

## APPENDIX B: SYSTEM VERIFICATION

# PCTEST

**DUT: Dipole 750.0 MHz; Type: D750V3 - SN1161**

Communication System: UID: 0, CW; Frequency: 750.0 MHz  
Medium: 750 Head; Medium parameters used:  
f = 750.0 MHz; cond = 0.905 S/m; perm = 41.0; density = 1000 kg/m<sup>3</sup>  
Phantom Section: Flat Section; Space: 1.5 cm

Test Date: 08/23/2021; Ambient Temp: 22.9°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN7406; ConvF:(10.08,10.08,10.08); Calibrated: 2021-07-20

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

Electronics: DAE4 Sn1676; Calibrated: 2021-06-21

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

Measurement SW: cDASY8 Module SAR V16.0.0.65

## 750.0 MHz System Verification at 23.0 dBm

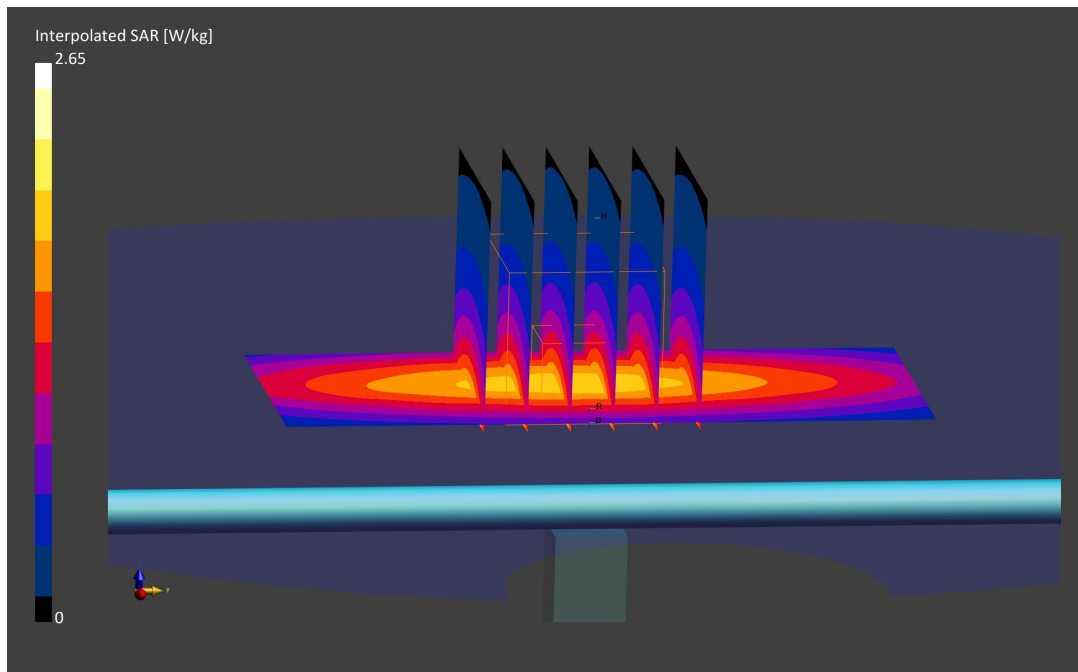
**Area Scan (40.0 x 90.0):** Measurement grid: dx=10.0 mm, dy=15.0 mm

**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) = 1.66 W/kg**

Deviation (1 g) = 3.36%



# PCTEST

**DUT: Dipole 835.0 MHz; Type: D835V2 - SN4d132**

Communication System: UID: 0, CW; Frequency: 835.0 MHz  
Medium: 835 Head; Medium parameters used:  
f = 835.0 MHz; cond = 0.937 S/m; perm = 40.7; density = 1000 kg/m<sup>3</sup>  
Phantom Section: Flat Section; Space: 1.5 cm

Test Date: 08/23/2021; Ambient Temp: 22.9°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN7406; ConvF:(9.68,9.68,9.68); Calibrated: 2021-07-20  
Sensor-Surface: 1.4mm (VMS + 6p)  
Electronics: DAE4 Sn1676; Calibrated: 2021-06-21  
Phantom: Twin-SAM V8.0; Serial: 2058  
Measurement SW: cDASY8 Module SAR V16.0.0.65

## 835.0 MHz System Verification at 23.0 dBm

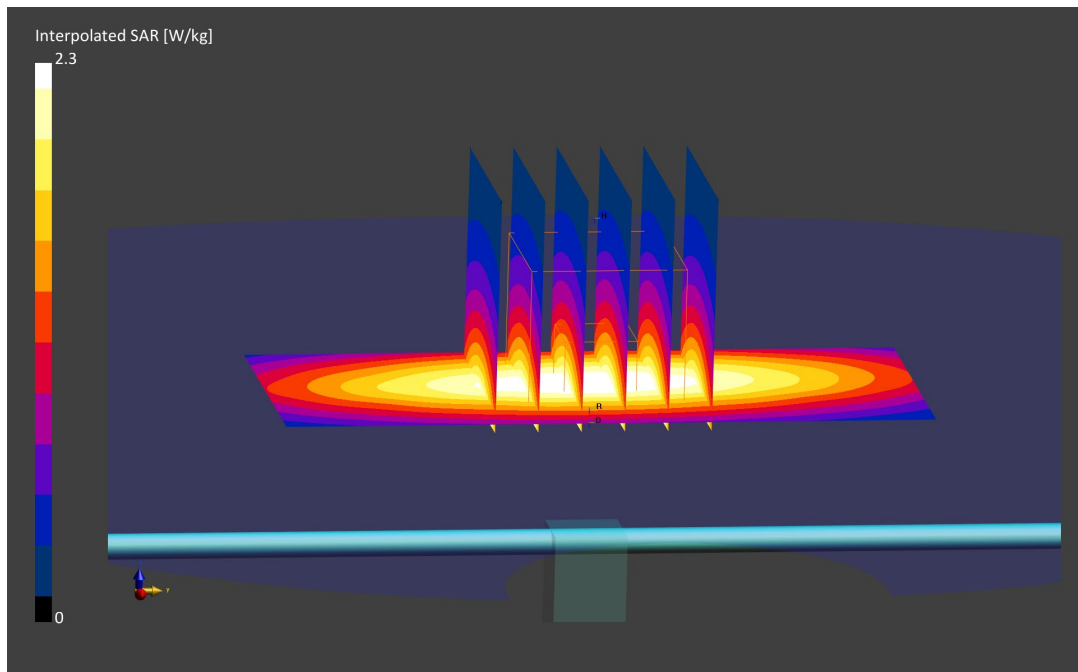
**Area Scan (40.0 x 90.0):** Measurement grid: dx=10.0 mm, dy=15.0 mm

