

APPENDIX B: SYSTEM VERIFICATION PLOTS

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 = 5.91 S/m; perm = 34.4; density = 1000 kg/m³

Phantom Section: Flat; Space: 5 mm

Test Date: 07/07/2022; Ambient Temp: 21.9°C; Tissue Temp: 19.9°C

Probe: EX3DV4 - SN7421; ConvF:(5.3,5.3,5.3); Calibrated: 2022-03-22

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

Electronics: DAE4 Sn604; Calibrated: 2022-03-22

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

Measurement SW: DASY Module SAR V16.0.2.136

6500.0 MHz System Verification at 14.0 dBm (25 mW)

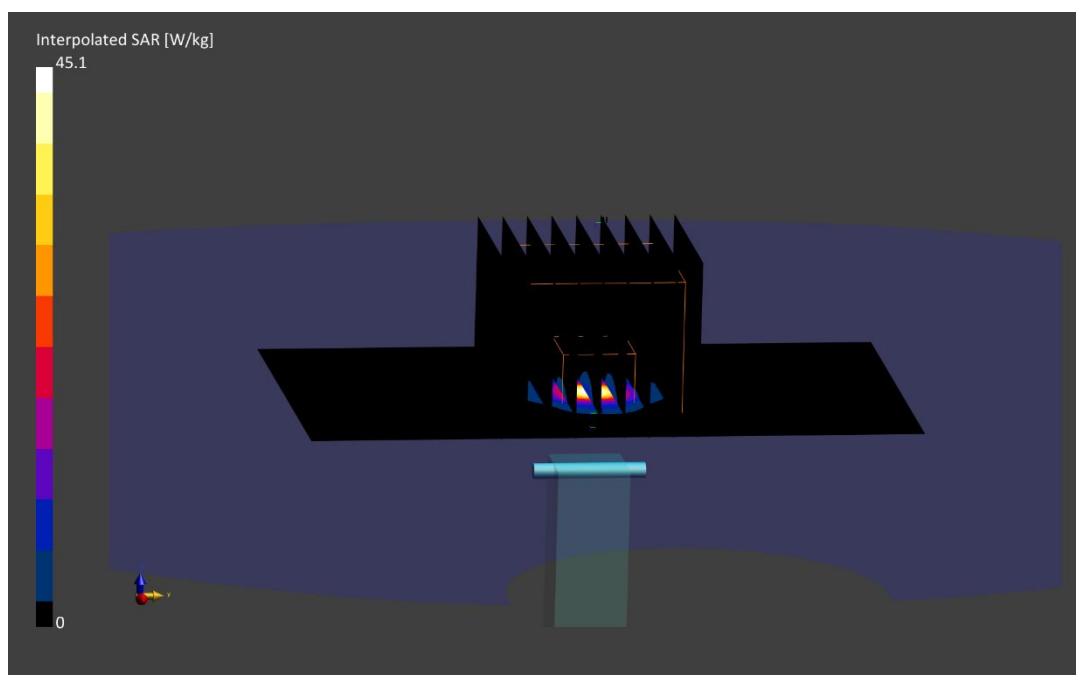
Area Scan (51.0 x 85.0): Measurement grid: dx=8.5 mm, dy=8.5 mm

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) = 45.1 W/kg

SAR(1 g) = 7.32 W/kg; SAR(10 g) = 1.35 W/kg; APD(4 cm²) = 33.0 W/m²

Deviation (1 g) = 2.74%; Deviation (10 g) = 2.66%; Deviation (4 cm²) = 1.54%



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 = 5.87 S/m; perm = 34.0; density = 1000 kg/m³

Phantom Section: Flat; Space: 5 mm

Test Date: 07/15/2022; Ambient Temp: 21.9°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7421; ConvF:(5.3,5.3,5.3); Calibrated: 2022-03-22

