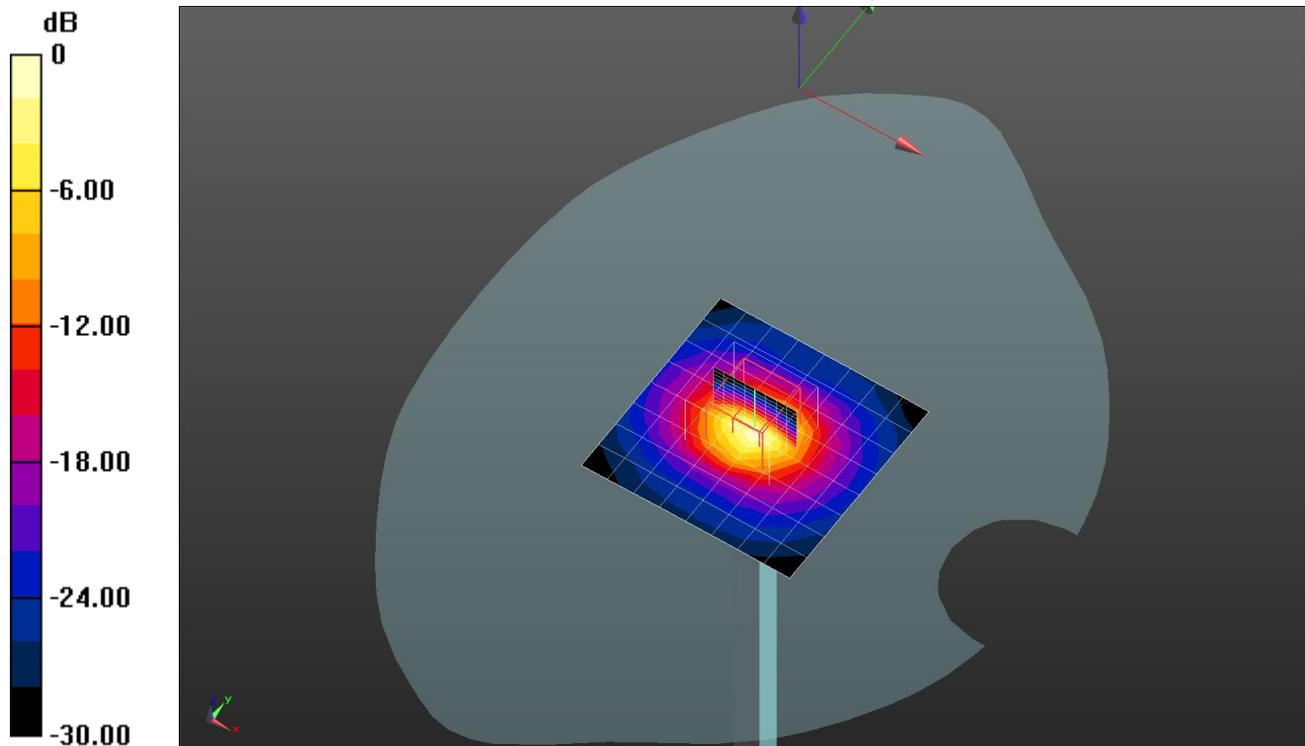
**Head/Input 250 mW/Zoom Scan (9x8x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 95.730 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 85.6 W/kg

**SAR(1 g) = 20.2 W/kg; SAR(10 g) = 5.68 W/kg**

Maximum value of SAR (measured) = 42.4 W/kg



0 dB = 42.4 W/kg = 16.27 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;  $\sigma = 5.381$  S/m;  $\epsilon_r = 48.28$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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 SN1200; Type: QD000P40CC; Serial: TP 1200
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