**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) = 3.22W/kg

**SAR(1 g) = 1.97 W/kg**

Deviation (1 g) = 1.97%



# PCTEST

**DUT: Dipole 835.0 MHz; Type: D835V2 - SN4d132**

Communication System: UID: 0, CW; Frequency: 835.0 MHz  
Medium: 835 Head; Medium parameters used:  
f = 835.0 MHz; cond = 0.928 S/m; perm = 40.4; density = 1000 kg/m<sup>3</sup>  
Phantom Section: Flat Section; Space: 1.5 cm

Test Date: 08/25/2021; Ambient Temp: 24.0°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7406; ConvF:(9.68,9.68,9.68); Calibrated: 2021-07-20  
Sensor-Surface: 1.4mm (VMS + 6p)  
Electronics: DAE4 Sn1676; Calibrated: 2021-06-21  
Phantom: Twin-SAM V8.0; Serial: 2058  
Measurement SW: cDASY8 Module SAR V16.0.0.65

## 835.0 MHz System Verification at 23.0 dBm

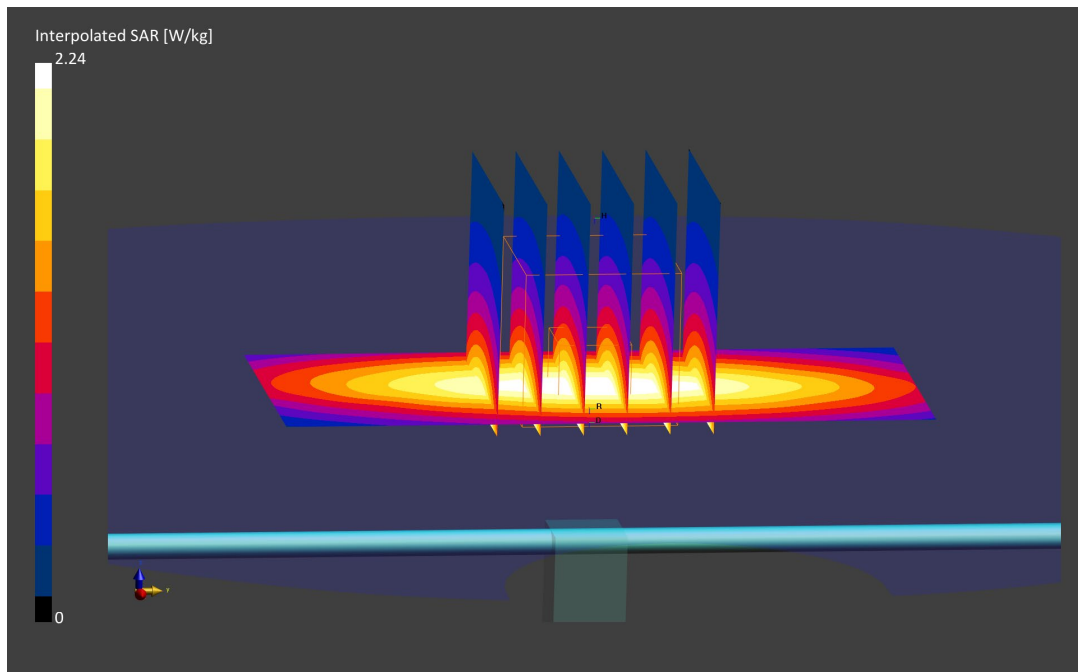
**Area Scan (40.0 x 90.0):** Measurement grid: dx=10.0 mm, dy=15.0 mm

**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) = 2.99 W/kg

**SAR(1 g) = 1.87 W/kg**

Deviation (1 g) = -3.21%



# PCTEST

**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 = 1.37 S/m; perm = 38.5; density = 1000 kg/m<sup>3</sup>  
Phantom Section: Flat Section; Space: 1.0 cm

Test Date: 08/25/2021; Ambient Temp: 24.0°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7406; ConvF:(8.26,8.26,8.26); Calibrated: 2021-07-20  
Sensor-Surface: 1.4mm (VMS + 6p)  
Electronics: DAE4 Sn1676; Calibrated: 2021-06-21  
Phantom: Twin-SAM V8.0; Serial: 2058  
Measurement SW: cDASY8 Module SAR V16.0.0.65

