APPENDIX B: SAR DIPOLE VERIFICATION PLOTS

ELEMENT

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

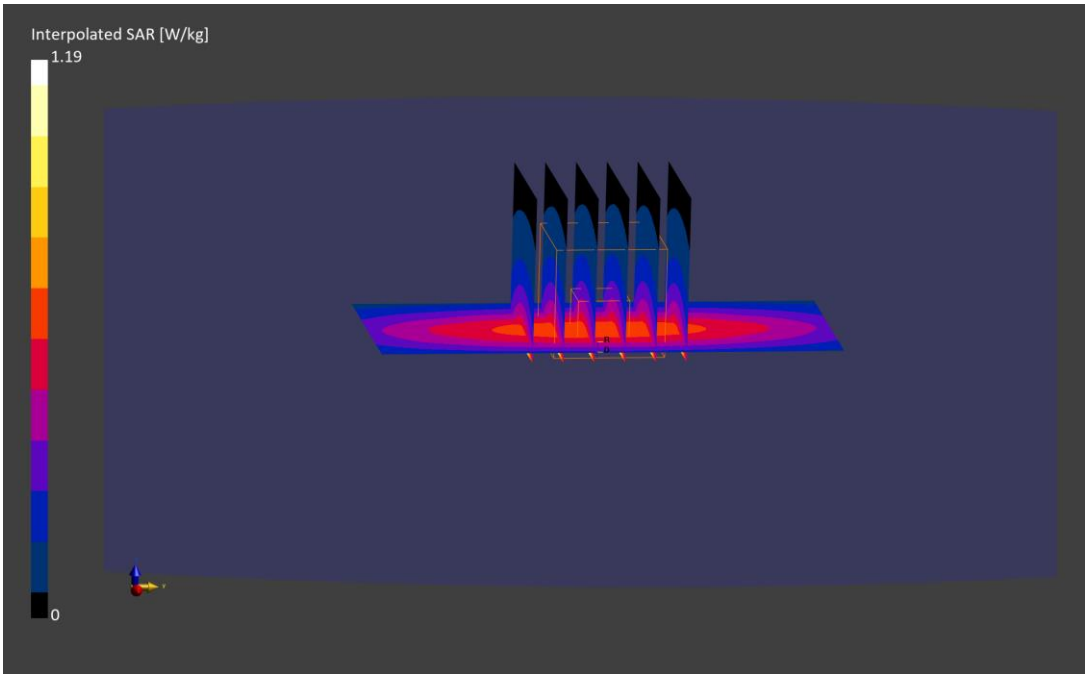
Communication System: UID: 0, CW; Frequency: 13.000 MHz
Medium: 30 Head; Medium parameters used:
f = 13.000 MHz; cond = 0.723 S/m; perm = 52.4; density = 1000 kg/m^3
Phantom Section: Flat; Space: 0 mm

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

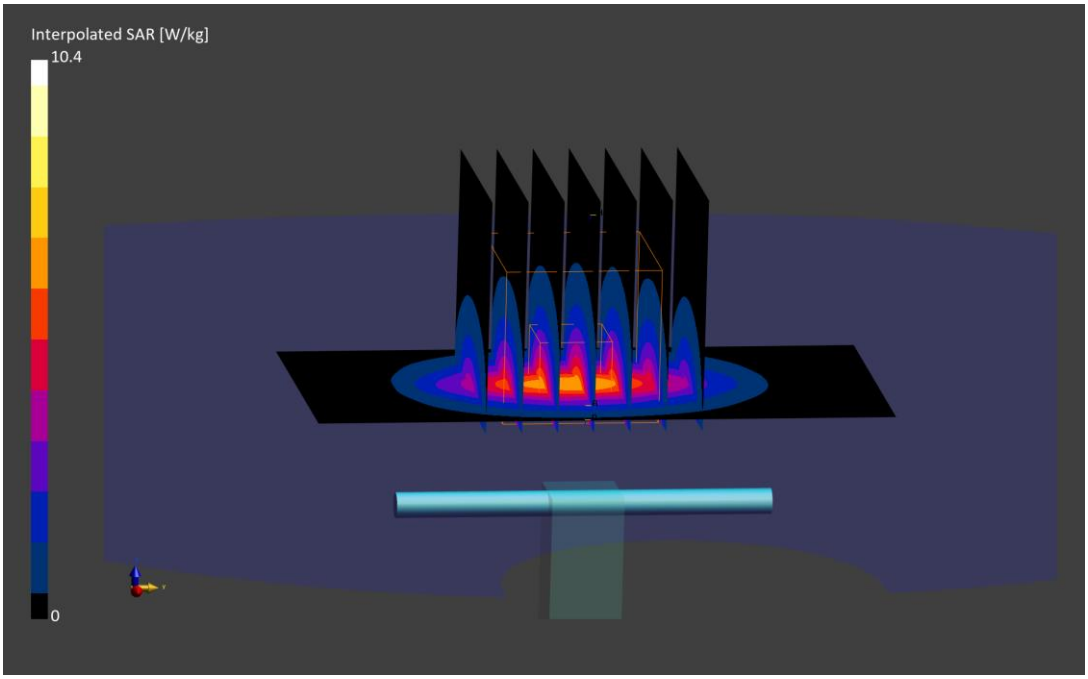
Communication System: UID: 0, CW; Frequency: 2450.000 MHz
Medium: 2450 Head; Medium parameters used:
f = 2450.000 MHz; cond = 1.75 S/m; perm = 39.8; density = 1000 kg/m^3
Phantom Section: Flat; Space: 10 mm

