

## APPENDIX B: SYSTEM VERIFICATION

# PCTEST

**DUT: Dipole 3500 MHz; Type: D3500V2; Serial: 1097**

Communication System: UID 0, CW; Frequency: 3500 MHz; Duty Cycle: 1:1

Medium: 3600 Head Medium parameters used:

$f = 3500$  MHz;  $\sigma = 2.821$  S/m;  $\epsilon_r = 36.925$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/23/2020; Ambient Temp: 21.4°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7539; ConvF(6.76, 6.76, 6.76) @ 3500 MHz; Calibrated: 10/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 5/20/2020

Phantom: Twin-SAM V8.0 (20); Type: QD 000 P41 Ax; Serial: 1966

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

## 3500 MHz System Verification at 20.0 dBm (100 mW)

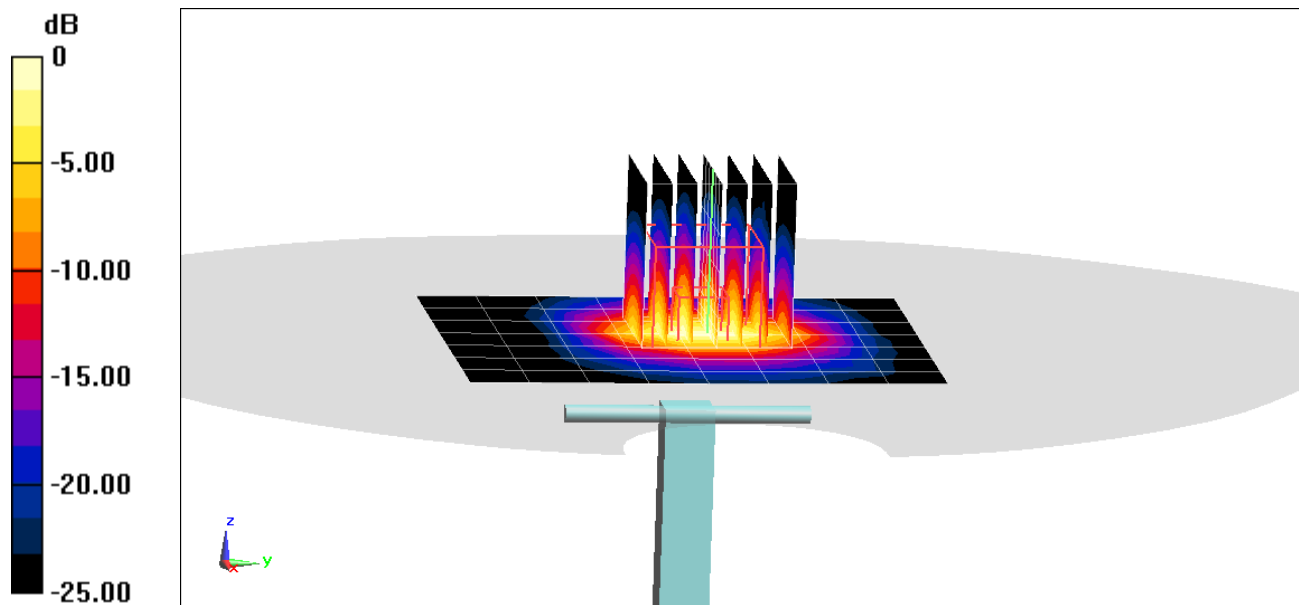
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 18.0 W/kg

**SAR(1 g) = 6.72 W/kg**

Deviation(1 g) = 1.20%



0 dB = 12.3 W/kg = 10.90 dBW/kg

# PCTEST

**DUT: Dipole 3700 MHz; Type: D3700V2; Serial: 1067**

Communication System: UID 0, CW; Frequency: 3700 MHz; Duty Cycle: 1:1

Medium: 3600 Head Medium parameters used:

$f = 3700$  MHz;  $\sigma = 3.006$  S/m;  $\epsilon_r = 36.565$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/23/2020; Ambient Temp: 21.4°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7539; ConvF(6.55, 6.55, 6.55) @ 3700 MHz; Calibrated: 10/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 5/20/2020

