

APPENDIX A: VERIFICATION PLOTS

ELEMENT

DUT: Dipole 750.0 MHz; Type: D750V3 - SN1054

Communication System: UID: 0, CW; Frequency: 750.0 MHz
Medium: 750 Body; Medium parameters used:
f = 750.0 MHz; cond = 0.973 S/m; perm = 53.7; density = 1000 kg/m³
Phantom Section: Flat; Space: 15 mm

Test Date: 06/28/2023; Ambient Temp: 22.9°C; Tissue Temp: 20.9°C

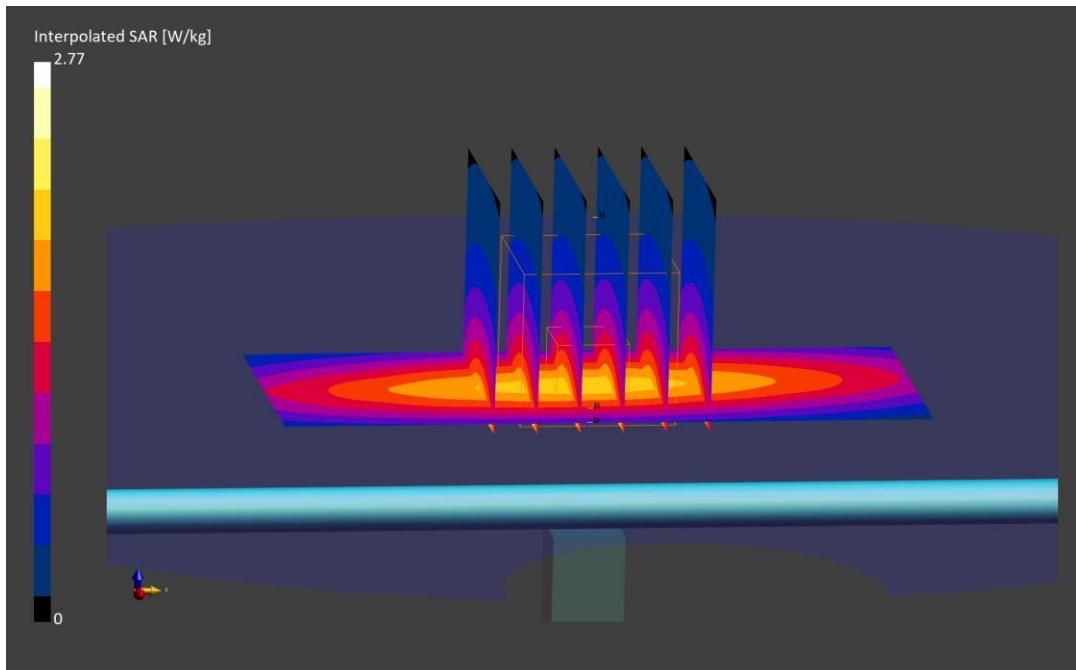
Probe: EX3DV4 - SN7670; ConvF:(10.16,10.16,10.16); Calibrated: 2022-08-22
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1681; Calibrated: 2022-08-15
Phantom: Twin-SAM V8.0 (Left); Serial: 1964
Measurement SW: DASY Module SAR V16.2.0.1425

750 MHz System Verification at 23 dBm (200 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) = 2.77 W/kg
SAR(1 g) = 1.72 W/kg; SAR(10 g) = 1.13 W/kg
Deviation (1 g) = -0.35%



ELEMENT

DUT: Dipole 835.0 MHz; Type: D835V2 - SN4d132

Communication System: UID: 0, CW; Frequency: 835.0 MHz
Medium: 750 Body; Medium parameters used:
f = 835.0 MHz; cond = 1.00 S/m; perm = 53.5; density = 1000 kg/m³
Phantom Section: Flat; Space: 15 mm

Test Date: 06/28/2023; Ambient Temp: 22.9°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7670; ConvF:(9.89,9.89,9.89); 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

