

## 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;  $\sigma = 1.425$  S/m;  $\epsilon_r = 39.509$ ;  $\rho = 1000$  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: 11/5/2012
- 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) = 10.9 W/kg

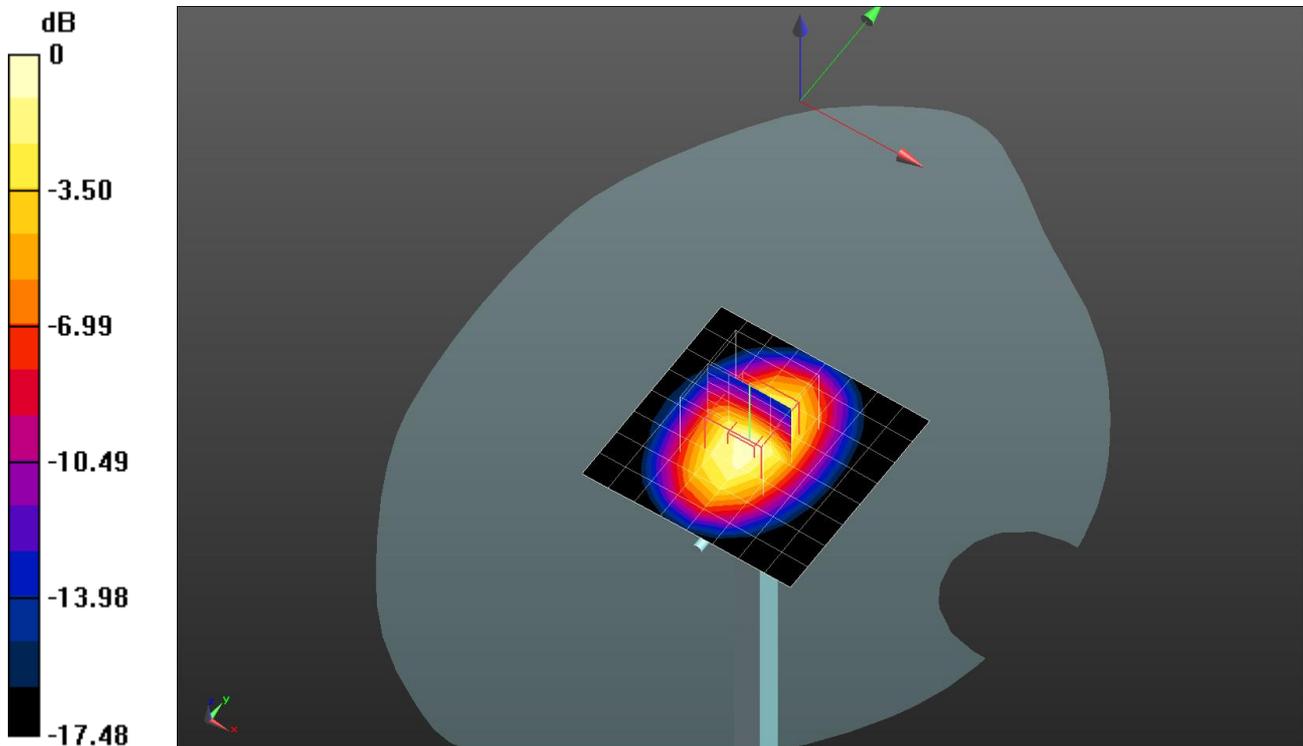
**Head/Input 250 mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 92.591 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 16.5 W/kg

**SAR(1 g) = 9.9 W/kg; SAR(10 g) = 5.27 W/kg**

Maximum value of SAR (measured) = 11.2 W/kg



0 dB = 11.2 W/kg = 10.49 dBW/kg

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## 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;  $\sigma = 1.564$  S/m;  $\epsilon_r = 52.321$ ;  $\rho = 1000$  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: 11/5/2012
- 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) = 11.8 W/kg

