

APPENDIX B: SAR DIPOLE VERIFICATION PLOTS

ELEMENT

DUT: Dipole 2450.0 MHz; Type: D2450V2 - SN882

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

Medium: 2450 Head; Medium parameters used:

f = 2450.000 MHz; cond = 1.81 S/m; perm = 37.6; density = 1000 kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 07/08/2024; Ambient Temp: 21.3°C; Tissue Temp: 20.3°C

Probe: EX3DV4 - SN7565; ConvF:(7.73,6.62,6.61); 2024-01-16

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

Electronics: DAE4 Sn1466; 2024-01-16

Phantom: Twin-SAM V5.0; Serial: 1868

Measurement SW: DASY Module SAR V16.2.4.2524

2450.0 MHz System Verification at 20.0 dBm (100 mW)

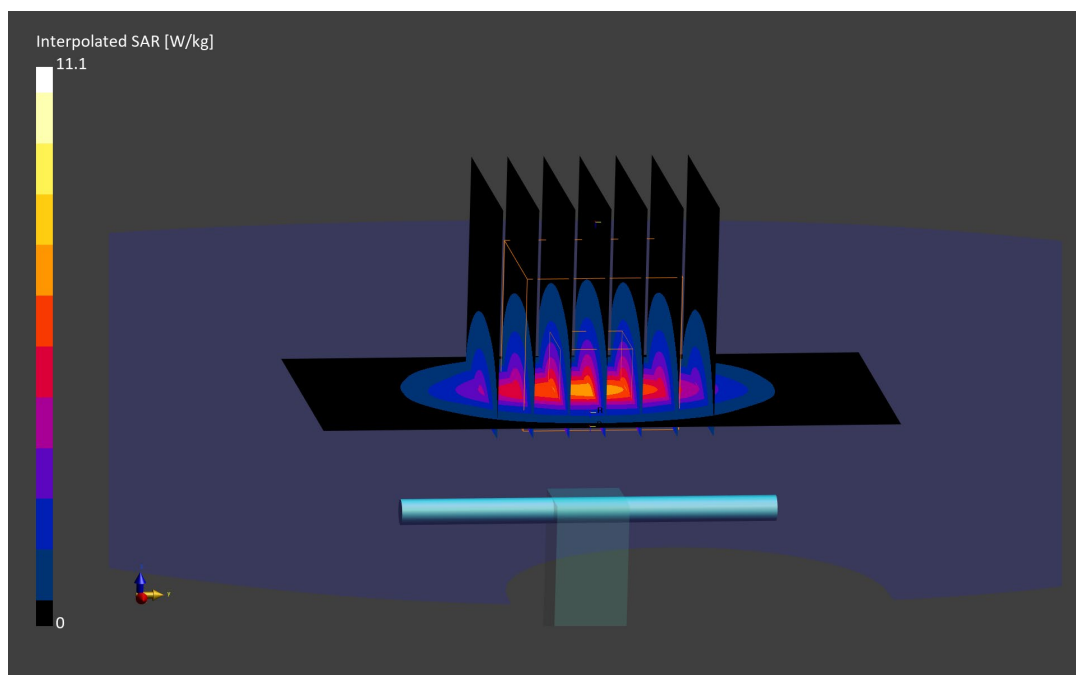
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

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) = 11.1 W/kg

SAR(1 g) = 5.32 W/kg; SAR(10 g) = 2.48 W/kg

Deviation (1 g) = 0.38%; Deviation (10 g) = -0.40%



ELEMENT

DUT: Dipole 2450.0 MHz; Type: D2450V2 - SN882

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

Medium: 2450 Head; Medium parameters used:

f = 2450.000 MHz; cond = 1.84 S/m; perm = 38.1; density = 1000 kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 07/15/2024; Ambient Temp: 20.9°C; Tissue Temp: 20.1°C

Probe: EX3DV4 - SN7565; ConvF:(7.73,6.62,6.61); 2024-01-16

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

Electronics: DAE4 Sn1466; 2024-01-16

Phantom: Twin-SAM V5.0; Serial: 1868

Measurement SW: DASY Module SAR V16.2.4.2524

2450.0 MHz System Verification at 20.0 dBm (100 mW)

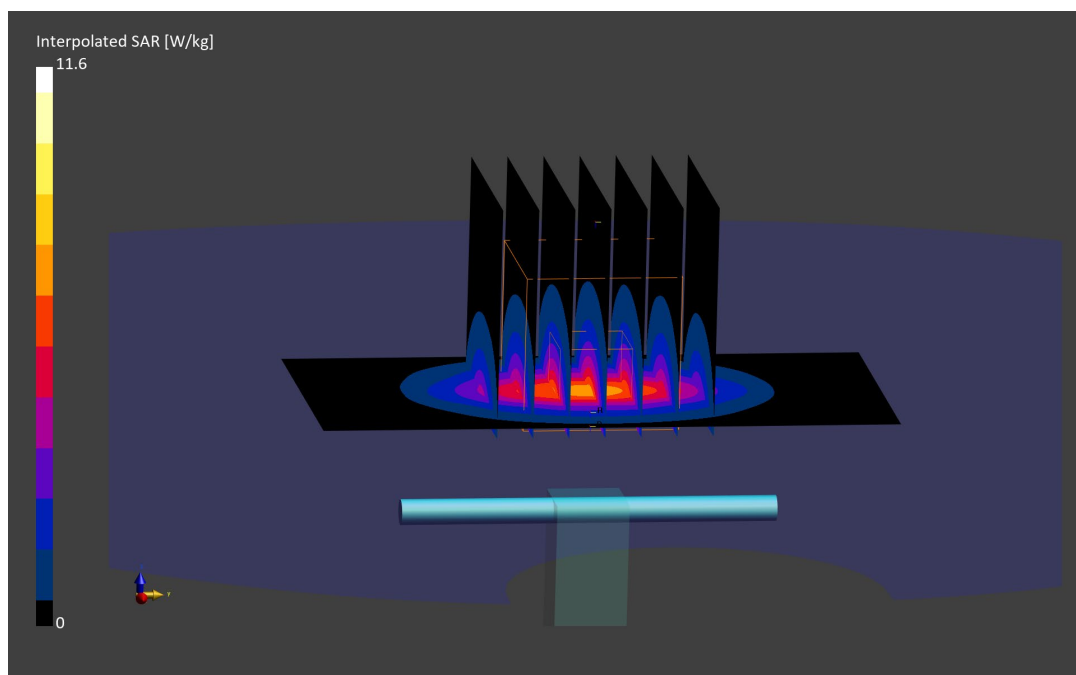
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