835 MHz System Verification at 23 dBm (200 mW)

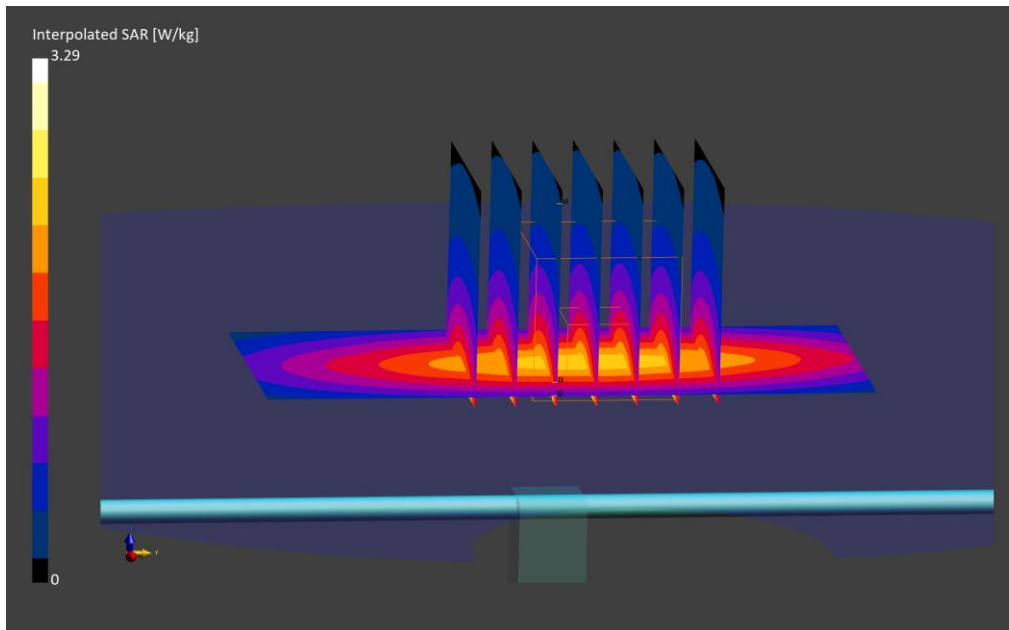
Area Scan (40.0 x 90.0): Measurement grid: dx=10.0 mm, dy=15.0 mm

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) = 3.29 W/kg

SAR(1 g) = 2.06 W/kg; SAR(10 g) = 1.34 W/kg

Deviation (1 g) = 4.99%



ELEMENT

DUT: Dipole 1900.0 MHz; Type: D1900V2 - SN5d149

Communication System: UID: 0, CW; Frequency: 1900.0 MHz
Medium: 750 Body; Medium parameters used:
f = 1900.0 MHz; cond = 1.59 S/m; perm = 51.8; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 06/28/2023; Ambient Temp: 22.9°C; Tissue Temp: 20.9°C

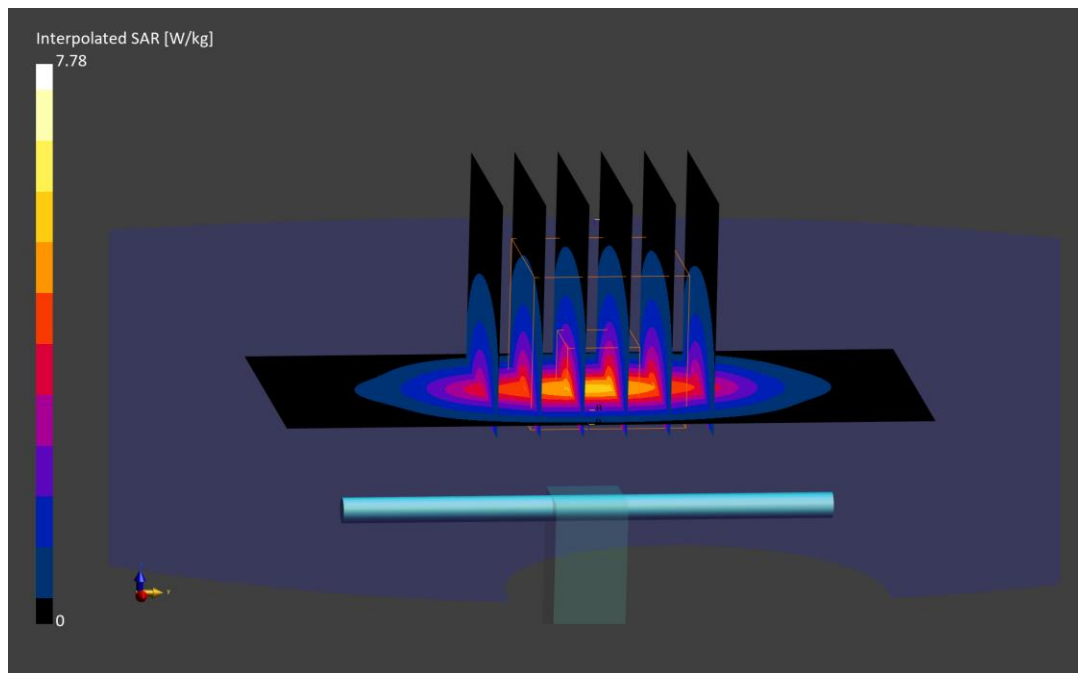
Probe: EX3DV4 - SN7670; ConvF:(8.26,8.26,8.26); Calibrated: 2022-08-22
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1681; Calibrated: 2022-08-15
Phantom: Twin-SAM V8.0 (Left); Serial: 1964
Measurement SW: DASY Module SAR V16.2.0.1425