## 1750.0 MHz System Verification at 20.0 dBm

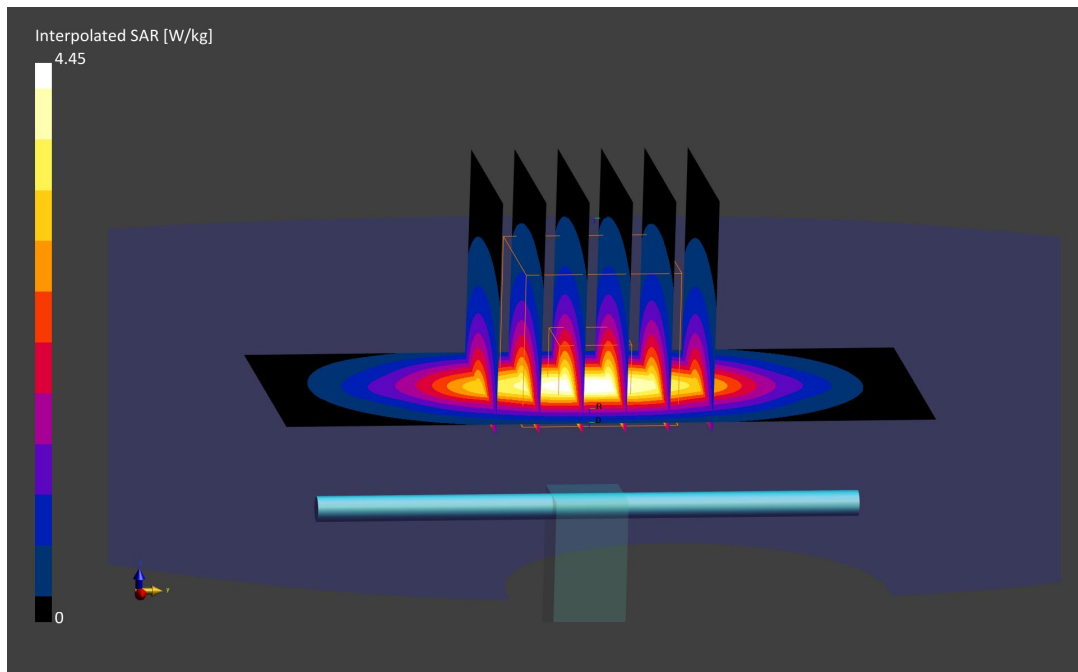
**Area Scan (40.0 x 90.0):** Measurement grid: dx=10.0 mm, dy=15.0 mm

**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) = 6.81 W/kg

**SAR(1 g) = 3.57 W/kg**

Deviation (1 g) = -2.19%



# PCTEST

**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 = 1.37 S/m; perm = 38.3; density = 1000 kg/m<sup>3</sup>  
Phantom Section: Flat Section; Space: 1.0 cm

Test Date: 08/29/2021; Ambient Temp: 23.5°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN7406; ConvF:(8.26,8.26,8.26); Calibrated: 2021-07-20  
Sensor-Surface: 1.4mm (VMS + 6p)  
Electronics: DAE4 Sn1676; Calibrated: 2021-06-21  
Phantom: Twin-SAM V8.0; Serial: 2058  
Measurement SW: cDASY8 Module SAR V16.0.0.65

## 1750.0 MHz System Verification at 20.0 dBm

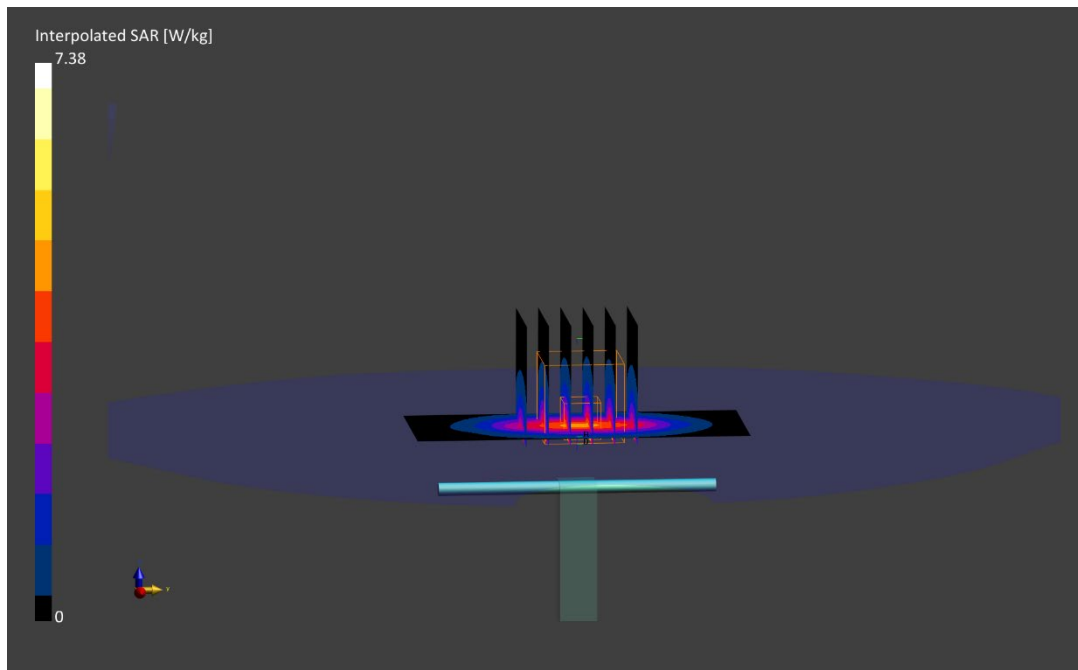
**Area Scan (40.0 x 90.0):** Measurement grid: dx=10.0 mm, dy=15.0 mm

**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) = 7.38 W/kg

**SAR(1 g) = 3.74 W/kg**

Deviation (1 g) = 2.47%



# PCTEST

**DUT: Dipole 1900.0; 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 = 38.8; density = 1000 kg/m<sup>3</sup>  
Phantom Section: Flat Section; Space: 1.0 cm

Test Date: 08/24/2021; Ambient Temp: 24.5°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN7660; ConvF:(9.06,9.06,9.06); Calibrated: 2021-06-28  
Sensor-Surface: 1.4mm (VMS + 6p)  
Electronics: DAE4 Sn1677; Calibrated: 2021-06-22  
Phantom: Twin-SAM V8.0; Serial: 2056  
Measurement SW: cDASY8 Module SAR V16.0.0.65