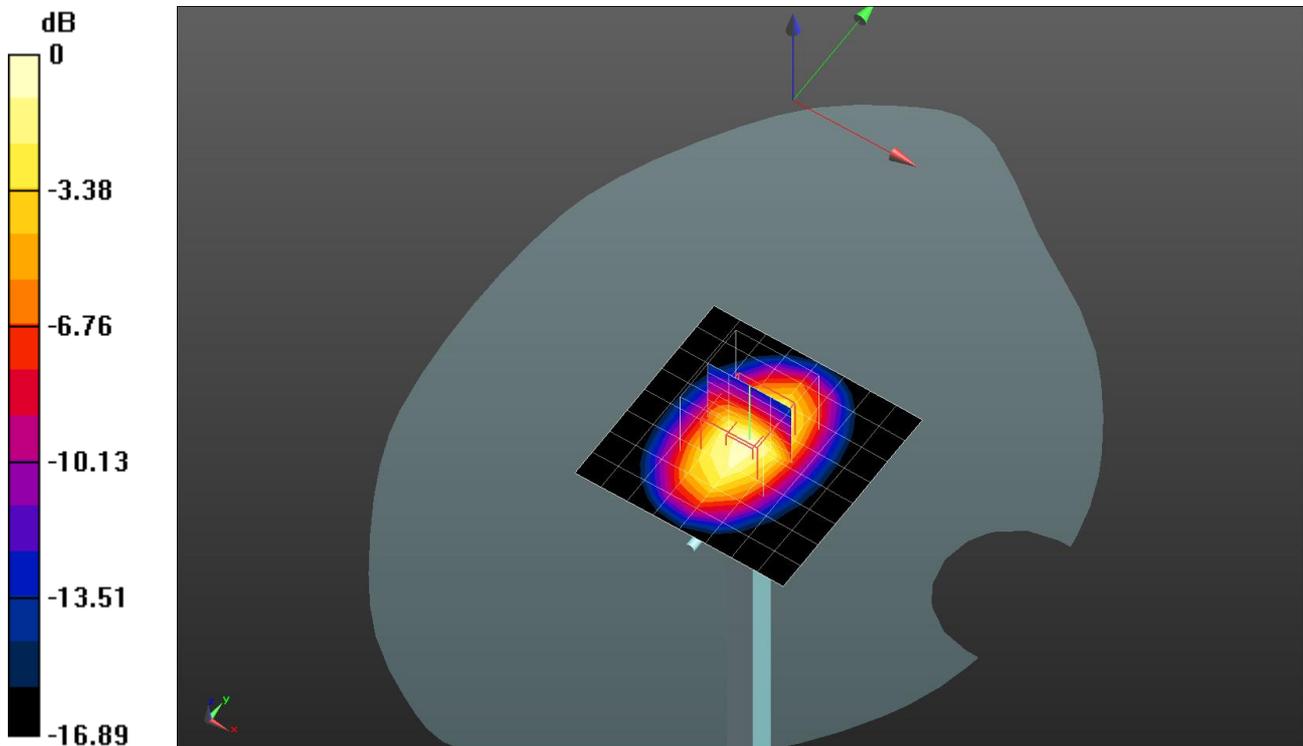
**Body/Input 250 mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 93.310 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 17.1 W/kg

**SAR(1 g) = 10.5 W/kg; SAR(10 g) = 5.66 W/kg**

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



0 dB = 11.9 W/kg = 10.76 dBW/kg

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## 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;  $\sigma = 1.961$  S/m;  $\epsilon_r = 51.667$ ;  $\rho = 1000$  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: 11/5/2012
- 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) = 18.2 W/kg

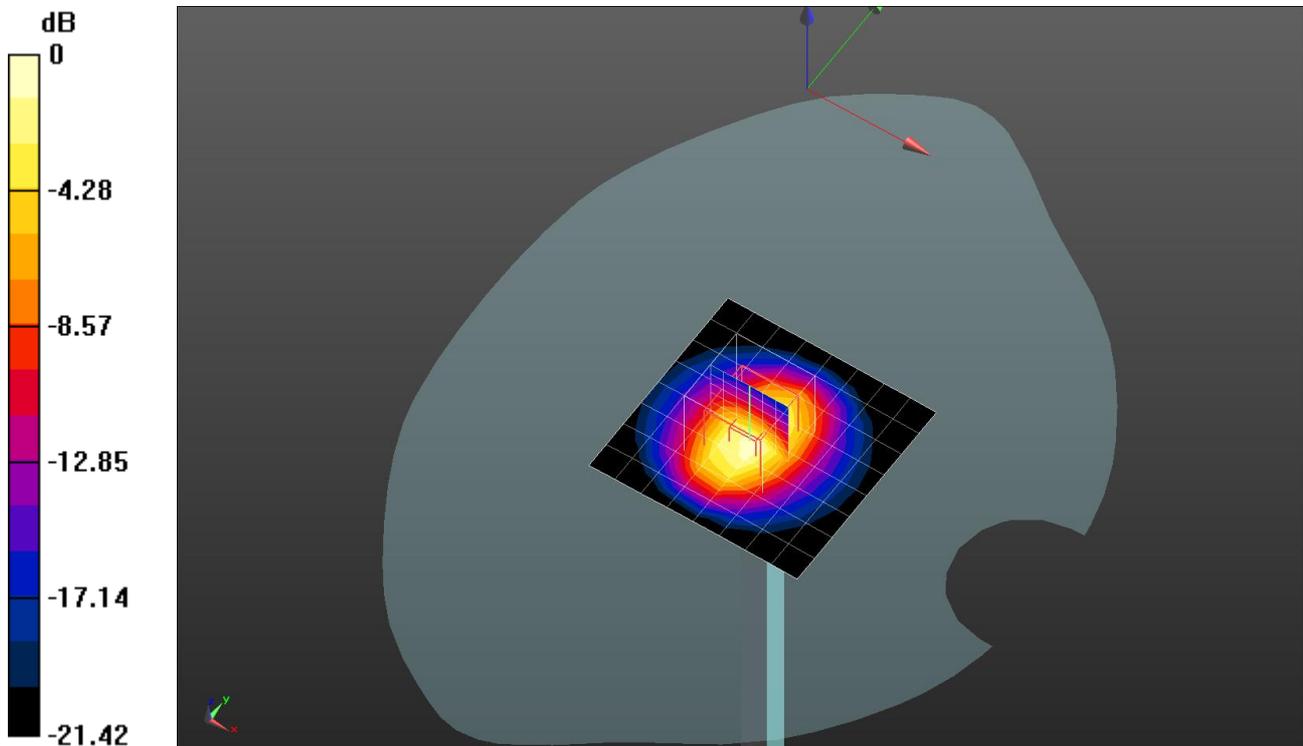
**Body/Input 250 mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 97.482 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 25.7 W/kg