Phantom: Twin-SAM V8.0 (20); Type: QD 000 P41 Ax; Serial: 1966

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

## 3700 MHz System Verification at 20.0 dBm (100 mW)

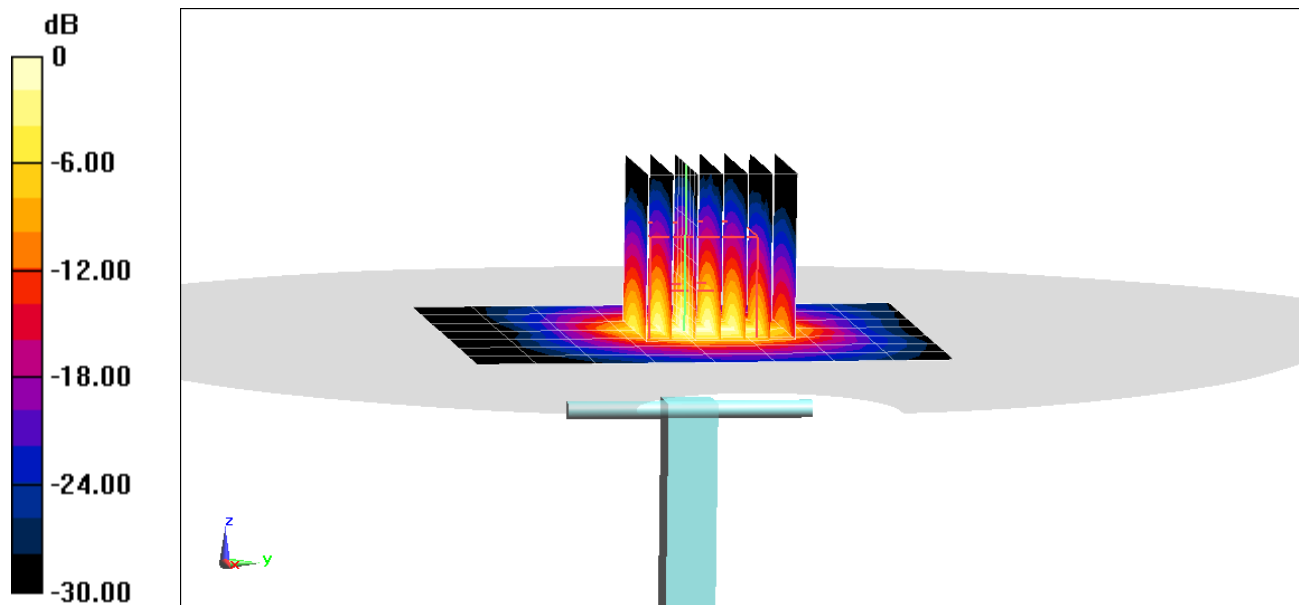
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 19.7 W/kg

**SAR(1 g) = 7.17 W/kg**

Deviation(1 g) = 6.70%



0 dB = 13.8 W/kg = 11.40 dBW/kg

# PCTEST

**DUT: Dipole 3500 MHz; Type: D3500V2; Serial: 1097**

Communication System: UID 0, CW; Frequency: 3500 MHz; Duty Cycle: 1:1

Medium: 3600 Body Medium parameters used:

$f = 3500$  MHz;  $\sigma = 3.315$  S/m;  $\epsilon_r = 51.844$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/18/2020; Ambient Temp: 22.1°C; Tissue Temp: 20.1°C

Probe: EX3DV4 - SN7539; ConvF(6.5, 6.5, 6.5) @ 3500 MHz; Calibrated: 10/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 5/20/2020

