

APPENDIX A: VERIFICATION PLOTS

ELEMENT

DUT: Dipole 750.0 MHz; Type: D750V3 - SN1054

Communication System: UID: 0, CW; Frequency: 750.0 MHz
Medium: 750 Head; Medium parameters used:
f = 750.0 MHz; cond = 0.878 S/m; perm = 40.9; density = 1000 kg/m³
Phantom Section: Flat; Space: 15 mm

Test Date: 10/23/2023; Ambient Temp: 22.7⁰C; Tissue Temp: 21.2⁰C

Probe: EX3DV4 - SN7410; ConvF:(9.96,9.96,9.96); 2023-07-07
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1583; 2023-07-10
Phantom: Twin-SAM V8.0 (Left); Serial: 1964
Measurement SW: DASY Module SAR V16.2.0.1425

750.0 MHz System Verification at 23.0 dBm (200 mW)

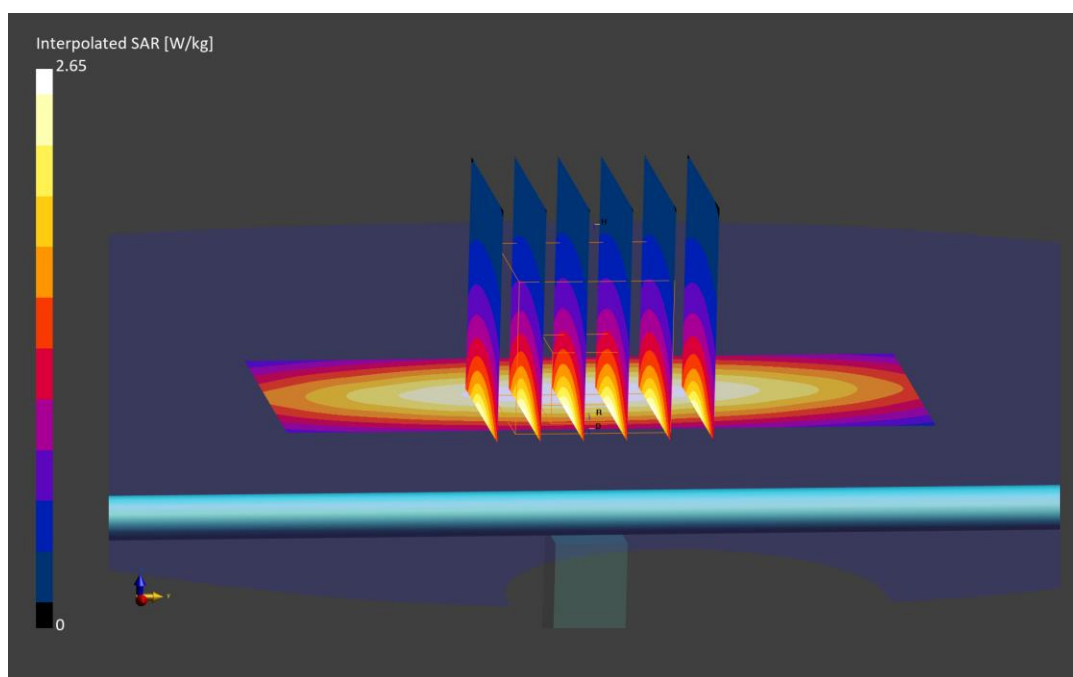
Area Scan (40.0 x 90.0): Measurement grid: dx=10.0 mm, dy=15.0 mm

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) = 2.65 W/kg

SAR(1 g) = 1.76 W/kg; SAR(10 g) = 1.16 W/kg

Deviation (1 g) = 3.29%



ELEMENT

DUT: Dipole 835.0 MHz; Type: D835V2 - SN4d047

Communication System: UID: 0, CW; Frequency: 835.0 MHz
Medium: 750 Head; Medium parameters used:
f = 835.0 MHz; cond = 0.909 S/m; perm = 40.6; density = 1000 kg/m³
Phantom Section: Flat; Space: 15 mm

Test Date: 10/23/2023; Ambient Temp: 22.7⁰C; Tissue Temp: 21.2⁰C

Probe: EX3DV4 - SN7410; ConvF:(9.57,9.57,9.57); 2023-07-07
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1583; 2023-07-10
Phantom: Twin-SAM V8.0 (Left); Serial: 1964
Measurement SW: DASY Module SAR V16.2.0.1425