**SAR(1 g) = 12.6 W/kg; SAR(10 g) = 5.88 W/kg**

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



0 dB = 19.0 W/kg = 12.79 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;  $\sigma = 1.809$  S/m;  $\epsilon_r = 38.674$ ;  $\rho = 1000$  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: 11/5/2012
- 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) = 20.0 W/kg

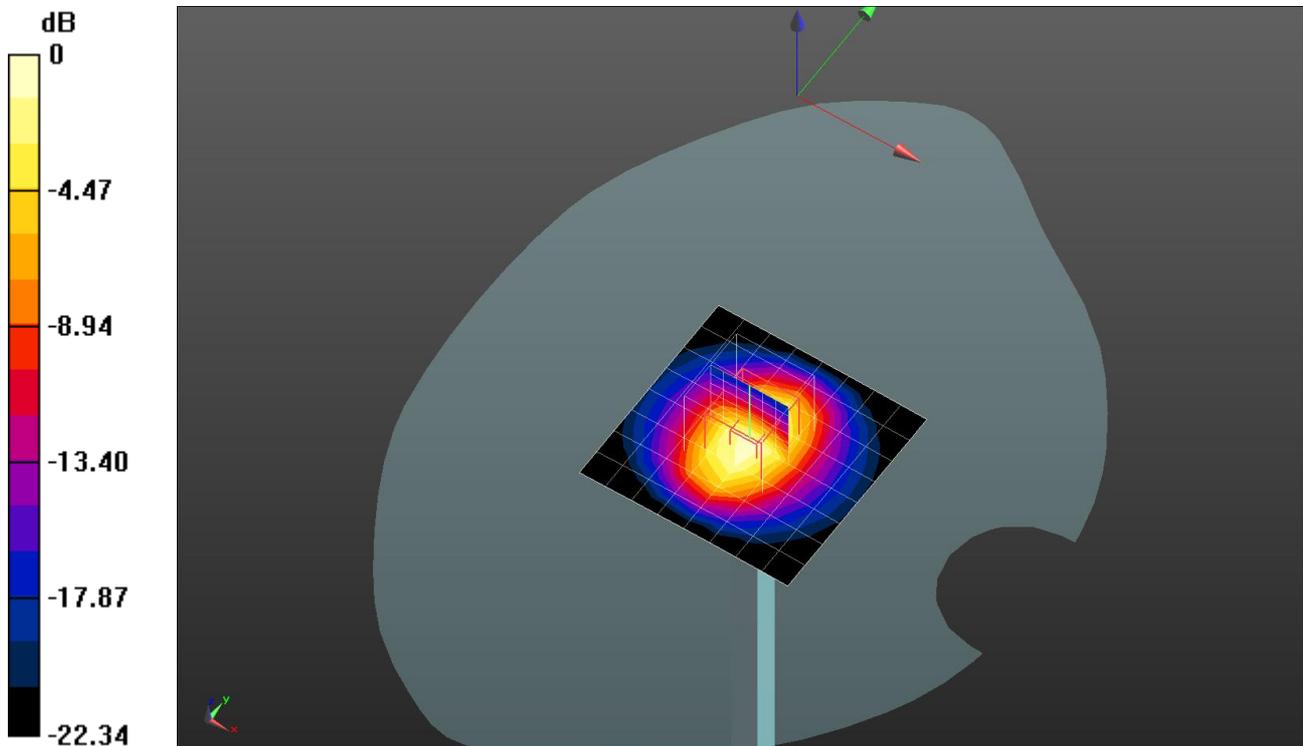
**Head/Input 250 mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 105.7 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 27.4 W/kg