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) = 11.6 W/kg

SAR(1 g) = 5.51 W/kg; SAR(10 g) = 2.56 W/kg

Deviation (1 g) = 3.96%; Deviation (10 g) = 2.81%



ELEMENT

DUT: Dipole 2450.0 MHz; Type: D2450V2 - SN882

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

Medium: 2450 Head; Medium parameters used:

f = 2450.000 MHz; cond = 1.81 S/m; perm = 37.4; density = 1000 kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 07/17/2024; Ambient Temp: 22.5°C; Tissue Temp: 22.2°C

Probe: EX3DV4 - SN7565; ConvF:(7.73,6.62,6.61); 2024-01-16

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

Electronics: DAE4 Sn1466; 2024-01-16

Phantom: Twin-SAM V5.0; Serial: 1868

Measurement SW: DASY Module SAR V16.2.4.2524

2450.0 MHz System Verification at 20.0 dBm (100 mW)

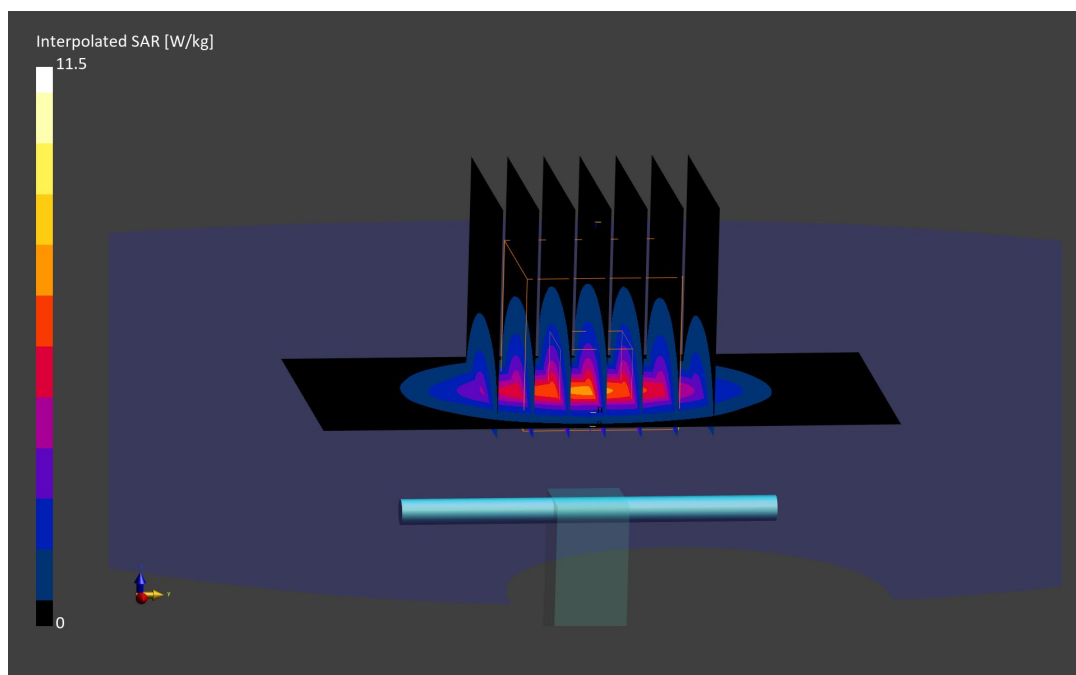
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

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) = 11.5 W/kg

SAR(1 g) = 5.31 W/kg; SAR(10 g) = 2.46 W/kg

Deviation (1 g) = 0.19%; Deviation (10 g) = -1.20%



ELEMENT

DUT: Dipole 5250.0 MHz; Type: D5GHzV2 - SN1120

Communication System: UID: 0, CW; Frequency: 5250.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5250.000 MHz; cond = 4.57 S/m; perm = 35.2; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 07/01/2024; Ambient Temp: 21.8°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7402; ConvF:(4.95,5.4,5.04); 2024-05-10

