

Appendix 1 – System Performance Check Plots

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d104

Frequency: 835 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.925 \text{ S/m}$; $\epsilon_r = 42.459$; $\rho = 1000 \text{ kg/m}^3$

DASY5 Configuration:

- Probe: EX3DV4 - SN3745; ConvF(8.78, 8.78, 8.78); Calibrated: 4/24/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/7/2014
- 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) = 3.09 W/kg

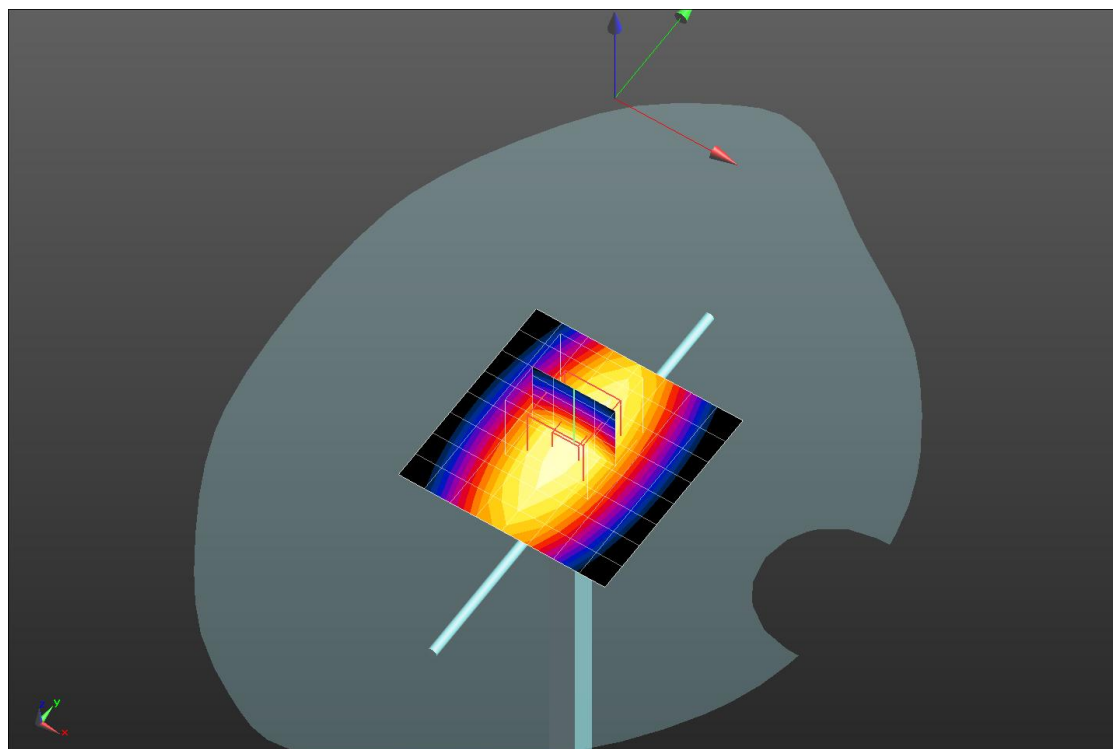
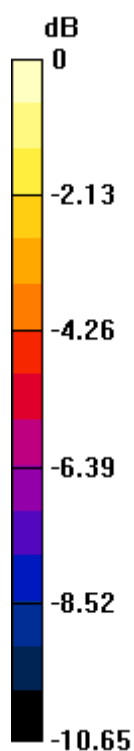
Dipole/Input 250 mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 59.11 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 3.63 W/kg

SAR(1 g) = 2.44 W/kg; SAR(10 g) = 1.59 W/kg

Maximum value of SAR (measured) = 3.10 W/kg



0 dB = 3.10 W/kg = 4.91 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d104

Frequency: 835 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.921 \text{ S/m}$; $\epsilon_r = 42.387$; $\rho = 1000 \text{ kg/m}^3$

DASY5 Configuration:

- Probe: EX3DV4 - SN3745; ConvF(8.78, 8.78, 8.78); Calibrated: 4/24/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/7/2014
- 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) = 3.08 W/kg

