

APPENDIX B: SYSTEM VERIFICATION

ELEMENT

DUT: Dipole 750.0 MHz; Type: D750V3 - SN1057

Communication System: UID: 0, CW; Frequency: 750.0 MHz
Medium: 750 Head; Medium parameters used:
 $f = 750.0$ MHz; $\text{cond} = 0.899$ S/m; $\text{perm} = 42.7$; $\text{density} = 1000$ kg/m³
Phantom Section: Flat; Space: 15 mm

Test Date: 06/07/2022; Ambient Temp: 22.2°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7421; ConvF:(9.41,9.41,9.41); Calibrated: 2022-03-22
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn604; Calibrated: 2022-03-22
Phantom: Twin-SAM V4.0; Serial: 1275
Measurement SW: DASY Module SAR V16.0.2.136

750 MHz System Verification at 23 dBm (200 mW)

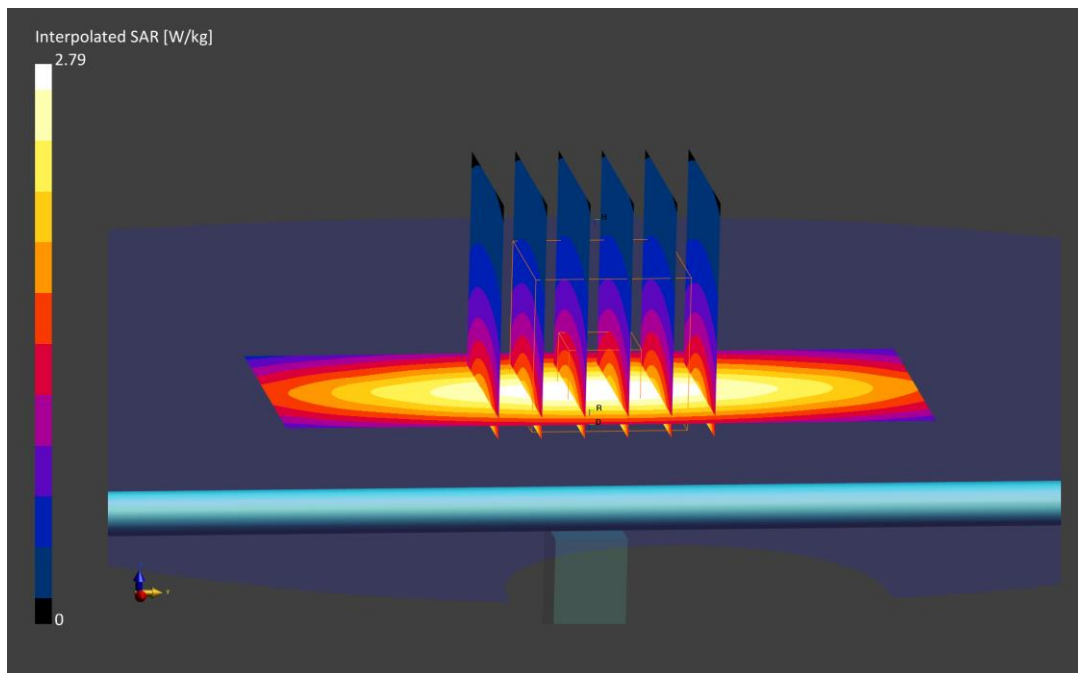
Area Scan (40.0 x 90.0): Measurement grid: $dx=10.0$ mm, $dy=15.0$ mm

Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: $dx=6.0$ mm, $dy=6.0$ mm, $dz=1.5$ mm; Graded Ratio: 1.5

Peak SAR (extrapolated) = 2.79 W/kg

SAR(1 g) = 1.82 W/kg

Deviation (1 g) = 6.93%



ELEMENT

DUT: Dipole 750.0 MHz; Type: D750V3 - SN1057

Communication System: UID: 0, CW; Frequency: 750.0 MHz
Medium: 750 Head; Medium parameters used:
 $f = 750.0 \text{ MHz}$; $\text{cond} = 0.912 \text{ S/m}$; $\text{perm} = 42.8$; $\text{density} = 1000 \text{ kg/m}^3$
Phantom Section: Flat; Space: 15 mm

Test Date: 06/14/2022; Ambient Temp: 21.9°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7360; ConvF:(10.7,10.7,10.7); Calibrated: 2022-03-21
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn534; Calibrated: 2022-03-21
Phantom: Twin-SAM V5.0; Serial: 1866
Measurement SW: DASY Module SAR V16.0.2.136

750 MHz System Verification at 23 dBm (200 mW)

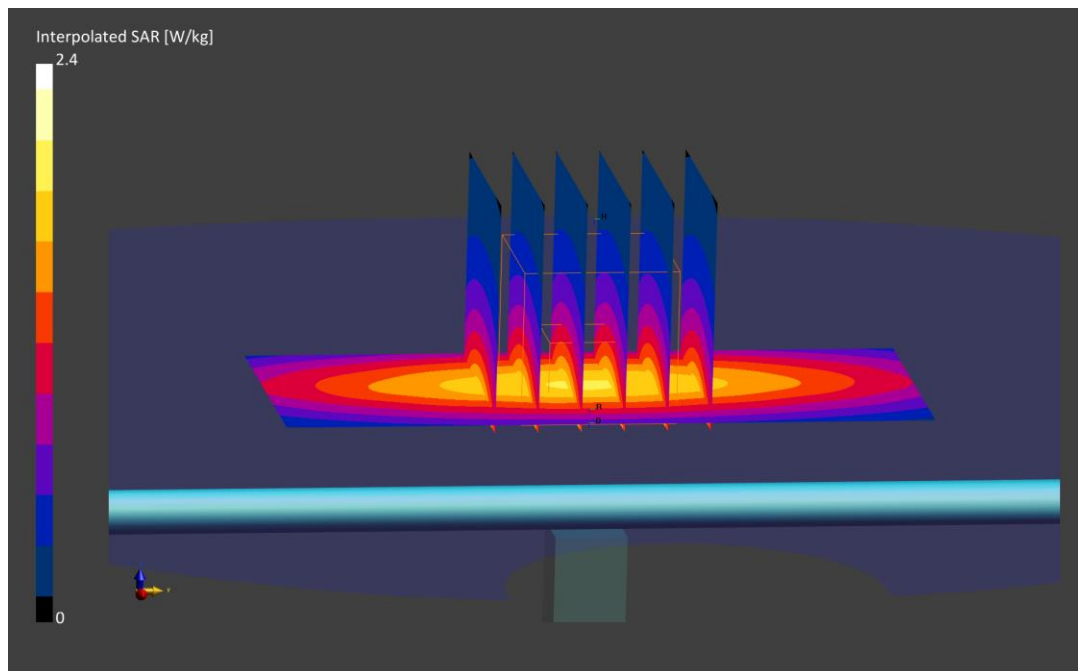
Area Scan (40.0 x 90.0): Measurement grid: $dx=10.0 \text{ mm}$, $dy=15.0 \text{ mm}$

Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: $dx=6.0 \text{ mm}$, $dy=6.0 \text{ mm}$, $dz=1.5 \text{ mm}$; Graded Ratio: 1.5

Peak SAR (extrapolated) = 2.40 W/kg

SAR(1 g) = 1.57 W/kg

Deviation (1 g) = -7.76%



ELEMENT

DUT: Dipole 750.0 MHz; Type: D750V3 - SN1097

Communication System: UID: 0, CW; Frequency: 750.0 MHz
Medium: 750 Head; Medium parameters used:
f = 750.0 MHz; cond = 0.888 S/m; perm = 40.8; density = 1000 kg/m³
Phantom Section: Flat; Space: 15 mm

Test Date: 07/30/2022; Ambient Temp: 21.5°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7532; ConvF:(10.95,10.95,10.95); Calibrated: 2022-04-22

Sensor-Surface: 1.4mm (VMS + 6p)

Electronics: DAE4 Sn501; Calibrated: 2022-04-13

Phantom: Twin-SAM V8.0; Serial: 1357

Measurement SW: DASY Module SAR V16.0.2.136

750 MHz System Verification at 23 dBm (200 mW)

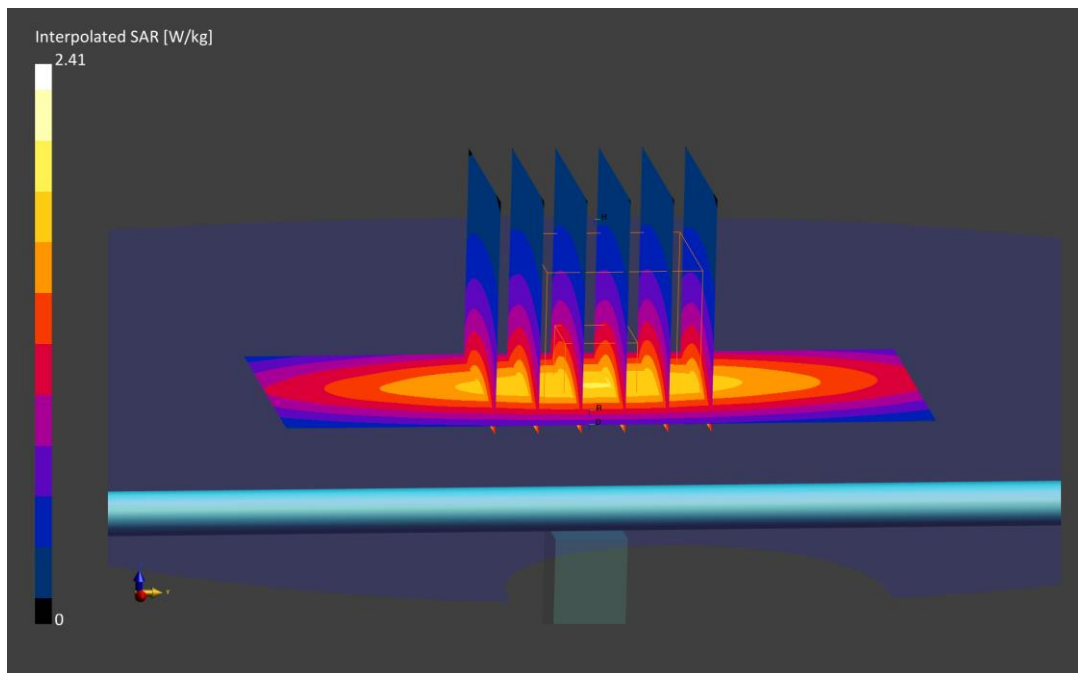
Area Scan (40.0 x 90.0): Measurement grid: dx=10.0 mm, dy=15.0 mm

Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: dx=6.0 mm, dy=6.0 mm, dz=1.5 mm; Graded Ratio: 1.5

Peak SAR (extrapolated) = 2.41 W/kg

SAR(10 g) = 1.06 W/kg

Deviation (10 g) = -0.75 %



ELEMENT

DUT: Dipole 750.0 MHz; Type: D750V3 - SN1097

Communication System: UID: 0, CW; Frequency: 750.0 MHz
Medium: 750 Head; Medium parameters used:
f = 750.0 MHz; cond = 0.866 S/m; perm = 40.4; density = 1000 kg/m³
Phantom Section: Flat; Space: 15 mm

Test Date: 08/01/2022; Ambient Temp: 22.1°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7532; ConvF:(10.95,10.95,10.95); Calibrated: 2022-04-22
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn501; Calibrated: 2022-04-13
Phantom: Twin-SAM V8.0; Serial: 1357
Measurement SW: DASY Module SAR V16.0.2.136

750 MHz System Verification at 23 dBm (200 mW)

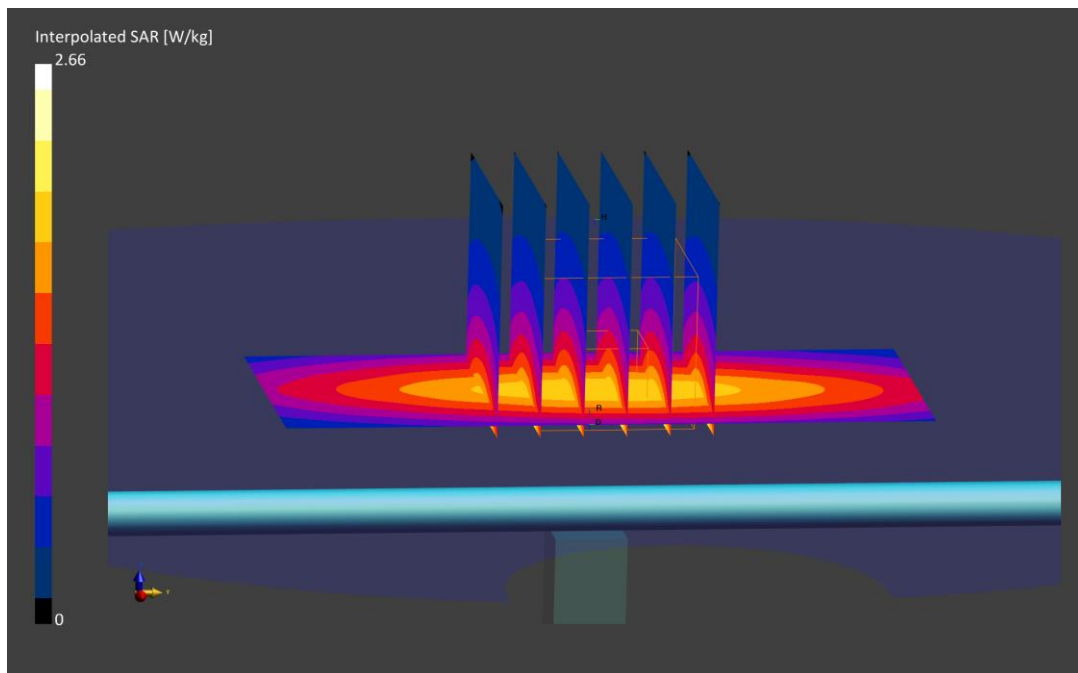
Area Scan (40.0 x 90.0): Measurement grid: dx=10.0 mm, dy=15.0 mm

Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: dx=6.0 mm, dy=6.0 mm, dz=1.5 mm; Graded Ratio: 1.5

Peak SAR (extrapolated) = 2.66 W/kg

SAR(10 g) = 1.13 W/kg

Deviation (10 g) = 5.81 %



ELEMENT

DUT: Dipole 750.0 MHz; Type: D750V3 - SN1097

Communication System: UID: 0, CW; Frequency: 750.0 MHz
Medium: 750 Head; Medium parameters used:
 $f = 750.0$ MHz; $\text{cond} = 0.878$ S/m; $\text{perm} = 43.8$; $\text{density} = 1000$ kg/m³
Phantom Section: Flat; Space: 15 mm

Test Date: 08/25/2022; Ambient Temp: 21.2°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN7532; ConvF:(10.95,10.95,10.95); Calibrated: 2022-04-22

Sensor-Surface: 1.4mm (VMS + 6p)

Electronics: DAE4 Sn501; Calibrated: 2022-04-13

Phantom: Twin-SAM V8.0; Serial: 1357

Measurement SW: DASY Module SAR V16.0.2.136

750 MHz System Verification at 23 dBm (200 mW)

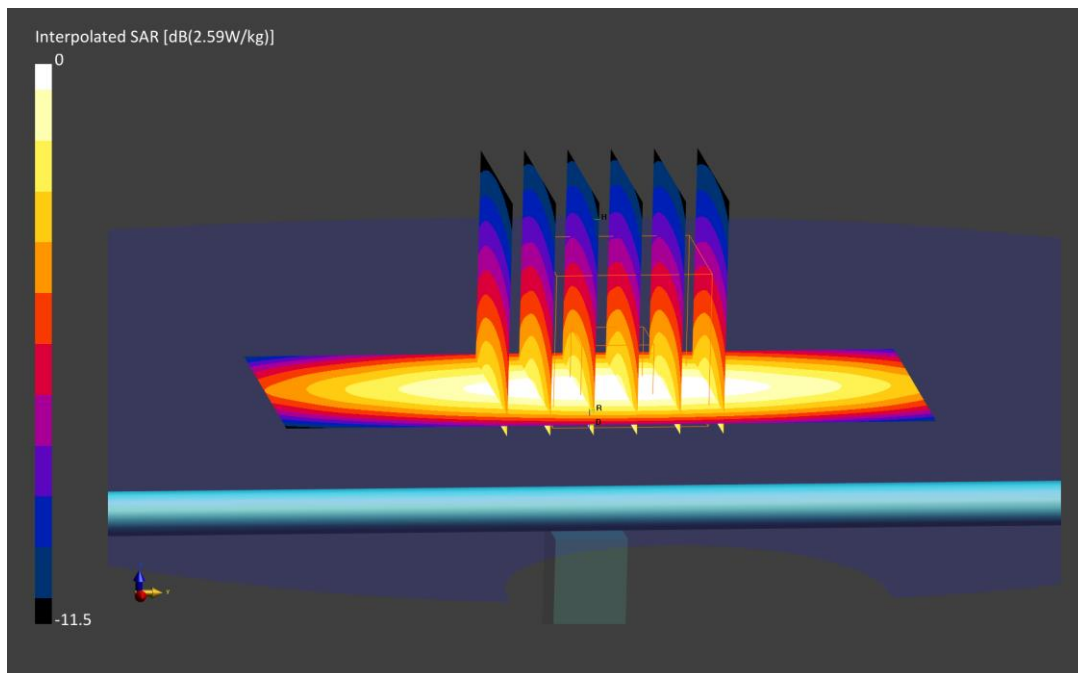
Area Scan (40.0 x 90.0): Measurement grid: $dx=10.0$ mm, $dy=15.0$ mm

Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: $dx=6.0$ mm, $dy=6.0$ mm, $dz=1.5$ mm; Graded Ratio: 1.5

Peak SAR (extrapolated) = 2.59 W/kg

SAR(10 g) = 1.06 W/kg

Deviation (10 g) = -0.75%;



ELEMENT

DUT: Dipole 835.0 MHz; Type: D835V2 - SN4d040

Communication System: UID: 0, CW; Frequency: 835.0 MHz

Medium: 835 Head; Medium parameters used:

f = 835.0 MHz; cond = 0.896 S/m; perm = 40.6; density = 1000 kg/m³

Phantom Section: Flat; Space: 15 mm

Test Date: 06/10/2022; Ambient Temp: 20.7°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7416; ConvF:(9.68,9.68,9.68); Calibrated: 2022-05-18

Sensor-Surface: 1.4mm (All points)

Electronics: DAE4 Sn701; Calibrated: 2022-05-16

Phantom: Twin-SAM V8.0; Serial: 2071

Measurement SW: DASY Module SAR V16.0.2.83

835 MHz System Verification at 23 dBm (200 mW)

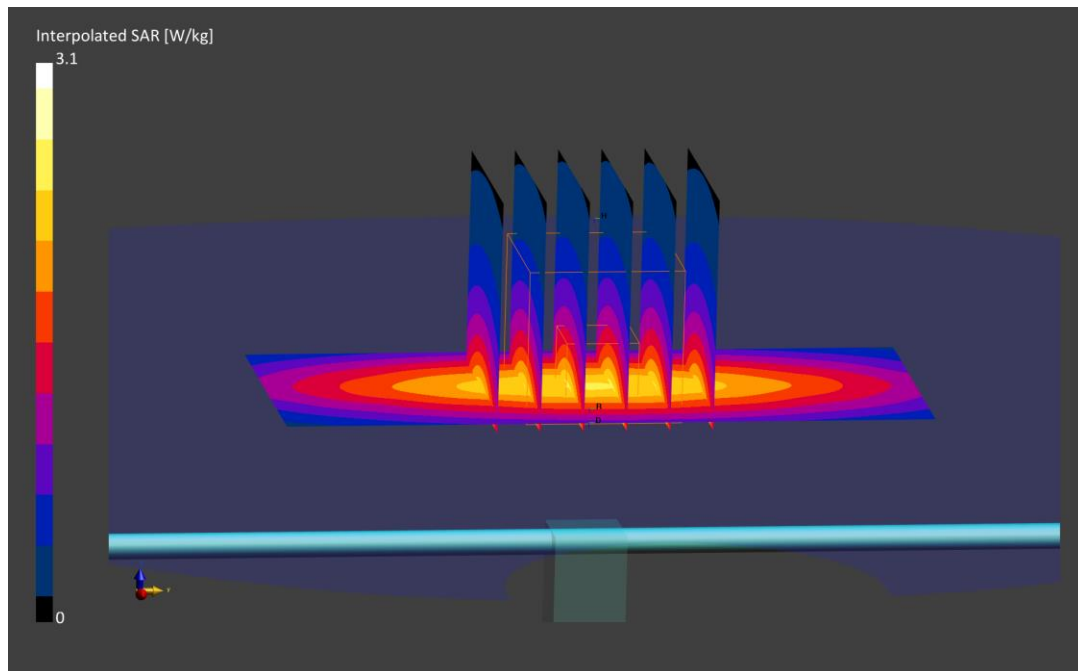
Area Scan (40.0 x 90.0): Measurement grid: dx=10.0 mm, dy=15.0 mm

Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: dx=6.0 mm, dy=6.0 mm, dz=1.5 mm; Graded Ratio: 1.5

Peak SAR (extrapolated) = 3.10 W/kg

SAR(1 g) = 2.01 W/kg

Deviation (1 g) = 2.66%



ELEMENT

DUT: Dipole 835.0 MHz; Type: D835V2 - SN4d040

Communication System: UID: 0, CW; Frequency: 835.0 MHz

Medium: 835 Head; Medium parameters used:

$f = 835.0$ MHz; $\text{cond} = 0.901$ S/m; $\text{perm} = 40.5$; $\text{density} = 1000$ kg/m³

Phantom Section: Flat; Space: 15 mm

Test Date: 06/12/2022; Ambient Temp: 20.3°C; Tissue Temp: 19.8°C

Probe: EX3DV4 - SN7416; ConvF:(9.68,9.68,9.68); Calibrated: 2022-05-18

Sensor-Surface: 1.4mm (All points)

Electronics: DAE4 Sn701; Calibrated: 2022-05-16

Phantom: Twin-SAM V8.0; Serial: 2071

Measurement SW: DASY Module SAR V16.0.2.83

835 MHz System Verification at 23 dBm (200 mW)

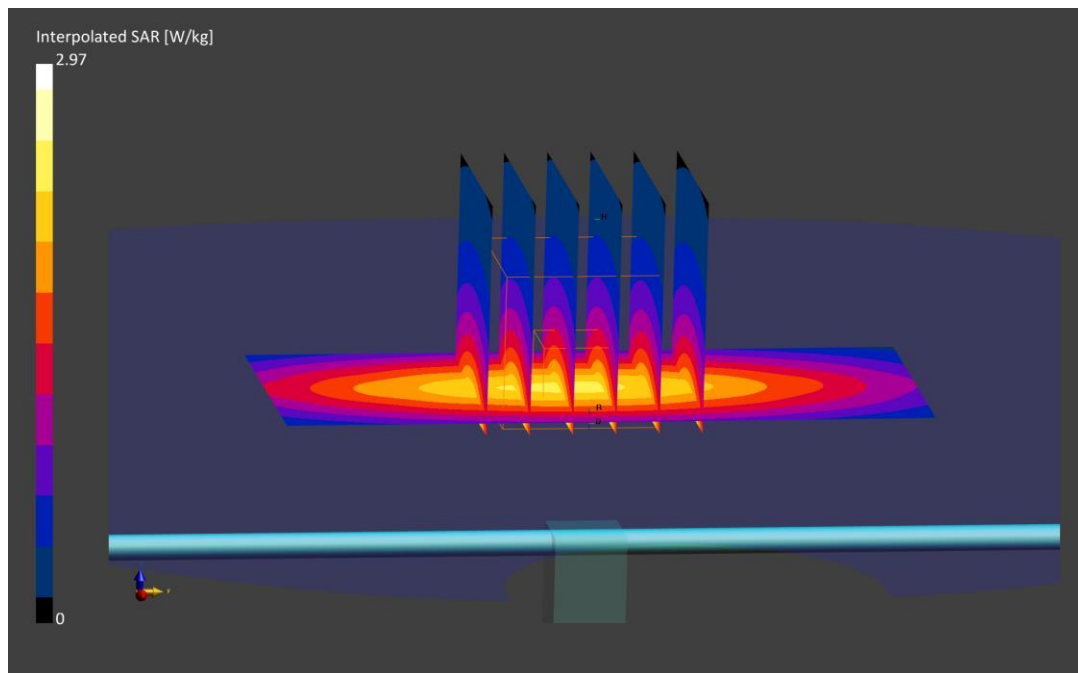
Area Scan (40.0 x 90.0): Measurement grid: $dx=10.0$ mm, $dy=15.0$ mm

Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: $dx=6.0$ mm, $dy=6.0$ mm, $dz=1.5$ mm; Graded Ratio: 1.5

Peak SAR (extrapolated) = 2.97 W/kg

SAR(10 g) = 1.29 W/kg

Deviation (10 g) = 1.10%



ELEMENT

DUT: Dipole 835.0 MHz; Type: D835V2 - SN4d040

Communication System: UID: 0, CW; Frequency: 835.0 MHz
Medium: 835 Head; Medium parameters used:
 $f = 835.0$ MHz; $\text{cond} = 0.899$ S/m; $\text{perm} = 40.5$; $\text{density} = 1000$ kg/m³
Phantom Section: Flat; Space: 15 mm

Test Date: 06/14/2022; Ambient Temp: 21.2°C; Tissue Temp: 19.8°C

Probe: EX3DV4 - SN7416; ConvF:(9.68,9.68,9.68); Calibrated: 2022-05-18

Sensor-Surface: 1.4mm (VMS + 6p)

Electronics: DAE4 Sn701; Calibrated: 2022-05-16

Phantom: Twin-SAM V8.0; Serial: 2071

Measurement SW: DASY Module SAR V16.0.2.83

835 MHz System Verification at 23 dBm (200 mW)

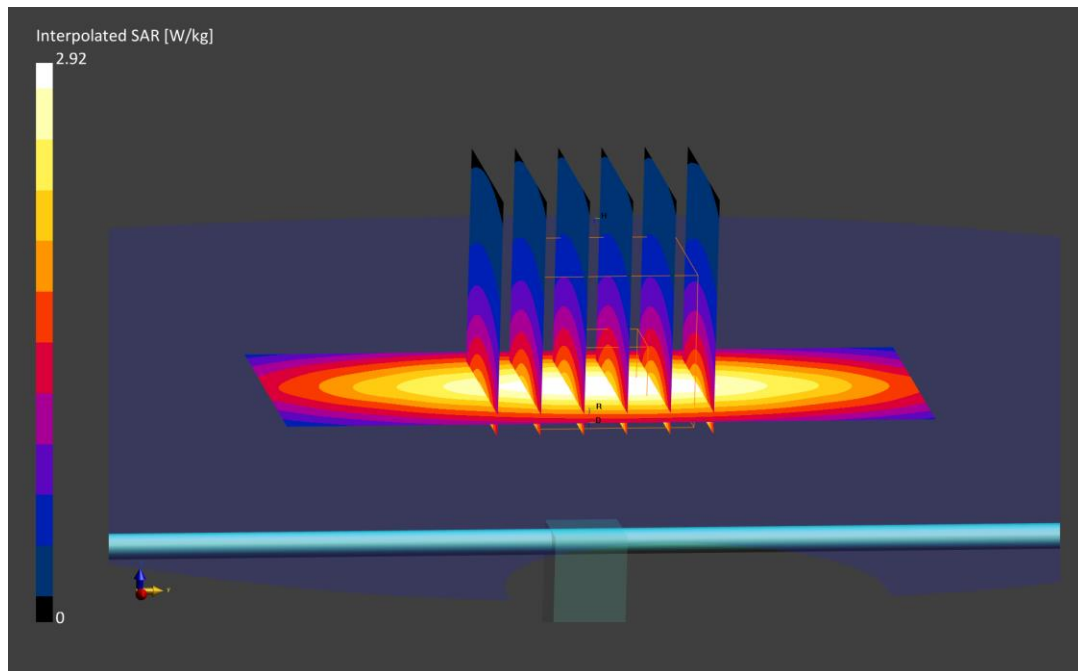
Area Scan (40.0 x 90.0): Measurement grid: $dx=10.0$ mm, $dy=15.0$ mm

Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: $dx=6.0$ mm, $dy=6.0$ mm, $dz=1.5$ mm; Graded Ratio: 1.5

Peak SAR (extrapolated) = 2.92 W/kg

SAR(1 g) = 1.93 W/kg; SAR(10 g) = 1.26 W/kg

Deviation (1 g) = -1.43%; Deviation (10 g) = -1.25%



ELEMENT

DUT: Dipole 1750.0 MHz; Type: D1750V2 - SN1083

Communication System: UID: 0, CW; Frequency: 1750.0 MHz

Medium: 1750 Head; Medium parameters used:

$f = 1750.0$ MHz; $\text{cond} = 1.33$ S/m; $\text{perm} = 38.4$; $\text{density} = 1000$ kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 06/10/2022; Ambient Temp: 21.7°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7639; ConvF:(9.33,9.33,9.33); Calibrated: 2021-11-16

Sensor-Surface: 1.4mm (VMS + 6p)

Electronics: DAE4 Sn1646; Calibrated: 2021-11-11

Phantom: Twin-SAM V8.0; Serial: 1736

Measurement SW: DASY Module SAR V16.0.2.136

1750 MHz System Verification at 20 dBm (100 mW)

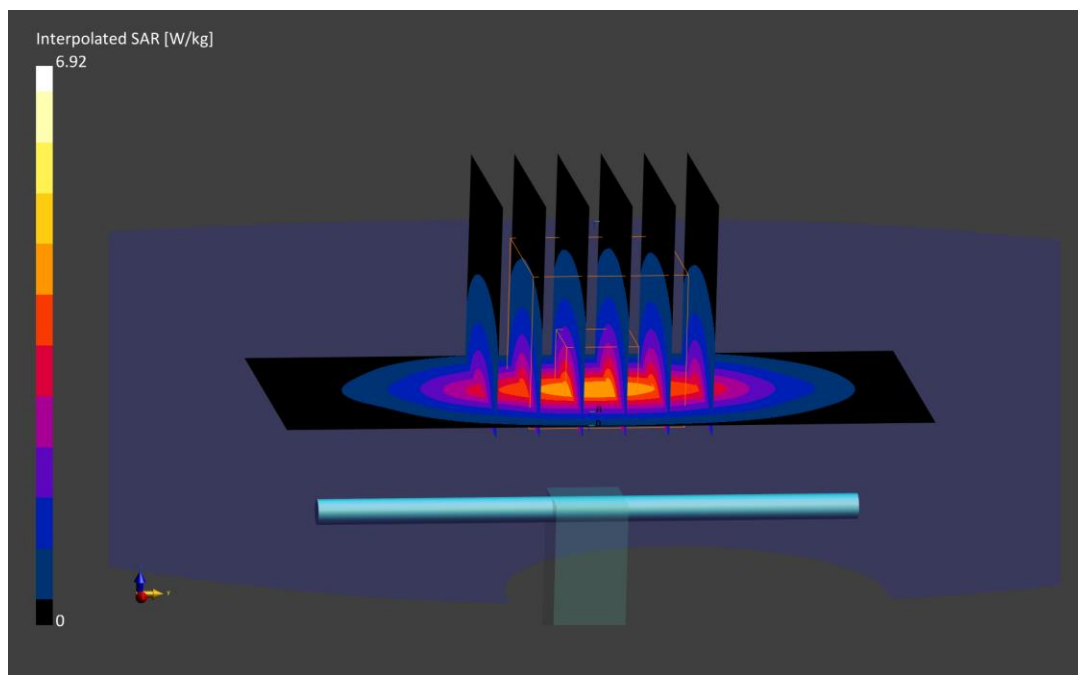
Area Scan (40.0 x 90.0): Measurement grid: $dx=10.0$ mm, $dy=15.0$ mm

Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: $dx=6.0$ mm, $dy=6.0$ mm, $dz=1.5$ mm; Graded Ratio: 1.5

Peak SAR (extrapolated) = 6.92 W/kg

SAR(1 g) = 3.66 W/kg; SAR(10 g) = 1.93 W/kg

Deviation (1 g) = 0.27%; Deviation (10 g) = 0.52%



ELEMENT

DUT: Dipole 1750.0 MHz; Type: D1750V2 - SN1104

Communication System: UID: 0, CW; Frequency: 1750.0 MHz

Medium: 1750 Head; Medium parameters used:

$f = 1750.0$ MHz; $\text{cond} = 1.32$ S/m; $\text{perm} = 38.3$; $\text{density} = 1000$ kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 06/13/2022; Ambient Temp: 21.2°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7639; ConvF:(9.33,9.33,9.33); Calibrated: 2021-11-16

Sensor-Surface: 1.4mm (VMS + 6p)

Electronics: DAE4 Sn1646; Calibrated: 2021-11-11

Phantom: Twin-SAM V8.0; Serial: 1736

Measurement SW: DASY Module SAR V16.0.2.136

1750 MHz System Verification at 20 dBm (100 mW)

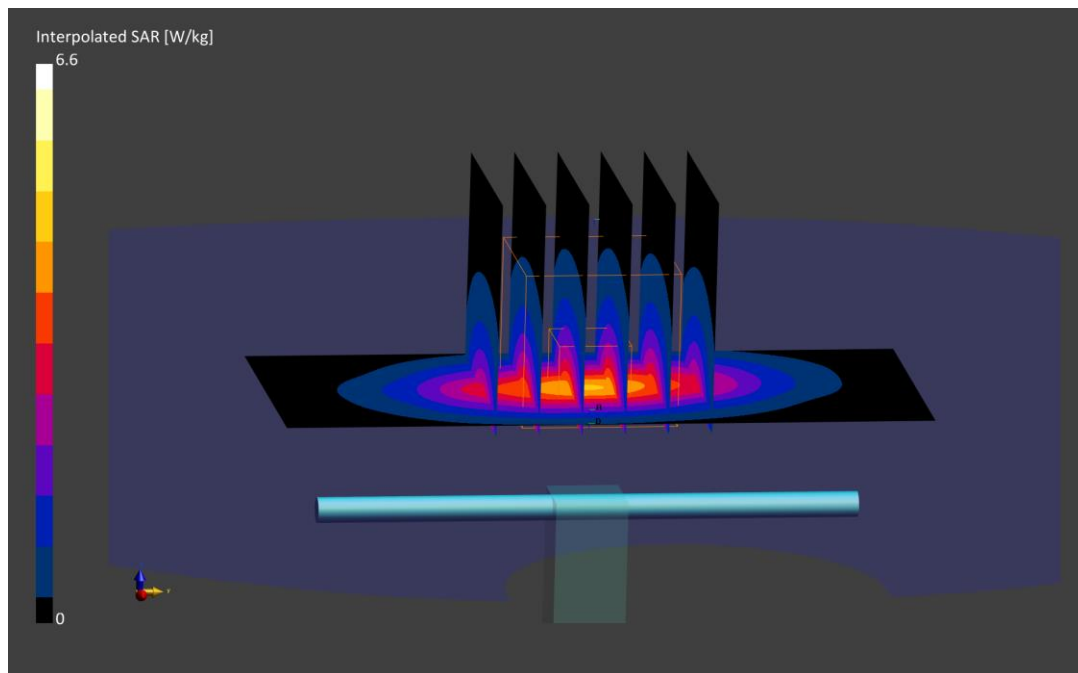
Area Scan (40.0 x 90.0): Measurement grid: $dx=10.0$ mm, $dy=15.0$ mm

Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: $dx=6.0$ mm, $dy=6.0$ mm, $dz=1.5$ mm; Graded Ratio: 1.5

Peak SAR (extrapolated) = 6.60 W/kg

SAR(1 g) = 3.45 W/kg

Deviation (1 g) = -3.36%



ELEMENT

DUT: Dipole 1900.0 MHz; Type: D1900V2 - SN5d030

Communication System: UID: 0, CW; Frequency: 1900.0 MHz

Medium: 1900 Head; Medium parameters used:

$f = 1900.0$ MHz; $\text{cond} = 1.45$ S/m; $\text{perm} = 40.8$; $\text{density} = 1000$ kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 06/08/2022; Ambient Temp: 21.5°C; Tissue Temp: 20.0°C

Probe: EX3DV4 - SN7532; ConvF:(8.37,8.37,8.37); Calibrated: 2022-04-22

Sensor-Surface: 1.4mm (VMS + 6p)

Electronics: DAE4 Sn501; Calibrated: 2022-04-13

Phantom: Twin-SAM V8.0; Serial: 1357

Measurement SW: DASY Module SAR V16.0.2.136

1900 MHz System Verification at 20 dBm (100 mW)

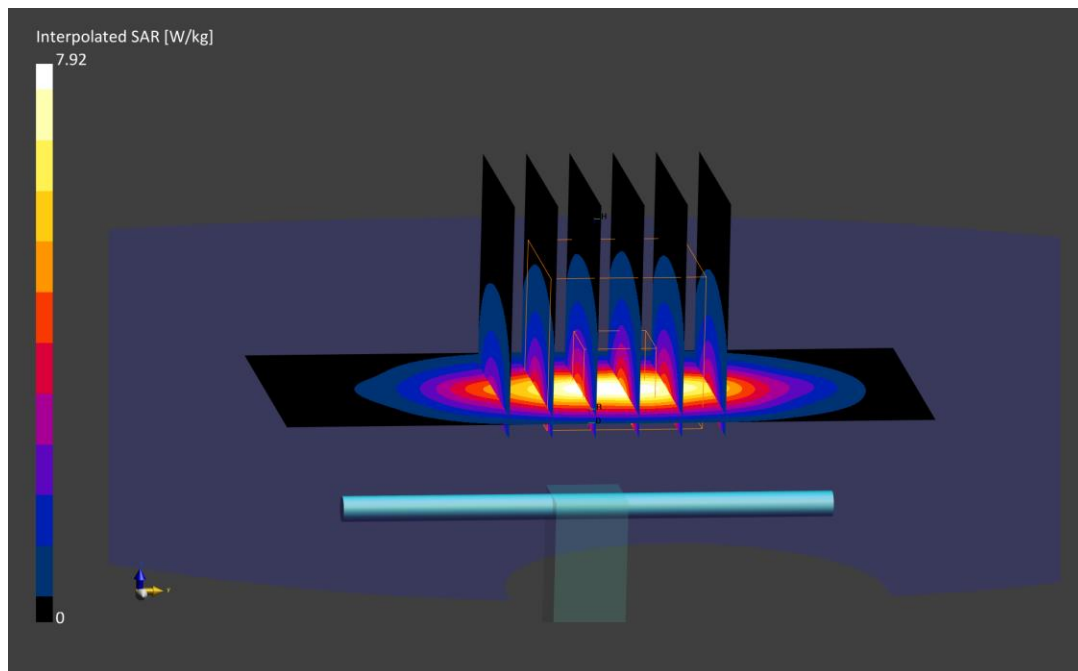
Area Scan (40.0 x 90.0): Measurement grid: $dx=10.0$ mm, $dy=15.0$ mm

Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: $dx=6.0$ mm, $dy=6.0$ mm, $dz=1.5$ mm; Graded Ratio: 1.5

Peak SAR (extrapolated) = 7.92 W/kg

SAR(1 g) = 4.20 W/kg; SAR(10 g) = 2.17 W/kg

Deviation (1 g) = 5.53%; Deviation (10 g) = 6.37%



ELEMENT

DUT: Dipole 1900.0 MHz; Type: D1900V2 - SN5d030

Communication System: UID: 0, CW; Frequency: 1900.0 MHz

Medium: 1900 Head; Medium parameters used:

$f = 1900.0$ MHz; $\text{cond} = 1.43$ S/m; $\text{perm} = 38.5$; $\text{density} = 1000$ kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 06/14/2022; Ambient Temp: 23.1°C; Tissue Temp: 18.1°C

Probe: EX3DV4 - SN7532; ConvF:(8.37,8.37,8.37); Calibrated: 2022-04-22

Sensor-Surface: 1.4mm (VMS + 6p)

