

APPENDIX B: SAR DIPOLE VERIFICATION PLOTS

ELEMENT

DUT: Dipole 13.0 MHz; Type: CLA-13 - SN1004

Communication System: UID: 0, CW; Frequency: 13.0 MHz
Medium: 30 Head; Medium parameters used:
 $f = 13.0$ MHz; $\text{cond} = 0.743$ S/m; $\text{perm} = 54.3$; $\text{density} = 1000$ kg/m³
Phantom Section: Flat; Space: 0 mm

Test Date: 07/20/2025; Ambient Temp: 22.7°C; Tissue Temp: 23.3°C

Probe: EX3DV4 - SN3746; ConvF:(15.27,15.58,17.13); Calibrated: 2024-10-15
Sensor-Surface: 1.4mm (All points)
Electronics: DAE4 Sn1237; Calibrated: 2024-10-10
Phantom: ELI V6.0; Serial: 2003
Measurement SW: DASY Module SAR V16.4.0.5005

13.0 MHz System Verification at 30.0 dBm (1000 mW)

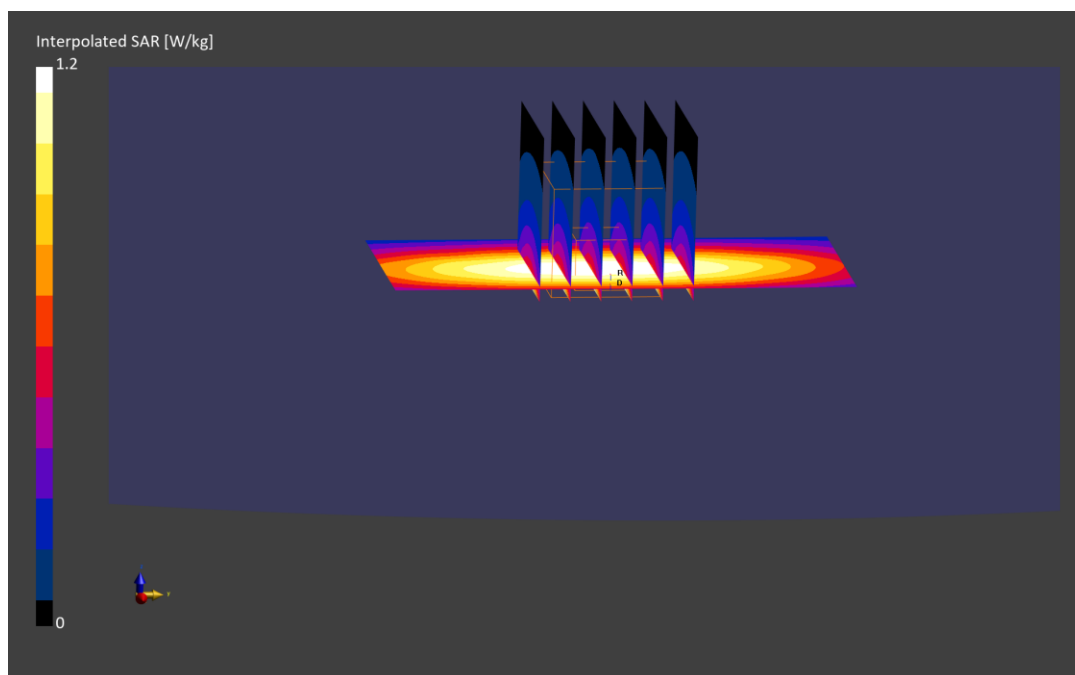
Area Scan (40.0 x 90.0): Measurement grid: $\text{dx}=10.0$ mm, $\text{dy}=15.0$ mm

Zoom Scan (30.0 x 30.0 x 31.2): Measurement grid: $\text{dx}=6.0$ mm, $\text{dy}=6.0$ mm, $\text{dz}=1.5$ mm; Graded Ratio: 1.5

Peak SAR (extrapolated) = 1.20 W/kg

SAR(1 g) = 0.583 W/kg

Deviation (1 g) = 1.39%



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 = 1.82 S/m; perm = 38.0; density = 1000 kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 07/02/2025; Ambient Temp: 22.5°C; Tissue Temp: 23.4°C

Probe: EX3DV4 - SN7532; ConvF:(6.89,6.81,7.65); Calibrated: 2025-04-16

Sensor-Surface: 1.4mm (All points)

Electronics: DAE4 Sn501; Calibrated: 2025-04-09

Phantom: Twin-SAM V8.0; Serial: 2058

Measurement SW: DASY Module SAR V16.4.0.5005

2450.0 MHz System Verification at 20.0 dBm (100 mW)

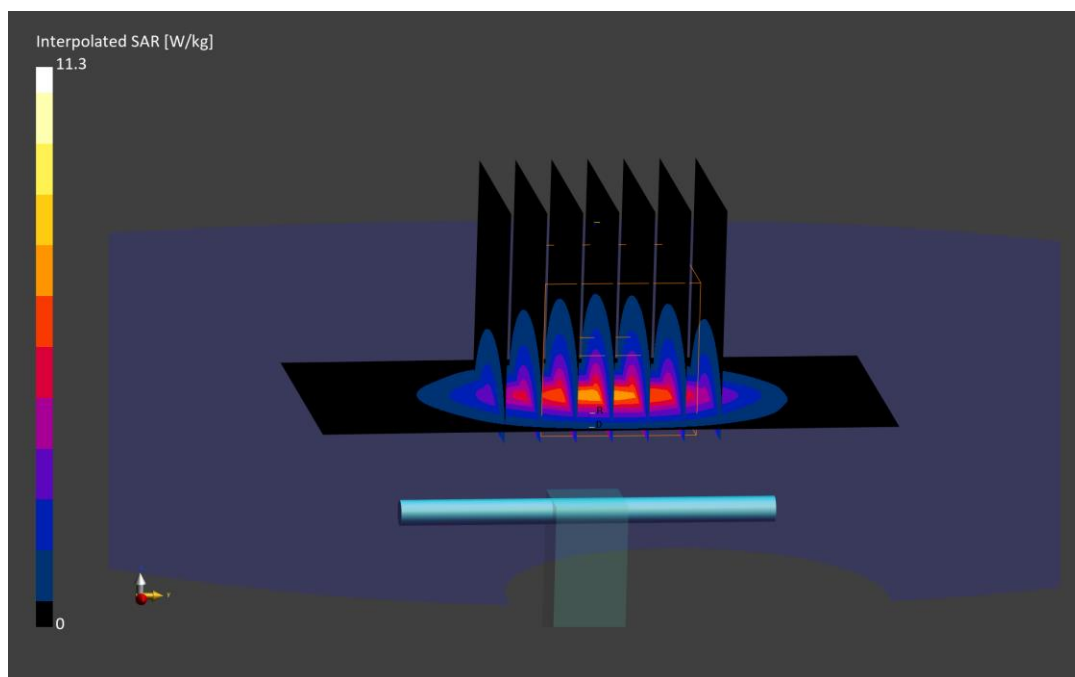
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