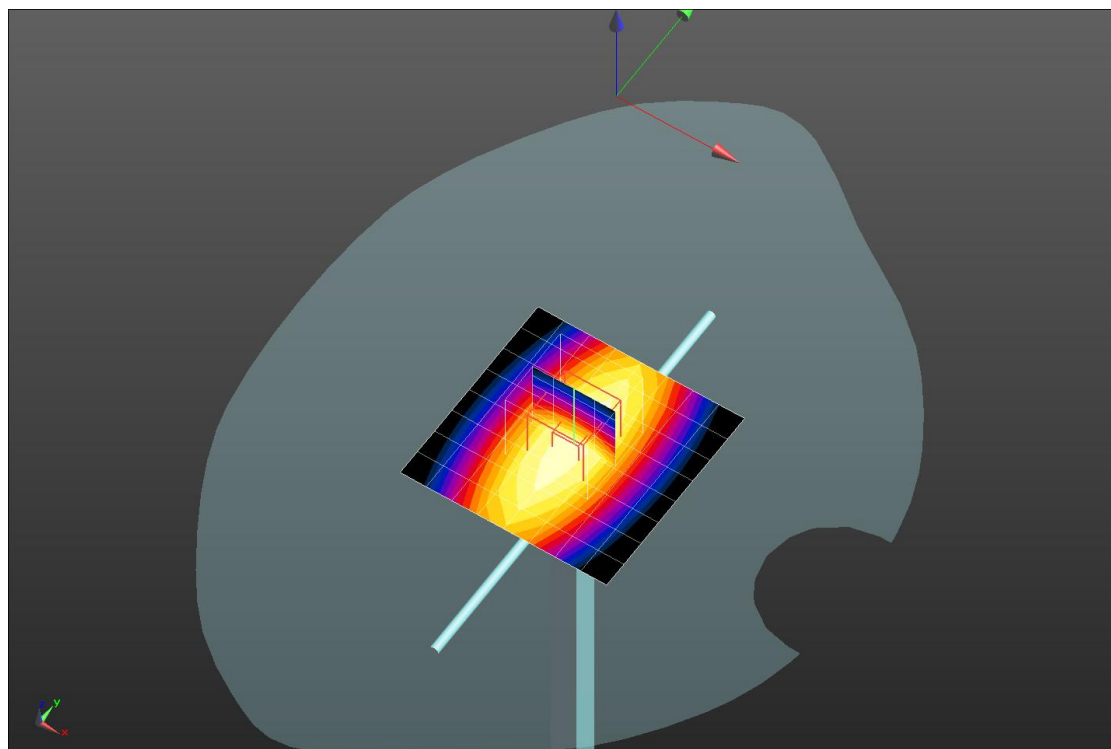
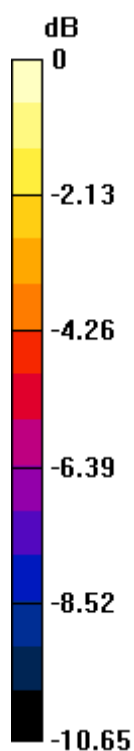
Dipole/Input 250 mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 59.05 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 3.61 W/kg

SAR(1 g) = 2.42 W/kg; SAR(10 g) = 1.59 W/kg

Maximum value of SAR (measured) = 3.07 W/kg



0 dB = 3.07 W/kg = 4.87 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d104

Frequency: 835 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.99$ S/m; $\epsilon_r = 55.419$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: EX3DV4 - SN3745; ConvF(8.81, 8.81, 8.81); Calibrated: 4/24/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/7/2014
- 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) = 3.12 W/kg

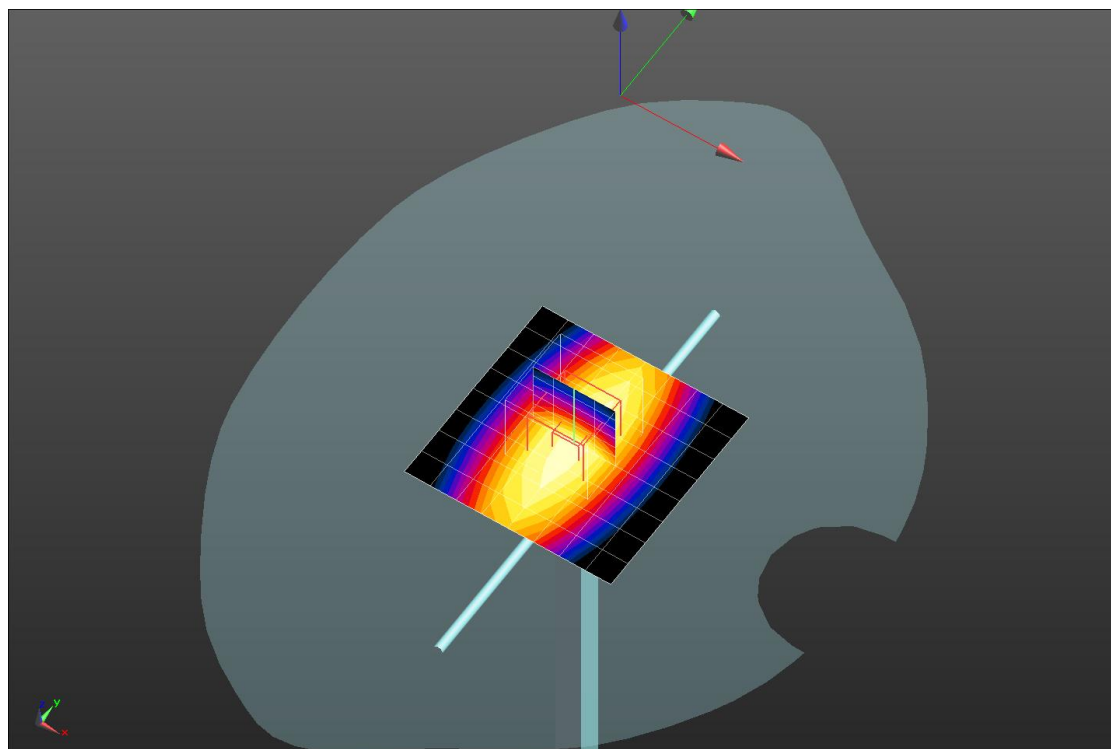
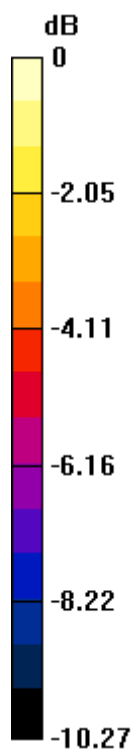
Dipole/Input 250 mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 57.69 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 3.69 W/kg