## 1900.0 MHz System Verification at 20.0 dBm

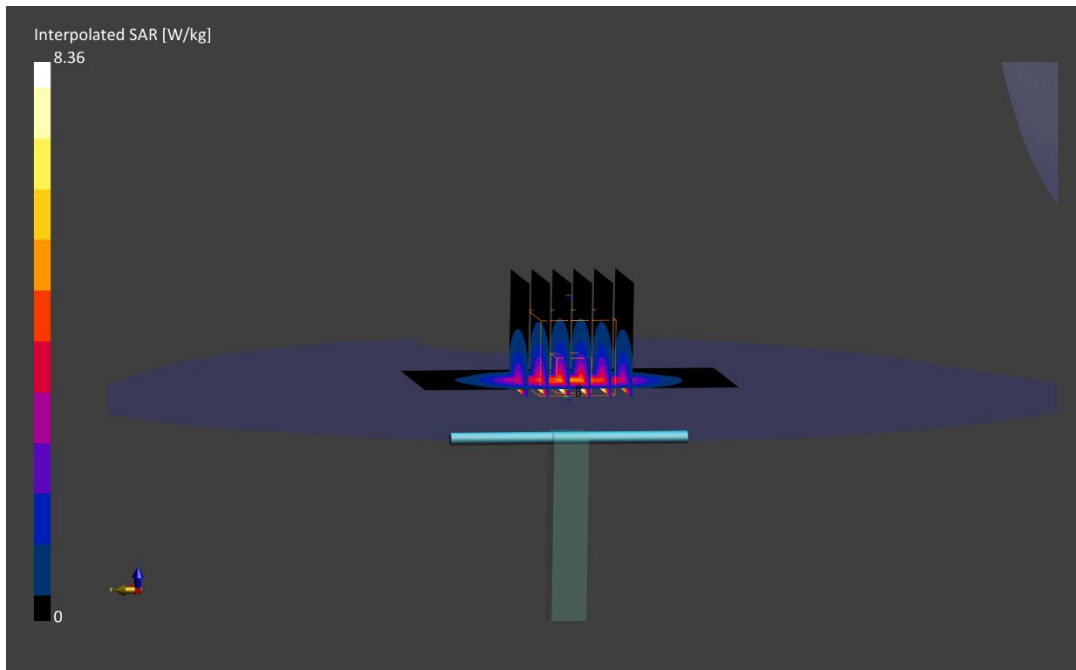
**Area Scan (40.0 x 90.0):** Measurement grid: dx=10.0 mm, dy=15.0 mm

**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) = 8.36 W/kg

**SAR(1 g) = 4.17 W/kg**

Deviation (1g) = 6.11%



# PCTEST

**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 = 1.46 S/m; perm = 38.8; density = 1000 kg/m<sup>3</sup>  
Phantom Section: Flat Section; Space: 1.0 cm

Test Date: 08/31/2021; Ambient Temp: 24.3°C; Tissue Temp: 20.9°C

Probe: EX3DV4 - SN7406; ConvF:(7.98,7.98,7.98); Calibrated: 2021-07-20  
Sensor-Surface: 1.4mm (VMS + 6p)  
Electronics: DAE4 Sn1676; Calibrated: 2021-06-21  
Phantom: Twin-SAM V8.0; Serial: 2058  
Measurement SW: cDASY8 Module SAR V16.0.0.65

## 1900.0 MHz System Verification at 20.0 dBm

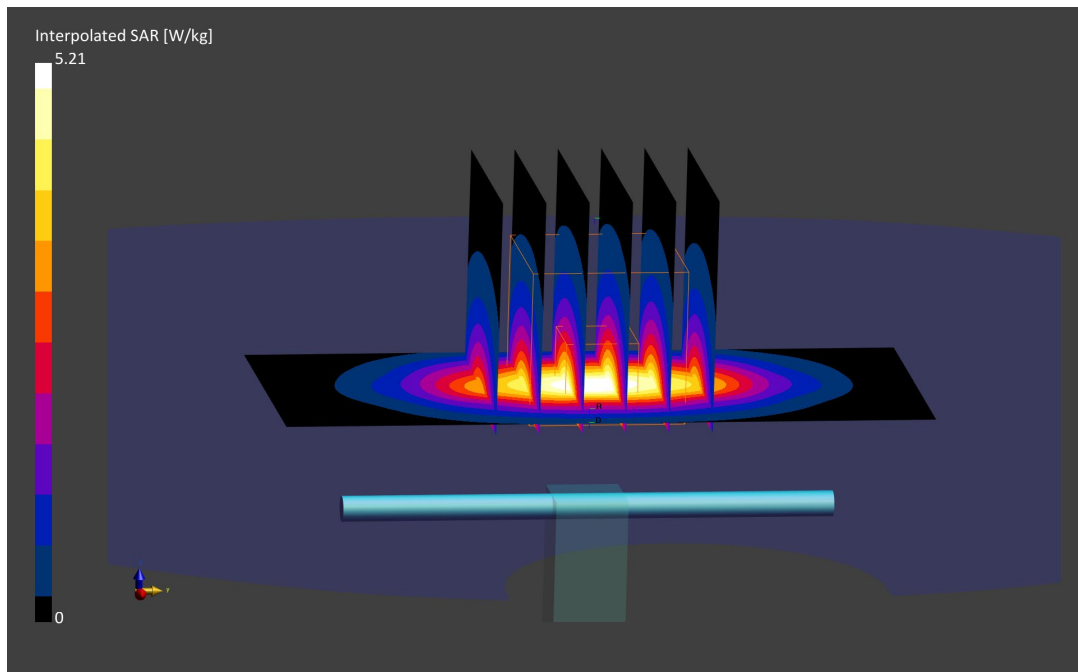
**Area Scan (40.0 x 90.0):** Measurement grid: dx=10.0 mm, dy=15.0 mm

**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) = 8.29 W/kg

**SAR(1 g) = 4.19 W/kg**

Deviation (1 g) = 5.28%





# PCTEST

**DUT: Dipole 2600.0 MHz; Type: D2600V2 - SN1064**

Communication System: UID: 0, CW; Frequency: 2600.0 MHz  
Medium: 2450 Head; Medium parameters used:  
f = 2600.0 MHz; cond = 1.97 S/m; perm = 37.5; density = 1000 kg/m<sup>3</sup>  
Phantom Section: Flat; Space: 1.0 cm

Test Date: 08/19/2021; Ambient Temp: 24.5°C; Tissue Temp: 23.2°C

Probe: EX3DV4 - SN7660; ConvF:(8.26,8.26,8.26); Calibrated: 2021-06-28  
Sensor-Surface: 1.4mm (VMS + 6p)  
Electronics: DAE4 Sn1677; Calibrated: 2021-06-22  
Phantom: Twin-SAM V8.0; Serial: 2056  
Measurement SW: cDASY8 Module SAR V16.0.0.65

