

APPENDIX B: SAR DIPOLE VERIFICATION PLOTS

ELEMENT

DUT: Dipole 13.000 MHz; Type: CLA-13 - SN1004

Communication System: UID: 0, CW; Frequency: 13.000 MHz

Medium: 30 Head; Medium parameters used:

$f = 13.000$ MHz; $\text{cond} = 0.723$ S/m; $\text{perm} = 52.4$; $\text{density} = 1000$ kg/m³

Phantom Section: Flat; Space: 0 mm

Test Date: 07/09/2024; Ambient Temp: 22.0°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN3746; ConvF:(16.19,16.19,16.19); 2023-10-16

Sensor-Surface: 1.4mm (All points)

Electronics: DAE4 Sn1237; 2023-10-18

Phantom: ELI V6.0; Serial: 2003

Measurement SW: DASY Module SAR V16.2.4.2524

13.0 MHz System Verification at 30.0 dBm (1000 mW)

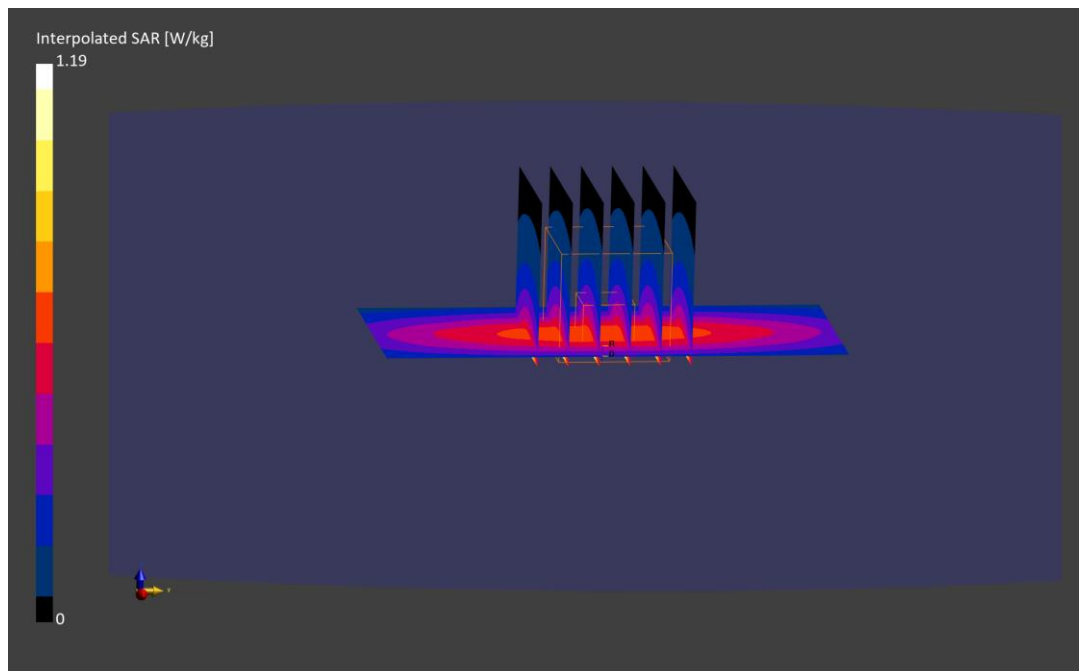
Area Scan (40.0 x 90.0): Measurement grid: $dx=10.0$ mm, $dy=15.0$ mm

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) = 1.19 W/kg

SAR(10 g) = 0.368 W/kg

Deviation (10 g) = 3.37%



ELEMENT

DUT: Dipole 2450.000 MHz; Type: D2450V2 - SN921

Communication System: UID: 0, CW; Frequency: 2450.000 MHz

Medium: 2450 Head; Medium parameters used:

$f = 2450.000$ MHz; $\text{cond} = 1.75$ S/m; $\text{perm} = 39.8$; $\text{density} = 1000$ kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 07/08/2024; Ambient Temp: 21.4°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7682; ConvF:(7.87,7.72,8.18); 2024-05-13

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

Electronics: DAE4 Sn1683; 2024-05-08

Phantom: Twin-SAM V8.0; Serial: 1917

Measurement SW: DASY Module SAR V16.2.4.2524

2450.0 MHz System Verification at 20.0 dBm (100 mW)

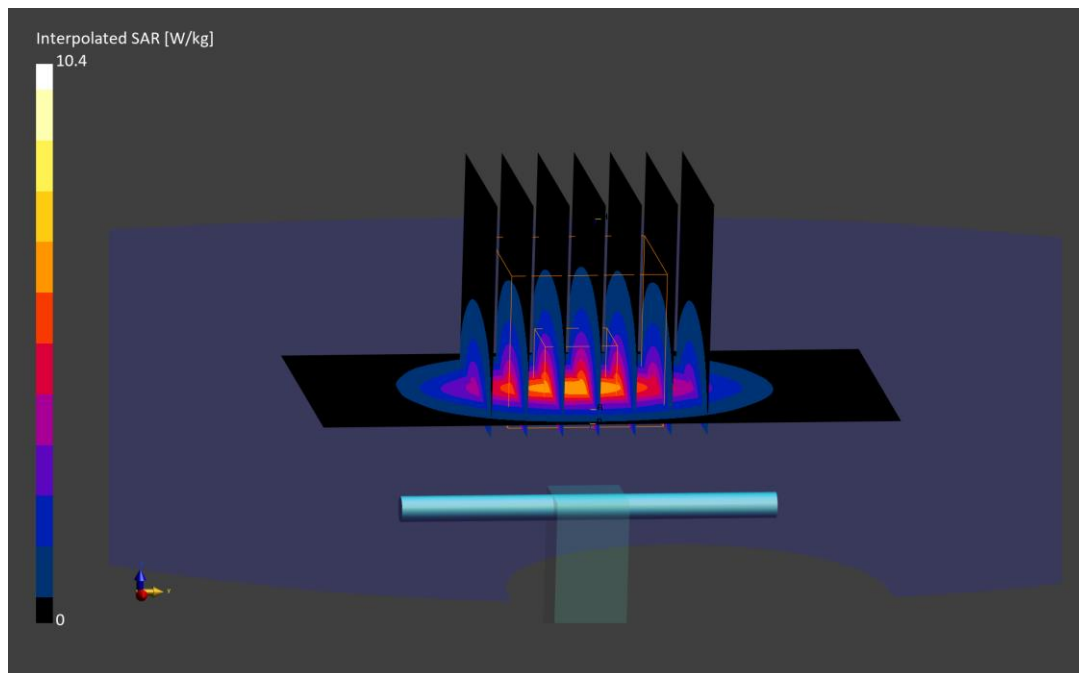
Area Scan (40.0 x 80.0): Measurement grid: $dx=10.0$ mm, $dy=10.0$ mm