**SAR(1 g) = 13 W/kg; SAR(10 g) = 6.01 W/kg**

Maximum value of SAR (measured) = 20.1 W/kg



0 dB = 20.1 W/kg = 13.03 dBW/kg

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## 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;  $\sigma = 5.339$  S/m;  $\epsilon_r = 47.311$ ;  $\rho = 1000$  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: 11/5/2012
- 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) = 39.3 W/kg

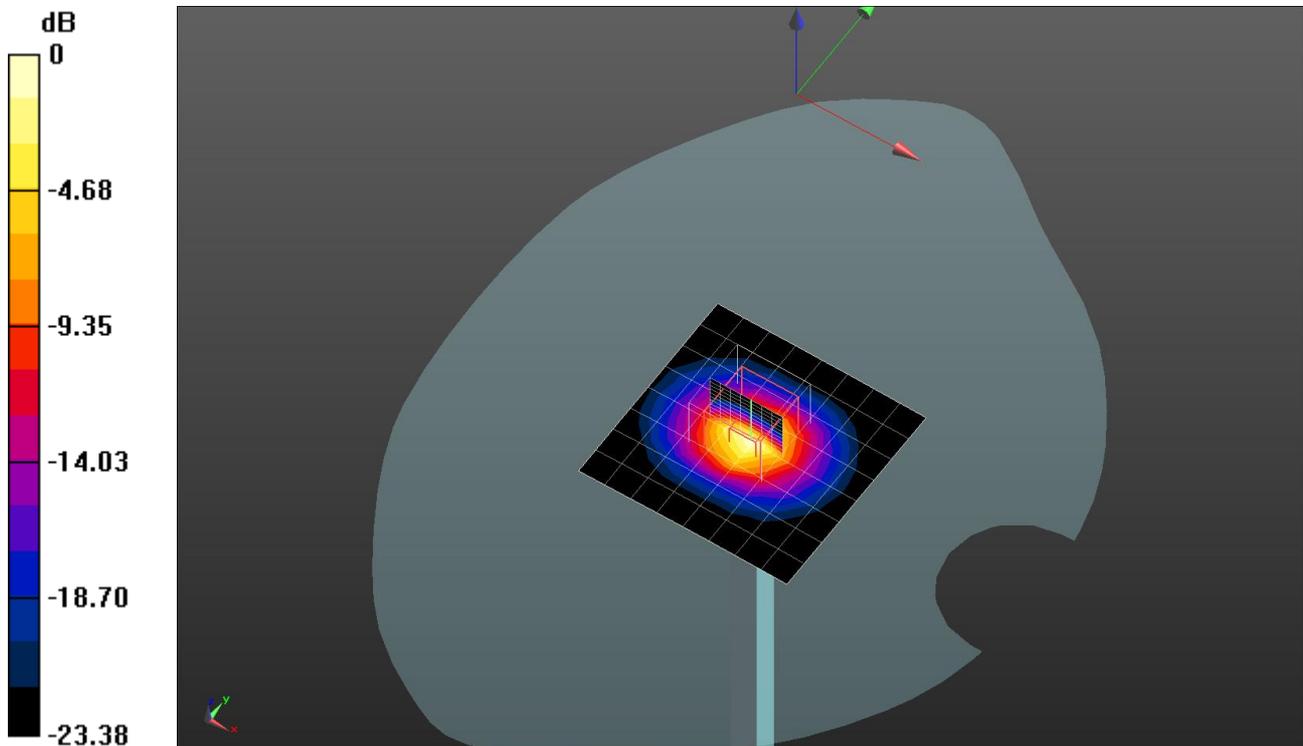
**Body/Input 250 mW/Zoom Scan (8x8x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 92.444 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 78.2 W/kg

**SAR(1 g) = 19.5 W/kg; SAR(10 g) = 5.48 W/kg**

Maximum value of SAR (measured) = 40.9 W/kg



0 dB = 40.9 W/kg = 16.12 dBW/kg

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## 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;  $\sigma = 5.458$  S/m;  $\epsilon_r = 47.123$ ;  $\rho = 1000$  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: 11/5/2012
- 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) = 42.2 W/kg