Zoom Scan (30.0 x 30.0 x 31.2): Measurement grid: dx=5.0 mm, dy=5.0 mm, dz=1.5 mm; Graded Ratio: 1.5

Peak SAR (extrapolated) = 11.3 W/kg

SAR(1 g) = 5.29 W/kg

Deviation (1 g) = -0.75%



ELEMENT

DUT: Dipole 2450.0 MHz; Type: D2450V2 - SN855

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 = 38.1; density = 1000 kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 07/24/2025; Ambient Temp: 22.4°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7532; ConvF:(6.89,6.81,7.65); Calibrated: 2025-04-16

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

Electronics: DAE4 Sn501; Calibrated: 2025-04-09

Phantom: Twin-SAM V8.0; Serial: 2058

Measurement SW: DASY Module SAR V16.4.0.5005

2450.0 MHz System Verification at 20.0 dBm (100 mW)

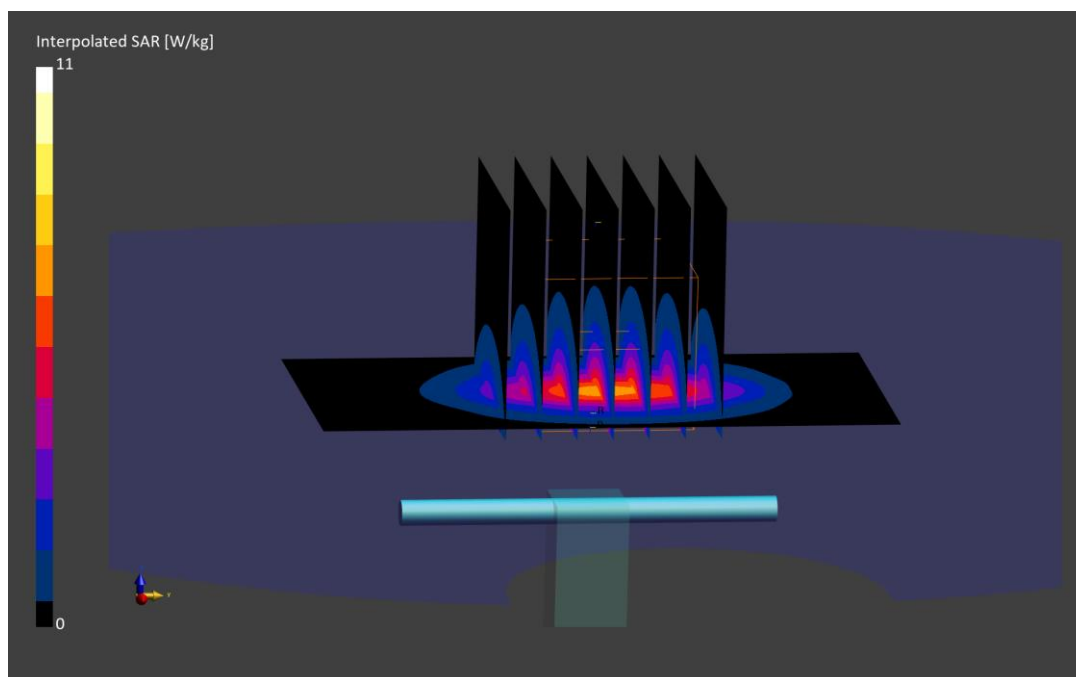
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

Zoom Scan (30.0 x 30.0 x 31.2): Measurement grid: dx=5.0 mm, dy=5.0 mm, dz=1.5 mm; Graded Ratio: 1.5

Peak SAR (extrapolated) = 11.0 W/kg

SAR(1 g) = 5.21 W/kg

Deviation (1 g) = -0.57%



ELEMENT

DUT: Dipole 2450.0 MHz; Type: D2450V2 - SN855

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

Medium: 2450 Head; Medium parameters used:

f = 2450.0 MHz; cond = 1.86 S/m; perm = 38.1; density = 1000 kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 07/26/2025; Ambient Temp: 22.9°C; Tissue Temp: 24.0°C