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) = 10.4 W/kg

SAR(1 g) = 5.26 W/kg; SAR(10 g) = 2.52 W/kg

Deviation (1 g) = -2.95%; Deviation (10 g) = -1.18%



ELEMENT

DUT: Dipole 5250.000 MHz; Type: D5GHzV2 - SN1066

Communication System: UID: 0, CW; Frequency: 5250.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
 $f = 5250.000$ MHz; $\text{cond} = 4.61$ S/m; $\text{perm} = 34.7$; $\text{density} = 1000$ kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 06/12/2024; Ambient Temp: 20.6°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7427; ConvF:(4.73,5.26,5.35); 2024-02-09
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn467; 2024-02-09
Phantom: Twin-SAM V8.0; Serial: 2070
Measurement SW: DASY Module SAR V16.2.4.2524

5250.0 MHz System Verification at 17.0 dBm (50 mW)

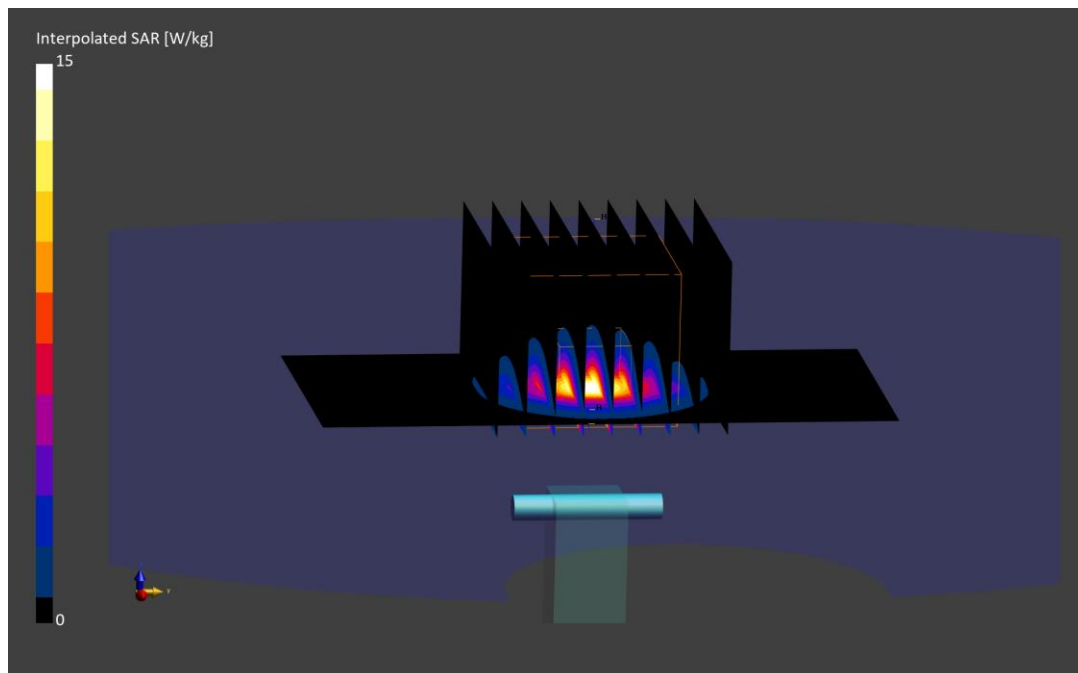
Area Scan (40.0 x 80.0): Measurement grid: $dx=10.0$ mm, $dy=10.0$ mm

Zoom Scan (22.0 x 22.0 x 22.0): Measurement grid: $dx=4.0$ mm, $dy=4.0$ mm, $dz=1.4$ mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 15.0 W/kg

SAR(1 g) = 3.77 W/kg

Deviation (1 g) = -6.10%



ELEMENT

DUT: Dipole 5250.000 MHz; Type: D5GHzV2 - SN1066

Communication System: UID: 0, CW; Frequency: 5250.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
 $f = 5250.000$ MHz; $\text{cond} = 4.61$ S/m; $\text{perm} = 34.7$; $\text{density} = 1000$ kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 06/22/2024; Ambient Temp: 21.5°C; Tissue Temp: 19.6°C

Probe: EX3DV4 - SN7427; ConvF:(4.73,5.26,5.35); 2024-02-09
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn467; 2024-02-09
Phantom: Twin-SAM V8.0; Serial: 2070
Measurement SW: DASY Module SAR V16.2.4.2524

5250.0 MHz System Verification at 17.0 dBm (50 mW)

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

Zoom Scan (22.0 x 22.0 x 22.0): Measurement grid: $dx=4.0$ mm, $dy=4.0$ mm, $dz=1.4$ mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 14.9 W/kg

SAR(10 g) = 1.08 W/kg

Deviation (10 g) = -6.49%



ELEMENT

DUT: Dipole 5250.0 MHz; Type: D5GHzV2 - SN1123

Communication System: UID: 0, CW; Frequency: 5250.0 MHz

Medium: 5200-5800 Head; Medium parameters used:

f = 5250.0 MHz; cond = 4.62 S/m; perm = 34.7; density = 1000 kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 07/10/2024; Ambient Temp: 21.6°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN3949; ConvF:(5.74,5.74,5.74); 2023-10-02