## 2600.0 MHz System Verification at 20.0 dBm

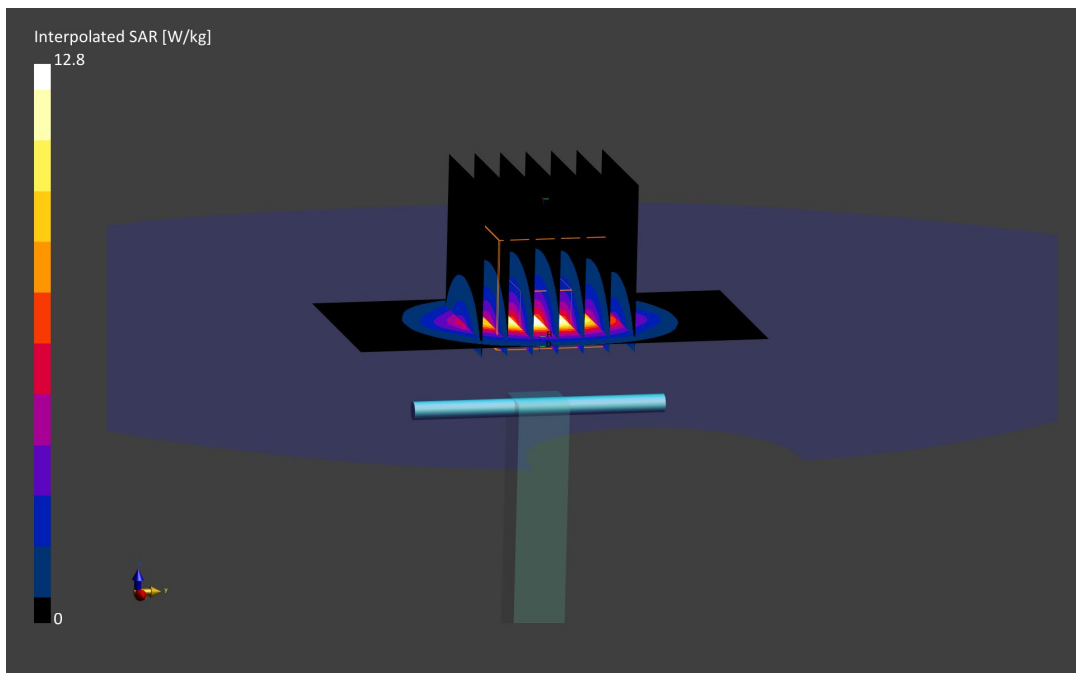
**Area Scan (40.0 x 80.0):** Measurement grid: dx=10.0 mm, dy=10.0 mm

**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) = 12.8 W/kg

**SAR(1 g) = 5.73 W/kg**

Deviation (1 g) = -1.38%



# PCTEST

**DUT: Dipole 750.0 MHz; Type: D750V3 - SN1161**

Communication System: UID: 0, CW; Frequency: 750.0 MHz  
Medium: 750 Body; Medium parameters used:  
f = 750.0 MHz; cond = 0.971 S/m; perm = 53.7; density = 1000 kg/m<sup>3</sup>  
Phantom Section: Flat Section; Space: 1.5 cm

Test Date: 08/23/2021; Ambient Temp: 20.5°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7571; ConvF:(10.24,10.24,10.24); Calibrated: 2020-12-11  
Sensor-Surface: 1.4mm (VMS + 6p)  
Electronics: DAE4 Sn1533; Calibrated: 2020-12-07  
Phantom: Twin-SAM V5.0; Serial: 1648  
Measurement SW: cDASY6 Module SAR V16.0.0.116

## 750.0 MHz System Verification at 23.0 dBm

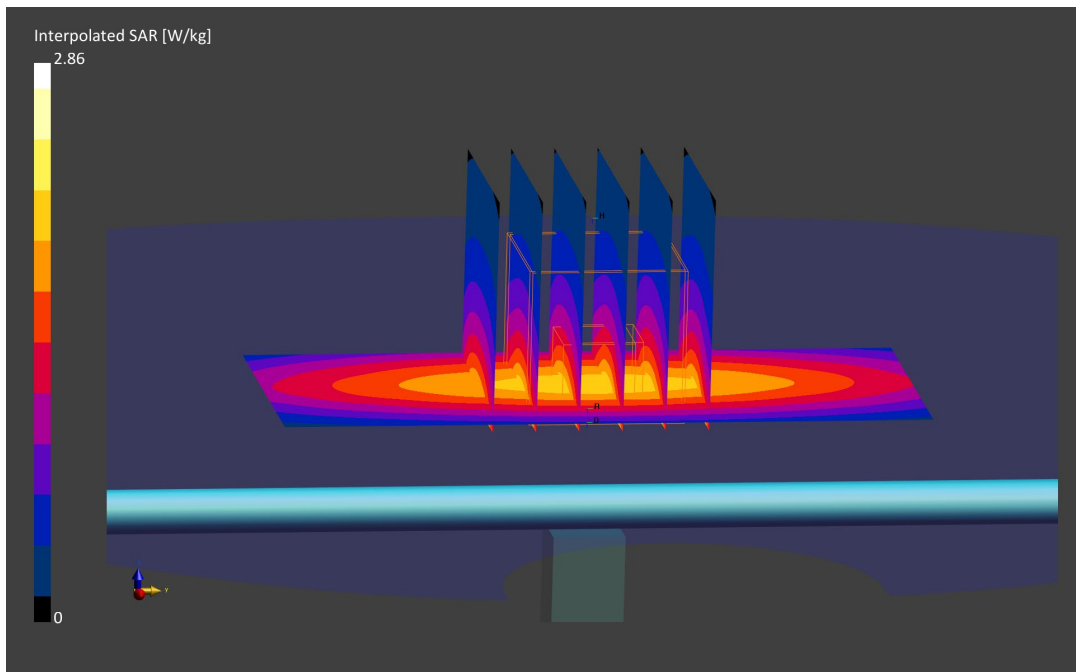
**Area Scan (40.0 x 90.0):** Measurement grid: dx=10.0 mm, dy=15.0 mm