835.0 MHz System Verification at 23.0 dBm (200 mW)

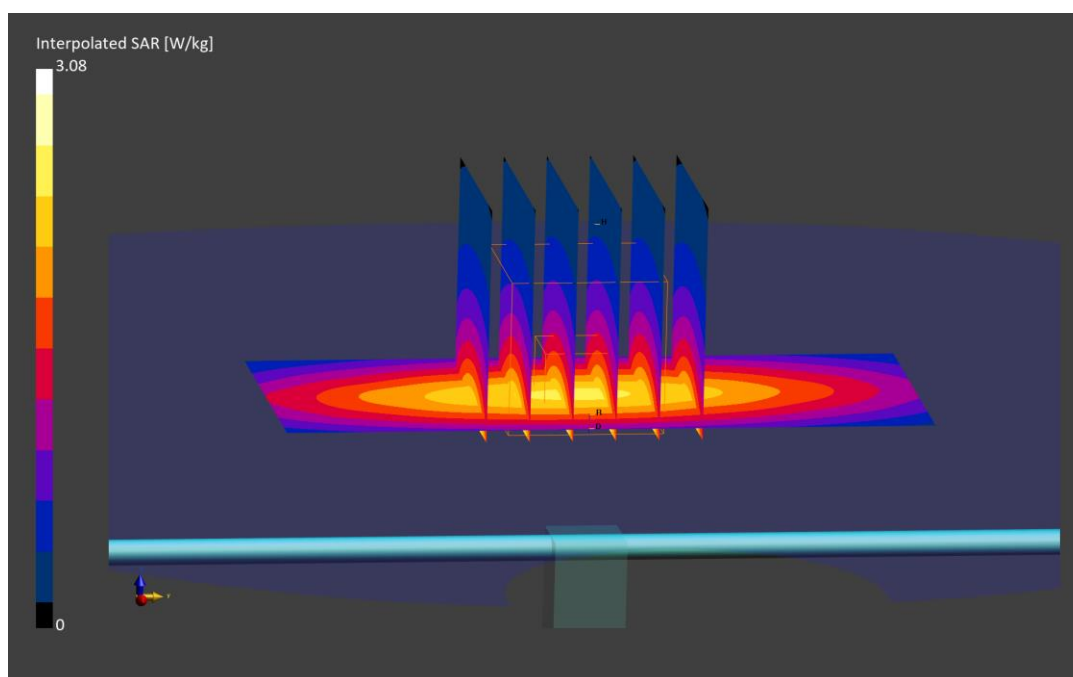
Area Scan (40.0 x 90.0): Measurement grid: dx=10.0 mm, dy=15.0 mm

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) = 3.08 W/kg

SAR(1 g) = 2.05 W/kg; SAR(10 g) = 1.36 W/kg

Deviation (1 g) = 6.22%



ELEMENT

DUT: Dipole 835.0 MHz; Type: D835V2 - SN4d047

Communication System: UID: 0, CW; Frequency: 835.0 MHz
Medium: 835 Head; Medium parameters used:
f = 835.0 MHz; cond = 0.875 S/m; perm = 40.4; density = 1000 kg/m³
Phantom Section: Flat; Space: 15 mm

Test Date: 11/03/2023; Ambient Temp: 22.4⁰C; Tissue Temp: 20.7⁰C

Probe: EX3DV4 - SN7410; ConvF:(9.57,9.57,9.57); 2023-07-07
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1583; 2023-07-10
Phantom: Twin-SAM V8.0 (Left); Serial: 1964
Measurement SW: DASY Module SAR V16.2.0.1425