SAR(1 g) = 2.51 W/kg; SAR(10 g) = 1.66 W/kg

Maximum value of SAR (measured) = 3.17 W/kg



0 dB = 3.17 W/kg = 5.01 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d129

Frequency: 1900 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.535$ S/m; $\epsilon_r = 52.816$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: EX3DV4 - SN3745; ConvF(6.99, 6.99, 6.99); Calibrated: 4/24/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/7/2014
- 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) = 14.8 W/kg

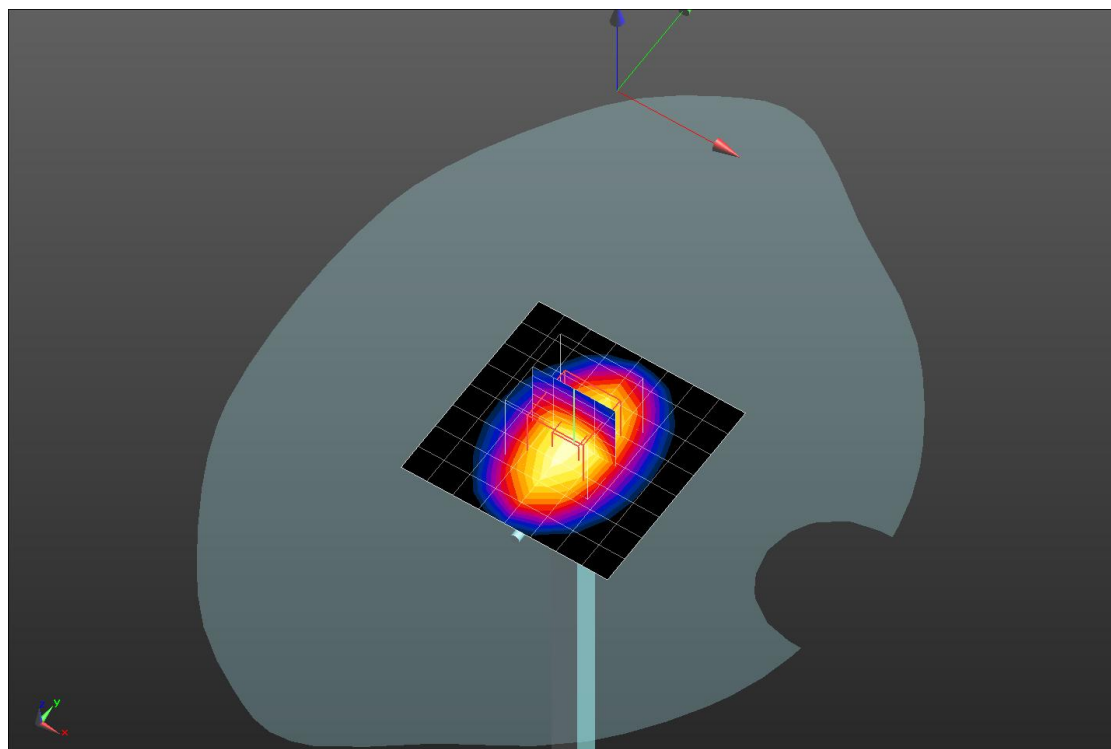
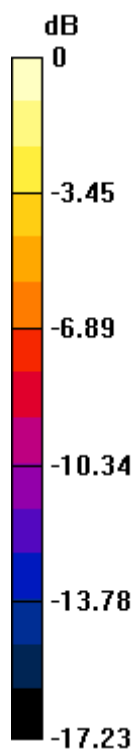
Dipole/Input 250 mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 99.78 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 18.8 W/kg

SAR(1 g) = 10.5 W/kg; SAR(10 g) = 5.51 W/kg

Maximum value of SAR (measured) = 15.0 W/kg



0 dB = 15.0 W/kg = 11.76 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d129

Frequency: 1900 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.398$ S/m; $\epsilon_r = 40.665$; $\rho = 1000$ kg/m³

DASY5 Configuration:

- Probe: EX3DV4 - SN3745; ConvF(7.29, 7.29, 7.29); Calibrated: 4/24/2015;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn508; Calibrated: 11/7/2014
- 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) = 14.7 W/kg

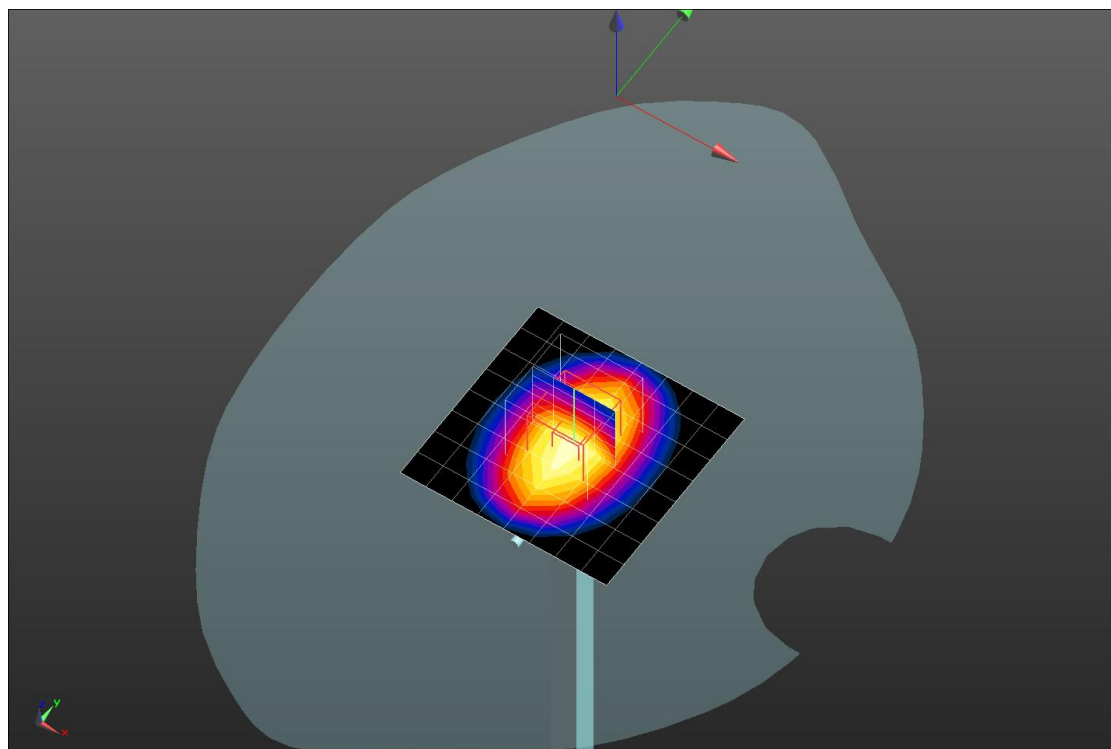
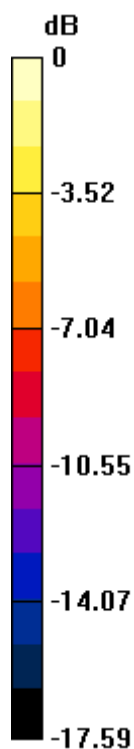
Dipole/Input 250 mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 103.8 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 18.6 W/kg

SAR(1 g) = 10.2 W/kg; SAR(10 g) = 5.32 W/kg

Maximum value of SAR (measured) = 14.6 W/kg



0 dB = 14.6 W/kg = 11.64 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1092

Frequency: 5250 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 5250$ MHz; $\sigma = 4.598$ S/m; $\epsilon_r = 36.178$; $\rho = 1000$ 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: 11/7/2014
- 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) = 15.4 W/kg