**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) = 2.86 W/kg

**SAR(1 g) = 1.81 W/kg**

Deviation (1 g) = 7.35%



# PCTEST

**DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d133**

Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used:

$f = 835 \text{ MHz}$ ;  $\sigma = 0.943 \text{ S/m}$ ;  $\epsilon_r = 53.258$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 08/25/2021; Ambient Temp: 23.4°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7409; ConvF(9.66, 9.66, 9.66) @ 835 MHz; Calibrated: 6/21/2021

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1334; Calibrated: 6/15/2021

Phantom: Twin-SAM V5.0 Front (20); Type: QD 000 P40 CD; Serial: 1759

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7495)

## 835 MHz System Verification at 23.0 dBm (200 mW)

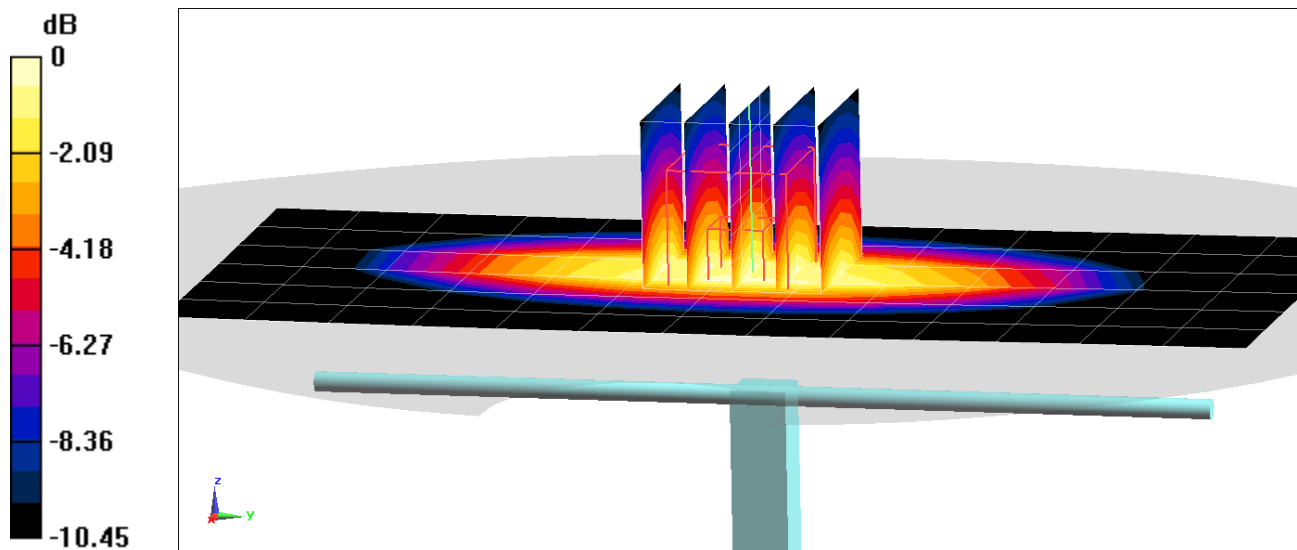
**Area Scan (7x14x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Peak SAR (extrapolated) = 3.06 W/kg

**SAR(1 g) = 2 W/kg**

Deviation(1 g) = 2.56%



0 dB = 2.68 W/kg = 4.28 dBW/kg

# PCTEST

**DUT: Dipole 1750.0 MHz; Type: D1750V2 - SN1150**

Communication System: UID: 0, CW; Frequency: 1750.0 MHz  
Medium: 1750 Body; Medium parameters used:  
f = 1750.0 MHz; cond = 1.49 S/m; perm = 51.6; density = 1000 kg/m<sup>3</sup>  
Phantom Section: Flat Section; Space: 1.0 cm

Test Date: 08/25/2021; Ambient Temp: 23.5°C; Tissue Temp: 22.7°C

Probe: EX3DV4 - SN7571; ConvF:(8.09,8.09,8.09); Calibrated: 2020-12-11  
Sensor-Surface: 1.4mm (VMS + 6p)  
Electronics: DAE4 Sn1533; Calibrated: 2020-12-07  
Phantom: Twin-SAM V5.0; Serial: 1648  
Measurement SW: cDASY6 Module SAR V16.0.0.116

## 1750.0 MHz System Verification at 20.0 dBm

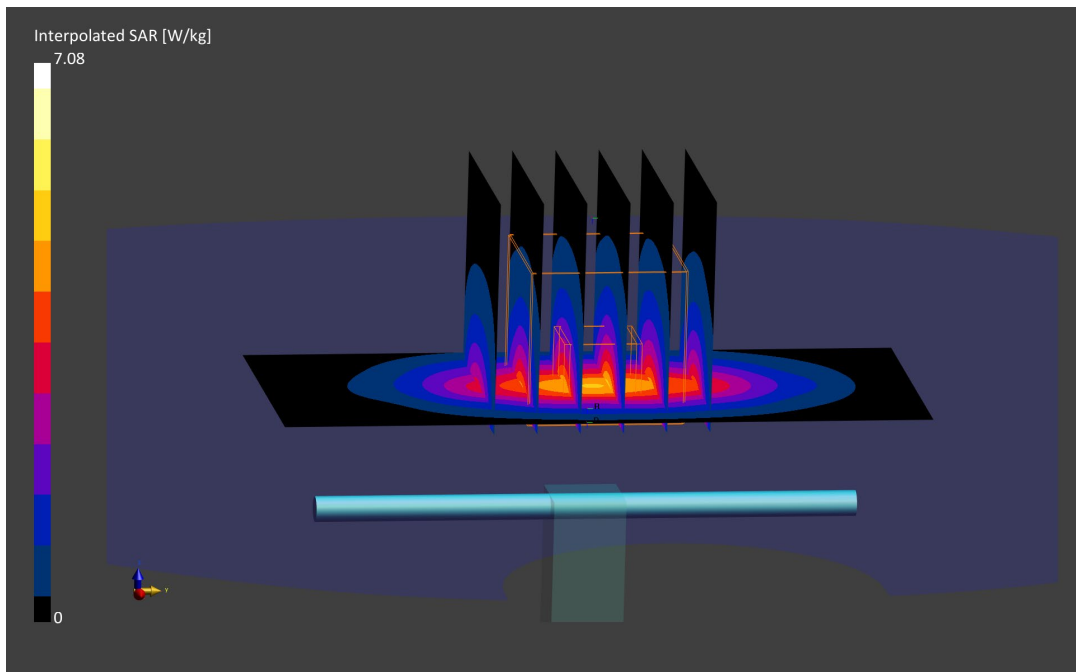
**Area Scan (40.0 x 90.0):** Measurement grid: dx=10.0 mm, dy=15.0 mm