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

Electronics: DAE4 Sn1684; 2023-09-12

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

Measurement SW: DASY Module SAR V16.2.0.1425

5250.0 MHz System Verification at 17.0 dBm (50 mW)

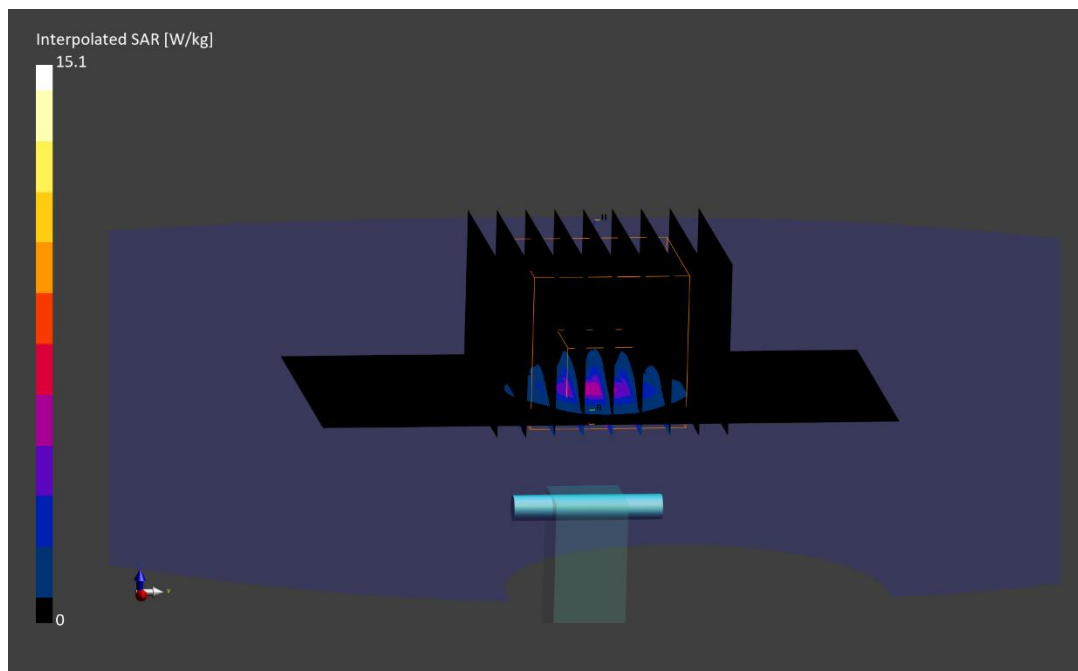
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

Zoom Scan (22.0 x 22.0 x 22.0): Measurement grid: dx=4.0 mm, dy=4.0 mm, dz=1.4 mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 15.1 W/kg

SAR(1 g) = 3.96 W/kg

Deviation (1 g) = -0.25%



ELEMENT

DUT: Dipole 5600.000 MHz; Type: D5GHzV2 - SN1066

Communication System: UID: 0, CW; Frequency: 5600.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
 $f = 5600.000$ MHz; $\text{cond} = 5.00$ S/m; $\text{perm} = 34.1$; $\text{density} = 1000$ kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 06/12/2024; Ambient Temp: 20.6°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7427; ConvF:(4.18,4.62,4.72); 2024-02-09
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn467; 2024-02-09
Phantom: Twin-SAM V8.0; Serial: 2070
Measurement SW: DASY Module SAR V16.2.4.2524

5600.0 MHz System Verification at 17.0 dBm (50 mW)

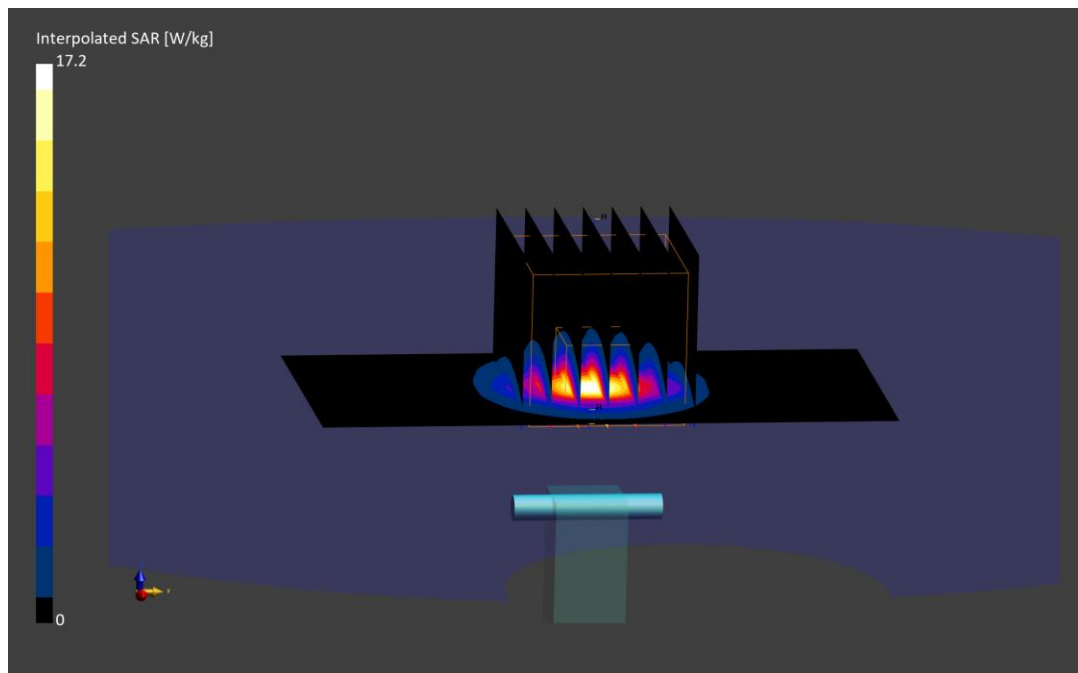
Area Scan (40.0 x 80.0): Measurement grid: $dx=10.0$ mm, $dy=10.0$ mm

Zoom Scan (22.0 x 22.0 x 22.0): Measurement grid: $dx=4.0$ mm, $dy=4.0$ mm, $dz=1.4$ mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 17.2 W/kg

SAR(1 g) = 4.13 W/kg

Deviation (1 g) = -1.55%



ELEMENT

DUT: Dipole 5600.000 MHz; Type: D5GHzV2 - SN1066

Communication System: UID: 0, CW; Frequency: 5600.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
 $f = 5600.000$ MHz; $\text{cond} = 4.98$ S/m; $\text{perm} = 34.1$; $\text{density} = 1000$ kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 06/22/2024; Ambient Temp: 21.5°C; Tissue Temp: 19.6°C

Probe: EX3DV4 - SN7427; ConvF:(4.18,4.62,4.72); 2024-02-09
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn467; 2024-02-09
Phantom: Twin-SAM V8.0; Serial: 2070
Measurement SW: DASY Module SAR V16.2.4.2524