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

Electronics: DAE4 Sn1502; 2024-05-08

Phantom: Twin-SAM V5.0; Serial: 1797

Measurement SW: DASY Module SAR V16.2.4.2524

5250.0 MHz System Verification at 17.0 dBm (50 mW)

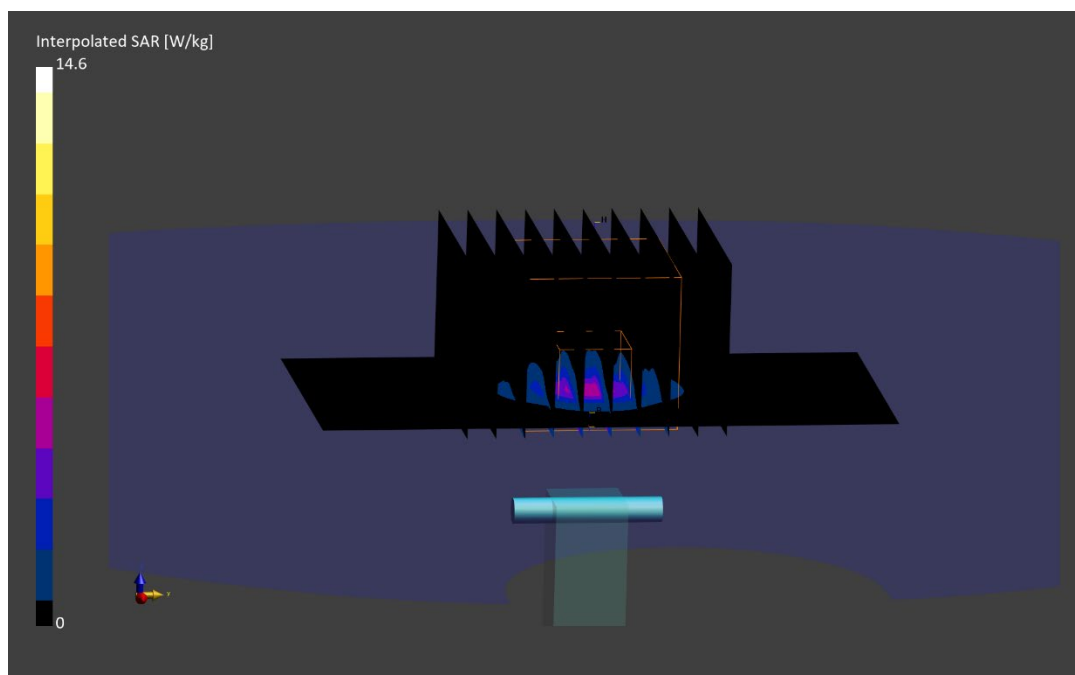
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

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) = 14.6 W/kg

SAR(1 g) = 3.77 W/kg; SAR(10 g) = 1.08 W/kg

Deviation (1 g) = -6.57%; Deviation (10 g) = -6.49%



ELEMENT

DUT: Dipole 5250.0 MHz; Type: D5GHzV2 - SN1120

Communication System: UID: 0, CW; Frequency: 5250.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5250.000 MHz; cond = 4.65 S/m; perm = 35.2; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 07/08/2024; Ambient Temp: 21.3°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7402; ConvF:(4.95,5.4,5.04); 2024-05-10
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1502; 2024-05-08
Phantom: Twin-SAM V5.0; Serial: 1797
Measurement SW: DASY Module SAR V16.2.4.2524

5250.0 MHz System Verification at 17.0 dBm (50 mW)

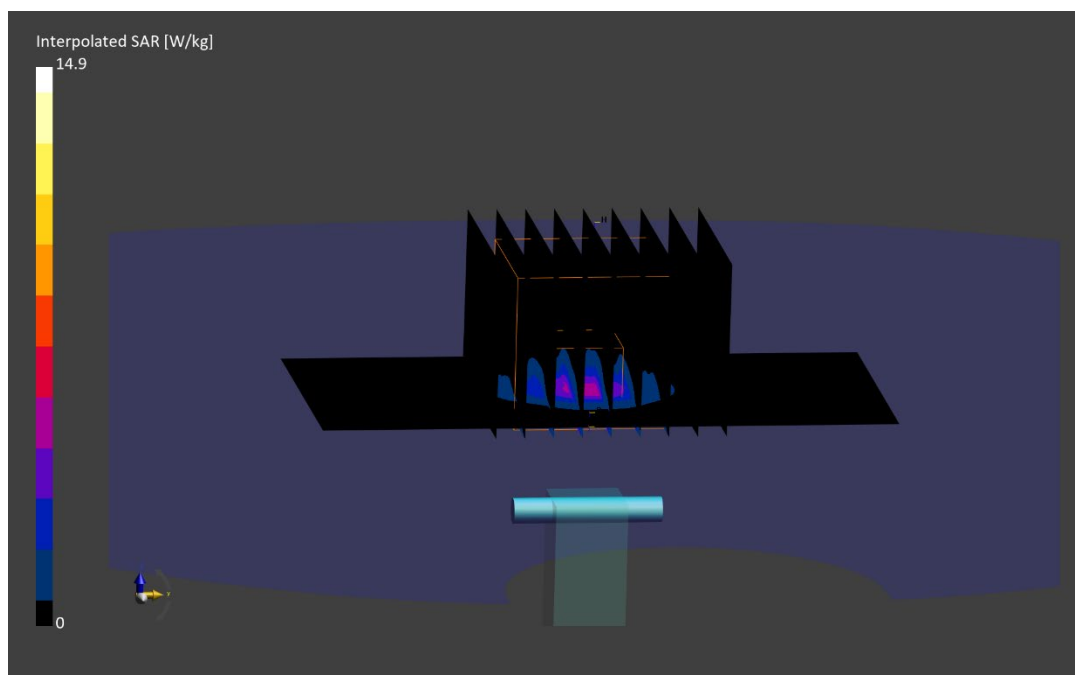
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