Probe: EX3DV4 - SN7532; ConvF:(6.89,6.81,7.65); Calibrated: 2025-04-16

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

Electronics: DAE4 Sn501; Calibrated: 2025-04-09

Phantom: Twin-SAM V8.0; Serial: 2058

Measurement SW: DASY Module SAR V16.4.0.5005

2450.0 MHz System Verification at 20.0 dBm (100 mW)

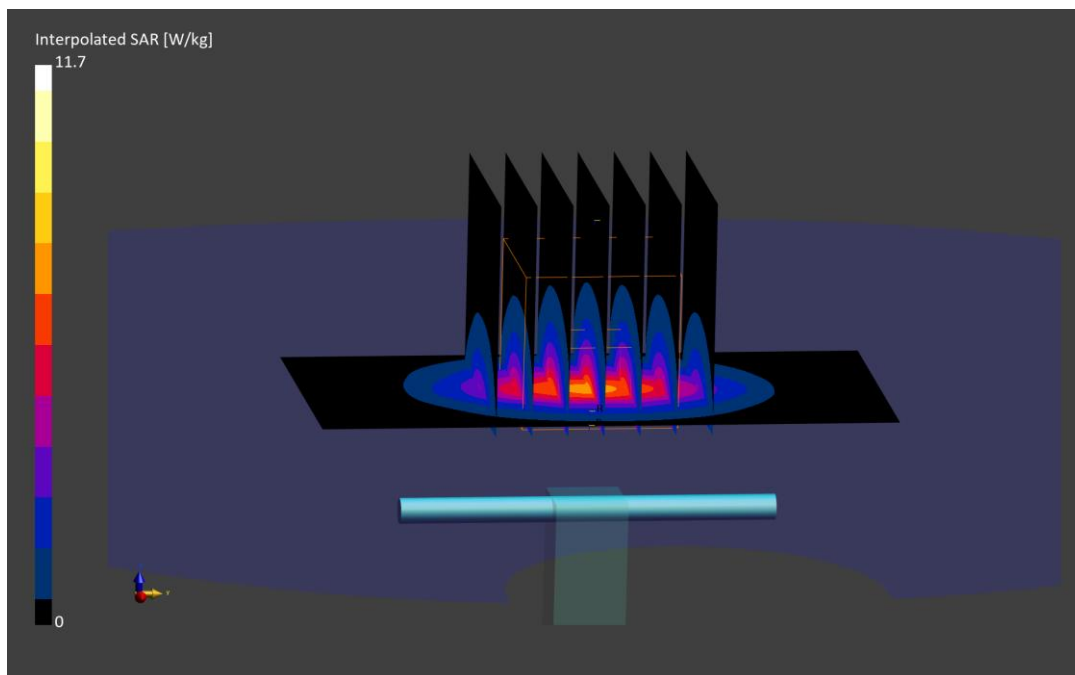
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

Zoom Scan (30.0 x 30.0 x 31.2): Measurement grid: dx=5.0 mm, dy=5.0 mm, dz=1.5 mm; Graded Ratio: 1.5

Peak SAR (extrapolated) = 11.7 W/kg

SAR(1 g) = 5.50 W/kg

Deviation (1 g) = 4.96%



ELEMENT

DUT: Dipole 5250.0 MHz; Type: D5GHzV2 - SN1163

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

Medium: 5200-5800 Head; Medium parameters used:

f = 5250.0 MHz; cond = 4.65 S/m; perm = 36.5; density = 1000 kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 06/27/2025; Ambient Temp: 20.8°C; Tissue Temp: 19.2°C

Probe: EX3DV4 - SN7499; ConvF:(5.42,5.54,5.73); Calibrated: 2025-01-14

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

Electronics: DAE4 Sn1465; Calibrated: 2025-01-08

Phantom: Twin-SAM V8.0; Serial: 2070

Measurement SW: DASY Module SAR V16.4.0.5005

5250.0 MHz System Verification at 17.0 dBm (50 mW)

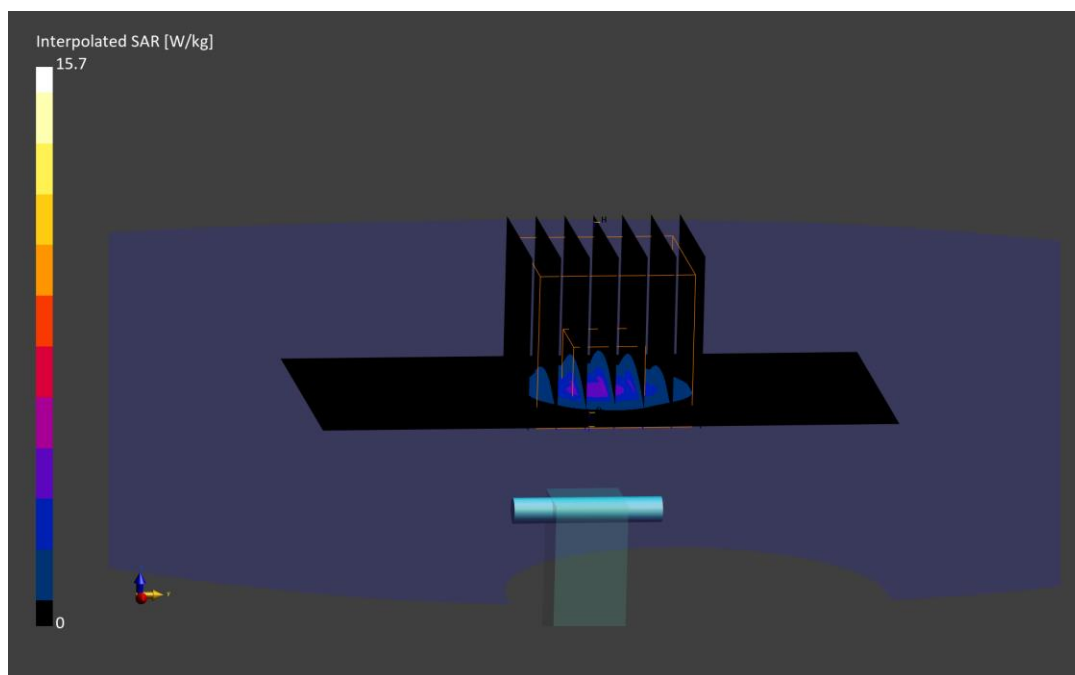
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

Zoom Scan (24.0 x 24.0 x 22.9): Measurement grid: dx=4.0 mm, dy=4.0 mm, dz=1.4 mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 15.7 W/kg

SAR(1 g) = 3.84 W/kg

Deviation (1 g) = -2.54%



ELEMENT

DUT: Dipole 5250.0 MHz; Type: D5GHzV2 - SN1066

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

Medium: 5200-5800 Head; Medium parameters used:

f = 5250.0 MHz; cond = 4.68 S/m; perm = 35.2; density = 1000 kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 07/16/2025; Ambient Temp: 20.5°C; Tissue Temp: 19.1°C