5600.0 MHz System Verification at 17.0 dBm (50 mW)

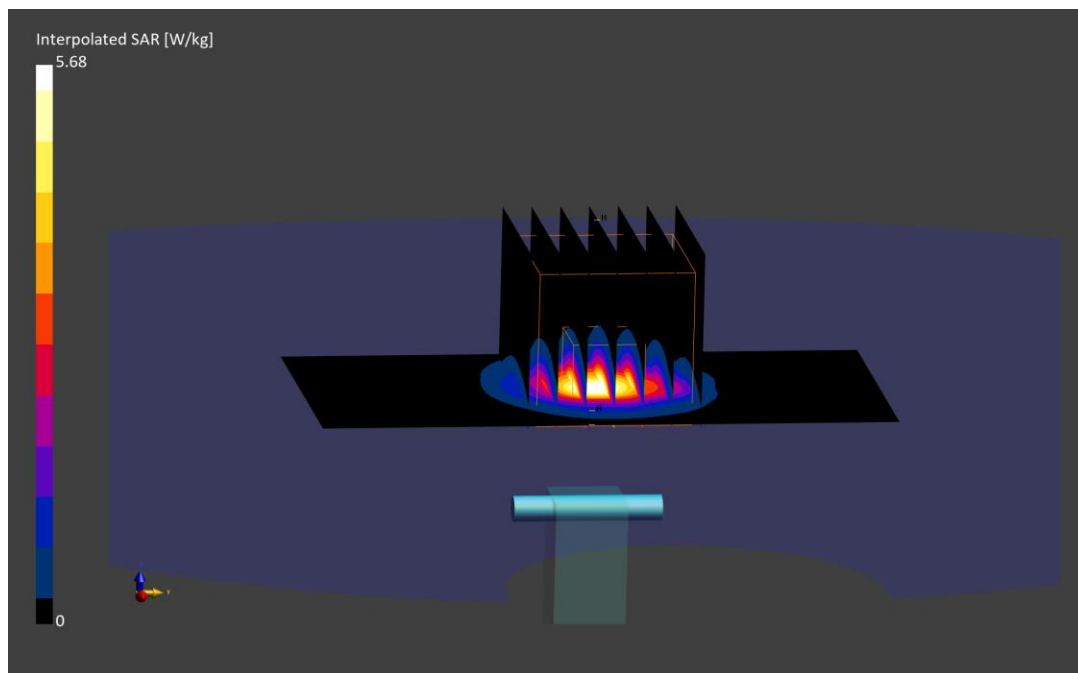
Area Scan (40.0 x 80.0): Measurement grid: $dx=10.0$ mm, $dy=10.0$ mm

Zoom Scan (22.0 x 22.0 x 22.0): Measurement grid: $dx=4.0$ mm, $dy=4.0$ mm, $dz=1.4$ mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 17.0 W/kg

SAR(10 g) = 1.18 W/kg

Deviation (10 g) = -2.07%



ELEMENT

DUT: Dipole 5600.0 MHz; Type: D5GHzV2 - SN1123

Communication System: UID: 0, CW; Frequency: 5600.0 MHz

Medium: 5200-5800 Head; Medium parameters used:

f = 5600.0 MHz; cond = 5.01 S/m; perm = 34.0; density = 1000 kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 07/10/2024; Ambient Temp: 21.6°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN3949; ConvF:(5.11,5.11,5.11); 2023-10-02

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

Electronics: DAE4 Sn1684; 2023-09-12

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

Measurement SW: DASY Module SAR V16.2.0.1425

5600.0 MHz System Verification at 17.0 dBm (50 mW)

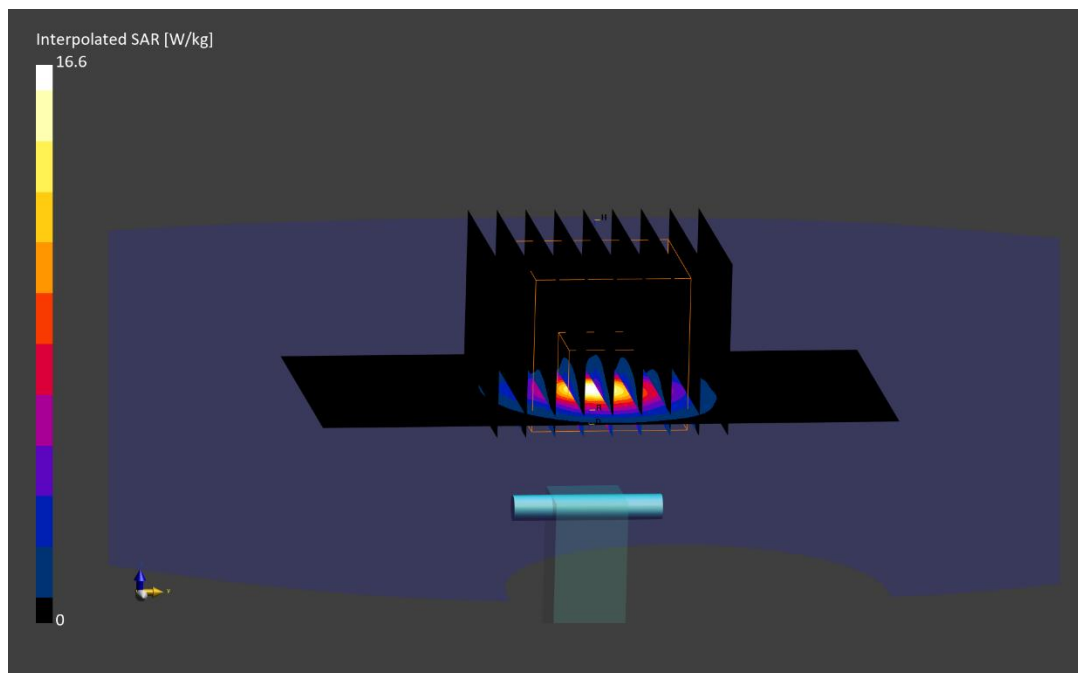
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

Zoom Scan (22.0 x 22.0 x 22.0): Measurement grid: dx=4.0 mm, dy=4.0 mm, dz=1.4 mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 16.7 W/kg

SAR(1 g) = 4.05 W/kg

Deviation (1 g) = -1.82%



ELEMENT

DUT: Dipole 5750.000 MHz; Type: D5GHzV2 - SN1066

Communication System: UID: 0, CW; Frequency: 5750.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
 $f = 5750.000$ MHz; $\text{cond} = 5.15$ S/m; $\text{perm} = 33.9$; $\text{density} = 1000$ kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 06/12/2024; Ambient Temp: 20.6°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7427; ConvF:(4.35,4.78,4.93); 2024-02-09
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn467; 2024-02-09
Phantom: Twin-SAM V8.0; Serial: 2070
Measurement SW: DASY Module SAR V16.2.4.2524

