



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 92679**

Communication System: UID 0, Cellular CDMA; Frequency: 820.1 MHz; Duty Cycle: 1:1

Medium: 835 Head Medium parameters used (interpolated):

$f = 820.1 \text{ MHz}$ ;  $\sigma = 0.936 \text{ S/m}$ ;  $\epsilon_r = 43.346$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 09/30/2020; Ambient Temp: 22.7°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7406; ConvF(9.61, 9.61, 9.61) @ 820.1 MHz; Calibrated: 6/23/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1583; Calibrated: 5/14/2020

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

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

**Mode: Cell. EVDO Rev. A, Rule Part 90S, Right Head, Cheek, Mid.ch**

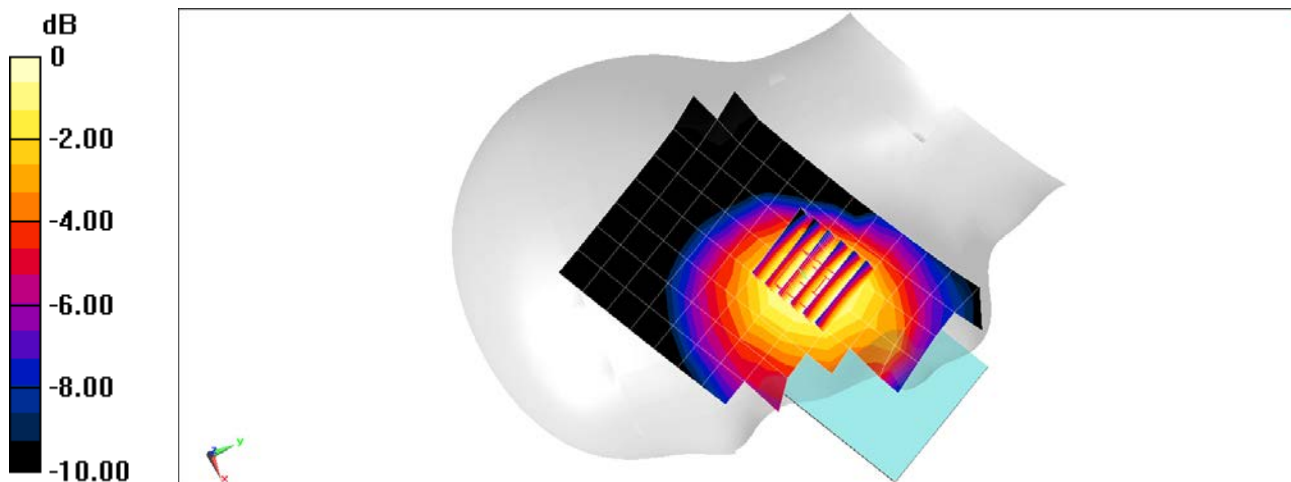
**Area Scan (9x15x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (6x6x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 13.43 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.212 W/kg

**SAR(1 g) = 0.165 W/kg**



0 dB = 0.194 W/kg = -7.12 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 92679**

Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Head Medium parameters used (interpolated):

$f = 836.52$  MHz;  $\sigma = 0.946$  S/m;  $\epsilon_r = 42.969$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Test Date: 10/02/2020; Ambient Temp: 22.9°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7406; ConvF(9.61, 9.61, 9.61) @ 836.52 MHz; Calibrated: 6/23/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1583; Calibrated: 5/14/2020

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

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

**Mode: Cell. EVDO Rev. A, Rule Part 22H, Right Head, Cheek, Mid.ch**

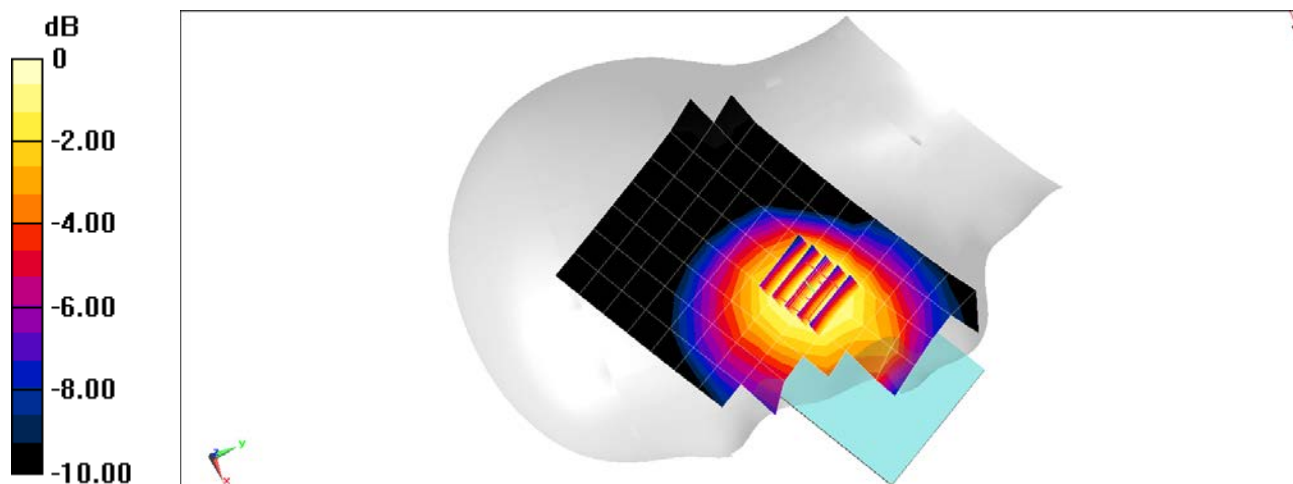
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 16.26 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.304 W/kg

**SAR(1 g) = 0.234 W/kg**



0 dB = 0.275 W/kg = -5.61 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 92679**

Communication System: UID 0, CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Head Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.443 \text{ S/m}$ ;  $\epsilon_r = 40.771$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 09/28/2020; Ambient Temp: 21.9°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7406; ConvF(7.96, 7.96, 7.96) @ 1880 MHz; Calibrated: 6/23/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1583; Calibrated: 5/14/2020

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

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

**Mode: PCS EVDO Rev A, Right Head, Cheek, Mid.ch**

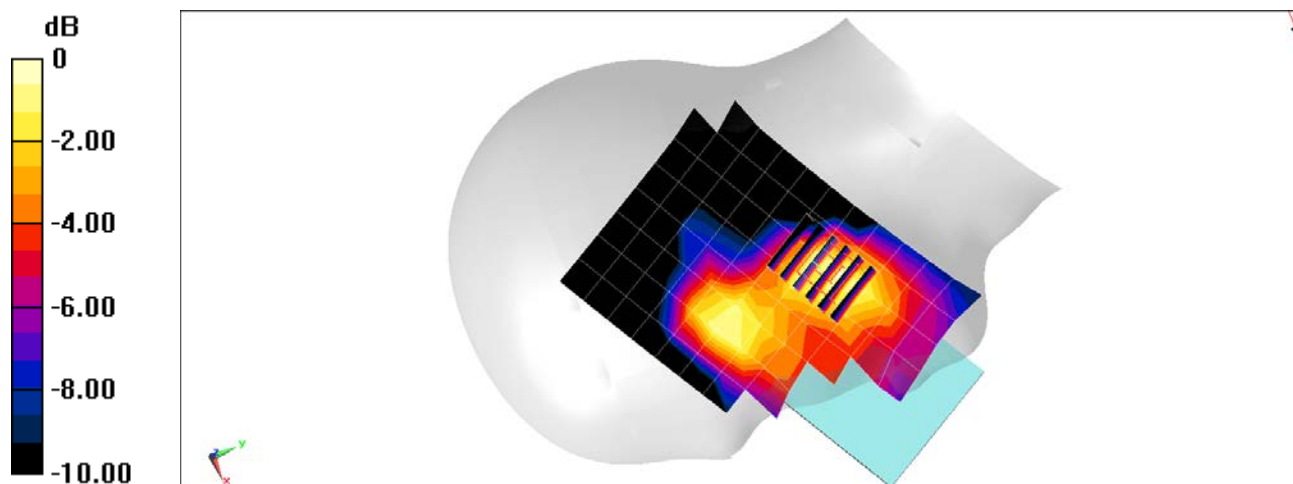
**Area Scan (9x15x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (5x6x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 10.26 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.244 W/kg

**SAR(1 g) = 0.156 W/kg**



0 dB = 0.204 W/kg = -6.90 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15787**

Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:2.76

Medium: 835 Head Medium parameters used (interpolated):

$f = 836.6$  MHz;  $\sigma = 0.891$  S/m;  $\epsilon_r = 40.361$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Test Date: 09/22/2020; Ambient Temp: 22.2°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7427; ConvF(9.58, 9.58, 9.58) @ 836.6 MHz; Calibrated: 2/19/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

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

**Mode: GPRS 850, Right Head, Cheek, Mid.ch, 3 Tx Slots**

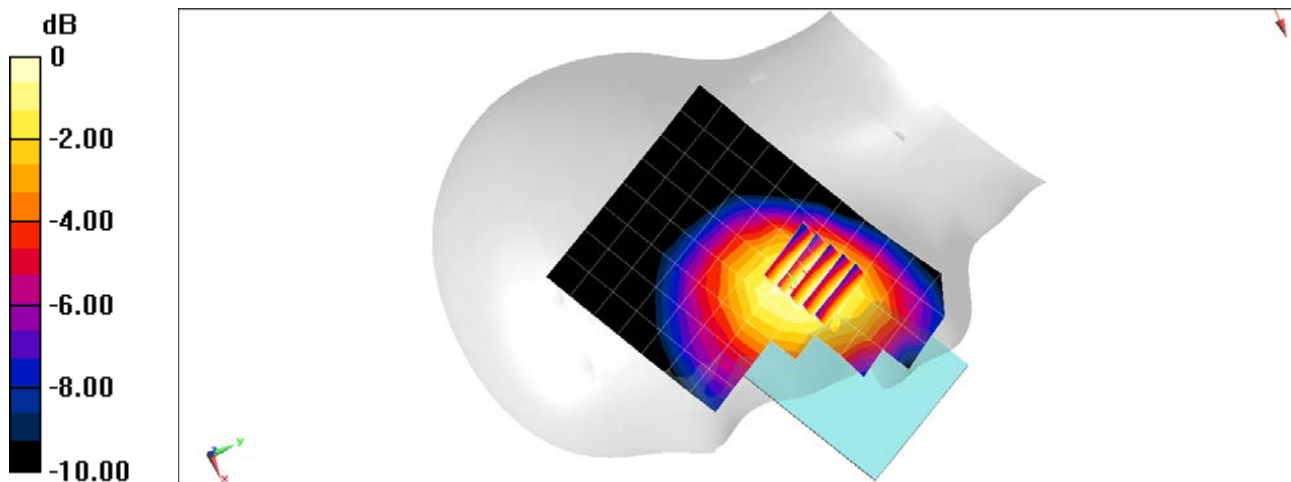
**Area Scan (9x13x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 10.66 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.120 W/kg

**SAR(1 g) = 0.098 W/kg**



0 dB = 0.112 W/kg = -9.51 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15795**

Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:2.76

Medium: 1900 Head Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.409 \text{ S/m}$ ;  $\epsilon_r = 38.908$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 09/23/2020; Ambient Temp: 23.5°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7532; ConvF(8.06, 8.06, 8.06) @ 1880 MHz; Calibrated: 4/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/15/2020

Phantom: Twin-SAM V8.0\_Left; Type: QD 000 P41 AA; Serial: 1935

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

**Mode: GPRS 1900, Left Head, Cheek, Mid.ch, 3 Tx Slots**

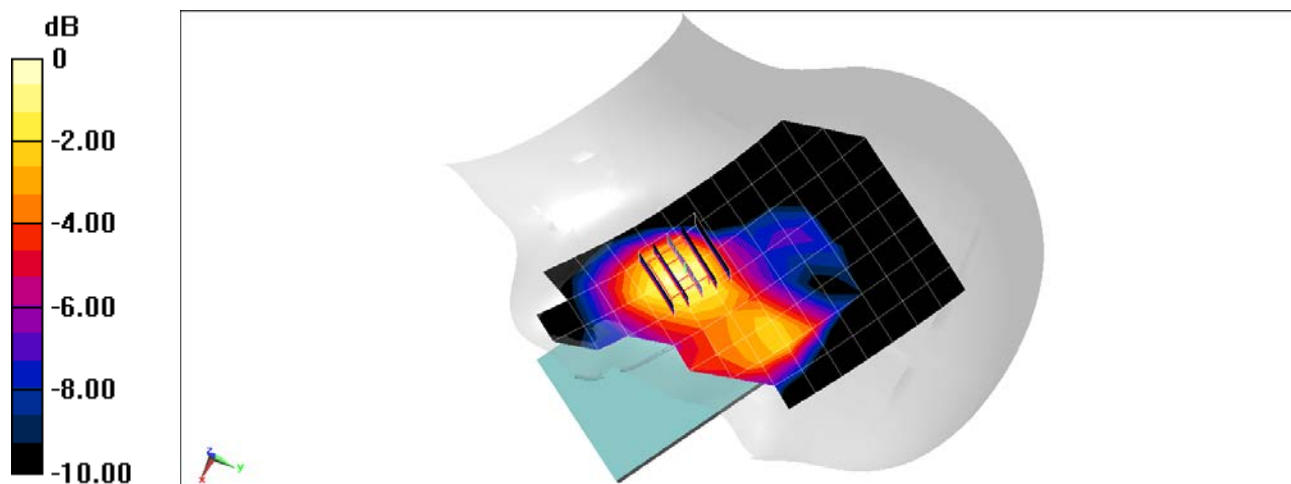
**Area Scan (9x15x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Reference Value = 9.139 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.183 W/kg

**SAR(1 g) = 0.117 W/kg**



0 dB = 0.156 W/kg = -8.07 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 01579**

Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium: 835 Head Medium parameters used (interpolated):

$f = 836.6$  MHz;  $\sigma = 0.891$  S/m;  $\epsilon_r = 40.361$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Test Date: 09/22/2020; Ambient Temp: 22.2°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7427; ConvF(9.58, 9.58, 9.58) @ 836.6 MHz; Calibrated: 2/19/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

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

**Mode: UMTS 850, Right Head, Cheek, Mid.ch**

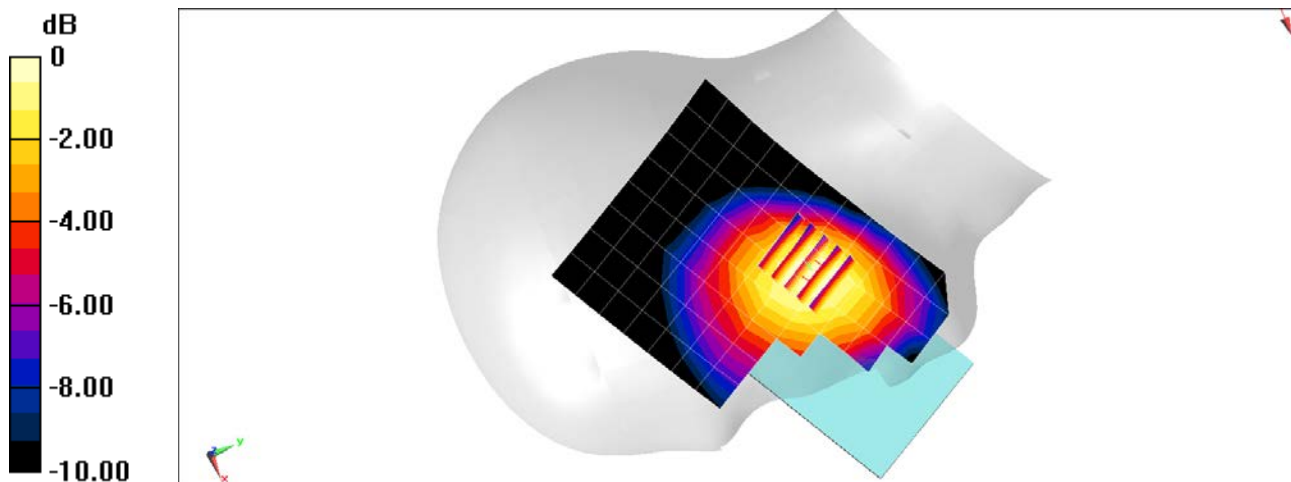
**Area Scan (9x13x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 13.73 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.197 W/kg

**SAR(1 g) = 0.159 W/kg**



0 dB = 0.187 W/kg = -7.28 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 01581**

Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: 1750 Head Medium parameters used (interpolated):

$f = 1732.4 \text{ MHz}$ ;  $\sigma = 1.325 \text{ S/m}$ ;  $\epsilon_r = 39.269$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 09/18/2020; Ambient Temp: 20.5°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7532; ConvF(8.46, 8.46, 8.46) @ 1732.4 MHz; Calibrated: 4/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/15/2020

Phantom: Twin-SAM V8.0\_Left; Type: QD 000 P41 AA; Serial: 1935

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

**Mode: UMTS 1750, Left Head, Cheek, Mid.ch**

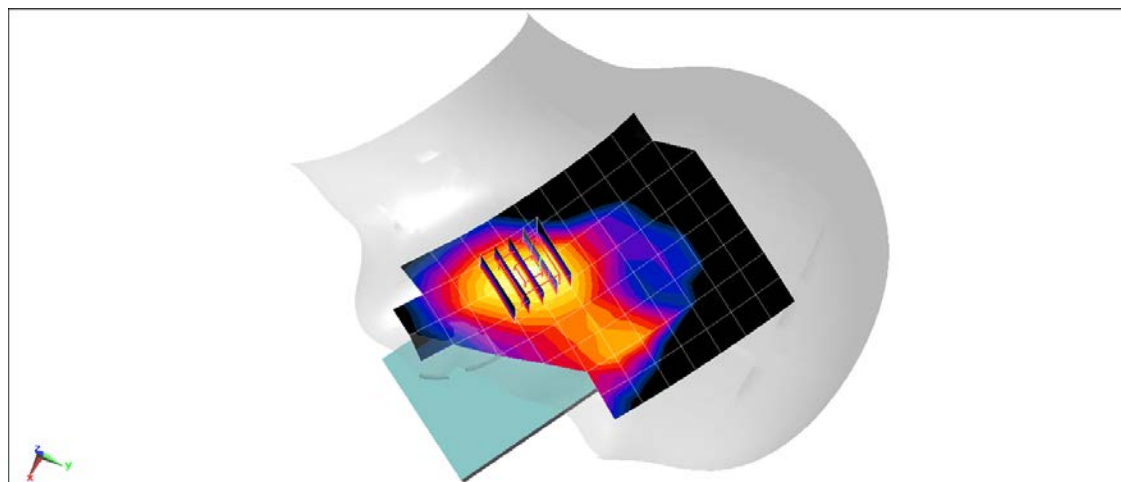
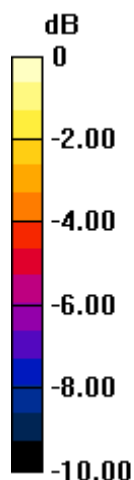
**Area Scan (9x15x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Reference Value = 4.028 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.208 W/kg

**SAR(1 g) = 0.136 W/kg**



0 dB = 0.177 W/kg = -7.52 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15795**

Communication System: UID 0, UMTS; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Head Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.409 \text{ S/m}$ ;  $\epsilon_r = 38.908$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 09/23/2020; Ambient Temp: 23.5°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7532; ConvF(8.06, 8.06, 8.06) @ 1880 MHz; Calibrated: 4/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/15/2020

Phantom: Twin-SAM V8.0\_Left; Type: QD 000 P41 AA; Serial: 1935

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

**Mode: UMTS 1900, Right Head, Cheek, Mid.ch**

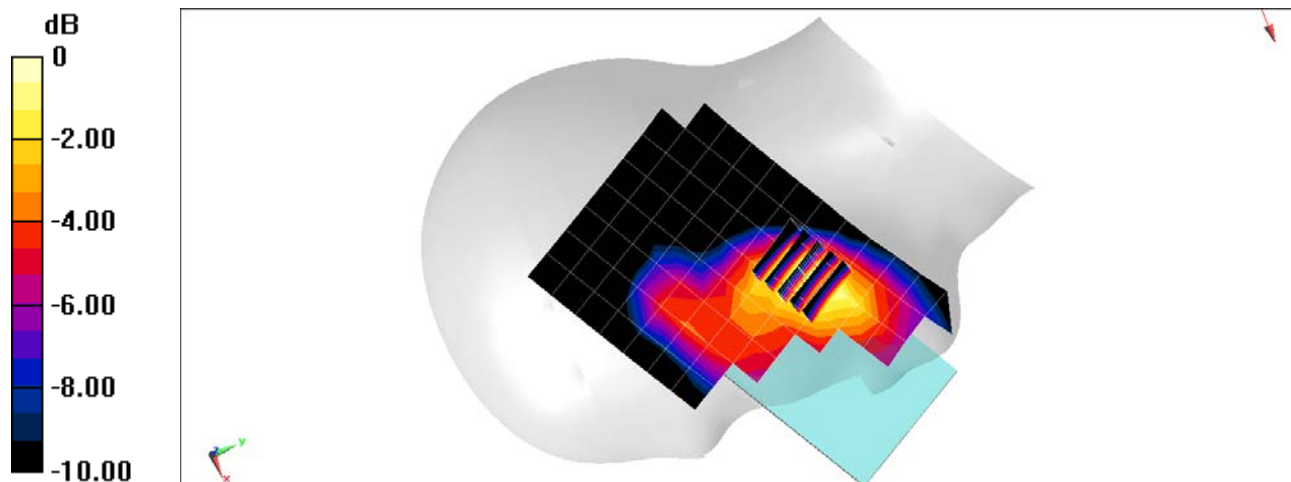
**Area Scan (9x15x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Reference Value = 13.37 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.392 W/kg

**SAR(1 g) = 0.234 W/kg**



0 dB = 0.320 W/kg = -4.95 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15803**

Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1

Medium: 750 Head Medium parameters used (interpolated):

$f = 680.5 \text{ MHz}$ ;  $\sigma = 0.875 \text{ S/m}$ ;  $\epsilon_r = 40.656$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 09/22/2020; Ambient Temp: 20.9°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7490; ConvF(10.25, 10.25, 10.25) @ 680.5 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) Main use; Type: QD 000 P40 CC; Serial: 1406

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

**Mode: LTE Band 71, Left Head, Cheek, Mid.ch,  
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

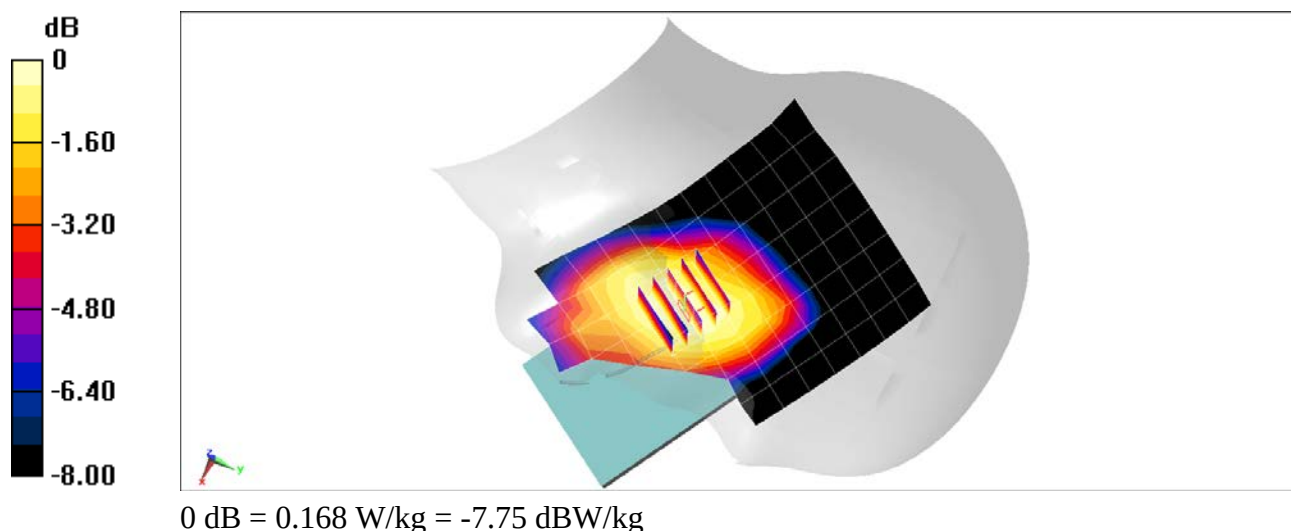
**Area Scan (9x13x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 13.36 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.177 W/kg

**SAR(1 g) = 0.151 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15811**

Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1

Medium: 750 Head Medium parameters used (interpolated):

$f = 707.5 \text{ MHz}$ ;  $\sigma = 0.884 \text{ S/m}$ ;  $\epsilon_r = 41.702$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 09/25/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7532; ConvF(10.72, 10.72, 10.72) @ 707.5 MHz; Calibrated: 4/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/15/2020

Phantom: Twin-SAM V8.0\_Left; Type: QD 000 P41 AA; Serial: 1935

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

**Mode: LTE Band 12, Right Head, Cheek, Mid.ch,  
10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset**

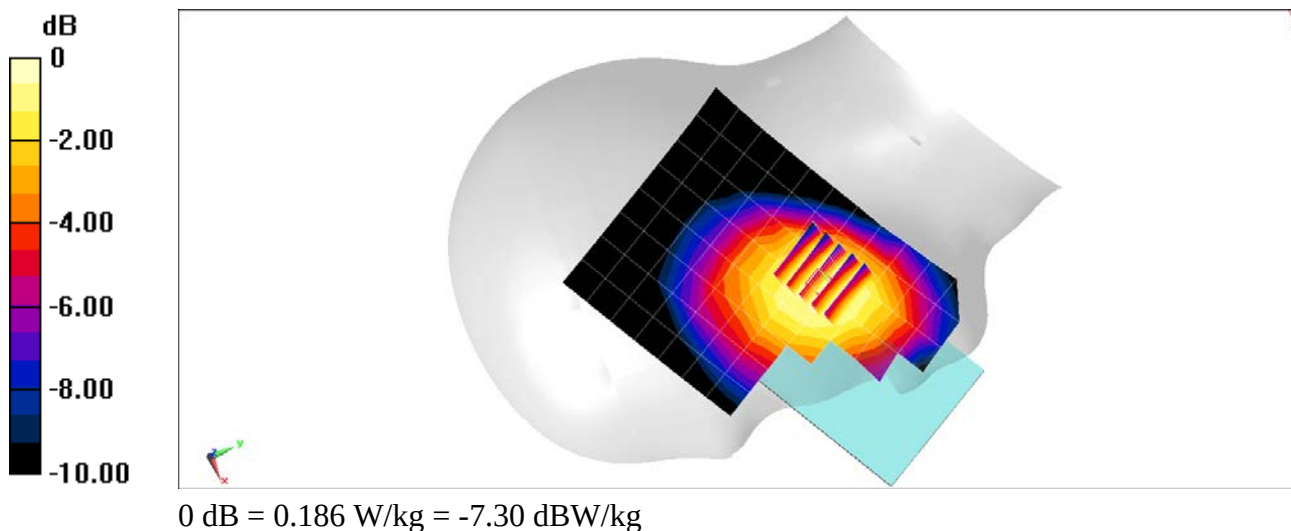
**Area Scan (9x13x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Reference Value = 14.14 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.201 W/kg

**SAR(1 g) = 0.159 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15787**

Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 750 Head Medium parameters used (interpolated):

$f = 782 \text{ MHz}$ ;  $\sigma = 0.911 \text{ S/m}$ ;  $\epsilon_r = 41.49$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 09/25/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7532; ConvF(10.72, 10.72, 10.72) @ 782 MHz; Calibrated: 4/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/15/2020

Phantom: Twin-SAM V8.0\_Left; Type: QD 000 P41 AA; Serial: 1935

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

**Mode: LTE Band 13, Right Head, Cheek, Mid.ch,  
10 MHz Bandwidth, QPSK, 1 RB, 25 RB Offset**

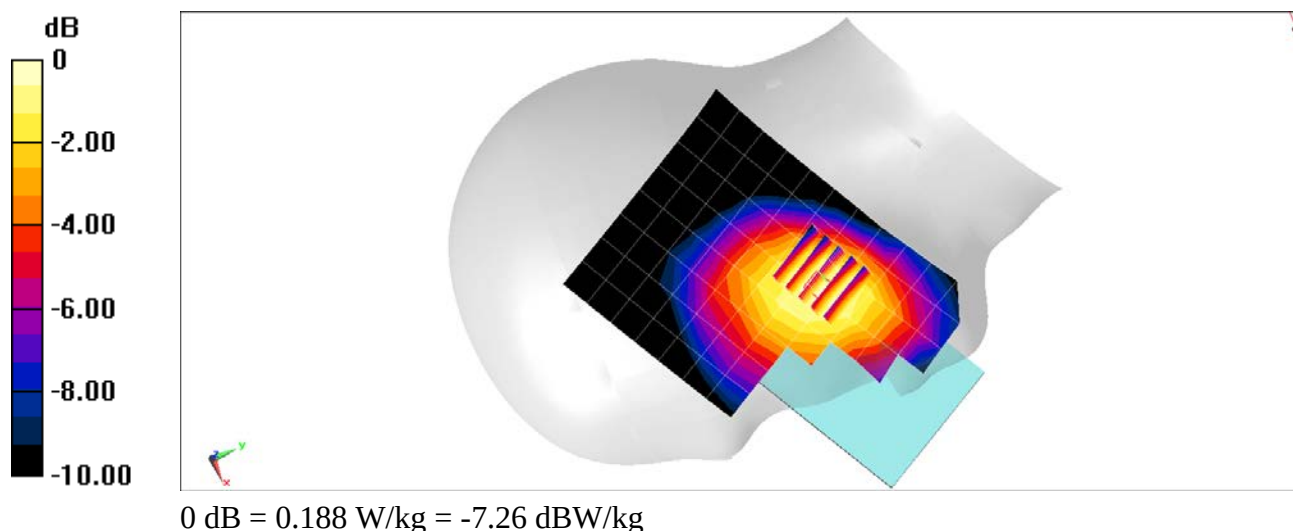
**Area Scan (9x13x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Reference Value = 13.92 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.202 W/kg

**SAR(1 g) = 0.160 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15811**

Communication System: UID 0, LTE Band 14; Frequency: 793 MHz; Duty Cycle: 1:1

Medium: 750 Head Medium parameters used (interpolated):

$f = 793 \text{ MHz}$ ;  $\sigma = 0.915 \text{ S/m}$ ;  $\epsilon_r = 41.458$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 09/25/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7532; ConvF(10.72, 10.72, 10.72) @ 793 MHz; Calibrated: 4/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/15/2020

Phantom: Twin-SAM V8.0\_Left; Type: QD 000 P41 AA; Serial: 1935

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

**Mode: LTE Band 14, Right Head, Cheek, Mid.ch,  
10 MHz Bandwidth, QPSK, 1 RB, 25 RB Offset**

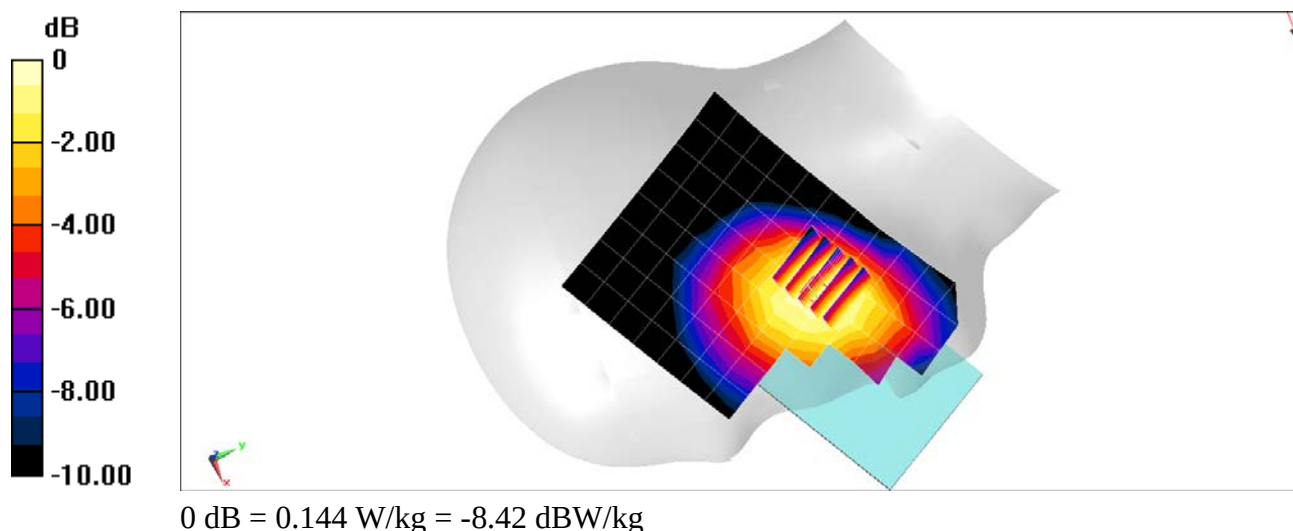
**Area Scan (9x13x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Reference Value = 12.10 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.157 W/kg

**SAR(1 g) = 0.124 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15787**

Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz; Duty Cycle: 1:1

Medium: 835 Head Medium parameters used (interpolated):

$f = 831.5$  MHz;  $\sigma = 0.941$  S/m;  $\epsilon_r = 43.306$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Test Date: 09/29/2020; Ambient Temp: 22.7°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7421; ConvF(9.24, 9.24, 9.24) @ 831.5 MHz; Calibrated: 3/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/19/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

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

**Mode: LTE Band 26 (Cell.), Right Head, Cheek, Mid.ch,  
15 MHz Bandwidth, QPSK, 1 RB, 36 RB Offset**

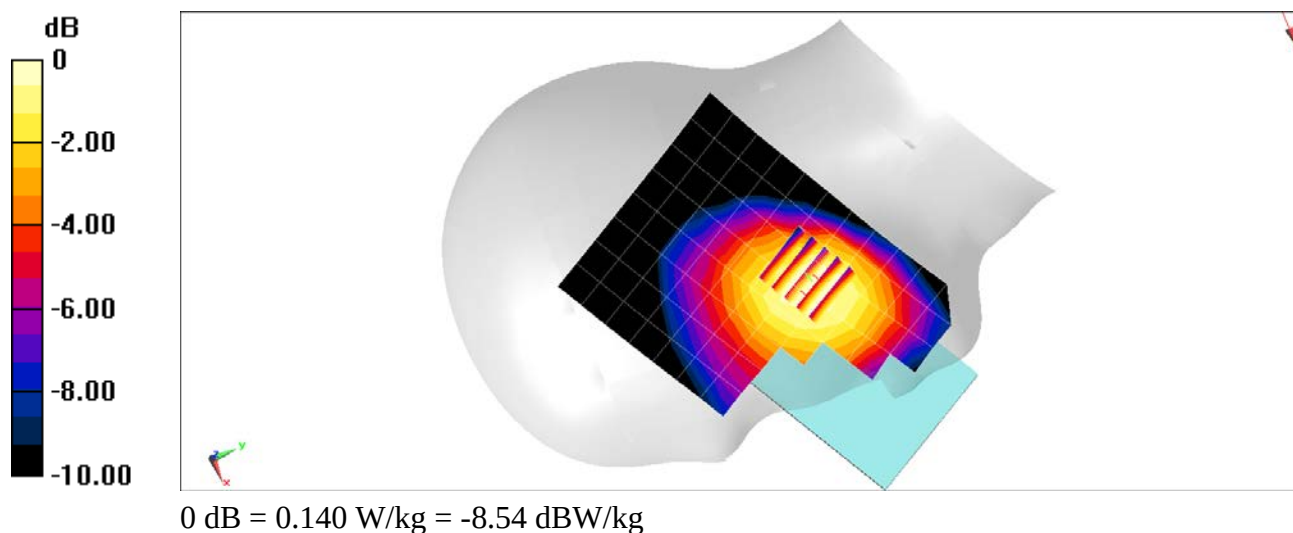
**Area Scan (9x13x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 12.06 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.149 W/kg

**SAR(1 g) = 0.122 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15811**

Communication System: UID 0, LTE Band 5 (Cell.); Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium: 835 Head Medium parameters used (interpolated):

$f = 836.5$  MHz;  $\sigma = 0.891$  S/m;  $\epsilon_r = 40.497$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Test Date: 09/24/2020; Ambient Temp: 22.4°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN7427; ConvF(9.58, 9.58, 9.58) @ 836.5 MHz; Calibrated: 2/19/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

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

**Mode: LTE Band 5 (Cell.), Right Head, Cheek, Mid.ch,  
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

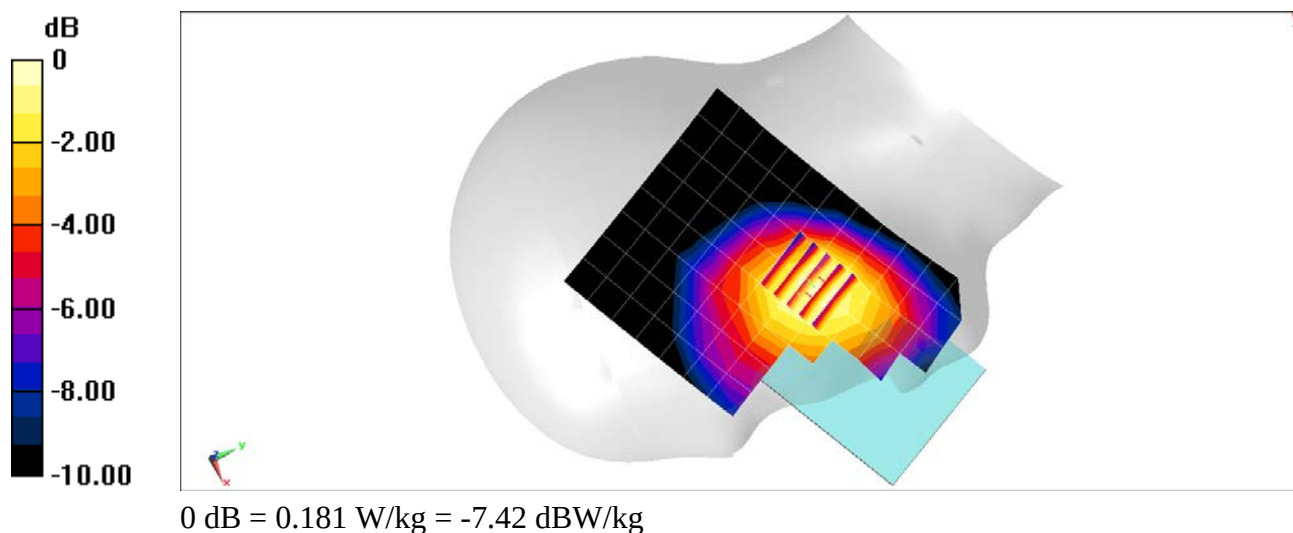
**Area Scan (9x13x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 13.92 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.190 W/kg

**SAR(1 g) = 0.155 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15803**

Communication System: UID 0, LTE Band 66 (AWS); Frequency: 1720 MHz; Duty Cycle: 1:1

Medium: 1750 Head Medium parameters used (interpolated):

$f = 1720 \text{ MHz}$ ;  $\sigma = 1.315 \text{ S/m}$ ;  $\epsilon_r = 38.834$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 09/21/2020; Ambient Temp: 20.7°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7532; ConvF(8.46, 8.46, 8.46) @ 1720 MHz; Calibrated: 4/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/15/2020

Phantom: Twin-SAM V8.0\_Left; Type: QD 000 P41 AA; Serial: 1935

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

**Mode: LTE Band 66 (AWS), Antenna 7, Left Head, Cheek, Low.ch,  
20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset**

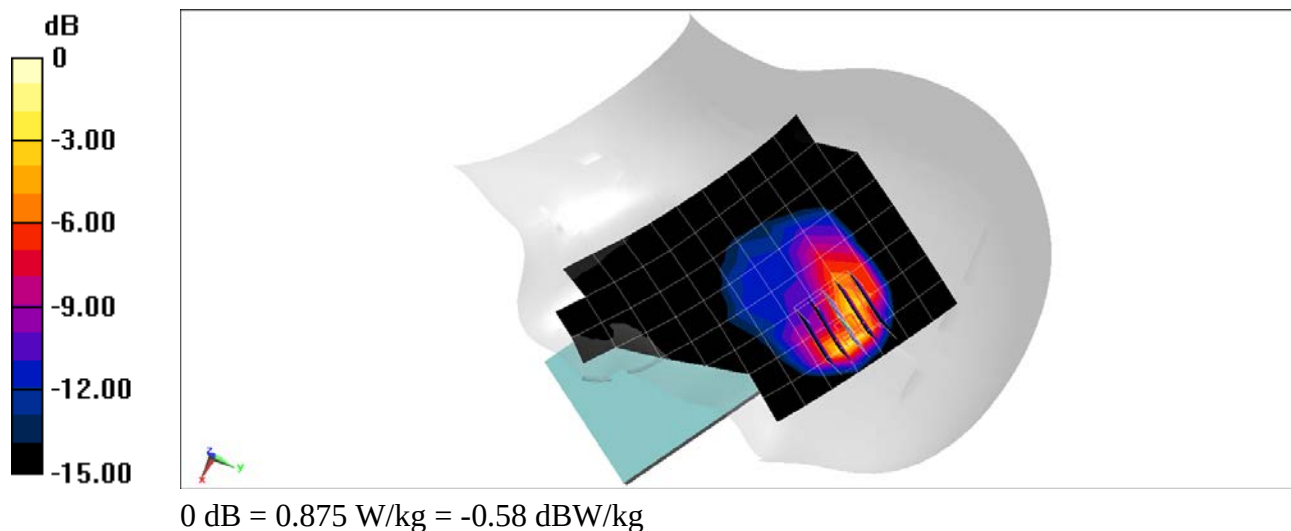
**Area Scan (9x13x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 19.98 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.10 W/kg

**SAR(1 g) = 0.466 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15803**

Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1860 MHz; Duty Cycle: 1:1

Medium: 1900 Head Medium parameters used (interpolated):

$f = 1860 \text{ MHz}$ ;  $\sigma = 1.39 \text{ S/m}$ ;  $\epsilon_r = 38.979$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 09/23/2020; Ambient Temp: 23.5°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7532; ConvF(8.06, 8.06, 8.06) @ 1860 MHz; Calibrated: 4/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/15/2020

Phantom: Twin-SAM V8.0\_Left; Type: QD 000 P41 AA; Serial: 1935

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

**Mode: LTE Band 25 (PCS), Right Head, Cheek, Low.ch,  
20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset**

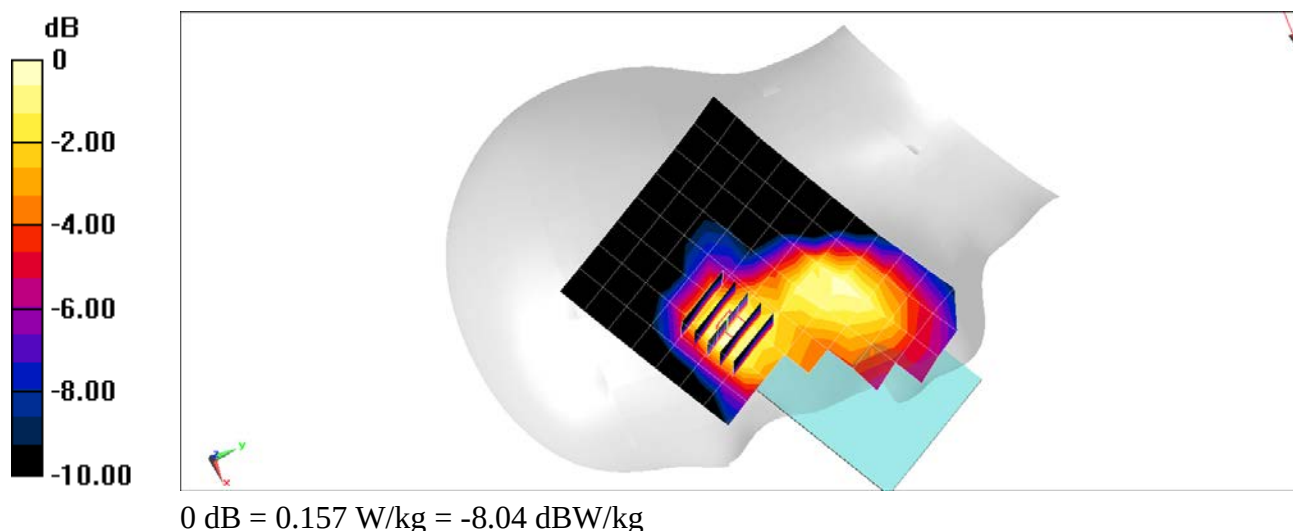
**Area Scan (9x13x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Reference Value = 9.933 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.186 W/kg

**SAR(1 g) = 0.115 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 01581**

Communication System: UID 0, LTE Band 2 (PCS); Frequency: 1860 MHz; Duty Cycle: 1:1

Medium: 1900 Head Medium parameters used (interpolated):

$f = 1860 \text{ MHz}$ ;  $\sigma = 1.408 \text{ S/m}$ ;  $\epsilon_r = 38.763$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 09/28/2020; Ambient Temp: 21.9°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7427; ConvF(8.12, 8.12, 8.12) @ 1860 MHz; Calibrated: 2/19/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

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

**Mode: LTE Band 2 (PCS), Antenna 7, Left Head, Cheek, Low.ch,  
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset**

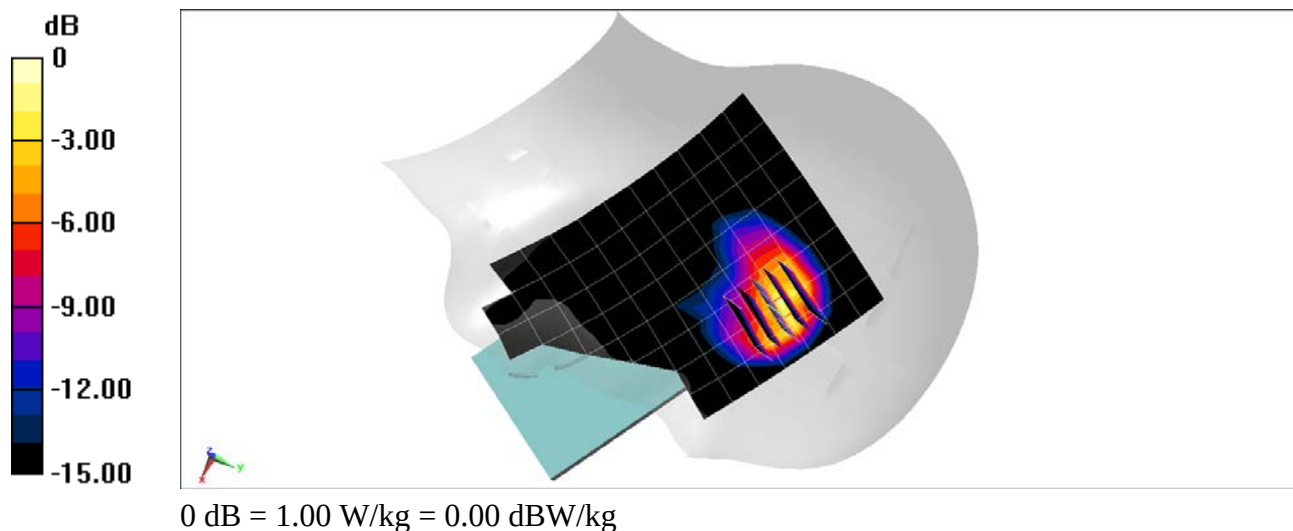
**Area Scan (9x13x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 22.86 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.28 W/kg