Probe: EX3DV4 - SN7499; ConvF:(5.42,5.54,5.73); Calibrated: 2025-01-14

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

Electronics: DAE4 Sn1465; Calibrated: 2025-01-08

Phantom: Twin-SAM V8.0; Serial: 2070

Measurement SW: DASY Module SAR V16.4.0.5005

5250.0 MHz System Verification at 17.0 dBm (50 mW)

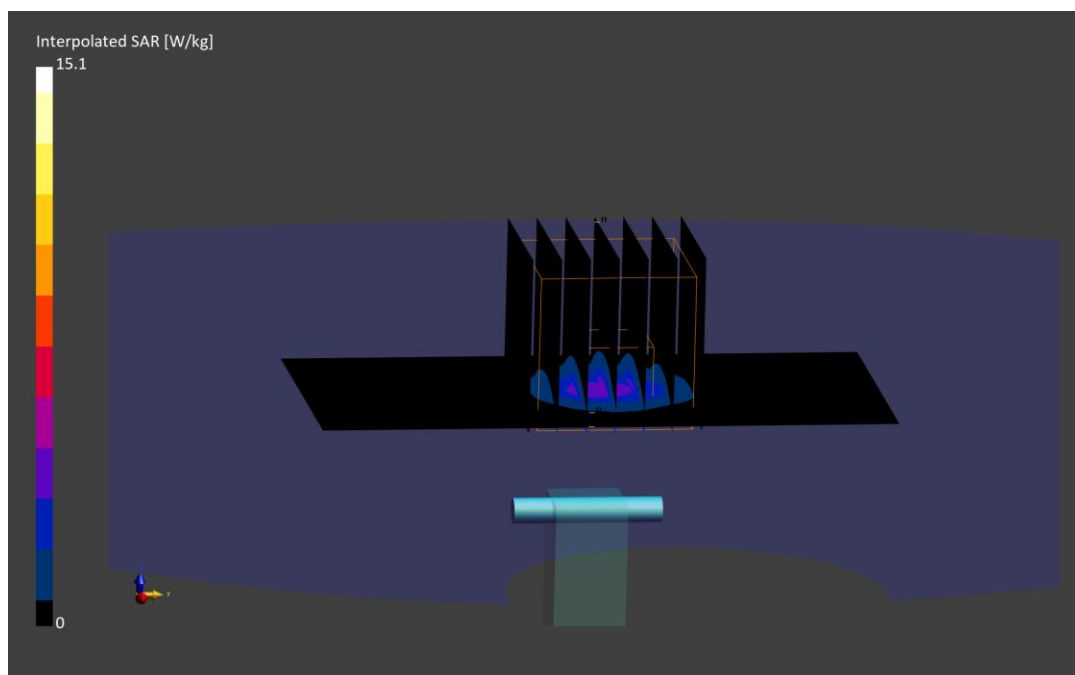
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

Zoom Scan (24.0 x 24.0 x 22.9): 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) = 3.69 W/kg

Deviation (1 g) = -5.26%



ELEMENT

DUT: Dipole 5600.0 MHz; Type: D5GHzV2 - SN1163

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

Medium: 5200-5800 Head; Medium parameters used:

f = 5600.0 MHz; cond = 5.05 S/m; perm = 35.8; density = 1000 kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 06/27/2025; Ambient Temp: 20.8°C; Tissue Temp: 19.2°C

Probe: EX3DV4 - SN7499; ConvF:(4.83,4.94,5.11); Calibrated: 2025-01-14

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

Electronics: DAE4 Sn1465; Calibrated: 2025-01-08

Phantom: Twin-SAM V8.0; Serial: 2070

Measurement SW: DASY Module SAR V16.4.0.5005

5600.0 MHz System Verification at 17.0 dBm (50 mW)

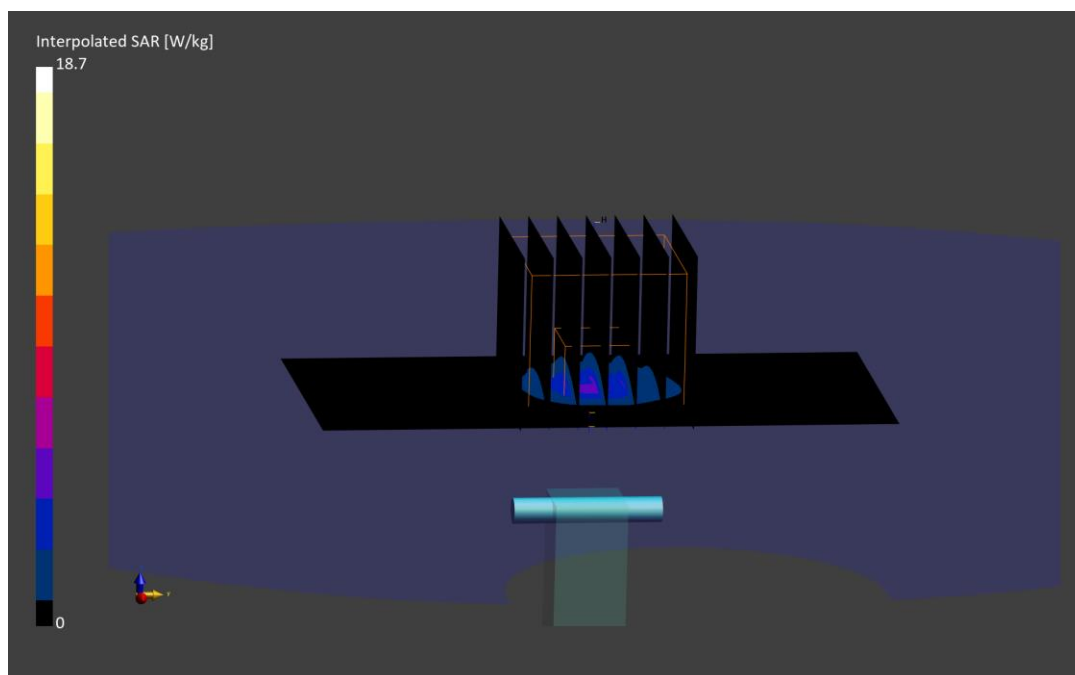
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

Zoom Scan (24.0 x 24.0 x 22.9): Measurement grid: dx=4.0 mm, dy=4.0 mm, dz=1.4 mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 18.7 W/kg

SAR(1 g) = 4.21 W/kg

Deviation (1 g) = 4.08%



ELEMENT

DUT: Dipole 5600.0 MHz; Type: D5GHzV2 - SN1066

Communication System: UID: 0, CW; Frequency: 5600.0 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5600.0 MHz; cond = 5.08 S/m; perm = 34.5; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 07/16/2025; Ambient Temp: 20.5°C; Tissue Temp: 19.1°C