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

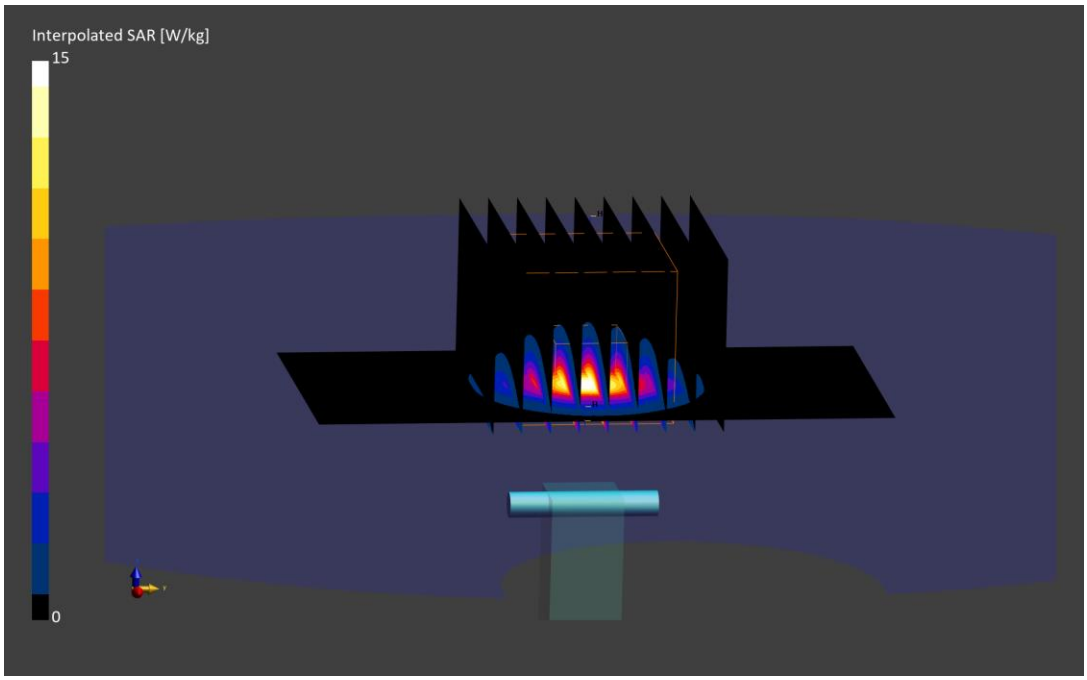
Communication System: UID: 0, CW; Frequency: 5250.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5250.000 MHz; cond = 4.61 S/m; perm = 34.7; density = 1000 kg/m^3
Phantom Section: Flat; Space: 10 mm

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

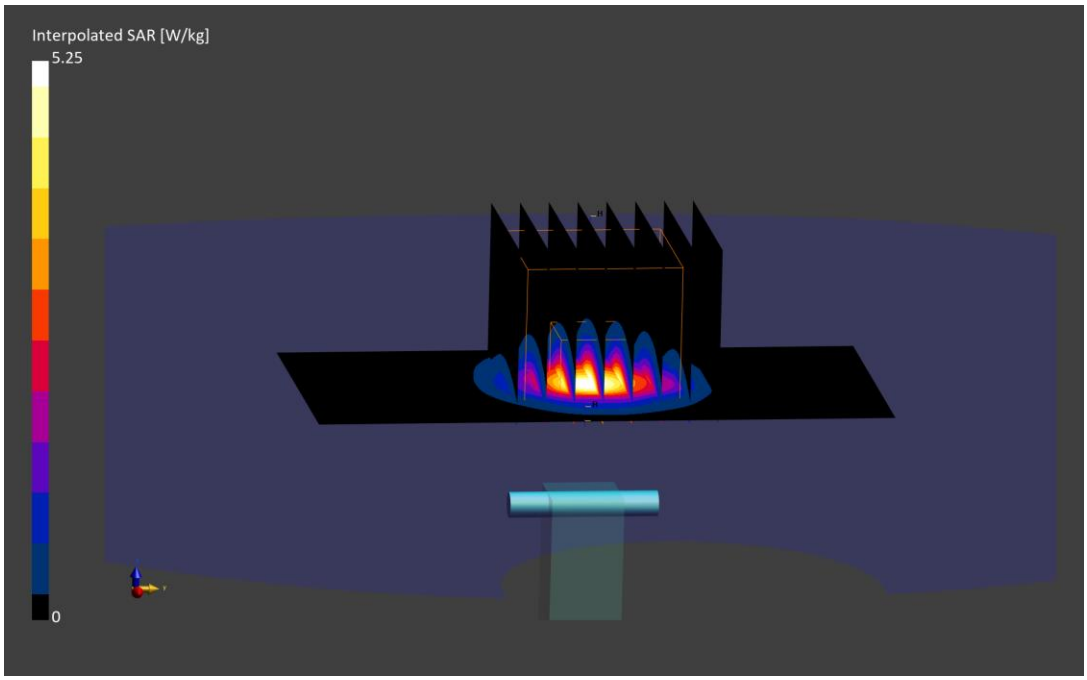
Communication System: UID: 0, CW; Frequency: 5250.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5250.000 MHz; cond = 4.61 S/m; perm = 34.7; density = 1000 kg/m^3
Phantom Section: Flat; Space: 10 mm