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) = 7.78 W/kg
SAR(1 g) = 4.21 W/kg; SAR(10 g) = 2.18 W/kg
Deviation (1 g) = 4.21%



ELEMENT

DUT: Dipole 1900.0 MHz; Type: D1900V2 - SN5d080

Communication System: UID: 0, CW; Frequency: 1900.0 MHz
Medium: 1900 Head; Medium parameters used:
f = 1900.0 MHz; cond = 1.42 S/m; perm = 38.5; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 06/29/2023; Ambient Temp: 22.5°C; Tissue Temp: 21.3°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)

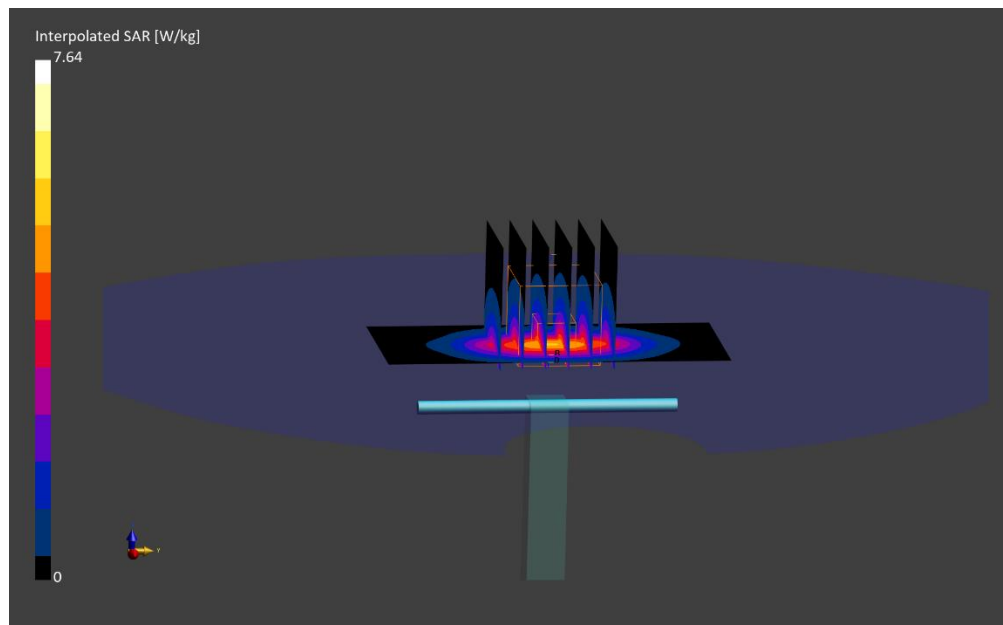
Area Scan (40.0 x 90.0): Measurement grid: dx=10.0 mm, dy=15.0 mm

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) = 7.64 W/kg

SAR(1 g) = 4.07 W/kg; SAR(10 g) = 2.11 W/kg

Deviation (1 g) = 2.78%



ELEMENT

DUT: Dipole 3700.0 MHz; Type: D3700V2 - SN1067

Communication System: UID: 0, CW; Frequency: 3700.0 MHz
Medium: 3600 Head; Medium parameters used:
f = 3700.0 MHz; cond = 2.96 S/m; perm = 37.7; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 06/29/2023; Ambient Temp: 22.5°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7670; ConvF:(6.95,6.95,6.95); 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