835.0 MHz System Verification at 23.0 dBm (200 mW)

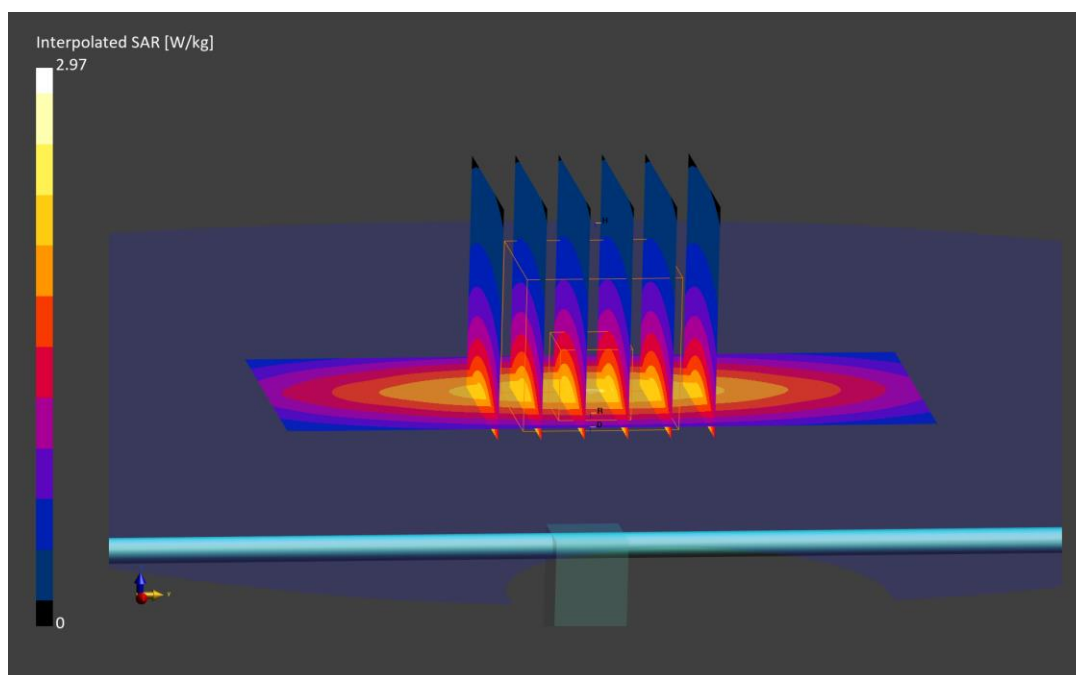
Area Scan (40.0 x 90.0): Measurement grid: dx=10.0 mm, dy=15.0 mm

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) = 2.97 W/kg

SAR(1 g) = 1.95 W/kg; SAR(10 g) = 1.28 W/kg

Deviation (1 g) = 1.04%



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 = 1.41 S/m; perm = 38.2; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 10/06/2023; Ambient Temp: 22.0⁰C; Tissue Temp: 20.7⁰C

Probe: EX3DV4 - SN7410; ConvF:(8.12,8.12,8.12); 2023-07-07
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1583; 2023-07-10
Phantom: Twin-SAM V8.0 (Left); Serial: 1964
Measurement SW: DASY Module SAR V16.2.0.1425

1900.0 MHz System Verification at 20.0 dBm (100 mW)

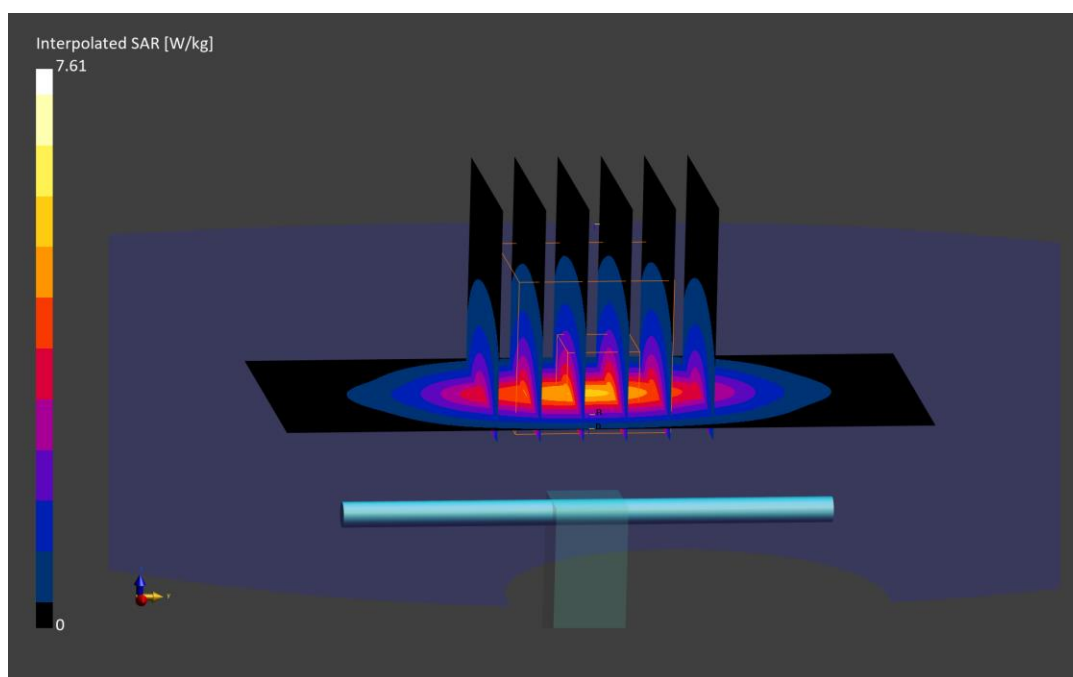
Area Scan (40.0 x 90.0): Measurement grid: dx=10.0 mm, dy=15.0 mm