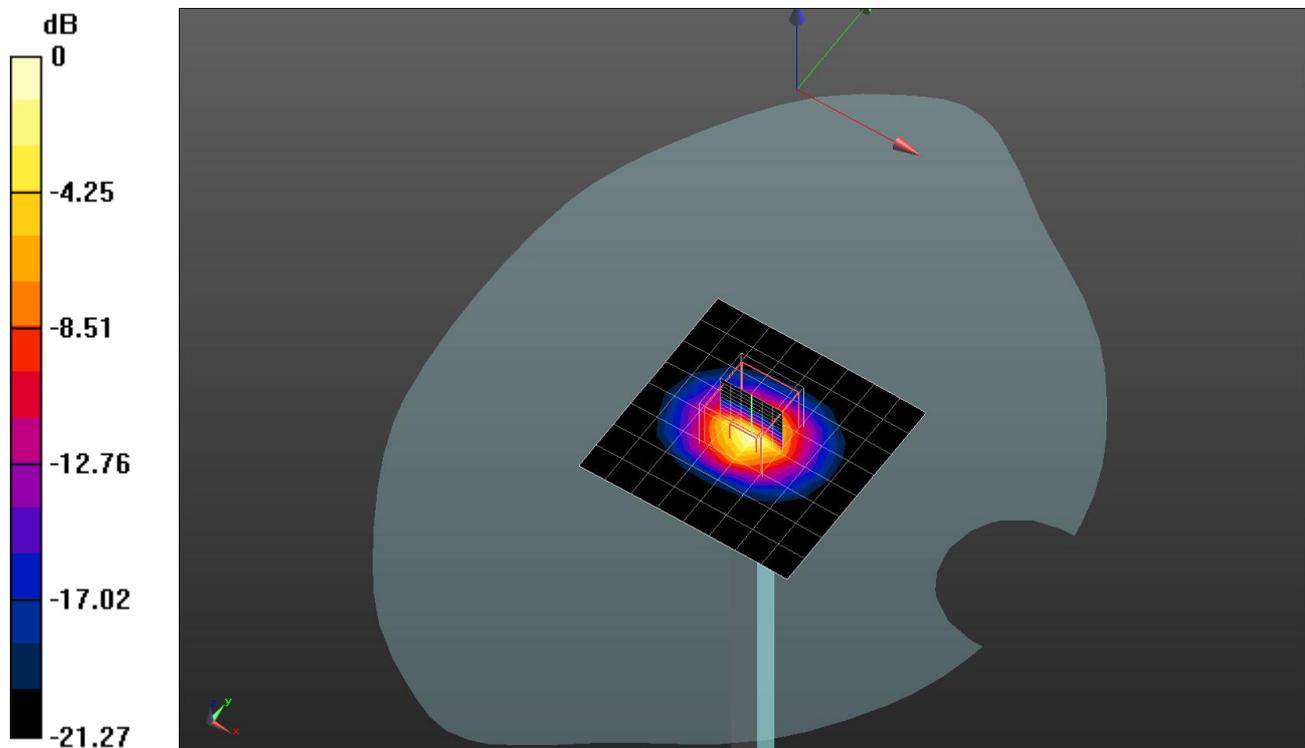
**Body/Input 250 mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 94.623 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 84.6 W/kg

**SAR(1 g) = 20.3 W/kg; SAR(10 g) = 5.65 W/kg**

Maximum value of SAR (measured) = 43.5 W/kg



0 dB = 43.5 W/kg = 16.38 dBW/kg

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## 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;  $\sigma = 5.842$  S/m;  $\epsilon_r = 46.661$ ;  $\rho = 1000$  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: 11/5/2012
- 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) = 43.6 W/kg