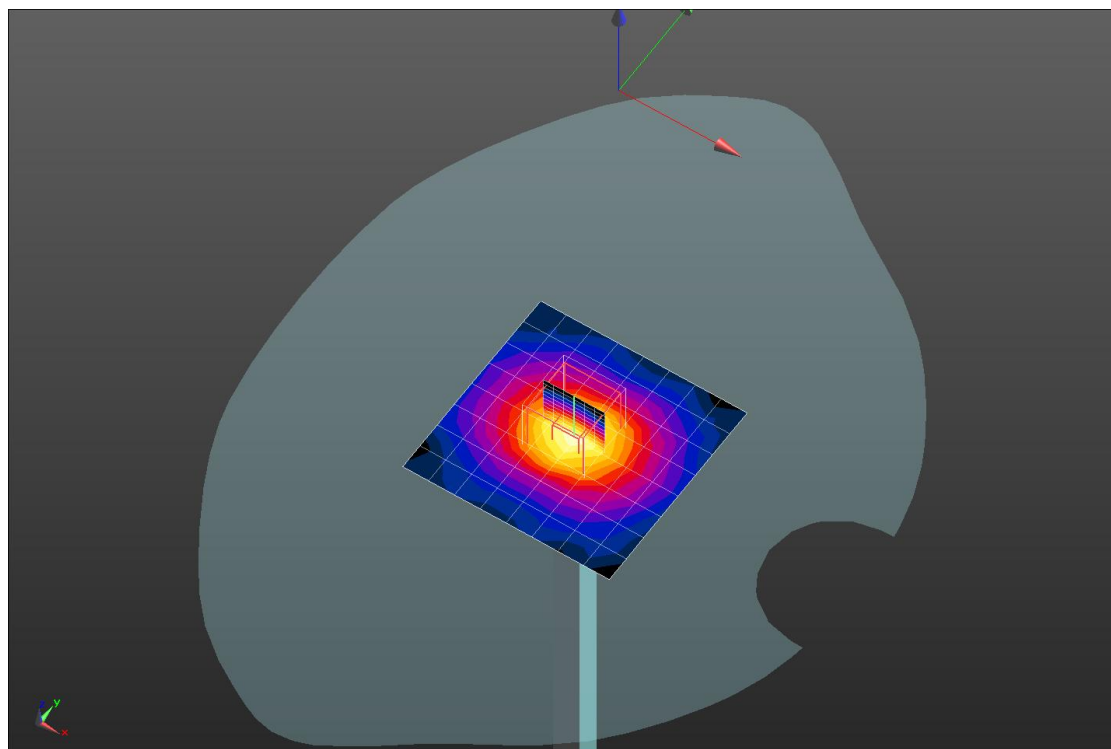
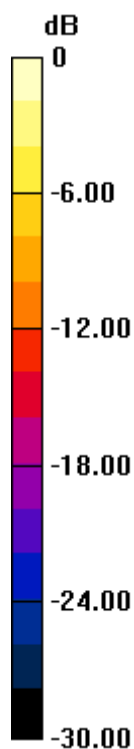
Dipole/Input 100 mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 61.39 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 31.4 W/kg

SAR(1 g) = 7.6 W/kg; SAR(10 g) = 2.17 W/kg

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



0 dB = 15.6 W/kg = 11.93 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1092

Frequency: 5600 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 5600$ MHz; $\sigma = 4.951$ S/m; $\epsilon_r = 35.718$; $\rho = 1000$ 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: 11/7/2014
- 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) = 17.1 W/kg

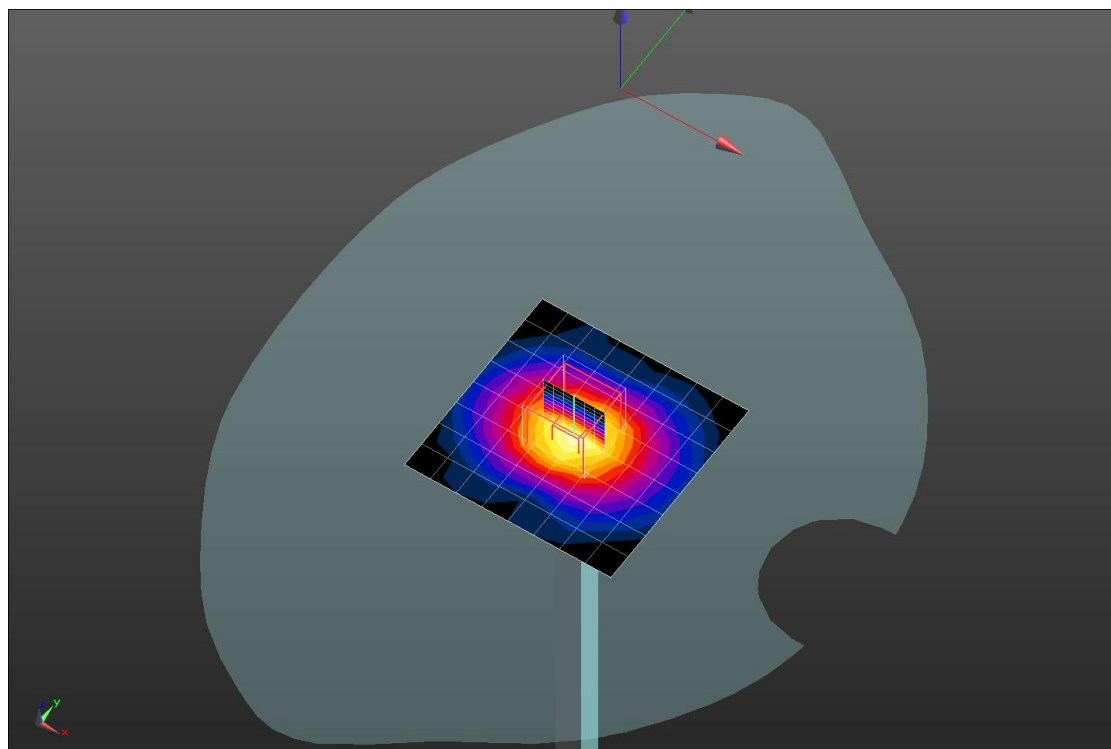
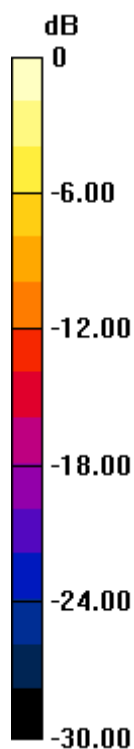
Dipole/Input 100 mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 63.78 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 36.0 W/kg