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(1 g) = 3.84 W/kg; SAR(10 g) = 1.10 W/kg

Deviation (1 g) = -4.83%; Deviation (10 g) = -4.76%



ELEMENT

DUT: Dipole 5600.0 MHz; Type: D5GHzV2 - SN1120

Communication System: UID: 0, CW; Frequency: 5600.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5600.000 MHz; cond = 4.95 S/m; perm = 34.5; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 07/01/2024; Ambient Temp: 21.8°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7402; ConvF:(4.57,4.97,4.64); 2024-05-10
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1502; 2024-05-08
Phantom: Twin-SAM V5.0; Serial: 1797
Measurement SW: DASY Module SAR V16.2.4.2524

5600.0 MHz System Verification at 17.0 dBm (50 mW)

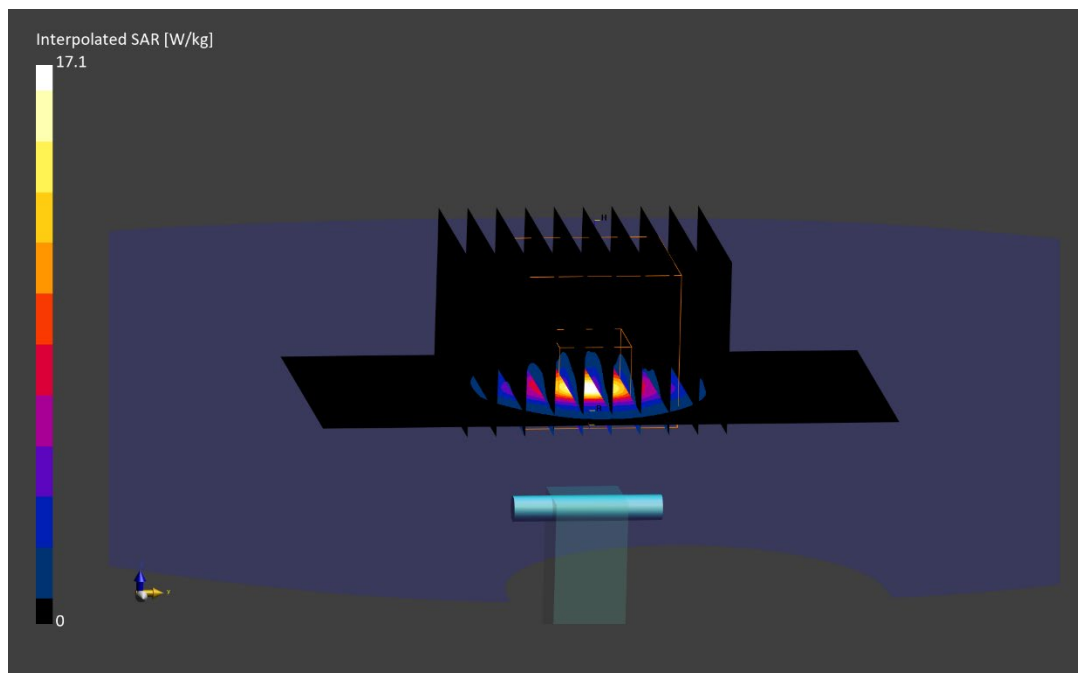
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

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) = 17.1 W/kg

SAR(1 g) = 4.13 W/kg; SAR(10 g) = 1.18 W/kg

Deviation (1 g) = -1.08%; Deviation (10 g) = -0.84%



ELEMENT

DUT: Dipole 5600.0 MHz; Type: D5GHzV2 - SN1120

Communication System: UID: 0, CW; Frequency: 5600.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5600.000 MHz; cond = 5.02 S/m; perm = 34.4; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 07/08/2024; Ambient Temp: 21.3°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7402; ConvF:(4.57,4.97,4.64); 2024-05-10
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1502; 2024-05-08
Phantom: Twin-SAM V5.0; Serial: 1797
Measurement SW: DASY Module SAR V16.2.4.2524

5600.0 MHz System Verification at 17.0 dBm (50 mW)

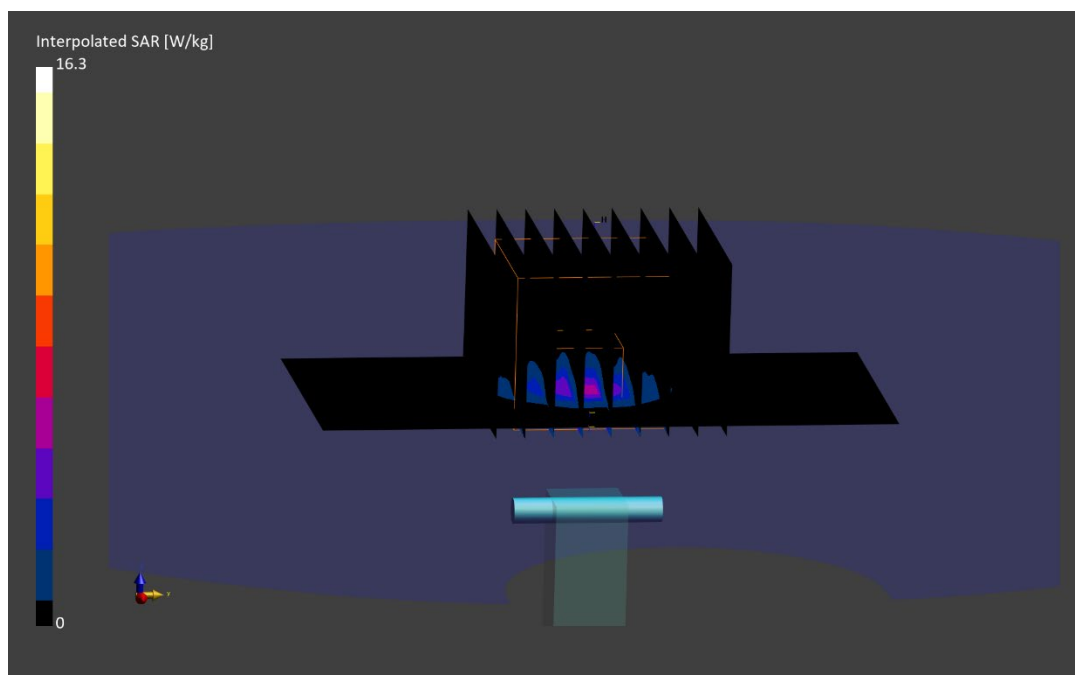
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