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

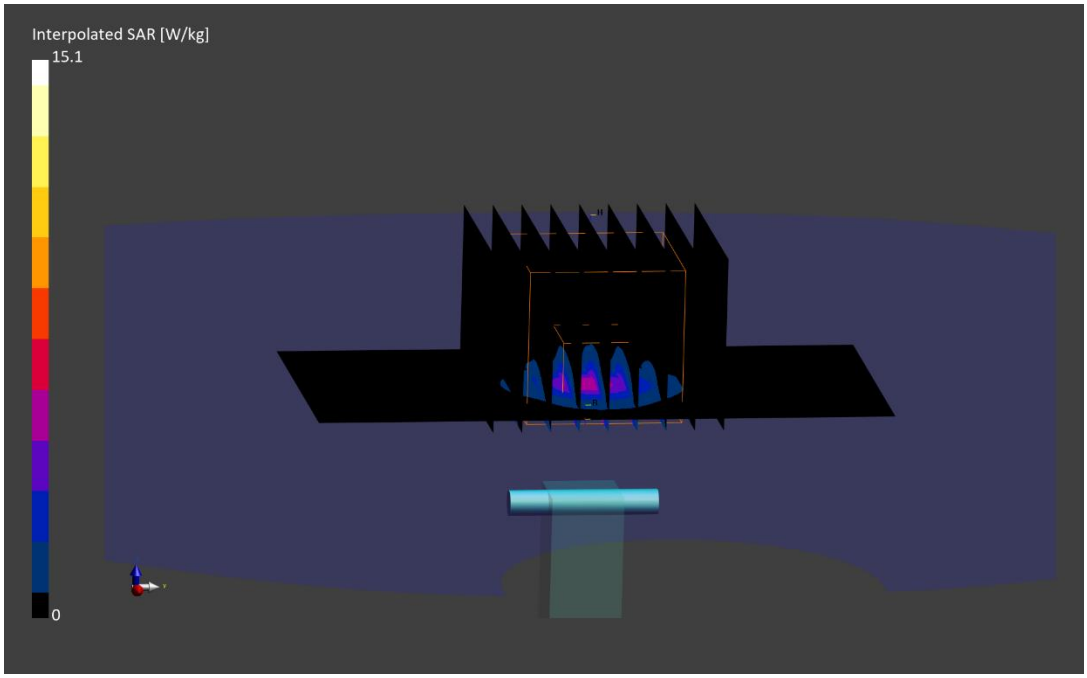
Communication System: UID: 0, CW; Frequency: 5250.0 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5250.0 MHz; cond = 4.62 S/m; perm = 34.7; density = 1000 kg/m^3
Phantom Section: Flat; Space: 10 mm

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

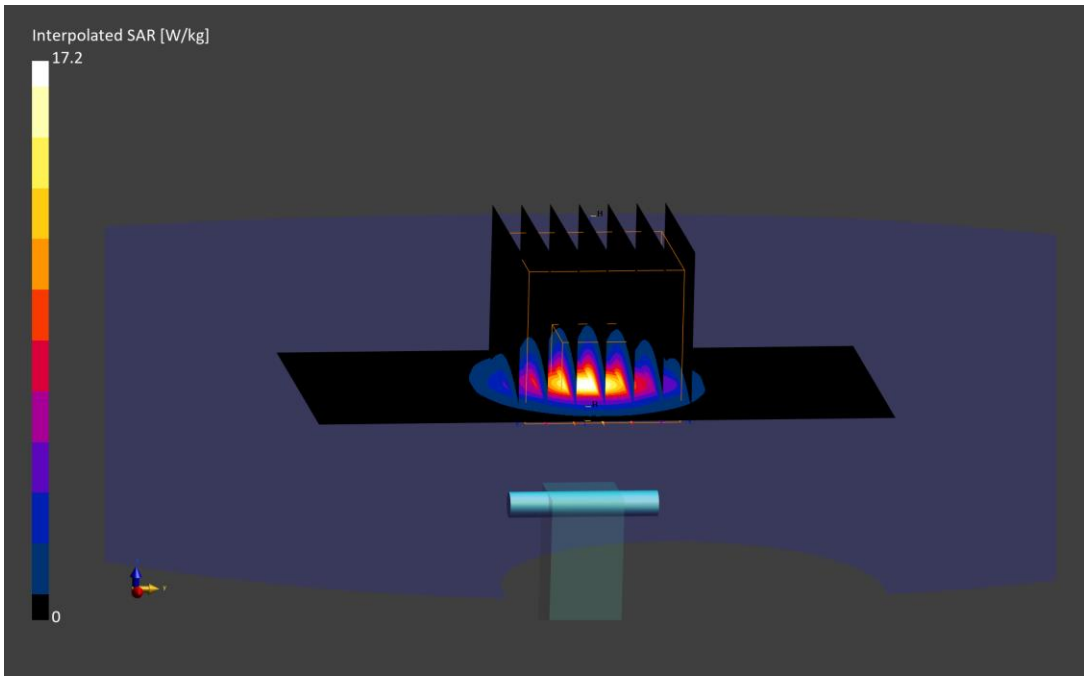
Communication System: UID: 0, CW; Frequency: 5600.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5600.000 MHz; cond = 5.00 S/m; perm = 34.1; density = 1000 kg/m^3
Phantom Section: Flat; Space: 10 mm