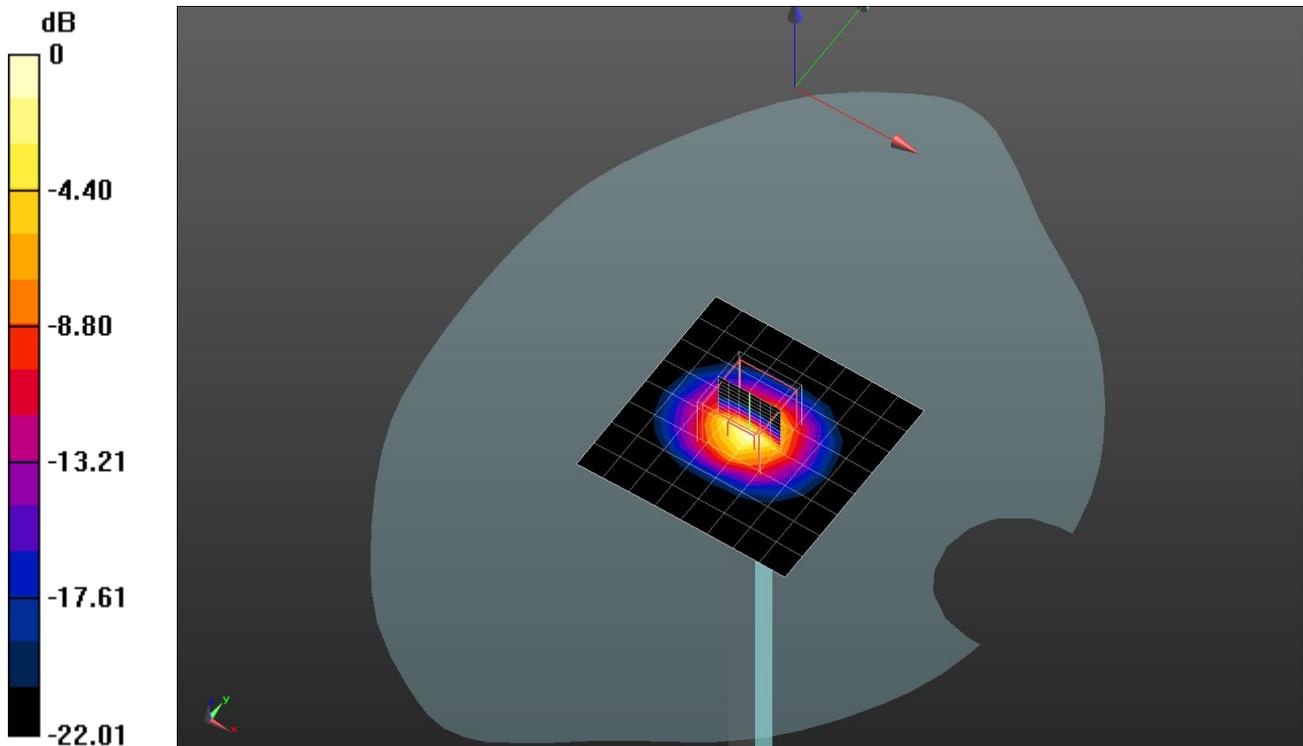
**Body/Input 250 mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 93.418 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 89.2 W/kg

**SAR(1 g) = 21.1 W/kg; SAR(10 g) = 5.86 W/kg**

Maximum value of SAR (measured) = 44.0 W/kg



0 dB = 44.0 W/kg = 16.43 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;  $\sigma = 4.686$  S/m;  $\epsilon_r = 35.112$ ;  $\rho = 1000$  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: 11/5/2012
- 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) = 43.0 W/kg

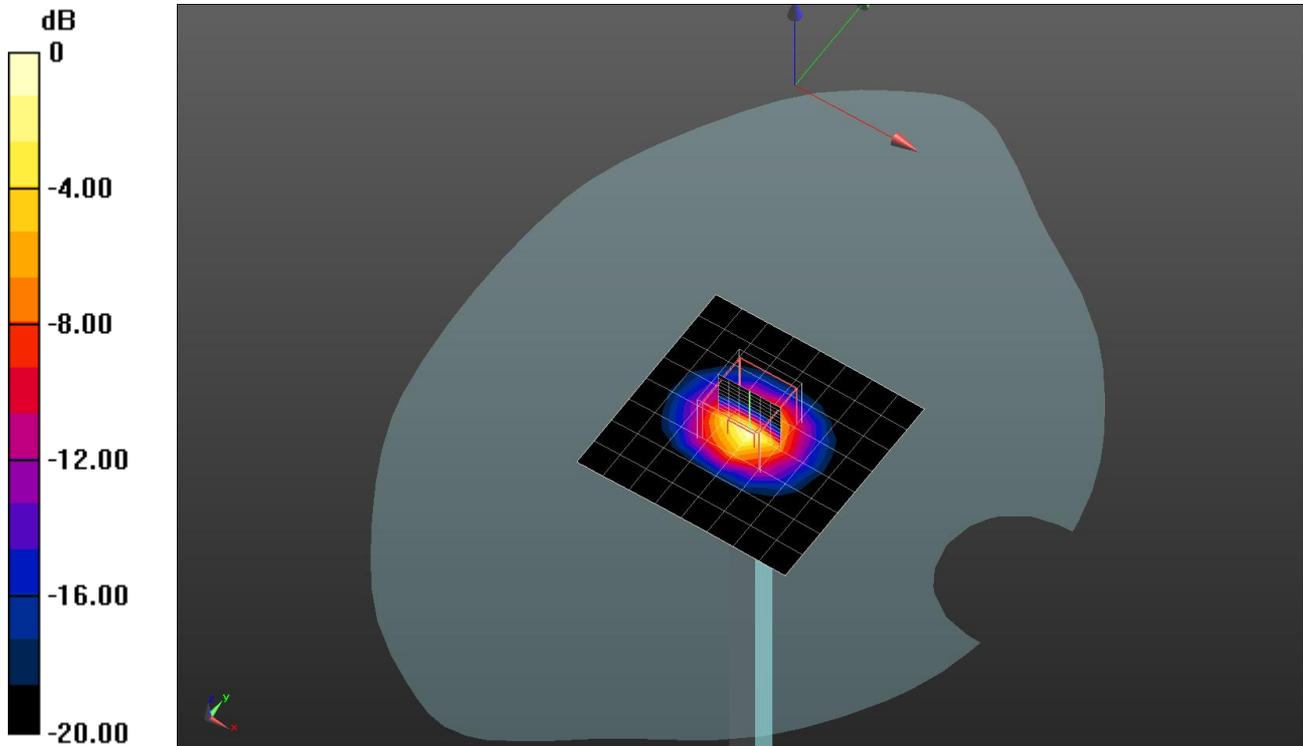
**Head/Input 250 mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 99.731 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 89.4 W/kg