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) = 7.61 W/kg

SAR(1 g) = 4.07 W/kg; SAR(10 g) = 2.12 W/kg

Deviation (1 g) = 2.78%



ELEMENT

DUT: Dipole 2450.0 MHz; Type: D2450V2 - SN981

Communication System: UID: 0, CW; Frequency: 2450.0 MHz
Medium: 835 Head; Medium parameters used:
f = 2450.0 MHz; cond = 1.79 S/m; perm = 38.8; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 10/30/2023; Ambient Temp: 20.4⁰C; Tissue Temp: 20.0⁰C

Probe: EX3DV4 - SN7410; ConvF:(7.42,7.42,7.42); 2023-07-07
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1583; 2023-07-10
Phantom: Twin-SAM V8.0 (Left); Serial: 1964
Measurement SW: DASY Module SAR V16.2.0.1425

2450.0 MHz System Verification at 20.0 dBm (100 mW)

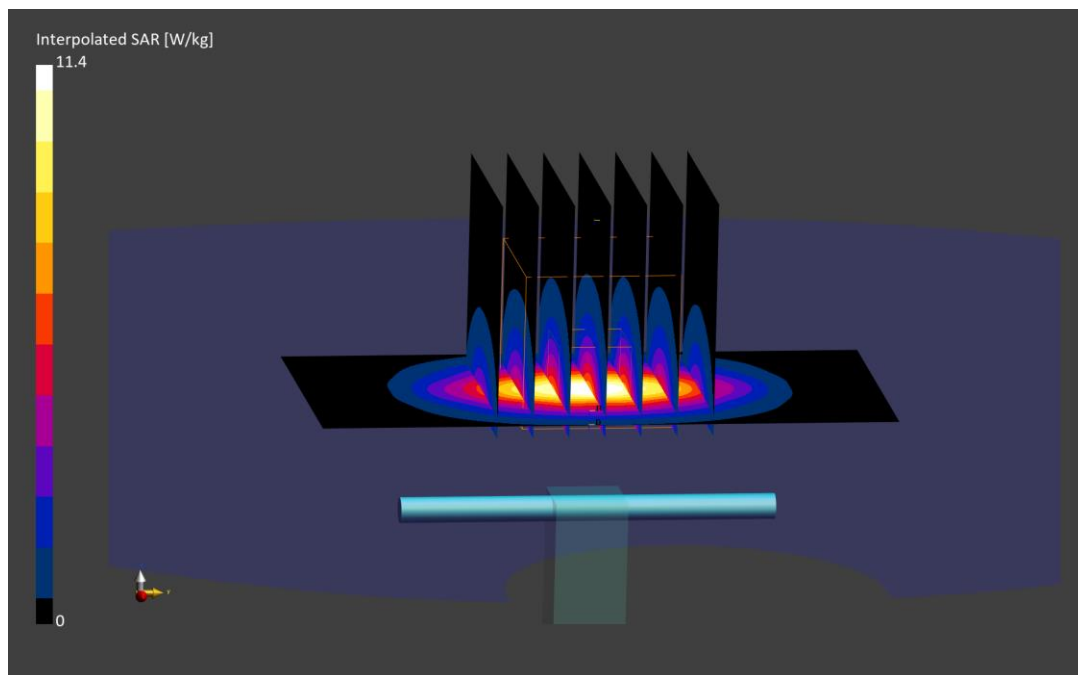
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

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) = 11.4 W/kg

SAR(1 g) = 5.70 W/kg; SAR(10 g) = 2.68 W/kg

Deviation (1 g) = 5.75%



ELEMENT

DUT: Dipole 2600.0 MHz; Type: D2600V2 - SN1064

Communication System: UID: 0, CW; Frequency: 2600.0 MHz
Medium: 1750 Head; Medium parameters used:
f = 2600.0 MHz; cond = 1.89 S/m; perm = 38.6; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 10/25/2023; Ambient Temp: 21.4⁰C; Tissue Temp: 20.6⁰C