Phantom: Twin-SAM V5.0 (left 20); Type: QD 000 P40 CD; Serial: 1630

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

## 3500 MHz System Verification at 20.0 dBm (100 mW)

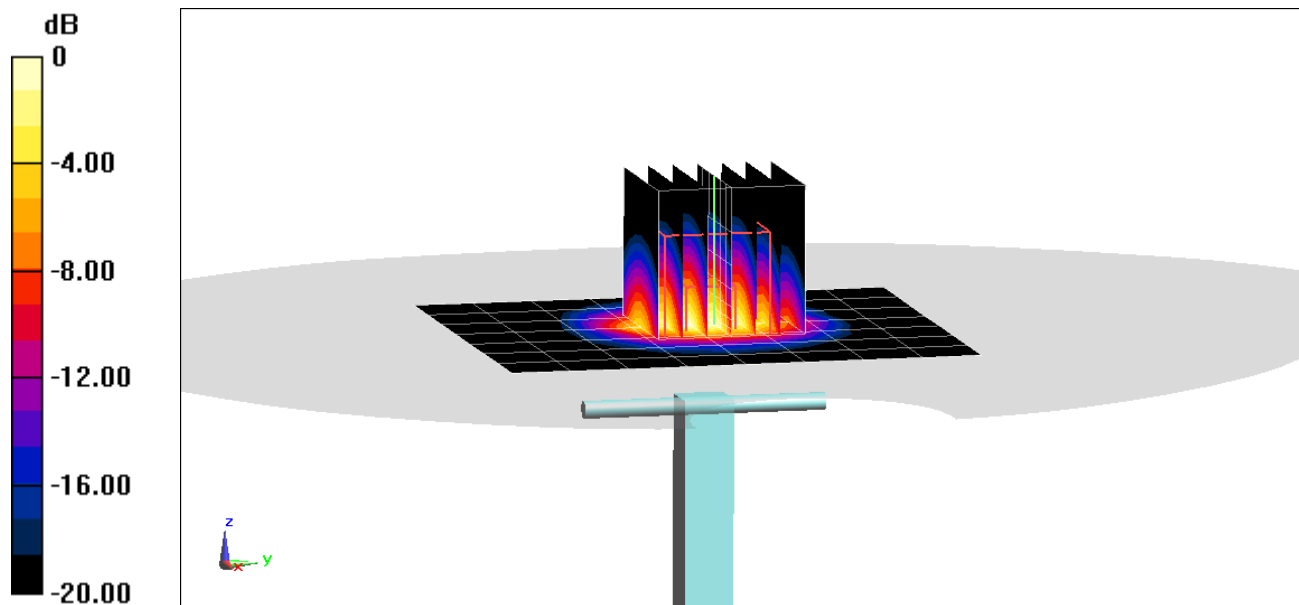
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 18.4 W/kg

**SAR(1 g) = 6.74 W/kg**

Deviation(1 g) = 4.98%



0 dB = 13.0 W/kg = 11.14 dBW/kg

# PCTEST

**DUT: Dipole 3700 MHz; Type: D3700V2; Serial: 1067**

Communication System: UID 0, CW; Frequency: 3700 MHz; Duty Cycle: 1:1

Medium: 3600 Body Medium parameters used:

$f = 3700$  MHz;  $\sigma = 3.566$  S/m;  $\epsilon_r = 51.447$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 11/18/2020; Ambient Temp: 22.1°C; Tissue Temp: 20.1°C

Probe: EX3DV4 - SN7539; ConvF(6.48, 6.48, 6.48) @ 3700 MHz; Calibrated: 10/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 5/20/2020

Phantom: Twin-SAM V5.0 (left 20); Type: QD 000 P40 CD; Serial: 1630

Measurement SW: DASY52, Version 52.10 (4);SEMCAD X Version 14.6.14 (7483)

## 3700 MHz System Verification at 20.0 dBm (100 mW)

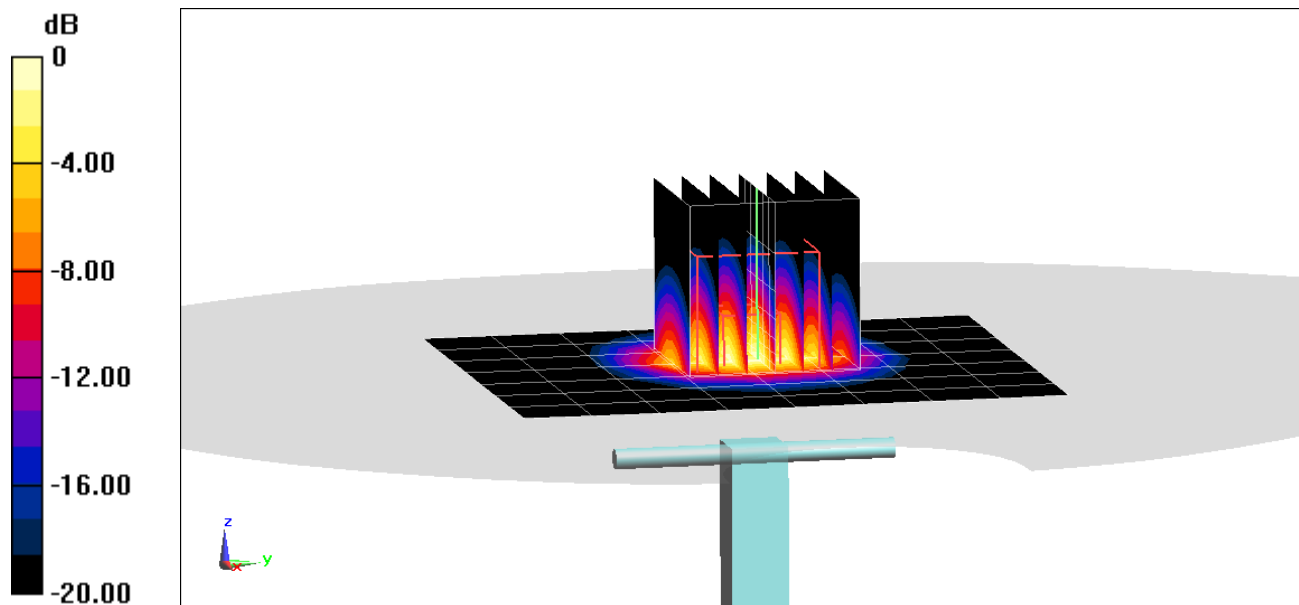
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 18.6 W/kg

