

APPENDIX A: VERIFICATION PLOTS

ELEMENT

DUT: Dipole 1750.0 MHz; Type: D1750V2 - SN1150

Communication System: UID: 0, CW; Frequency: 1750.0 MHz
Medium: 1750 Head; Medium parameters used:
f = 1750.0 MHz; cond = 1.34 S/m; perm = 40.1; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 7/20/2023; Ambient Temp: 22.5°C; Tissue Temp: 22.5 °C

Probe: EX3DV4 - SN7670; ConvF:(8.5,8.5,8.5); Calibrated: 2022-08-22
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1681; Calibrated: 2022-08-15
Phantom: Twin-SAM V8.0 (Left); Serial: 1964
Measurement SW: DASY Module SAR V16.2.0.1425

1750 MHz System Verification at 20 dBm (100 mW)

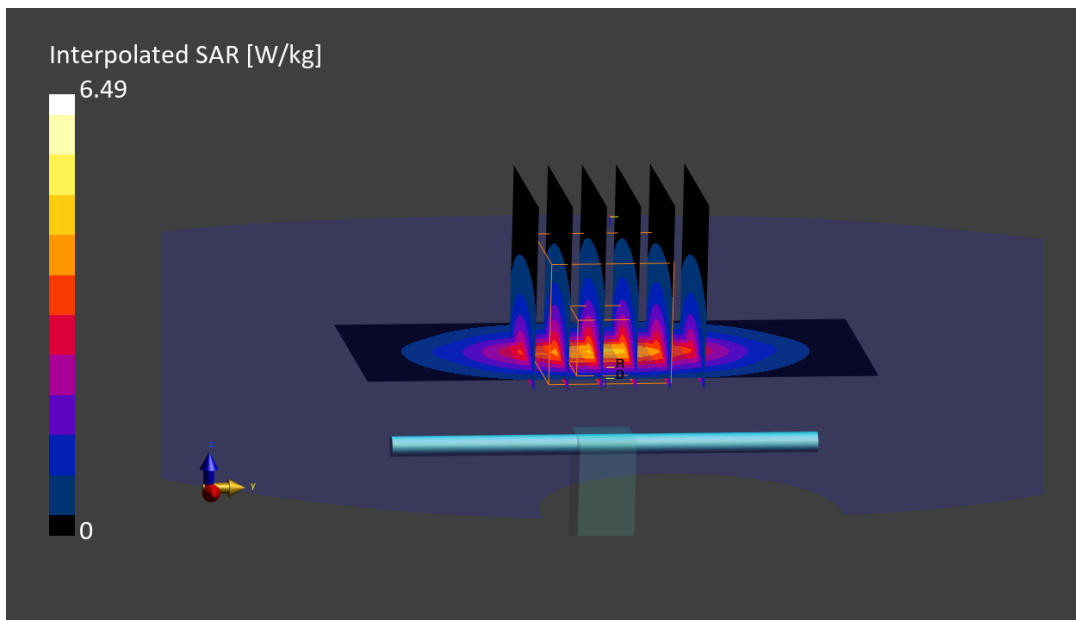
Area Scan (40.0 x 90.0): Measurement grid: dx=10.0 mm, dy=15.0 mm

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) = 6.49 W/kg

SAR(1 g) = 3.54 W/kg; SAR(10 g) = 1.89 W/kg

Deviation (1 g) = -4.07%



ELEMENT

DUT: Dipole 1900.0 MHz; Type: D1900V2 - SN5d149

Communication System: UID: 0, CW; Frequency: 1900.0 MHz
Medium: 1900 Head; Medium parameters used:
f = 1900.0 MHz; cond = 1.44 S/m; perm = 39.9; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 7/20/2023; Ambient Temp: 22.5°C; Tissue Temp: 22.5 °C