**SAR(1 g) = 21.2 W/kg; SAR(10 g) = 5.99 W/kg**

Maximum value of SAR (measured) = 44.5 W/kg



0 dB = 44.5 W/kg = 16.48 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;  $\sigma = 4.978$  S/m;  $\epsilon_r = 34.675$ ;  $\rho = 1000$  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: 11/5/2012
- 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) = 42.4 W/kg

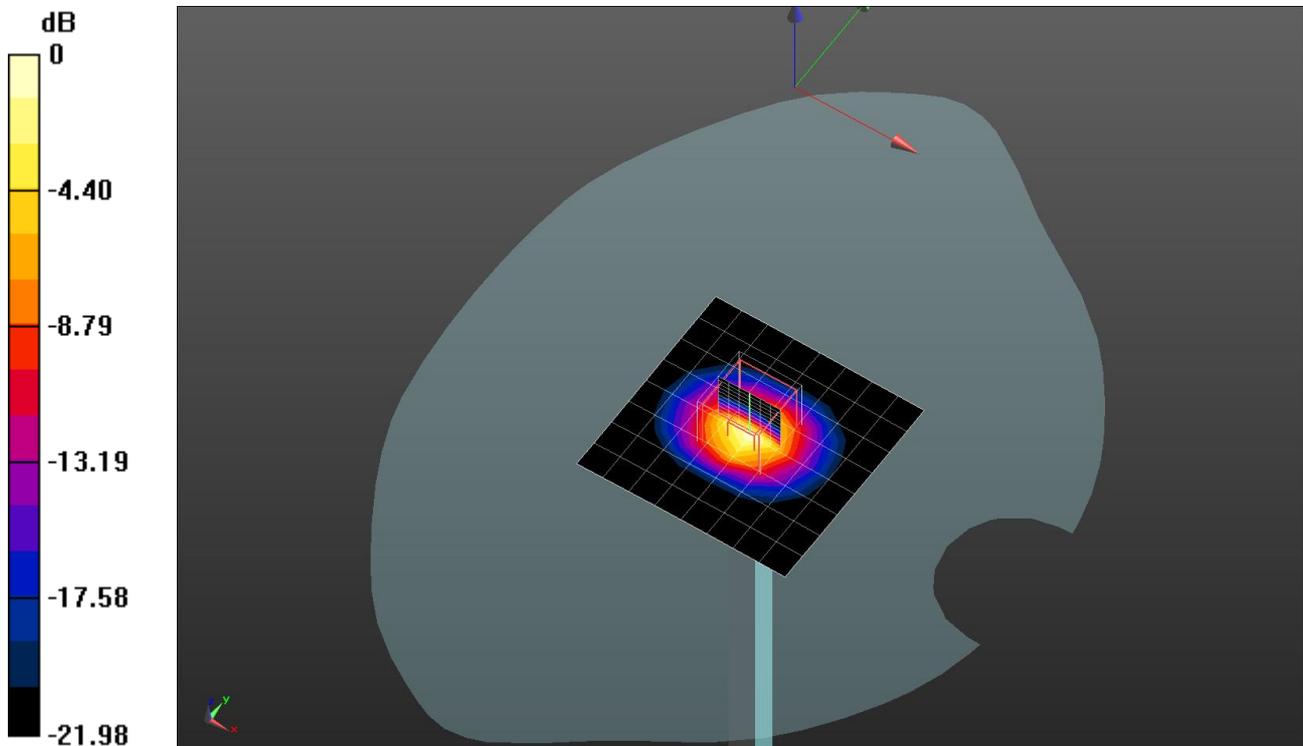
**Head/Input 250 mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 100.7 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 84.8 W/kg