5750.0 MHz System Verification at 17.0 dBm (50 mW)

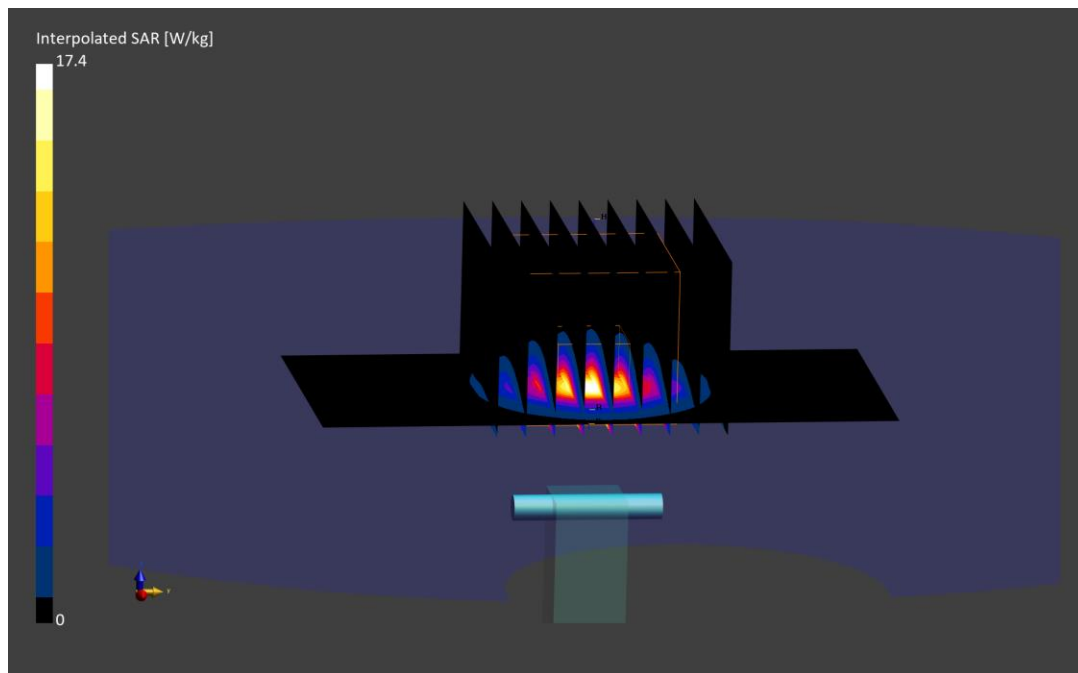
Area Scan (40.0 x 80.0): Measurement grid: $dx=10.0$ mm, $dy=10.0$ mm

Zoom Scan (22.0 x 22.0 x 22.0): Measurement grid: $dx=4.0$ mm, $dy=4.0$ mm, $dz=1.4$ mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 17.4 W/kg

SAR(1 g) = 4.07 W/kg

Deviation (1 g) = 2.39%



ELEMENT

DUT: Dipole 5750.000 MHz; Type: D5GHzV2 - SN1066

Communication System: UID: 0, CW; Frequency: 5750.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
 $f = 5750.000$ MHz; $\text{cond} = 5.14$ S/m; $\text{perm} = 33.9$; $\text{density} = 1000$ kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 06/22/2024; Ambient Temp: 21.5°C; Tissue Temp: 19.6°C

Probe: EX3DV4 - SN7427; ConvF:(4.35,4.78,4.93); 2024-02-09
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn467; 2024-02-09
Phantom: Twin-SAM V8.0; Serial: 2070
Measurement SW: DASY Module SAR V16.2.4.2524

5750.0 MHz System Verification at 17.0 dBm (50 mW)

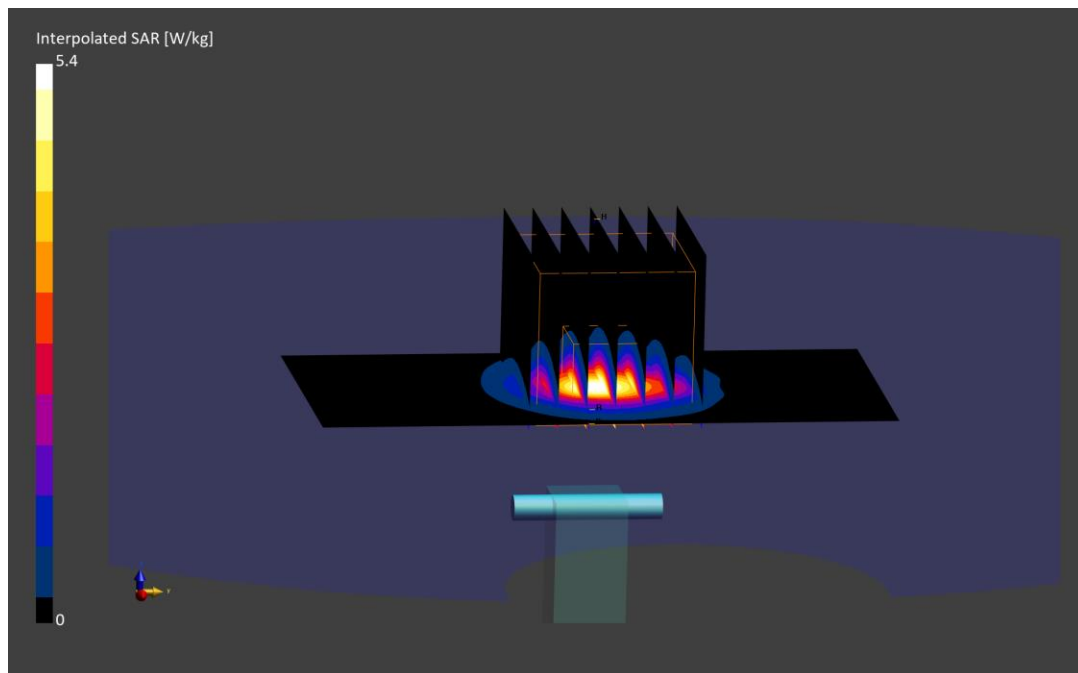
Area Scan (40.0 x 80.0): Measurement grid: $dx=10.0$ mm, $dy=10.0$ mm

Zoom Scan (22.0 x 22.0 x 22.0): Measurement grid: $dx=4.0$ mm, $dy=4.0$ mm, $dz=1.4$ mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 16.9 W/kg

SAR(10 g) = 1.13 W/kg

Deviation (10 g) = 0.00%



ELEMENT

DUT: Dipole 5750.0 MHz; Type: D5GHzV2 - SN1123

Communication System: UID: 0, CW; Frequency: 5750.0 MHz

Medium: 5200-5800 Head; Medium parameters used:

f = 5750.0 MHz; cond = 5.18 S/m; perm = 33.7; density = 1000 kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 07/10/2024; Ambient Temp: 21.6°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN3949; ConvF:(5.31,5.31,5.31); 2023-10-02