**SAR(1 g) = 0.544 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15795**

Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1

Medium: 2450 Head Medium parameters used:

$f = 2310 \text{ MHz}$ ;  $\sigma = 1.648 \text{ S/m}$ ;  $\epsilon_r = 39.837$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 09/25/2020; Ambient Temp: 23.0°C; Tissue Temp: 23.7°C

Probe: EX3DV4 - SN7421; ConvF(7.68, 7.68, 7.68) @ 2310 MHz; Calibrated: 3/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/19/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

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

**Mode: LTE Band 30, Antenna 7, Left Head, Cheek, Mid.ch,  
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

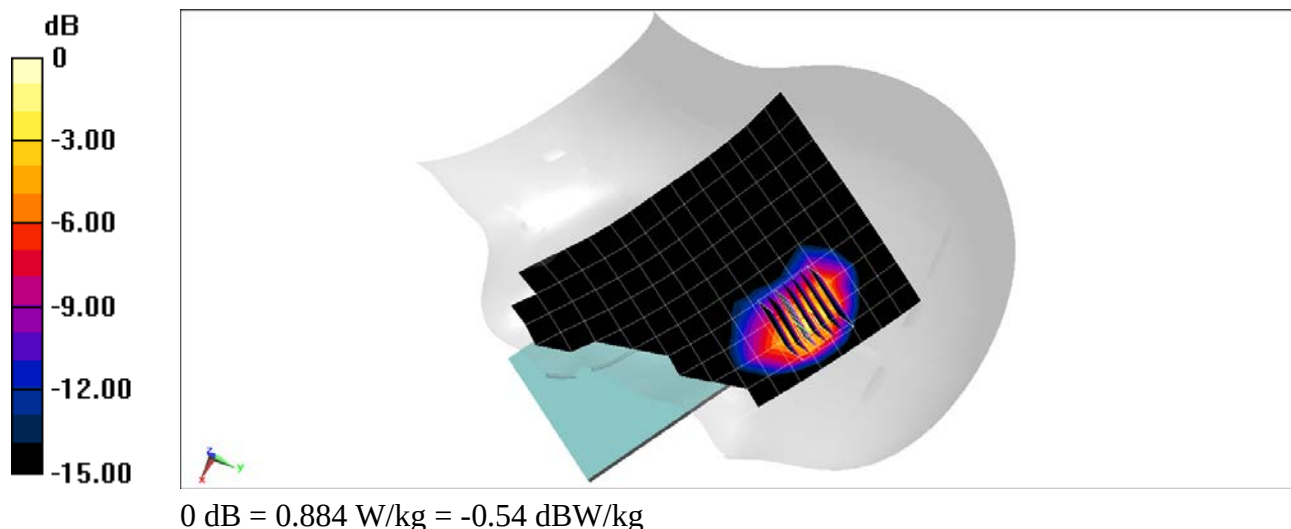
**Area Scan (11x16x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 19.17 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.20 W/kg

**SAR(1 g) = 0.458 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 01581**

Communication System: UID 0, LTE Band 41 (Class 3); Frequency: 2680 MHz; Duty Cycle: 1:1.58

Medium: 2450 Head Medium parameters used (interpolated):

$f = 2680 \text{ MHz}$ ;  $\sigma = 2.08 \text{ S/m}$ ;  $\epsilon_r = 38.404$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 09/25/2020; Ambient Temp: 23.0°C; Tissue Temp: 23.7°C

Probe: EX3DV4 - SN7421; ConvF(7.24, 7.24, 7.24) @ 2680 MHz; Calibrated: 3/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/19/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

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

**Mode: LTE Band 41, ULCA, Right Head, Cheek,**

**PCC: Ch. 41490, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

**SCC: Ch. 41292, 20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset**

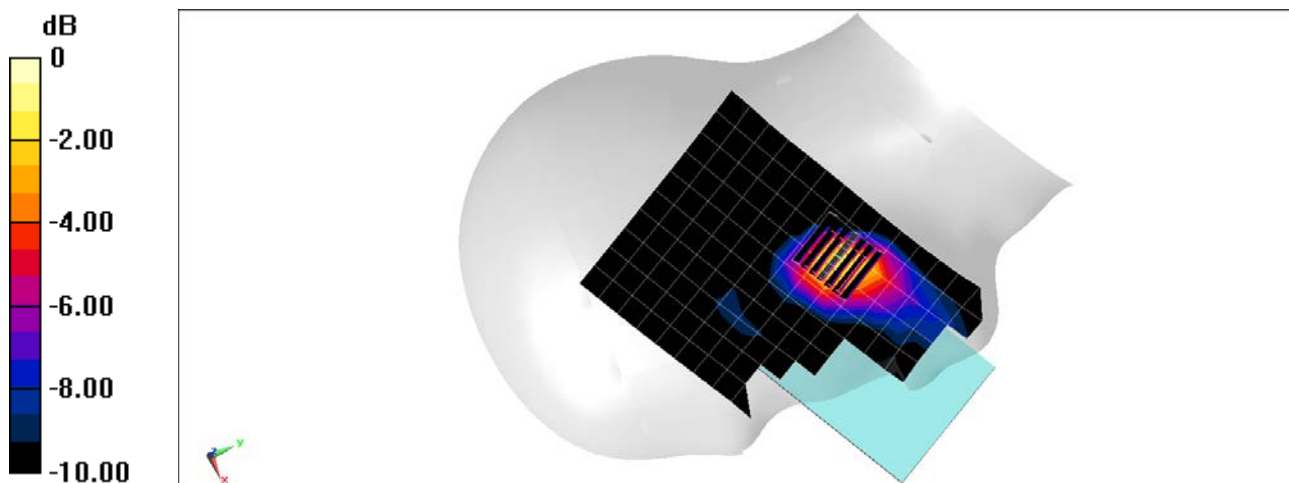
**Area Scan (11x17x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 9.930 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.274 W/kg

**SAR(1 g) = 0.137 W/kg**



0 dB = 0.220 W/kg = -6.58 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15829**

Communication System: UID 0, NR Band n71; Frequency: 680.5 MHz; Duty Cycle: 1:1

Medium: 750 Head Medium parameters used (interpolated):

$f = 680.5 \text{ MHz}$ ;  $\sigma = 0.876 \text{ S/m}$ ;  $\epsilon_r = 41.774$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 09/25/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7532; ConvF(10.72, 10.72, 10.72) @ 680.5 MHz; Calibrated: 4/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/15/2020

Phantom: Twin-SAM V8.0\_Left; Type: QD 000 P41 AA; Serial: 1935

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

**Mode: NR Band n71, Right Head, Cheek, 20 MHz Bandwidth,  
DFT-s-OFDM QPSK, Ch. 136100, 1 RB, 1 RB Offset**

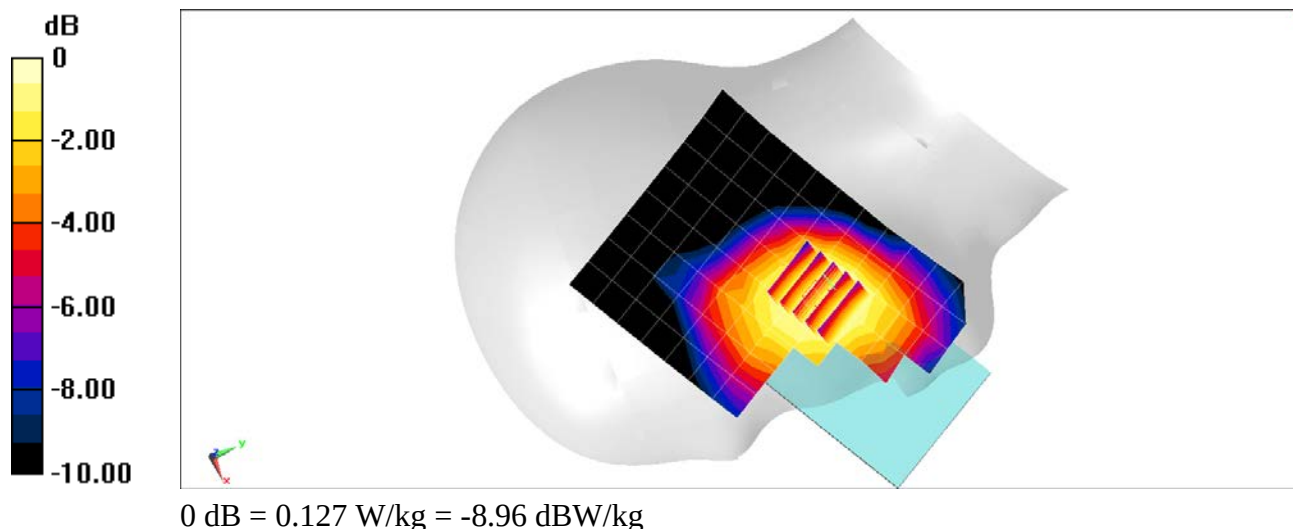
**Area Scan (9x13x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Reference Value = 11.73 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.136 W/kg

**SAR(1 g) = 0.109 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 11257**

Communication System: UID 0, NR Band n5; Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium: 835 Head Medium parameters used (interpolated):

$f = 836.5$  MHz;  $\sigma = 0.943$  S/m;  $\epsilon_r = 43.29$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Test Date: 09/29/2020; Ambient Temp: 22.7°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7421; ConvF(9.24, 9.24, 9.24) @ 836.5 MHz; Calibrated: 3/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/19/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

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

**Mode: NR Band n5, Right Head, Cheek, 20 MHz Bandwidth,  
DFT-s-OFDM QPSK, Ch. 167300, 1 RB, 1 RB Offset**

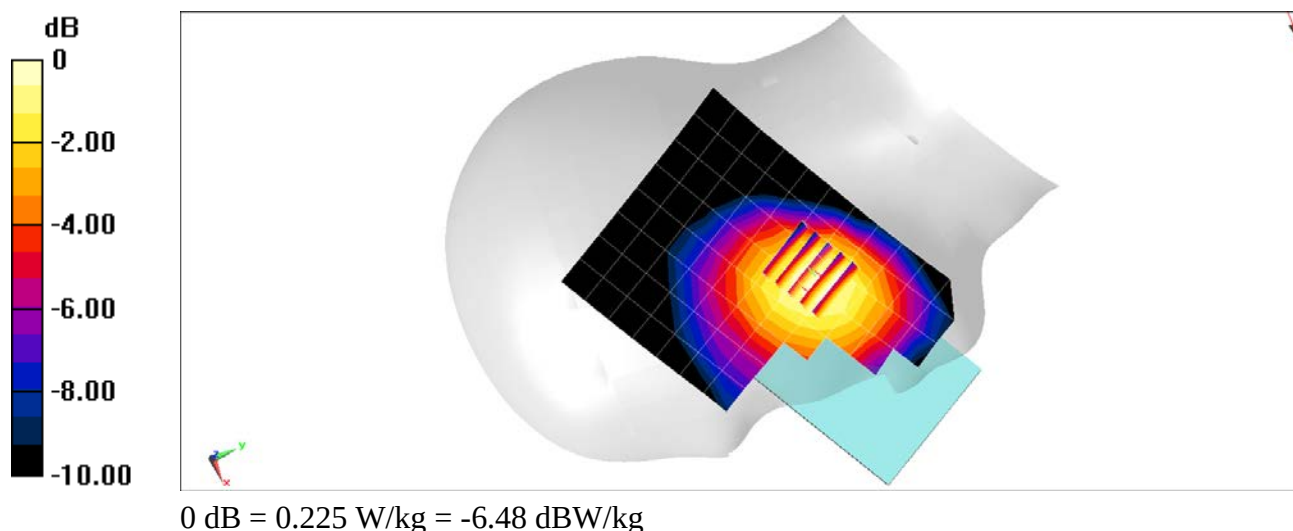
**Area Scan (9x13x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 15.10 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.240 W/kg

**SAR(1 g) = 0.193 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 11257**

Communication System: UID 0, NR Band n66; Frequency: 1770 MHz; Duty Cycle: 1:1

Medium: 1750 Head Medium parameters used (interpolated):

$f = 1770 \text{ MHz}$ ;  $\sigma = 1.358 \text{ S/m}$ ;  $\epsilon_r = 38.811$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 09/29/2020; Ambient Temp: 22.0°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7427; MHz, ConvF(8.42, 8.42, 8.42) @ 1770 MHz; Calibrated: 2/19/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

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

**Mode: NR Band n66, Left Head, Cheek, 20 MHz Bandwidth,  
DFT-s-OFDM QPSK, Ch. 354000, 1 RB, 1 RB Offset**

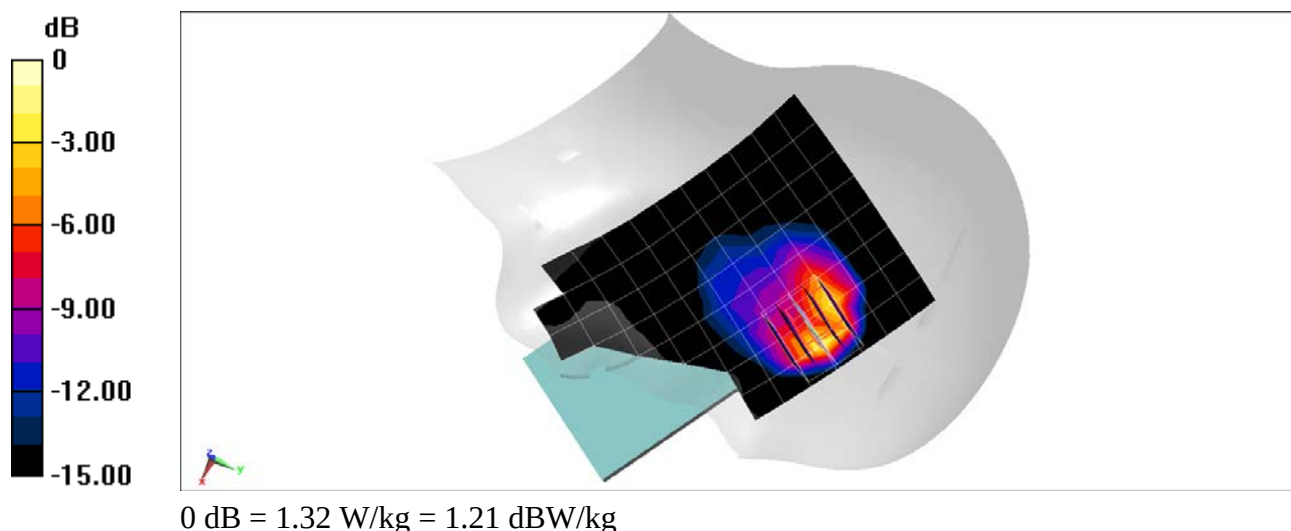
**Area Scan (9x13x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 26.88 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.59 W/kg

**SAR(1 g) = 0.682 W/kg;**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15837**

Communication System: UID 0, NR Band n2; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: 1900 Head Medium parameters used (interpolated):

$f = 1900 \text{ MHz}$ ;  $\sigma = 1.427 \text{ S/m}$ ;  $\epsilon_r = 38.835$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Test Date: 09/23/2020; Ambient Temp: 23.5°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7532; ConvF(8.06, 8.06, 8.06) @ 1900 MHz; Calibrated: 4/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/15/2020

Phantom: Twin-SAM V8.0\_Left; Type: QD 000 P41 AA; Serial: 1935

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

**Mode: NR Band n2, Left Head, Cheek, 20 MHz Bandwidth,  
DFT-s-OFDM QPSK, Ch. 380000, 50 RB, 56 RB Offset**

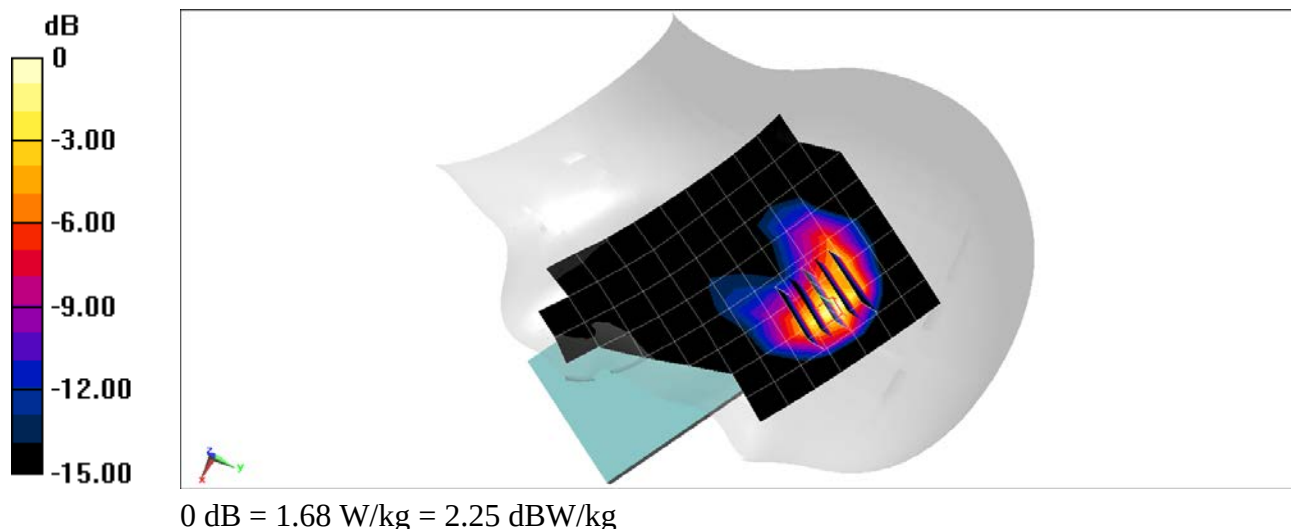
**Area Scan (9x13x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 28.98 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 2.36 W/kg

**SAR(1 g) = 0.976 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15951**

Communication System: UID 0, \_IEEE 802.11b; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: 2450 Head Medium parameters used (interpolated):

$f = 2462 \text{ MHz}$ ;  $\sigma = 1.836 \text{ S/m}$ ;  $\epsilon_r = 38.773$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 09/29/2020; Ambient Temp: 23.1°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN3589; ConvF(6.85, 6.85, 6.85) @ 2462 MHz; Calibrated: 1/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1558; Calibrated: 1/13/2020

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

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

**Mode: IEEE 802.11b, Antenna 1, 22 MHz Bandwidth, Right Head, Cheek, Ch 11, 1 Mbps**

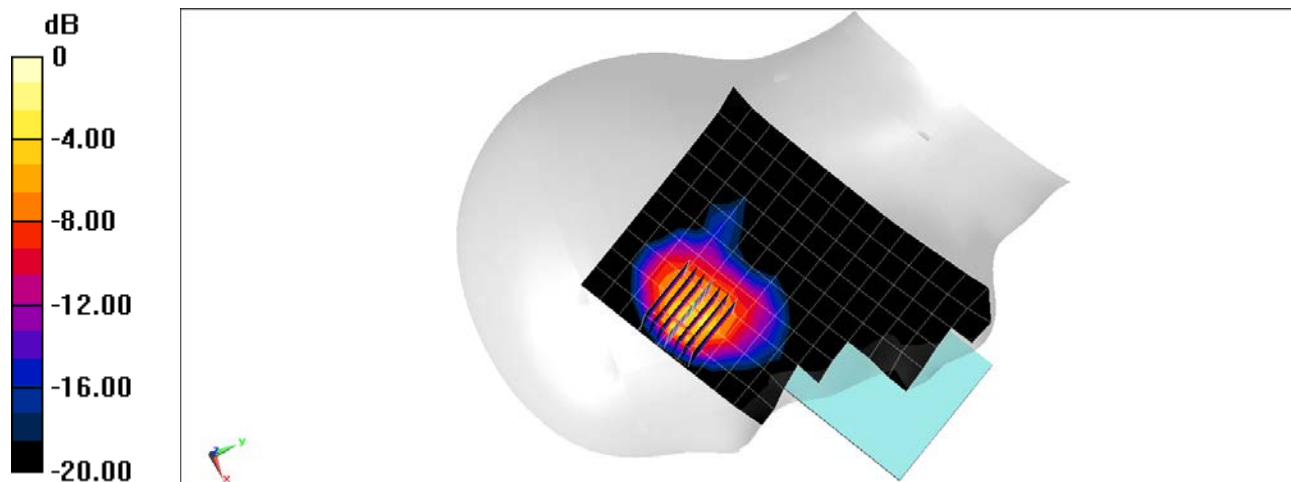
**Area Scan (11x18x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

**Zoom Scan (8x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 2.666 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 1.56 W/kg

**SAR(1 g) = 0.536 W/kg**



0 dB = 1.17 W/kg = 0.68 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15936**

Communication System: UID 0, \_IEEE 802.11n; Frequency: 5710 MHz; Duty Cycle: 1:1

Medium: 5200-5800 Head Medium parameters used:

$f = 5710 \text{ MHz}$ ;  $\sigma = 4.947 \text{ S/m}$ ;  $\epsilon_r = 34.529$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 09/28/2020; Ambient Temp: 22.5°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN7402; ConvF(4.7, 4.7, 4.7) @ 5710 MHz; Calibrated: 4/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1502; Calibrated: 4/15/2020

Phantom: Twin-SAM V5.0(20); Type: QD 000 P40 CD; Serial: 1868

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

**Mode: IEEE 802.11n, MIMO, U-NII-2C, 40 MHz Bandwidth,  
Right Head, Cheek, Ch 142, 27 Mbps**

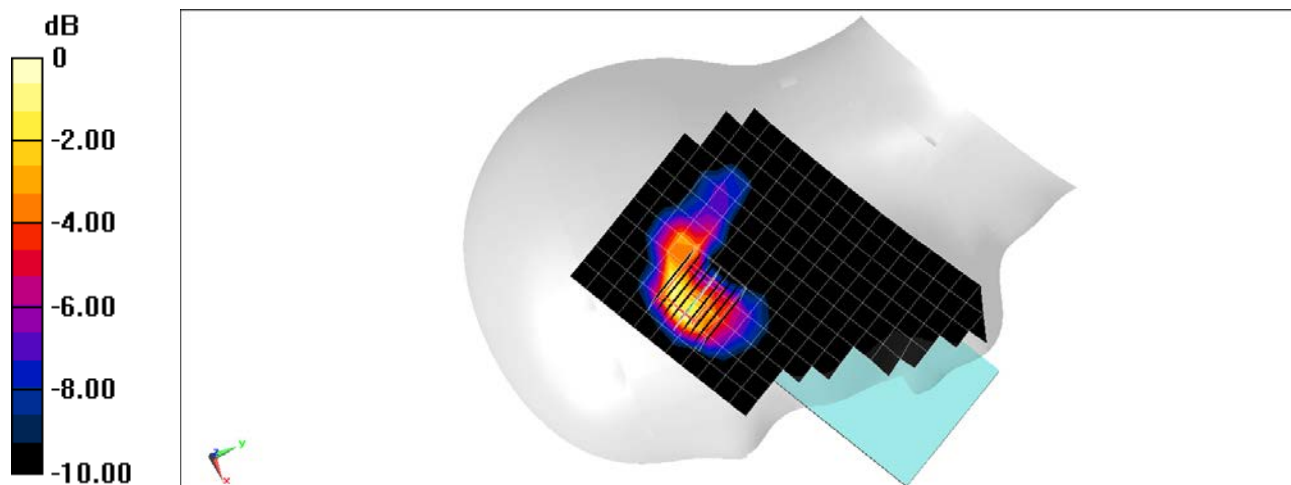
**Area Scan (13x22x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

**Zoom Scan (9x9x8)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=1.4\text{mm}$ ; Graded Ratio: 1.4

Reference Value = 10.89 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 2.16 W/kg

**SAR(1 g) = 0.486 W/kg**



0 dB = 1.18 W/kg = 0.72 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15951**

Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.300

Medium: 2450 Head Medium parameters used (interpolated):

$f = 2441 \text{ MHz}$ ;  $\sigma = 1.823 \text{ S/m}$ ;  $\epsilon_r = 38.341$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Test Date: 10/02/2020; Ambient Temp: 23.1°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN3589; ConvF(6.85, 6.85, 6.85) @ 2441 MHz; Calibrated: 1/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1558; Calibrated: 1/13/2020

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

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

**Mode: Bluetooth, Right Head, Cheek, Ch 39, 1Mbps**

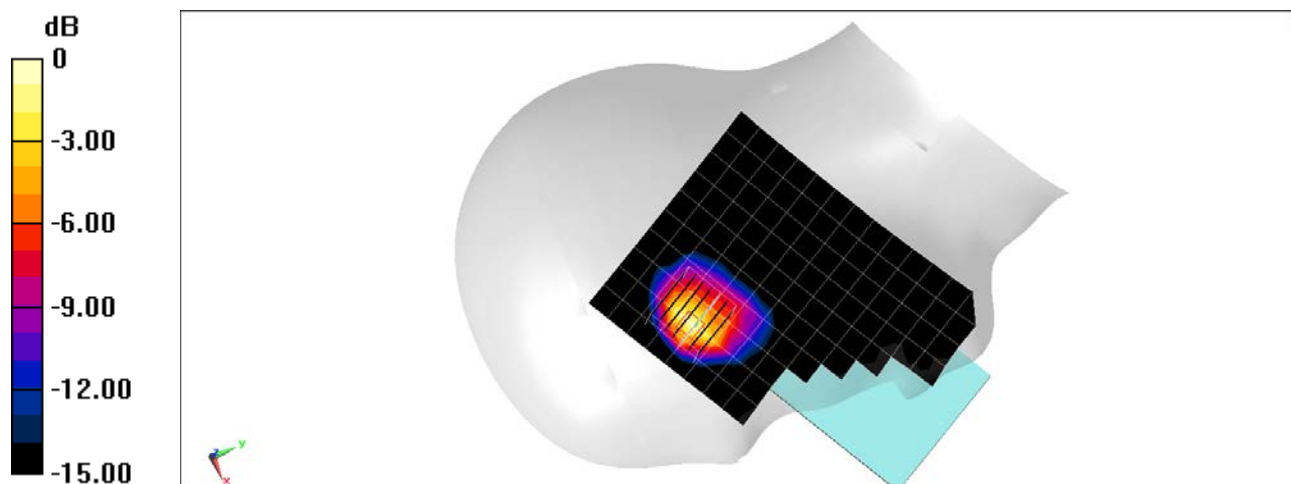
**Area Scan (11x17x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 11.36 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.636 W/kg

**SAR(1 g) = 0.219 W/kg**



0 dB = 0.406 W/kg = -3.91 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 92638**

Communication System: UID 0, CDMA; Frequency: 820.1 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used (interpolated):

$f = 820.1$  MHz;  $\sigma = 0.938$  S/m;  $\epsilon_r = 54.755$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/28/2020; Ambient Temp: 22.0°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7308; ConvF(9.92, 9.92, 9.92) @ 820.1 MHz; Calibrated: 7/31/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1450; Calibrated: 8/11/2020

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

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

**Mode: Cell. CDMA Rule Part 90S, Body SAR, Back Side, Mid.ch**

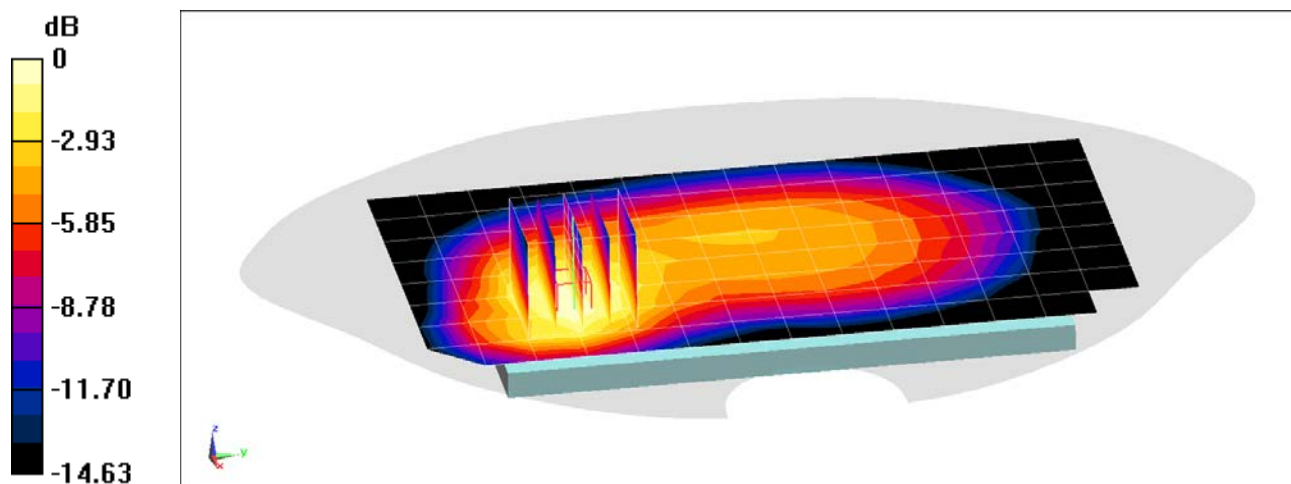
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 21.64 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.676 W/kg

**SAR(1 g) = 0.419 W/kg**



0 dB = 0.581 W/kg = -2.36 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 92638**

Communication System: UID 0, CDMA; Frequency: 820.1 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used (interpolated):

$f = 820.1$  MHz;  $\sigma = 0.938$  S/m;  $\epsilon_r = 54.755$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/28/2020; Ambient Temp: 22.0°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7308; ConvF(9.92, 9.92, 9.92) @ 820.1 MHz; Calibrated: 7/31/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1450; Calibrated: 8/11/2020

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

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

**Mode: Cell. EVDO Rule Part 90S, Body SAR, Back Side, Mid.ch**

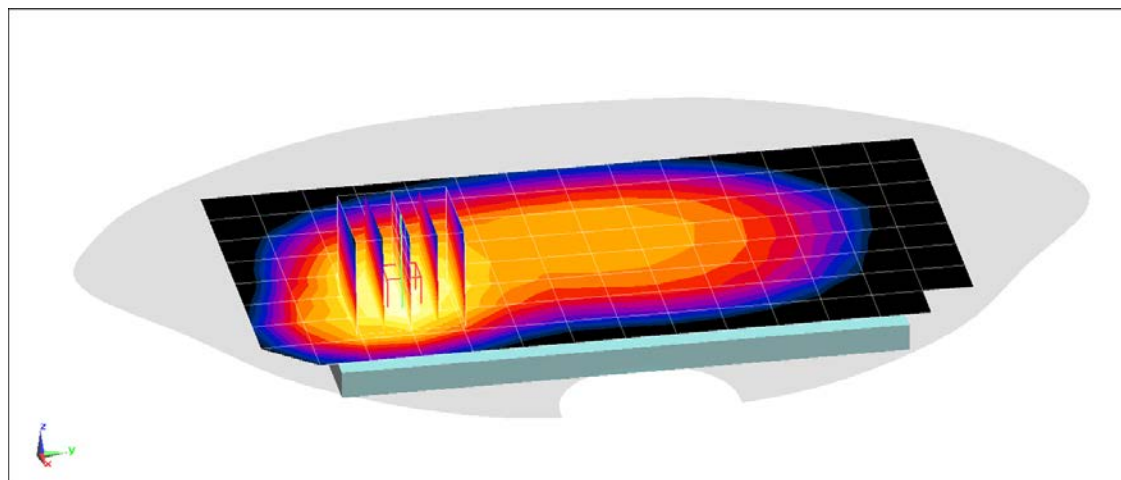
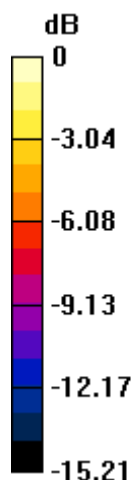
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 22.16 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.720 W/kg

**SAR(1 g) = 0.440 W/kg**



0 dB = 0.611 W/kg = -2.14 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 92638**

Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.52$  MHz;  $\sigma = 0.956$  S/m;  $\epsilon_r = 54.589$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/28/2020; Ambient Temp: 22.0°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7308; ConvF(9.92, 9.92, 9.92) @ 836.52 MHz; Calibrated: 7/31/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1450; Calibrated: 8/11/2020

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

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

**Mode: Cell. CDMA Rule Part 22H, Body SAR, Back Side, Mid.ch**

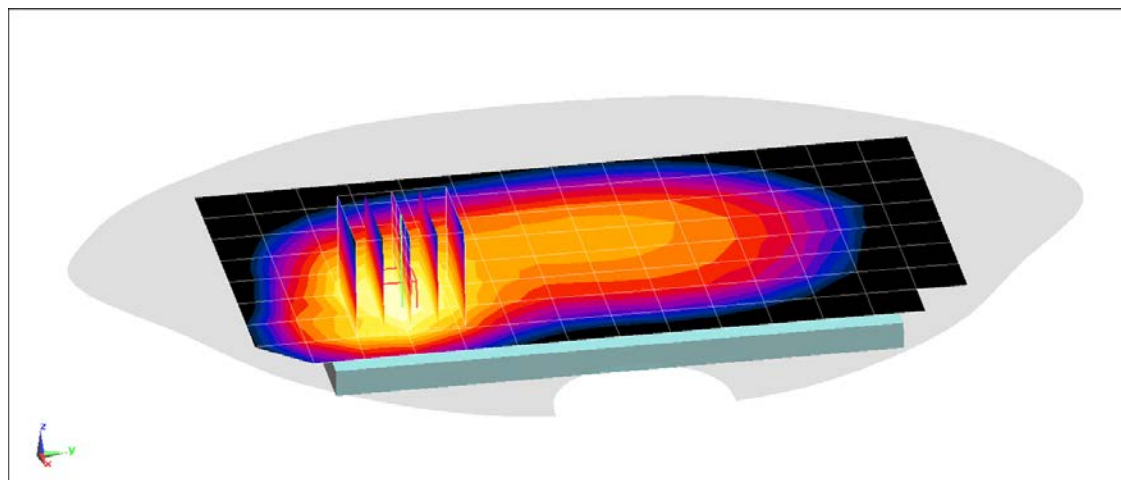
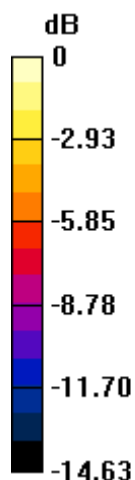
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 23.63 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.818 W/kg

**SAR(1 g) = 0.508 W/kg**



0 dB = 0.698 W/kg = -1.56 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 92638**

Communication System: UID 0, CDMA; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.52$  MHz;  $\sigma = 0.956$  S/m;  $\epsilon_r = 54.589$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/28/2020; Ambient Temp: 22.0°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7308; ConvF(9.92, 9.92, 9.92) @ 836.52 MHz; Calibrated: 7/31/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1450; Calibrated: 8/11/2020

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

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

**Mode: Cell. EVDO Rule Part 22H, Body SAR, Back Side, Mid.ch**

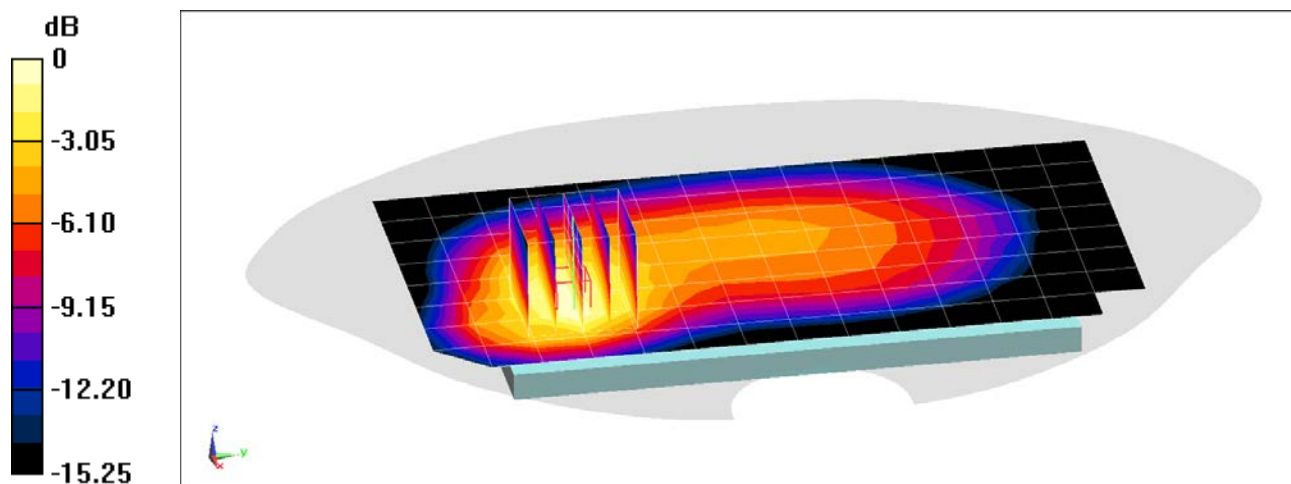
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 23.75 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.844 W/kg

**SAR(1 g) = 0.516 W/kg**



0 dB = 0.715 W/kg = -1.46 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 92679**

Communication System: UID 0, CDMA; Frequency: 1851.25 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1851.25$  MHz;  $\sigma = 1.488$  S/m;  $\epsilon_r = 52.874$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 10/04/2020; Ambient Temp: 21.3°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1851.25 MHz; Calibrated: 12/11/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1533; Calibrated: 12/5/2019

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

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

**Mode: PCS CDMA, Body SAR, Back Side, Mid.ch**

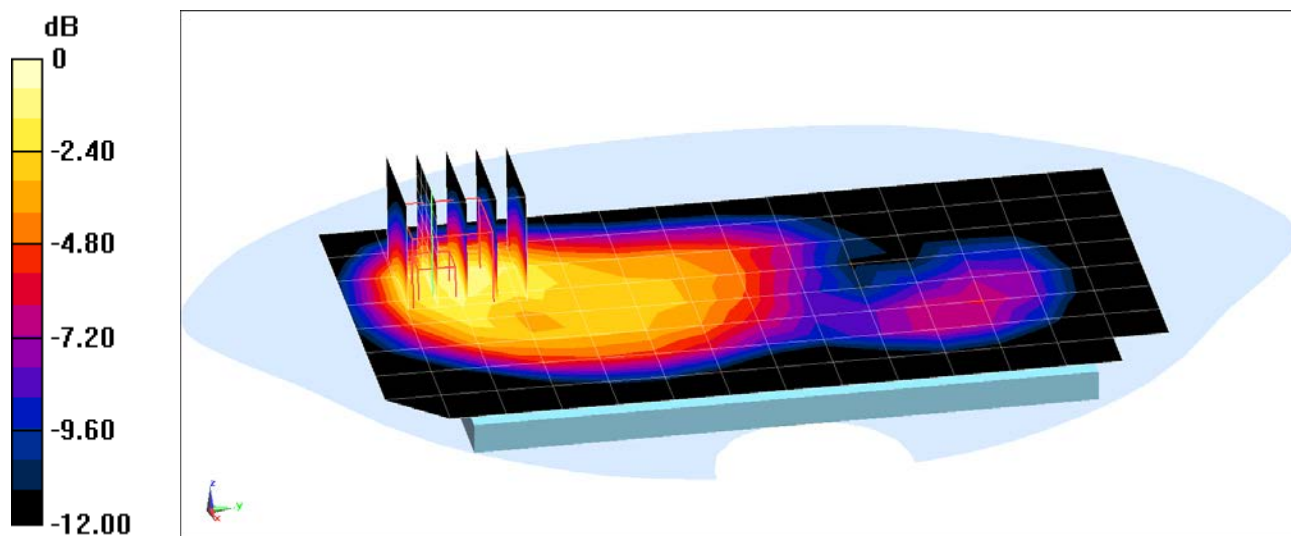
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 20.56 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.11 W/kg

**SAR(1 g) = 0.660 W/kg**



0 dB = 0.936 W/kg = -0.29 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 92679**

Communication System: UID 0, CDMA; Frequency: 1908.75 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1908.75$  MHz;  $\sigma = 1.551$  S/m;  $\epsilon_r = 52.681$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 10/04/2020; Ambient Temp: 21.3°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1908.75 MHz; Calibrated: 12/11/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1533; Calibrated: 12/5/2019

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

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

**Mode: PCS EVDO, Body SAR, Bottom Edge, High.ch**

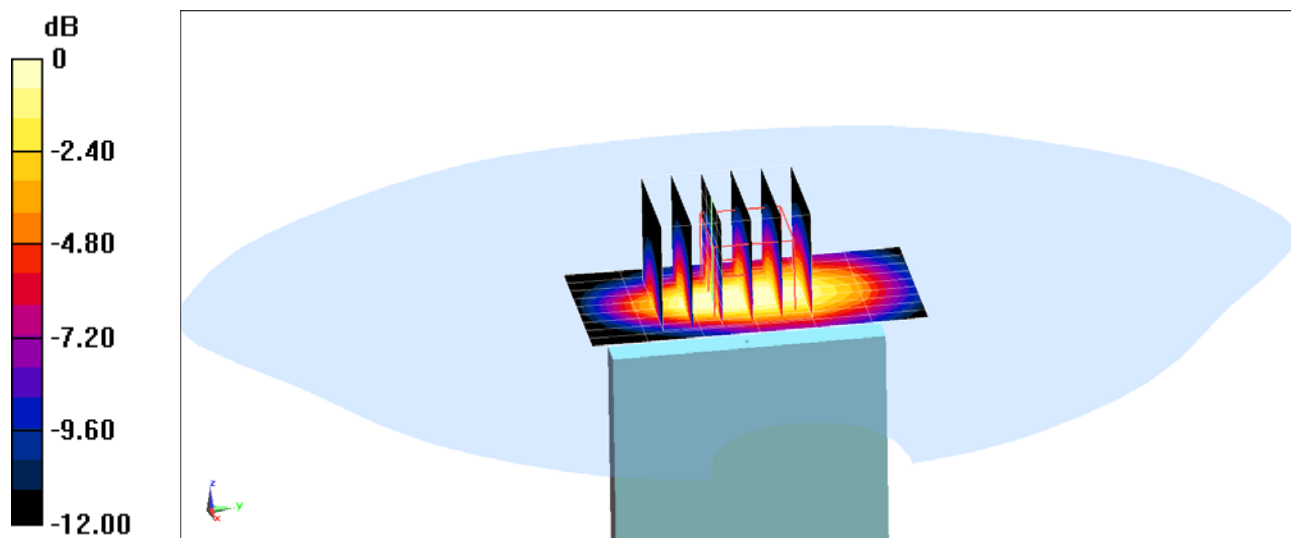
**Area Scan (10x7x1):** Measurement grid: dx=5mm, dy=15mm

**Zoom Scan (5x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 29.75 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 2.02 W/kg

**SAR(1 g) = 1.11 W/kg**



0 dB = 1.67 W/kg = 2.23 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15787**

Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 836.6 MHz; Duty Cycle: 1:2.76

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.6$  MHz;  $\sigma = 0.993$  S/m;  $\epsilon_r = 54.727$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/25/2020; Ambient Temp: 25.0°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN3837; ConvF(9.37, 9.37, 9.37) @ 836.6 MHz; Calibrated: 1/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn793; Calibrated: 1/14/2020

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

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

**Mode: GPRS 850, Body SAR, Back Side, Mid.ch, 3 Tx Slots**

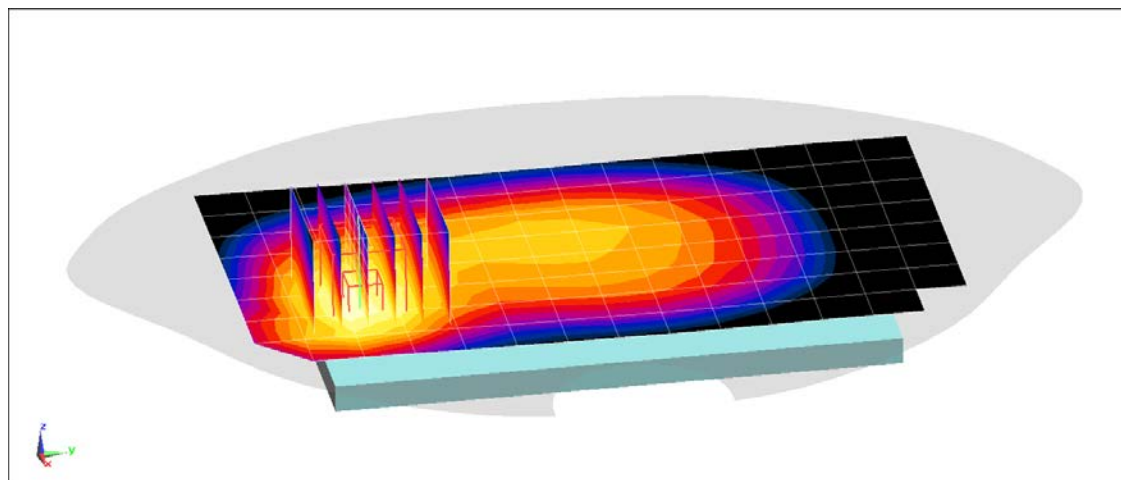
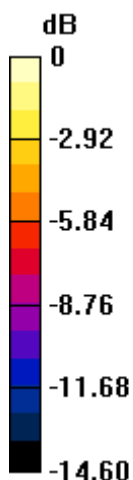
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.17 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.832 W/kg

**SAR(1 g) = 0.504 W/kg**



0 dB = 0.709 W/kg = -1.49 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15787**

Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:2.76

Medium: 1900 Body Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.565 \text{ S/m}$ ;  $\epsilon_r = 51.101$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/22/2020; Ambient Temp: 23.4°C; Tissue Temp: 23.8°C

Probe: EX3DV4 - SN7421; ConvF(7.68, 7.68, 7.68) @ 1880 MHz; Calibrated: 3/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/19/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

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

**Mode: GPRS 1900, Body SAR, Back Side, Mid.ch, 3 Tx Slots**

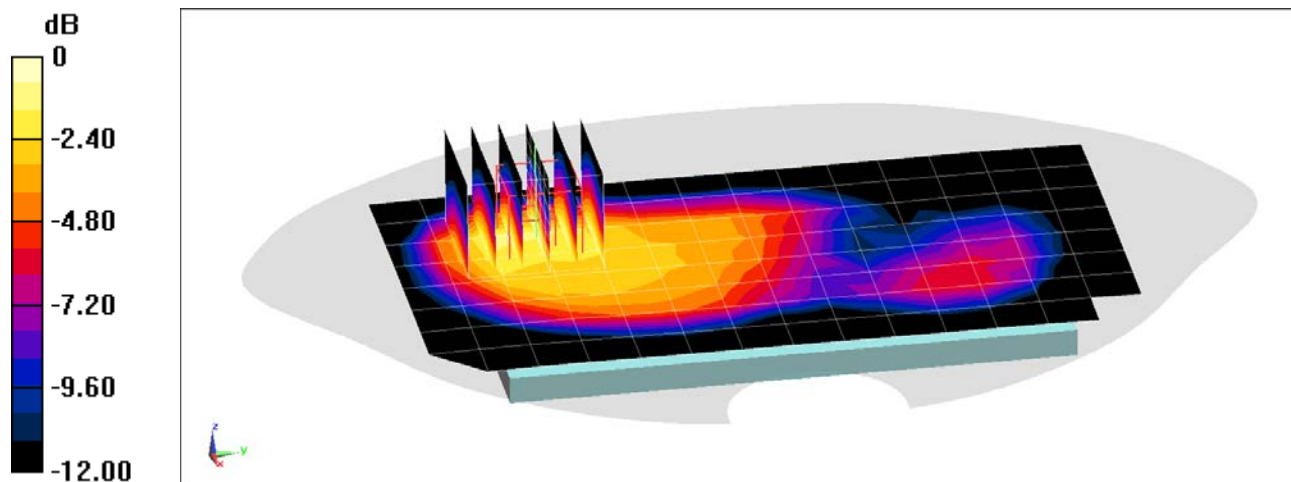
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.25 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.290 W/kg