Probe: EX3DV4 - SN7499; ConvF:(4.83,4.94,5.11); Calibrated: 2025-01-14
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1465; Calibrated: 2025-01-08
Phantom: Twin-SAM V8.0; Serial: 2070
Measurement SW: DASY Module SAR V16.4.0.5005

5600.0 MHz System Verification at 17.0 dBm (50 mW)

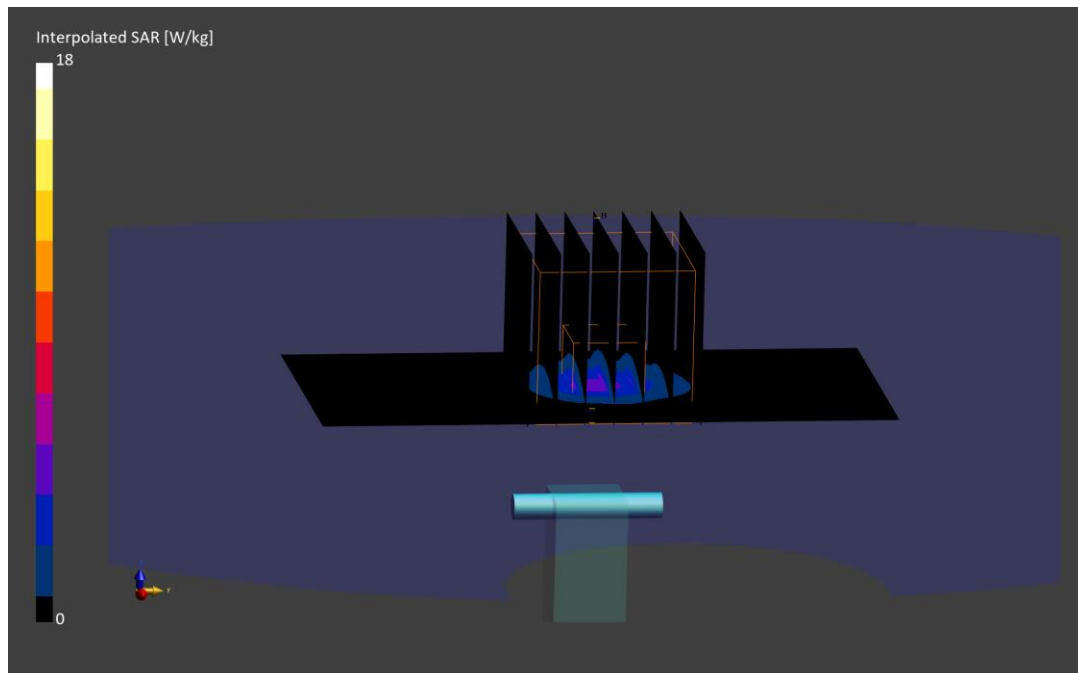
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

Zoom Scan (24.0 x 24.0 x 22.9): Measurement grid: dx=4.0 mm, dy=4.0 mm, dz=1.4 mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 18.0 W/kg

SAR(1 g) = 4.10 W/kg

Deviation (1 g) = 0.24%



ELEMENT

DUT: Dipole 5750.0 MHz; Type: D5GHzV2 - SN1163

Communication System: UID: 0, CW; Frequency: 5750.0 MHz
Medium: 5200-5800 Head; Medium parameters used:
f = 5750.0 MHz; cond = 5.23 S/m; perm = 35.5; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 06/27/2025; Ambient Temp: 20.8°C; Tissue Temp: 19.2°C

Probe: EX3DV4 - SN7499; ConvF:(4.93,5.05,5.22); Calibrated: 2025-01-14
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1465; Calibrated: 2025-01-08
Phantom: Twin-SAM V8.0; Serial: 2070
Measurement SW: DASY Module SAR V16.4.0.5005

5750.0 MHz System Verification at 17.0 dBm (50 mW)

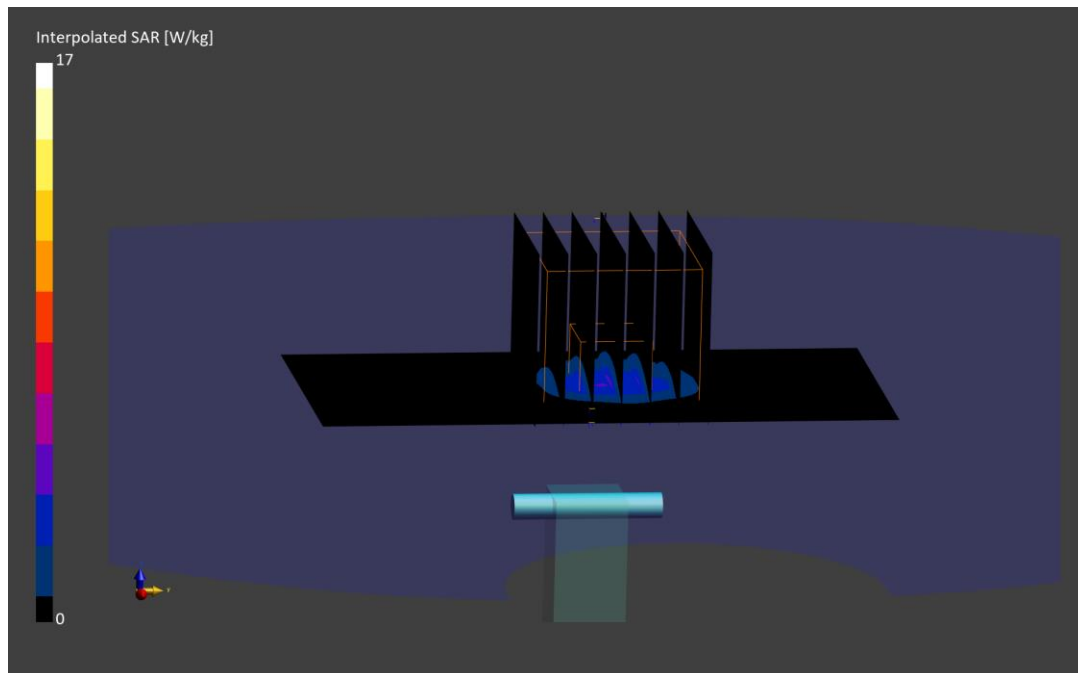
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

Zoom Scan (24.0 x 24.0 x 22.9): 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(1 g) = 3.73 W/kg