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) = 16.3 W/kg

SAR(1 g) = 3.94 W/kg; SAR(10 g) = 1.11 W/kg

Deviation (1 g) = -5.63%; Deviation (10 g) = -6.72%



ELEMENT

DUT: Dipole 5750.0 MHz; Type: D5GHzV2 - SN1120

Communication System: UID: 0, CW; Frequency: 5750.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5750.000 MHz; cond = 5.13 S/m; perm = 34.2; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 07/01/2024; Ambient Temp: 21.8°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7402; ConvF:(4.1,4.4,4.13); 2024-05-10
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1502; 2024-05-08
Phantom: Twin-SAM V5.0; Serial: 1797
Measurement SW: DASY Module SAR V16.2.4.2524

5750.0 MHz System Verification at 17.0 dBm (50 mW)

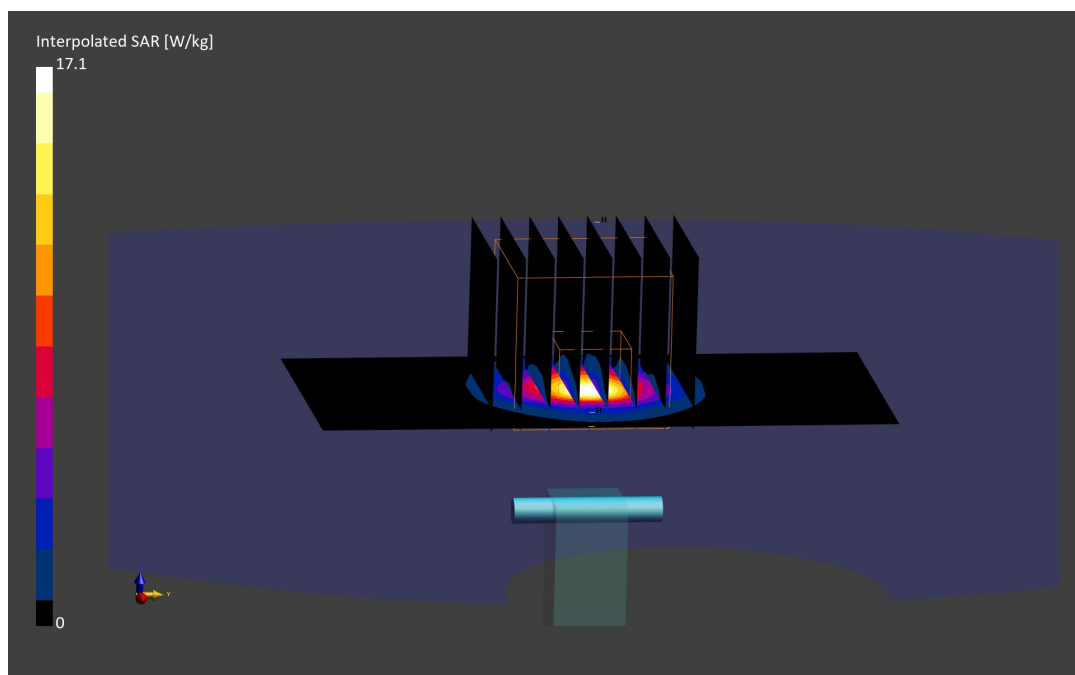
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

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) = 17.1 W/kg

SAR(1 g) = 4.02 W/kg; SAR(10 g) = 1.15 W/kg

Deviation (1 g) = 0.75%; Deviation (10 g) = 1.77%



ELEMENT

DUT: Dipole 5750.0 MHz; Type: D5GHzV2 - SN1120

Communication System: UID: 0, CW; Frequency: 5750.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5750.000 MHz; cond = 5.20 S/m; perm = 34.1; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 07/08/2024; Ambient Temp: 21.3°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7402; ConvF:(4.1,4.4,4.13); 2024-05-10
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1502; 2024-05-08
Phantom: Twin-SAM V5.0; Serial: 1797
Measurement SW: DASY Module SAR V16.2.4.2524