**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) = 7.08 W/kg

**SAR(1 g) = 3.89 W/kg; SAR(10 g) = 2.07 W/kg**

Deviation (1 g) = 6.28%; Deviation (10 g) = 6.70%



# PCTEST

**DUT: Dipole 1750.0 MHz; Type: D1750V2 - SN1148**

Communication System: UID: 0, CW; Frequency: 1750.0 MHz  
Medium: 1750 Body; Medium parameters used:  
f = 1750.0 MHz; cond = 1.49 S/m; perm = 51.3; density = 1000 kg/m<sup>3</sup>  
Phantom Section: Flat Section; Space: 1.0 cm

Test Date: 08/27/2021; Ambient Temp: 23.7°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN7571; ConvF:(8.09,8.09,8.09); Calibrated: 2020-12-11  
Sensor-Surface: 1.4mm (VMS + 6p)  
Electronics: DAE4 Sn1533; Calibrated: 2020-12-07  
Phantom: Twin-SAM V5.0; Serial: 1648  
Measurement SW: cDASY6 Module SAR V16.0.0.116

## 1750.0 MHz System Verification at 20.0 dBm

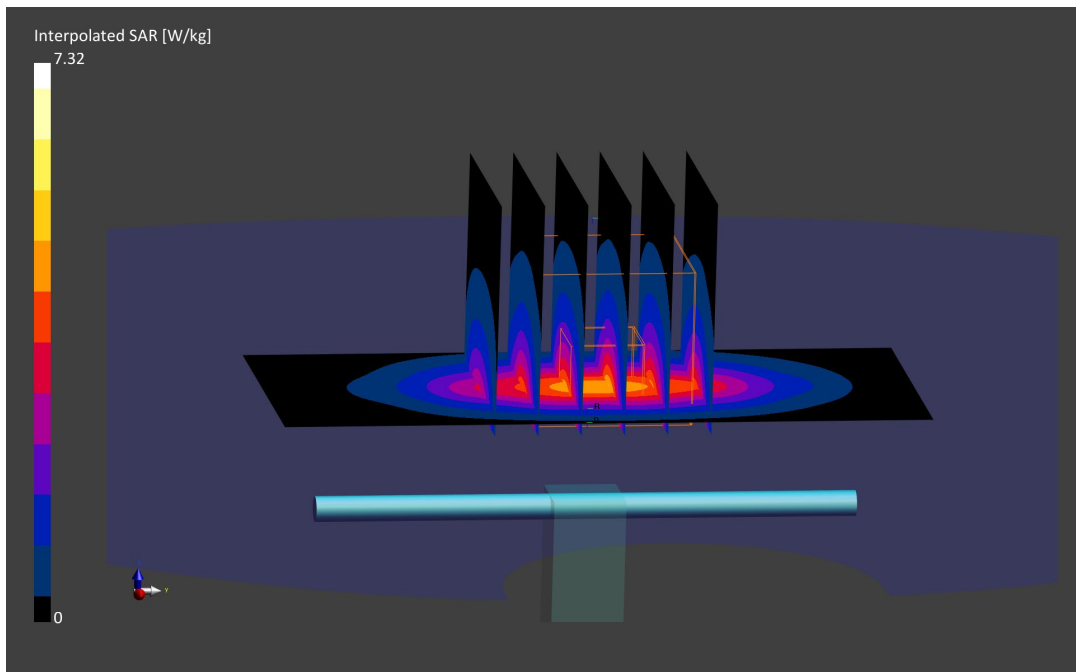
**Area Scan (40.0 x 90.0):** Measurement grid: dx=10.0 mm, dy=15.0 mm

**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) = 7.32 W/kg

**SAR(1 g) = 3.91 W/kg; SAR(10 g) = 2.08 W/kg**

Deviation (1 g) = 7.71%; Deviation (10 g) = 7.77%



# PCTEST

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d149**

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used:

$f = 1900$  MHz;  $\sigma = 1.582$  S/m;  $\epsilon_r = 52.055$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08/23/2021; Ambient Temp: 22.2°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7410; ConvF(7.7, 7.7, 7.7) @ 1900 MHz; Calibrated: 7/20/2021

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1583; Calibrated: 7/13/2021

Phantom: Twin-SAM V5.0 (Front); Type: QD 000 P40 CD; Serial: 1792

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7495)