**SAR(1 g) = 0.183 W/kg**



0 dB = 0.251 W/kg = -6.00 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15787**

Communication System: UID 0, GSM GPRS; 3 Tx slots; Frequency: 1880 MHz; Duty Cycle: 1:2.76

Medium: 1900 Body Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.565 \text{ S/m}$ ;  $\epsilon_r = 51.101$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/22/2020; Ambient Temp: 23.4°C; Tissue Temp: 23.8°C

Probe: EX3DV4 - SN7421; ConvF(7.68, 7.68, 7.68) @ 1880 MHz; Calibrated: 3/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/19/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

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

**Mode: GPRS 1900, Body SAR, Bottom Edge, Mid.ch, 3 Tx Slots**

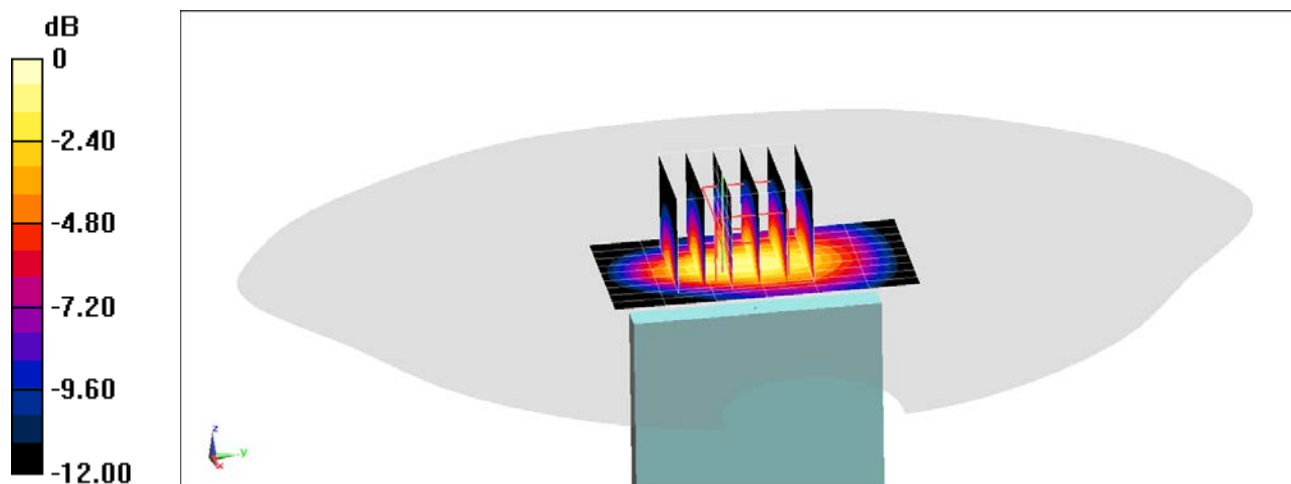
**Area Scan (10x7x1):** Measurement grid: dx=5mm, dy=15mm

**Zoom Scan (5x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.22 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.627 W/kg

**SAR(1 g) = 0.369 W/kg**



0 dB = 0.535 W/kg = -2.72 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15787**

Communication System: UID 0, UMTS; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.6$  MHz;  $\sigma = 0.994$  S/m;  $\epsilon_r = 54.475$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/23/2020; Ambient Temp: 22.3°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN3837; ConvF(9.37, 9.37, 9.37) @ 836.6 MHz; Calibrated: 1/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn793; Calibrated: 1/14/2020

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

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

**Mode: UMTS 850, Body SAR, Back Side, Mid.ch**

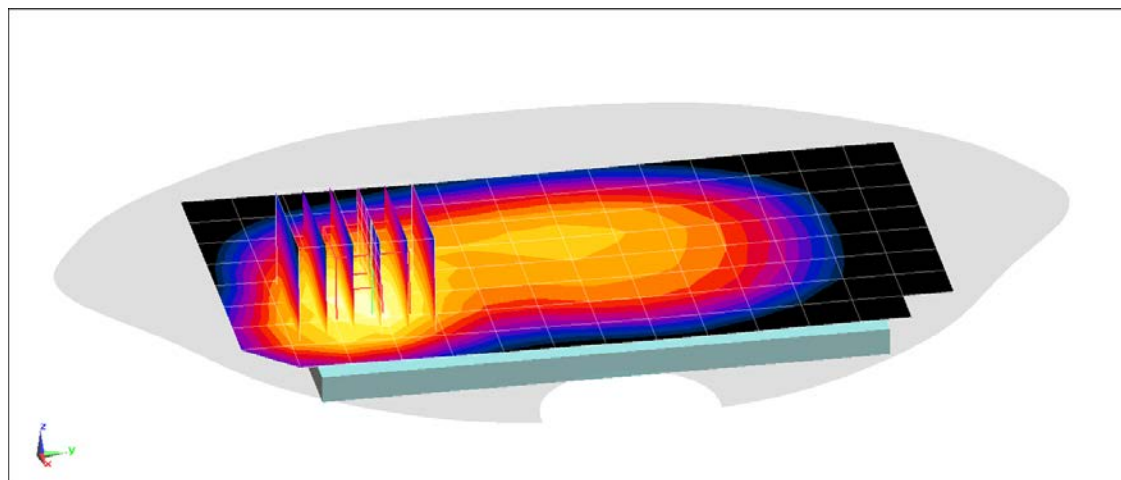
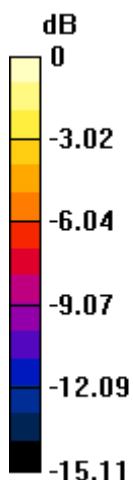
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.81 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.582 W/kg

**SAR(1 g) = 0.344 W/kg**



0 dB = 0.464 W/kg = -3.33 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15787**

Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1732.4$  MHz;  $\sigma = 1.516$  S/m;  $\epsilon_r = 52.234$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 10/04/2020; Ambient Temp: 20.1°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7490; ConvF(8.54, 8.54, 8.54) @ 1732.4 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) SUB use; Type: QD 000 P40 CC; Serial: 1403

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

**Mode: UMTS 1750, Body SAR, Back Side, Mid.ch**

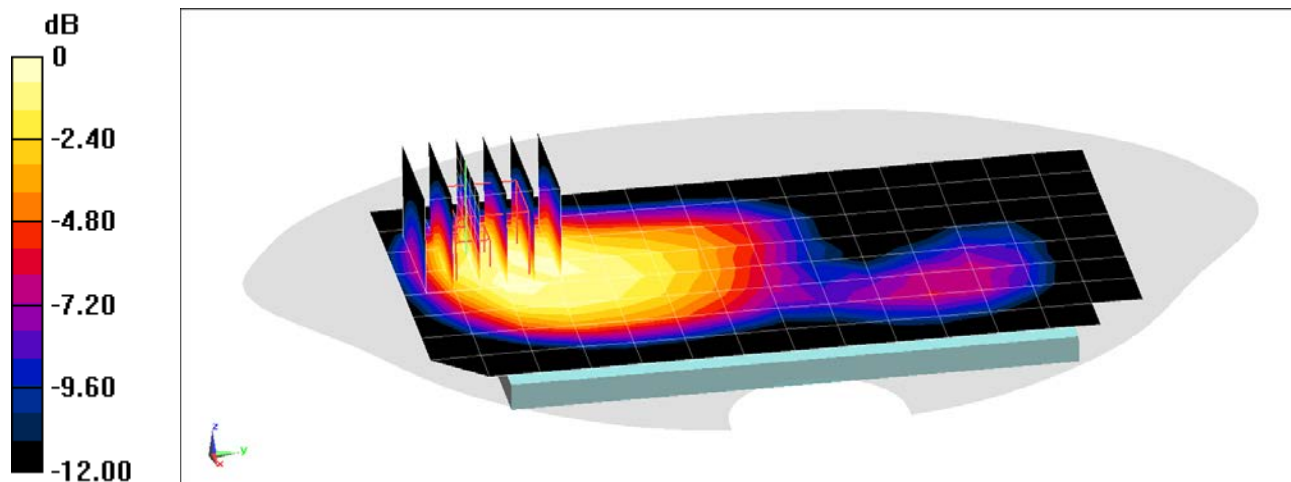
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.59 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.837 W/kg

**SAR(1 g) = 0.491 W/kg**



0 dB = 0.702 W/kg = -1.54 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15787**

Communication System: UID 0, UMTS; Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1732.4$  MHz;  $\sigma = 1.488$  S/m;  $\epsilon_r = 52.13$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/22/2020; Ambient Temp: 20.1°C; Tissue Temp: 19.4°C

Probe: EX3DV4 - SN7416; ConvF(7.85, 7.85, 7.85) @ 1732.4 MHz; Calibrated: 6/22/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn701; Calibrated: 6/11/2020

Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1936

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

**Mode: UMTS 1750, Body SAR, Bottom Edge, Mid.ch**

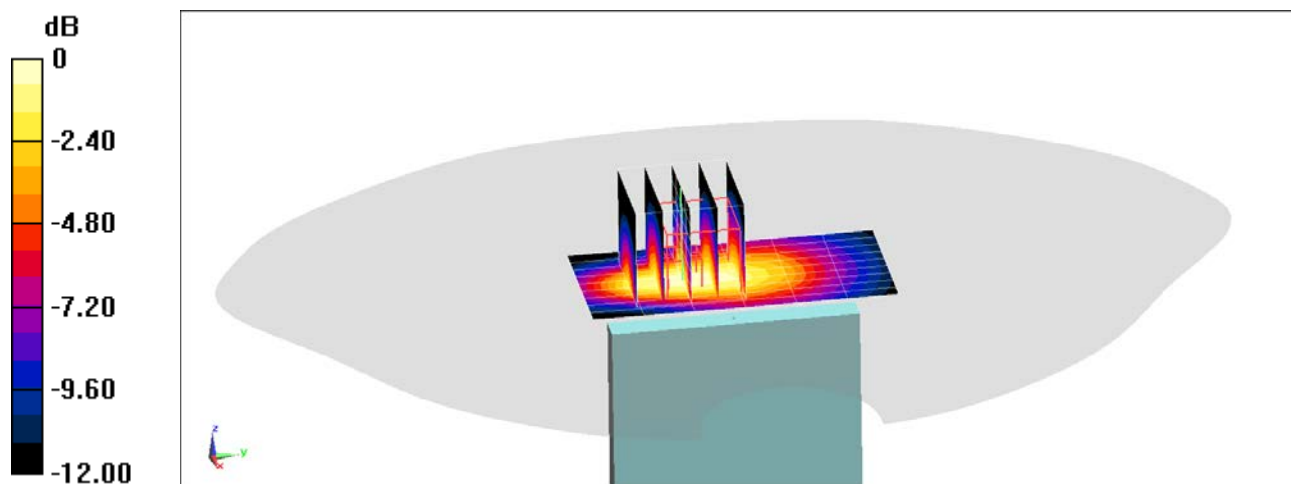
**Area Scan (10x7x1):** Measurement grid: dx=5mm, dy=15mm

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

Reference Value = 19.84 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.923 W/kg

**SAR(1 g) = 0.517 W/kg**



0 dB = 0.782 W/kg = -1.07 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15795**

Communication System: UID 0, UMTS; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.519 \text{ S/m}$ ;  $\epsilon_r = 51.596$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/24/2020; Ambient Temp: 21.5°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN7421; ConvF(7.68, 7.68, 7.68) @ 1880 MHz; Calibrated: 3/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/19/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

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

**Mode: UMTS 1900, Body SAR, Back Side, Mid.ch**

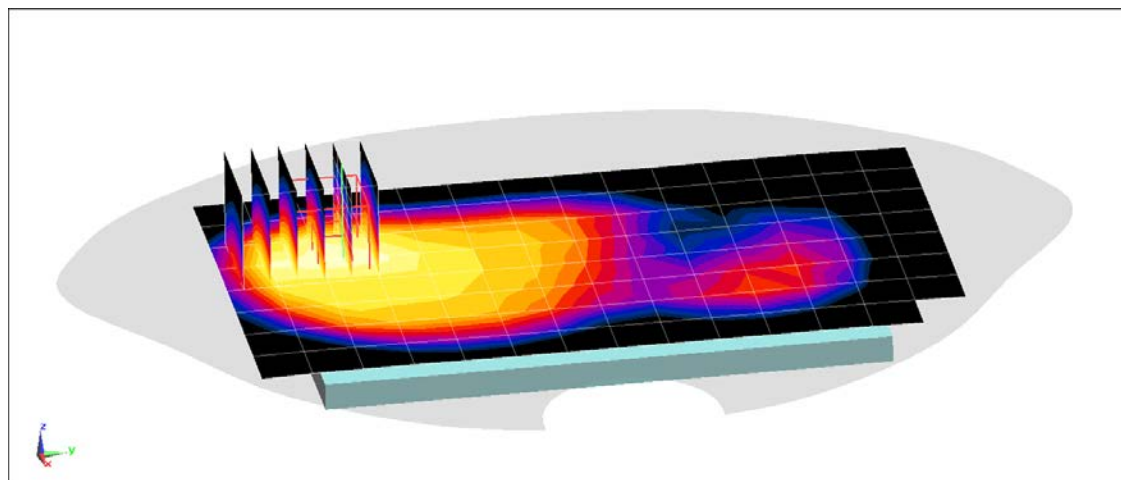
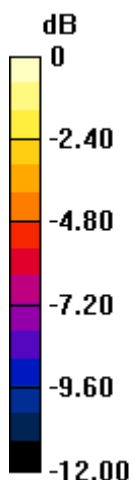
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (5x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.48 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.690 W/kg

**SAR(1 g) = 0.433 W/kg**



0 dB = 0.591 W/kg = -2.28 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15795**

Communication System: UID 0, UMTS; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1852.4 \text{ MHz}$ ;  $\sigma = 1.548 \text{ S/m}$ ;  $\epsilon_r = 53.362$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 10/01/2020; Ambient Temp: 21.1°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN3837; ConvF(7.68, 7.68, 7.68) @ 1852.4 MHz; Calibrated: 1/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn793; Calibrated: 1/14/2020

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

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

**Mode: UMTS 1900, Body SAR, Bottom Edge, Low.ch**

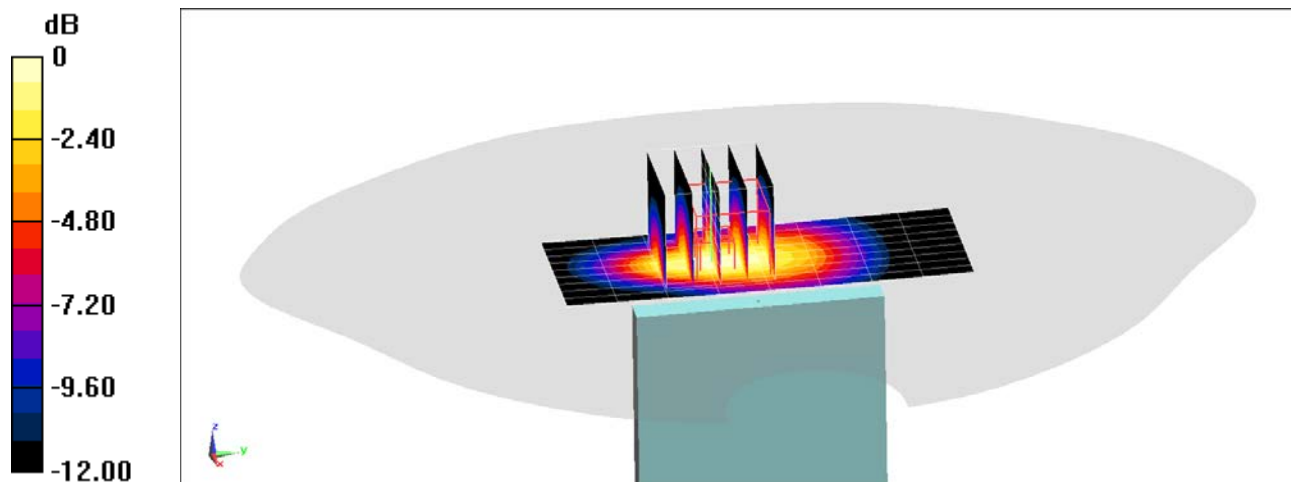
**Area Scan (10x9x1):** Measurement grid: dx=5mm, dy=15mm

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

Reference Value = 22.68 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.34 W/kg

**SAR(1 g) = 0.728 W/kg**



0 dB = 1.12 W/kg = 0.49 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15811**

Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1

Medium: 750 Body Medium parameters used (interpolated):

$f = 680.5 \text{ MHz}$ ;  $\sigma = 0.969 \text{ S/m}$ ;  $\epsilon_r = 54.128$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/30/2020; Ambient Temp: 22.7°C; Tissue Temp: 21.4°C

Probe: EX3DV4 - SN7490; ConvF(10.37, 10.37, 10.37) @ 680.5 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) SUB use; Type: QD 000 P40 CC; Serial: 1403

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

**Mode: LTE Band 71, Body SAR, Back Side, Mid.ch,  
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

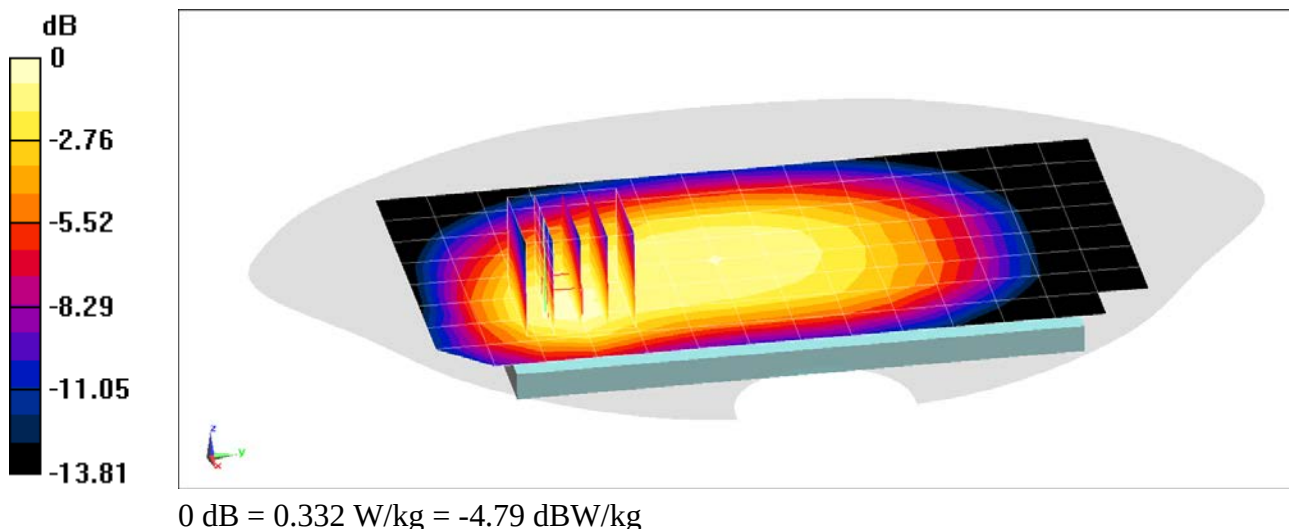
**Area Scan (9x15x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Reference Value = 16.67 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.388 W/kg

**SAR(1 g) = 0.255 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15811**

Communication System: UID 0, LTE Band 71; Frequency: 680.5 MHz; Duty Cycle: 1:1

Medium: 750 Body Medium parameters used (interpolated):

$f = 680.5$  MHz;  $\sigma = 0.969$  S/m;  $\epsilon_r = 54.128$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/30/2020; Ambient Temp: 22.7°C; Tissue Temp: 21.4°C

Probe: EX3DV4 - SN7490; ConvF(10.37, 10.37, 10.37) @ 680.5 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) SUB use; Type: QD 000 P40 CC; Serial: 1403

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

**Mode: LTE Band 71, Body SAR, Left Edge, Mid.ch,  
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

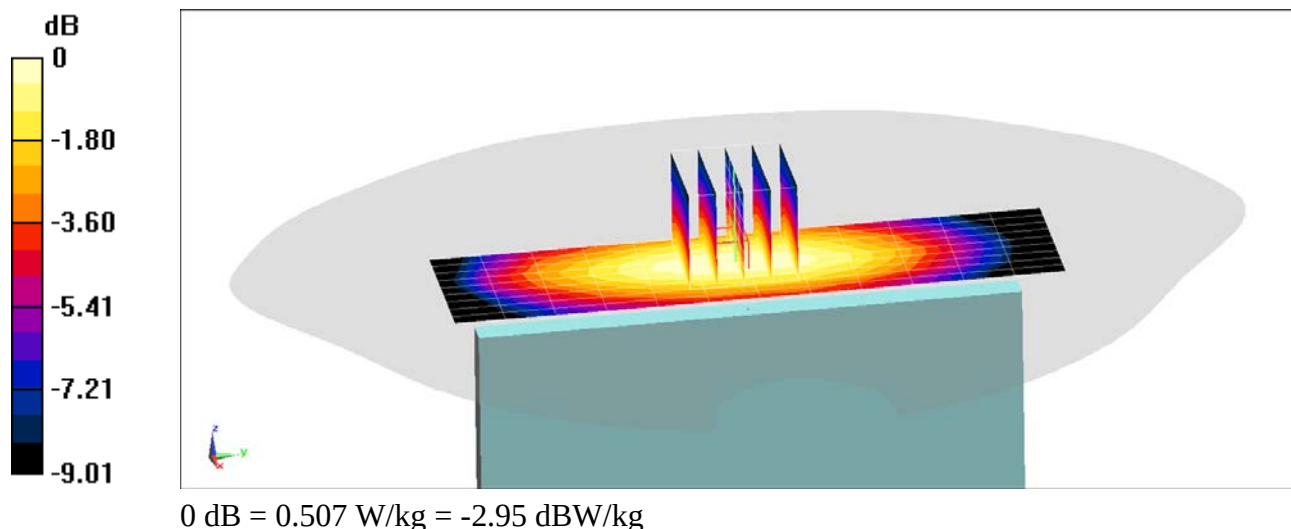
**Area Scan (10x13x1):** Measurement grid: dx=5mm, dy=15mm

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

Reference Value = 20.56 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.569 W/kg

**SAR(1 g) = 0.389 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15811**

Communication System: UID 0, LTE Band 12; Frequency: 707.5 MHz; Duty Cycle: 1:1

Medium: 750 Body Medium parameters used (interpolated):

$f = 707.5$  MHz;  $\sigma = 0.962$  S/m;  $\epsilon_r = 54.201$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/30/2020; Ambient Temp: 20.0°C; Tissue Temp: 19.9°C

Probe: EX3DV4 - SN3837; ConvF(9.55, 9.55, 9.55) @ 707.5 MHz; Calibrated: 1/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn793; Calibrated: 1/14/2020

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

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

**Mode: LTE Band 12, Body SAR, Back Side, Mid.ch,**

**10 MHz Bandwidth, QPSK, 1 RB, 49 RB Offset**

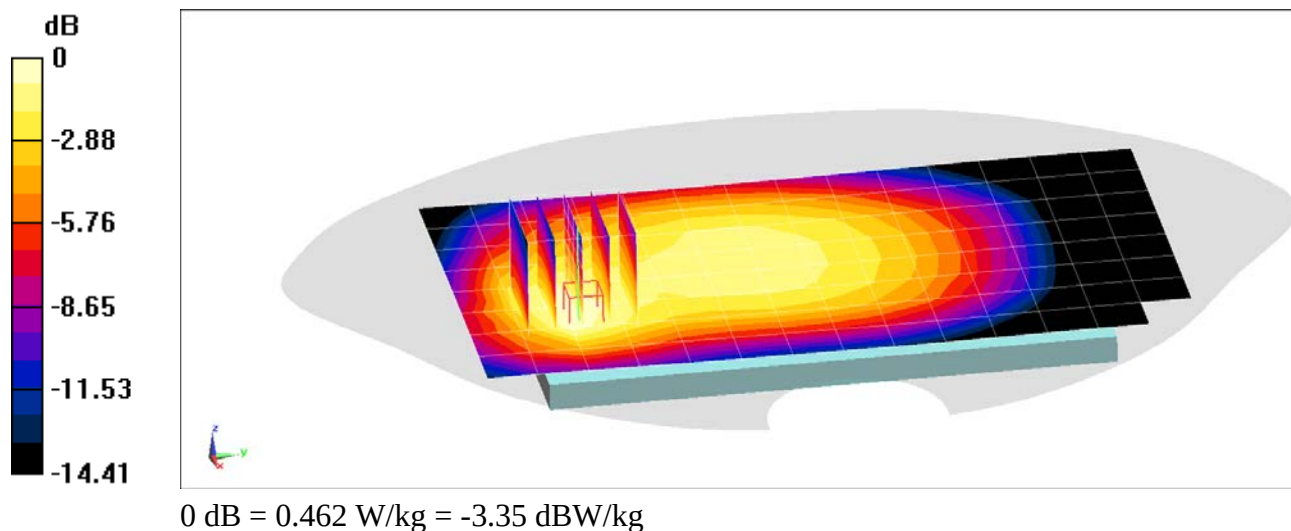
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 16.56 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.542 W/kg

**SAR(1 g) = 0.328 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15811**

Communication System: UID 0, LTE Band 13; Frequency: 782 MHz; Duty Cycle: 1:1

Medium: 750 Body Medium parameters used (interpolated)

$f = 782 \text{ MHz}$ ;  $\sigma = 0.979 \text{ S/m}$ ;  $\epsilon_r = 54.856$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/23/2020; Ambient Temp: 21.9°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7491; ConvF(10.44, 10.44, 10.44) @ 782 MHz; Calibrated: 7/16/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1402; Calibrated: 7/9/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1596

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

**Mode: LTE Band 13, Body SAR, Back Side, Mid.ch,  
10 MHz Bandwidth, QPSK, 1 RB, 25 RB Offset**

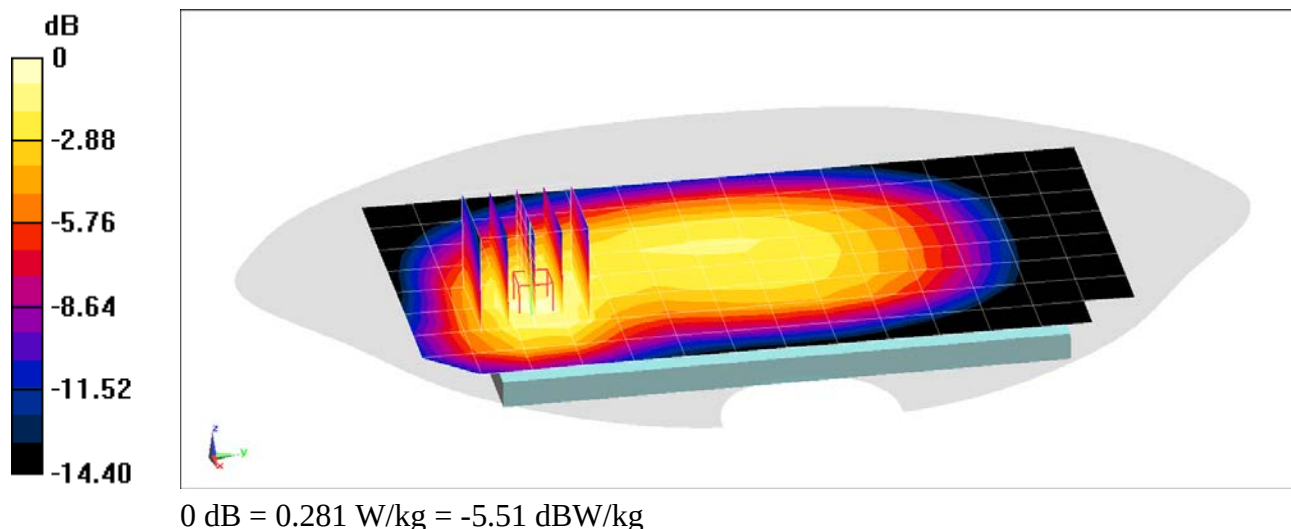
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 15.06 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.325 W/kg

**SAR(1 g) = 0.206 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15811**

Communication System: UID 0, LTE Band 14; Frequency: 793 MHz; Duty Cycle: 1:1

Medium: 750 Body Medium parameters used (interpolated):

$f = 793 \text{ MHz}$ ;  $\sigma = 0.983 \text{ S/m}$ ;  $\epsilon_r = 54.837$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/23/2020; Ambient Temp: 21.9°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7491; ConvF(10.44, 10.44, 10.44) @ 793 MHz; Calibrated: 7/16/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1402; Calibrated: 7/9/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1596

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

**Mode: LTE Band 14, Body SAR, Back Side, Mid.ch,  
10 MHz Bandwidth, QPSK, 1 RB, 25 RB Offset**

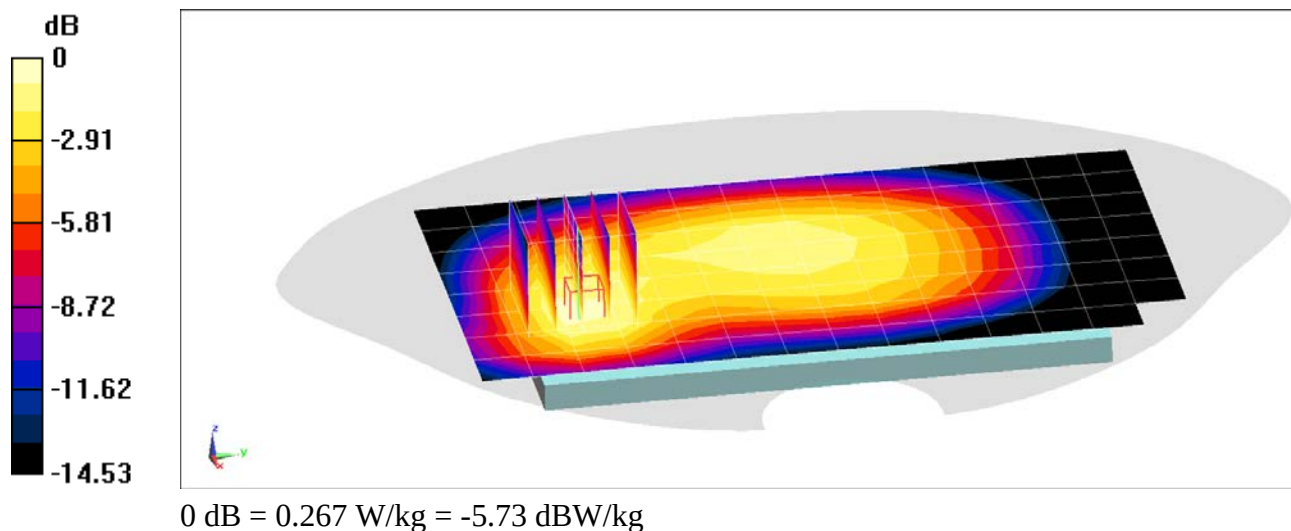
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 14.57 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.314 W/kg

**SAR(1 g) = 0.198 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15811**

Communication System: UID 0, LTE Band 14; Frequency: 793 MHz; Duty Cycle: 1:1

Medium: 750 Body Medium parameters used (interpolated):

$$f = 793 \text{ MHz}; \sigma = 0.983 \text{ S/m}; \epsilon_r = 54.837; \rho = 1000 \text{ kg/m}^3$$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/23/2020; Ambient Temp: 21.9°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7491; ConvF(10.44, 10.44, 10.44) @ 793 MHz; Calibrated: 7/16/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1402; Calibrated: 7/9/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1596

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

**Mode: LTE Band 14, Body SAR, Front Side, Mid.ch,**

### 10 MHz Bandwidth, QPSK, 1 RB, 25 RB Offset

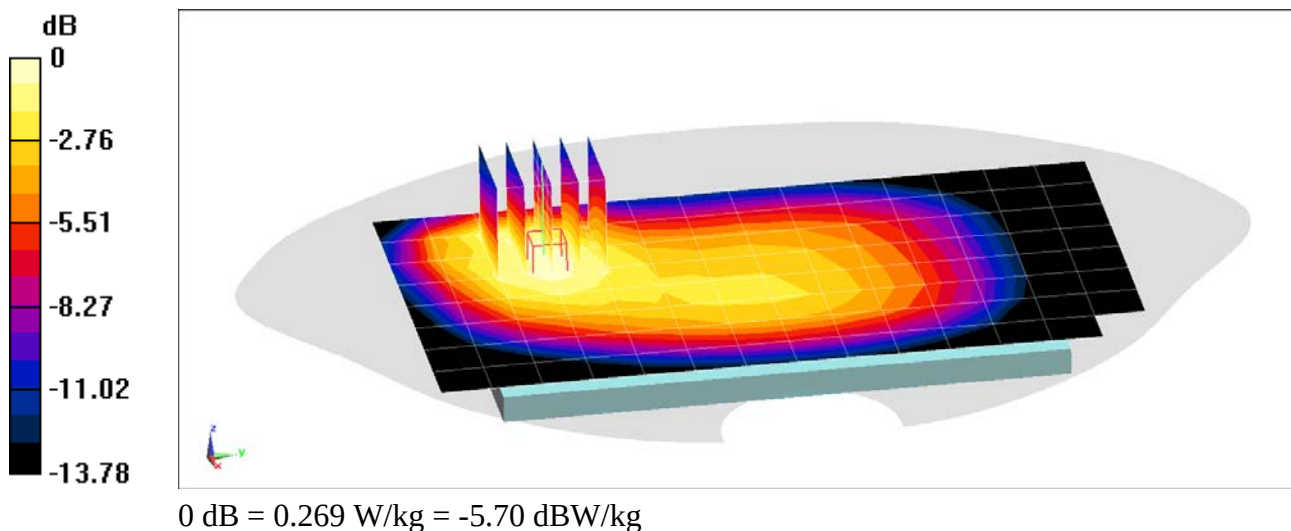
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 14.47 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.313 W/kg

**SAR(1 g) = 0.202 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15803**

Communication System: UID 0, LTE Band 26; Frequency: 831.5 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used (interpolated):

$f = 831.5$  MHz;  $\sigma = 1.013$  S/m;  $\epsilon_r = 53.367$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/24/2020; Ambient Temp: 23.3°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7490; ConvF(10.18, 10.18, 10.18) @ 831.5 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) SUB use; Type: QD 000 P40 CC; Serial: 1403

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

**Mode: LTE Band 26 (Cell.), Body SAR, Back Side, Mid.ch,  
15 MHz Bandwidth, QPSK, 1 RB, 36 RB Offset**

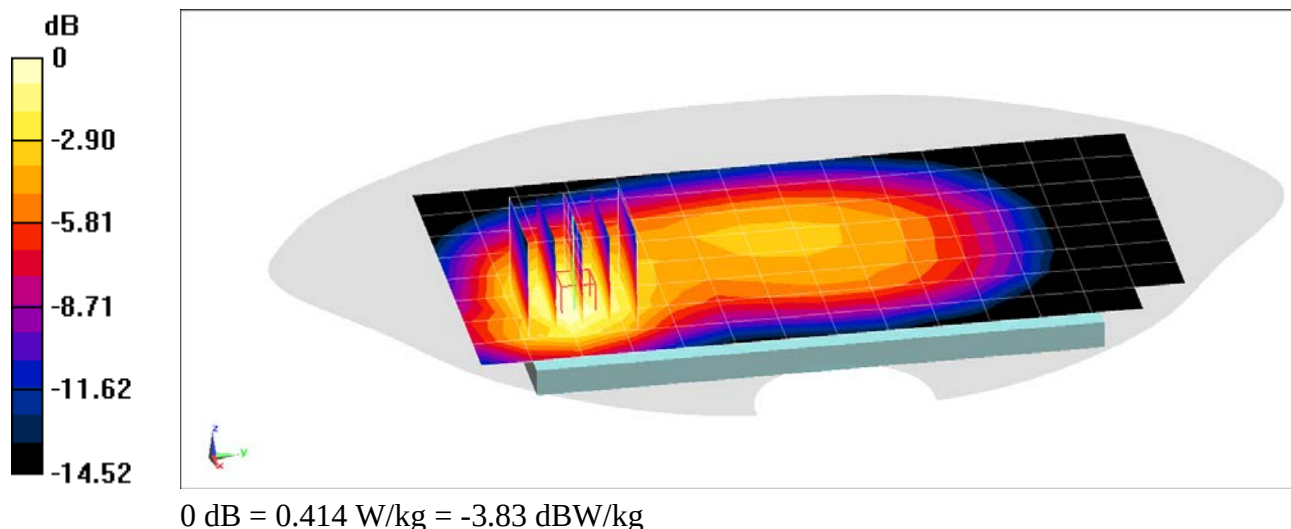
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 17.35 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.478 W/kg

**SAR(1 g) = 0.298 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15803**

Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.5$  MHz;  $\sigma = 1.015$  S/m;  $\epsilon_r = 53.352$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/24/2020; Ambient Temp: 23.3°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7490; ConvF(10.18, 10.18, 10.18) @ 836.5 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) SUB use; Type: QD 000 P40 CC; Serial: 1403

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

**Mode: LTE Band 5 (Cell.), Body SAR, Back Side, Mid.ch,  
10 MHz Bandwidth, QPSK, 1 RB, 25 RB Offset**

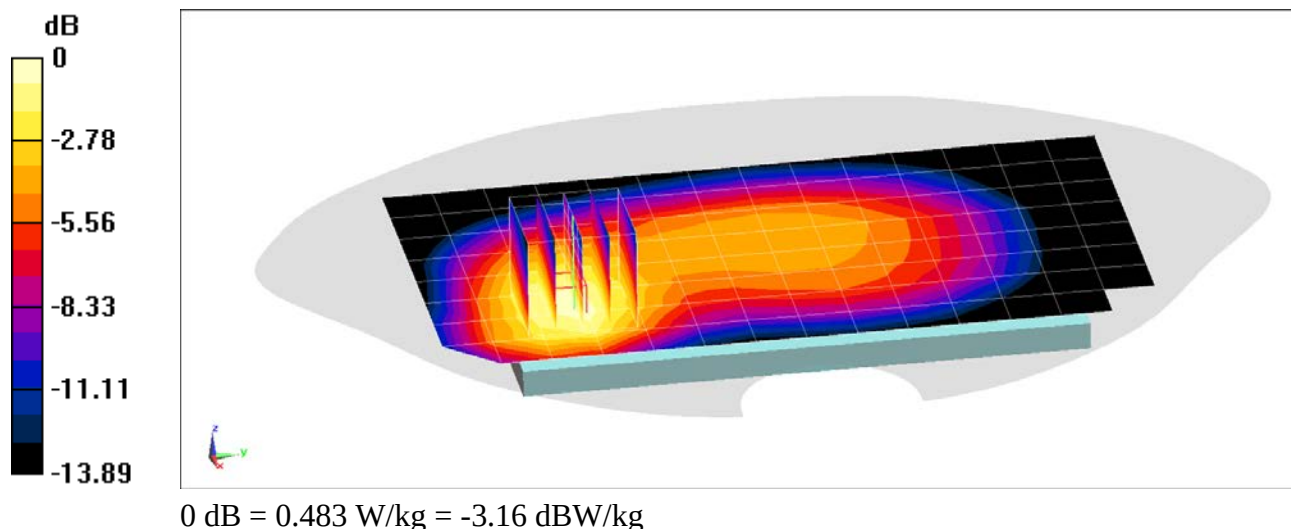
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 19.50 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.571 W/kg

**SAR(1 g) = 0.361 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15803**

Communication System: UID 0, LTE Band 5 (Cell.); Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.5$  MHz;  $\sigma = 1.011$  S/m;  $\epsilon_r = 53.732$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/28/2020; Ambient Temp: 24.5°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN3837; ConvF(9.37, 9.37, 9.37) @ 836.5 MHz; Calibrated: 1/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn793; Calibrated: 1/14/2020

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

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

**Mode: LTE Band 5 (Cell.), Body SAR, Front Side, Mid.ch,  
10 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

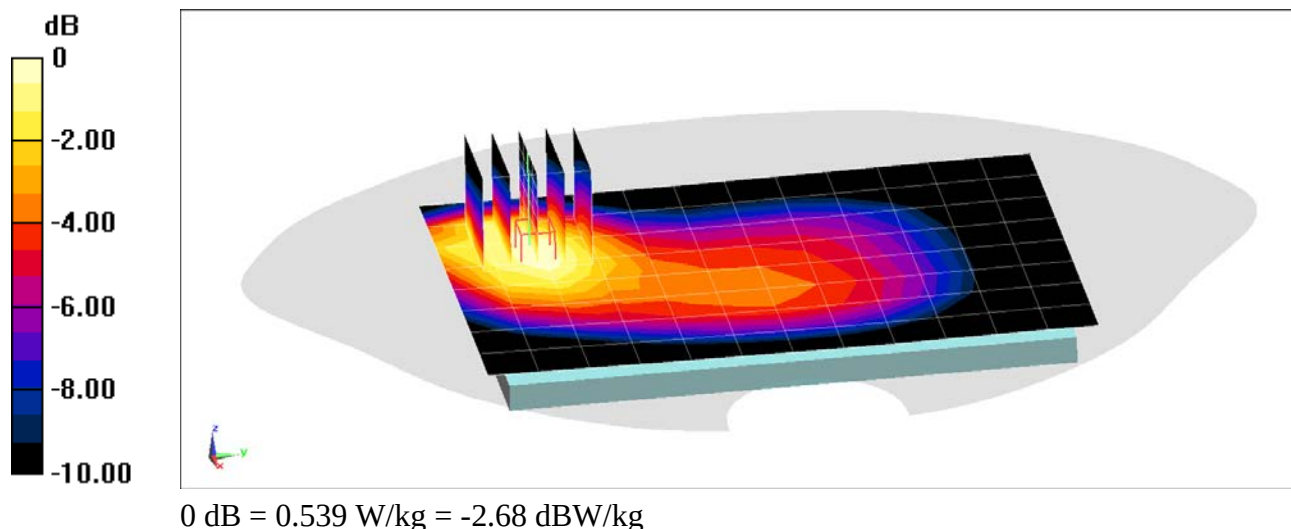
**Area Scan (9x13x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 20.06 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.639 W/kg

**SAR(1 g) = 0.387 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15837**

Communication System: UID 0, \_LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1770 \text{ MHz}$ ;  $\sigma = 1.525 \text{ S/m}$ ;  $\epsilon_r = 51.999$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/22/2020; Ambient Temp: 20.1°C; Tissue Temp: 19.4°C

Probe: EX3DV4 - SN7416; ConvF(7.85, 7.85, 7.85) @ 1770 MHz; Calibrated: 6/22/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn701; Calibrated: 6/11/2020

Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1936

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

**Mode: LTE Band 66 (AWS), Antenna 2, Body SAR, Back Side, High.ch,  
20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

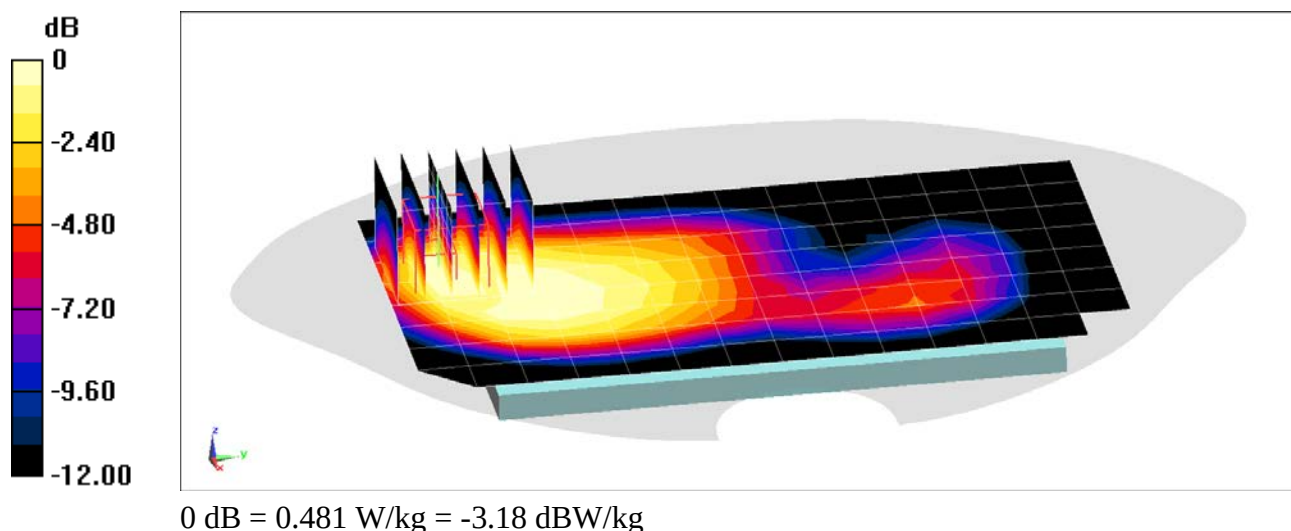
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.41 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.572 W/kg

**SAR(1 g) = 0.346 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15837**

Communication System: UID 0, \_LTE Band 66 (AWS); Frequency: 1770 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1770 \text{ MHz}$ ;  $\sigma = 1.525 \text{ S/m}$ ;  $\epsilon_r = 51.999$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/22/2020; Ambient Temp: 20.1°C; Tissue Temp: 19.4°C

Probe: EX3DV4 - SN7416; ConvF(7.85, 7.85, 7.85) @ 1770 MHz; Calibrated: 6/22/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn701; Calibrated: 6/11/2020

Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1936

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

**Mode: LTE Band 66 (AWS), Antenna 2, Body SAR, Bottom Edge, High.ch,  
20 MHz Bandwidth, QPSK, 50 RB, 50 RB Offset**

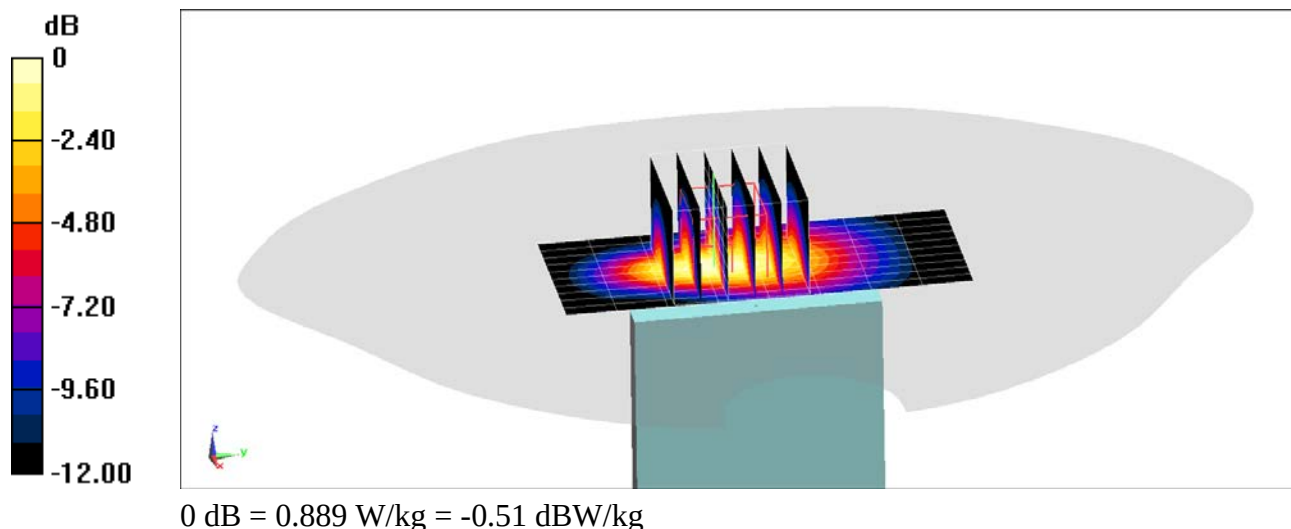
**Area Scan (11x9x1):** Measurement grid: dx=5mm, dy=15mm

**Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 20.69 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.06 W/kg

**SAR(1 g) = 0.590 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15811**

Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1860 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1860 \text{ MHz}$ ;  $\sigma = 1.55 \text{ S/m}$ ;  $\epsilon_r = 51.119$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/22/2020; Ambient Temp: 23.4°C; Tissue Temp: 23.8°C

Probe: EX3DV4 - SN7421; ConvF(7.68, 7.68, 7.68) @ 1860 MHz; Calibrated: 3/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/19/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

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

**Mode: LTE Band 25 (PCS), Body SAR, Back Side, Low.ch,  
20 MHz Bandwidth, QPSK, 1 RB, 99 RB Offset**

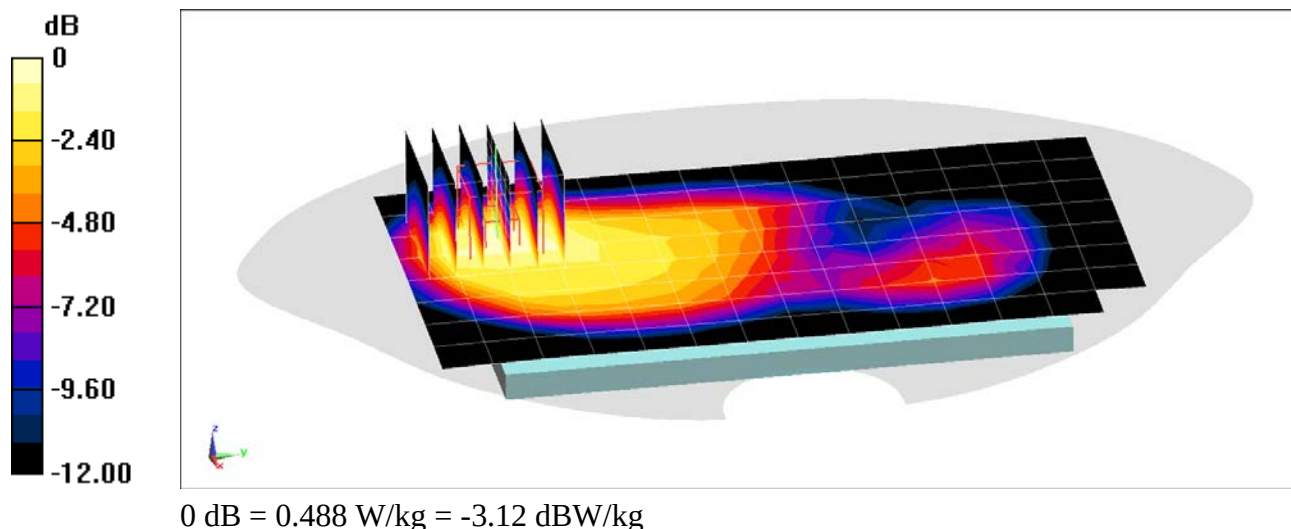
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.68 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.570 W/kg

**SAR(1 g) = 0.356 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15811**

Communication System: UID 0, LTE Band 25 (PCS); Frequency: 1905 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1905 \text{ MHz}$ ;  $\sigma = 1.58 \text{ S/m}$ ;  $\epsilon_r = 51.08$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/22/2020; Ambient Temp: 23.4°C; Tissue Temp: 23.8°C

Probe: EX3DV4 - SN7421; ConvF(7.68, 7.68, 7.68) @ 1905 MHz; Calibrated: 3/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/19/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

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

**Mode: LTE Band 25 (PCS), Body SAR, Bottom Edge, High.ch,  
20 MHz Bandwidth, QPSK, 50 RB, 0 RB Offset**

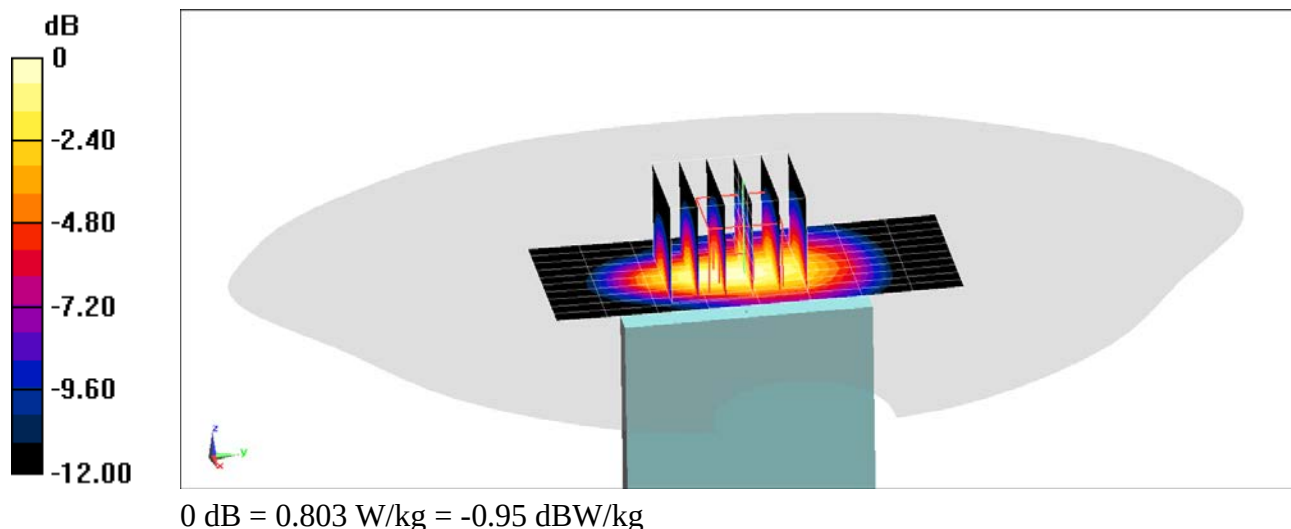
**Area Scan (11x9x1):** Measurement grid: dx=5mm, dy=15mm

**Zoom Scan (5x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.70 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.931 W/kg

**SAR(1 g) = 0.546 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15787**

Communication System: UID 0, LTE Band 2 (PCS); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1900 \text{ MHz}$ ;  $\sigma = 1.589 \text{ S/m}$ ;  $\epsilon_r = 51.095$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/28/2020; Ambient Temp: 23.1°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7490; ConvF(8.22, 8.22, 8.22) @ 1900 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) SUB use; Type: QD 000 P40 CC; Serial: 1403

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

**Mode: LTE Band 2 (PCS), Antenna 7, Body SAR, Back Side, High.ch,  
20 MHz Bandwidth, QPSK, 1 RB, 50 RB Offset**

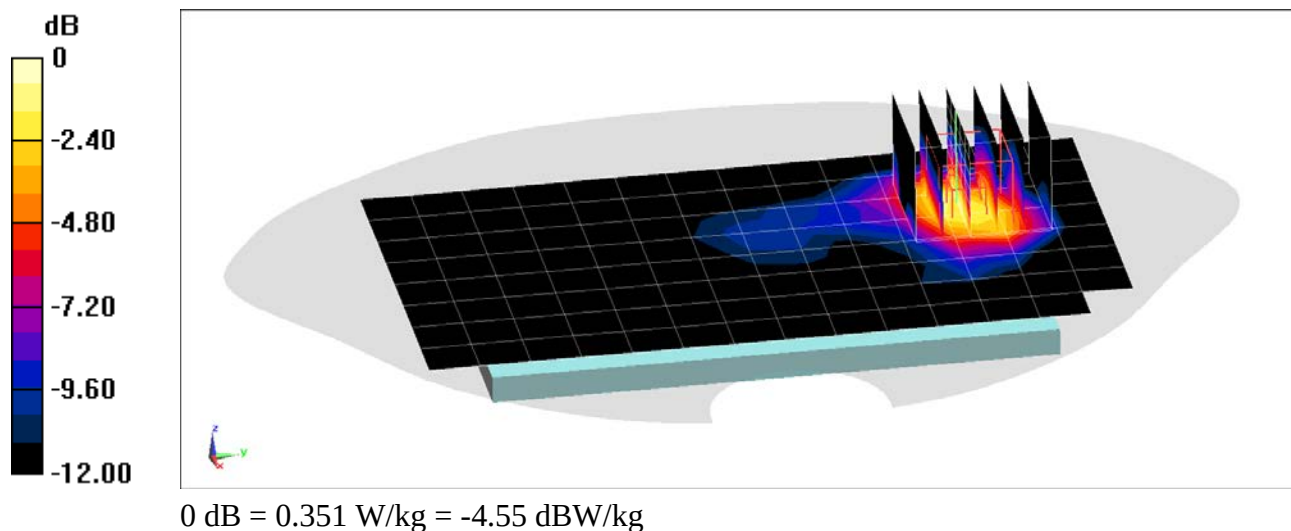
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

**Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.74 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.423 W/kg

**SAR(1 g) = 0.231 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15803**

Communication System: UID 0, LTE Band 30; Frequency: 2310 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used:

$f = 2310 \text{ MHz}$ ;  $\sigma = 1.896 \text{ S/m}$ ;  $\epsilon_r = 51.325$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/19/2020; Ambient Temp: 22.5°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7421; ConvF(7.63, 7.63, 7.63) @ 2310 MHz; Calibrated: 3/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/19/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

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

**Mode: LTE Band 30, Antenna 1, Body SAR, Back Side, Mid.ch,  
10 MHz Bandwidth, QPSK, 1 RB, 25 RB Offset**

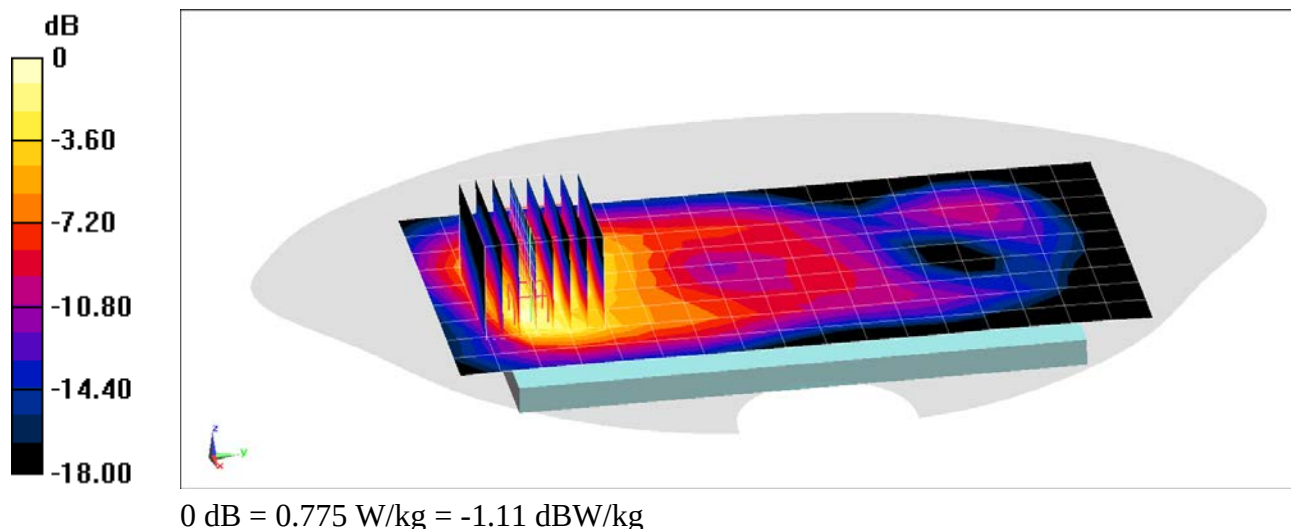
**Area Scan (10x18x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (10x8x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.26 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.945 W/kg

**SAR(1 g) = 0.462 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15811**

Communication System: UID 0, LTE Band 41 (Class 3); Frequency: 2680 MHz; Duty Cycle: 1:1.58

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2680 \text{ MHz}$ ;  $\sigma = 2.304 \text{ S/m}$ ;  $\epsilon_r = 50.263$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/20/2020; Ambient Temp: 21.1°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7427; ConvF(7.08, 7.08, 7.08) @ 2680 MHz; Calibrated: 2/19/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

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

**Mode: LTE Band 41, ULCA, Body SAR, Back Side**

**PCC: Ch. 41490, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

**SCC: Ch. 41292, 20 MHz Bandwidth, QPSK, 1 RB 99 RB Offset**

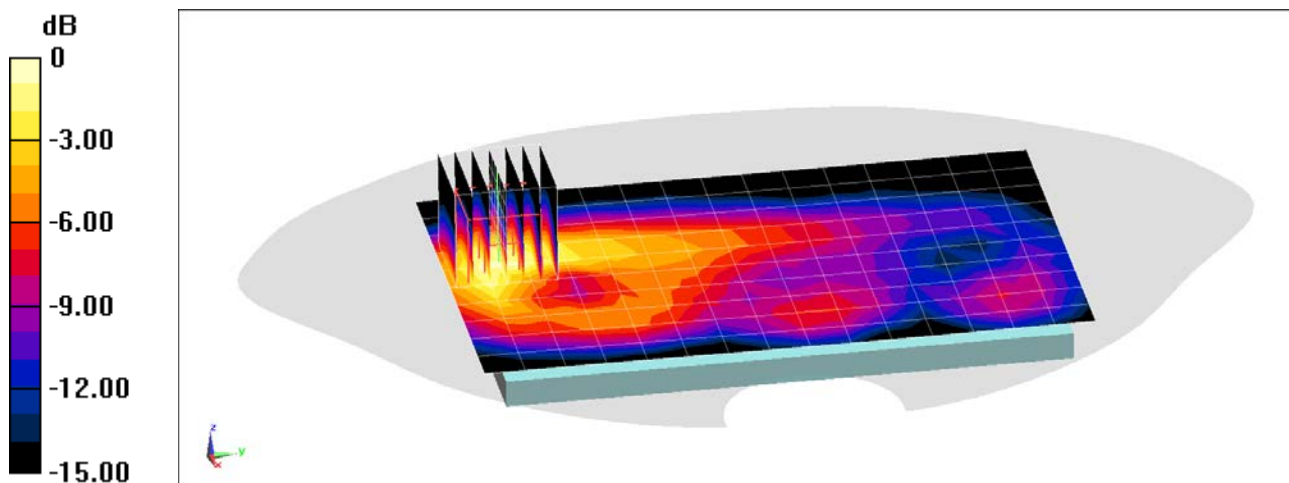
**Area Scan (11x16x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 12.14 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 0.624 W/kg

**SAR(1 g) = 0.299 W/kg**



0 dB = 0.495 W/kg = -3.05 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15811**

Communication System: UID 0, LTE Band 41 (Class 3); Frequency: 2680 MHz; Duty Cycle: 1:1.58

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2680 \text{ MHz}$ ;  $\sigma = 2.304 \text{ S/m}$ ;  $\epsilon_r = 50.263$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/20/2020; Ambient Temp: 21.1°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7427; ConvF(7.08, 7.08, 7.08) @ 2680 MHz; Calibrated: 2/19/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

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

**Mode: LTE Band 41, ULCA, Body SAR, Bottom Edge**

**PCC: Ch. 41490, 20 MHz Bandwidth, QPSK, 1 RB, 0 RB Offset**

**SCC: Ch. 41292, 20 MHz Bandwidth, QPSK, 1 RB 99 RB Offset**

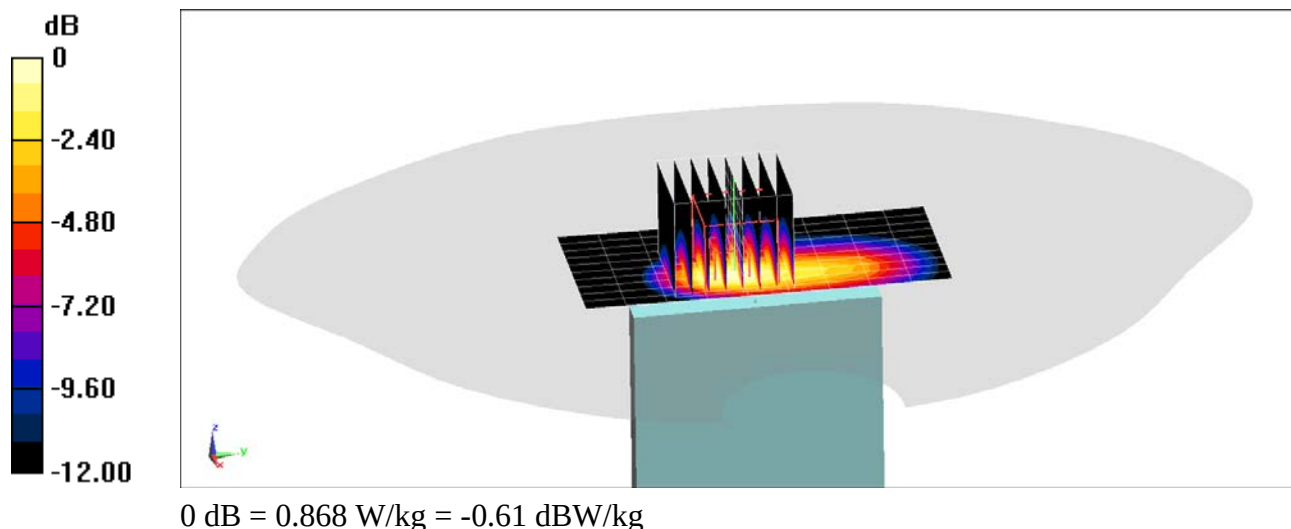
**Area Scan (11x10x1):** Measurement grid: dx=5mm, dy=12mm

**Zoom Scan (7x8x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.98 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.13 W/kg

**SAR(1 g) = 0.501 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15829**

Communication System: UID 0, NR Band n71; Frequency: 680.5 MHz; Duty Cycle: 1:1

Medium: 750 Body Medium parameters used (interpolated):

$f = 680.5 \text{ MHz}$ ;  $\sigma = 0.94 \text{ S/m}$ ;  $\epsilon_r = 53.955$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/25/2020; Ambient Temp: 22.3°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7491; ConvF(10.44, 10.44, 10.44) @ 680.5 MHz; Calibrated: 7/16/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1402; Calibrated: 7/9/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1596

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

**Mode: NR Band n71, Body SAR, Back Side, 20 MHz Bandwidth,  
CP-OFDM QPSK, Ch. 136100, 1 RB, 1 RB Offset**

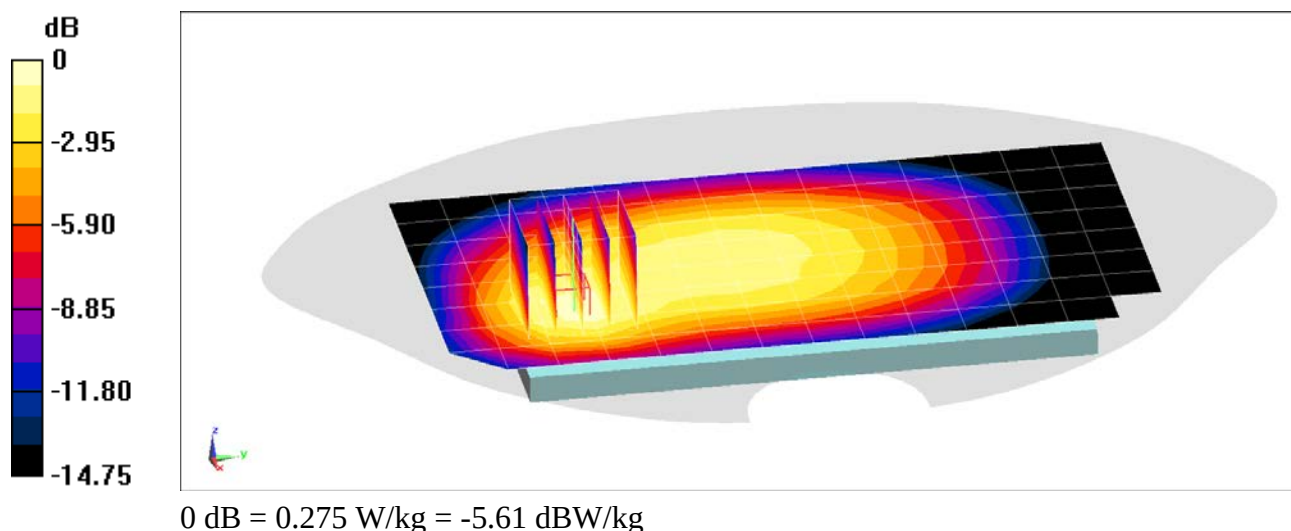
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 15.08 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.316 W/kg

**SAR(1 g) = 0.204 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15829**

Communication System: UID 0, NR Band n71; Frequency: 680.5 MHz; Duty Cycle: 1:1

Medium: 750 Body Medium parameters used (interpolated):

$f = 680.5 \text{ MHz}$ ;  $\sigma = 0.94 \text{ S/m}$ ;  $\epsilon_r = 53.955$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/25/2020; Ambient Temp: 22.3°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7491; ConvF(10.44, 10.44, 10.44) @ 680.5 MHz; Calibrated: 7/16/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1402; Calibrated: 7/9/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1596

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

**Mode: NR Band n71, Body SAR, Left Edge, 20 MHz Bandwidth,  
DFT-s-OFDM QPSK, Ch. 136100, 1 RB, 1 RB Offset**

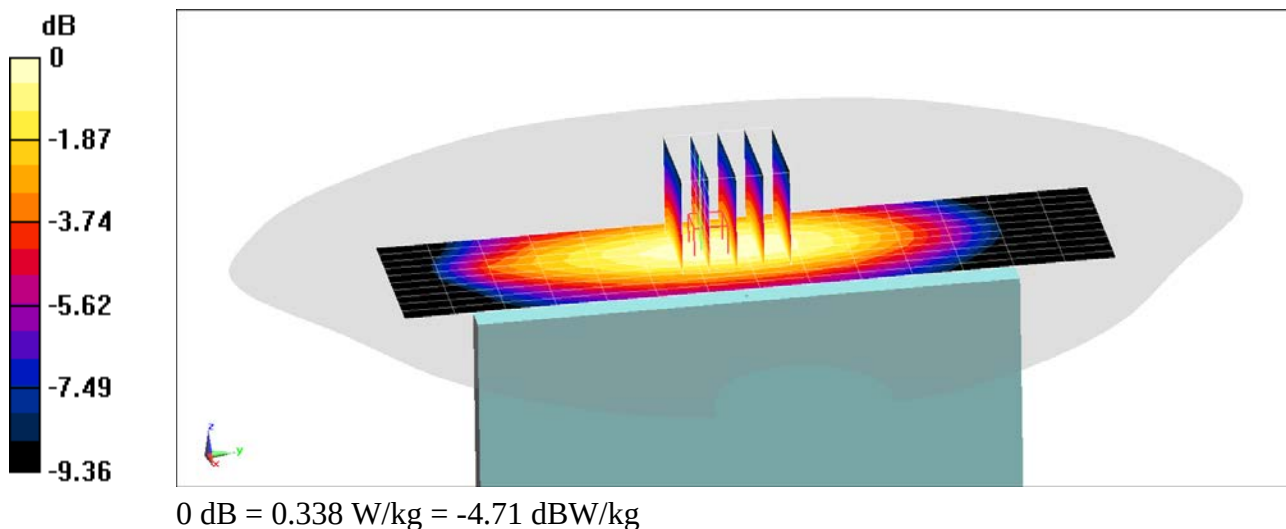
**Area Scan (11x15x1):** Measurement grid:  $dx=5\text{mm}$ ,  $dy=15\text{mm}$

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

Reference Value = 16.67 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.387 W/kg

**SAR(1 g) = 0.253 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15837**

Communication System: UID 0, NR Band n5; Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.5$  MHz;  $\sigma = 1.015$  S/m;  $\epsilon_r = 53.352$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/24/2020; Ambient Temp: 23.3°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7490; ConvF(10.18, 10.18, 10.18) @ 836.5 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) SUB use; Type: QD 000 P40 CC; Serial: 1403

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

**Mode: NR Band n5, Body SAR, Back Side, 20 MHz Bandwidth,  
DFT-s-OFDM QPSK, Ch. 167300, 50 RB, 28 RB Offset**

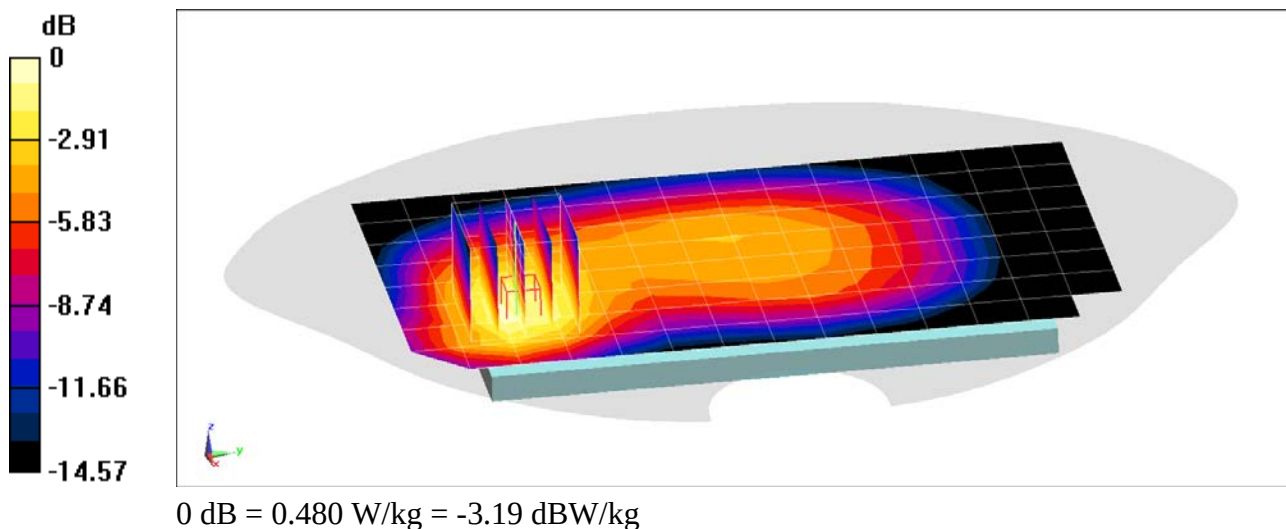
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 18.97 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.556 W/kg

**SAR(1 g) = 0.346 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15837**

Communication System: UID 0, NR Band n5; Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used (interpolated):

$f = 836.5$  MHz;  $\sigma = 1.015$  S/m;  $\epsilon_r = 53.352$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/24/2020; Ambient Temp: 23.3°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7490; ConvF(10.18, 10.18, 10.18) @ 836.5 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) SUB use; Type: QD 000 P40 CC; Serial: 1403

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

**Mode: NR Band n5, Body SAR, Front Side, 20 MHz Bandwidth,  
DFT-s-OFDM QPSK, Ch. 167300, 50 RB, 28 RB Offset**

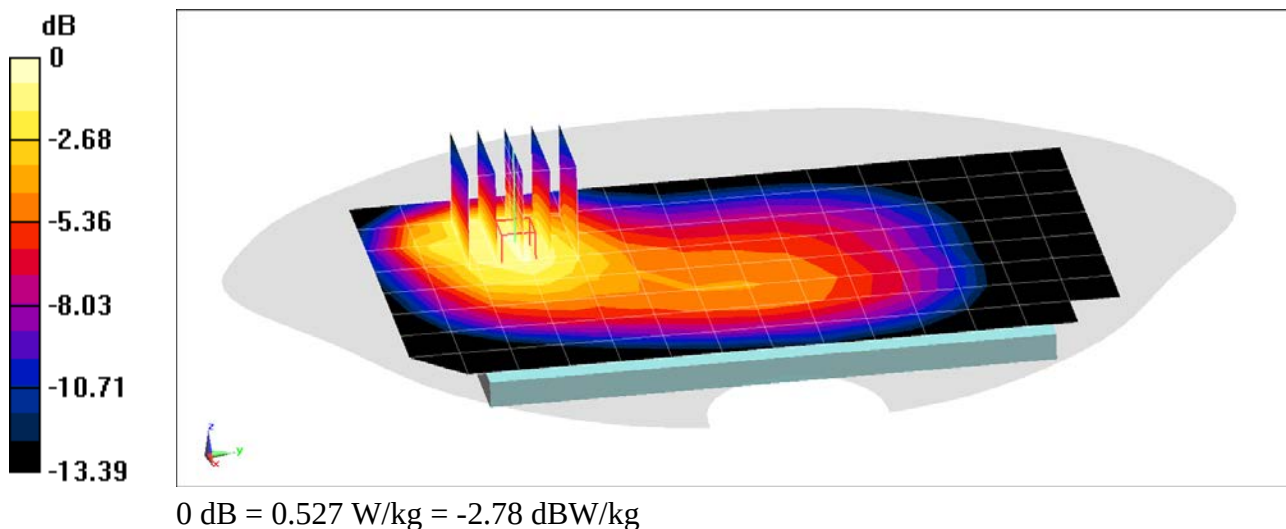
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 19.90 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.621 W/kg

**SAR(1 g) = 0.385 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15837**

Communication System: UID 0, NR Band n66; Frequency: 1745 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1745 \text{ MHz}$ ;  $\sigma = 1.507 \text{ S/m}$ ;  $\epsilon_r = 51.902$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/24/2020; Ambient Temp: 23.3°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7490; ConvF(8.54, 8.54, 8.54) @ 1745 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) SUB use; Type: QD 000 P40 CC; Serial: 1403

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

**Mode: NR Band n66, Body SAR, Back Side, 20 MHz Bandwidth,  
DFT-s-OFDM QPSK, Ch. 349000, 1 RB, 1 RB Offset**

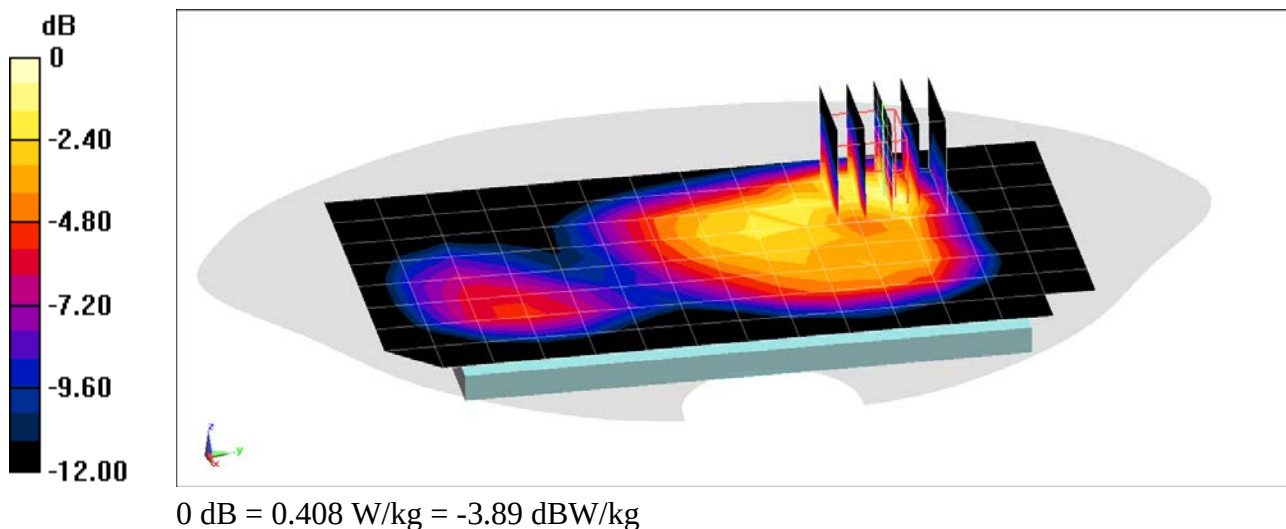
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 13.87 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.511 W/kg

**SAR(1 g) = 0.269 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15829**

Communication System: UID 0, NR Band n66; Frequency: 1720 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1720 \text{ MHz}$ ;  $\sigma = 1.466 \text{ S/m}$ ;  $\epsilon_r = 52.191$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/28/2020; Ambient Temp: 18.9°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7420; ConvF(8.01, 8.01, 8.01) @ 1720 MHz; Calibrated: 11/21/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1213; Calibrated: 11/13/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CA; Serial: 1275

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

**Mode: NR Band n66, Body SAR, Right Edge, 20 MHz Bandwidth,  
CP-OFDM QPSK, Ch. 344000, 1 RB, 1 RB Offset**

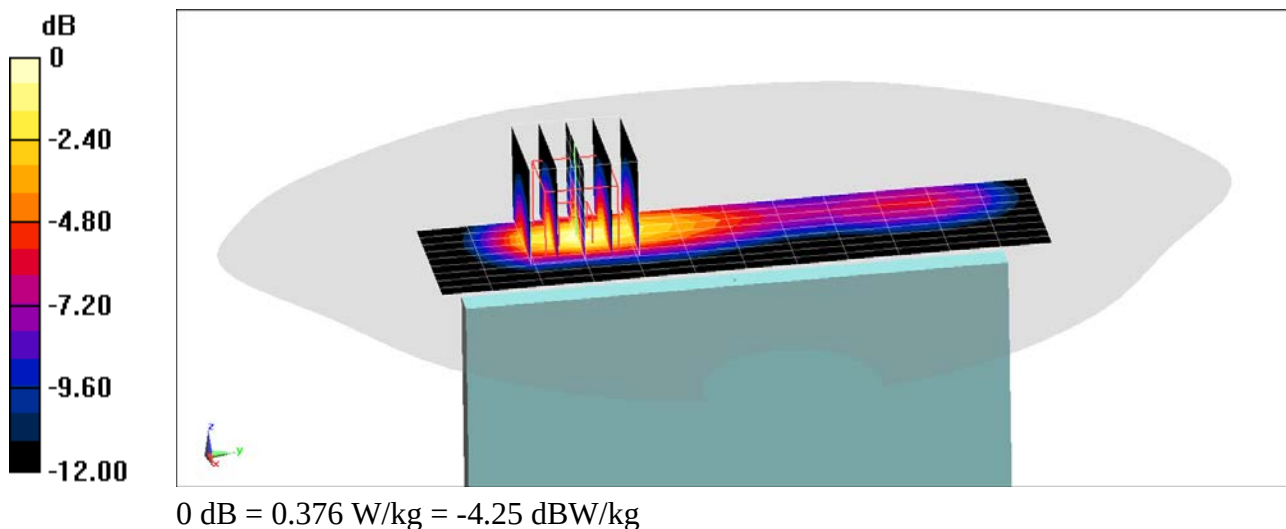
**Area Scan (10x13x1):** Measurement grid: dx=5mm, dy=15mm

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

Reference Value = 13.33 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.449 W/kg

**SAR(1 g) = 0.231 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15795**

Communication System: UID 0, NR Band n2; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.567 \text{ S/m}$ ;  $\epsilon_r = 53.325$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 10/01/2020; Ambient Temp: 21.1°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN3837; ConvF(7.68, 7.68, 7.68) @ 1880 MHz; Calibrated: 1/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn793; Calibrated: 1/14/2020

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

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

**Mode: NR Band n2, Body SAR, Back Side, 20 MHz Bandwidth,  
DFT-s-OFDM QPSK, Ch. 376000 50 RB, 28 RB Offset**

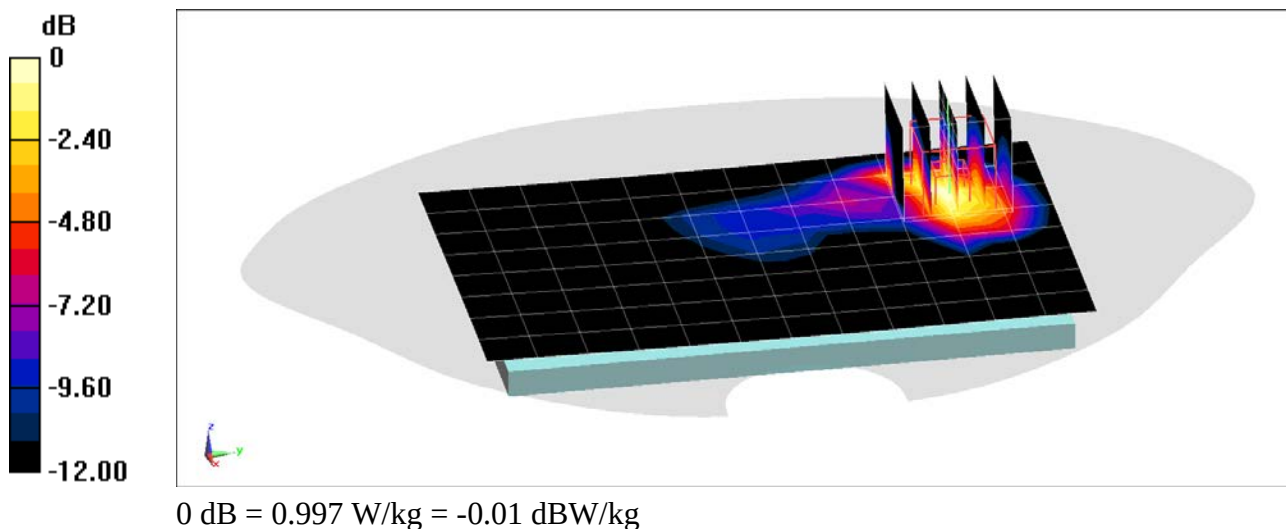
**Area Scan (9x13x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 21.80 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 1.20 W/kg

**SAR(1 g) = 0.655 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 11257**

Communication System: UID 0, NR Band n2; Frequency: 1860 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1860 \text{ MHz}$ ;  $\sigma = 1.564 \text{ S/m}$ ;  $\epsilon_r = 51.145$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/28/2020; Ambient Temp: 23.1°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7490; ConvF(8.22, 8.22, 8.22) @ 1860 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) SUB use; Type: QD 000 P40 CC; Serial: 1403

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

**Mode: NR Band n2, Body SAR, Back Side, 20 MHz Bandwidth,  
DFT-s-OFDM QPSK, Ch. 372000, 50 RB, 56 RB Offset**

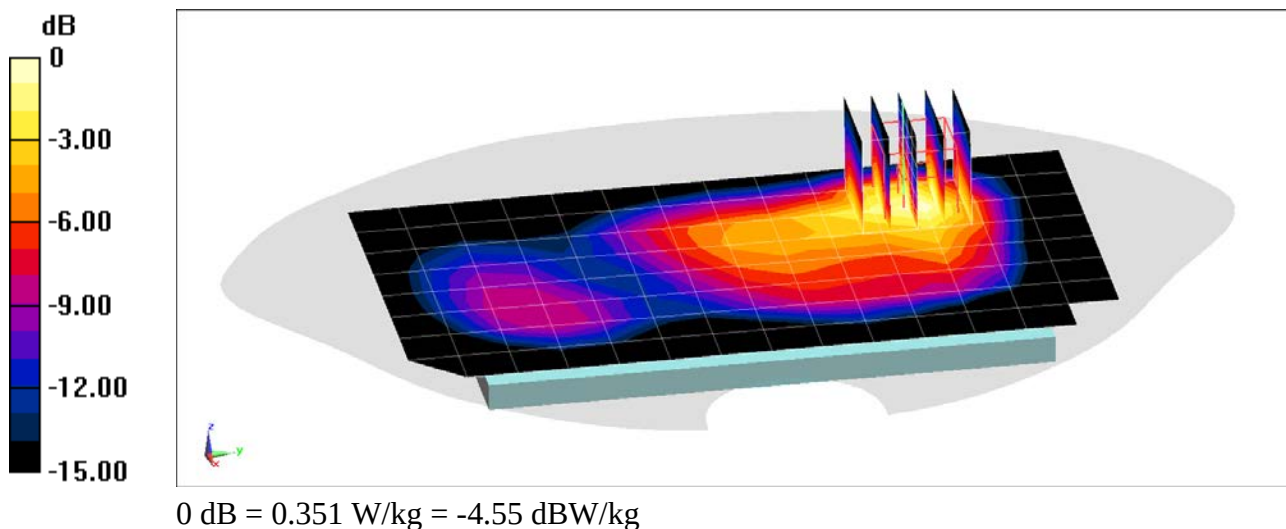
**Area Scan (9x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Reference Value = 11.42 V/m; Power Drift = 0.04

Peak SAR (extrapolated) = 0.450 W/kg

**SAR(1 g) = 0.242 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15936**

Communication System: UID 0, \_IEEE 802.11b; Frequency: 2412 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2412 \text{ MHz}$ ;  $\sigma = 1.946 \text{ S/m}$ ;  $\epsilon_r = 50.666$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/15/2020; Ambient Temp: 22.0°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN7402; ConvF(7.73, 7.73, 7.73) @ 2412 MHz; Calibrated: 4/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1502; Calibrated: 4/15/2020

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1868

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

**Mode: IEEE 802.11b, Antenna 1, 22 MHz Bandwidth, Body SAR, Ch 1, 1 Mbps, Back Side**

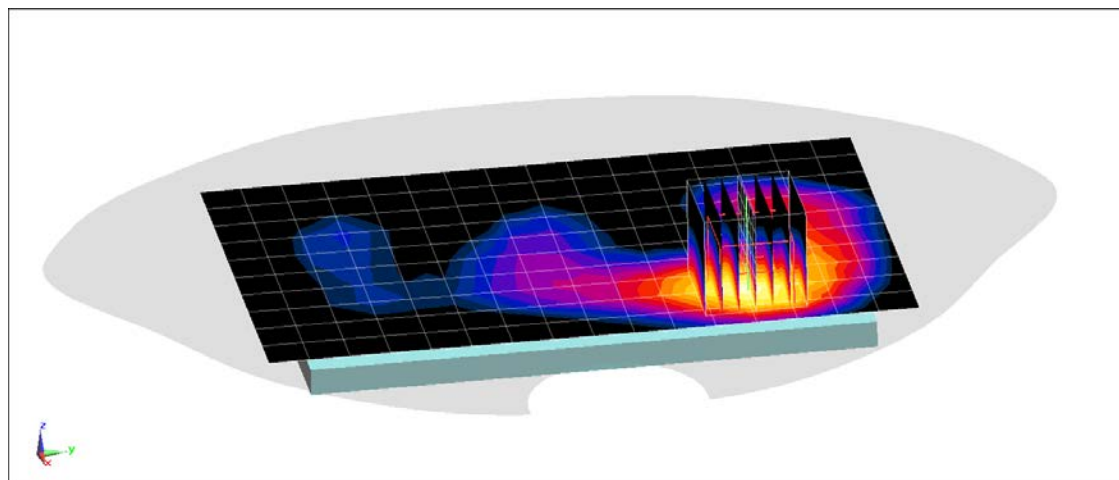
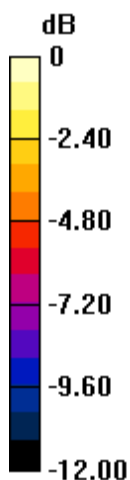
**Area Scan (11x17x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.16 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.443 W/kg

**SAR(1 g) = 0.219 W/kg**



0 dB = 0.353 W/kg = -4.52 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15936**

Communication System: UID 0, \_IEEE 802.11b; Frequency: 2412 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2412 \text{ MHz}$ ;  $\sigma = 1.946 \text{ S/m}$ ;  $\epsilon_r = 50.666$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/15/2020; Ambient Temp: 22.0°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN7402; ConvF(7.73, 7.73, 7.73) @ 2412 MHz; Calibrated: 4/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1502; Calibrated: 4/15/2020

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1868

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

**Mode: IEEE 802.11b, Antenna 1, 22 MHz Bandwidth, Body SAR, Ch 1, 1 Mbps, Left Edge**

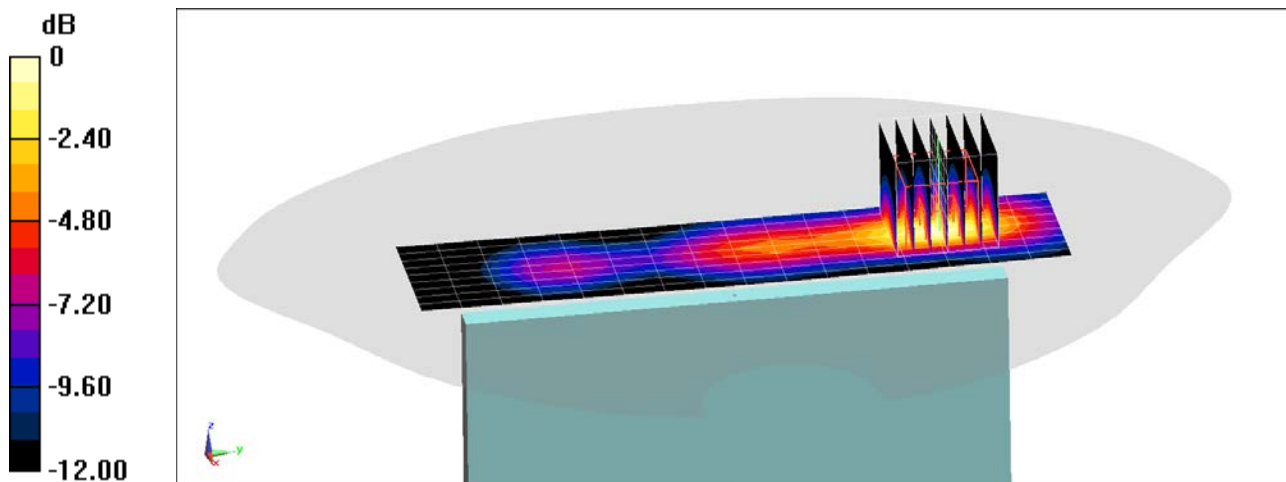
**Area Scan (10x17x1):** Measurement grid: dx=5mm, dy=12mm

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.22 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.610 W/kg

**SAR(1 g) = 0.297 W/kg**



0 dB = 0.497 W/kg = -3.04 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15928**

Communication System: UID 0, 802.11a 5.2-5.8 GHz Band; Frequency: 5785 MHz; Duty Cycle: 1:1

Medium: 5200-5800 Body Medium parameters used:

$f = 5785$  MHz;  $\sigma = 6.17$  S/m;  $\epsilon_r = 47.758$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/30/2020; Ambient Temp: 22.4°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7538; ConvF(4.17, 4.17, 4.17) @ 5785 MHz; Calibrated: 5/18/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