5750.0 MHz System Verification at 17.0 dBm (50 mW)

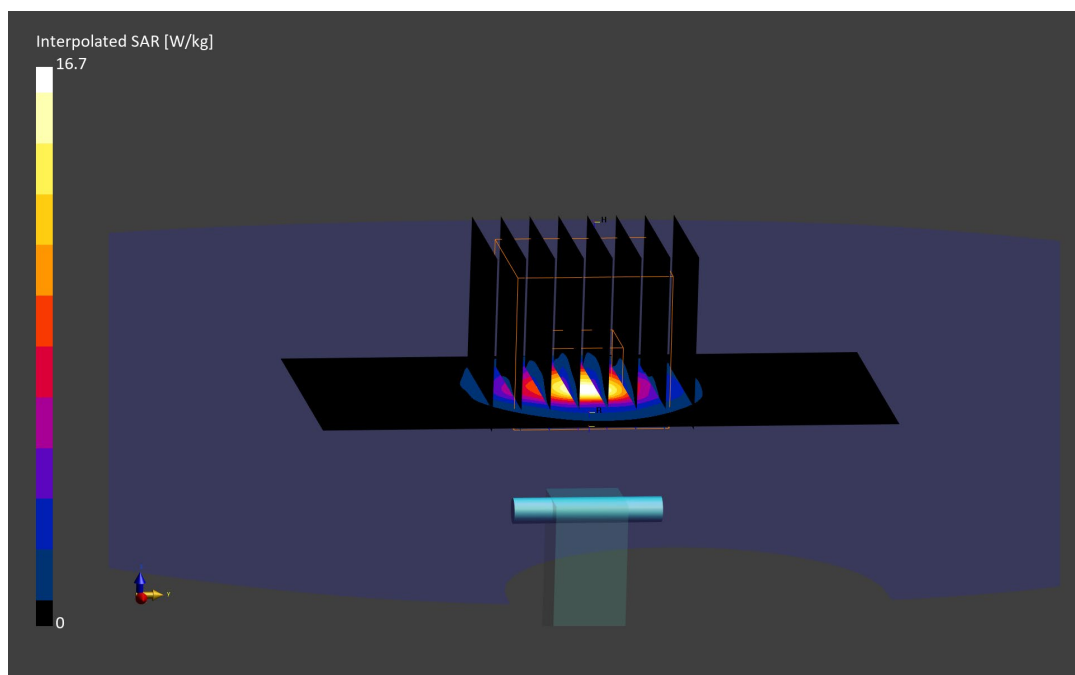
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

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) = 16.7 W/kg

SAR(1 g) = 3.92 W/kg; SAR(10 g) = 1.12 W/kg

Deviation (1 g) = -1.75%; Deviation (10 g) = -0.88%



ELEMENT

DUT: Dipole 5850.0 MHz; Type: D5GHzV2 - SN1120

Communication System: UID: 0, CW; Frequency: 5850.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5850.000 MHz; cond = 5.24 S/m; perm = 34.1; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 07/01/2024; Ambient Temp: 21.8°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7402; ConvF:(3.95,4.27,4.0); 2024-05-10

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

Electronics: DAE4 Sn1502; 2024-05-08

Phantom: Twin-SAM V5.0; Serial: 1797

Measurement SW: DASY Module SAR V16.2.4.2524

5850.0 MHz System Verification at 17.0 dBm (50 mW)

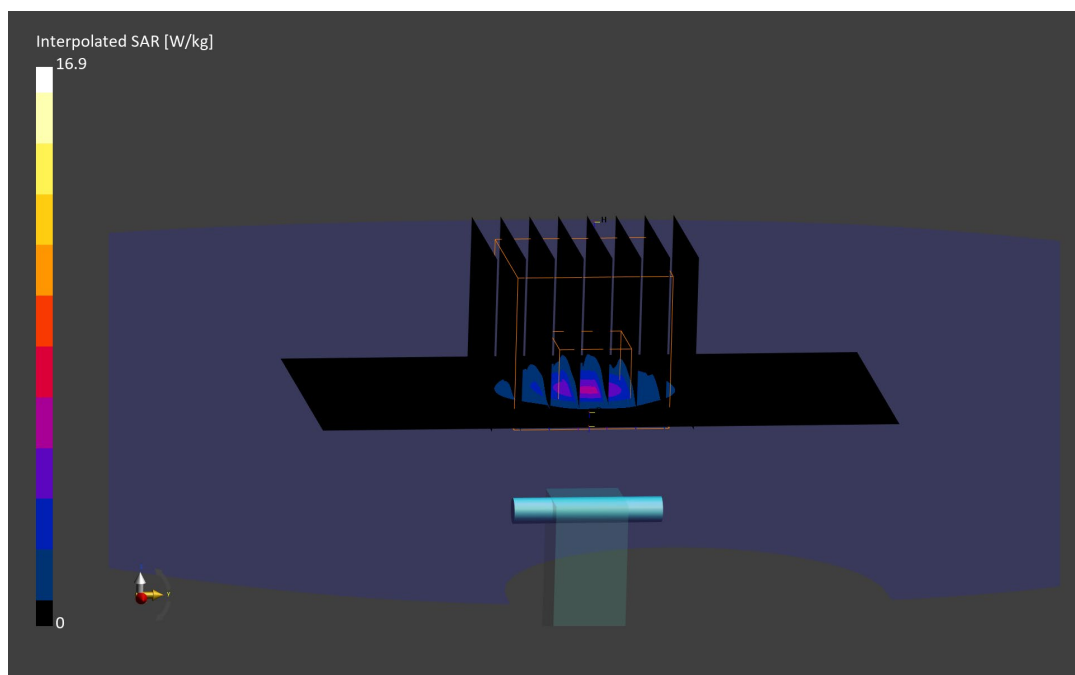
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