Probe: EX3DV4 - SN7410; ConvF:(7.33,7.33,7.33); 2023-07-07
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1583; 2023-07-10
Phantom: Twin-SAM V8.0 (Left); Serial: 1964
Measurement SW: DASY Module SAR V16.2.0.1425

2600.0 MHz System Verification at 20.0 dBm (100 mW)

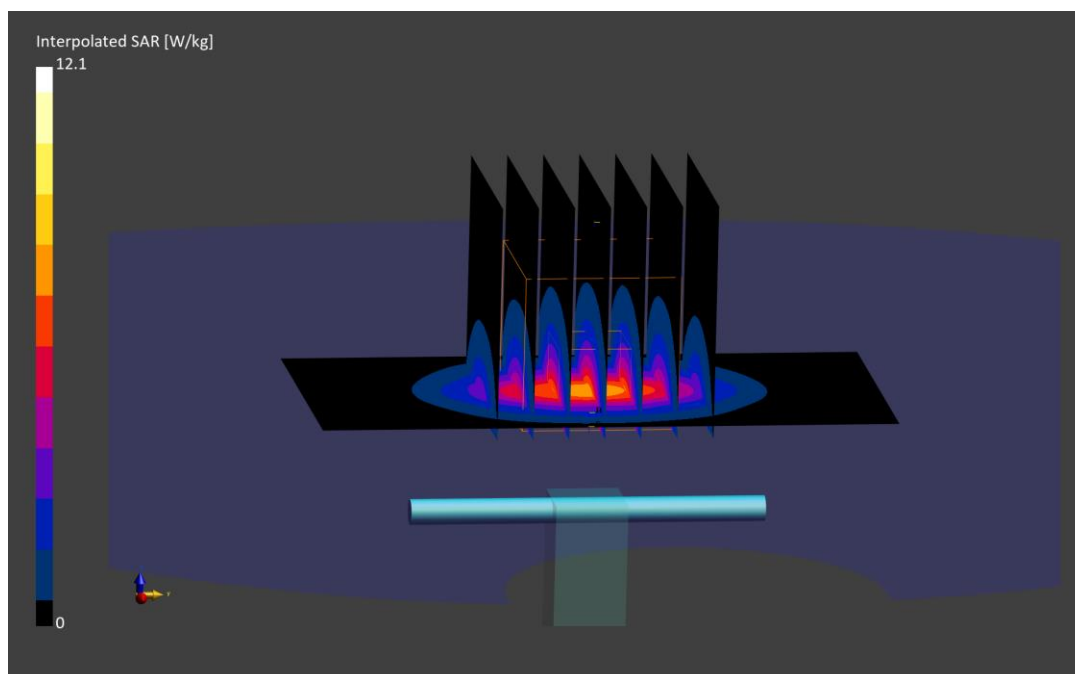
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

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) = 12.1 W/kg

SAR(1 g) = 5.83 W/kg; SAR(10 g) = 2.64 W/kg

Deviation (1 g) = 3.37%



ELEMENT

DUT: Dipole 2600.0 MHz; Type: D2600V2 - SN1064

Communication System: UID: 0, CW; Frequency: 2600.0 MHz
Medium: 835 Head; Medium parameters used:
f = 2600.0 MHz; cond = 1.91 S/m; perm = 38.6; density = 1000 kg/m³
Phantom Section: Flat; Space: 10 mm

Test Date: 10/30/2023; Ambient Temp: 20.4⁰C; Tissue Temp: 20.0⁰C

Probe: EX3DV4 - SN7410; ConvF:(7.33,7.33,7.33); 2023-07-07
Sensor-Surface: 1.4mm (VMS + 6p)
Electronics: DAE4 Sn1583; 2023-07-10
Phantom: Twin-SAM V8.0 (Left); Serial: 1964
Measurement SW: DASY Module SAR V16.2.0.1425