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

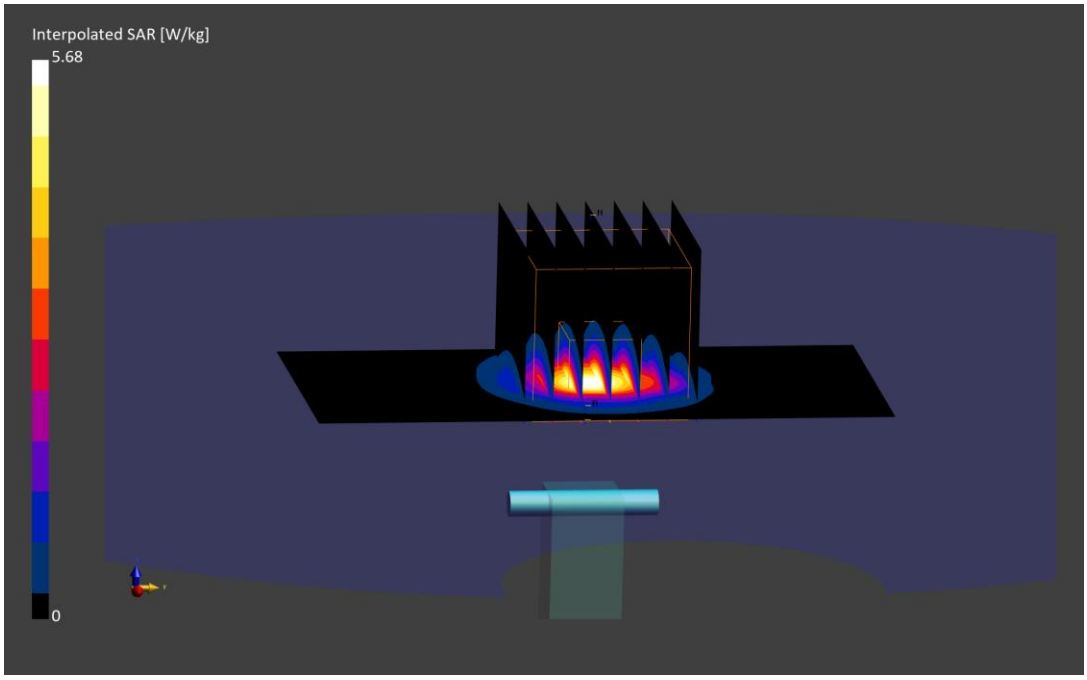
Communication System: UID: 0, CW; Frequency: 5600.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5600.000 MHz; cond = 4.98 S/m; perm = 34.1; density = 1000 kg/m^3
Phantom Section: Flat; Space: 10 mm

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

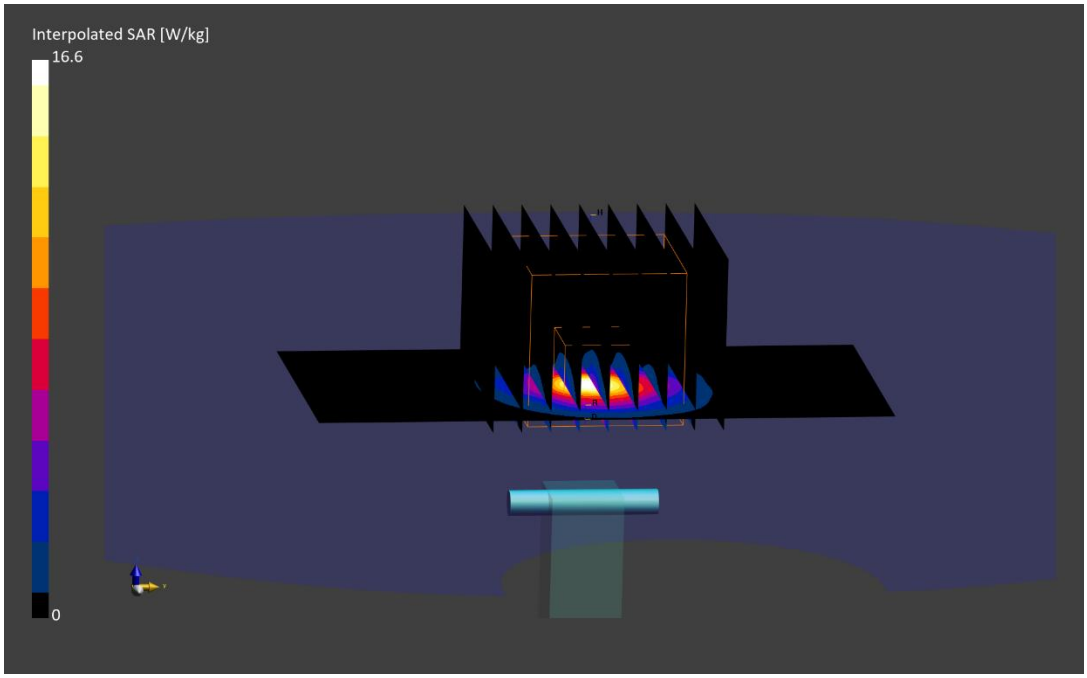
Communication System: UID: 0, CW; Frequency: 5600.0 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5600.0 MHz; cond = 5.01 S/m; perm = 34.0; density = 1000 kg/m^3
Phantom Section: Flat; Space: 10 mm