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

Electronics: DAE4 Sn604; Calibrated: 2022-03-22

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

Measurement SW: DASY Module SAR V16.0.2.136

6500.0 MHz System Verification at 14.0 dBm (25 mW)

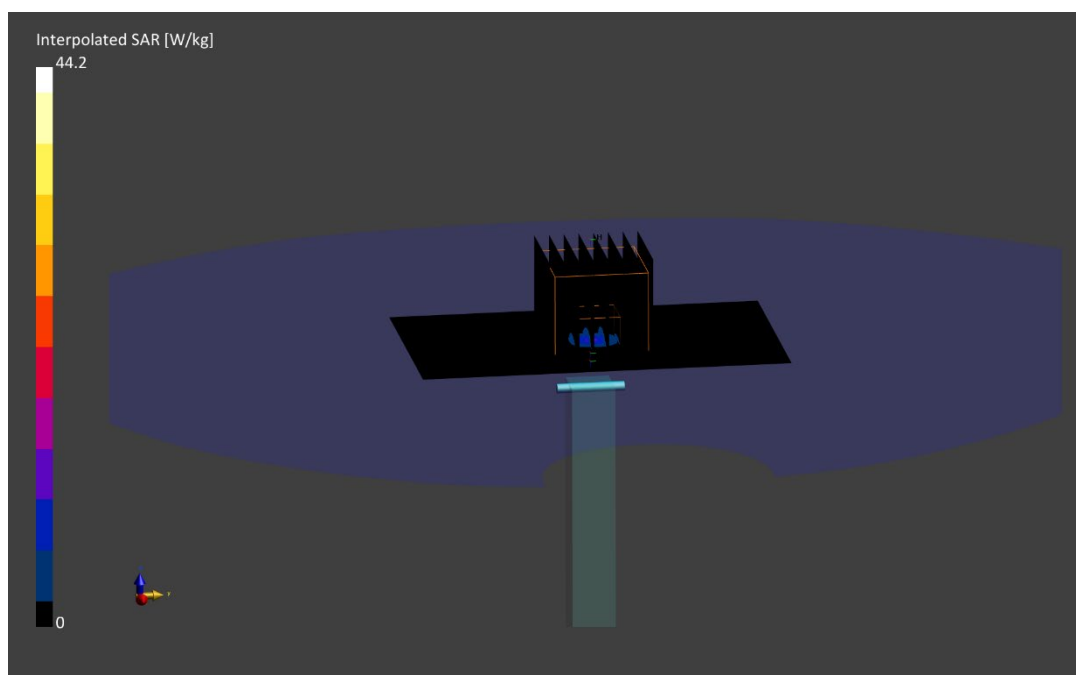
Area Scan (51.0 x 85.0): Measurement grid: dx=8.5 mm, dy=8.5 mm

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) = 44.2 W/kg

SAR(1 g) = 7.27 W/kg; SAR(10 g) = 1.33 W/kg; APD(4 cm²) = 32.4 W/m²

Deviation (1 g) = 2.04%; Deviation (10 g) = 1.14%; Deviation (4 cm²) = -0.31%



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; $\text{cond} = 6.11$ S/m; $\text{perm} = 34.7$; $\text{density} = 1000$ kg/m³

Phantom Section: Flat; Space: 5 mm

Test Date: 09/07/2022; Ambient Temp: 20.0°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7416; ConvF:(5.25,5.25,5.25); Calibrated: 2022-05-18