## 1900 MHz System Verification at 20.0 dBm (100 mW)

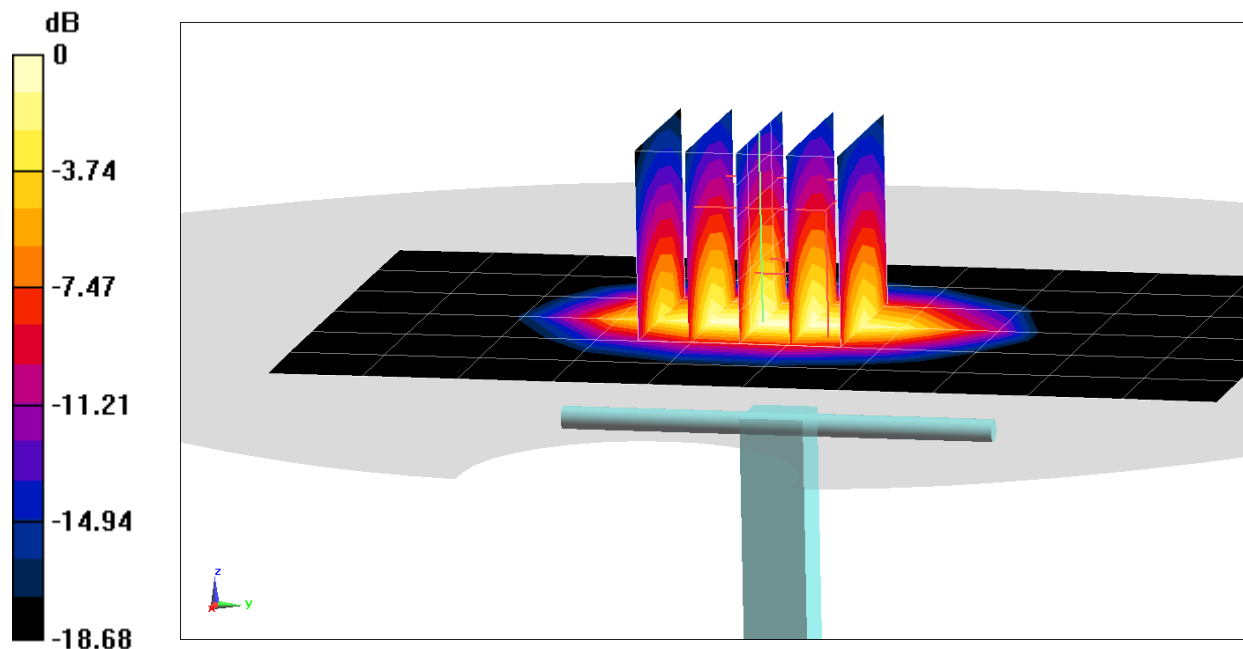
**Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Peak SAR (extrapolated) = 7.60 W/kg

**SAR(1 g) = 4.16 W/kg**

Deviation(1 g) = 5.58%



0 dB = 6.39 W/kg = 8.06 dBW/kg

# PCTEST

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d149**

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used:

$f = 1900$  MHz;  $\sigma = 1.583$  S/m;  $\epsilon_r = 51.276$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 08/25/2021; Ambient Temp: 21.6°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7410; ConvF(7.7, 7.7, 7.7) @ 1900 MHz; Calibrated: 7/20/2021

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1583; Calibrated: 7/13/2021

Phantom: Twin-SAM V5.0 (Front); Type: QD 000 P40 CD; Serial: 1792

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7495)

## 1900 MHz System Verification at 20.0 dBm (100 mW)

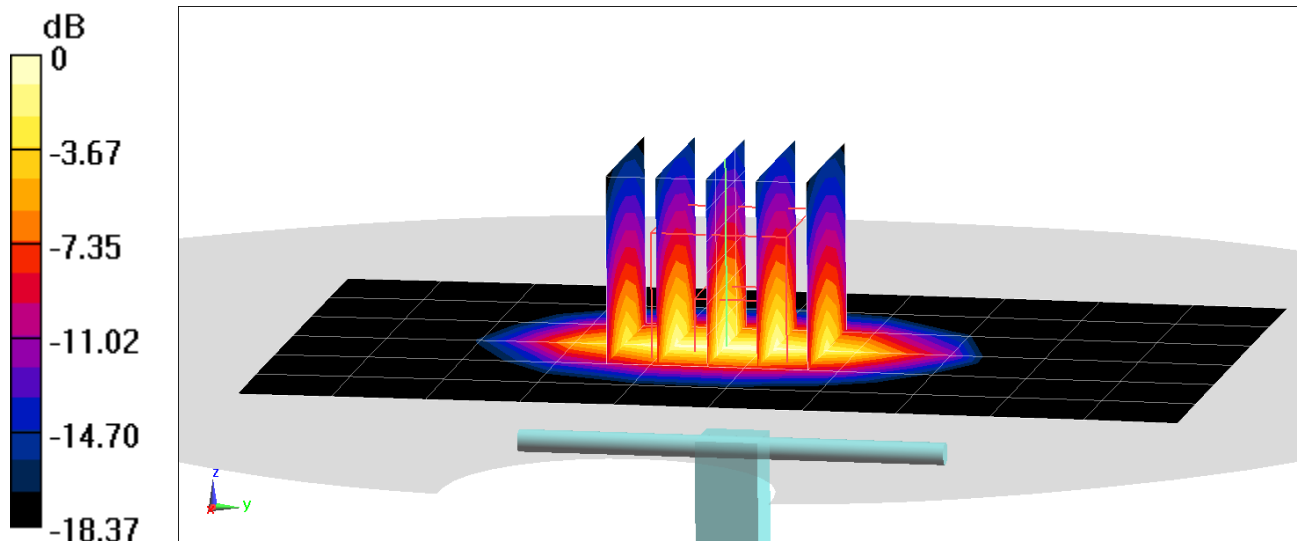
**Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Peak SAR (extrapolated) = 7.93 W/kg

**SAR(10 g) = 2.17 W/kg**

Deviation(10 g) = 4.83%



# PCTEST

**DUT: Dipole 2600.0 MHz; Type: D2600V2 - SN1071**

Communication System: UID: 0, CW; Frequency: 2600.0 MHz  
Medium: 2450 Body; Medium parameters used:  
f = 2600.0 MHz; cond = 2.19 S/m; perm = 54.1; density = 1000 kg/m<sup>3</sup>  
Phantom Section: Flat Section; Space: 1.0 cm

Test Date: 08/22/2021; Ambient Temp: 22.7°C; Tissue Temp: 23.3°C

Probe: EX3DV4 - SN7539; ConvF:(7.55,7.55,7.55); Calibrated: 2020-10-20  
Sensor-Surface: 1.4mm (VMS + 6p)  
Electronics: DAE4 Sn1415; Calibrated: 2021-03-10  
Phantom: Twin-SAM V8.0; Serial: 1966  
Measurement SW: cDASY6 Module SAR V16.0.0.116

## 2600.0 MHz System Verification at 20.0 dBm

**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) = 5.25 W/kg**

Deviation (1 g) = -3.31%