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

Phantom: Front; Type: QD 000 P40 CD; Serial: 1686

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

**Mode: IEEE 802.11a, Antenna 2, U-NII-3, 20 MHz Bandwidth,  
Body SAR, Ch 157, 6 Mbps, Back Side**

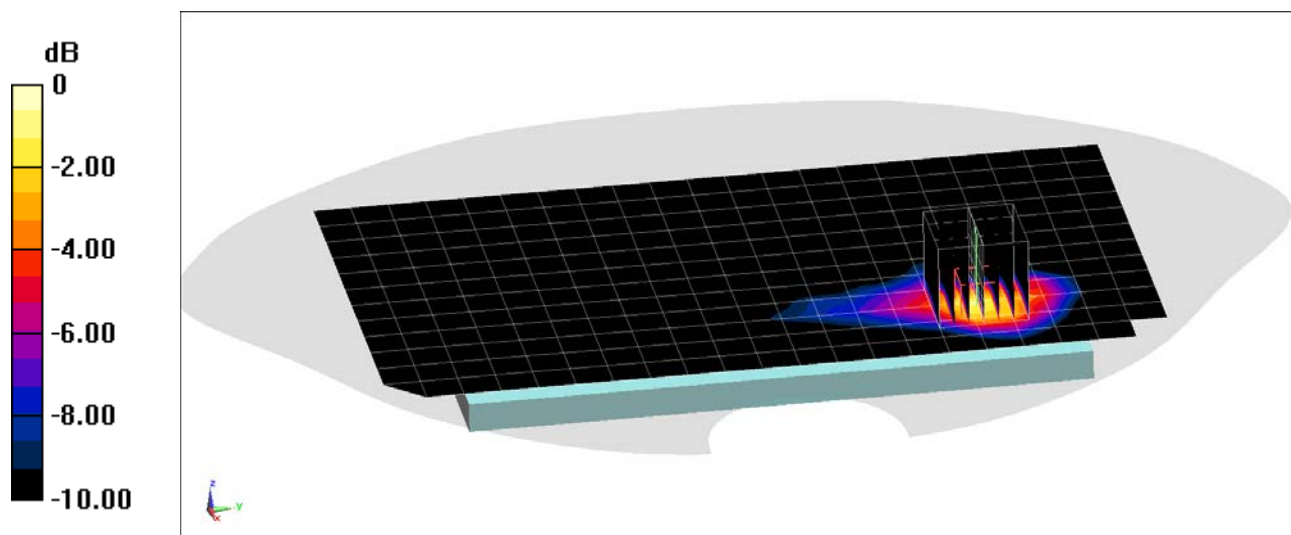
**Area Scan (9x9x1):** Measurement grid: dx=10mm, dy=10mm

**Zoom Scan (7x7x8)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Reference Value = 1.446 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 0.747 W/kg

**SAR(1 g) = 0.163 W/kg**



0 dB = 0.417 W/kg = -3.80 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15928**

Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.300

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2441 \text{ MHz}$ ;  $\sigma = 2.004 \text{ S/m}$ ;  $\epsilon_r = 51.888$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/21/2020; Ambient Temp: 23.2°C; Tissue Temp: 23.1°C

Probe: EX3DV4 - SN7409; ConvF(7.24, 7.24, 7.24) @ 2441 MHz; Calibrated: 6/23/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1334; Calibrated: 6/18/2020

Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375

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

**Mode: Bluetooth, Body SAR, Ch 39, 1 Mbps, Back Side**

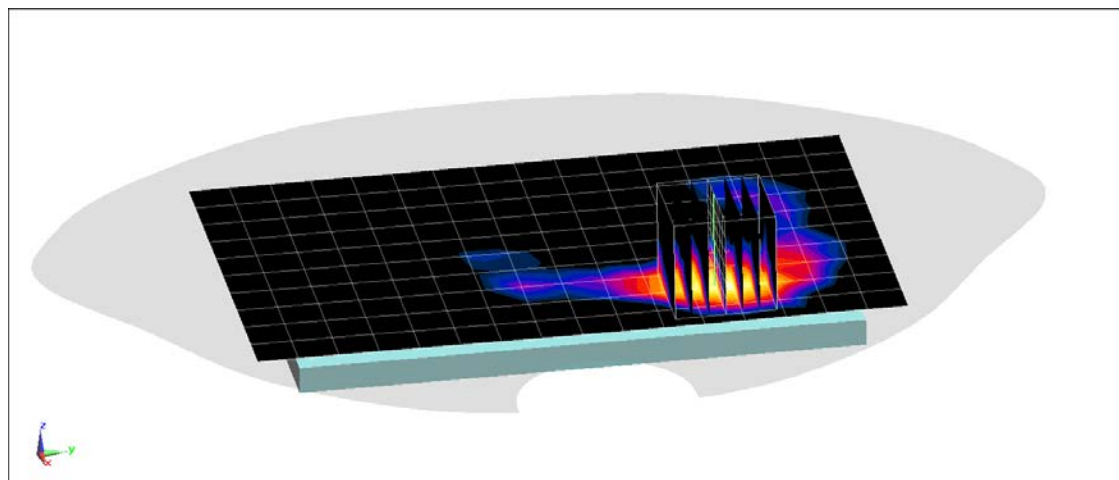
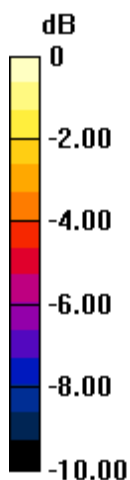
**Area Scan (11x17x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 3.194 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.0450 W/kg

**SAR(1 g) = 0.021 W/kg**



0 dB = 0.0352 W/kg = -14.53 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15928**

Communication System: UID 0, Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1.300

Medium: 2450 Body Medium parameters used (interpolated):

$f = 2441$  MHz;  $\sigma = 2.004$  S/m;  $\epsilon_r = 51.888$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/21/2020; Ambient Temp: 23.2°C; Tissue Temp: 23.1°C

Probe: EX3DV4 - SN7409; ConvF(7.24, 7.24, 7.24) @ 2441 MHz; Calibrated: 6/23/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1334; Calibrated: 6/18/2020

Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375

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

**Mode: Bluetooth, Body SAR, Ch 39, 1 Mbps, Left Edge**

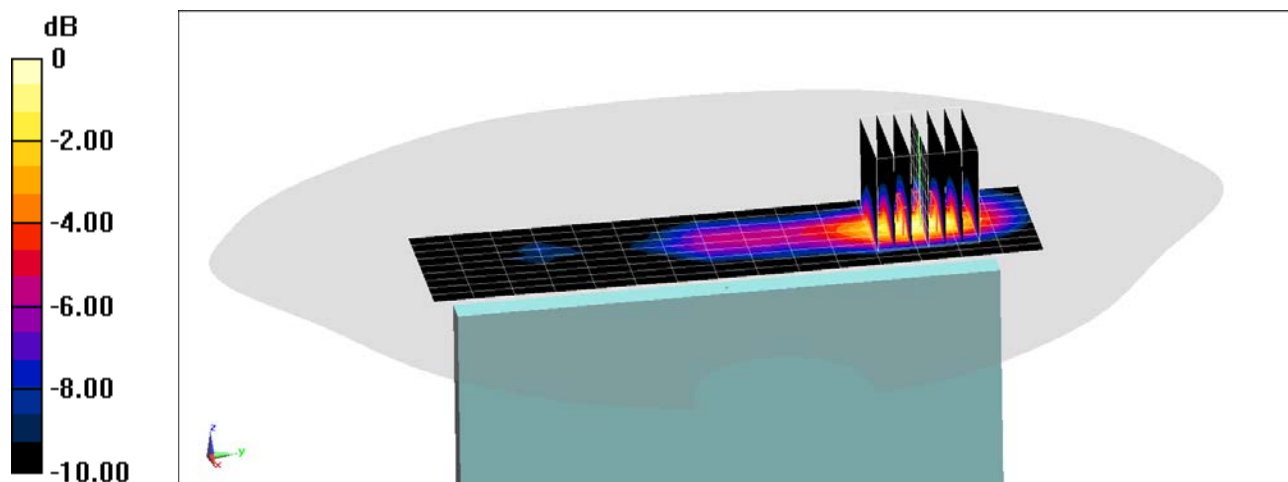
**Area Scan (10x16x1):** Measurement grid: dx=5mm, dy=12mm

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.935 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.0960 W/kg

**SAR(1 g) = 0.042 W/kg**



0 dB = 0.0753 W/kg = -11.23 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 92679**

Communication System: UID 0, CDMA; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used:

$f = 1880 \text{ MHz}$ ;  $\sigma = 1.518 \text{ S/m}$ ;  $\epsilon_r = 52.781$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 10/04/2020; Ambient Temp: 21.3°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1880 MHz; Calibrated: 12/11/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1533; Calibrated: 12/5/2019

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

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

**Mode: PCS EVDO, Phablet SAR, Bottom Edge, Mid.ch**

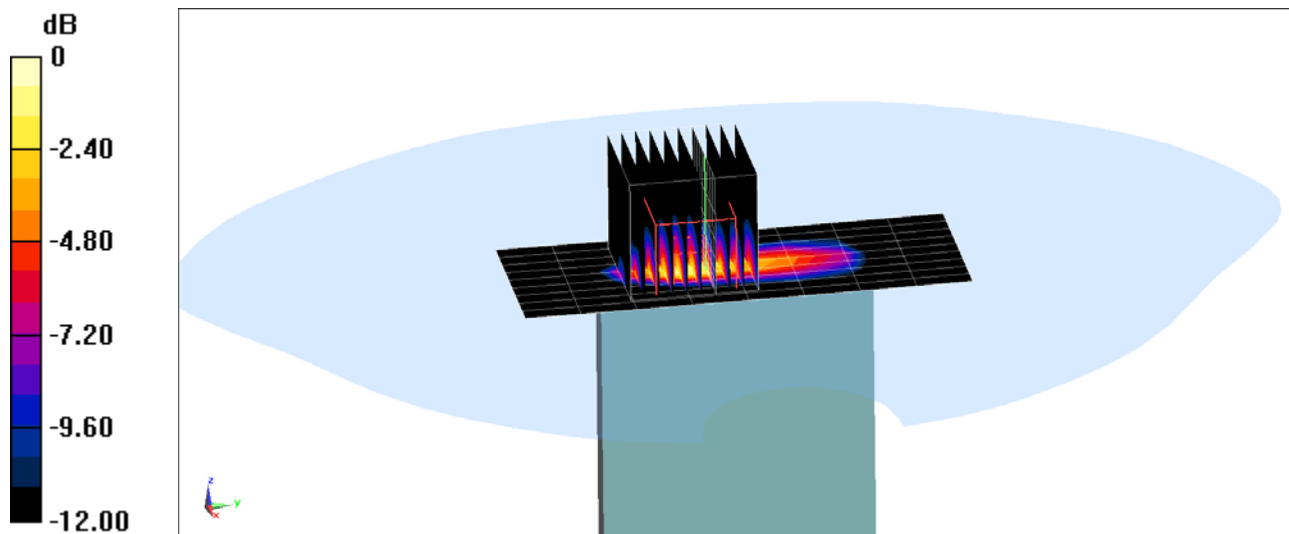
**Area Scan (10x9x1):** Measurement grid:  $dx=5\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (10x10x8)/Cube 0:** Measurement grid:  $dx=3.8\text{mm}$ ,  $dy=3.8\text{mm}$ ,  $dz=1.4\text{mm}$ ; Graded Ratio: 1.4

Reference Value = 72.47 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 26.2 W/kg

**SAR(10 g) = 2.58 W/kg**



0 dB = 14.3 W/kg = 11.55 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15083**

Communication System: UID 0, NR Band n66; Frequency: 1745 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used (interpolated):

$f = 1745 \text{ MHz}$ ;  $\sigma = 1.495 \text{ S/m}$ ;  $\epsilon_r = 52.334$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.2 cm

Test Date: 09/30/2020; Ambient Temp: 20.3°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7490; ConvF(8.54, 8.54, 8.54) @ 1745 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) SUB use; Type: QD 000 P40 CC; Serial: 1403

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

**Mode: NR Band n66, Phablet SAR, Right Edge, 20 MHz Bandwidth,  
DFT-s-OFDM QPSK, Ch. 349000, 50 RB, 28 RB Offset**

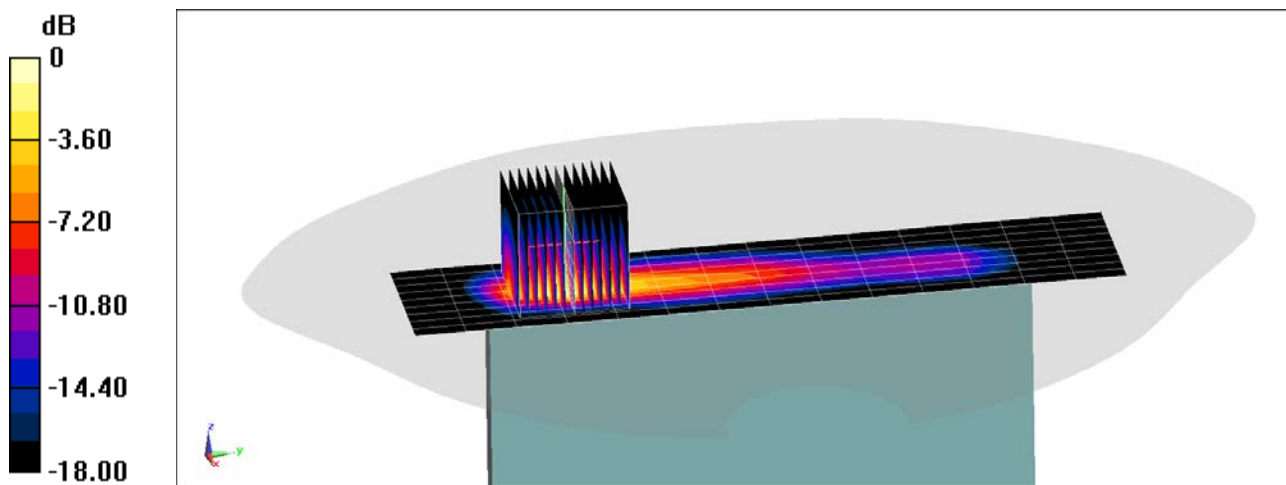
**Area Scan (10x15x1):** Measurement grid: dx=5mm, dy=15mm

**Zoom Scan (13x13x8)/Cube 0:** Measurement grid: dx=2.7mm, dy=2.7mm, dz=1.4mm; Graded Ratio: 1.4

Reference Value = 56.52 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 14.2 W/kg

**SAR(10 g) = 1.51 W/kg**



0 dB = 8.48 W/kg = 9.28 dBW/kg

# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15837**

Communication System: UID 0, NR Band n2; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1900 \text{ MHz}$ ;  $\sigma = 1.589 \text{ S/m}$ ;  $\epsilon_r = 51.095$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.2 cm

Test Date: 09/28/2020; Ambient Temp: 23.1°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7490; ConvF(8.22, 8.22, 8.22) @ 1900 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) SUB use; Type: QD 000 P40 CC; Serial: 1403

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

**Mode: NR Band n2, Phablet SAR, Right Edge, 20 MHz Bandwidth,  
DFT-s-OFDM QPSK, Ch. 380000, 1 RB, 104 RB Offset**

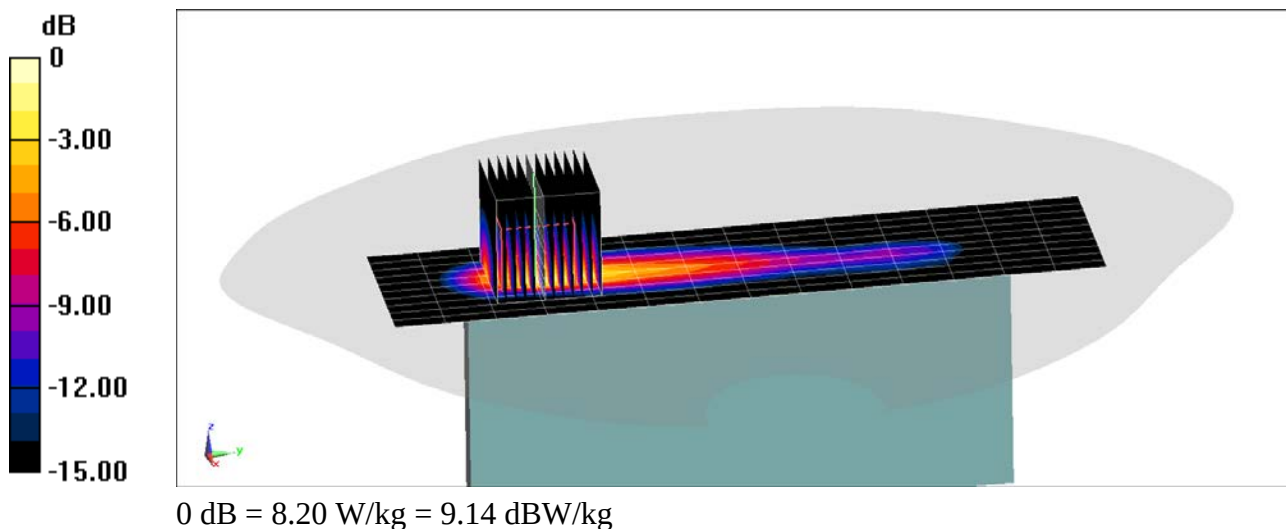
**Area Scan (11x15x1):** Measurement grid:  $dx=5\text{mm}$ ,  $dy=15\text{mm}$

**Zoom Scan (12x12x8)/Cube 0:** Measurement grid:  $dx=2.8\text{mm}$ ,  $dy=2.8\text{mm}$ ,  $dz=1.4\text{mm}$ ; Graded Ratio: 1.4

Reference Value = 56.11 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 13.2 W/kg

**SAR(10 g) = 1.59 W/kg**



# PCTEST

**DUT: ZNFK920AM; Type: Portable Handset; Serial: 15928**

Communication System: UID 0, 802.11a 5.2-5.8 GHz Band; Frequency: 5280 MHz; Duty Cycle: 1:1

Medium: 5200-5800 Body Medium parameters used:

$f = 5280 \text{ MHz}$ ;  $\sigma = 5.453 \text{ S/m}$ ;  $\epsilon_r = 48.541$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 0.0 cm

Test Date: 09/22/2020; Ambient Temp: 23.5°C; Tissue Temp: 24.1°C

Probe: EX3DV4 - SN7538; ConvF(4.6, 4.6, 4.6) @ 5280 MHz; Calibrated: 5/18/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

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

Phantom: Front; Type: QD 000 P40 CD; Serial: 1686

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

**Mode: IEEE 802.11a, Antenna 2, U-NII-2A, 20 MHz Bandwidth,  
Phablet SAR, Ch 56, 6 Mbps, Left Edge**

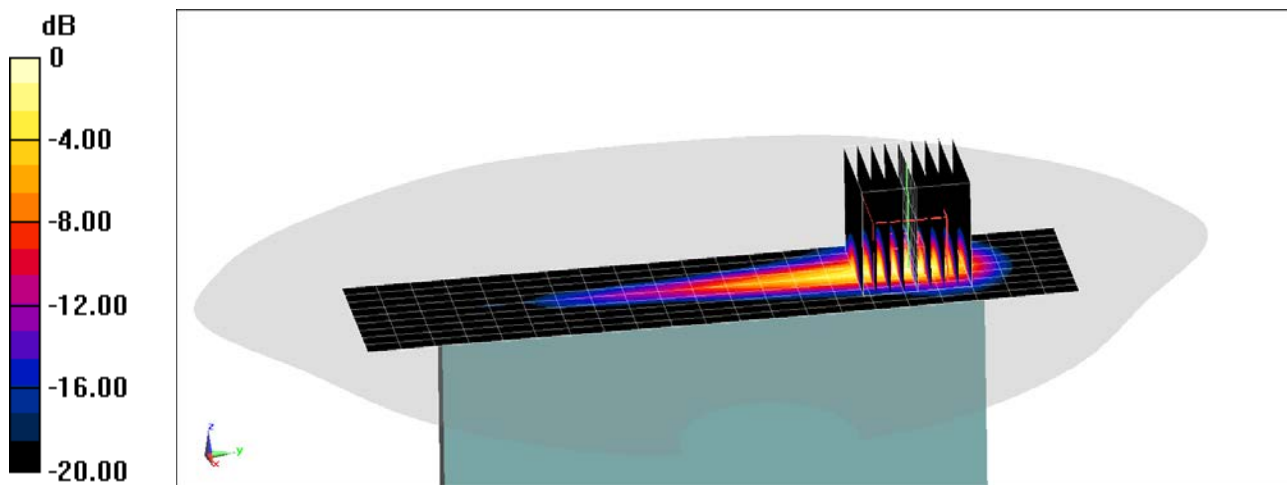
**Area Scan (10x22x1):** Measurement grid:  $dx=5\text{mm}$ ,  $dy=10\text{mm}$

**Zoom Scan (9x9x8)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=1.4\text{mm}$ ; Graded Ratio: 1.4

Reference Value = 2.480 V/m; Power Drift = 0.20 dB

Peak SAR (extrapolated) = 8.47 W/kg

**SAR(10 g) = 0.449 W/kg**



0 dB = 4.50 W/kg = 6.53 dBW/kg

## APPENDIX B: SYSTEM VERIFICATION

# PCTEST

**DUT: Dipole 750 MHz; Type: D750V3; Serial: 1034**

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: 750 Head Medium parameters used (interpolated):

$f = 750 \text{ MHz}$ ;  $\sigma = 0.894 \text{ S/m}$ ;  $\epsilon_r = 40.461$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 09/22/2020; Ambient Temp: 20.9°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7490; ConvF(10.25, 10.25, 10.25) @ 750 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) Main use; Type: QD 000 P40 CC; Serial: 1406

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

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

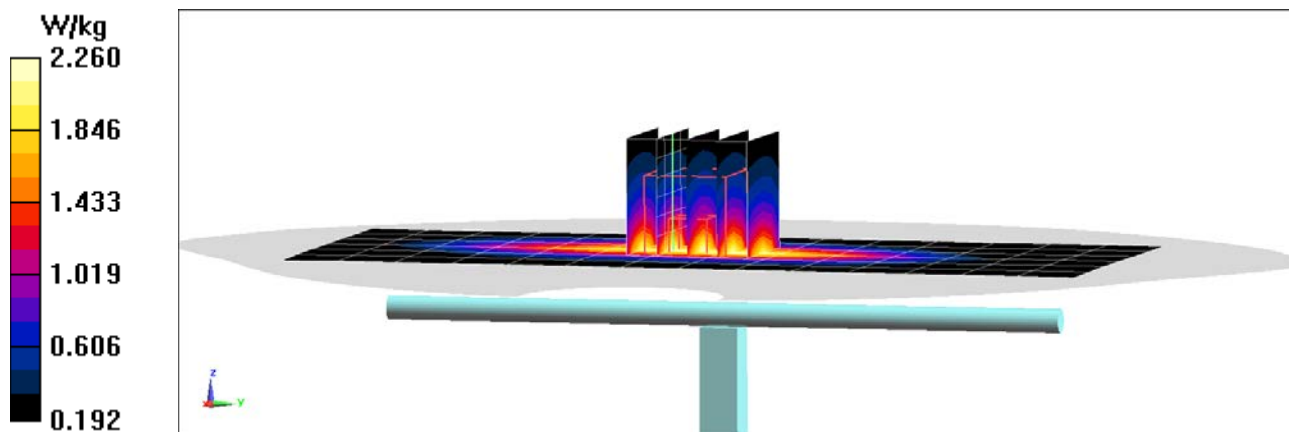
**Area Scan (7x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 2.55 W/kg

**SAR(1 g) = 1.69 W/kg**

Deviation(1 g) = 1.56%



# PCTEST

**DUT: Dipole 750 MHz; Type: D750V3; Serial: 1034**

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: 750 Head Medium parameters used (interpolated):

$f = 750 \text{ MHz}$ ;  $\sigma = 0.9 \text{ S/m}$ ;  $\epsilon_r = 41.583$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 09/25/2020; Ambient Temp: 22.1°C; Tissue Temp: 21.3°C

Probe: EX3DV4 - SN7532; ConvF(10.72, 10.72, 10.72) @ 750 MHz; Calibrated: 4/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/15/2020

Phantom: Twin-SAM V8.0\_Left; Type: QD 000 P41 AA; Serial: 1935

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

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

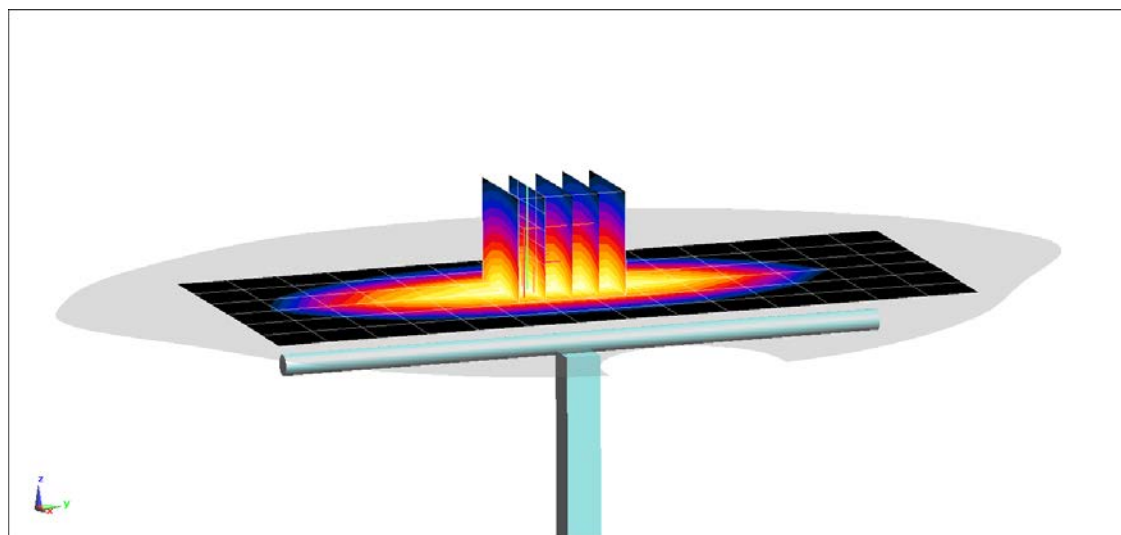
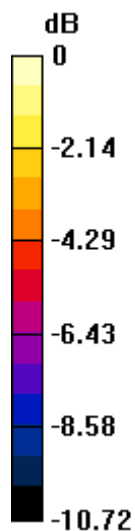
**Area Scan (7x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 2.50 W/kg

**SAR(1 g) = 1.66 W/kg**

Deviation(1 g) = -0.24%



0 dB = 2.26 W/kg = 3.54 dBW/kg

# PCTEST

**DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d040**

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

Medium: 835 Head Medium parameters used:

$f = 835 \text{ MHz}$ ;  $\sigma = 0.89 \text{ S/m}$ ;  $\epsilon_r = 40.38$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 09/22/2020; Ambient Temp: 22.2°C; Tissue Temp: 20.6°C

Probe: EX3DV4 - SN7427; ConvF(9.58, 9.58, 9.58) @ 835 MHz; Calibrated: 2/19/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

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

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

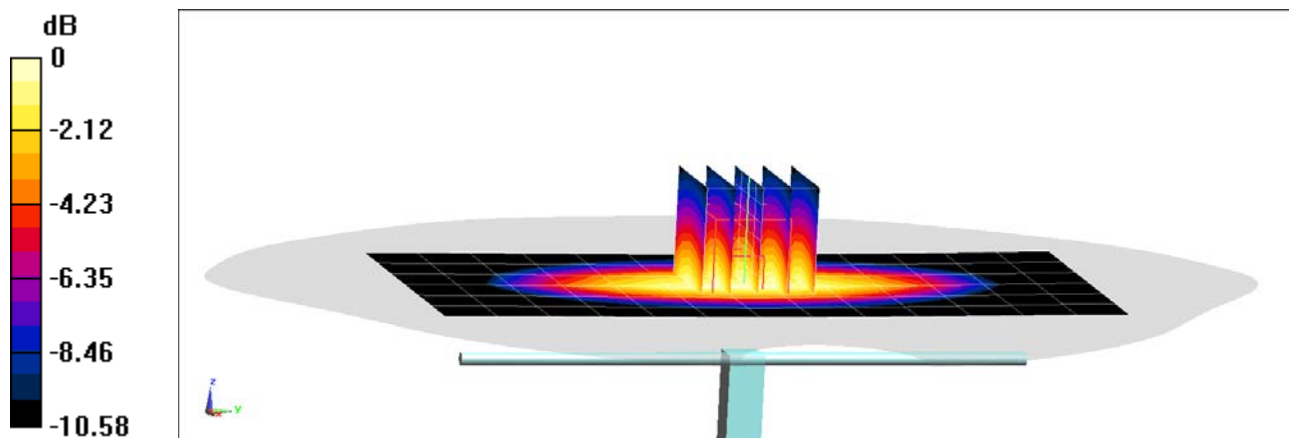
**Area Scan (7x14x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 2.72 W/kg

**SAR(1 g) = 1.84 W/kg**

Deviation(1 g) = -3.16%



0 dB = 2.44 W/kg = 3.87 dBW/kg

# PCTEST

**DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d040**

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

Medium: 835 Head Medium parameters used:

$f = 835 \text{ MHz}$ ;  $\sigma = 0.89 \text{ S/m}$ ;  $\epsilon_r = 40.516$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 09/24/2020; Ambient Temp: 22.4°C; Tissue Temp: 21.2°C

Probe: EX3DV4 - SN7427; ConvF(9.58, 9.58, 9.58) @ 835 MHz; Calibrated: 2/19/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

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

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

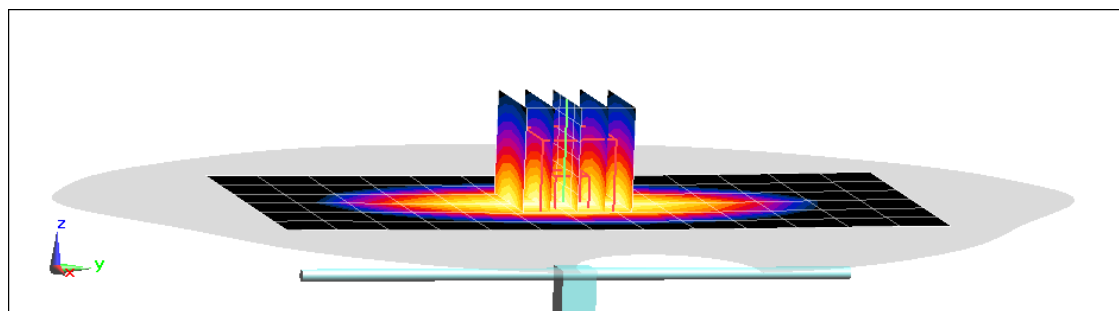
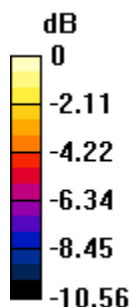
**Area Scan (7x14x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 2.87 W/kg

**SAR(1 g) = 1.98 W/kg**

Deviation(1 g) = 4.21%



0 dB = 2.60 W/kg = 4.15 dBW/kg

# PCTEST

**DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d132**

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

Medium: 835 Head Medium parameters used:

$f = 835 \text{ MHz}$ ;  $\sigma = 0.941 \text{ S/m}$ ;  $\epsilon_r = 43.307$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 09/30/2020; Ambient Temp: 22.7°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7406; ConvF(9.61, 9.61, 9.61) @ 835 MHz; Calibrated: 6/23/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1583; Calibrated: 5/14/2020

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

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

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

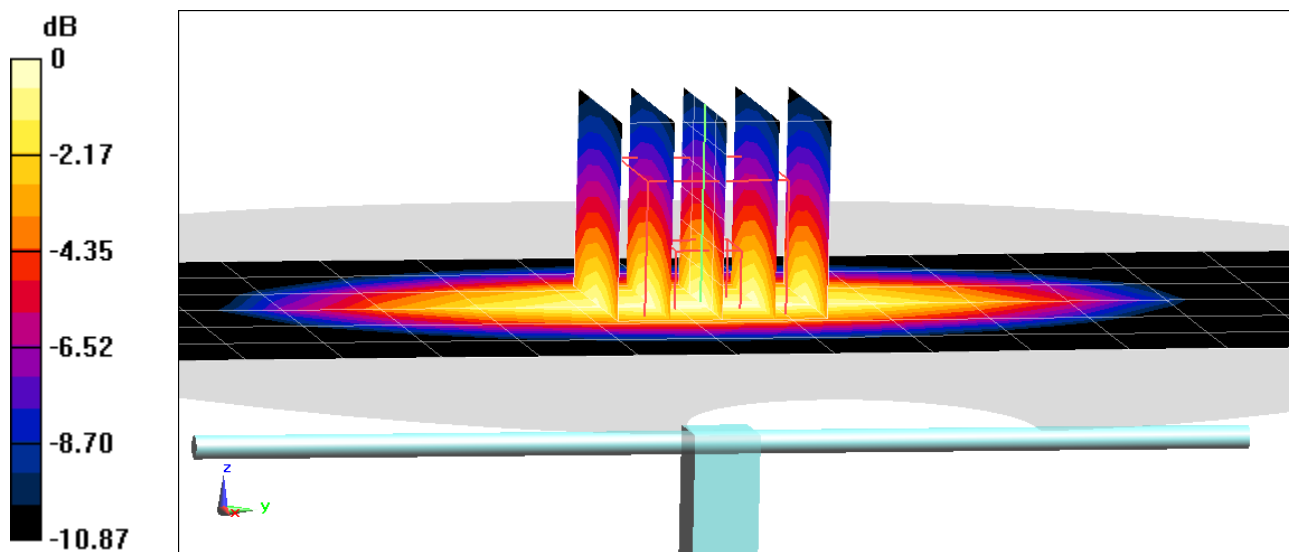
**Area Scan (7x14x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 2.90 W/kg

**SAR(1 g) = 1.92 W/kg**

Deviation(1 g) = -0.52%



0 dB = 2.58 W/kg = 4.12 dBW/kg

# PCTEST

**DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d132**

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

Medium: 835 Head Medium parameters used:

$f = 835 \text{ MHz}$ ;  $\sigma = 0.945 \text{ S/m}$ ;  $\epsilon_r = 42.974$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 10/02/2020; Ambient Temp: 22.9°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN7406; ConvF(9.61, 9.61, 9.61) @ 835 MHz; Calibrated: 6/23/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1583; Calibrated: 5/14/2020

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

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

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

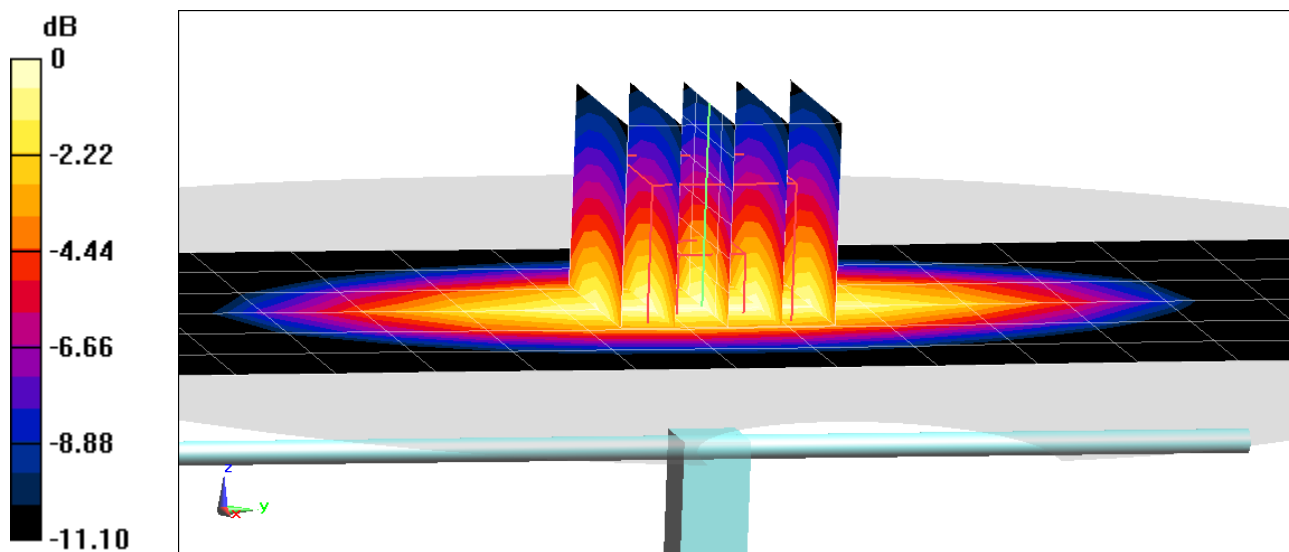
**Area Scan (7x14x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 3.05 W/kg

**SAR(1 g) = 1.96 W/kg**

Deviation(1 g) = 1.55%



0 dB = 2.67 W/kg = 4.27 dBW/kg

# PCTEST

**DUT: Dipole 850 MHz; Type: D850V2; Serial: 1009**

Communication System: UID 0, CW; Frequency: 850 MHz; Duty Cycle: 1:1

Medium: 835 Head Medium parameters used:

$f = 850 \text{ MHz}$ ;  $\sigma = 0.948 \text{ S/m}$ ;  $\epsilon_r = 43.257$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 09/29/2020; Ambient Temp: 22.7°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7421; ConvF(9.24, 9.24, 9.24) @ 850 MHz; Calibrated: 3/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/19/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

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

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

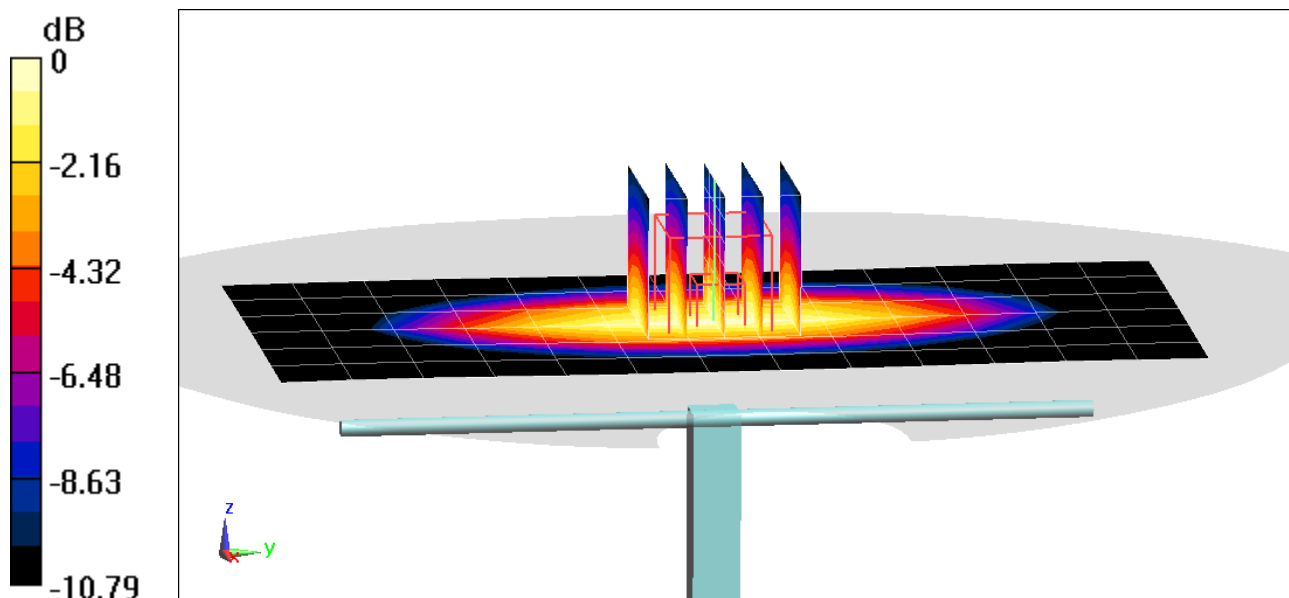
**Area Scan (7x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 3.19 W/kg

**SAR(1 g) = 2.14 W/kg**

Deviation(1 g) = 5.94%



0 dB = 2.87 W/kg = 4.58 dBW/kg

# PCTEST

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1083**

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: 1750 Head Medium parameters used:

$f = 1750 \text{ MHz}$ ;  $\sigma = 1.339 \text{ S/m}$ ;  $\epsilon_r = 39.194$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/18/2020; Ambient Temp: 20.5°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7532; ConvF(8.46, 8.46, 8.46) @ 1750 MHz; Calibrated: 4/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/15/2020

Phantom: Twin-SAM V8.0\_Left; Type: QD 000 P41 AA; Serial: 1935

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

## 1750 MHz System Verification at 20.0 dBm (100 mW)

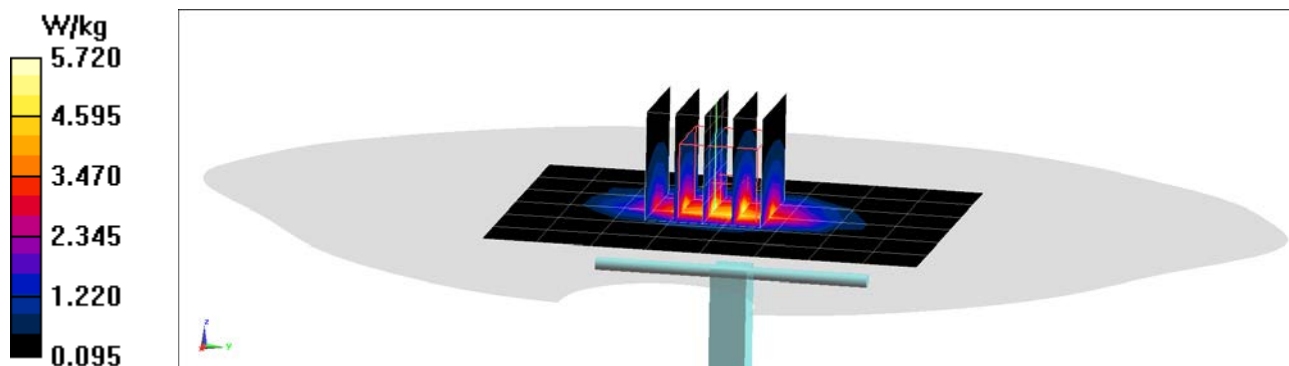
**Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 6.90 W/kg

**SAR(1 g) = 3.71 W/kg**

Deviation(1 g) = 2.77%



# PCTEST

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1092**

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: 1750 Head Medium parameters used:

$f = 1750 \text{ MHz}$ ;  $\sigma = 1.342 \text{ S/m}$ ;  $\epsilon_r = 38.703$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/21/2020; Ambient Temp: 20.7°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7532; ConvF(8.46, 8.46, 8.46) @ 1750 MHz; Calibrated: 4/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/15/2020

Phantom: Twin-SAM V8.0\_Left; Type: QD 000 P41 AA; Serial: 1935

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

## 1750 MHz System Verification at 20.0 dBm (100 mW)

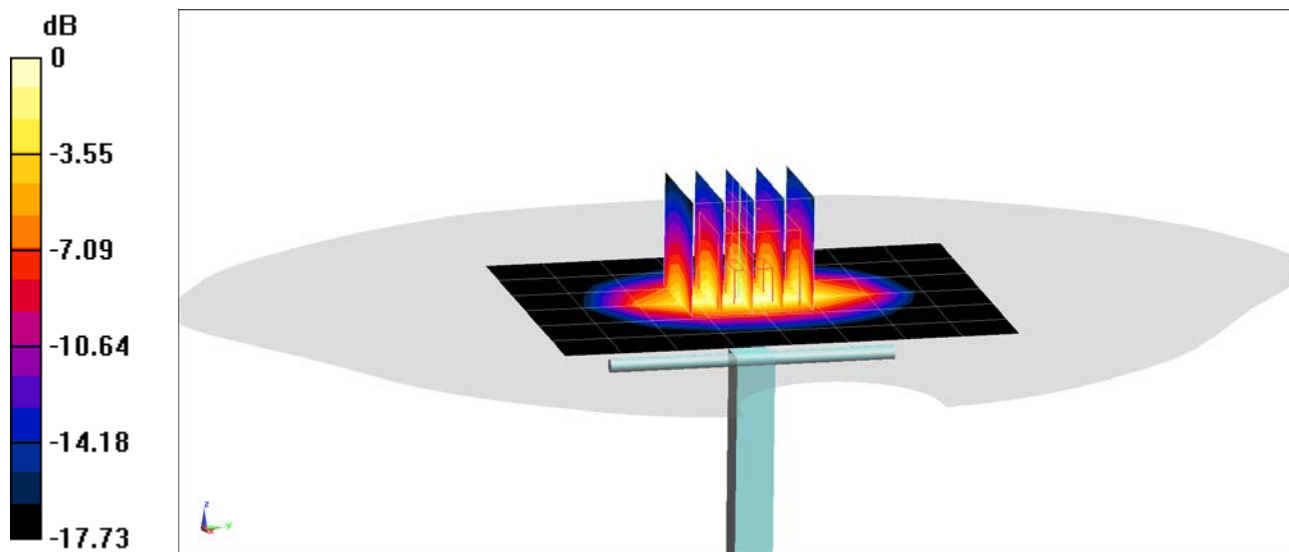
**Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 6.71 W/kg

**SAR(1 g) = 3.6 W/kg**

Deviation(1 g) = -0.28%



0 dB = 5.56 W/kg = 7.45 dBW/kg

# PCTEST

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1092**

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: 1750 Head Medium parameters used:

$f = 1750 \text{ MHz}$ ;  $\sigma = 1.339 \text{ S/m}$ ;  $\epsilon_r = 38.888$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/29/2020; Ambient Temp: 22.0°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7427; ConvF(8.42, 8.42, 8.42) @ 1750 MHz; Calibrated: 2/19/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

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

## 1750 MHz System Verification at 20.0 dBm (100 mW)

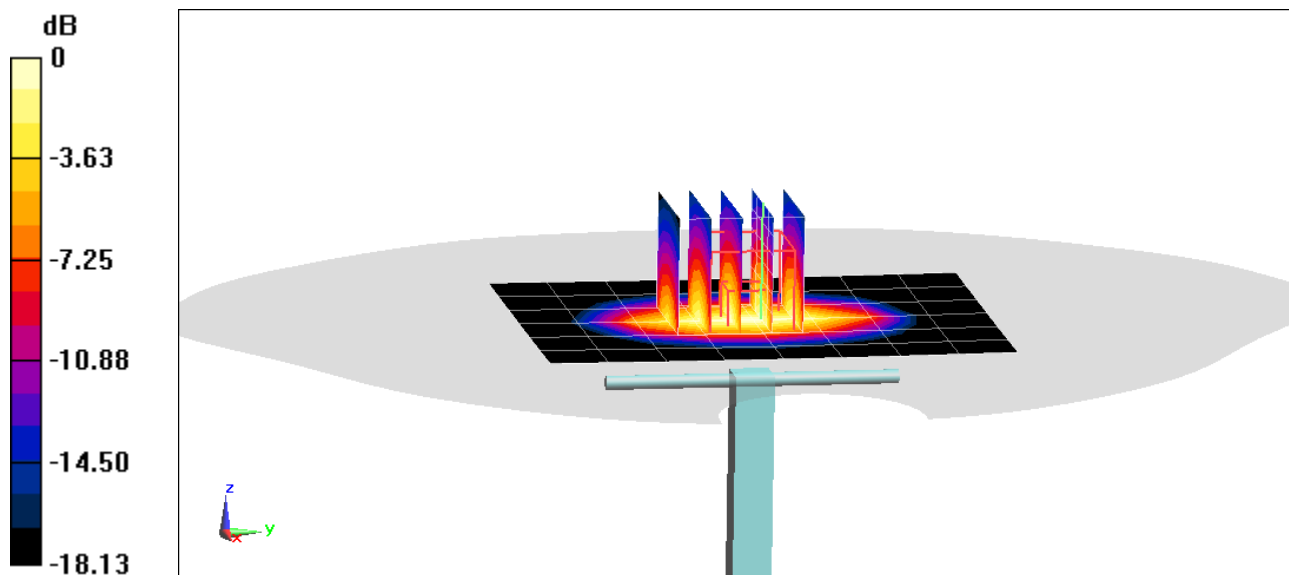
**Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 6.86 W/kg