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

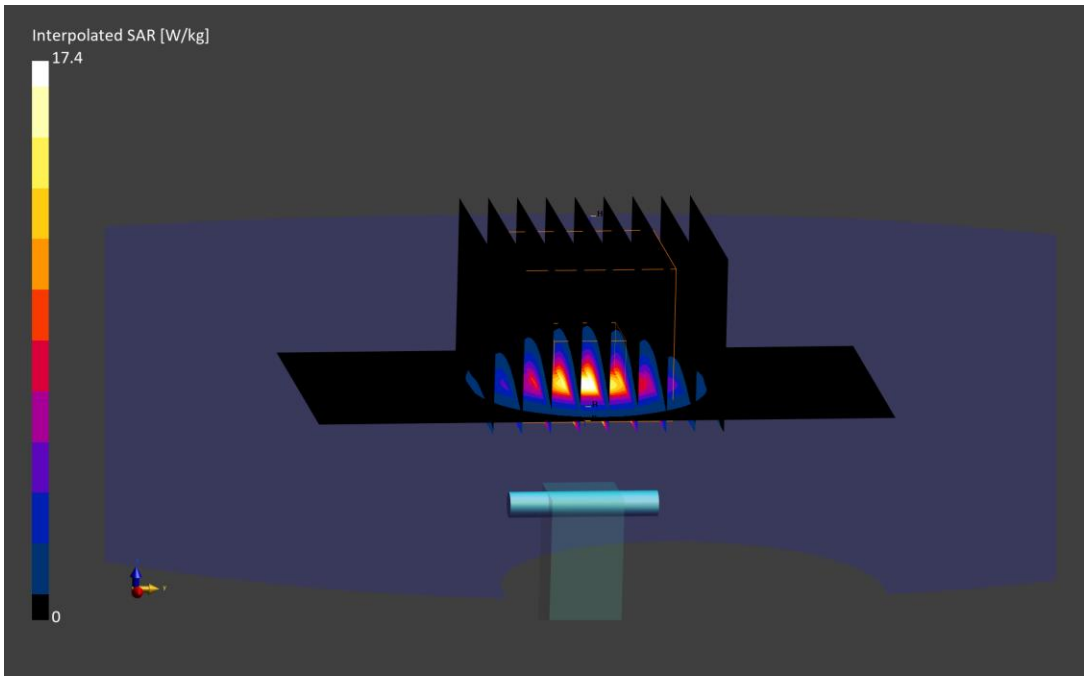
Communication System: UID: 0, CW; Frequency: 5750.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5750.000 MHz; cond = 5.15 S/m; perm = 33.9; density = 1000 kg/m^3
Phantom Section: Flat; Space: 10 mm

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

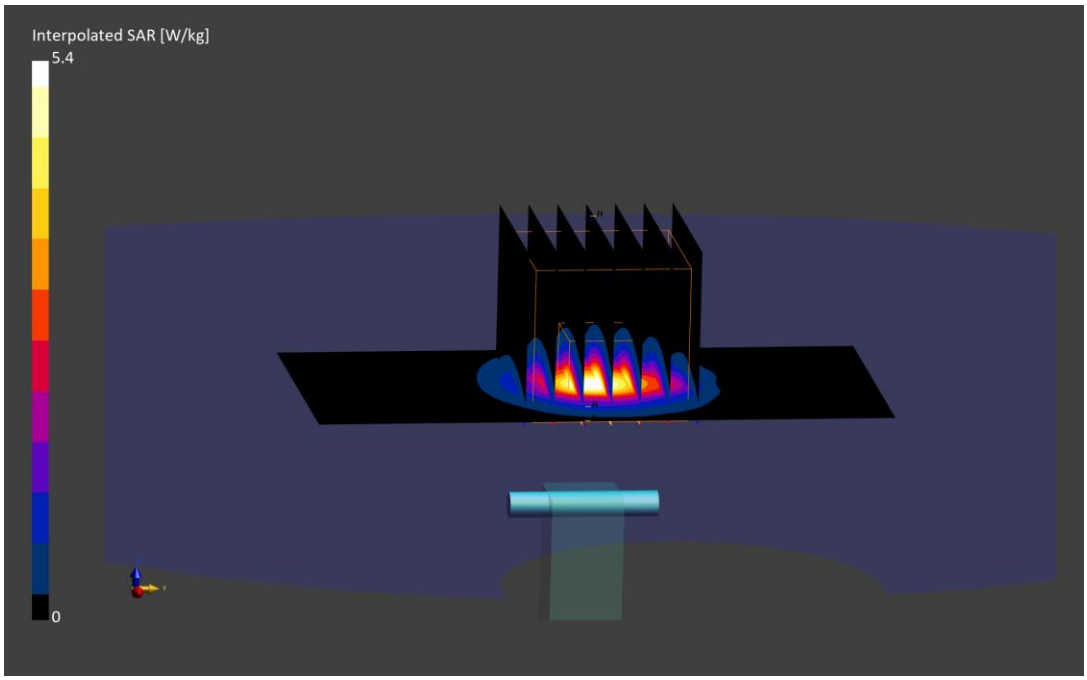
Communication System: UID: 0, CW; Frequency: 5750.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5750.000 MHz; cond = 5.14 S/m; perm = 33.9; density = 1000 kg/m^3
Phantom Section: Flat; Space: 10 mm

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

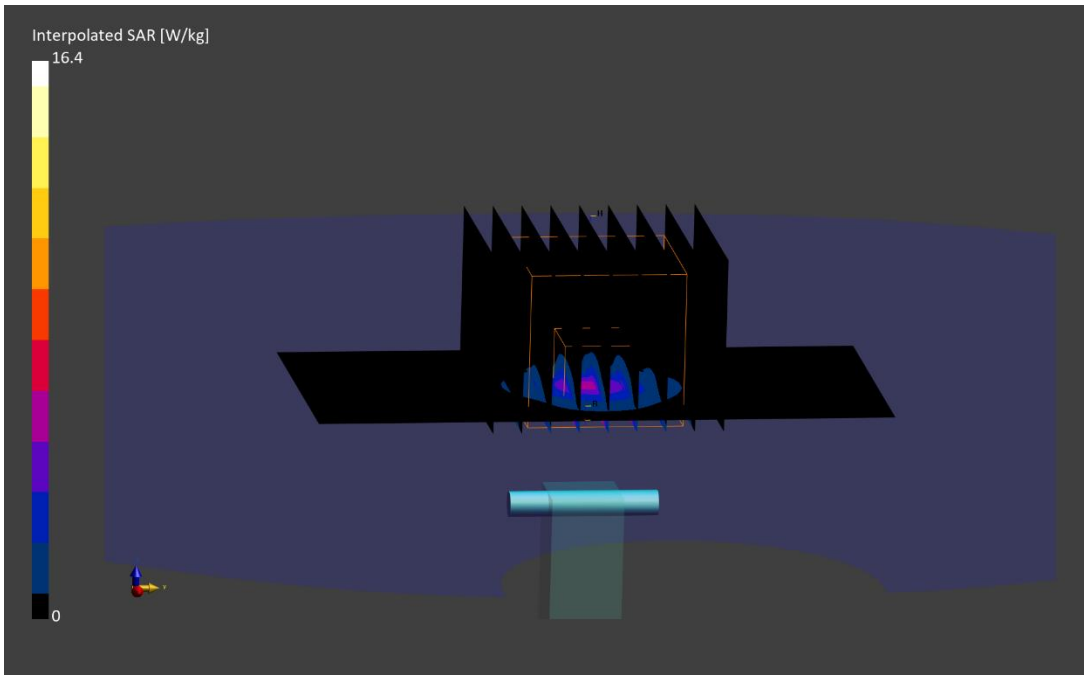
Communication System: UID: 0, CW; Frequency: 5750.0 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5750.0 MHz; cond = 5.18 S/m; perm = 33.7; density = 1000 kg/m^3
Phantom Section: Flat; Space: 10 mm