Deviation (1 g) = -4.48%



ELEMENT

DUT: Dipole 5750.0 MHz; Type: D5GHzV2 - SN1066

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

Medium: 5200-5800 Head; Medium parameters used:

f = 5750.0 MHz; cond = 5.26 S/m; perm = 34.2; density = 1000 kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 07/16/2025; Ambient Temp: 20.5°C; Tissue Temp: 19.1°C

Probe: EX3DV4 - SN7499; ConvF:(4.93,5.05,5.22); Calibrated: 2025-01-14

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

Electronics: DAE4 Sn1465; Calibrated: 2025-01-08

Phantom: Twin-SAM V8.0; Serial: 2070

Measurement SW: DASY Module SAR V16.4.0.5005

5750.0 MHz System Verification at 17.0 dBm (50 mW)

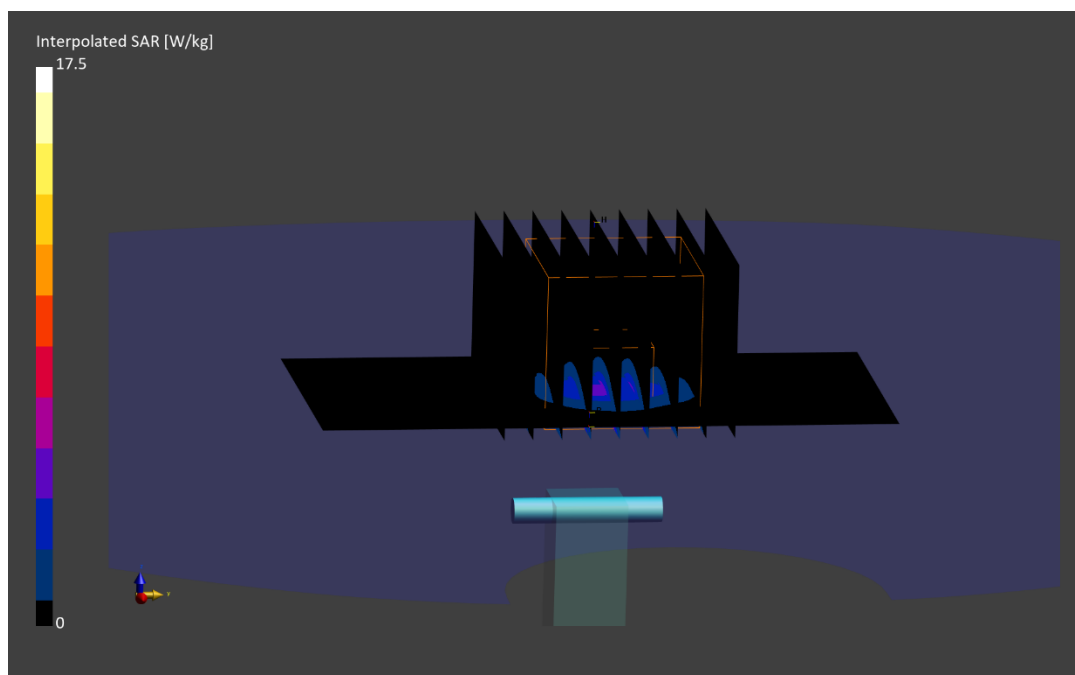
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

Zoom Scan (32.0 x 32.0 x 22.9): Measurement grid: dx=4.0 mm, dy=4.0 mm, dz=1.4 mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 17.5 W/kg

SAR(1 g) = 3.90 W/kg

Deviation (1 g) = -3.35%



ELEMENT

DUT: Dipole 5850.0 MHz; Type: D5GHzV2 - SN1163

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

Medium: 5200-5800 Head; Medium parameters used:

f = 5850.0 MHz; cond = 5.34 S/m; perm = 35.4; density = 1000 kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 06/27/2025; Ambient Temp: 20.8°C; Tissue Temp: 19.2°C

Probe: EX3DV4 - SN7499; ConvF:(4.9,5.02,5.19); Calibrated: 2025-01-14

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

Electronics: DAE4 Sn1465; Calibrated: 2025-01-08

Phantom: Twin-SAM V8.0; Serial: 2070

Measurement SW: DASY Module SAR V16.4.0.5005

5850.0 MHz System Verification at 17.0 dBm (50 mW)

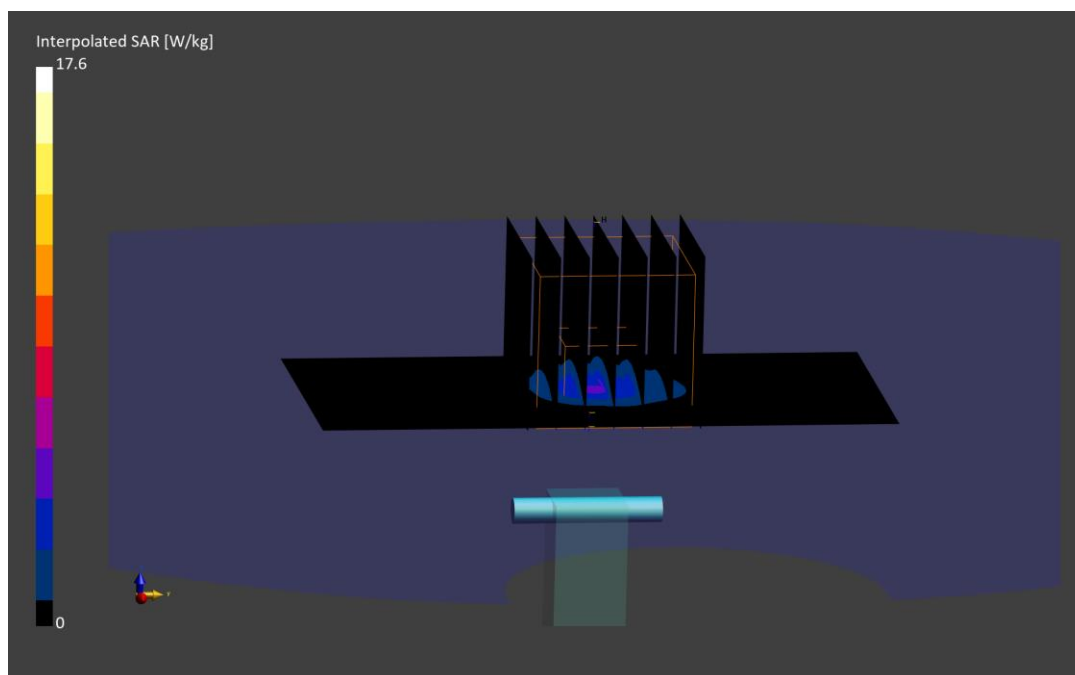
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