Electronics: DAE4 Sn501; Calibrated: 2022-04-13

Phantom: Twin-SAM V8.0; Serial: 1357

Measurement SW: DASY Module SAR V16.0.2.136

1900 MHz System Verification at 20 dBm (100 mW)

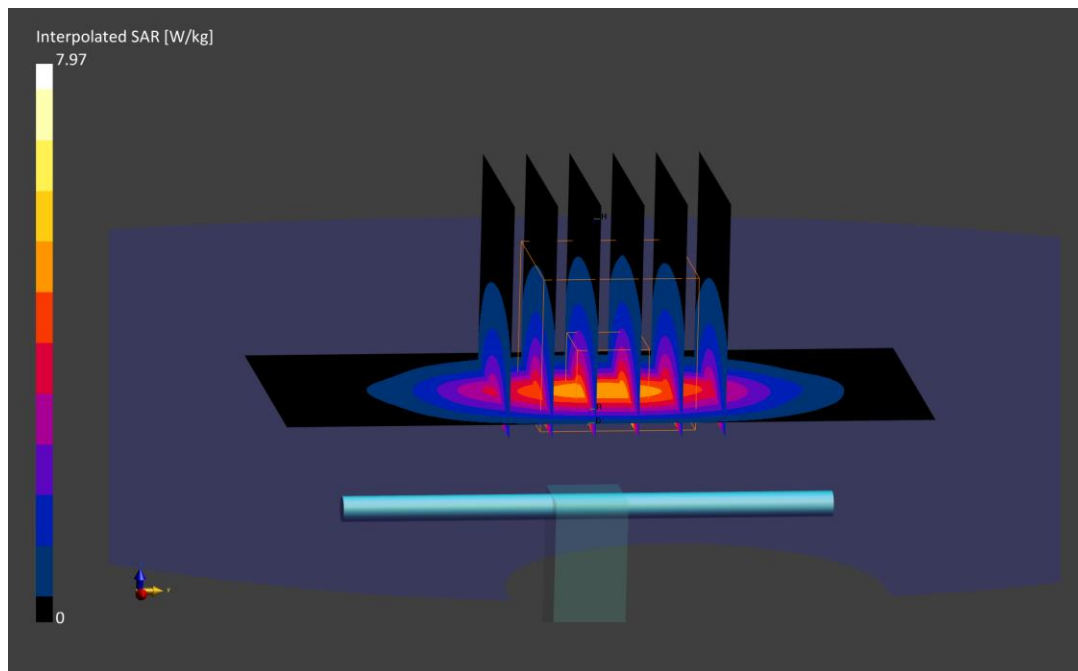
Area Scan (40.0 x 90.0): Measurement grid: $dx=10.0$ mm, $dy=15.0$ mm

Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: $dx=6.0$ mm, $dy=6.0$ mm, $dz=1.5$ mm; Graded Ratio: 1.5

Peak SAR (extrapolated) = 7.97 W/kg

SAR(1 g) = 4.18 W/kg; SAR(10 g) = 2.16 W/kg

Deviation (1 g) = 5.03%; Deviation (10 g) = 5.88%



ELEMENT

DUT: Dipole 2450.0 MHz; Type: D2450V2 - SN750

Communication System: UID: 0, CW; Frequency: 2450.0 MHz

Medium: 2450 Head; Medium parameters used:

$f = 2450.0$ MHz; $\text{cond} = 1.85$ S/m; $\text{perm} = 39.7$; $\text{density} = 1000$ kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 06/10/2022; Ambient Temp: 22.7°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7308; ConvF:(7.94,7.94,7.94); Calibrated: 2022-02-21

Sensor-Surface: 1.4mm (VMS + 6p)

Electronics: DAE4 Sn467; Calibrated: 2022-02-24

Phantom: Twin-SAM V8.0; Serial: 2029

Measurement SW: DASY Module SAR V16.0.2.136

2450 MHz System Verification at 20 dBm (100 mW)

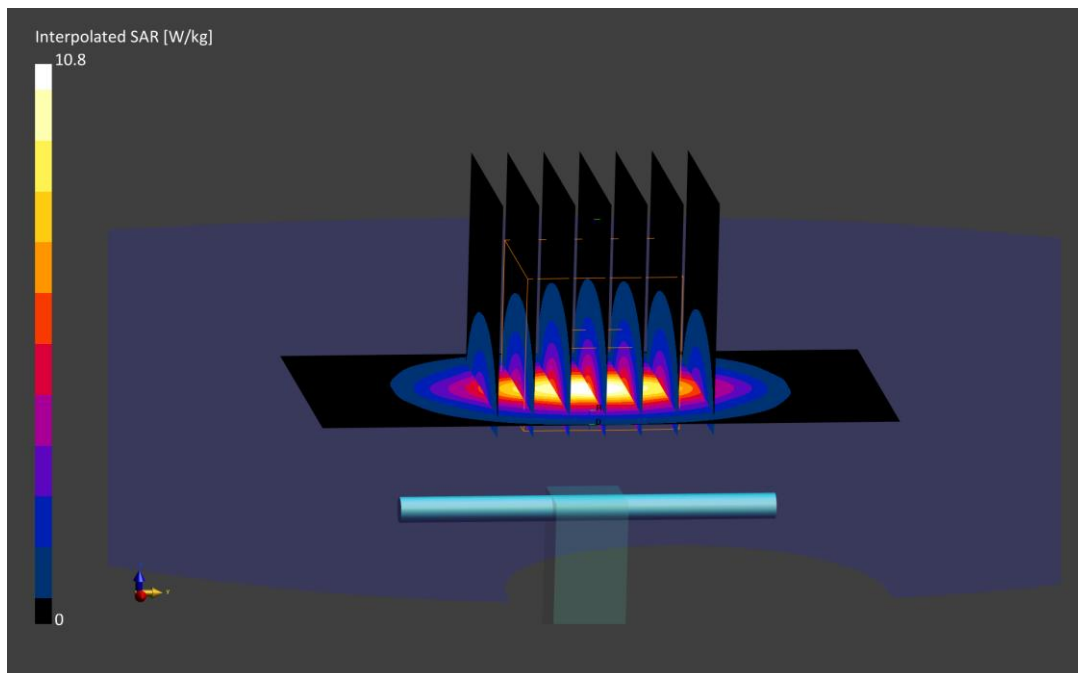
Area Scan (40.0 x 80.0): Measurement grid: $dx=10.0$ mm, $dy=10.0$ mm

Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: $dx=5.0$ mm, $dy=5.0$ mm, $dz=1.5$ mm; Graded Ratio: 1.5

Peak SAR (extrapolated) = 10.8 W/kg

SAR(1 g) = 5.15 W/kg; SAR(10 g) = 2.39 W/kg

Deviation (1 g) = -2.09%; Deviation (10 g) = -2.45%



ELEMENT

DUT: Dipole 2450.0 MHz; Type: D2450V2 - SN750

Communication System: UID: 0, CW; Frequency: 2450.0 MHz

Medium: 2450 Head; Medium parameters used:

$f = 2450.0$ MHz; $\text{cond} = 1.82$ S/m; $\text{perm} = 39.4$; $\text{density} = 1000$ kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 06/14/2022; Ambient Temp: 23.4°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7308; ConvF:(7.94,7.94,7.94); Calibrated: 2022-02-21

Sensor-Surface: 1.4mm (VMS + 6p)