SAR(1 g) = 8.29 W/kg; SAR(10 g) = 2.33 W/kg

Maximum value of SAR (measured) = 17.3 W/kg



0 dB = 17.3 W/kg = 12.38 dBW/kg

Test Laboratory: JAPAN QUALITY ASSURANCE ORGANIZATION

System Performance Check

DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1092

Frequency: 5250 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 5250$ MHz; $\sigma = 5.482$ S/m; $\epsilon_r = 48.379$; $\rho = 1000$ 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: 11/7/2014
- 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

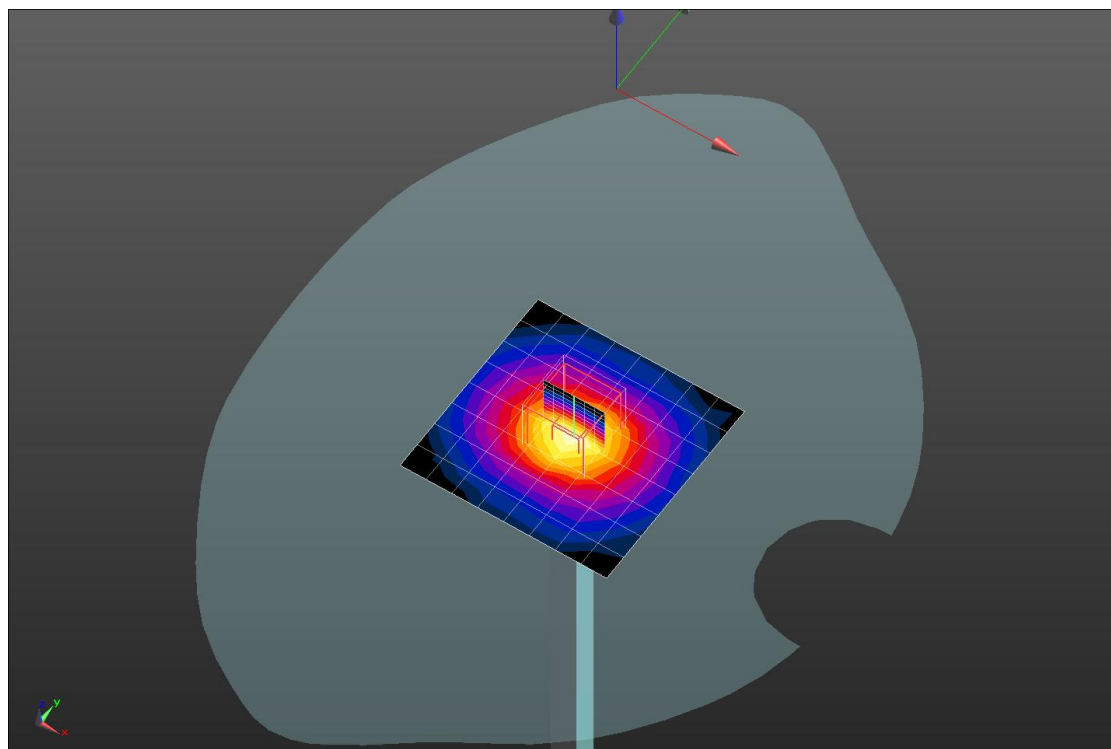
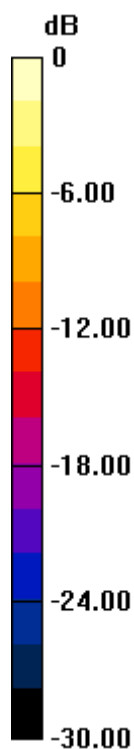
Dipole/Input 100 mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 57.55 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 30.8 W/kg

SAR(1 g) = 7.4 W/kg; SAR(10 g) = 2.08 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: 1092

Frequency: 5600 MHz; Duty Cycle: 1:1

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

Medium parameters used: $f = 5600$ MHz; $\sigma = 5.924$ S/m; $\epsilon_r = 47.82$; $\rho = 1000$ 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: 11/7/2014
- 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) = 17.2 W/kg