Zoom Scan (24.0 x 24.0 x 22.9): Measurement grid: dx=4.0 mm, dy=4.0 mm, dz=1.4 mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 17.6 W/kg

SAR(1 g) = 3.74 W/kg

Deviation (1 g) = -6.27%



ELEMENT

DUT: Dipole 5850.0 MHz; Type: D5GHzV2 - SN1066

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

Medium: 5200-5800 Head; Medium parameters used:

f = 5850.0 MHz; cond = 5.37 S/m; perm = 34.0; density = 1000 kg/m³

Phantom Section: Flat; Space: 10 mm

Test Date: 07/16/2025; Ambient Temp: 20.5°C; Tissue Temp: 19.1°C

Probe: EX3DV4 - SN7499; ConvF:(4.9,5.02,5.19); Calibrated: 2025-01-14

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

Electronics: DAE4 Sn1465; Calibrated: 2025-01-08

Phantom: Twin-SAM V8.0; Serial: 2070

Measurement SW: DASY Module SAR V16.4.0.5005

5850.0 MHz System Verification at 17.0 dBm (50 mW)

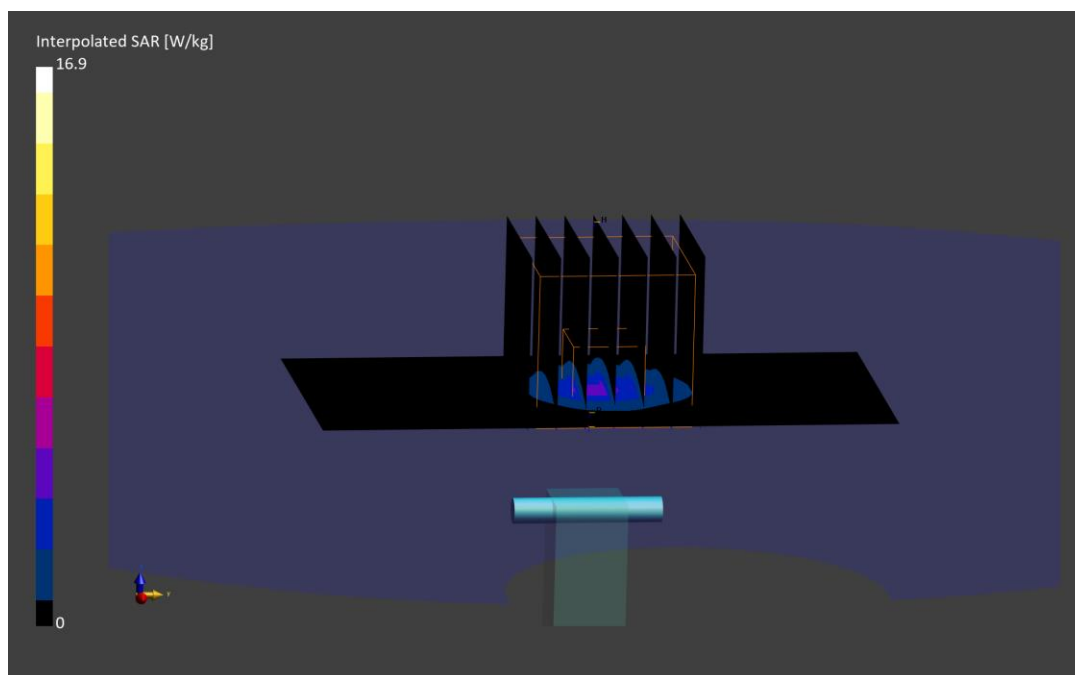
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

Zoom Scan (24.0 x 24.0 x 22.9): 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) = 3.73 W/kg

Deviation (1 g) = -3.62%



ELEMENT

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

Communication System: UID: 0, CW; Frequency: 6500.0 MHz

Medium: 6000 Head; Medium parameters used:

f = 6500.0 MHz; cond = 5.98 S/m; perm = 33.9; density = 1000 kg/m³

Phantom Section: Flat; Space: 5 mm

Test Date: 06/26/2025; Ambient Temp: 21.6°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN3949; ConvF:(5.23,5.7,5.57); Calibrated: 2024-09-09

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

Electronics: DAE4 Sn1684; Calibrated: 2024-09-04

Phantom: Twin-SAM V4.0; Serial: 1275

Measurement SW: DASY Module SAR V16.4.0.5005

6500.0 MHz System Verification at 14.0 dBm (25 mW)

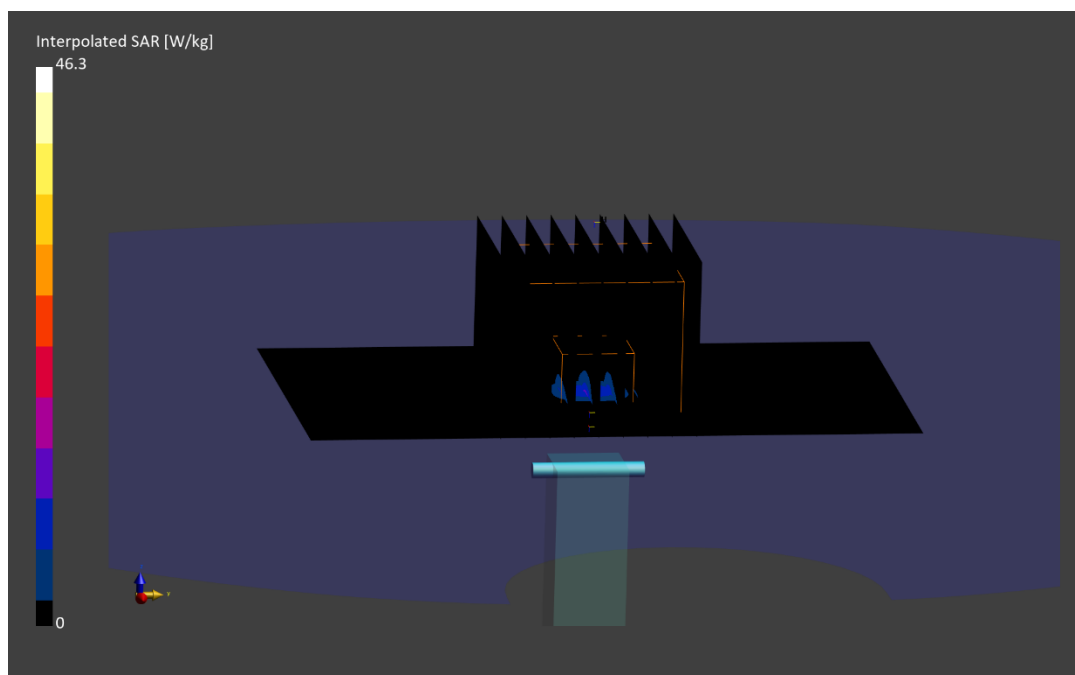
Area Scan (51.0 x 85.0): Measurement grid: dx=8.5 mm, dy=8.5 mm