**SAR(1 g) = 6.8 W/kg**

Deviation(1 g) = 4.29%



0 dB = 13.5 W/kg = 11.30 dBW/kg

# PCTEST

**DUT: Dipole 3500 MHz; Type: D3500V2; Serial: 1097**

Communication System: UID 0, CW; Frequency: 3500 MHz; Duty Cycle: 1:1

Medium: 3600 Body Medium parameters used:

$f = 3500$  MHz;  $\sigma = 3.339$  S/m;  $\epsilon_r = 49.437$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12/01/2020; Ambient Temp: 23.1°C; Tissue Temp: 20.0°C

Probe: EX3DV4 - SN7539; ConvF(6.5, 6.5, 6.5) @ 3500 MHz; Calibrated: 10/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 5/20/2020

Phantom: Twin-SAM V8.0 (20); Type: QD 000 P41 Ax; Serial: 1966

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

## 3500 MHz System Verification at 20.0 dBm (100 mW)

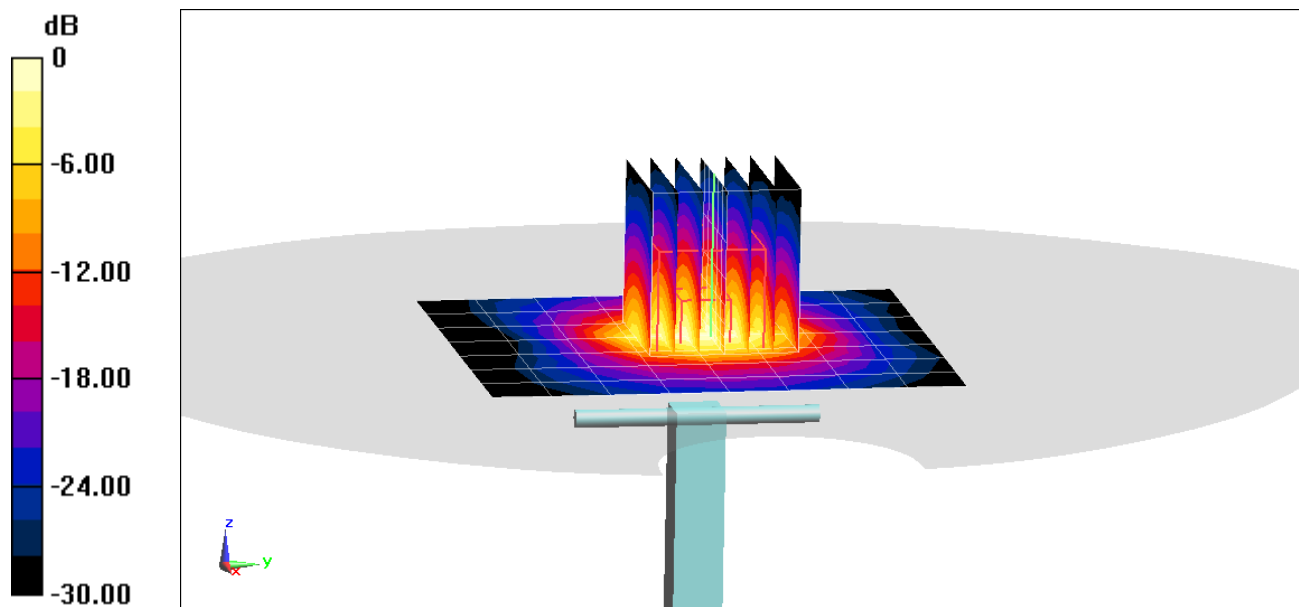
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 17.1 W/kg