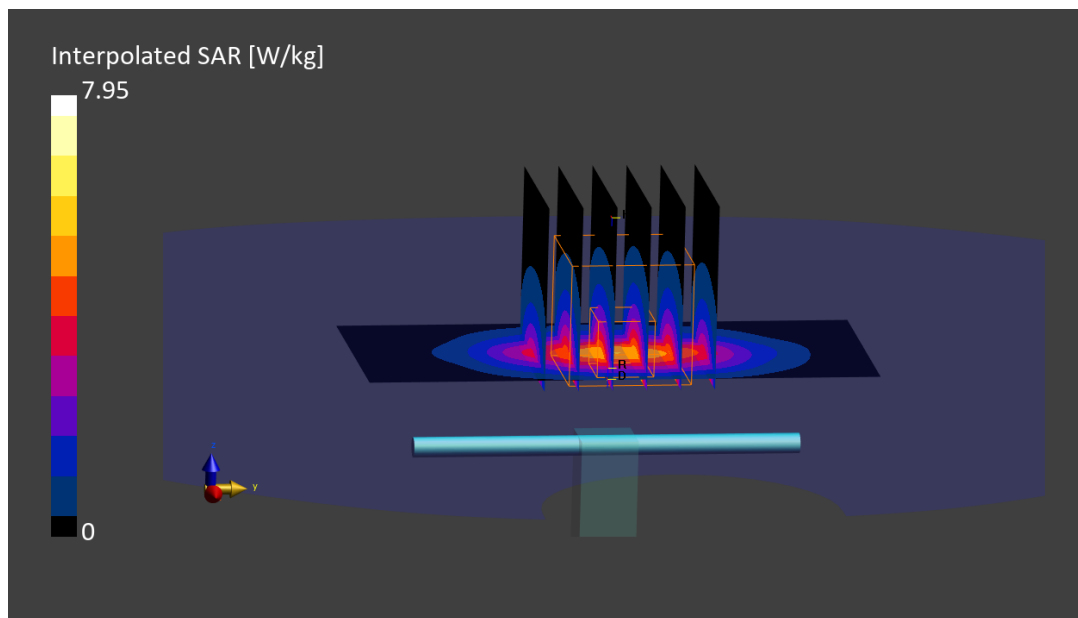
Probe: EX3DV4 - SN7670; ConvF:(8.25,8.25,8.25); Calibrated: 2022-08-22
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1681; Calibrated: 2022-08-15
Phantom: Twin-SAM V8.0 (Left); Serial: 1964
Measurement SW: DASY Module SAR V16.2.0.1425

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) = 7.95 W/kg
SAR(1 g) = 4.24 W/kg; SAR(10 g) = 2.19 W/kg
Deviation (1 g) = 4.69%



ELEMENT

DUT: Dipole 1900.0 MHz; Type: D1900V2 - SN5d149

Communication System: UID: 0, CW; Frequency: 1900.0 MHz
Medium: 1900 Head; Medium parameters used:
f = 1900.0 MHz; cond = 1.43 S/m; perm = 39.0; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 07/28/2023; Ambient Temp: 21.4°C; Tissue Temp: 20.9°C