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

Electronics: DAE4 Sn1684; 2023-09-12

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

Measurement SW: DASY Module SAR V16.2.0.1425

5750.0 MHz System Verification at 17.0 dBm (50 mW)

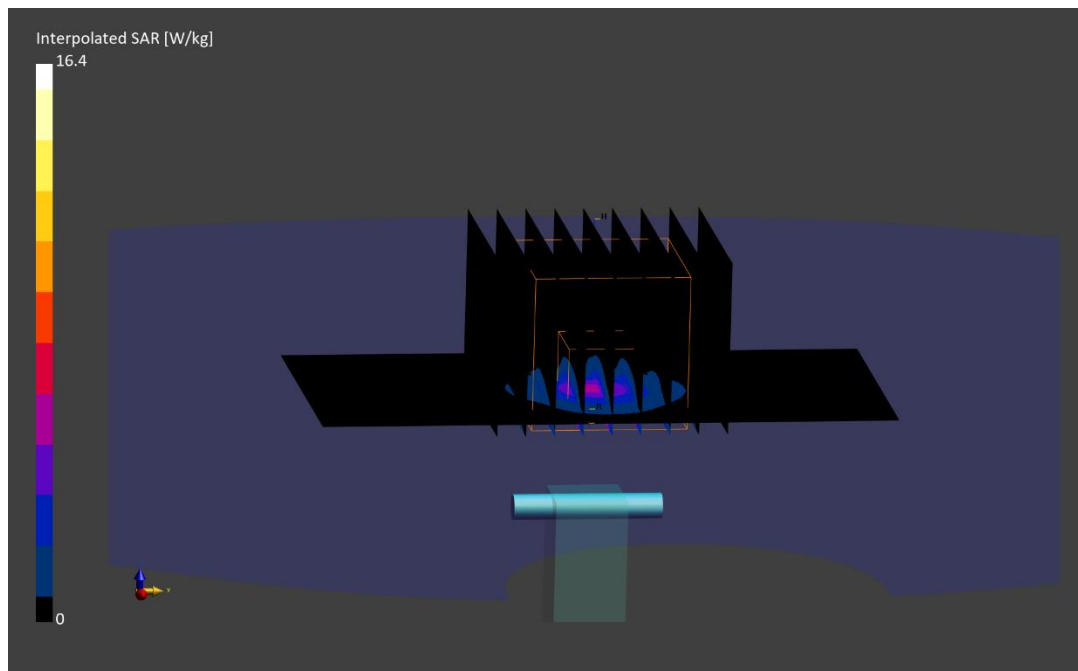
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

Zoom Scan (22.0 x 22.0 x 22.0): Measurement grid: dx=4.0 mm, dy=4.0 mm, dz=1.4 mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 16.4 W/kg

SAR(1 g) = 3.88 W/kg

Deviation (1 g) = -2.27%



ELEMENT

DUT: Dipole 5850.000 MHz; Type: D5GHzV2 - SN1066

Communication System: UID: 0, CW; Frequency: 5850.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5850.000 MHz; cond = 5.25 S/m; perm = 33.7; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 06/12/2024; Ambient Temp: 20.6°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7427; ConvF:(4.04,4.57,4.63); 2024-02-09
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn467; 2024-02-09
Phantom: Twin-SAM V8.0; Serial: 2070
Measurement SW: DASY Module SAR V16.2.4.2524

5850.0 MHz System Verification at 17.0 dBm (50 mW)

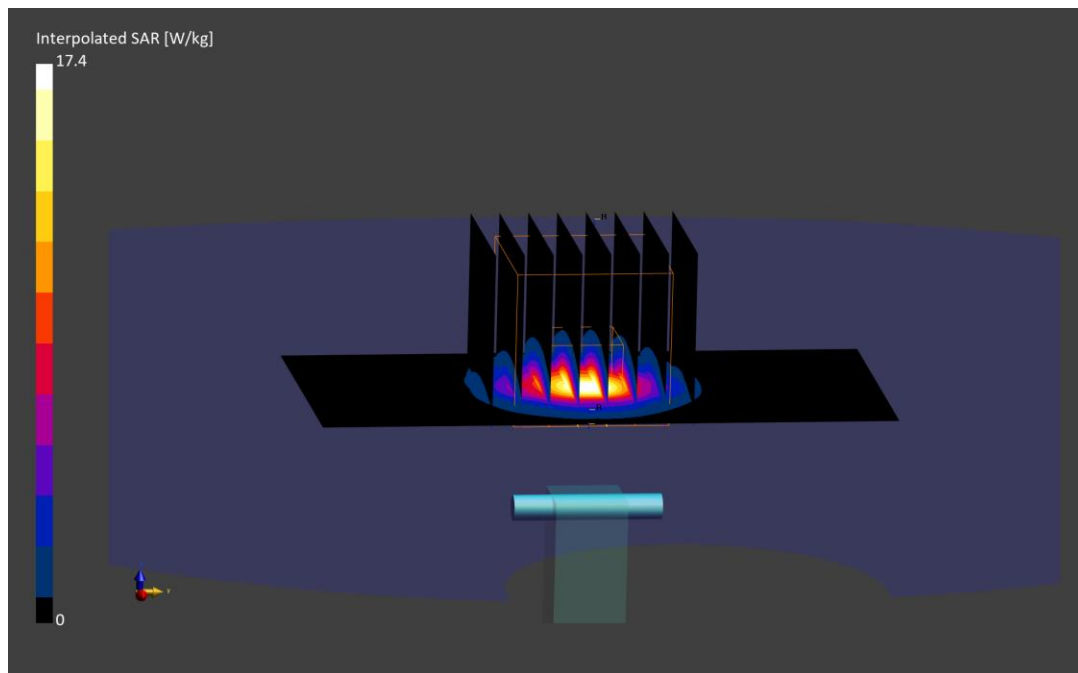
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

Zoom Scan (22.0 x 22.0 x 22.0): Measurement grid: dx=4.0 mm, dy=4.0 mm, dz=1.4 mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 17.4 W/kg

SAR(1 g) = 4.07 W/kg

Deviation (1 g) = -0.97%



ELEMENT

DUT: Dipole 5850.000 MHz; Type: D5GHzV2 - SN1066

Communication System: UID: 0, CW; Frequency: 5850.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
 $f = 5850.000$ MHz; $\text{cond} = 5.25$ S/m; $\text{perm} = 33.7$; $\text{density} = 1000$ kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 06/22/2024; Ambient Temp: 21.5°C; Tissue Temp: 19.6°C

Probe: EX3DV4 - SN7427; ConvF:(4.04,4.57,4.63); 2024-02-09
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn467; 2024-02-09
Phantom: Twin-SAM V8.0; Serial: 2070
Measurement SW: DASY Module SAR V16.2.4.2524

5850.0 MHz System Verification at 17.0 dBm (50 mW)

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

Zoom Scan (22.0 x 22.0 x 22.0): Measurement grid: $dx=4.0$ mm, $dy=4.0$ mm, $dz=1.4$ mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 17.7 W/kg