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) = 16.9 W/kg

SAR(1 g) = 3.90 W/kg; SAR(10 g) = 1.11 W/kg

Deviation (1 g) = -4.41%; Deviation (10 g) = -4.31%



ELEMENT

DUT: Dipole 5850.0 MHz; Type: D5GHzV2 - SN1120

Communication System: UID: 0, CW; Frequency: 5850.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5850.000 MHz; cond = 5.31 S/m; perm = 34.0; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 07/08/2024; Ambient Temp: 21.3°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN7402; ConvF:(3.95,4.27,4.0); 2024-05-10

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

Electronics: DAE4 Sn1502; 2024-05-08

Phantom: Twin-SAM V5.0; Serial: 1797

Measurement SW: DASY Module SAR V16.2.4.2524

5850.0 MHz System Verification at 17.0 dBm (50 mW)

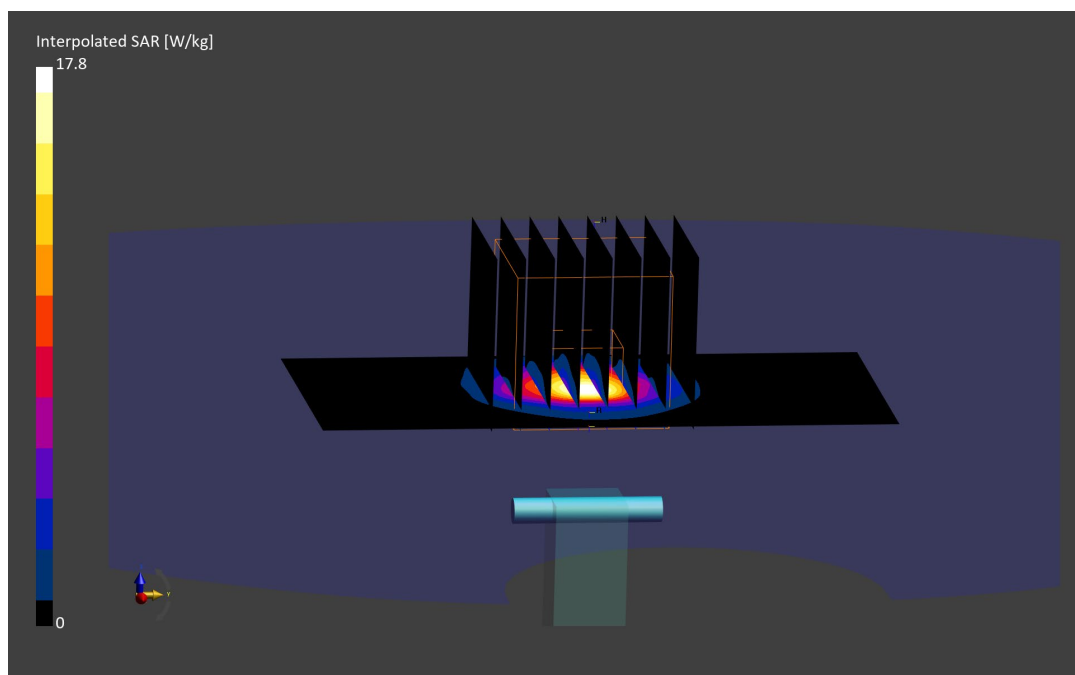
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

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) = 17.8 W/kg

SAR(1 g) = 4.11 W/kg; SAR(10 g) = 1.17 W/kg

Deviation (1 g) = 0.74%; Deviation (10 g) = 0.86%



ELEMENT

DUT: Dipole 6500.0 MHz; Type: D6.5GHzV2 - SN1019

Communication System: UID: 0, CW; Frequency: 6500.000 MHz
Medium: 6000 Head; Medium parameters used:
f = 6500.000 MHz; cond = 5.95 S/m; perm = 35.6; density = 1000 kg/m³
Phantom Section: Flat; Space: 5 mm

Test Date: 07/15/2024; Ambient Temp: 19.9°C; Tissue Temp: 19.5°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)

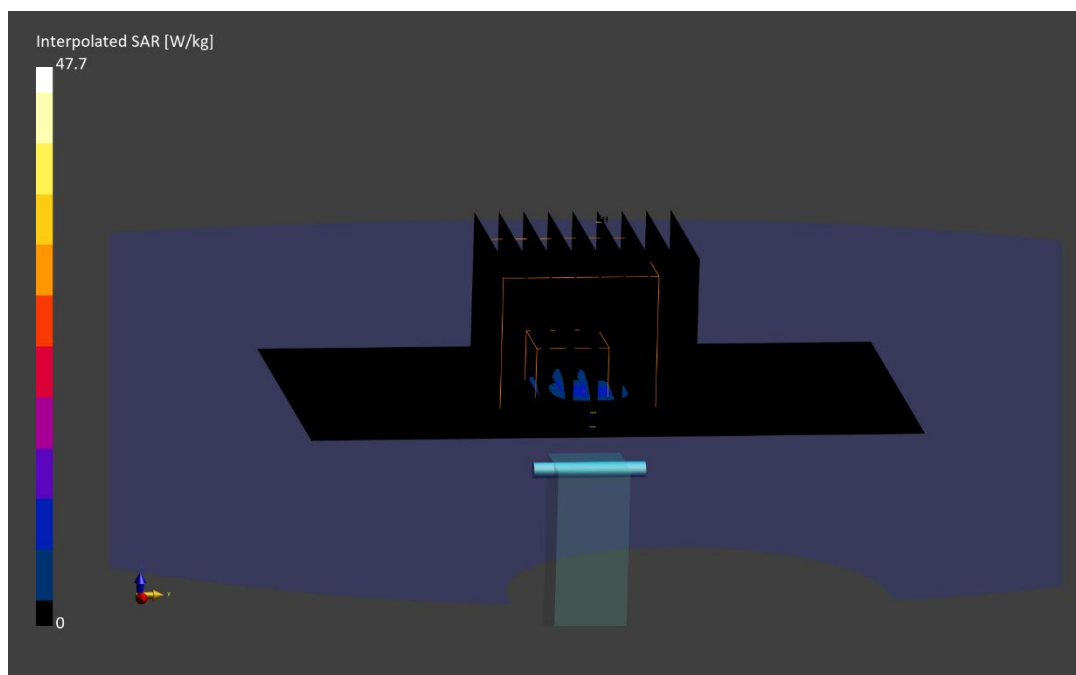
Area Scan (51.0 x 85.0): Measurement grid: dx=8.5 mm, dy=8.5 mm