Electronics: DAE4 Sn467; Calibrated: 2022-02-24

Phantom: Twin-SAM V8.0; Serial: 2029

Measurement SW: DASY Module SAR V16.0.2.136

2450 MHz System Verification at 20 dBm (100 mW)

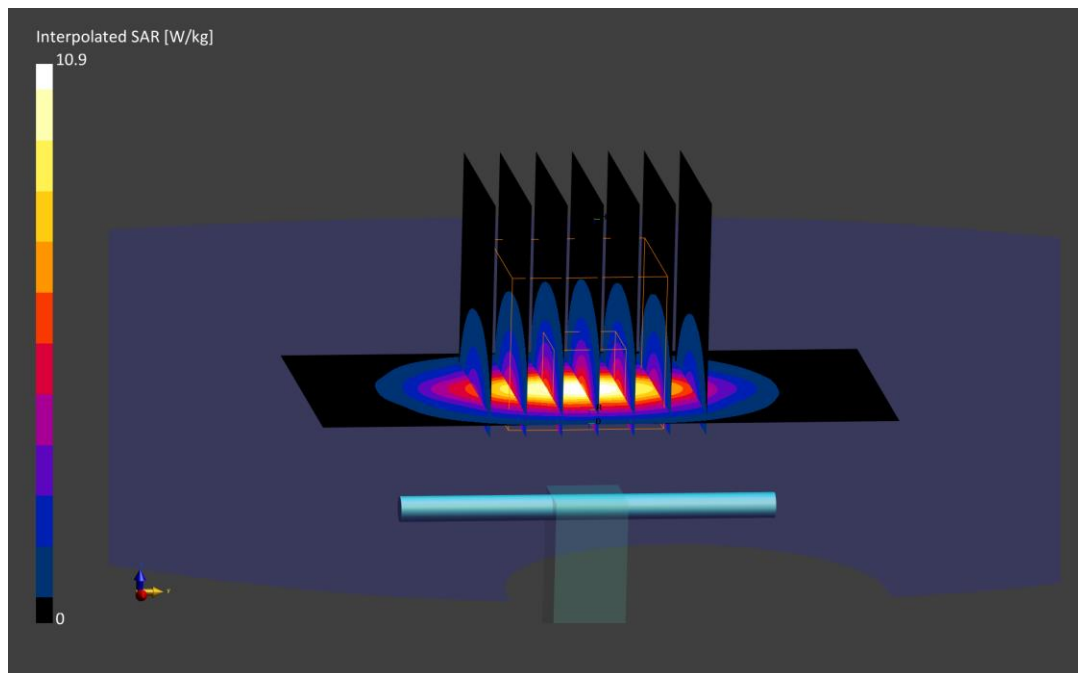
Area Scan (40.0 x 80.0): Measurement grid: $dx=10.0$ mm, $dy=10.0$ mm

Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: $dx=5.0$ mm, $dy=5.0$ mm, $dz=1.5$ mm; Graded Ratio: 1.5

Peak SAR (extrapolated) = 10.9 W/kg

SAR(1 g) = 5.26 W/kg; SAR(10 g) = 2.44 W/kg

Deviation (1 g) = 0.00%; Deviation (10 g) = -0.41%



ELEMENT

DUT: Dipole 2450.0 MHz; Type: D2450V2 - SN750

Communication System: UID: 0, CW; Frequency: 2450.0 MHz

Medium: 2450 Head; Medium parameters used:

f = 2450.0 MHz; cond = 1.85 S/m; perm = 38.8; density = 1000 kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 08/22/2022; Ambient Temp: 20.1°C; Tissue Temp: 19.1°C

Probe: EX3DV4 - SN7416; ConvF:(7.34,7.34,7.34); Calibrated: 2022-05-18

Sensor-Surface: 1.4mm (VMS + 6p)

Electronics: DAE4 Sn701; Calibrated: 2022-05-16

Phantom: Twin-SAM V8.0; Serial: 2071

Measurement SW: DASY Module SAR V16.0.2.136

2450 MHz System Verification at 20 dBm (100 mW)

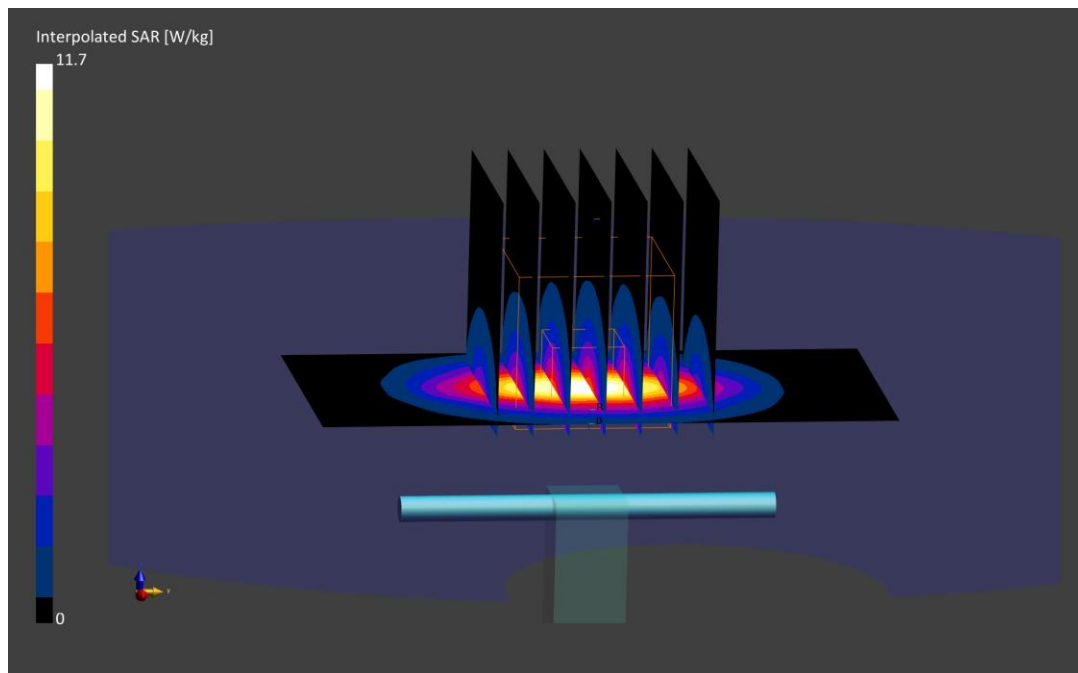
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: dx=5.0 mm, dy=5.0 mm, dz=1.5 mm; Graded Ratio: 1.5

Peak SAR (extrapolated) = 11.6 W/kg

SAR(1 g) = 5.42 W/kg

Deviation (1 g) = 3.04%



ELEMENT

DUT: Dipole 2600.0 MHz; Type: D2600V2 - SN1042

Communication System: UID: 0, CW; Frequency: 2600.0 MHz

Medium: 2450 Head; Medium parameters used:

$f = 2600.0$ MHz; $\text{cond} = 1.97$ S/m; $\text{perm} = 39.9$; $\text{density} = 1000$ kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 06/08/2022; Ambient Temp: 23.8°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7308; ConvF:(7.85,7.85,7.85); Calibrated: 2022-02-21

Sensor-Surface: 1.4mm (VMS + 6p)

Electronics: DAE4 Sn467; Calibrated: 2022-02-24

Phantom: Twin-SAM V8.0; Serial: 2029

Measurement SW: DASY Module SAR V16.0.2.136

2600 MHz System Verification at 20 dBm (100 mW)

Area Scan (40.0 x 80.0): Measurement grid: $dx=10.0$ mm, $dy=10.0$ mm

Zoom Scan (30.0 x 30.0 x 30.0): Measurement grid: $dx=5.0$ mm, $dy=5.0$ mm, $dz=1.5$ mm; Graded Ratio: 1.5

Peak SAR (extrapolated) = 11.9 W/kg

SAR(1 g) = 5.43 W/kg; SAR(10 g) = 2.42 W/kg

Deviation (1 g) = -2.69%; Deviation (10 g) = -2.81%