SAR(10 g) = 1.17 W/kg

Deviation (10 g) = 0.00%



ELEMENT

DUT: Dipole 5850.0 MHz; Type: D5GHzV2 - SN1123

Communication System: UID: 0, CW; Frequency: 5850.0 MHz

Medium: 5200-5800 Head; Medium parameters used:

f = 5850.0 MHz; cond = 5.30 S/m; perm = 33.6; density = 1000 kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 07/10/2024; Ambient Temp: 21.6°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN3949; ConvF:(5.21,5.21,5.21); 2023-10-02

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

Electronics: DAE4 Sn1684; 2023-09-12

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

Measurement SW: DASY Module SAR V16.2.0.1425

5850.0 MHz System Verification at 17.0 dBm (50 mW)

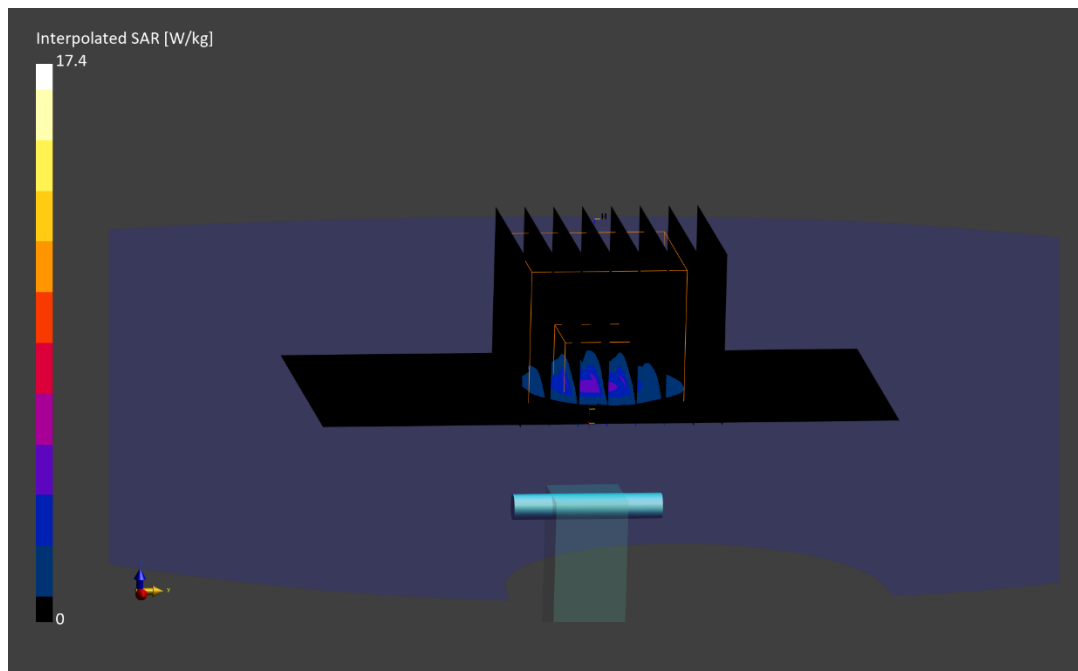
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

Zoom Scan (22.0 x 22.0 x 22.0): Measurement grid: dx=4.0 mm, dy=4.0 mm, dz=1.4 mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 17.4 W/kg

SAR(1 g) = 3.97 W/kg

Deviation (1 g) = -0.87%



ELEMENT

DUT: Dipole 6500.000 MHz; Type: D6.5GHzV2 - SN1019

Communication System: UID: 0, CW; Frequency: 6500.000 MHz

Medium: 6000 Head; Medium parameters used:

$f = 6500.000$ MHz; $\text{cond} = 5.99$ S/m; $\text{perm} = 35.4$; $\text{density} = 1000$ kg/m³

Phantom Section: Flat; Space: 5 mm

Test Date: 07/01/2024; Ambient Temp: 20.3°C; Tissue Temp: 20.1°C

Probe: EX3DV4 - SN7421; ConvF:(5.35,5.35,5.35); 2024-03-11

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

Electronics: DAE4 Sn604; 2024-03-06

Phantom: Twin-SAM V8.0; Serial: 2067

Measurement SW: DASY Module SAR V16.2.4.2524

6500.0 MHz System Verification at 14.0 dBm (25 mW)

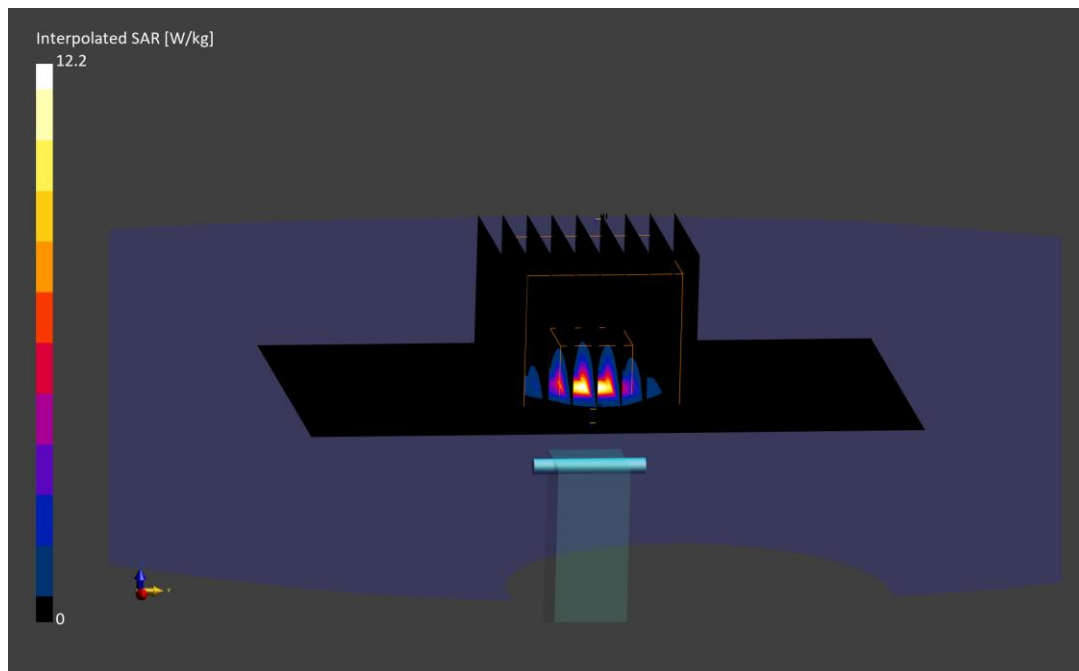
Area Scan (51.0 x 85.0): Measurement grid: $dx=8.5$ mm, $dy=8.5$ mm