**SAR(10 g) = 2.49 W/kg**

Deviation(10 g) = 4.62%



# PCTEST

**DUT: Dipole 3700 MHz; Type: D3700V2; Serial: 1067**

Communication System: UID 0, CW; Frequency: 3700 MHz; Duty Cycle: 1:1

Medium: 3600 Body Medium parameters used:

$f = 3700$  MHz;  $\sigma = 3.585$  S/m;  $\epsilon_r = 49.042$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 12/01/2020; Ambient Temp: 23.1°C; Tissue Temp: 20.0°C

Probe: EX3DV4 - SN7539; ConvF(6.48, 6.48, 6.48) @ 3700 MHz; Calibrated: 10/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn728; Calibrated: 5/20/2020

Phantom: Twin-SAM V8.0 (20); Type: QD 000 P41 Ax; Serial: 1966

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

## 3700 MHz System Verification at 20.0 dBm (100 mW)

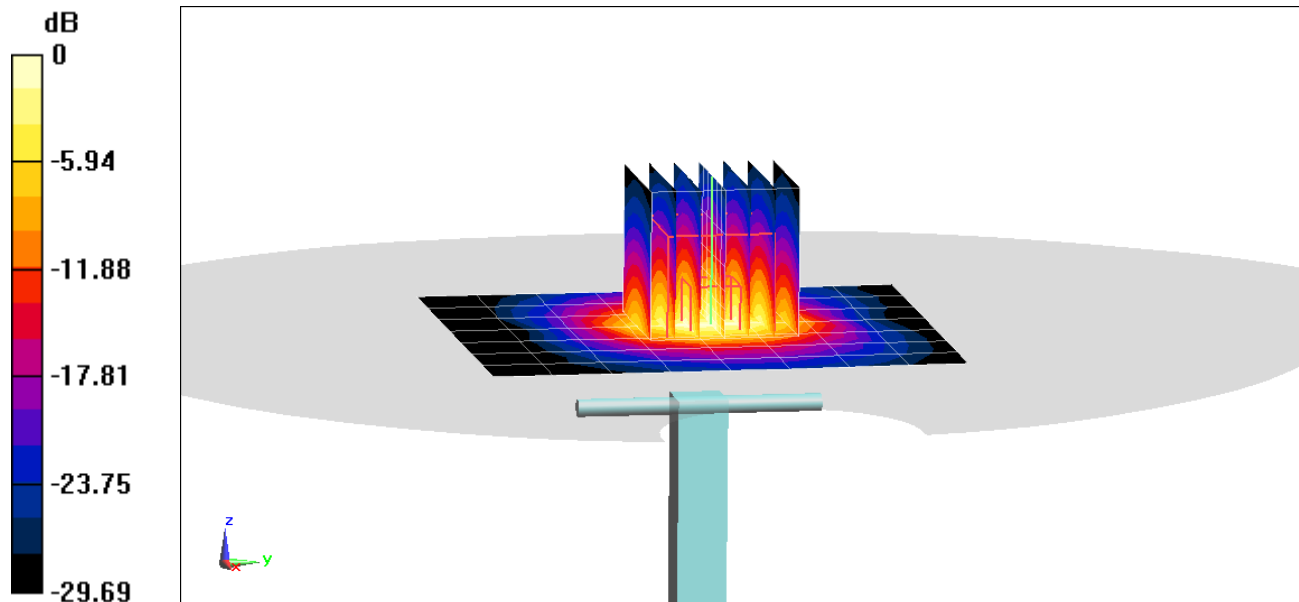
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 18.6 W/kg

**SAR(10 g) = 2.45 W/kg**

Deviation(10 g) = 5.15%



0 dB = 13.7 W/kg = 11.37 dBW/kg