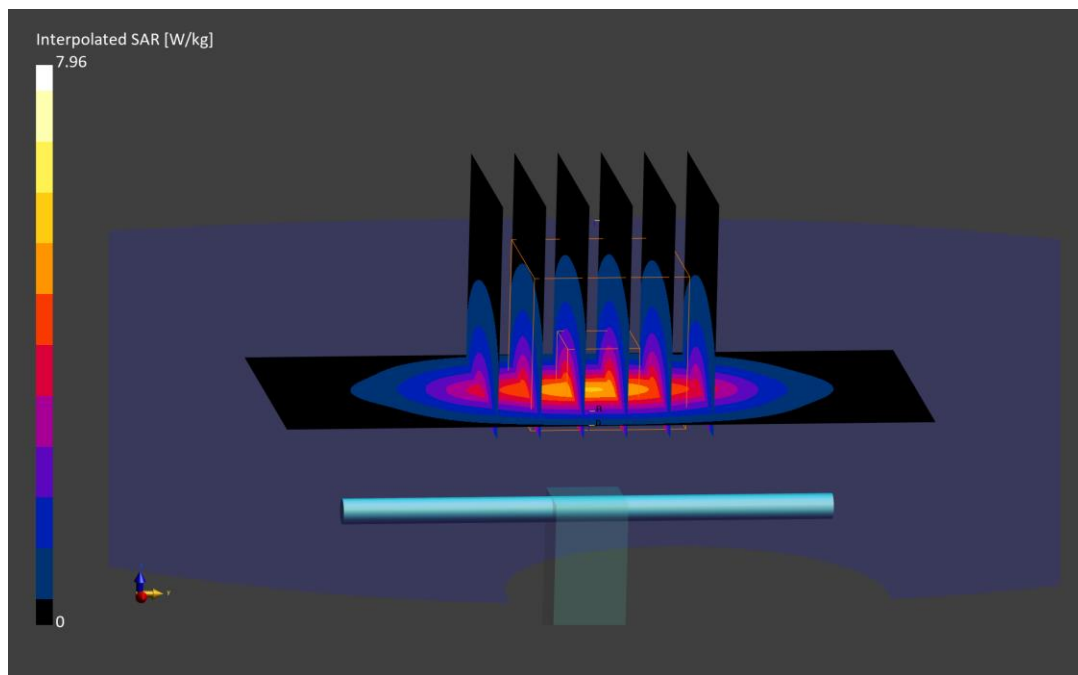
Probe: EX3DV4 - SN7670; ConvF:(8.25,8.25,8.25); Calibrated: 2022-08-22
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1681; Calibrated: 2022-08-15
Phantom: Twin-SAM V8.0 (Left); Serial: 1964
Measurement SW: DASY Module SAR V16.2.0.1425

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) = 7.96 W/kg
SAR(1 g) = 4.19 W/kg; SAR(10 g) = 2.17 W/kg
Deviation (1 g) = 3.46%



ELEMENT

DUT: Dipole 2600.0 MHz; Type: D2600V2 - SN1071

Communication System: UID: 0, CW; Frequency: 2600.0 MHz
Medium: 2450 Head; Medium parameters used:
f = 2600.0 MHz; cond = 1.94 S/m; perm = 37.9; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 07/28/2023; Ambient Temp: 21.4°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7670; ConvF:(7.83,7.83,7.83); Calibrated: 2022-08-22
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1681; Calibrated: 2022-08-15
Phantom: Twin-SAM V8.0 (Left); Serial: 1964
Measurement SW: DASY Module SAR V16.2.0.1425