Zoom Scan (22.0 x 22.0 x 22.0): Measurement grid: $dx=3.4$ mm, $dy=3.4$ mm, $dz=1.4$ mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 42.5 W/kg

SAR(10 g) = 1.27 W/kg; APD(4cm²) = 31.1 W/m²

Deviation (10 g) = -6.10%; Deviation (APD) = -5.76%



ELEMENT

DUT: Dipole 8000.000 MHz; Type: D8GHzV2 - SN1006

Communication System: UID: 0, CW; Frequency: 8000.000 MHz
Medium: 6000 Head; Medium parameters used:
 $f = 8000.000$ MHz; $\text{cond} = 7.80$ S/m; $\text{perm} = 32.7$; $\text{density} = 1000$ kg/m³
Phantom Section: Flat; Space: 5 mm

Test Date: 07/01/2024; Ambient Temp: 20.3°C; Tissue Temp: 20.1°C

Probe: EX3DV4 - SN7421; ConvF:(5.25,5.25,5.25); 2024-03-11
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn604; 2024-03-06
Phantom: Twin-SAM V8.0; Serial: 2067
Measurement SW: DASY Module SAR V16.2.4.2524

8000.0 MHz System Verification at 14.0 dBm (25 mW)

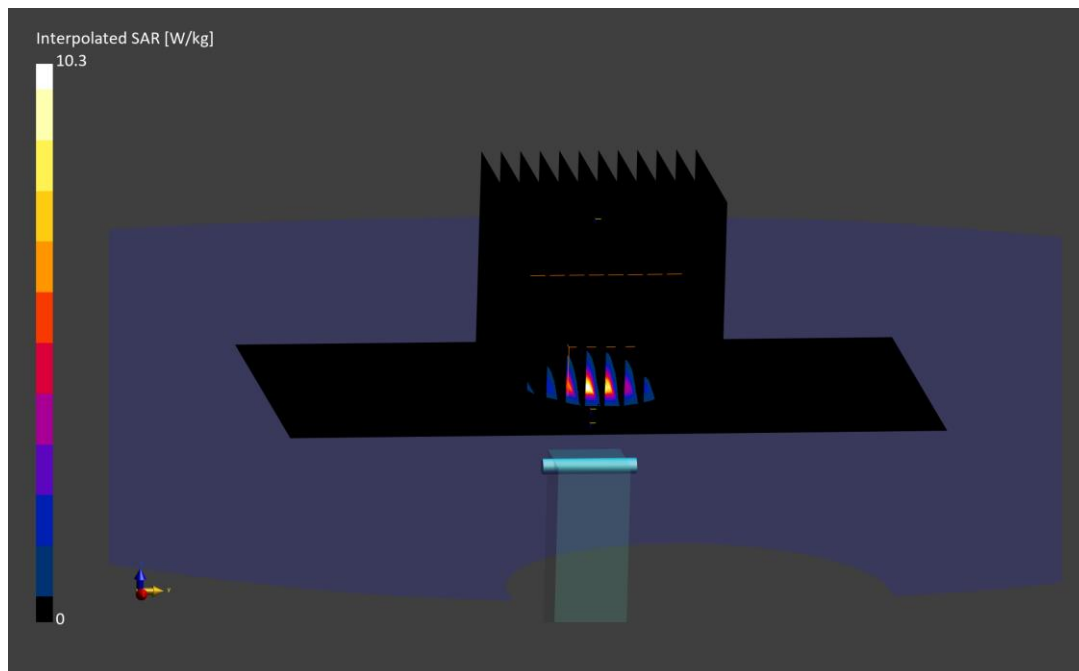
Area Scan (52.0 x 91.0): Measurement grid: $dx=6.5$ mm, $dy=6.5$ mm

Zoom Scan (22.0 x 22.0 x 22.0): Measurement grid: $dx=2.7$ mm, $dy=2.7$ mm, $dz=1.3$ mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 53.6 W/kg

SAR(10 g) = 1.07 W/kg; APD(4cm²) = 26.1 W/m²

Deviation (10 g) = -5.73%; Deviation (APD) = -5.95%



Date: 07/01/2024

10 GHz System Verification

Device Under Test Properties

DUT	Serial Number
10 GHz Verification Source	1006

Exposure Conditions

Phantom Section	Position	Test Distance [mm]	Band	Frequency [MHz]
5G	FRONT	10.00	Validation band	10000.0

Hardware Setup

Probe, Calibration Date	DAE, Calibration Date
EUmmWV3 – SN9407, 10/09/2023	DAE4 – SN793, 10/18/2023

Software Setup

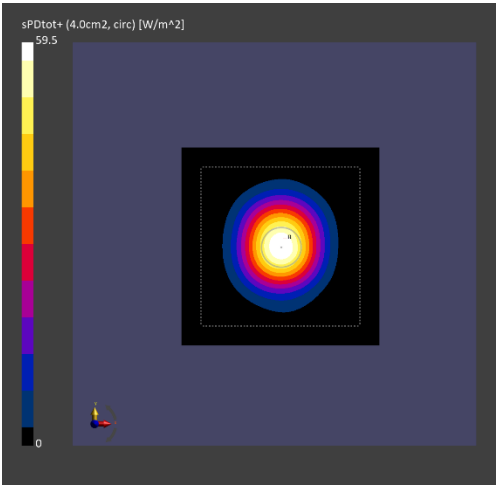
Software	Software Version
cDASY6 Module mmWave	3.2.0.1840

Scans Setup

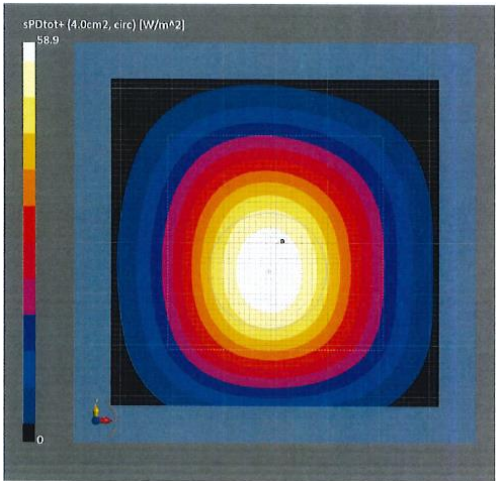
Scan Type	5G Scan
Grid Extents [mm]	60.0 x 60.0
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	10.0

Measurement Results

Scan Type	5G Scan
Avg. Area [cm²]	4.00
pS _{tot} avg [W/m²]	59.5
pS _n avg [W/m²]	59.4
E _{peak} [V/m]	158
Deviation [dB] pS _{tot}	0.04
Deviation [dB] pS _n	0.07



10 GHz System Verification



Calibration Certificate