**SAR(1 g) = 3.66 W/kg**

Deviation(1 g) = 1.39%



0 dB = 5.60 W/kg = 7.48 dBW/kg

# PCTEST

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d026**

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

Medium: 1900 Head Medium parameters used (interpolated):

$f = 1900 \text{ MHz}$ ;  $\sigma = 1.427 \text{ S/m}$ ;  $\epsilon_r = 38.835$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/23/2020; Ambient Temp: 23.5°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7532; ConvF(8.06, 8.06, 8.06) @ 1900 MHz; Calibrated: 4/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn501; Calibrated: 4/15/2020

Phantom: Twin-SAM V8.0\_Left; Type: QD 000 P41 AA; Serial: 1935

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

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

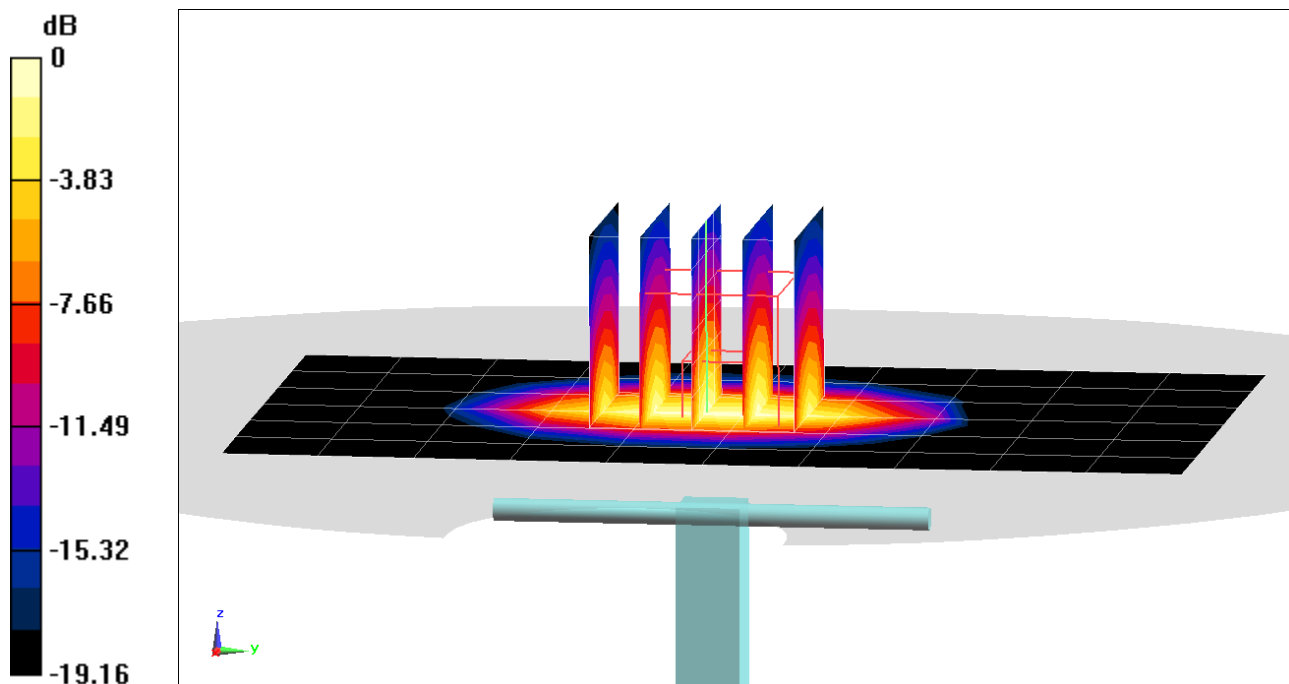
**Area Scan (7x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 7.43 W/kg

**SAR(1 g) = 3.85 W/kg**

Deviation(1 g) = -4.23%



0 dB = 6.13 W/kg = 7.87 dBW/kg

# PCTEST

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d030**

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

Medium: 1900 Head Medium parameters used (interpolated):

$f = 1900 \text{ MHz}$ ;  $\sigma = 1.444 \text{ S/m}$ ;  $\epsilon_r = 38.617$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/28/2020; Ambient Temp: 21.9°C; Tissue Temp: 22.0°C

Probe: EX3DV4 - SN7427; ConvF(8.12, 8.12, 8.12) @ 1900 MHz; Calibrated: 2/19/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

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

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

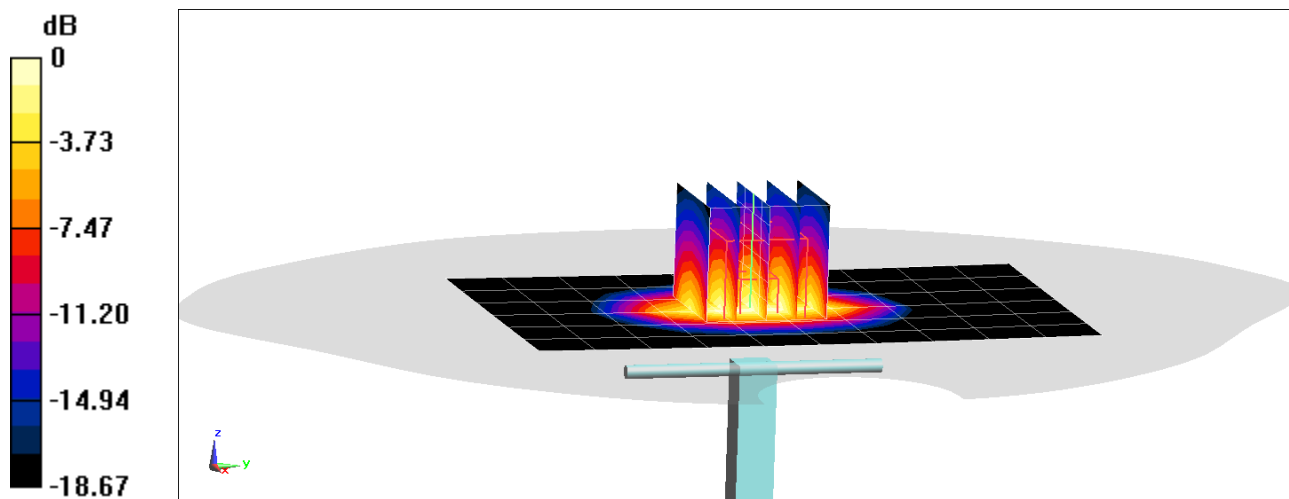
**Area Scan (7x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 7.77 W/kg

**SAR(1 g) = 3.99 W/kg**

Deviation(1 g) = 0.00%



0 dB = 6.38 W/kg = 8.05 dBW/kg

# PCTEST

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d148**

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

Medium: 1900 Head Medium parameters used:

$f = 1900 \text{ MHz}$ ;  $\sigma = 1.456 \text{ S/m}$ ;  $\epsilon_r = 40.754$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/28/2020; Ambient Temp: 21.9°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7406; ConvF(7.96, 7.96, 7.96) @ 1900 MHz; Calibrated: 6/23/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1583; Calibrated: 5/14/2020

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

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

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

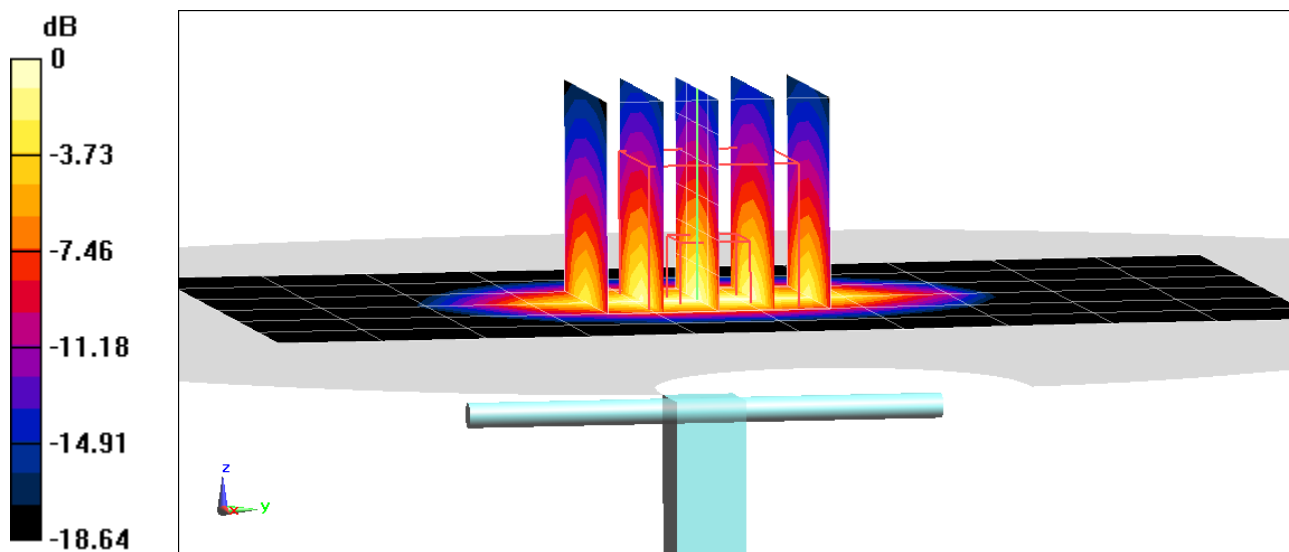
**Area Scan (7x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 7.63 W/kg

**SAR(1 g) = 4.06 W/kg**

Deviation(1 g) = 3.84%



# PCTEST

**DUT: Dipole 2300 MHz; Type: D2300V2; Serial: 1038**

Communication System: UID 0, CW; Frequency: 2300 MHz; Duty Cycle: 1:1

Medium: 2450 Head Medium parameters used:

$f = 2300 \text{ MHz}$ ;  $\sigma = 1.637 \text{ S/m}$ ;  $\epsilon_r = 39.875$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/25/2020; Ambient Temp: 23.0°C; Tissue Temp: 23.7°C

Probe: EX3DV4 - SN7421; ConvF(7.68, 7.68, 7.68) @ 2300 MHz; Calibrated: 3/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/19/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

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

## 2300 MHz System Verification at 20.0 dBm (100 mW)

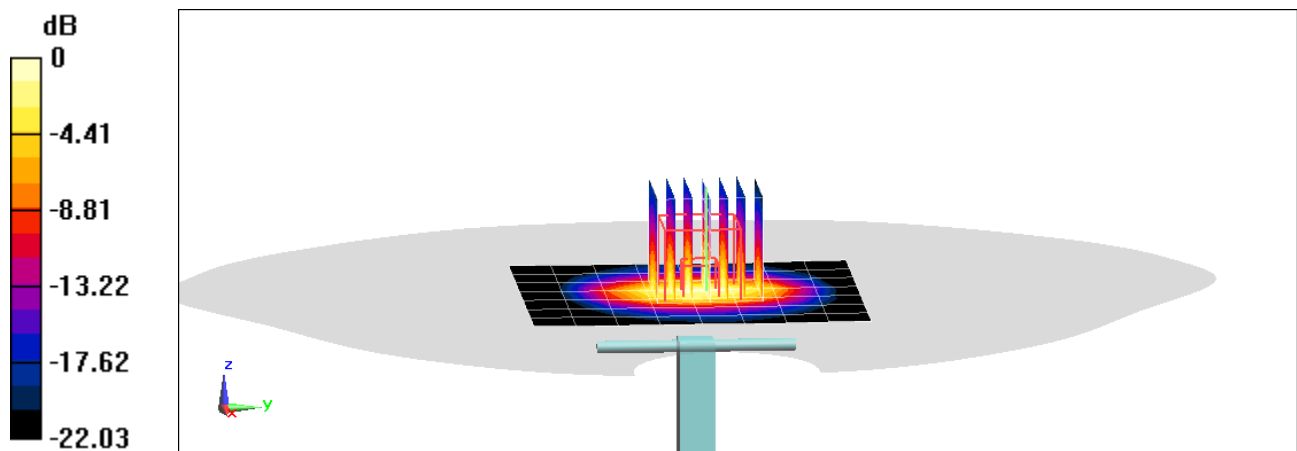
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 10.3 W/kg

**SAR(1 g) = 5.07 W/kg**

Deviation(1 g) = 2.84%



0 dB = 8.34 W/kg = 9.21 dBW/kg

# PCTEST

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 981**

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: 2450 Head Medium parameters used:

$f = 2450 \text{ MHz}$ ;  $\sigma = 1.827 \text{ S/m}$ ;  $\epsilon_r = 38.791$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0cm

Test Date: 09/29/2020; Ambient Temp: 23.1°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN3589; ConvF(6.85, 6.85, 6.85) @ 2450 MHz; Calibrated: 1/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1558; Calibrated: 1/13/2020

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

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

## 2450 MHz System Verification at 20.0 dBm (100 mW)

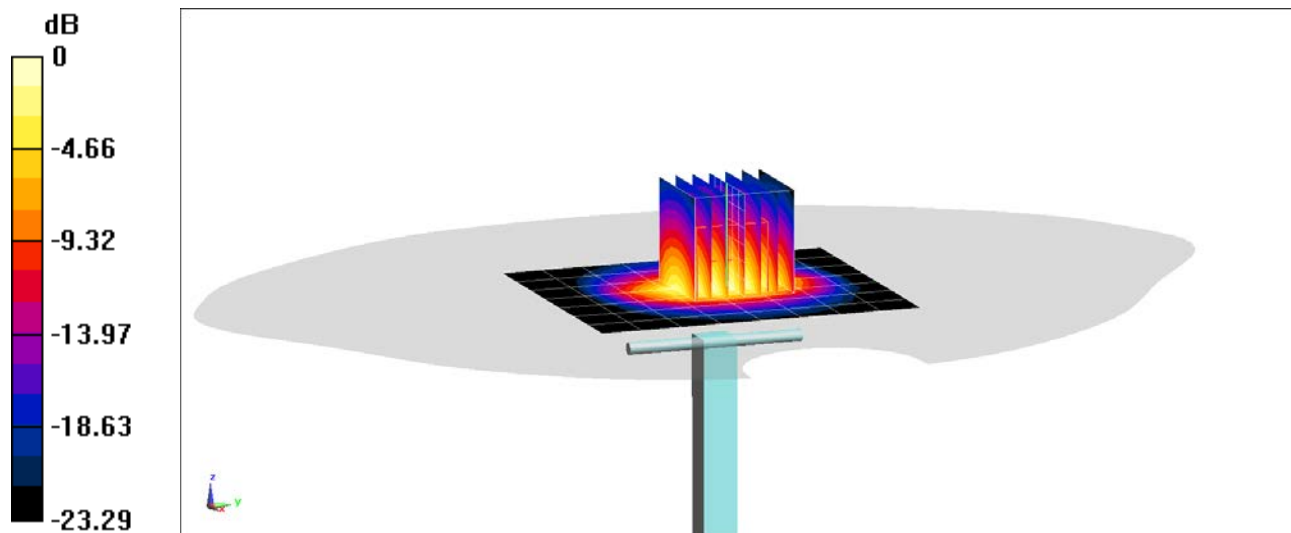
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 11.0 W/kg

**SAR(1 g) = 5.19 W/kg**

Deviation(1 g) = -0.76%



0 dB = 8.75 W/kg = 9.42 dBW/kg

# PCTEST

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 981**

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: 2450 Head Medium parameters used:

$f = 2450 \text{ MHz}$ ;  $\sigma = 1.83 \text{ S/m}$ ;  $\epsilon_r = 38.329$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 10/02/2020; Ambient Temp: 23.1°C; Tissue Temp: 22.9°C

Probe: EX3DV4 - SN3589; ConvF(6.85, 6.85, 6.85) @ 2450 MHz; Calibrated: 1/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1558; Calibrated: 1/13/2020

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1647

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

## 2450 MHz System Verification at 20.0 dBm (100 mW)

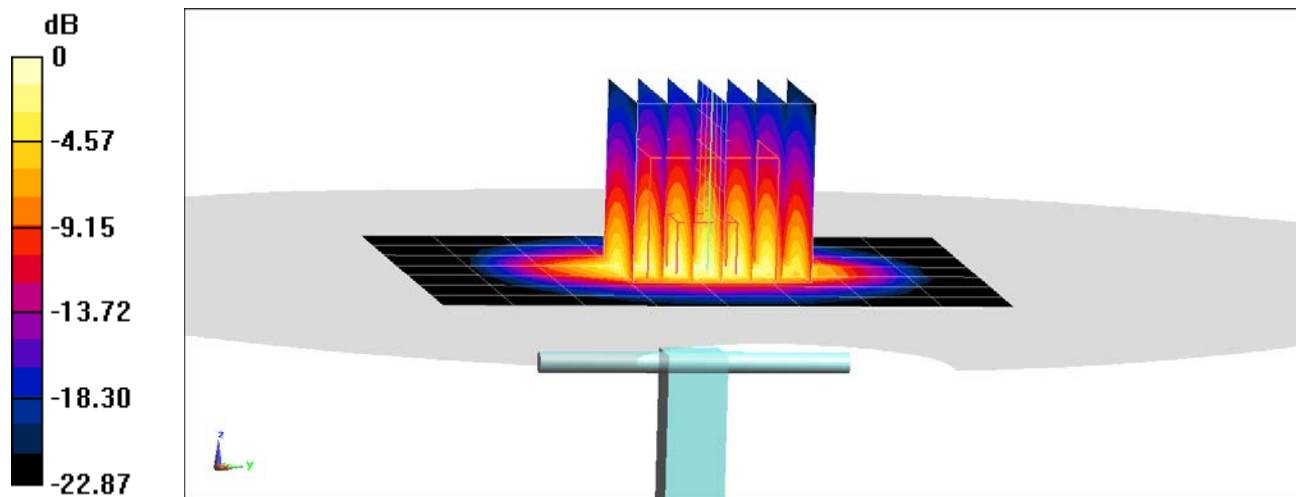
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 11.3 W/kg

**SAR(1 g) = 5.35 W/kg**

Deviation(1 g) = 2.29%



0 dB = 9.08 W/kg = 9.58 dBW/kg

# PCTEST

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1042**

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: 2450 Head Medium parameters used:

$f = 2600$  MHz;  $\sigma = 1.986$  S/m;  $\epsilon_r = 38.727$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/25/2020; Ambient Temp: 23.0°C; Tissue Temp: 23.7°C

Probe: EX3DV4 - SN7421; ConvF(7.24, 7.24, 7.24) @ 2600 MHz; Calibrated: 3/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/19/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

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

## 2600 MHz System Verification at 20.0 dBm (100 mW)

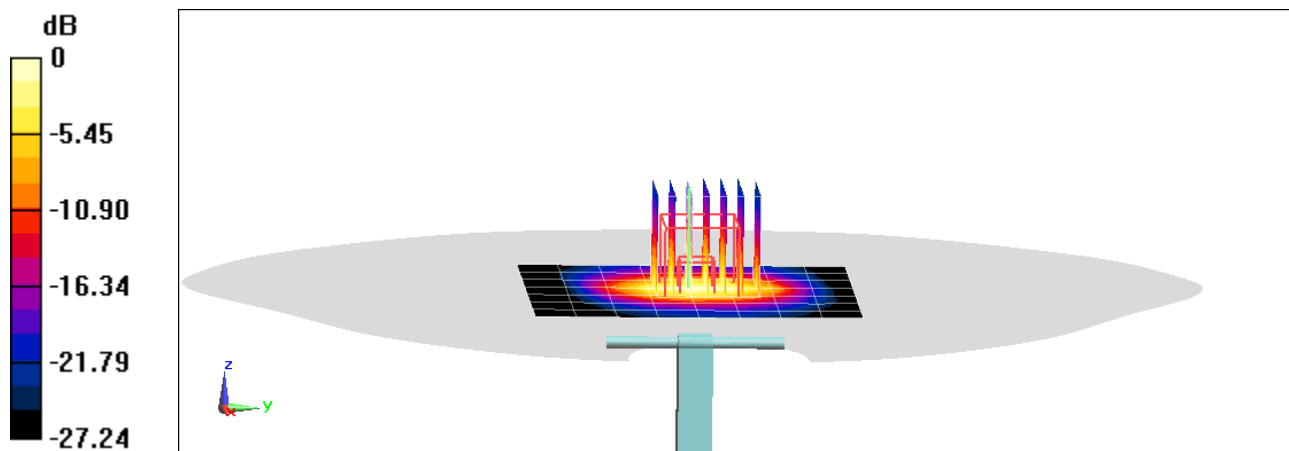
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 13.6 W/kg

**SAR(1 g) = 6.03 W/kg**

Deviation(1 g) = 4.51%



0 dB = 10.5 W/kg = 10.21 dBW/kg

# PCTEST

**DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1120**

Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1

Medium: 5200-5800 Head Medium parameters used:

$f = 5250$  MHz;  $\sigma = 4.494$  S/m;  $\epsilon_r = 35.188$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/28/2020; Ambient Temp: 22.5°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN7402; ConvF(5.14, 5.14, 5.14) @ 5250 MHz; Calibrated: 4/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1502; Calibrated: 4/15/2020

Phantom: Twin-SAM V5.0(20); Type: QD 000 P40 CD; Serial: 1868

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

## 5250 MHz System Verification at 17.0 dBm (50 mW)

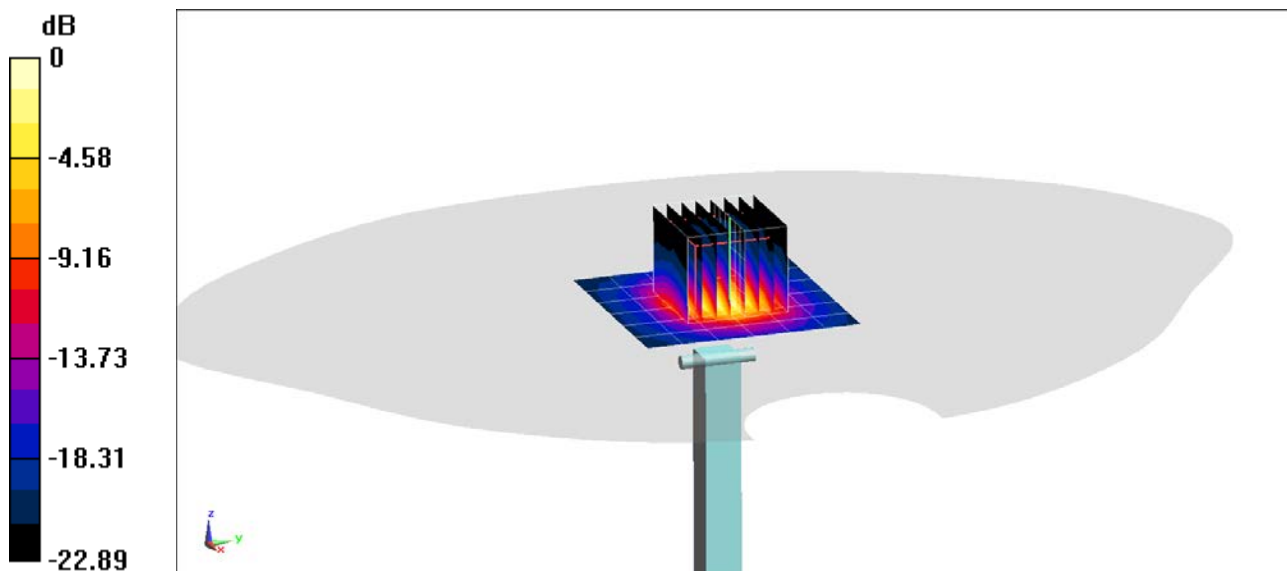
**Area Scan (7x7x1):** Measurement grid: dx=10mm, dy=10mm

**Zoom Scan (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 15.2 W/kg

**SAR(1 g) = 3.9 W/kg**

Deviation(1 g) = -2.86%



0 dB = 8.93 W/kg = 9.51 dBW/kg

# PCTEST

**DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1120**

Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: 5200-5800 Head Medium parameters used:

$f = 5600$  MHz;  $\sigma = 4.839$  S/m;  $\epsilon_r = 34.706$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/28/2020; Ambient Temp: 22.5°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN7402; ConvF(4.75, 4.75, 4.75) @ 5600 MHz; Calibrated: 4/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1502; Calibrated: 4/15/2020

Phantom: Twin-SAM V5.0(20); Type: QD 000 P40 CD; Serial: 1868

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

## 5600 MHz System Verification at 17.0 dBm (50 mW)

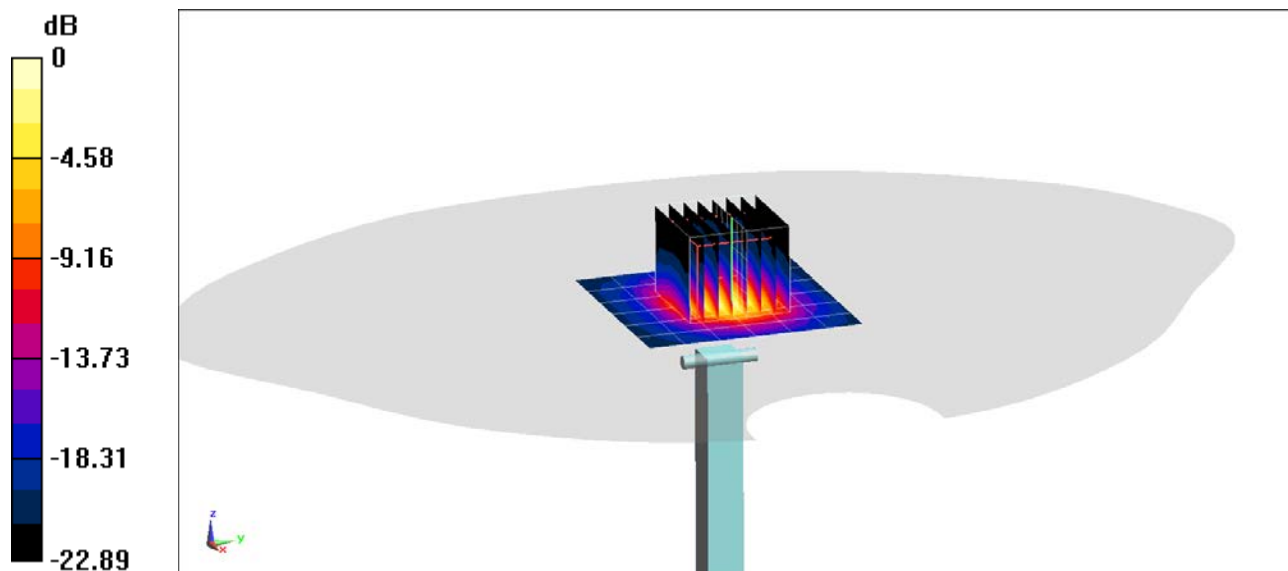
**Area Scan (7x7x1):** Measurement grid: dx=10mm, dy=10mm

**Zoom Scan (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 17.3 W/kg

**SAR(1 g) = 4.09 W/kg**

Deviation(1 g) = -2.15%



0 dB = 9.86 W/kg = 9.94 dBW/kg

# PCTEST

**DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1120**

Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1

Medium: 5200-5800 Head Medium parameters used:

$f = 5750 \text{ MHz}$ ;  $\sigma = 5.001 \text{ S/m}$ ;  $\epsilon_r = 34.562$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/28/2020; Ambient Temp: 22.5°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN7402; ConvF(4.7, 4.7, 4.7) @ 5750 MHz; Calibrated: 4/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1502; Calibrated: 4/15/2020

Phantom: Twin-SAM V5.0(20); Type: QD 000 P40 CD; Serial: 1868

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

## 5750 MHz System Verification at 17.0 dBm (50 mW)

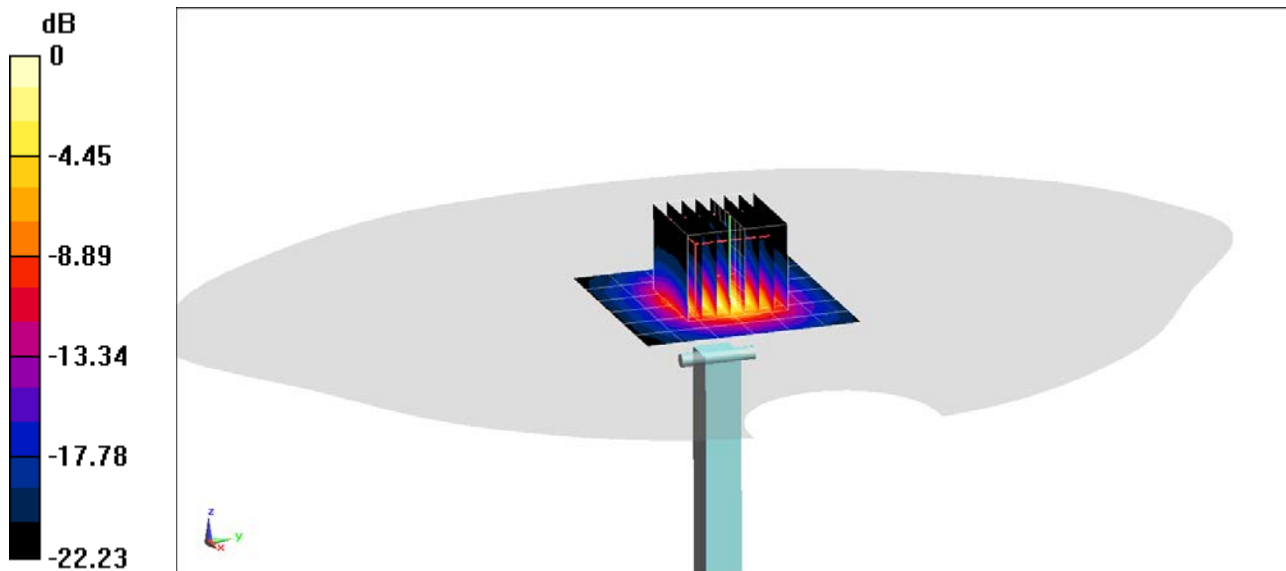
**Area Scan (7x7x1):** Measurement grid: dx=10mm, dy=10mm

**Zoom Scan (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 17.0 W/kg

**SAR(1 g) = 3.94 W/kg**

Deviation(1 g) = -1.99%



0 dB = 9.42 W/kg = 9.74 dBW/kg

# PCTEST

**DUT: Dipole 750 MHz; Type: D750V3; Serial: 1034**

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: 750 Body Medium parameters used (interpolated):

$f = 750 \text{ MHz}$ ;  $\sigma = 0.967 \text{ S/m}$ ;  $\epsilon_r = 54.919$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 09/23/2020; Ambient Temp: 21.9°C; Tissue Temp: 21.6°C

Probe: EX3DV4 - SN7491; ConvF(10.44, 10.44, 10.44) @ 750 MHz; Calibrated: 7/16/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1402; Calibrated: 7/9/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1596

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

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

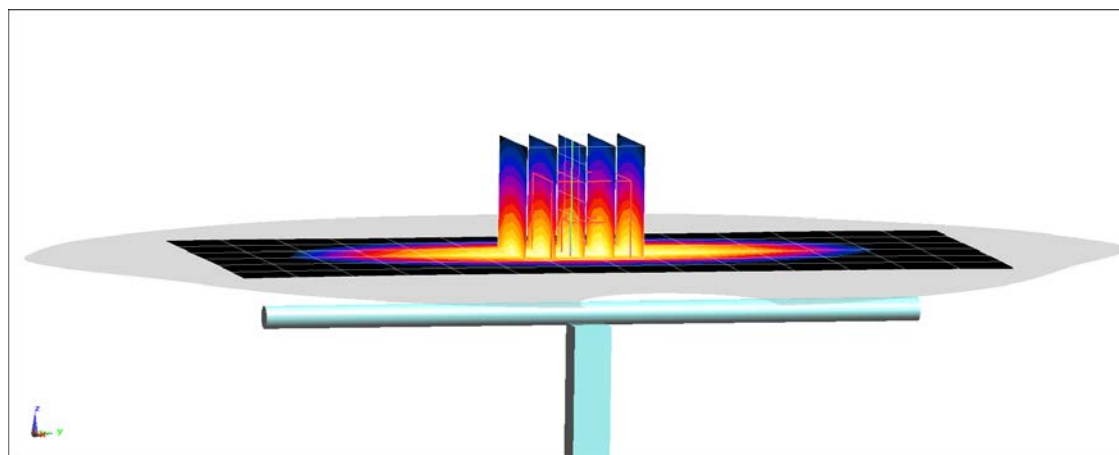
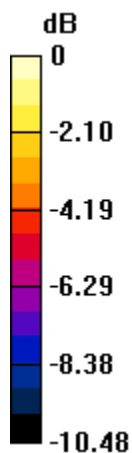
**Area Scan (7x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 2.80 W/kg

**SAR(1 g) = 1.73 W/kg**

Deviation(1 g) = 0.93%



0 dB = 2.65 W/kg = 4.23 dBW/kg

# PCTEST

**DUT: Dipole 750 MHz; Type: D750V3; Serial: 1034**

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: 750 Body Medium parameters used (interpolated):

$f = 750 \text{ MHz}$ ;  $\sigma = 0.965 \text{ S/m}$ ;  $\epsilon_r = 53.809$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 09/25/2020; Ambient Temp: 22.3°C; Tissue Temp: 21.9°C

Probe: EX3DV4 - SN7491; ConvF(10.44, 10.44, 10.44) @ 750 MHz; Calibrated: 7/16/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1402; Calibrated: 7/9/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1596

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

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

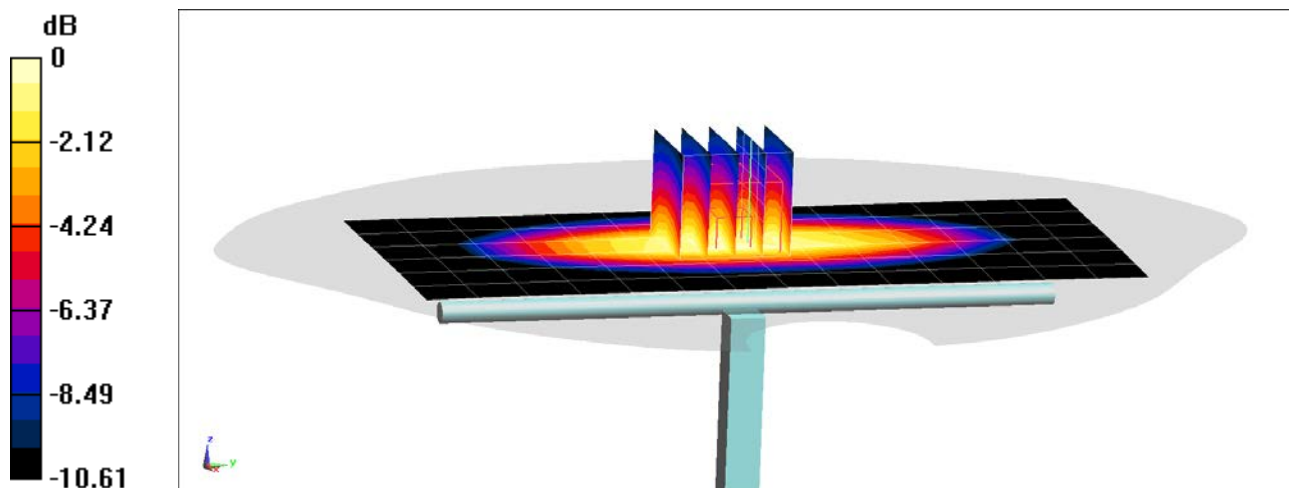
**Area Scan (7x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 2.71 W/kg

**SAR(1 g) = 1.74 W/kg**

Deviation(1 g) = 1.52%



0 dB = 2.35 W/kg = 3.71 dBW/kg

# PCTEST

**DUT: Dipole 750 MHz; Type: D750V3; Serial: 1034**

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: 750 Body Medium parameters used (interpolated):

$f = 750 \text{ MHz}$ ;  $\sigma = 0.978 \text{ S/m}$ ;  $\epsilon_r = 54.116$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 09/30/2020; Ambient Temp: 20.0°C; Tissue Temp: 19.9°C

Probe: EX3DV4 - SN3837; ConvF(9.55, 9.55, 9.55) @ 750 MHz; Calibrated: 1/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn793; Calibrated: 1/14/2020

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

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

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

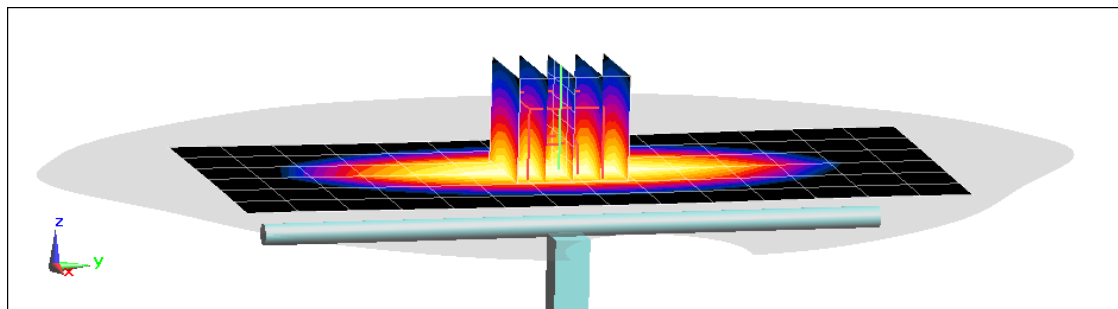
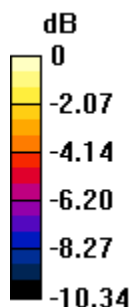
**Area Scan (7x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 2.77 W/kg

**SAR(1 g) = 1.8 W/kg**

Deviation(1 g) = 5.02%



0 dB = 2.43 W/kg = 3.86 dBW/kg

# PCTEST

**DUT: Dipole 750 MHz; Type: D750V3; Serial: 1034**

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: 750 Body Medium parameters used (interpolated):

$f = 750 \text{ MHz}$ ;  $\sigma = 0.993 \text{ S/m}$ ;  $\epsilon_r = 53.971$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 09/30/2020; Ambient Temp: 22.7°C; Tissue Temp: 21.4°C

Probe: EX3DV4 - SN7490; ConvF(10.37, 10.37, 10.37) @ 750 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) SUB use; Type: QD 000 P40 CC; Serial: 1403

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

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

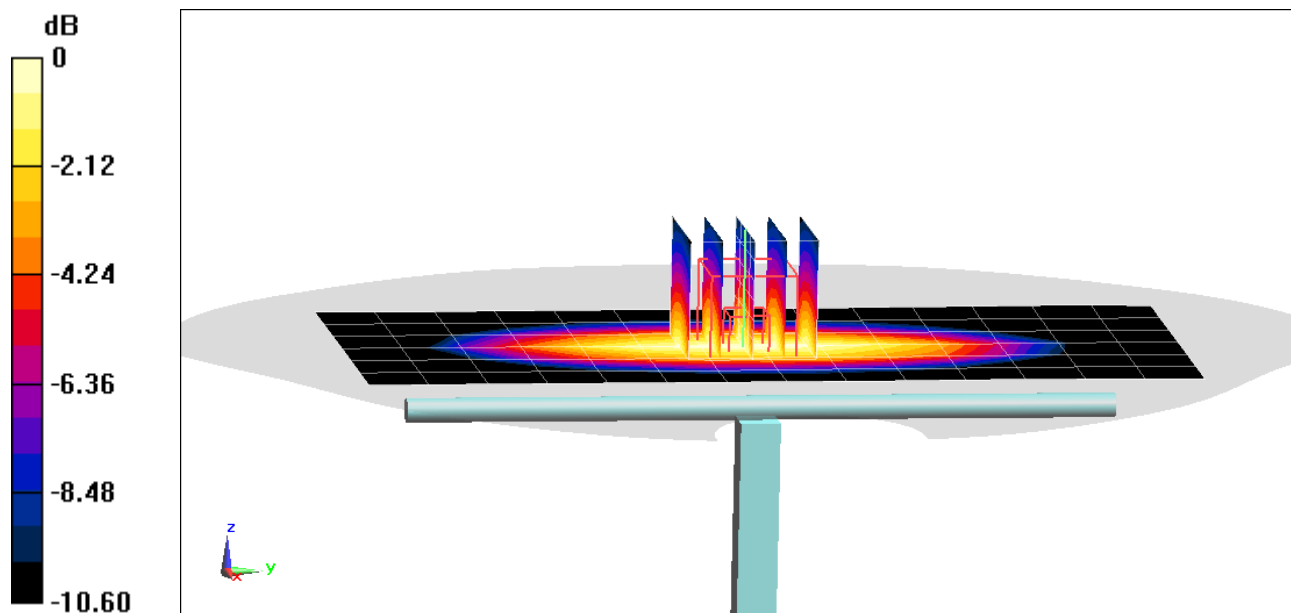
**Area Scan (7x15x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 2.65 W/kg

**SAR(1 g) = 1.7 W/kg**

Deviation(1 g) = -0.82%



0 dB = 2.32 W/kg = 3.65 dBW/kg

# PCTEST

**DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d040**

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

Medium: 835 Body Medium parameters used:

$f = 835 \text{ MHz}$ ;  $\sigma = 1.014 \text{ S/m}$ ;  $\epsilon_r = 53.355$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 09/24/2020; Ambient Temp: 23.3°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7490; ConvF(10.18, 10.18, 10.18) @ 835 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) SUB use; Type: QD 000 P40 CC; Serial: 1403

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

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

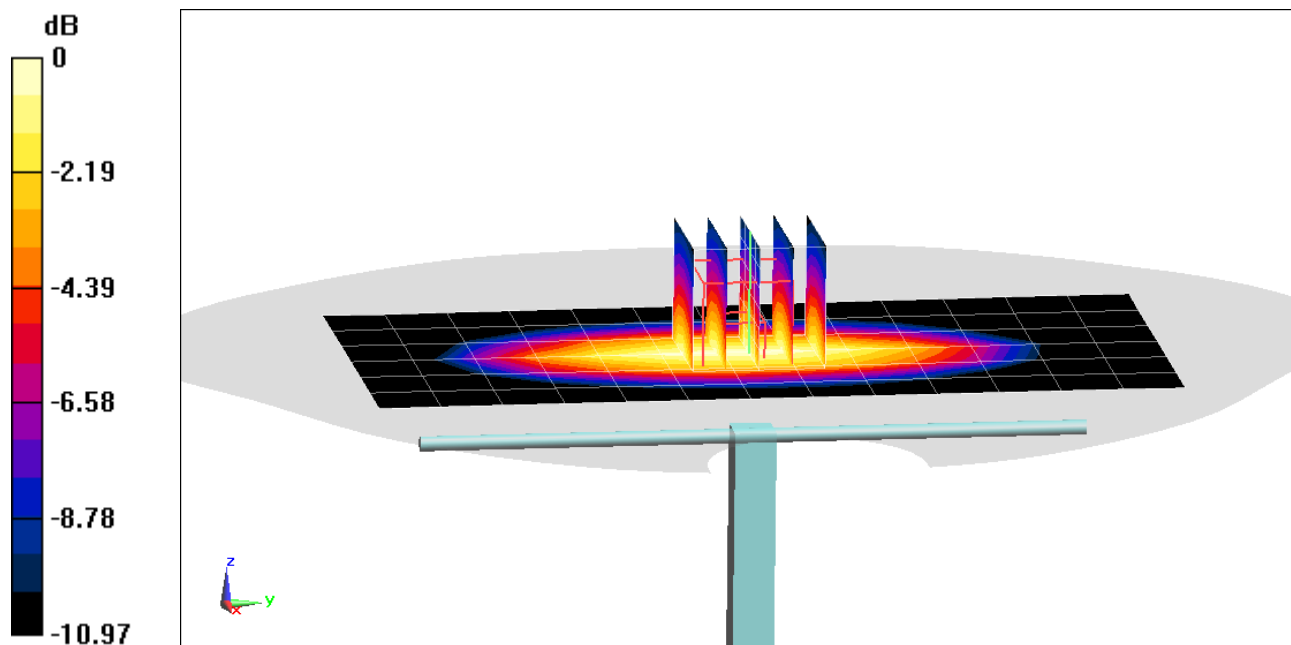
**Area Scan (7x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 3.12 W/kg

**SAR(1 g) = 1.99 W/kg**

Deviation(1 g) = 4.41%



0 dB = 2.73 W/kg = 4.36 dBW/kg

# PCTEST

**DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d132**

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

Medium: 835 Body; Medium parameters used:

$f = 835 \text{ MHz}$ ;  $\sigma = 0.954 \text{ S/m}$ ;  $\epsilon_r = 54.606$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 09/28/2020; Ambient Temp: 22.0°C; Tissue Temp: 21.5°C

Probe: EX3DV4 - SN7308; ConvF(9.92, 9.92, 9.92) @ 835 MHz; Calibrated: 7/31/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1450; Calibrated: 8/11/2020

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

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

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

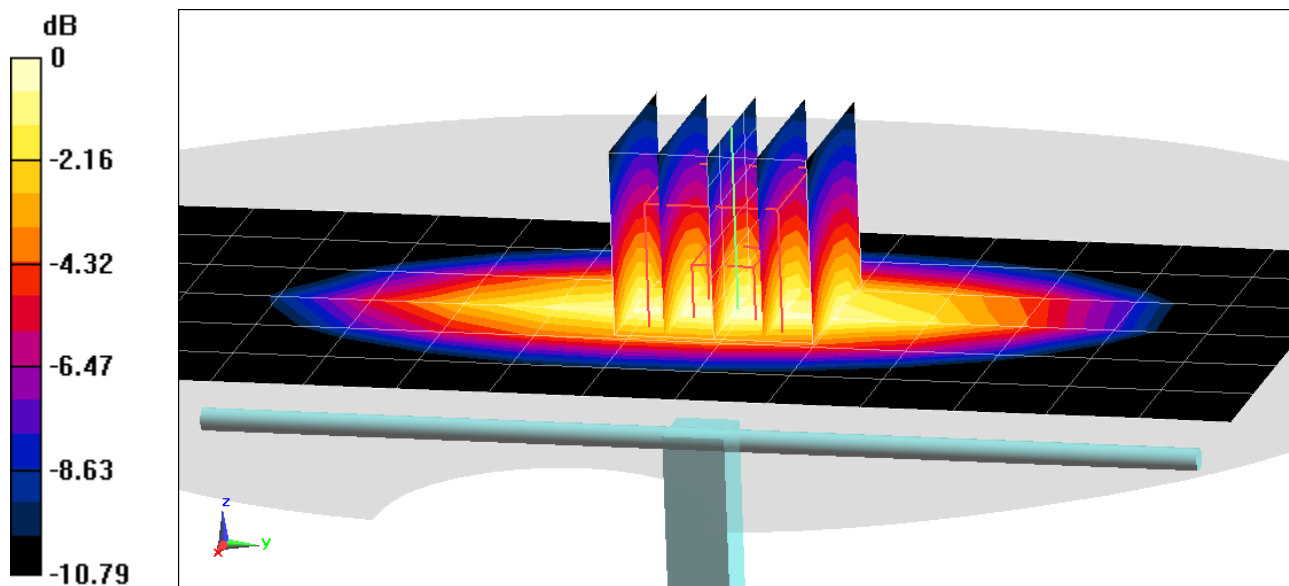
**Area Scan (7x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 2.92 W/kg