2600.0 MHz System Verification at 20.0 dBm (100 mW)

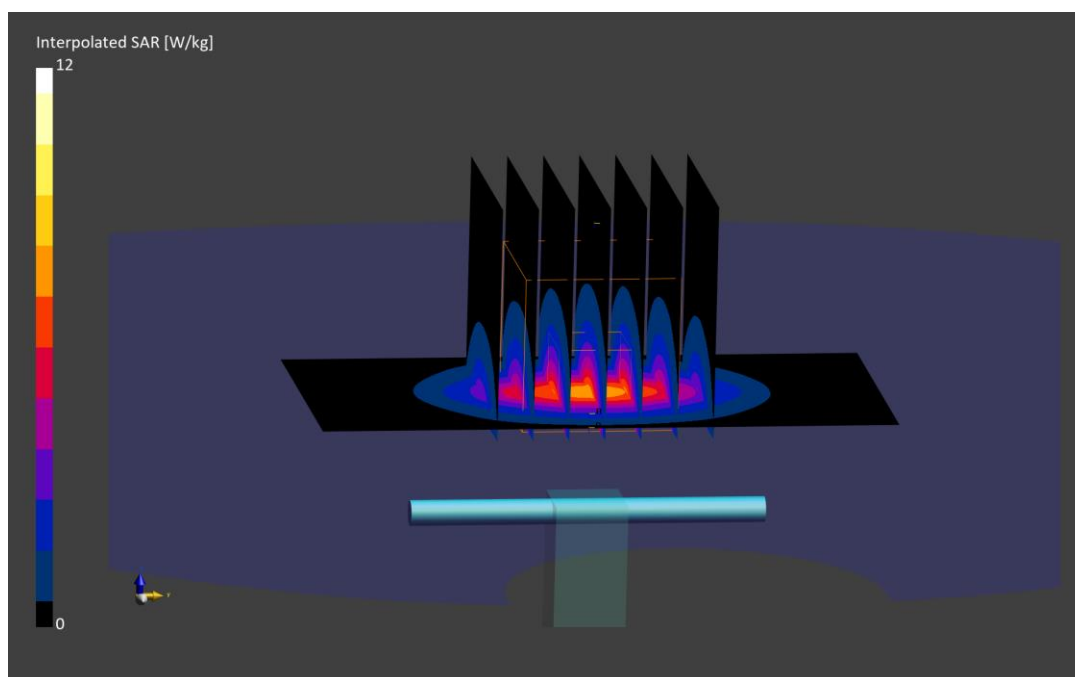
Area Scan (40.0 x 80.0): Measurement grid: dx=10.0 mm, dy=10.0 mm

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) = 12.0 W/kg

SAR(1 g) = 5.84 W/kg; SAR(10 g) = 2.65 W/kg

Deviation (1 g) = 3.55%



ELEMENT

Date: 11/07/2023
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 - SN9541_F1-55GHz, 2023-05-19	DAE4 Sn1415, 2023-02-15

Software Setup

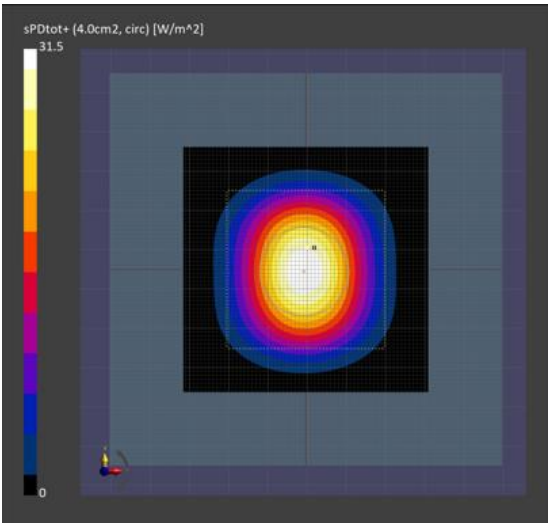
Software	Software Version
cDasy6 Module mmWave	3.2.0.1840

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]	5.55

Measurement Results

Scan Type	5G Scan
Avg. Area [cm²]	4.00
pS _{tot} avg [W/m²]	28.9
pS _n avg [W/m²]	28.2
E _{peak} [V/m]	124
Power Drift [dB]	0.12



ELEMENT

Date: 11/06/2023
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, 2021-12-13	DAE4 Sn859, 2022-12-13

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]	5.55

Measurement Results

Scan Type	5G Scan
Avg. Area [cm²]	4.00
pS _{tot} avg [W/m²]	26.8
pS _n avg [W/m²]	26.5
E _{peak} [V/m]	116
Power Drift [dB]	-0.06