3700 MHz System Verification at 20 dBm (100 mW)

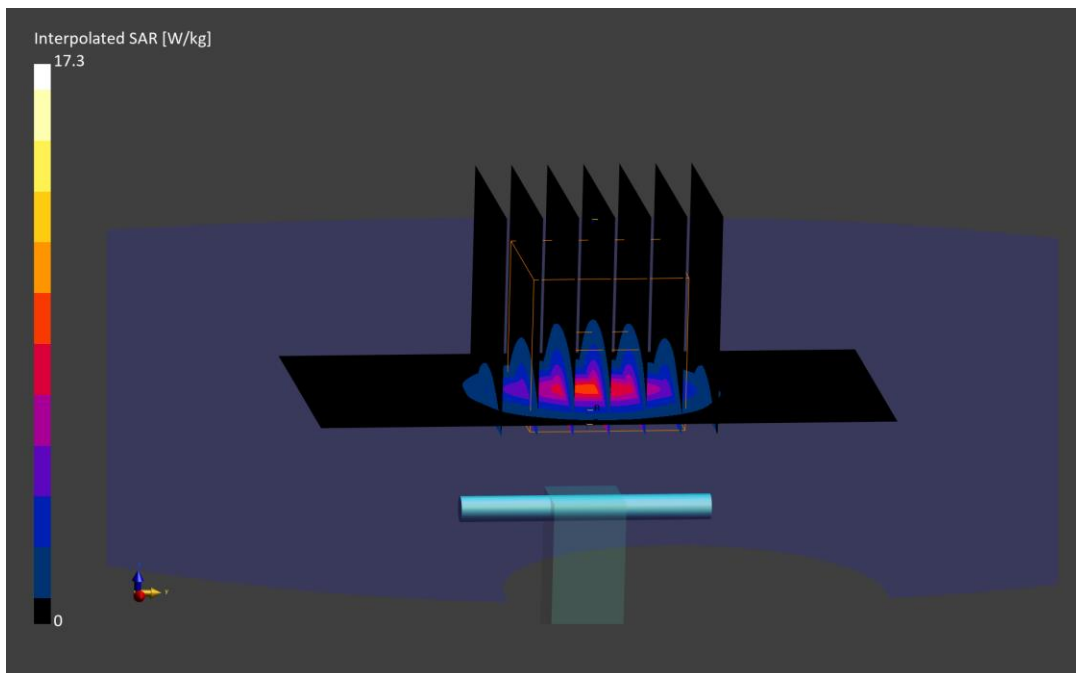
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

Zoom Scan (28.0 x 28.0 x 28.0): Measurement grid: dx=5.0 mm, dy=5.0 mm, dz=1.4 mm; Graded
Ratio: 1.5

Peak SAR (extrapolated) = 17.3 W/kg

SAR(1 g) = 6.59 W/kg; SAR(10 g) = 2.46 W/kg

Deviation (1 g) = -1.49%



ELEMENT

Date: 06/28/2023

30 GHz System Verification

Device Under Test Properties

DUT	Serial Number
30 GHz Verification Source	1035

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

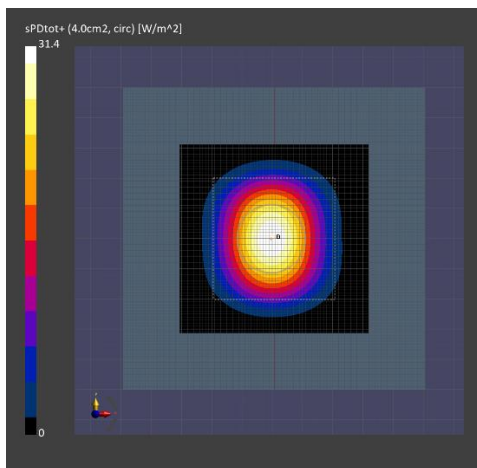
Software	Software Version
cDasy6 Module mmWave	3.0.0.841

Scans Setup

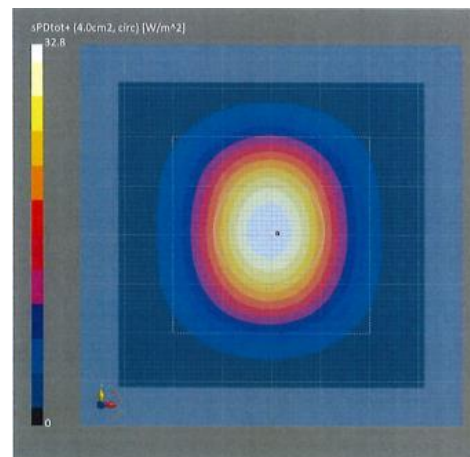
Scan Type	5G Scan
Grid Extents [mm]	60.0 x 60.0
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	5.55

Measurement Results

Scan Type	5G Scan
Avg. Area [cm ²]	4.00
pS _{tot} avg [W/m ²]	31.4
pS _n avg [W/m ²]	31.1
E _{peak} [V/m]	130
Power Drift [dB]	-0.11



30GHz System Verification



Calibration Certificate