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

Electronics: DAE4 Sn701; Calibrated: 2022-05-16

Phantom: Twin-SAM V8.0; Serial: 2071

Measurement SW: DASY Module SAR V16.0.2.83

6500.0 MHz System Verification at 14.0 dBm (25 mW)

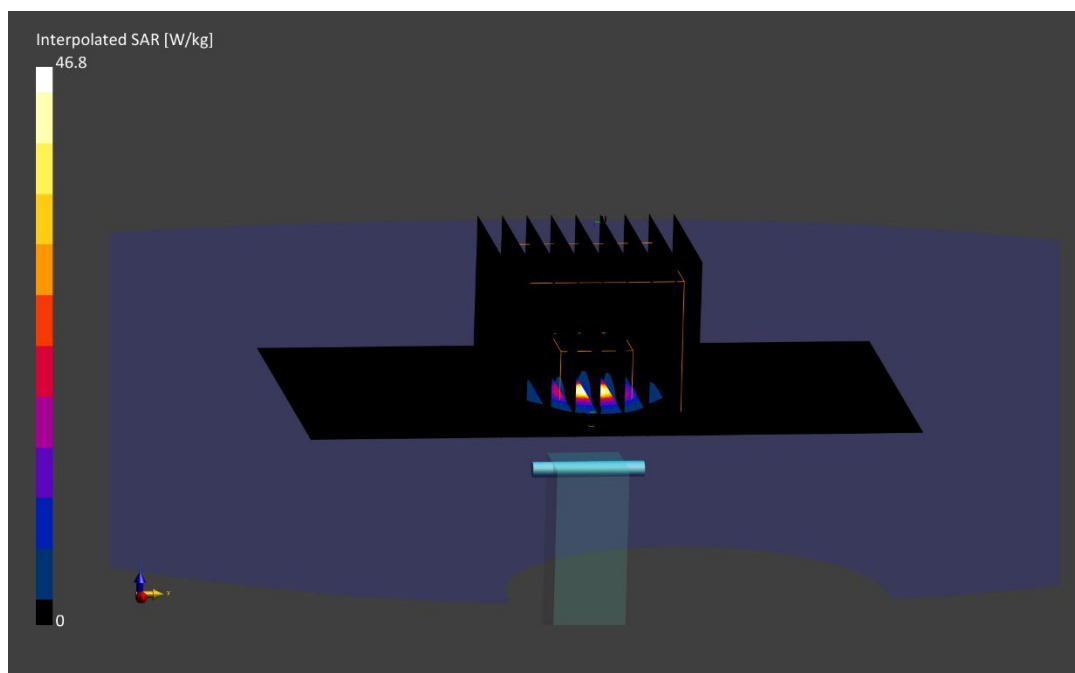
Area Scan (51.0 x 85.0): Measurement grid: $dx=8.5$ mm, $dy=8.5$ mm

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) = 46.8 W/kg

SAR(1 g) = 7.43 W/kg; SAR(10 g) = 1.38 W/kg; APD (4 cm²) = 33.6 W/m²

Deviation (1 g) = 4.28%; Deviation (10 g) = 4.94%; Deviation (4 cm²) = 3.38%



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 = 6.26 S/m; perm = 34.4; density = 1000 kg/m³

Phantom Section: Flat; Space: 5 mm

Test Date: 09/20/2022; Ambient Temp: 21.5°C; Tissue Temp: 20.1°C

Probe: EX3DV4 - SN7421; ConvF:(5.3,5.3,5.3); Calibrated: 2022-03-22

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

Electronics: DAE4 Sn604; Calibrated: 2022-03-22

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

Measurement SW: DASY Module SAR V16.0.2.136

6500.0 MHz System Verification at 14.0 dBm (25 mW)

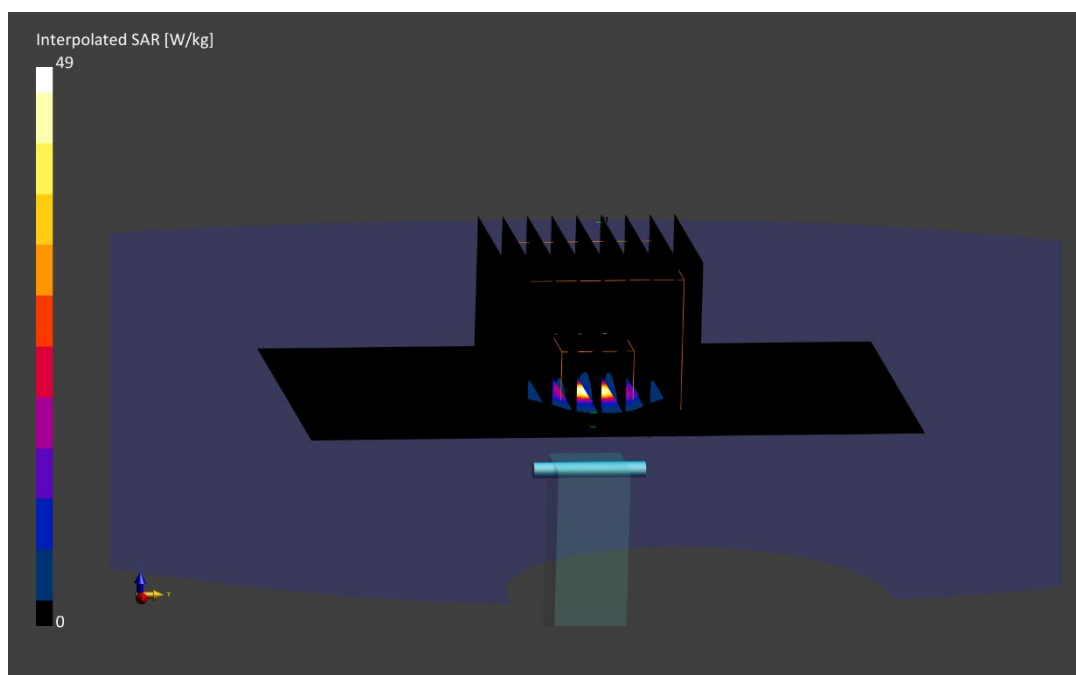
Area Scan (51.0 x 85.0): Measurement grid: dx=8.5 mm, dy=8.5 mm