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

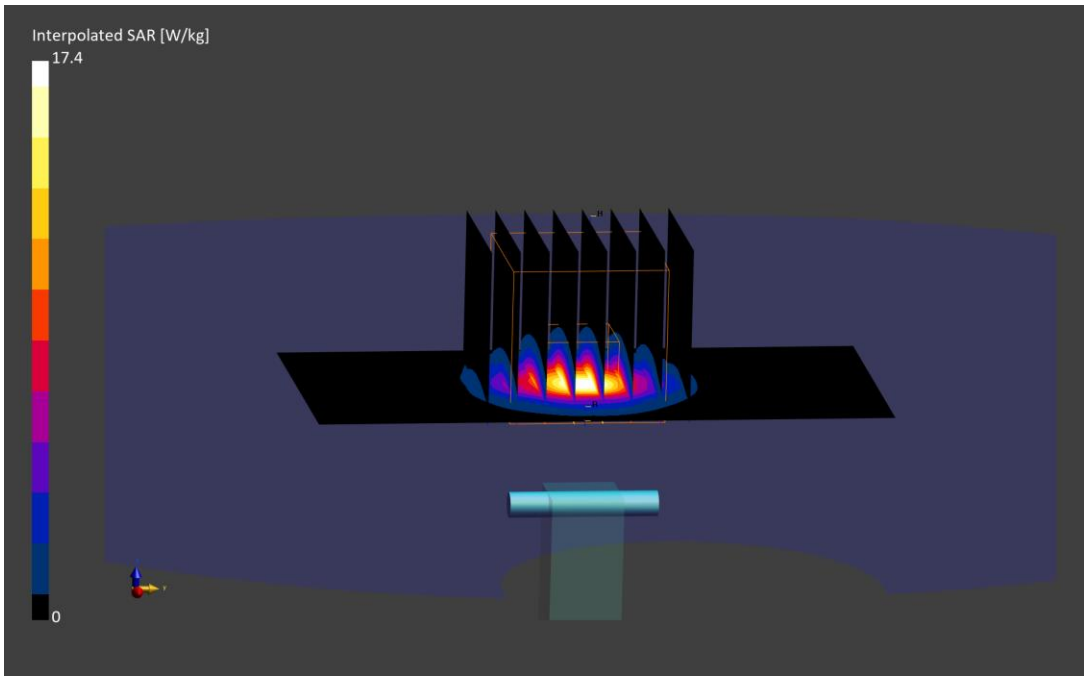
Communication System: UID: 0, CW; Frequency: 5850.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5850.000 MHz; cond = 5.25 S/m; perm = 33.7; density = 1000 kg/m^3
Phantom Section: Flat; Space: 10 mm

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

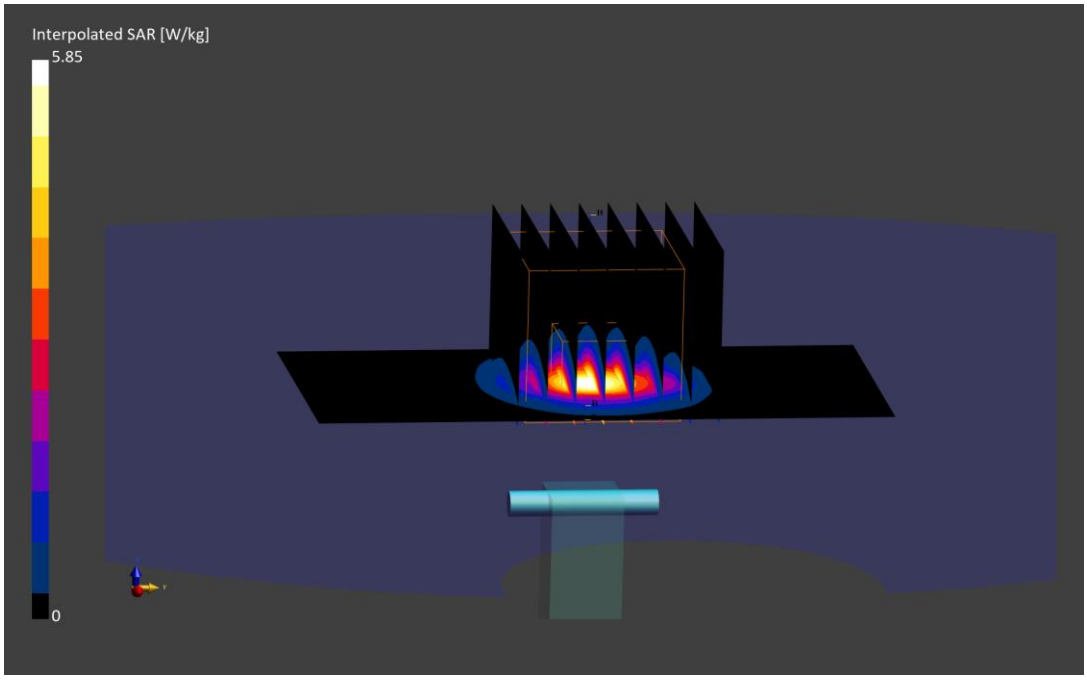
Communication System: UID: 0, CW; Frequency: 5850.000 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5850.000 MHz; cond = 5.25 S/m; perm = 33.7; density = 1000 kg/m^3
Phantom Section: Flat; Space: 10 mm