**SAR(1 g) = 1.88 W/kg**

Deviation(1 g) = -5.62%



0 dB = 2.55 W/kg = 4.07 dBW/kg

# PCTEST

**DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d040**

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

Medium: 835 Body Medium parameters used:

$f = 835 \text{ MHz}$ ;  $\sigma = 1.01 \text{ S/m}$ ;  $\epsilon_r = 53.737$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 09/28/2020; Ambient Temp: 24.5°C; Tissue Temp: 22.1°C

Probe: EX3DV4 - SN3837; ConvF(9.37, 9.37, 9.37) @ 835 MHz; Calibrated: 1/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn793; Calibrated: 1/14/2020

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

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

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

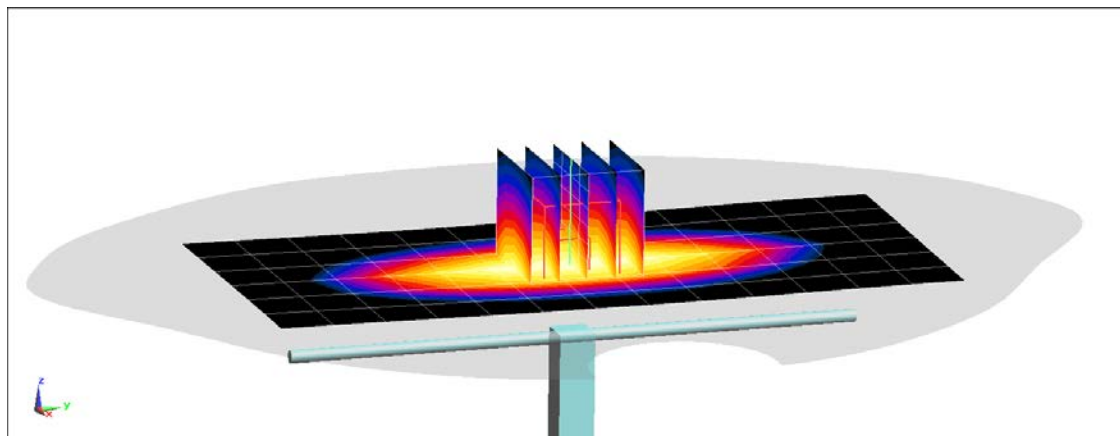
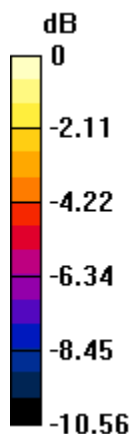
**Area Scan (7x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 3.18 W/kg

**SAR(1 g) = 2.07 W/kg**

Deviation(1 g) = 8.60%



0 dB = 2.79 W/kg = 4.46 dBW/kg

# PCTEST

**DUT: Dipole 850 MHz; Type: D850V2; Serial: 1009**

Communication System: UID 0, CW; Frequency: 850 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used:

$f = 850 \text{ MHz}$ ;  $\sigma = 1 \text{ S/m}$ ;  $\epsilon_r = 54.436$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 09/23/2020; Ambient Temp: 22.3°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN3837; ConvF(9.37, 9.37, 9.37) @ 850 MHz; Calibrated: 1/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn793; Calibrated: 1/14/2020

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

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

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

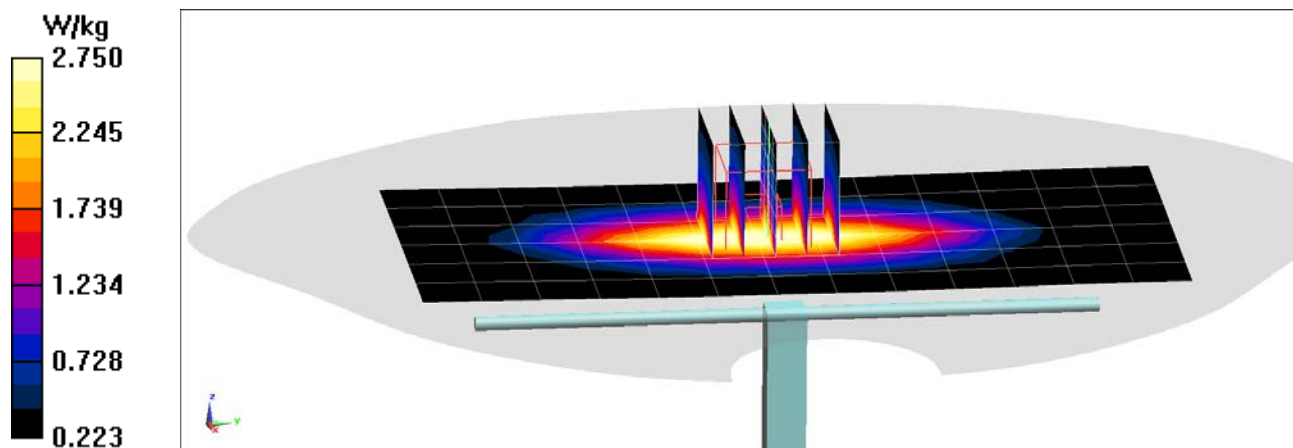
**Area Scan (7x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 3.28 W/kg

**SAR(1 g) = 2.05 W/kg**

Deviation(1 g) = 2.50%



# PCTEST

**DUT: Dipole 850 MHz; Type: D850V2; Serial: 1009**

Communication System: UID 0, CW; Frequency: 850 MHz; Duty Cycle: 1:1

Medium: 835 Body Medium parameters used:

$f = 850 \text{ MHz}$ ;  $\sigma = 0.998 \text{ S/m}$ ;  $\epsilon_r = 54.7$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.5 cm

Test Date: 09/25/2020; Ambient Temp: 25.0°C; Tissue Temp: 21.8°C

Probe: EX3DV4 - SN3837; ConvF(9.37, 9.37, 9.37) @ 850 MHz; Calibrated: 1/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn793; Calibrated: 1/14/2020

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

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

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

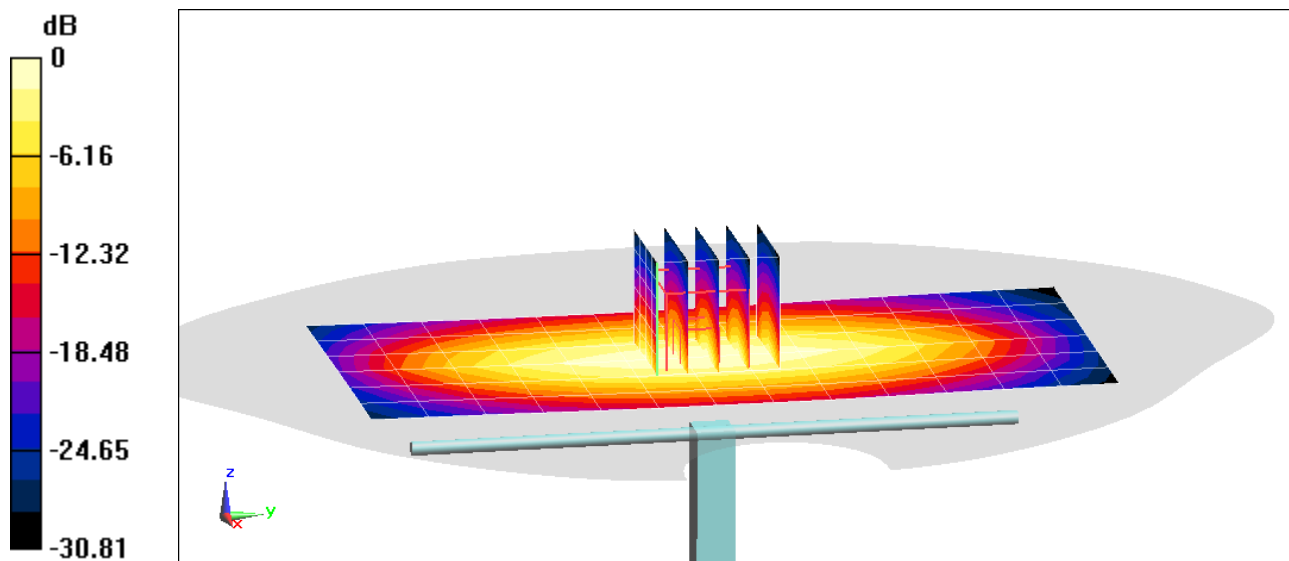
**Area Scan (7x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 3.45 W/kg

**SAR(1 g) = 2.17 W/kg**

Deviation(1 g) = 8.50%



# PCTEST

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1083**

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used:

$f = 1750 \text{ MHz}$ ;  $\sigma = 1.505 \text{ S/m}$ ;  $\epsilon_r = 52.063$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/22/2020; Ambient Temp: 20.1°C; Tissue Temp: 19.4°C

Probe: EX3DV4 - SN7416; ConvF(7.85, 7.85, 7.85) @ 1750 MHz; Calibrated: 6/22/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn701; Calibrated: 6/11/2020

Phantom: Twin-SAM V8.0; Type: QD 000 P41 Ax; Serial: 1936

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

## 1750 MHz System Verification at 20.0 dBm (100 mW)

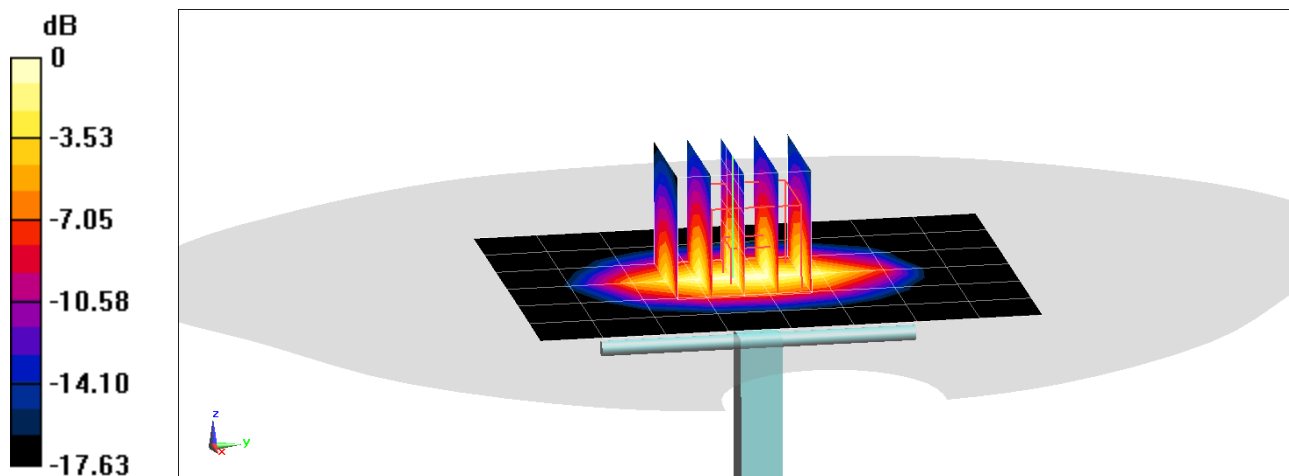
**Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 6.89 W/kg

**SAR(1 g) = 3.78 W/kg**

Deviation(1 g) = 1.89%



0 dB = 5.73 W/kg = 7.58 dBW/kg

# PCTEST

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1083**

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used:

$f = 1750 \text{ MHz}$ ;  $\sigma = 1.51 \text{ S/m}$ ;  $\epsilon_r = 51.895$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/24/2020; Ambient Temp: 23.3°C; Tissue Temp: 21.1°C

Probe: EX3DV4 - SN7490; ConvF(8.54, 8.54, 8.54) @ 1750 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) SUB use; Type: QD 000 P40 CC; Serial: 1403

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

## 1750 MHz System Verification at 20.0 dBm (100 mW)

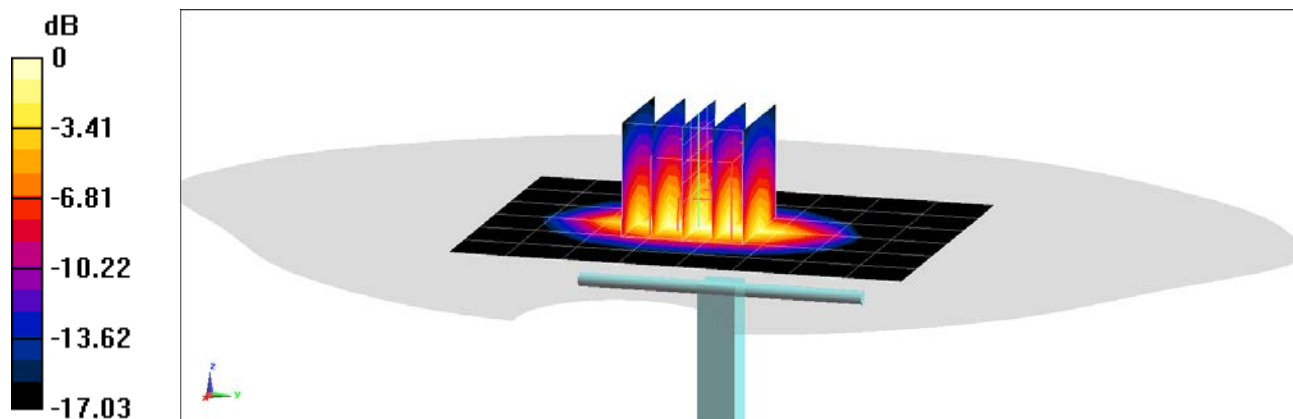
**Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 6.45 W/kg

**SAR(1 g) = 3.59 W/kg**

Deviation(1 g) = -3.23%



0 dB = 5.52 W/kg = 7.42 dBW/kg

# PCTEST

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1083**

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used:

$f = 1750 \text{ MHz}$ ;  $\sigma = 1.494 \text{ S/m}$ ;  $\epsilon_r = 52.105$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/28/2020; Ambient Temp: 18.9°C; Tissue Temp: 20.5°C

Probe: EX3DV4 - SN7420; ConvF(8.01, 8.01, 8.01) @ 1750 MHz; Calibrated: 11/21/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1213; Calibrated: 11/13/2019

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CA; Serial: 1275

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

## 1750 MHz System Verification at 20.0 dBm (100 mW)

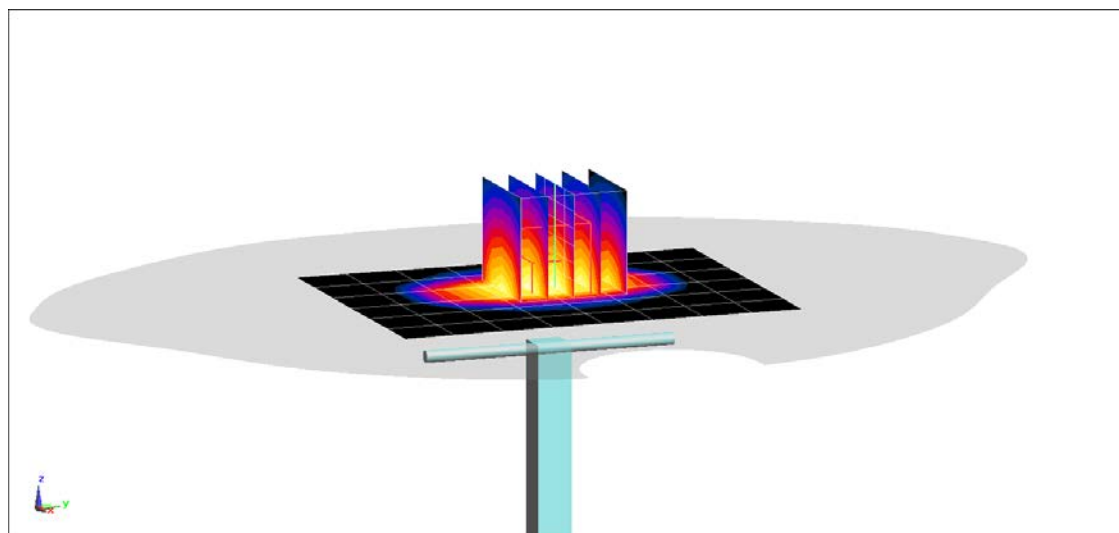
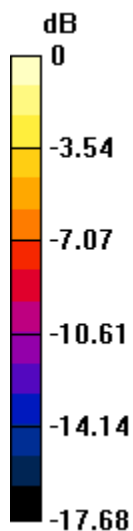
**Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 7.22 W/kg

**SAR(1 g) = 3.94 W/kg**

Deviation(1 g) = 6.20%



# PCTEST

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1092**

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used:

$f = 1750 \text{ MHz}$ ;  $\sigma = 1.498 \text{ S/m}$ ;  $\epsilon_r = 52.327$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/30/2020; Ambient Temp: 20.3°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7490; ConvF(8.54, 8.54, 8.54) @ 1750 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) SUB use; Type: QD 000 P40 CC; Serial: 1403

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

## 1750 MHz System Verification at 20.0 dBm (100 mW)

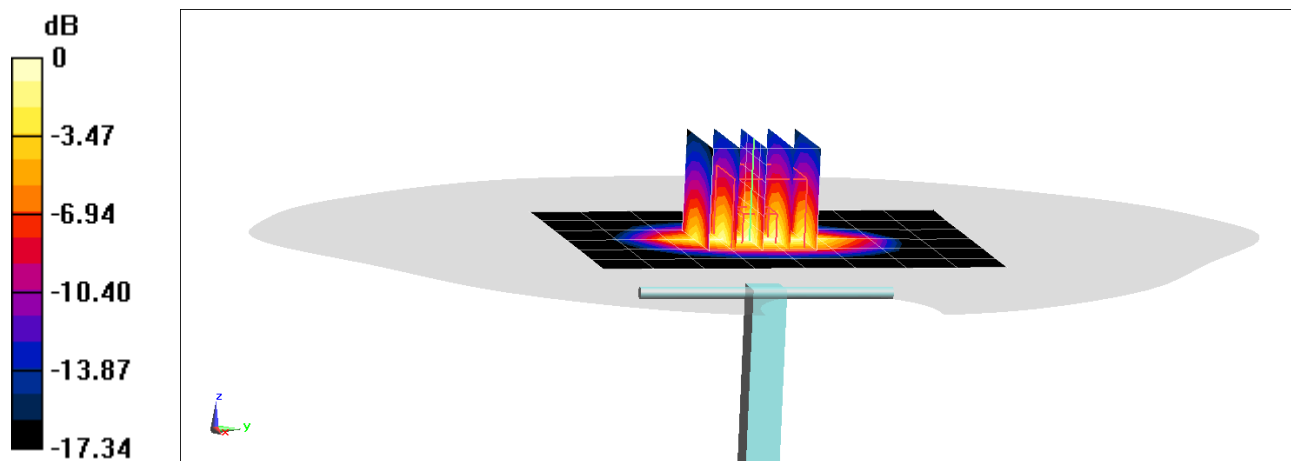
**Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 6.48 W/kg

**SAR(10 g) = 1.9 W/kg**

Deviation(10 g) = -2.06%



0 dB = 5.51 W/kg = 7.41 dBW/kg

# PCTEST

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1083**

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: 1750 Body Medium parameters used:

$f = 1750 \text{ MHz}$ ;  $\sigma = 1.528 \text{ S/m}$ ;  $\epsilon_r = 52.206$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 10/04/2020; Ambient Temp: 20.1°C; Tissue Temp: 20.7°C

Probe: EX3DV4 - SN7490; ConvF(8.54, 8.54, 8.54) @ 1750 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) SUB use; Type: QD 000 P40 CC; Serial: 1403

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

## 1750 MHz System Verification at 20.0 dBm (100 mW)

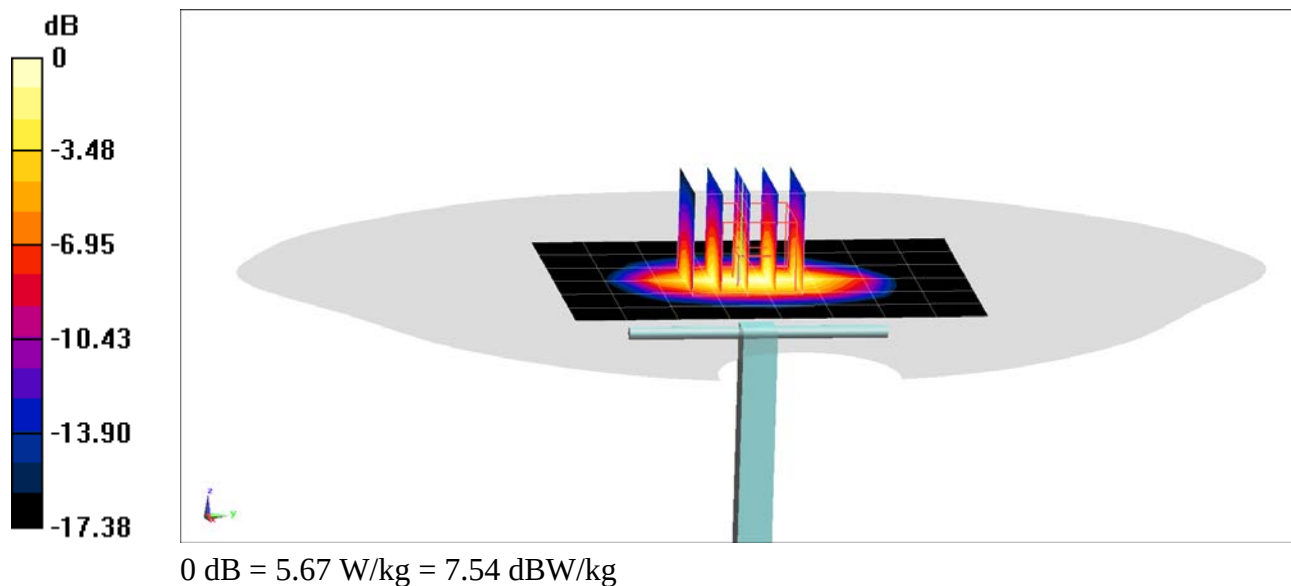
**Area Scan (7x9x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 6.73 W/kg

**SAR(1 g) = 3.81 W/kgg**

Deviation(1 g) = 2.70%



# PCTEST

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d180**

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

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1900 \text{ MHz}$ ;  $\sigma = 1.577 \text{ S/m}$ ;  $\epsilon_r = 51.084$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/22/2020; Ambient Temp: 23.4°C; Tissue Temp: 23.8°C

Probe: EX3DV4 - SN7421; ConvF(7.68, 7.68, 7.68) @ 1900 MHz; Calibrated: 3/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/19/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

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

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

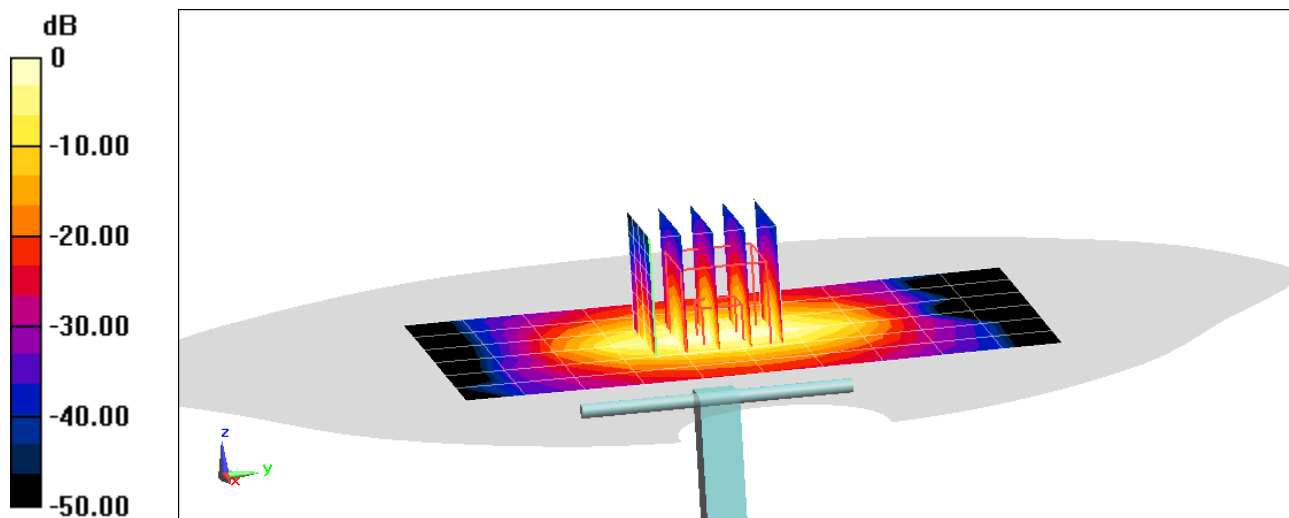
**Area Scan (7x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 7.53 W/kg

**SAR(1 g) = 4.21 W/kg**

Deviation(1 g) = 7.95%



0 dB = 6.42 W/kg = 8.08 dBW/kg

# PCTEST

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d030**

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

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1900 \text{ MHz}$ ;  $\sigma = 1.541 \text{ S/m}$ ;  $\epsilon_r = 51.517$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/24/2020; Ambient Temp: 21.5°C; Tissue Temp: 23.0°C

Probe: EX3DV4 - SN7421; ConvF(7.68, 7.68, 7.68) @ 1900 MHz; Calibrated: 3/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/19/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

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

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

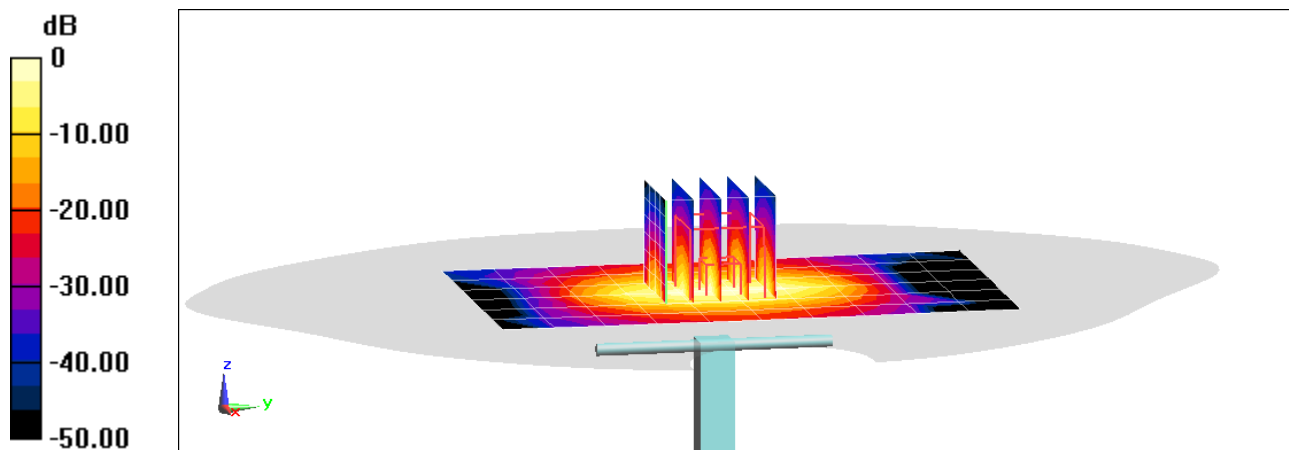
**Area Scan (7x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 7.60 W/kg

**SAR(1 g) = 4.25 W/kg**

Deviation(1 g) = 6.52%



0 dB = 6.59 W/kg = 8.19 dBW/kg

# PCTEST

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d030**

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

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1900 \text{ MHz}$ ;  $\sigma = 1.589 \text{ S/m}$ ;  $\epsilon_r = 51.095$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/28/2020; Ambient Temp: 23.1°C; Tissue Temp: 21.7°C

Probe: EX3DV4 - SN7490; ConvF(8.22, 8.22, 8.22) @ 1900 MHz; Calibrated: 12/13/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1532; Calibrated: 12/5/2019

Phantom: Twin-SAM V4.0 (20) SUB use; Type: QD 000 P40 CC; Serial: 1403

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

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

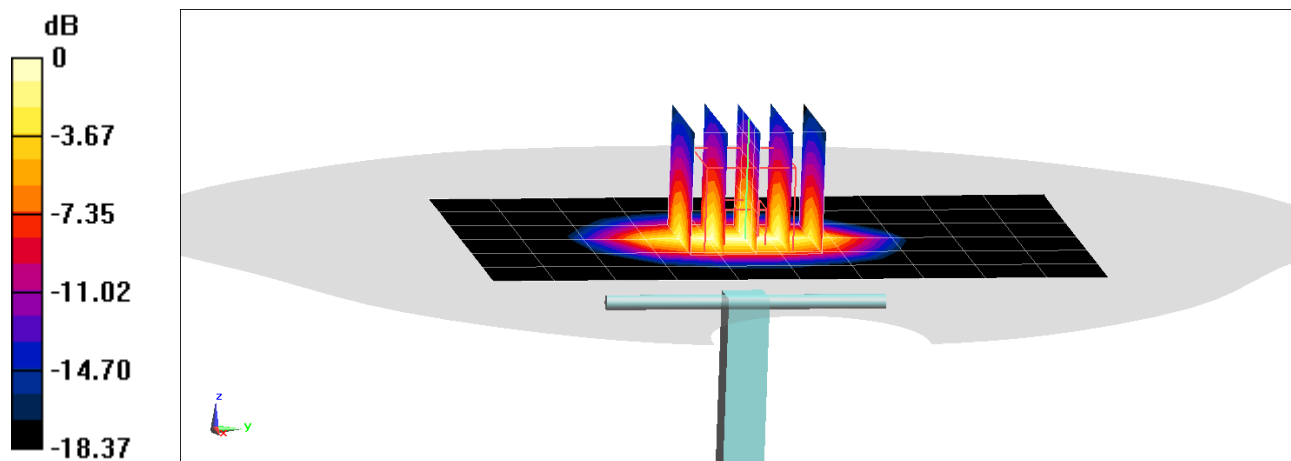
**Area Scan (7x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 7.22 W/kg

**SAR(1 g) = 4.04 W/kg; SAR(10 g) = 2.1 W/kg**

Deviation(1 g) = 1.25%; Deviation(10 g) = -0.47%



0 dB = 6.16 W/kg = 7.90 dBW/kg

# PCTEST

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d030**

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

Medium: 1900 Body Medium parameters used (interpolated):

$f = 1900 \text{ MHz}$ ;  $\sigma = 1.58 \text{ S/m}$ ;  $\epsilon_r = 53.304$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 10/01/2020; Ambient Temp: 21.1°C; Tissue Temp: 20.4°C

Probe: EX3DV4 - SN3837; ConvF(7.68, 7.68, 7.68) @ 1900 MHz; Calibrated: 1/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn793; Calibrated: 1/14/2020

Phantom: Twin-SAM V4.0 Main; Type: QD 000 P40 CC; Serial: 1114

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

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

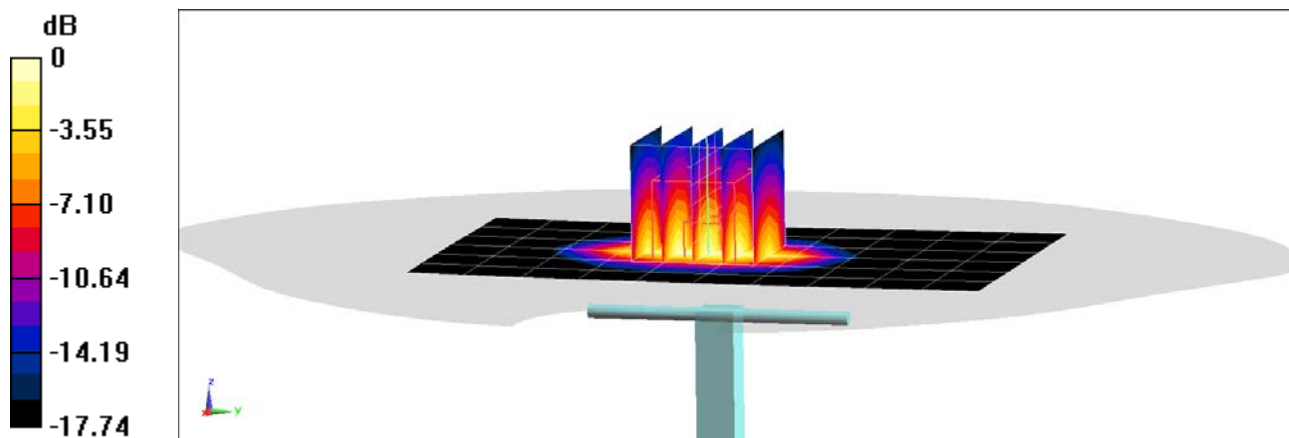
**Area Scan (7x11x1):** Measurement grid: dx=15mm, dy=15mm

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

Peak SAR (extrapolated) = 7.72 W/kg

**SAR(1 g) = 4.22 W/kg**

Deviation(1 g) = 5.76%



0 dB = 6.56 W/kg = 8.17 dBW/kg

# PCTEST

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d080**

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

Medium: 1900 Body Medium parameters used:

$f = 1900 \text{ MHz}$ ;  $\sigma = 1.54 \text{ S/m}$ ;  $\epsilon_r = 52.713$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 10/04/2020; Ambient Temp: 21.3°C; Tissue Temp: 22.6°C

Probe: EX3DV4 - SN7571; ConvF(7.56, 7.56, 7.56) @ 1900 MHz; Calibrated: 12/11/2019

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1533; Calibrated: 12/5/2019

Phantom: SAM Left; Type: QD000P40CC; Serial: TP: 1375

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

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

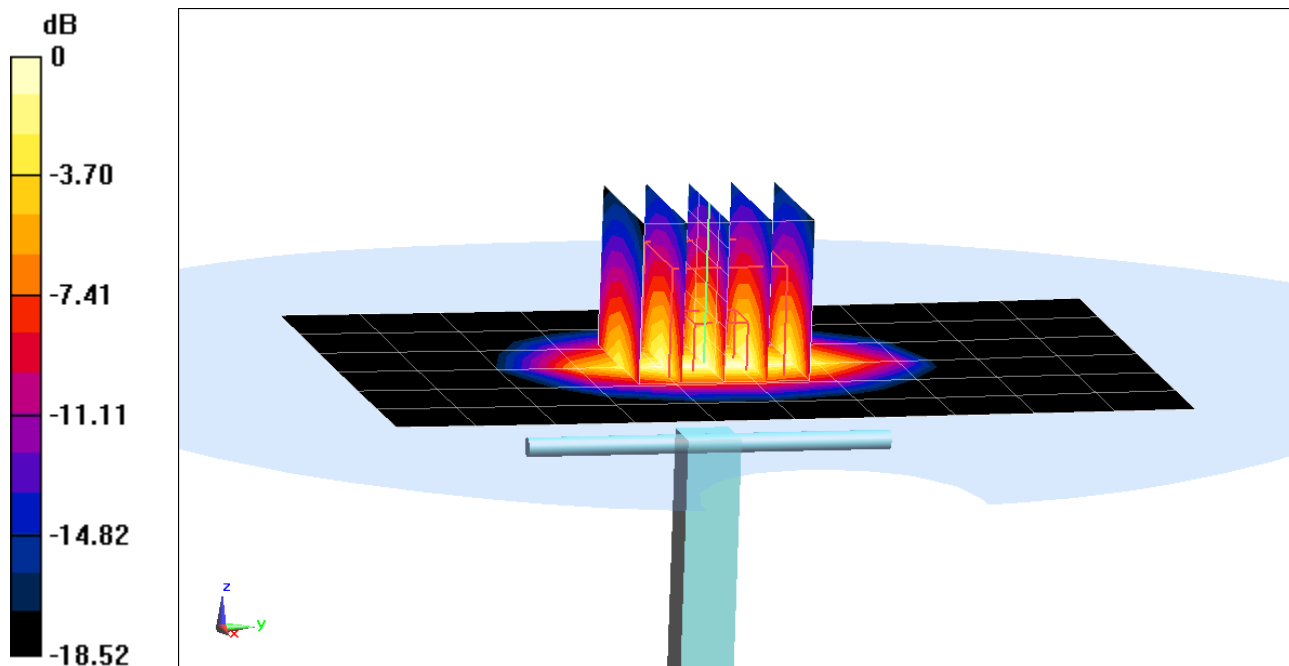
**Area Scan (7x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

Peak SAR (extrapolated) = 7.69 W/kg

**SAR(1 g) = 4.1 W/kg; SAR(10 g) = 2.11 W/kg**

Deviation(1 g) = 4.59%; Deviation(10 g) = 2.43%



0 dB = 6.37 W/kg = 8.04 dBW/kg

# PCTEST

**DUT: Dipole 2300 MHz; Type: D2300V3; Serial: 1038**

Communication System: UID 0, CW; Frequency: 2300 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used:

$f = 2300 \text{ MHz}$ ;  $\sigma = 1.887 \text{ S/m}$ ;  $\epsilon_r = 51.335$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/19/2020; Ambient Temp: 22.5°C; Tissue Temp: 23.5°C

Probe: EX3DV4 - SN7421; ConvF(7.63, 7.63, 7.63) @ 2300 MHz; Calibrated: 3/20/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn604; Calibrated: 3/19/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CC; Serial: 1179

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

## 2300 MHz System Verification at 20.0 dBm (100 mW)

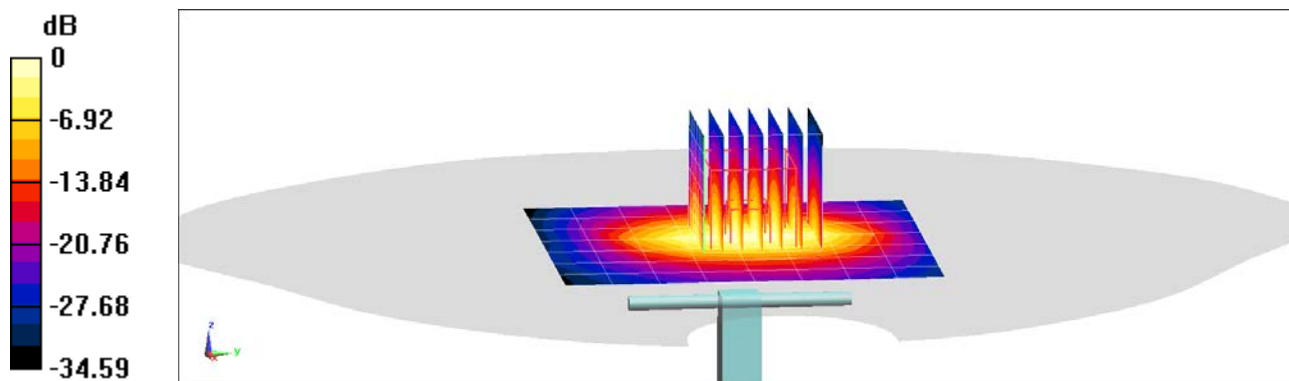
**Area Scan (8x9x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Peak SAR (extrapolated) = 9.48 W/kg

**SAR(1 g) = 4.88 W/kg**

Deviation(1 g) = 4.50%



0 dB = 7.74 W/kg = 8.89 dBW/kg

# PCTEST

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 882**

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used:

$f = 2450 \text{ MHz}$ ;  $\sigma = 1.989 \text{ S/m}$ ;  $\epsilon_r = 50.544$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/15/2020; Ambient Temp: 22.0°C; Tissue Temp: 22.8°C

Probe: EX3DV4 - SN7402; ConvF(7.73, 7.73, 7.73) @ 2450 MHz; Calibrated: 4/21/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1502; Calibrated: 4/15/2020

Phantom: Twin-SAM V5.0 (30); Type: QD 000 P40 CD; Serial: 1868

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

## 2450 MHz System Verification at 20.0 dBm (100 mW)

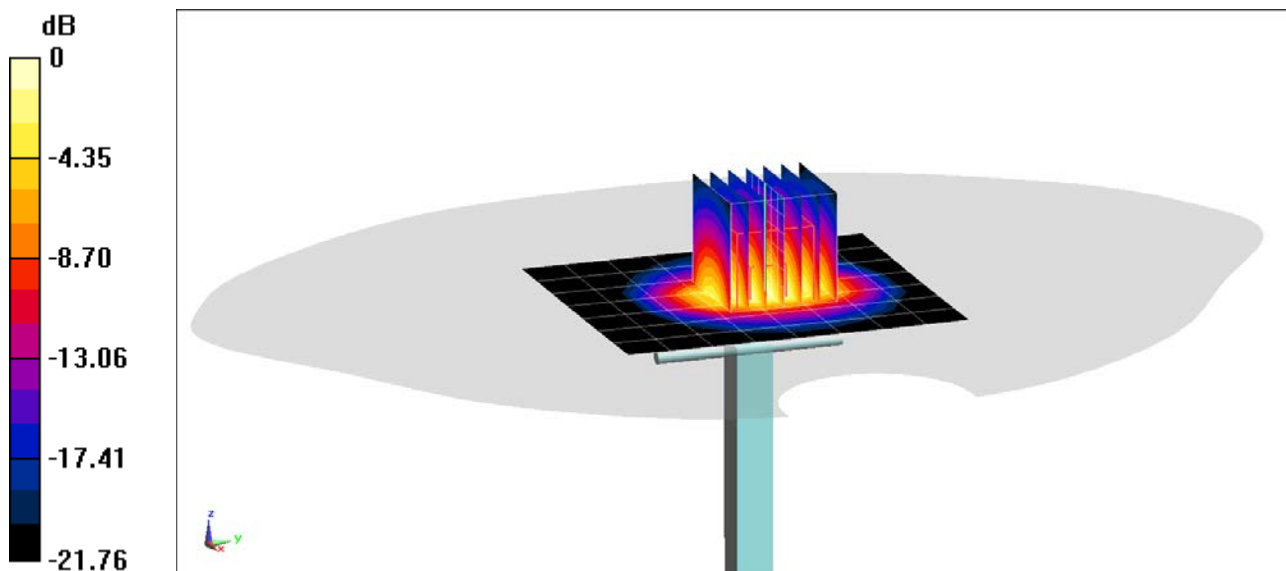
**Area Scan (8x9x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Peak SAR (extrapolated) = 11.2 W/kg

**SAR(1 g) = 5.33 W/kg**

Deviation(1 g) = 3.50%



0 dB = 8.96 W/kg = 9.52 dBW/kg

# PCTEST

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 981**

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used:

$f = 2450 \text{ MHz}$ ;  $\sigma = 2.014 \text{ S/m}$ ;  $\epsilon_r = 51.864$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/21/2020; Ambient Temp: 23.2°C; Tissue Temp: 23.1°C

Probe: EX3DV4 - SN7409; ConvF(7.24, 7.24, 7.24) @ 2450 MHz; Calibrated: 6/23/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1334; Calibrated: 6/18/2020

Phantom: LeftTwin-SAM V5.0; Type: QD 000 P40 CD; Serial: TP1375

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

## 2450 MHz System Verification at 20.0 dBm (100 mW)

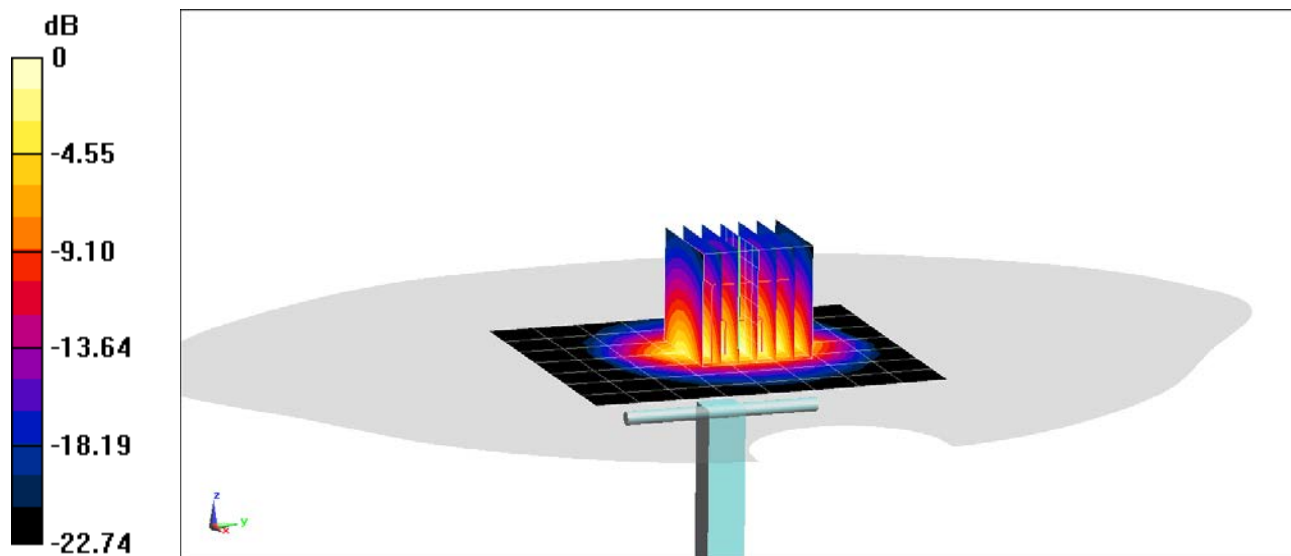
**Area Scan (8x9x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Peak SAR (extrapolated) = 11.1 W/kg

**SAR(1 g) = 5.24 W/kg**

Deviation(1 g) = 2.95%



0 dB = 8.88 W/kg = 9.48 dBW/kg

# PCTEST

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1009**

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: 2450 Body Medium parameters used:

$f = 2600 \text{ MHz}$ ;  $\sigma = 2.207 \text{ S/m}$ ;  $\epsilon_r = 50.517$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/20/2020; Ambient Temp: 21.1°C; Tissue Temp: 21.0°C

Probe: EX3DV4 - SN7427; ConvF(7.08, 7.08, 7.08) @ 2600 MHz; Calibrated: 2/19/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1403; Calibrated: 2/13/2020