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) = 49.0 W/kg

SAR(1 g) = 7.65 W/kg; SAR(10 g) = 1.39 W/kg; APD (4 cm²) = 34.0 W/m²

Deviation (1 g) = 7.37 %; Deviation (10 g) = 5.7 %; Deviation (4 cm²) = 4.62%



ELEMENT

Date: 07/07/2022

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 - SN9416, 12/13/2021	DAE4 SN1333, 10/20/2021

Software Setup

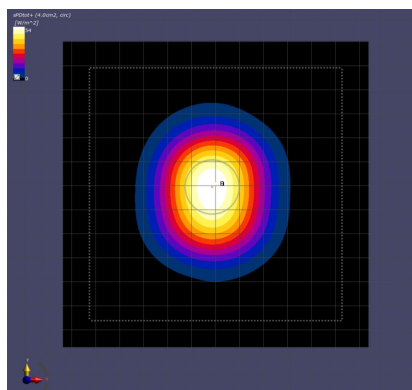
Software	Software Version
cDASY6 Module mmWave	3.0.0.841

Scans Setup

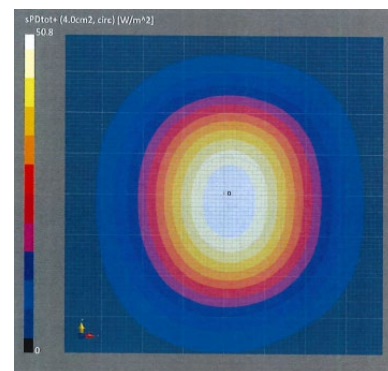
Scan Type	5G Scan
Grid Extents [mm]	120 x 120
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	10.00

Measurement Results

Scan Type	5G Scan
Avg. Area [cm ²]	4.00
pS _{tot} avg [W/m ²]	54.0
pS _n avg [W/m ²]	53.8
E _{peak} [V/m]	152.0
pS _{tot} Deviation (dB)	0.27
pS _n Deviation (dB)	0.25



10 GHz System Verification



Calibration Certificate

ELEMENT

Date: 08/26/2022

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 - SN9364, 6/16/2022	DAE4 SN1333, 10/20/2021

Software Setup

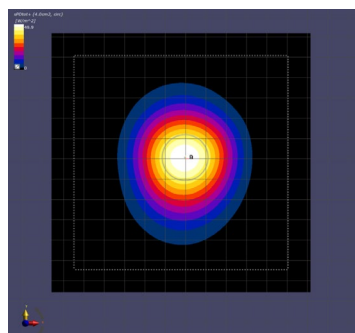
Software	Software Version
cDASY6 Module mmWave	3.0.0.841

Scans Setup

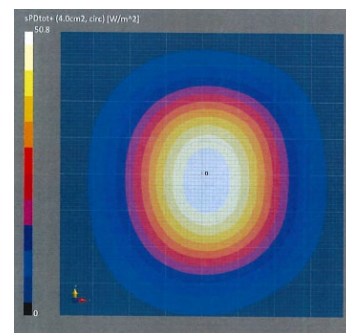
Scan Type	5G Scan
Grid Extents [mm]	120 x 120
Grid Steps [lambda]	0.25 x 0.25
Sensor Surface [mm]	10.00

Measurement Results

Scan Type	5G Scan
Avg. Area [cm ²]	4.00
pS _{tot} avg [W/m ²]	49.9
pS _n avg [W/m ²]	49.6
E _{peak} [V/m]	147.0
pS _{tot} Deviation (dB)	-0.08
pS _n Deviation (dB)	-0.10



10 GHz System Verification



Calibration Certificate