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

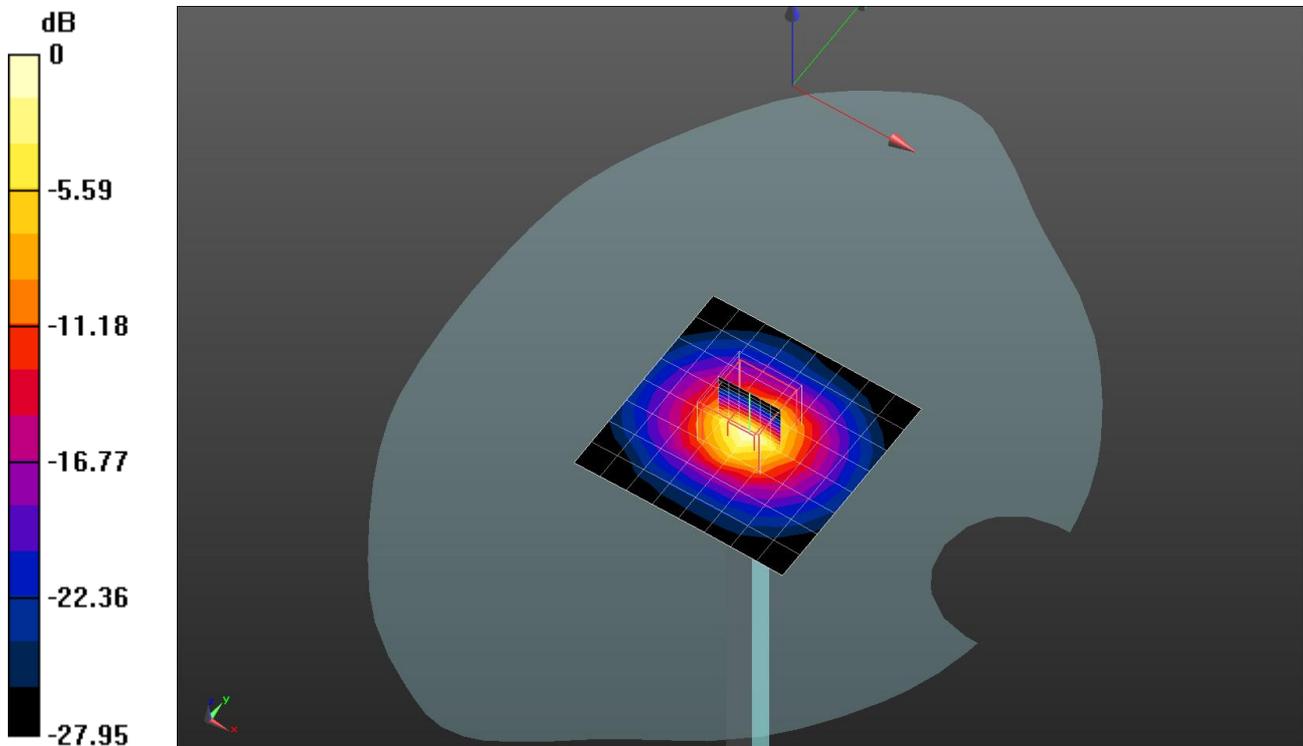
**Body/Input 250 mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 91.453 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 74.7 W/kg

**SAR(1 g) = 18.7 W/kg; SAR(10 g) = 5.3 W/kg**

Maximum value of SAR (measured) = 38.8 W/kg



0 dB = 38.8 W/kg = 15.89 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;  $\sigma = 5.506$  S/m;  $\epsilon_r = 48.116$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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 SN1200; Type: QD000P40CC; Serial: TP 1200
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

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

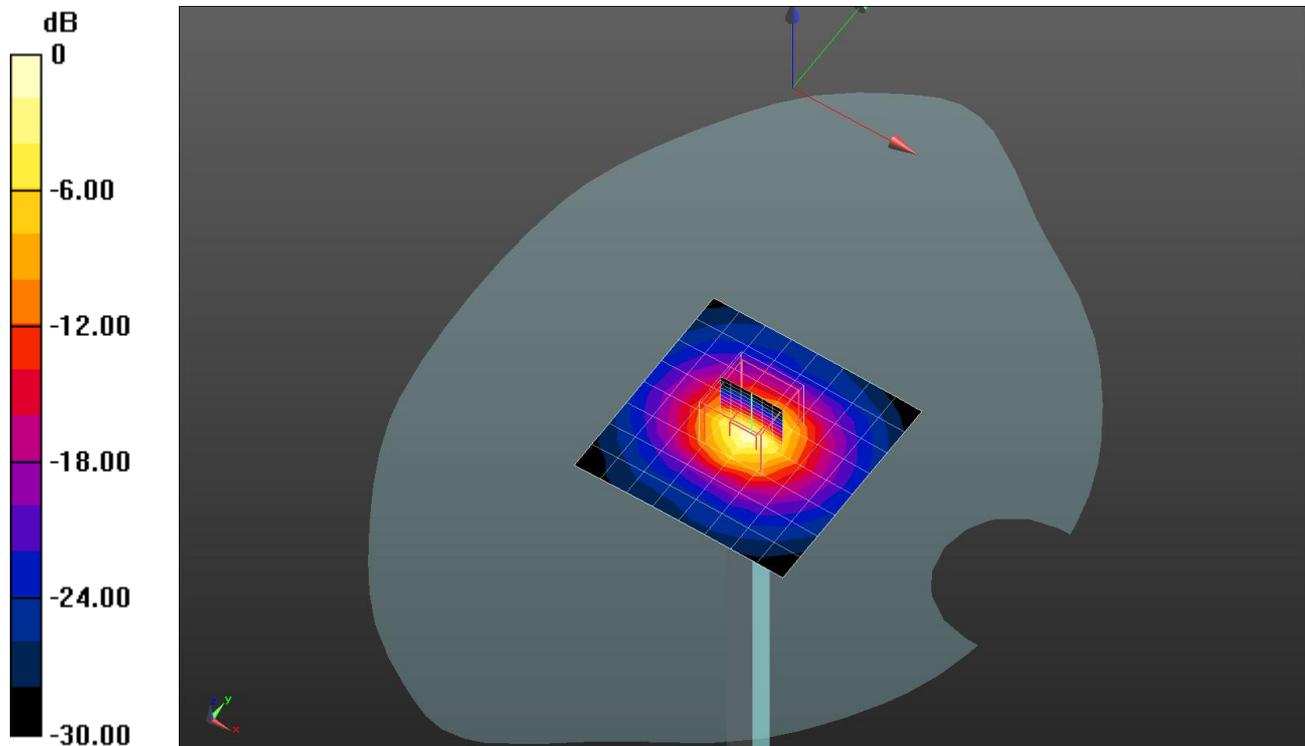
**Body/Input 250 mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 92.349 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 81.7 W/kg