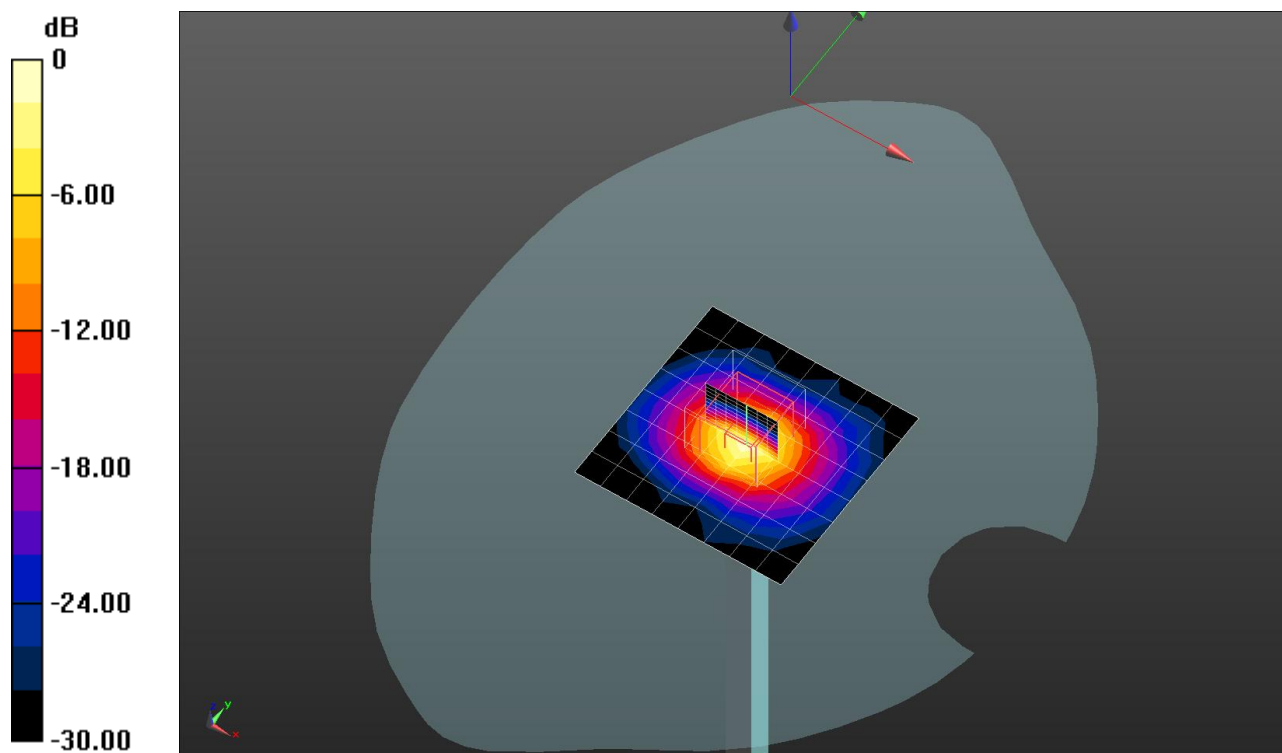
Dipole/Input 100 mW/Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 59.63 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 35.5 W/kg

SAR(1 g) = 8.12 W/kg; SAR(10 g) = 2.26 W/kg

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



0 dB = 17.5 W/kg = 12.43 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; $\sigma = 1.849$ S/m; $\epsilon_r = 39.432$; $\rho = 1000$ 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: 11/7/2014
- 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) = 20.5 W/kg

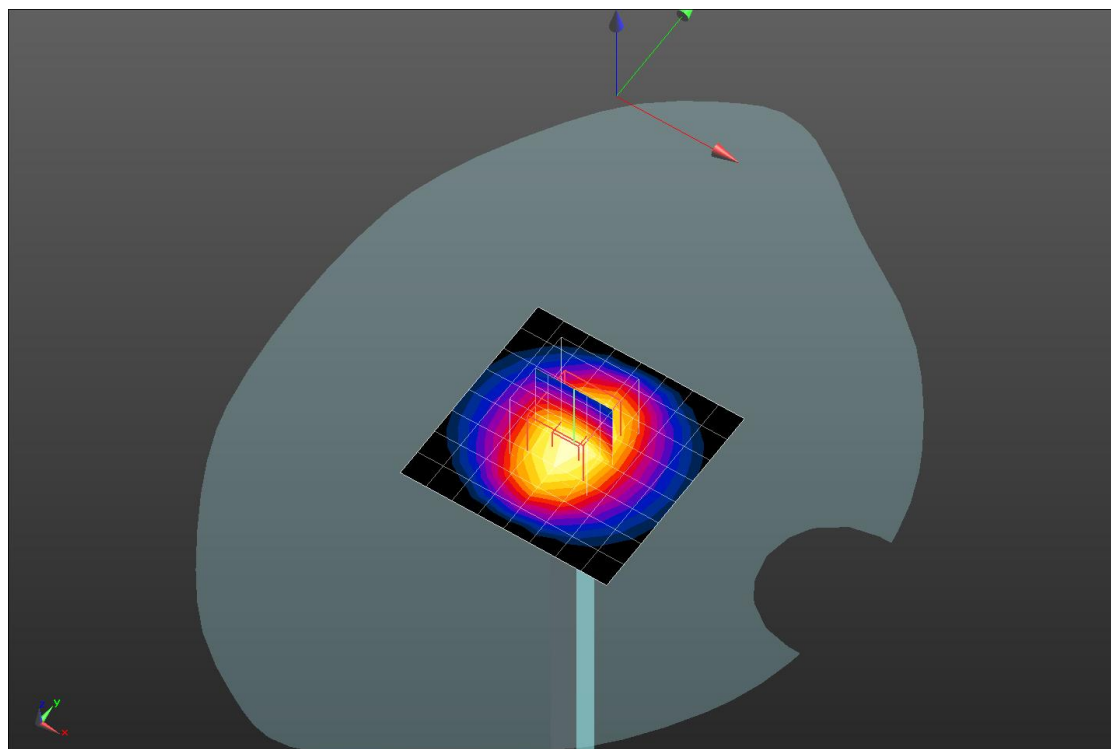
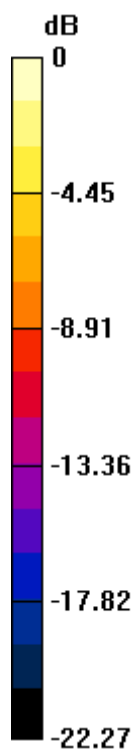
Dipole/Input 250 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 107.1 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 27.5 W/kg