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

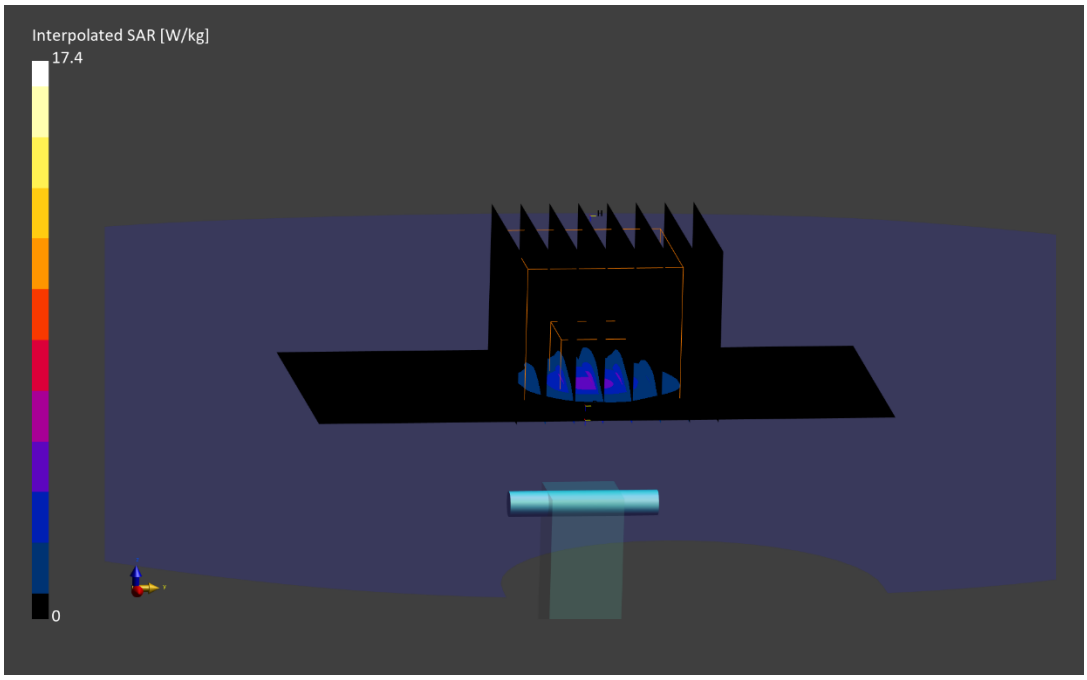
Communication System: UID: 0, CW; Frequency: 5850.0 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5850.0 MHz; cond = 5.30 S/m; perm = 33.6; density = 1000 kg/m^3
Phantom Section: Flat; Space: 10 mm

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

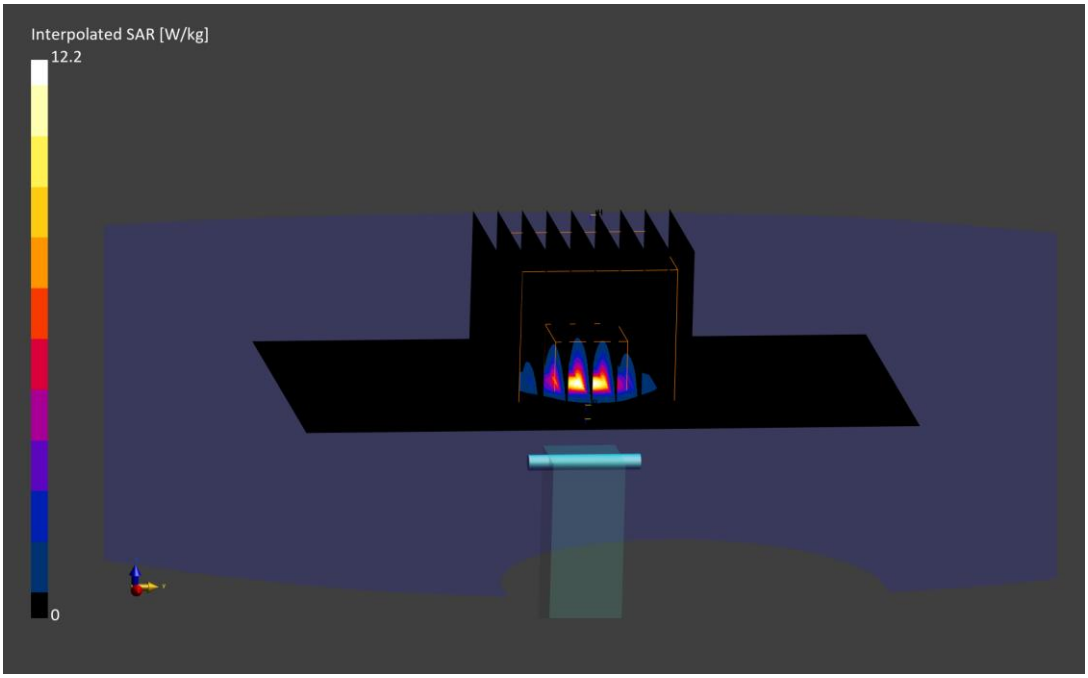
Communication System: UID: 0, CW; Frequency: 6500.000 MHz
Medium: 6000 Head; Medium parameters used:
f = 6500.000 MHz; cond = 5.99 S/m; perm = 35.4; density = 1000 kg/m^3
Phantom Section: Flat; Space: 5 mm