2600 MHz System Verification at 20 dBm (100 mW)

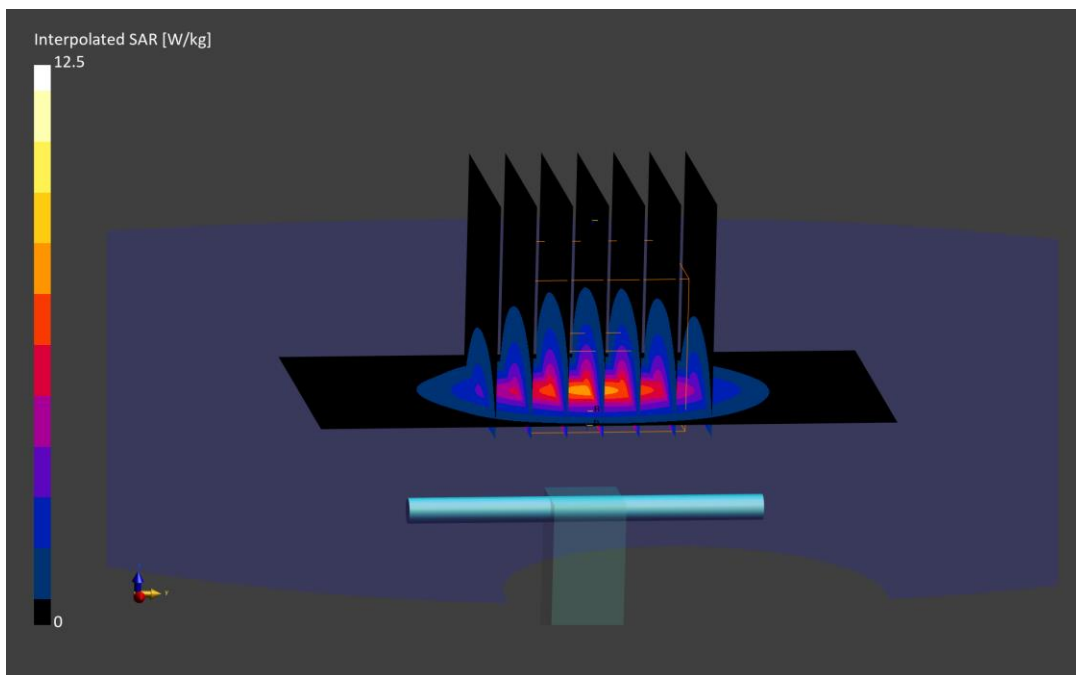
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

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) = 12.5 W/kg

SAR(1 g) = 5.81 W/kg; SAR(10 g) = 2.62 W/kg

Deviation (1 g) = 2.83%



ELEMENT

Date: 07/27/2023

30 GHz System Verification

Device Under Test Properties

DUT	Serial Number
30 GHz Verification Source	1043

Exposure Conditions

Phantom Section	Position	Test Distance [mm]	Band	Frequency [MHz]
5G	FRONT	5.55	Validation band	30000.0

Hardware Setup

Probe, Calibration Date	DAE, Calibration Date
EUmmWV3 - SN9389_F1-55GHz, 2022-12-13	DAE4 Sn1530, 2023-01-18

Software Setup

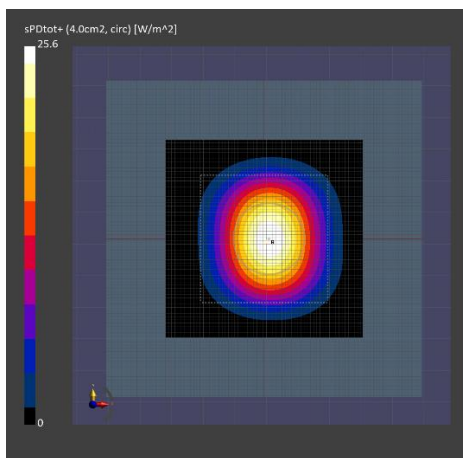
Software	Software Version
cDasy6 Module mmWave	3.0.0.841

Scans Setup

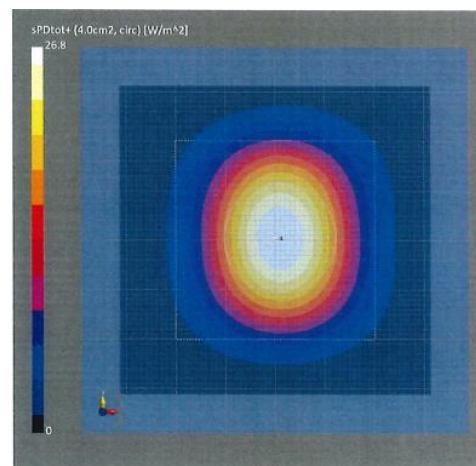
Scan Type	5G Scan
Grid Extents [mm]	60.0 x 60.0
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	5.55

Measurement Results

Scan Type	5G Scan
Avg. Area [cm ²]	4.00
pS _{tot} avg [W/m ²]	25.7
pS _n avg [W/m ²]	25.4
E _{peak} [V/m]	115
Power Drift [dB]	-0.04



30GHz System Verification



Calibration Certificate