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) = 47.7 W/kg

SAR(1 g) = 7.31 W/kg; SAR(10 g) = 1.32 W/kg; APD(4cm²) = 32.30 W/m²

Deviation (1 g) = -0.20%; Deviation (10 g) = -2.40%; Deviation (4cm²) = -2.12%



ELEMENT

DUT: Dipole 6500.0 MHz; Type: D6.5GHzV2 - SN1111

Communication System: UID: 0, CW; Frequency: 6500.000 MHz
Medium: 6000 Head; Medium parameters used:
f = 6500.000 MHz; cond = 6.13 S/m; perm = 33.5; density = 1000 kg/m³
Phantom Section: Flat; Space: 5 mm

Test Date: 08/05/2024; Ambient Temp: 23.0°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7659; ConvF:(5.95,5.95,5.95); 2024-04-17
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1407; 2024-04-18
Phantom: Twin-SAM V8.0; Serial: 2064
Measurement SW: DASY Module SAR V16.2.4.2524

6500.0 MHz System Verification at 14.0 dBm (25 mW)

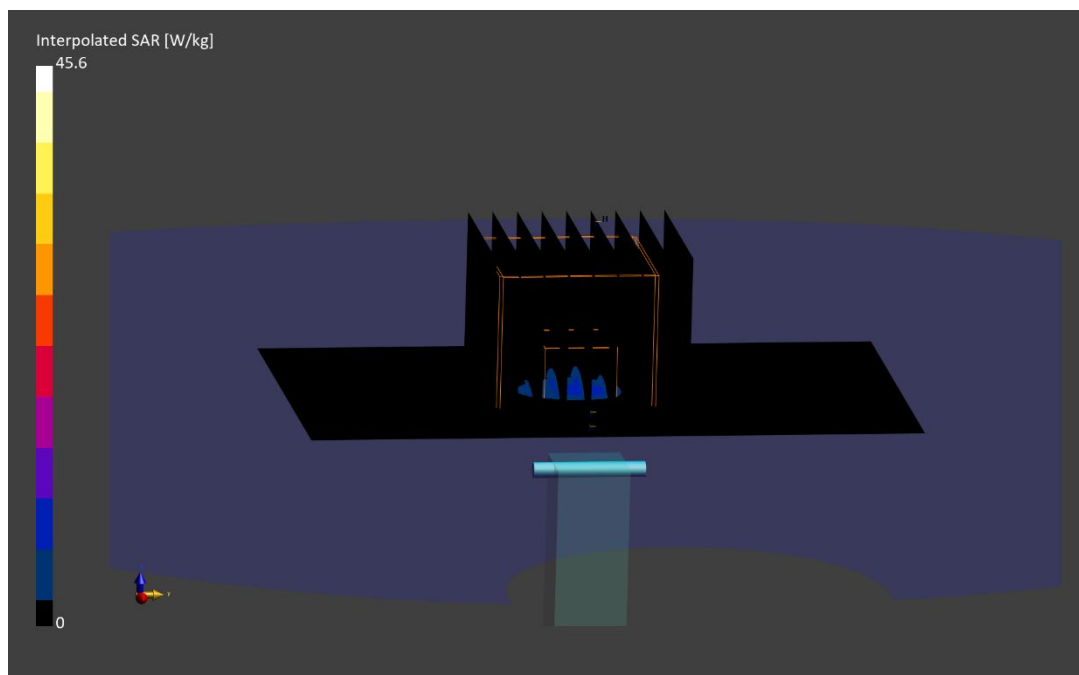
Area Scan (51.0 x 85.0): Measurement grid: dx=8.5 mm, dy=8.5 mm

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) = 45.6 W/kg

SAR(1 g) = 7.30 W/kg; SAR(10 g) = 1.36 W/kg; APD(4cm²) = 33.00 W/m²

Deviation (1 g) = 0.34%; Deviation (10 g) = 1.68%; Deviation (4cm²) = 1.54%



Element

Date: 2024-07-28

Measurement Group

Device Under Test Properties

DUT	Serial Number
10 GHz Verification Source	1002

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
EUmmWV4 - SN9622_F1-55GHz, 2024-02-02	DAE4ip Sn1639, 2023-11-15

Software Setup

Software	Software Version
cDasy6 Module mmWave	3.2.0.1840

Scans Setup

Scan Type	5G Scan
Grid Extents [mm]	120.0 x 120.0
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]	61.0
pS _n avg [W/m²]	60.7
E _{peak} [V/m]	161
Deviation [dB] pS _{tot}	0.46
Deviation [dB] pS _n	0.46