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(4cm^2) = 31.1 W/m^2
Deviation (10 g) = -6.10%; Deviation (APD) = -5.76%



ELEMENT

DUT: Dipole 8000.000 MHz; Type: D8GHzV2 - SN1006

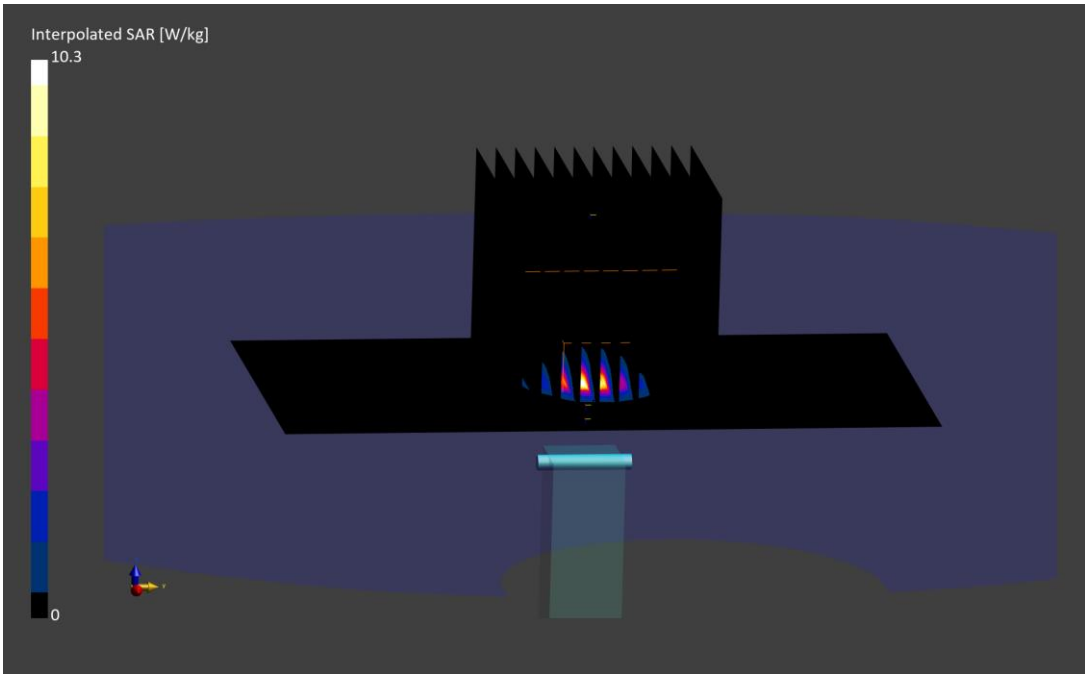
Communication System: UID: 0, CW; Frequency: 8000.000 MHz
Medium: 6000 Head; Medium parameters used:
f = 8000.000 MHz; cond = 7.80 S/m; perm = 32.7; density = 1000 kg/m^3
Phantom Section: Flat; Space: 5 mm

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(4cm^2) = 26.1 W/m^2
Deviation (10 g) = -5.73%; Deviation (APD) = -5.95%



element

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

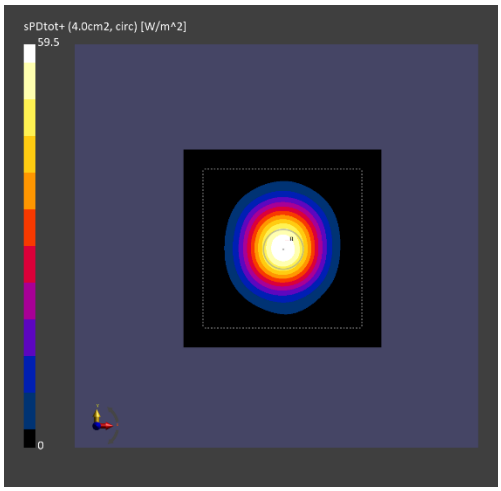
Software	Software Version
cDASY6 Module mmWave	3.2.0.1840

Scans Setup

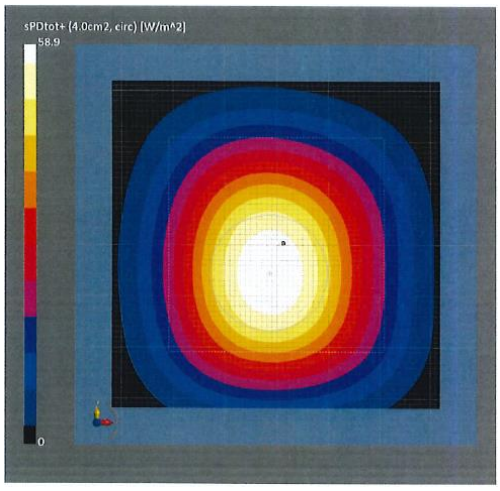
Scan Type	5G Scan
Grid Extents [mm]	60.0 x 60.0
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	10.0

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