**SAR(1 g) = 19.7 W/kg; SAR(10 g) = 5.49 W/kg**

Maximum value of SAR (measured) = 41.3 W/kg



0 dB = 41.3 W/kg = 16.16 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;  $\sigma = 5.873$  S/m;  $\epsilon_r = 47.838$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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 SN1200; Type: QD000P40CC; Serial: TP 1200
- Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

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

Maximum value of SAR (measured) = 41.9 W/kg

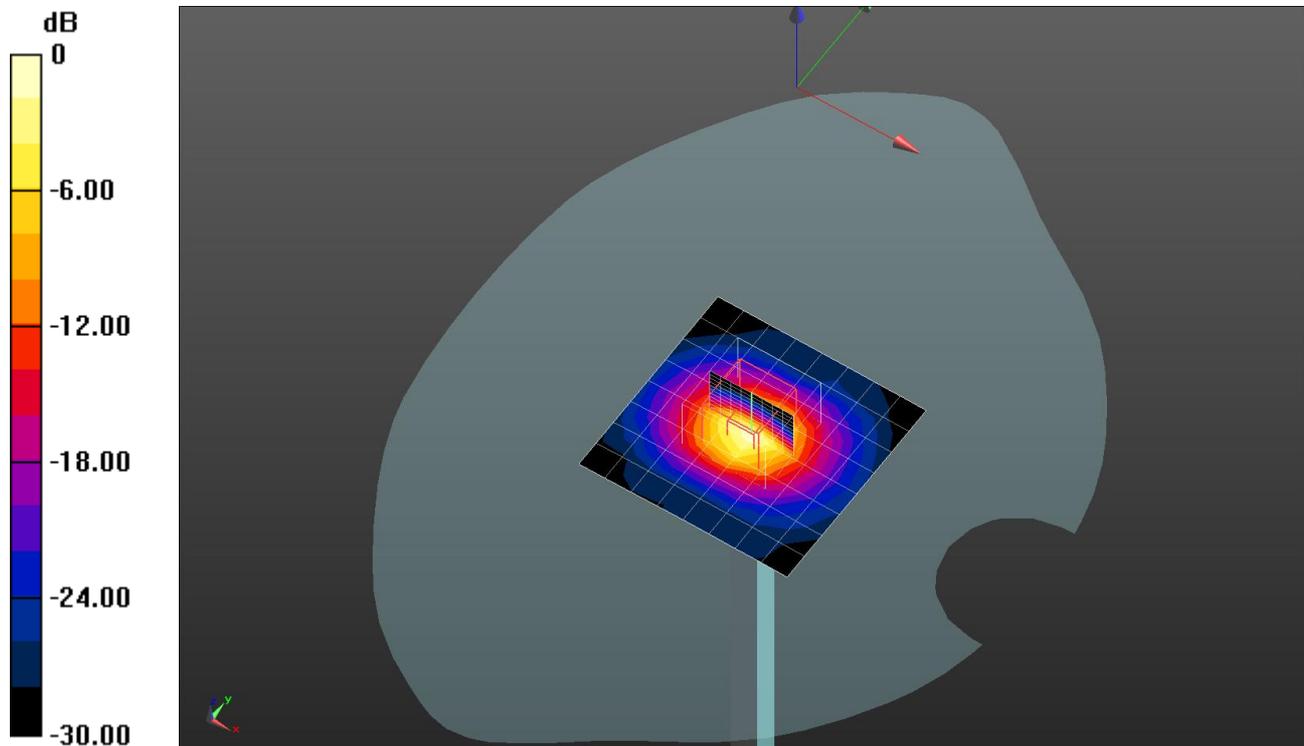
**Body/Input 250 mW/Zoom Scan (9x9x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 91.104 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 88.3 W/kg

**SAR(1 g) = 20.4 W/kg; SAR(10 g) = 5.65 W/kg**

Maximum value of SAR (measured) = 43.2 W/kg



0 dB = 43.2 W/kg = 16.35 dBW/kg