SAR(1 g) = 13.1 W/kg; SAR(10 g) = 6.08 W/kg

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



0 dB = 20.4 W/kg = 13.10 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: $f = 2450 \text{ MHz}$; $\sigma = 1.932 \text{ S/m}$; $\epsilon_r = 52.486$; $\rho = 1000 \text{ kg/m}^3$

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: 11/7/2014
- 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) = 18.5 W/kg

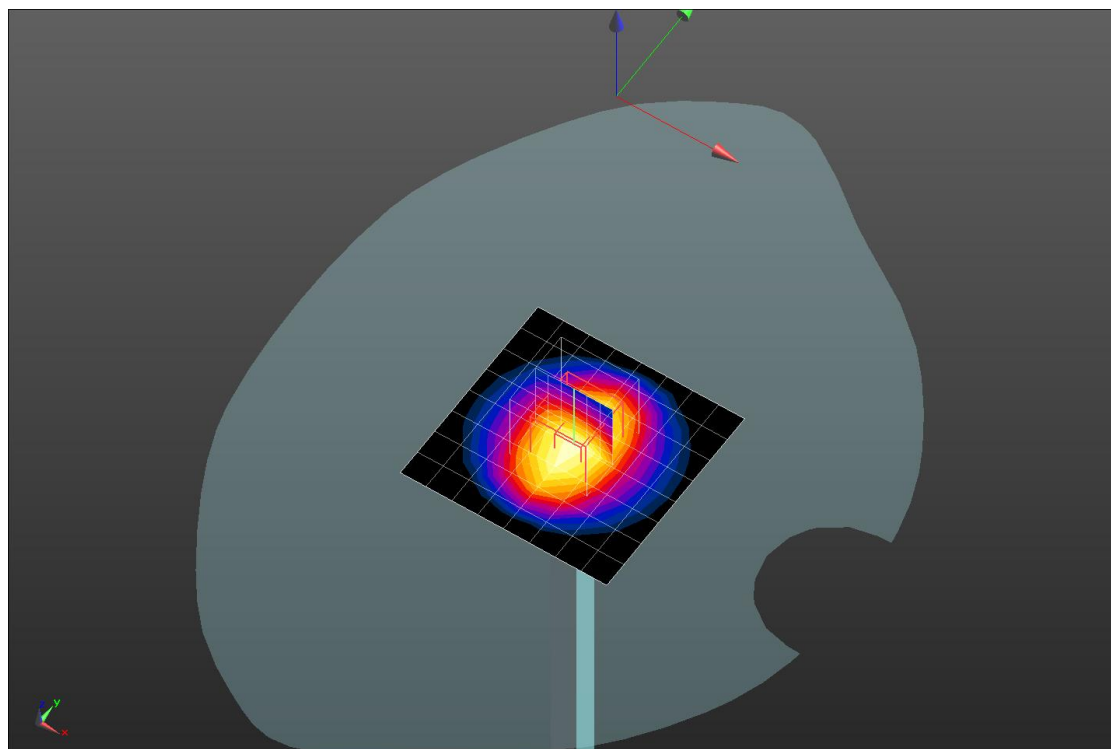
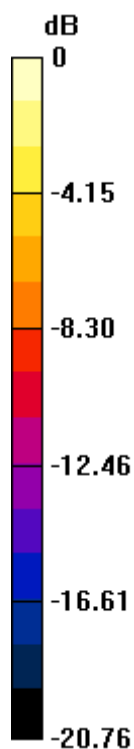
Dipole/Input 250 mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 101.2 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 24.4 W/kg

SAR(1 g) = 12.4 W/kg; SAR(10 g) = 5.86 W/kg

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



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