**SAR(1 g) = 20.6 W/kg; SAR(10 g) = 5.84 W/kg**

Maximum value of SAR (measured) = 43.5 W/kg



0 dB = 43.5 W/kg = 16.38 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;  $\sigma = 4.517$  S/m;  $\epsilon_r = 35.31$ ;  $\rho = 1000$  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: 11/5/2012
- 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) = 39.9 W/kg

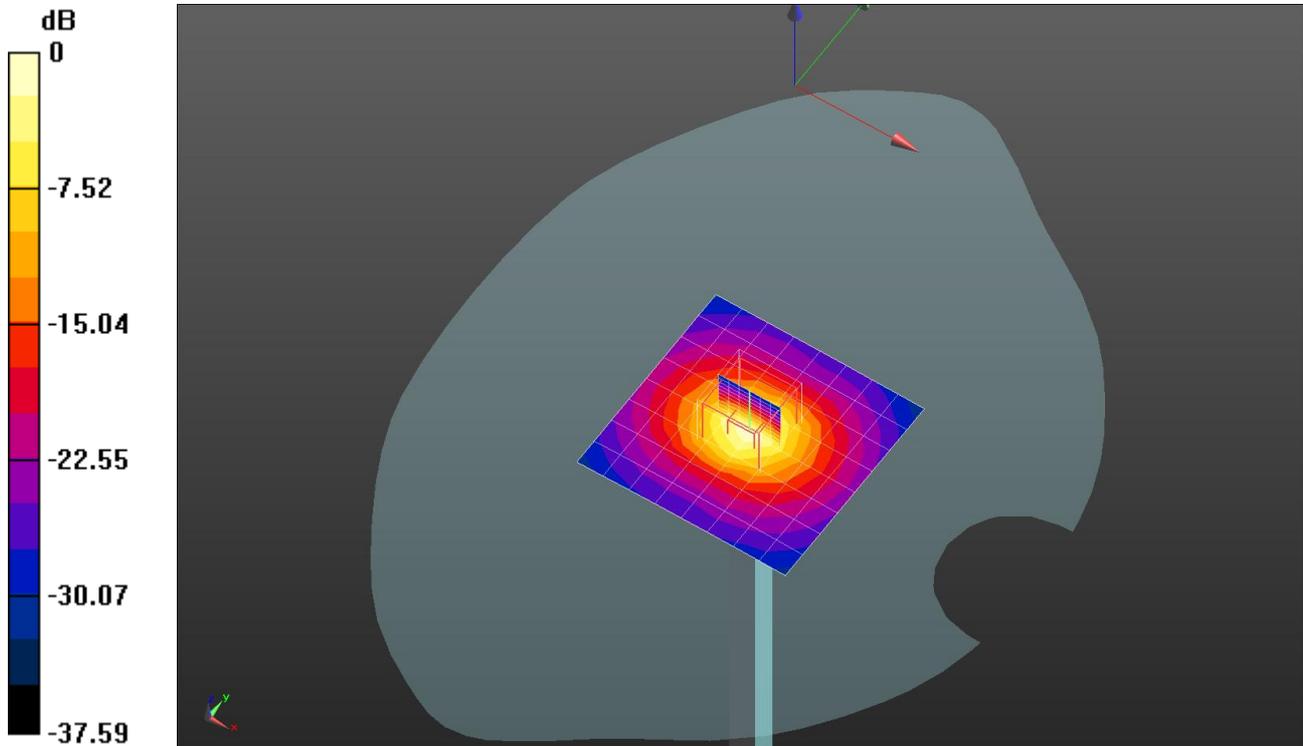
**Head/Input 250 mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 98.044 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 79.5 W/kg

**SAR(1 g) = 19.5 W/kg; SAR(10 g) = 5.58 W/kg**

Maximum value of SAR (measured) = 40.9 W/kg



0 dB = 40.9 W/kg = 16.12 dBW/kg