Zoom Scan (27.2 x 27.2 x 22.9): Measurement grid: dx=3.4 mm, dy=3.4 mm, dz=1.4 mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 46.3 W/kg

SAR(1 g) = 7.70 W/kg; APD(4cm²) = 34.5 W/m²

Deviation (1 g) = 2.67%; Deviation (4cm²) = 2.99%



Date: 06/24/2025

10 GHz 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, 2024-10-09	DAE4 – SN1402, 2025-04-10

Software Setup

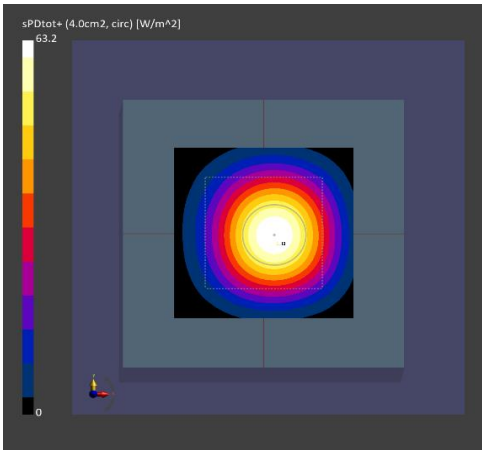
Software	Software Version
cDASY6 Module mmWave	3.2.0.1840

Scans Setup

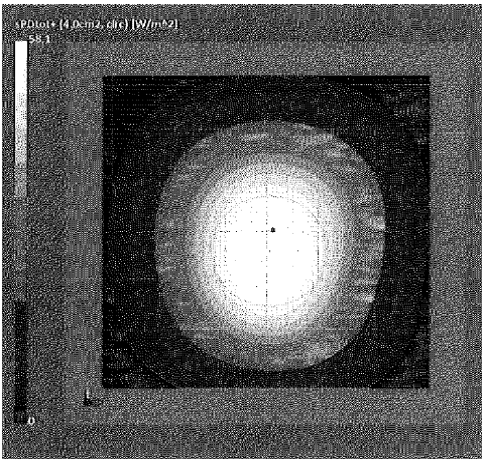
Scan Type	5G Scan
Grid Extents [mm]	60.0 x 60.0
Grid Steps [lambda]	0.125 x 0.125
Sensor Surface [mm]	10.0

Measurement Results

Scan Type	5G Scan
Avg. Area [cm²]	4.00
pS _{tot} avg [W/m²]	63.2
pS _n avg [W/m²]	63.0
E _{peak} [V/m]	159
Deviation [dB] pS _{tot}	.37
Deviation [dB] pS _n	.37



10 GHz System Verification



Calibration Certificate

Date: 08/07/2025

10 GHz 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, 10/09/2024	DAE4 – SN1402, 04/10/2025

Software Setup

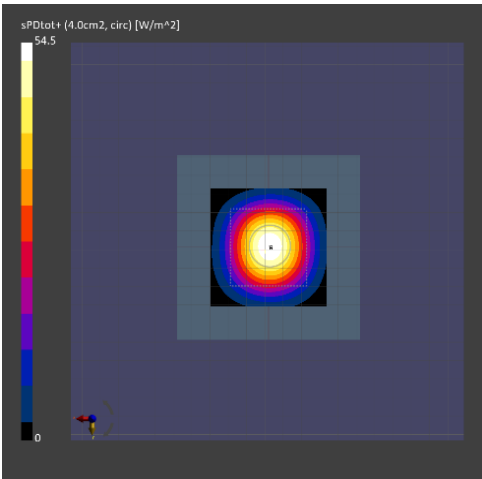
Software	Software Version
cDASY6 Module mmWave	3.2.0.1840

Scans Setup

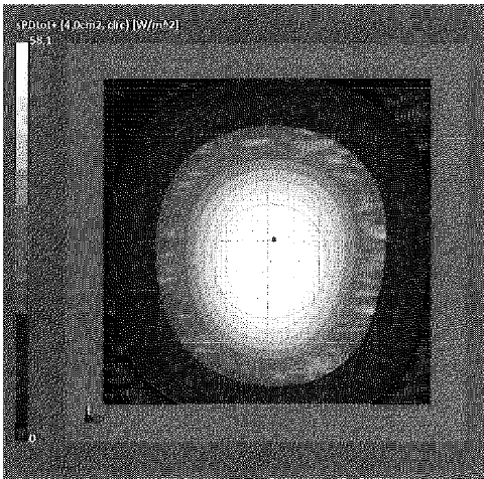
Scan Type	5G Scan
Grid Extents [mm]	60.0 x 60.0
Grid Steps [lambda]	0.125 x 0.125
Sensor Surface [mm]	10.0

Measurement Results

Scan Type	5G Scan
Avg. Area [cm²]	4.00
pS _{tot} avg [W/m²]	54.5
pS _n avg [W/m²]	54.4
E _{peak} [V/m]	149
Deviation [dB] pS _{tot}	-0.28
Deviation [dB] pS _n	-0.27



10 GHz System Verification



Calibration Certificate