Phantom: Twin-SAM V4.0; Type: QD 000 P40 CD; Serial: 1736

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

## 2600 MHz System Verification at 20.0 dBm (100 mW)

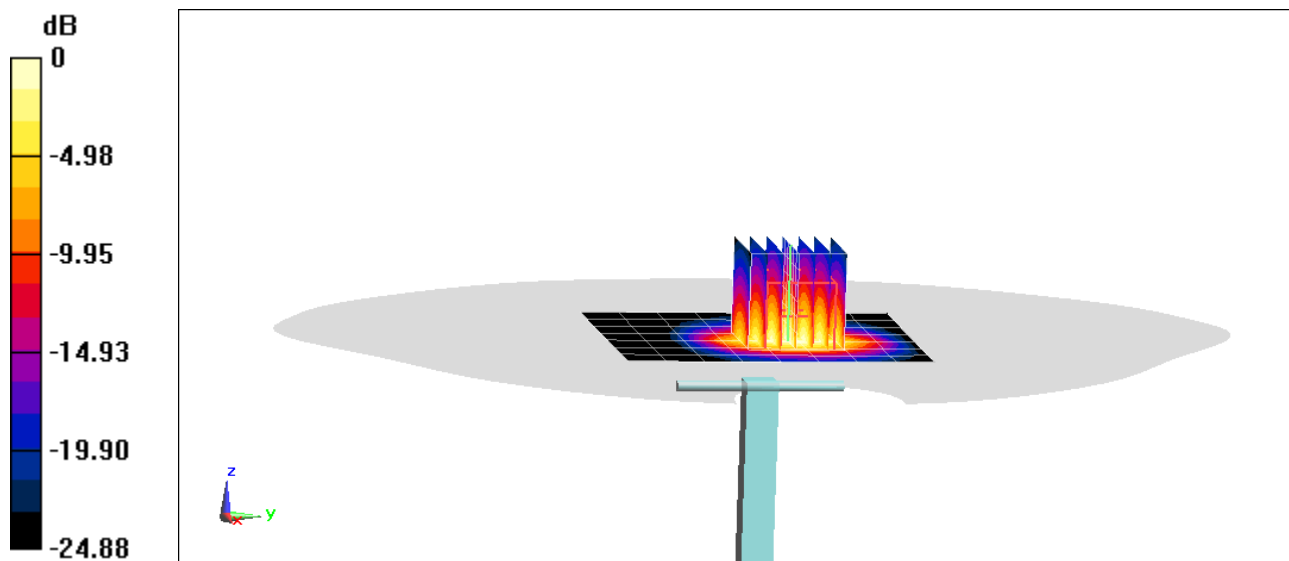
**Area Scan (8x9x1):** Measurement grid: dx=12mm, dy=12mm

**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Peak SAR (extrapolated) = 12.9 W/kg

**SAR(1 g) = 5.78 W/kg**

Deviation(1 g) = 4.14%



0 dB = 10.1 W/kg = 10.04 dBW/kg

# PCTEST

**DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1237**

Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1

Medium: 5200-5800 Body Medium parameters used:

$f = 5250$  MHz;  $\sigma = 5.418$  S/m;  $\epsilon_r = 48.595$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/22/2020; Ambient Temp: 23.5°C; Tissue Temp: 24.1°C

Probe: EX3DV4 - SN7538; ConvF(4.6, 4.6, 4.6) @ 5250 MHz; Calibrated: 5/18/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

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

Phantom: Front; Type: QD 000 P40 CD; Serial: 1686

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

## 5250 MHz System Verification at 17.0 dBm (50 mW)

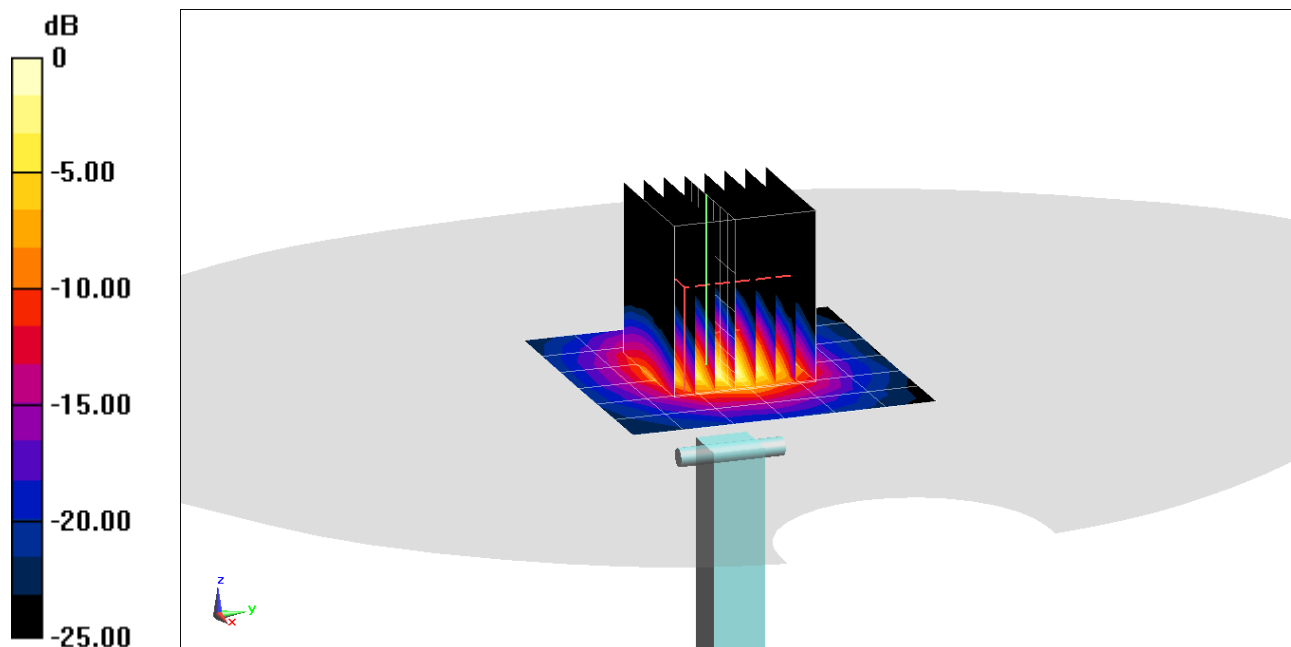
**Area Scan (7x7x1):** Measurement grid: dx=10mm, dy=10mm

**Zoom Scan (8x8x8)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 14.6 W/kg

**SAR(10 g) = 1.01 W/kg**

Deviation(10 g) = -4.72%



0 dB = 8.22 W/kg = 9.15 dBW/kg

# PCTEST

**DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1237**

Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1

Medium: 5200-5800 Body Medium parameters used:

$f = 5250$  MHz;  $\sigma = 5.462$  S/m;  $\epsilon_r = 48.612$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/30/2020; Ambient Temp: 22.4°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7538; ConvF(4.6, 4.6, 4.6) @ 5250 MHz; Calibrated: 5/18/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

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

Phantom: Front; Type: QD 000 P40 CD; Serial: 1686

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

## 5250 MHz System Verification at 17.0 dBm (50 mW)

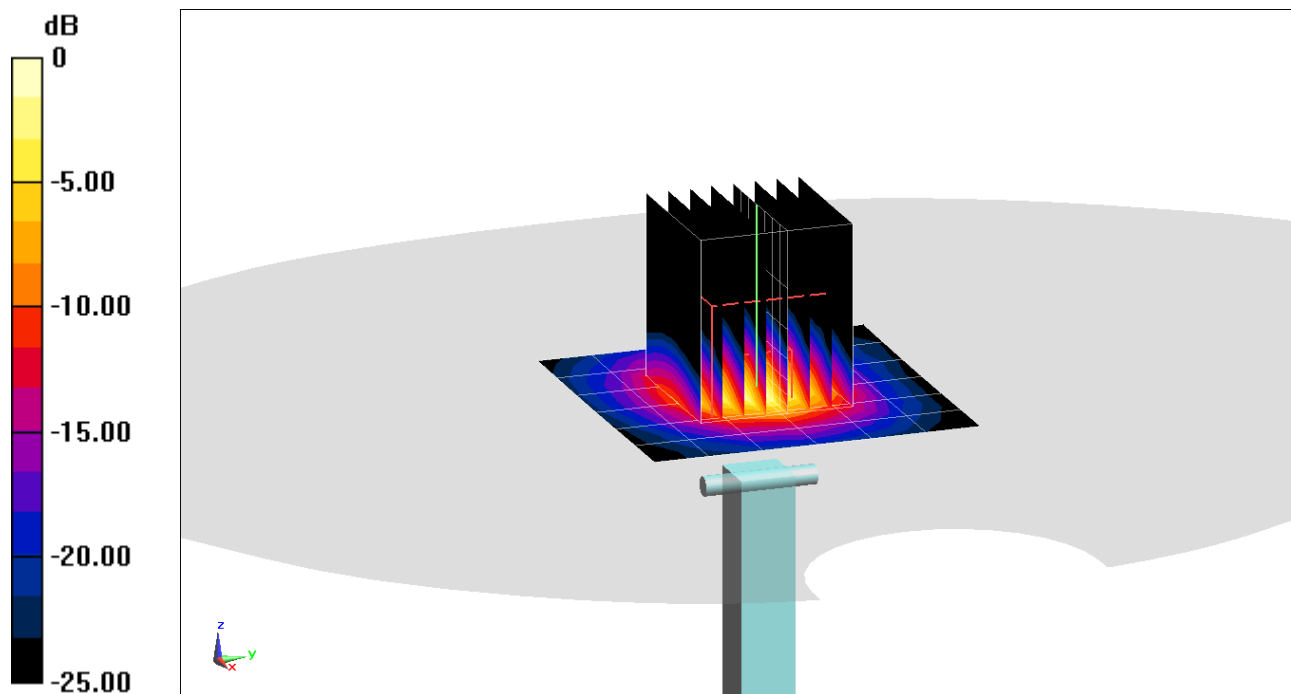
**Area Scan (7x7x1):** Measurement grid: dx=10mm, dy=10mm

**Zoom Scan (8x8x8)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 15.2 W/kg

**SAR(1 g) = 3.67 W/kg**

Deviation(1 g) = -2.91%



0 dB = 8.84 W/kg = 9.46 dBW/kg

# PCTEST

**DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1237**

Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: 5200-5800 Body Medium parameters used:

$f = 5600$  MHz;  $\sigma = 5.889$  S/m;  $\epsilon_r = 48.045$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/22/2020; Ambient Temp: 23.5°C; Tissue Temp: 24.1°C

Probe: EX3DV4 - SN7538; ConvF(4.09, 4.09, 4.09) @ 5600 MHz; Calibrated: 5/18/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

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

Phantom: Front; Type: QD 000 P40 CD; Serial: 1686

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

## 5600 MHz System Verification at 17.0 dBm (50 mW)

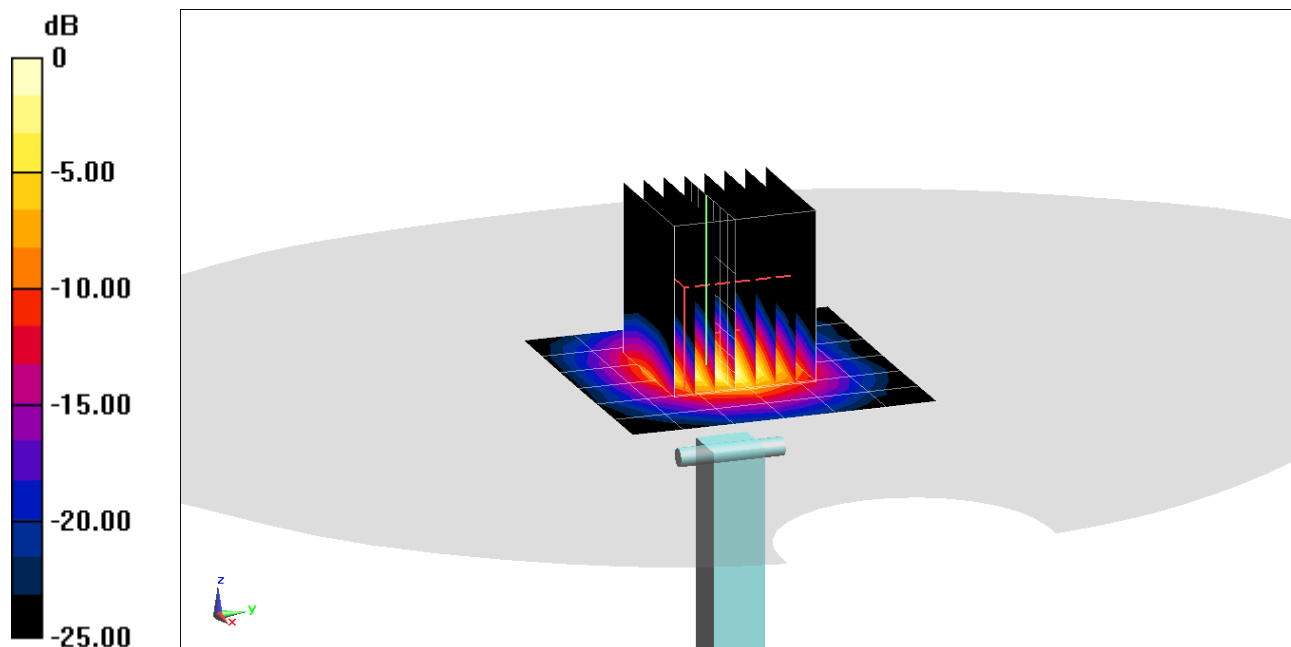
**Area Scan (7x7x1):** Measurement grid: dx=10mm, dy=10mm

**Zoom Scan (8x8x8)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 17.2 W/kg

**SAR(10 g) = 1.09 W/kg**

Deviation(10 g) = -0.91%



0 dB = 9.27 W/kg = 9.67 dBW/kg

# PCTEST

**DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1237**

Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: 5200-5800 Body Medium parameters used:

$f = 5600$  MHz;  $\sigma = 5.92$  S/m;  $\epsilon_r = 48.039$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/30/2020; Ambient Temp: 22.4°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7538; ConvF(4.09, 4.09, 4.09) @ 5600 MHz; Calibrated: 5/18/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

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

Phantom: Front; Type: QD 000 P40 CD; Serial: 1686

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

## 5600 MHz System Verification at 17.0 dBm (50 mW)

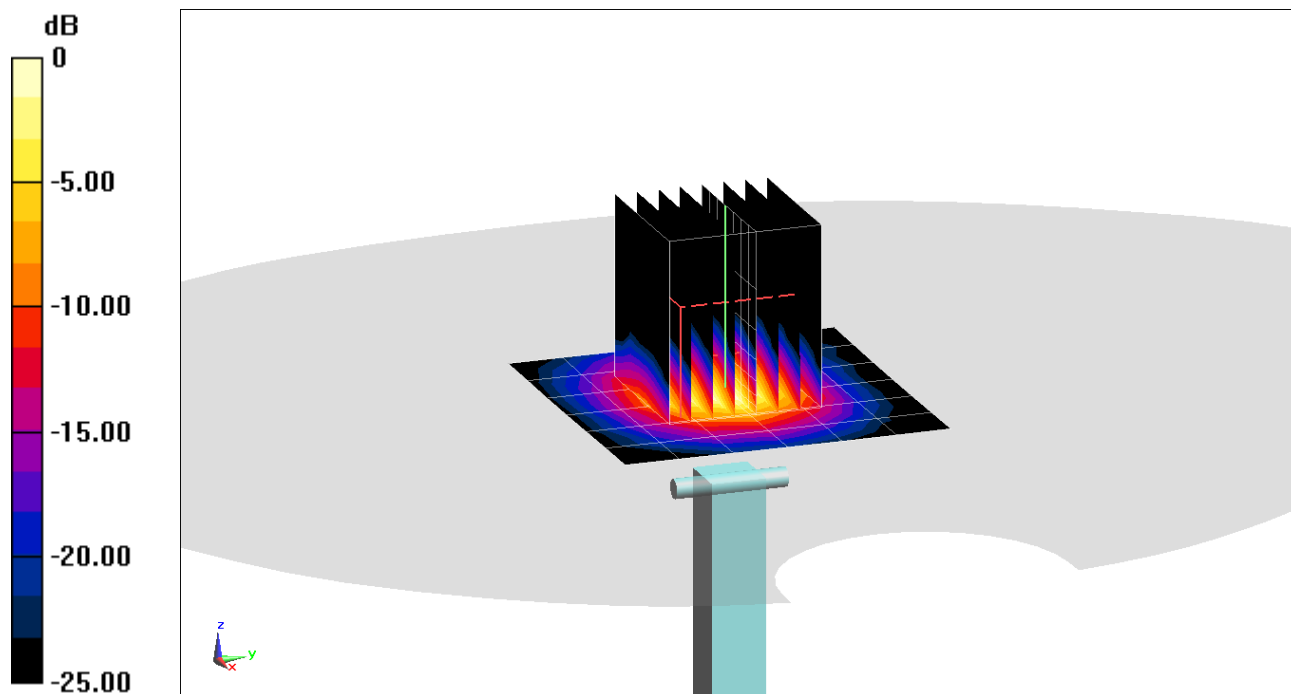
**Area Scan (7x7x1):** Measurement grid: dx=10mm, dy=10mm

**Zoom Scan (8x8x8)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 18.3 W/kg

**SAR(1 g) = 4 W/kg**

Deviation(1 g) = 1.91%



0 dB = 9.62 W/kg = 9.83 dBW/kg

# PCTEST

**DUT: Dipole 5 GHz; Type: D5GHzV2; Serial: 1237**

Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1

Medium: 5200-5800 Body Medium parameters used:

$f = 5750 \text{ MHz}$ ;  $\sigma = 6.125 \text{ S/m}$ ;  $\epsilon_r = 47.813$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section; Space: 1.0 cm

Test Date: 09/30/2020; Ambient Temp: 22.4°C; Tissue Temp: 22.5°C

Probe: EX3DV4 - SN7538; ConvF(4.17, 4.17, 4.17) @ 5750 MHz; Calibrated: 5/18/2020

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

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

Phantom: Front; Type: QD 000 P40 CD; Serial: 1686

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

## 5750 MHz System Verification at 17.0 dBm (50 mW)

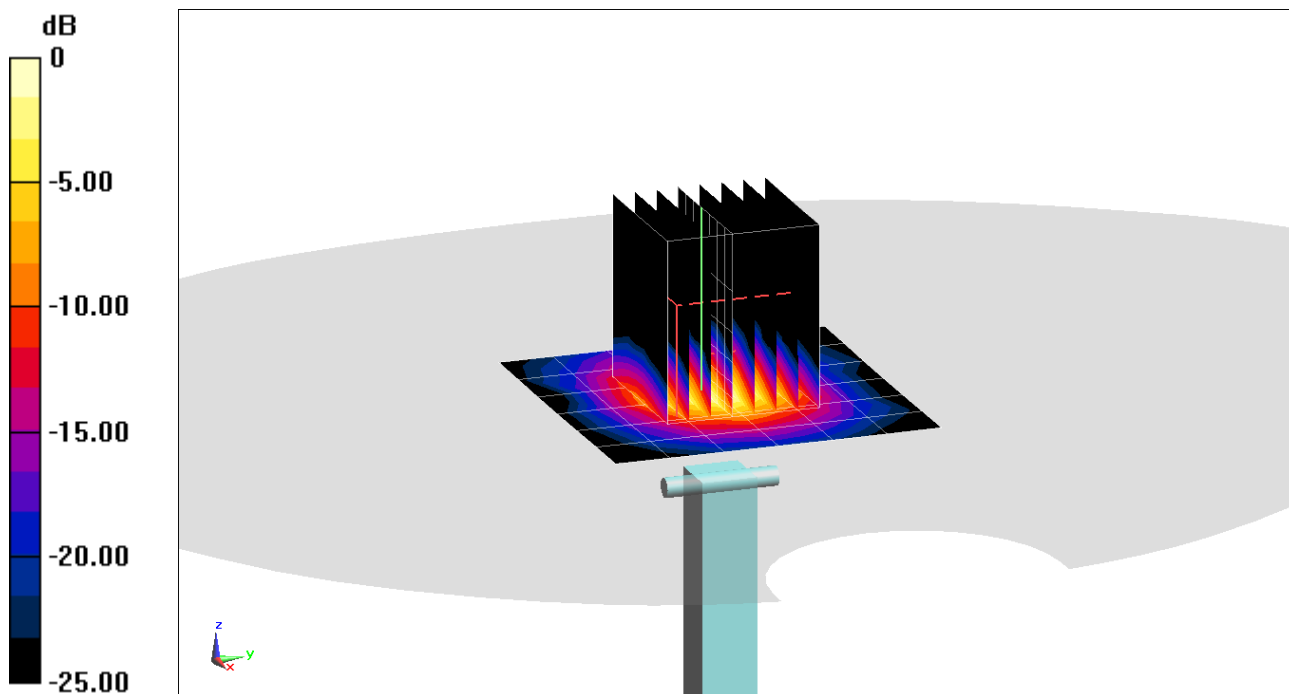
**Area Scan (7x7x1):** Measurement grid: dx=10mm, dy=10mm

**Zoom Scan (8x8x8)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm; Graded Ratio: 1.4

Peak SAR (extrapolated) = 17.8 W/kg

**SAR(1 g) = 3.71 W/kg**

Deviation(1 g) = -2.24%



0 dB = 9.30 W/kg = 9.68 dBW/kg

## APPENDIX C: SAR TISSUE SPECIFICATIONS

Measurement Procedure for Tissue verification:

- 1) The network analyzer and probe system was configured and calibrated.
- 2) The probe was immersed in the tissue. The tissue was placed in a nonmetallic container. Trapped air bubbles beneath the flange were minimized by placing the probe at a slight angle.
- 3) The complex admittance with respect to the probe aperture was measured
- 4) The complex relative permittivity  $\epsilon'$  can be calculated from the below equation (Pournaropoulos and Misra):

$$Y = \frac{j2\omega\epsilon_r\epsilon_0}{[\ln(b/a)]^2} \int_a^b \int_a^b \int_0^\pi \cos\phi' \frac{\exp[-j\omega r(\mu_0\epsilon_r'\epsilon_0)^{1/2}]}{r} d\phi' d\rho' d\rho$$

where  $Y$  is the admittance of the probe in contact with the sample, the primed and unprimed coordinates refer to source and observation points, respectively,  $r^2 = \rho^2 + \rho'^2 - 2\rho\rho'\cos\phi'$ ,  $\omega$  is the angular frequency, and  $j = \sqrt{-1}$ .

### 3 Composition / Information on ingredients

#### 3.2 Mixtures

**Description:** Aqueous solution with surfactants and inhibitors

**Declarable, or hazardous components:**

|                                                                        |                                                                                                                        |           |
|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-----------|
| CAS: 107-21-1<br>EINECS: 203-473-3<br>Reg.nr.: 01-2119456816-28-0000   | <b>Ethanediol</b><br>STOT RE 2, H373;<br>Acute Tox. 4, H302                                                            | >1.0-4.9% |
| CAS: 68608-26-4<br>EINECS: 271-781-5<br>Reg.nr.: 01-2119527859-22-0000 | <b>Sodium petroleum sulfonate</b><br>Eye Irrit. 2, H319                                                                | < 2.9%    |
| CAS: 107-41-5<br>EINECS: 203-489-0<br>Reg.nr.: 01-2119539582-35-0000   | <b>Hexylene Glycol / 2-Methyl-pentane-2,4-diol</b><br>Skin Irrit. 2, H315; Eye Irrit. 2, H319                          | < 2.9%    |
| CAS: 68920-66-1<br>NLP: 500-236-9<br>Reg.nr.: 01-2119489407-26-0000    | <b>Alkoxylated alcohol, &gt; C<sub>18</sub></b><br>Aquatic Chronic 2, H411;<br>Skin Irrit. 2, H315; Eye Irrit. 2, H319 | < 2.0%    |

**Additional information:**

For the wording of the listed risk phrases refer to section 16.

Not mentioned CAS-, EINECS- or registration numbers are to be regarded as Proprietary/Confidential.

The specific chemical identity and/or exact percentage concentration of proprietary components is withheld as a trade secret.

Figure C-1

Note: Liquid recipes are proprietary SPEAG. Since the composition is approximate to the actual liquids utilized, the manufacturer tissue-equivalent liquid data sheets are provided below.

|                                    |                                                                                     |                       |                                                                                       |                                 |
|------------------------------------|-------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: ZNFK920AM                  |  | SAR EVALUATION REPORT |  | Approved by:<br>Quality Manager |
| Test Dates:<br>09/15/20 - 10/04/20 | DUT Type:<br>Portable Handset                                                       |                       |                                                                                       | APPENDIX C:<br>Page 1 of 3      |

## Measurement Certificate / Material Test

Item Name **Body Tissue Simulating Liquid (MBBL600-6000V6)**  
 Product No. **SL AAM U16 BC (Batch: 181029-1)**  
 Manufacturer **SPEAG**

## Measurement Method

TSL dielectric parameters measured using calibrated DAK probe.

## Target Parameters

Target parameters as defined in the KDB 865664 compliance standard.

## Test Condition

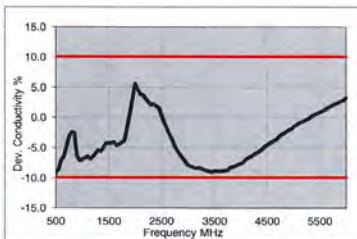
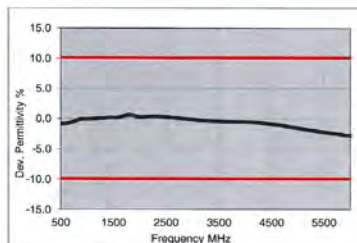
Ambient Condition **22°C ; 30% humidity**  
 TSL Temperature **22°C**  
 Test Date **30-Oct-18**  
 Operator **CL**

## Additional Information

TSL Density  
 TSL Heat-capacity

## Results

| f [MHz] | Measured |      |       | Target |       | Diff. to Target [%] |         |
|---------|----------|------|-------|--------|-------|---------------------|---------|
|         | e'       | e''  | sigma | eps    | sigma | Δ-eps               | Δ-sigma |
| 800     | 55.1     | 21.3 | 0.95  | 55.3   | 0.97  | -0.4                | -2.1    |
| 825     | 55.1     | 20.8 | 0.98  | 55.2   | 0.98  | -0.3                | -2.0    |
| 835     | 55.1     | 20.6 | 0.98  | 55.1   | 0.99  | 0.0                 | -2.5    |
| 850     | 55.1     | 20.4 | 0.98  | 55.2   | 0.99  | -0.1                | -3.0    |
| 900     | 55.0     | 19.7 | 0.98  | 55.0   | 1.05  | 0.0                 | -6.7    |
| 1400    | 54.2     | 15.6 | 1.22  | 54.1   | 1.28  | 0.2                 | -4.7    |
| 1450    | 54.1     | 15.4 | 1.24  | 54.0   | 1.30  | 0.2                 | -4.6    |
| 1500    | 54.1     | 15.3 | 1.27  | 53.9   | 1.33  | 0.3                 | -4.5    |
| 1550    | 54.0     | 15.1 | 1.30  | 53.9   | 1.36  | 0.2                 | -4.4    |
| 1600    | 53.9     | 15.0 | 1.33  | 53.8   | 1.39  | 0.2                 | -4.3    |
| 1625    | 53.9     | 14.9 | 1.35  | 53.8   | 1.41  | 0.3                 | -4.3    |
| 1640    | 53.9     | 14.9 | 1.36  | 53.7   | 1.42  | 0.3                 | -4.2    |
| 1650    | 53.8     | 14.9 | 1.36  | 53.7   | 1.43  | 0.2                 | -4.9    |
| 1700    | 53.8     | 14.8 | 1.40  | 53.6   | 1.46  | 0.4                 | -4.1    |
| 1750    | 53.7     | 14.7 | 1.43  | 53.4   | 1.49  | 0.5                 | -4.0    |
| 1800    | 53.7     | 14.6 | 1.46  | 53.3   | 1.52  | 0.6                 | -3.9    |
| 1810    | 53.7     | 14.6 | 1.47  | 53.3   | 1.52  | 0.6                 | -3.3    |
| 1825    | 53.7     | 14.6 | 1.48  | 53.3   | 1.52  | 0.8                 | -2.6    |
| 1850    | 53.6     | 14.5 | 1.50  | 53.3   | 1.52  | 0.6                 | -1.3    |
| 1900    | 53.5     | 14.5 | 1.53  | 53.3   | 1.52  | 0.4                 | 0.7     |
| 1950    | 53.5     | 14.5 | 1.57  | 53.3   | 1.52  | 0.4                 | 3.3     |
| 2000    | 53.4     | 14.4 | 1.60  | 53.3   | 1.52  | 0.2                 | 5.3     |
| 2050    | 53.4     | 14.4 | 1.64  | 53.2   | 1.57  | 0.3                 | 4.5     |
| 2100    | 53.3     | 14.4 | 1.68  | 53.2   | 1.62  | 0.2                 | 3.7     |
| 2150    | 53.3     | 14.4 | 1.72  | 53.1   | 1.68  | 0.4                 | 3.6     |
| 2200    | 53.2     | 14.4 | 1.76  | 53.0   | 1.71  | 0.3                 | 2.9     |
| 2250    | 53.1     | 14.4 | 1.81  | 53.0   | 1.76  | 0.2                 | 2.8     |
| 2300    | 53.1     | 14.4 | 1.85  | 52.9   | 1.81  | 0.4                 | 2.2     |
| 2350    | 53.0     | 14.5 | 1.89  | 52.8   | 1.85  | 0.3                 | 2.2     |
| 2400    | 52.9     | 14.5 | 1.94  | 52.8   | 1.90  | 0.2                 | 2.1     |
| 2450    | 52.9     | 14.5 | 1.98  | 52.7   | 1.95  | 0.4                 | 1.5     |
| 2500    | 52.8     | 14.6 | 2.03  | 52.6   | 2.02  | 0.3                 | 0.5     |
| 2550    | 52.7     | 14.6 | 2.07  | 52.6   | 2.09  | 0.2                 | -1.0    |
| 2600    | 52.6     | 14.7 | 2.12  | 52.5   | 2.16  | 0.2                 | -1.9    |



|      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|
| 3500 | 51.1 | 15.5 | 3.02 | 51.3 | 3.31 | -0.4 | -8.8 |
| 3700 | 50.8 | 15.7 | 3.24 | 51.1 | 3.55 | -0.5 | -8.8 |
| 5200 | 48.1 | 18.2 | 5.27 | 49.0 | 5.30 | -1.8 | -0.6 |
| 5250 | 48.0 | 18.3 | 5.34 | 49.0 | 5.36 | -1.9 | -0.4 |
| 5300 | 47.9 | 18.4 | 5.41 | 48.9 | 5.42 | -2.0 | -0.2 |
| 5500 | 47.5 | 18.6 | 5.70 | 48.6 | 5.65 | -2.2 | 0.8  |
| 5600 | 47.3 | 18.8 | 5.84 | 48.5 | 5.77 | -2.3 | 1.3  |
| 5700 | 47.1 | 18.9 | 5.99 | 48.3 | 5.88 | -2.5 | 1.8  |
| 5800 | 47.0 | 19.0 | 6.14 | 48.2 | 6.00 | -2.6 | 2.3  |

TSL Dielectric Parameters

1

Figure C-2  
 600 – 5800 MHz Body Tissue Equivalent Matter

|                                    |                                                                                     |                       |                                                                                       |                                 |
|------------------------------------|-------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: ZNFK920AM                  |  | SAR EVALUATION REPORT |  | Approved by:<br>Quality Manager |
| Test Dates:<br>09/15/20 - 10/04/20 | DUT Type:<br>Portable Handset                                                       |                       |                                                                                       | APPENDIX C:<br>Page 2 of 3      |

## Measurement Certificate / Material Test

Item Name **Head Tissue Simulating Liquid (HBBL600-10000V6)**  
 Product No. **SL AAH U16 BC (Batch: 181031-2)**  
 Manufacturer **SPEAG**

## Measurement Method

TSL dielectric parameters measured using calibrated DAK probe.

## Target Parameters

Target parameters as defined in the IEEE 1528 and IEC 62209 compliance standards.

## Test Condition

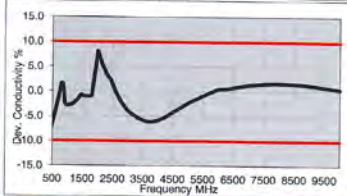
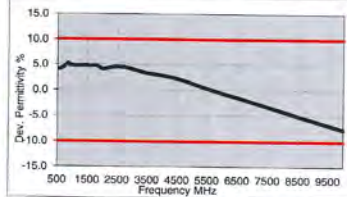
Ambient Condition **22°C ; 30% humidity**  
 TSL Temperature **22°C**  
 Test Date **31-Oct-18**  
 Operator **CL**

## Additional Information

TSL Density  
 TSL Heat-capacity

## Results

| f [MHz] | Measured |      |       | Target |       | Diff.to Target [%] |         |
|---------|----------|------|-------|--------|-------|--------------------|---------|
|         | e'       | e''  | sigma | eps    | sigma | Δ-eps              | Δ-sigma |
| 800     | 43.8     | 20.5 | 0.91  | 41.7   | 0.90  | 5.1                | 1.4     |
| 825     | 43.8     | 20.1 | 0.92  | 41.6   | 0.91  | 5.3                | 1.5     |
| 850     | 43.8     | 19.9 | 0.93  | 41.5   | 0.91  | 5.4                | 2.0     |
| 850     | 43.7     | 19.7 | 0.93  | 41.5   | 0.92  | 5.3                | 1.5     |
| 900     | 43.5     | 18.9 | 0.95  | 41.5   | 0.97  | 4.8                | -2.1    |
| 1400    | 42.5     | 15.0 | 1.17  | 40.6   | 1.18  | 4.7                | -0.8    |
| 1450    | 42.5     | 14.8 | 1.19  | 40.5   | 1.20  | 4.9                | -0.8    |
| 1600    | 42.2     | 14.3 | 1.27  | 40.3   | 1.28  | 4.7                | -1.1    |
| 1625    | 42.2     | 14.2 | 1.28  | 40.3   | 1.30  | 4.8                | -0.7    |
| 1650    | 42.2     | 14.2 | 1.30  | 40.3   | 1.31  | 4.8                | -0.5    |
| 1650    | 42.1     | 14.2 | 1.30  | 40.2   | 1.31  | 4.6                | -1.0    |
| 1700    | 42.1     | 14.0 | 1.33  | 40.2   | 1.34  | 4.8                | -0.9    |
| 1750    | 42.0     | 13.9 | 1.36  | 40.1   | 1.37  | 4.8                | -0.8    |
| 1800    | 41.9     | 13.9 | 1.39  | 40.0   | 1.40  | 4.7                | -0.7    |
| 1810    | 41.9     | 13.8 | 1.40  | 40.0   | 1.40  | 4.7                | 0.0     |
| 1825    | 41.9     | 13.8 | 1.41  | 40.0   | 1.40  | 4.7                | 0.7     |
| 1850    | 41.8     | 13.8 | 1.42  | 40.0   | 1.40  | 4.5                | 1.4     |
| 1900    | 41.8     | 13.7 | 1.45  | 40.0   | 1.40  | 4.5                | 3.6     |
| 1950    | 41.7     | 13.7 | 1.48  | 40.0   | 1.40  | 4.3                | 5.7     |
| 2000    | 41.6     | 13.6 | 1.51  | 40.0   | 1.40  | 4.0                | 7.9     |
| 2050    | 41.6     | 13.6 | 1.55  | 39.9   | 1.44  | 4.2                | 7.3     |
| 2100    | 41.5     | 13.5 | 1.58  | 39.8   | 1.49  | 4.2                | 6.1     |
| 2150    | 41.4     | 13.5 | 1.62  | 39.7   | 1.53  | 4.2                | 5.7     |
| 2200    | 41.4     | 13.5 | 1.65  | 39.6   | 1.58  | 4.4                | 4.6     |
| 2250    | 41.3     | 13.5 | 1.69  | 39.6   | 1.62  | 4.4                | 4.2     |
| 2300    | 41.2     | 13.5 | 1.72  | 39.5   | 1.67  | 4.4                | 3.2     |
| 2350    | 41.1     | 13.5 | 1.76  | 39.4   | 1.71  | 4.4                | 2.9     |
| 2400    | 41.1     | 13.5 | 1.80  | 39.3   | 1.76  | 4.6                | 2.5     |
| 2450    | 41.0     | 13.5 | 1.84  | 39.2   | 1.80  | 4.6                | 2.2     |
| 2500    | 40.9     | 13.5 | 1.88  | 39.1   | 1.85  | 4.5                | 1.4     |
| 2550    | 40.8     | 13.5 | 1.92  | 39.1   | 1.91  | 4.4                | 0.6     |
| 2600    | 40.8     | 13.6 | 1.96  | 39.0   | 1.96  | 4.0                | -0.2    |
| 3500    | 39.2     | 14.1 | 2.74  | 37.9   | 2.91  | 3.3                | -5.8    |
| 3700    | 38.9     | 14.2 | 2.93  | 37.7   | 3.12  | 3.1                | -6.1    |



|       |      |      |       |      |       |      |      |
|-------|------|------|-------|------|-------|------|------|
| 5200  | 36.3 | 15.8 | 4.57  | 36.0 | 4.66  | 0.9  | -1.7 |
| 5250  | 36.2 | 15.9 | 4.63  | 35.9 | 4.71  | 0.8  | -1.6 |
| 5300  | 36.1 | 15.9 | 4.69  | 35.9 | 4.76  | 0.7  | -1.4 |
| 5500  | 35.8 | 16.1 | 4.92  | 35.6 | 4.96  | 0.3  | -0.9 |
| 5600  | 35.6 | 16.2 | 5.04  | 35.5 | 5.07  | 0.1  | -0.6 |
| 5700  | 35.4 | 16.2 | 5.15  | 35.4 | 5.17  | 0.0  | -0.3 |
| 5800  | 35.2 | 16.3 | 5.27  | 35.3 | 5.27  | -0.2 | 0.0  |
| 6000  | 34.9 | 16.5 | 5.50  | 35.1 | 5.48  | -0.6 | 0.5  |
| 6500  | 34.0 | 16.9 | 6.12  | 34.5 | 6.07  | -1.4 | 0.9  |
| 7000  | 33.1 | 17.3 | 6.74  | 33.9 | 6.65  | -2.3 | 1.3  |
| 7500  | 32.2 | 17.6 | 7.36  | 33.3 | 7.24  | -3.2 | 1.6  |
| 8000  | 31.4 | 17.9 | 7.97  | 32.7 | 7.84  | -4.1 | 1.7  |
| 8500  | 30.5 | 18.2 | 8.59  | 32.1 | 8.45  | -5.0 | 1.6  |
| 9000  | 29.7 | 18.4 | 9.20  | 31.5 | 9.08  | -5.9 | 1.3  |
| 9500  | 28.9 | 18.5 | 9.80  | 31.0 | 9.71  | -6.8 | 0.9  |
| 10000 | 28.1 | 18.7 | 10.40 | 30.4 | 10.36 | -7.6 | 0.4  |

Figure C-3  
 600 – 5800 MHz Head Tissue Equivalent Matter

|                                    |                                                                                     |                       |                                                                                       |                                 |
|------------------------------------|-------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID: ZNFK920AM                  |  | SAR EVALUATION REPORT |  | Approved by:<br>Quality Manager |
| Test Dates:<br>09/15/20 - 10/04/20 | DUT Type:<br>Portable Handset                                                       |                       |                                                                                       | APPENDIX C:<br>Page 3 of 3      |

## APPENDIX D: SAR SYSTEM VALIDATION

Per FCC KDB Publication 865664 D02v01r02, SAR system validation status should be documented to confirm measurement accuracy. The SAR systems (including SAR probes, system components and software versions) used for this device were validated against its performance specifications prior to the SAR measurements. Reference dipoles were used with the required tissue- equivalent media for system validation, according to the procedures outlined in FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013. Since SAR probe calibrations are frequency dependent, each probe calibration point was validated at a frequency within the valid frequency range of the probe calibration point, using the system that normally operates with the probe for routine SAR measurements and according to the required tissue-equivalent media.

A tabulated summary of the system validation status including the validation date(s), measurement frequencies, SAR probes and tissue dielectric parameters has been included.

**Table D-1**  
**SAR System Validation Summary – 1g**

| SAR System | Freq. (MHz) | Date      | Probe SN | Probe Cal Point |      | Cond. (σ) | Perm. (εr) | CW VALIDATION |                 |                | MOD. VALIDATION |             |      |
|------------|-------------|-----------|----------|-----------------|------|-----------|------------|---------------|-----------------|----------------|-----------------|-------------|------|
|            |             |           |          |                 |      |           |            | SENSITIVITY   | PROBE LINEARITY | PROBE ISOTROPY | MOD. TYPE       | DUTY FACTOR | PAR  |
| AM7        | 750         | 5/20/2020 | 7490     | 750             | Head | 0.881     | 41.800     | PASS          | PASS            | PASS           | N/A             | N/A         | N/A  |
| AM8        | 750         | 6/25/2020 | 7532     | 750             | Head | 0.901     | 42.435     | PASS          | PASS            | PASS           | N/A             | N/A         | N/A  |
| AM1        | 835         | 3/12/2020 | 7427     | 835             | Head | 0.887     | 41.650     | PASS          | PASS            | PASS           | GMSK            | PASS        | N/A  |
| L          | 835         | 7/6/2020  | 7406     | 835             | Head | 0.903     | 42.760     | PASS          | PASS            | PASS           | GMSK            | PASS        | N/A  |
| AM4        | 835         | 5/12/2020 | 7421     | 835             | Head | 0.866     | 39.960     | PASS          | PASS            | PASS           | GMSK            | PASS        | N/A  |
| AM8        | 1750        | 6/25/2020 | 7532     | 1750            | Head | 1.324     | 40.239     | PASS          | PASS            | PASS           | N/A             | N/A         | N/A  |
| AM1        | 1750        | 3/12/2020 | 7427     | 1750            | Head | 1.324     | 39.689     | PASS          | PASS            | PASS           | N/A             | N/A         | N/A  |
| AM8        | 1900        | 9/23/2020 | 7532     | 1900            | Head | 1.427     | 38.835     | PASS          | PASS            | PASS           | GMSK            | PASS        | N/A  |
| AM1        | 1900        | 3/12/2020 | 7427     | 1900            | Head | 1.424     | 39.945     | PASS          | PASS            | PASS           | GMSK            | PASS        | N/A  |
| L          | 1900        | 7/7/2020  | 7406     | 1900            | Head | 1.403     | 40.885     | PASS          | PASS            | PASS           | GMSK            | PASS        | N/A  |
| AM4        | 2300        | 5/14/2020 | 7421     | 2300            | Head | 1.683     | 39.500     | PASS          | PASS            | PASS           | N/A             | N/A         | N/A  |
| E          | 2450        | 2/5/2020  | 3589     | 2450            | Head | 1.823     | 38.835     | PASS          | PASS            | PASS           | OFDM/TDD        | PASS        | PASS |
| AM4        | 2600        | 5/13/2020 | 7421     | 2600            | Head | 1.887     | 37.346     | PASS          | PASS            | PASS           | TDD             | PASS        | N/A  |
| K2         | 5250        | 6/11/2020 | 7402     | 5250            | Head | 4.534     | 35.720     | PASS          | PASS            | PASS           | OFDM            | N/A         | PASS |
| K2         | 5600        | 6/11/2020 | 7402     | 5600            | Head | 4.872     | 35.230     | PASS          | PASS            | PASS           | OFDM            | N/A         | PASS |
| K2         | 5750        | 6/11/2020 | 7402     | 5750            | Head | 5.030     | 35.060     | PASS          | PASS            | PASS           | OFDM            | N/A         | PASS |
| AM3        | 750         | 9/16/2020 | 7491     | 750             | Body | 0.948     | 54.825     | PASS          | PASS            | PASS           | N/A             | N/A         | N/A  |
| AM6        | 750         | 3/10/2020 | 3837     | 750             | Body | 0.955     | 53.889     | PASS          | PASS            | PASS           | N/A             | N/A         | N/A  |
| AM7        | 750         | 5/18/2020 | 7490     | 750             | Body | 0.965     | 53.605     | PASS          | PASS            | PASS           | N/A             | N/A         | N/A  |
| AM7        | 835         | 5/18/2020 | 7490     | 835             | Body | 0.998     | 53.350     | PASS          | PASS            | PASS           | GMSK            | PASS        | N/A  |
| P          | 835         | 9/8/2020  | 7308     | 835             | Body | 0.977     | 54.530     | PASS          | PASS            | PASS           | GMSK            | PASS        | N/A  |
| AM6        | 835         | 3/10/2020 | 3837     | 835             | Body | 0.992     | 54.144     | PASS          | PASS            | PASS           | GMSK            | PASS        | N/A  |
| AM5        | 1750        | 7/6/2020  | 7416     | 1750            | Body | 1.437     | 51.230     | PASS          | PASS            | PASS           | N/A             | N/A         | N/A  |
| AM7        | 1750        | 5/13/2020 | 7490     | 1750            | Body | 1.449     | 51.065     | PASS          | PASS            | PASS           | N/A             | N/A         | N/A  |
| AM2        | 1750        | 12/5/2019 | 7420     | 1750            | Body | 1.526     | 51.265     | PASS          | PASS            | PASS           | N/A             | N/A         | N/A  |
| AM4        | 1900        | 4/22/2020 | 7421     | 1900            | Body | 1.577     | 52.969     | PASS          | PASS            | PASS           | GMSK            | PASS        | N/A  |
| AM7        | 1900        | 5/13/2020 | 7490     | 1900            | Body | 1.582     | 50.652     | PASS          | PASS            | PASS           | GMSK            | PASS        | N/A  |
| AM6        | 1900        | 3/4/2020  | 3837     | 1900            | Body | 1.583     | 51.670     | PASS          | PASS            | PASS           | GMSK            | PASS        | N/A  |
| J          | 1900        | 1/1/2020  | 7571     | 1900            | Body | 1.579     | 51.919     | PASS          | PASS            | PASS           | GMSK            | PASS        | N/A  |
| AM4        | 2300        | 5/27/2020 | 7421     | 2300            | Body | 1.892     | 52.110     | PASS          | PASS            | PASS           | N/A             | N/A         | N/A  |
| K          | 2450        | 7/7/2020  | 7409     | 2450            | Body | 2.018     | 51.180     | PASS          | PASS            | PASS           | OFDM/TDD        | PASS        | PASS |
| K2         | 2450        | 7/21/2020 | 7402     | 2450            | Body | 1.996     | 51.910     | PASS          | PASS            | PASS           | OFDM/TDD        | PASS        | PASS |
| AM1        | 2600        | 4/13/2020 | 7427     | 2600            | Body | 2.156     | 51.414     | PASS          | PASS            | PASS           | TDD             | PASS        | N/A  |
| G          | 5250        | 8/16/2020 | 7538     | 5250            | Body | 5.476     | 47.185     | PASS          | PASS            | PASS           | OFDM            | N/A         | PASS |
| G          | 5600        | 8/16/2020 | 7538     | 5600            | Body | 5.937     | 46.607     | PASS          | PASS            | PASS           | OFDM            | N/A         | PASS |
| G          | 5750        | 8/16/2020 | 7538     | 5750            | Body | 6.140     | 46.354     | PASS          | PASS            | PASS           | OFDM            | N/A         | PASS |

|                                    |                                                                                     |                       |                                                                                       |                                 |
|------------------------------------|-------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID ZNFK920AM                   |  | SAR EVALUATION REPORT |  | Approved by:<br>Quality Manager |
| Test Dates:<br>09/15/20 - 10/04/20 | DUT Type:<br>Portable Handset                                                       |                       |                                                                                       | APPENDIX D:<br>Page 1 of 2      |

**Table D-2**  
**SAR System Validation Summary – 10g**

| SAR System | Freq. (MHz) | Date      | Probe SN | Probe Cal Point |      | Cond. ( $\sigma$ ) | Perm. ( $\epsilon_r$ ) | CW VALIDATION |                 |                | MOD. VALIDATION |             |      |
|------------|-------------|-----------|----------|-----------------|------|--------------------|------------------------|---------------|-----------------|----------------|-----------------|-------------|------|
|            |             |           |          |                 |      |                    |                        | SENSITIVITY   | PROBE LINEARITY | PROBE ISOTROPY | MOD. TYPE       | DUTY FACTOR | PAR  |
| AM7        | 1750        | 5/13/2020 | 7490     | 1750            | Body | 1.449              | 51.065                 | PASS          | PASS            | PASS           | N/A             | N/A         | N/A  |
| AM7        | 1900        | 5/13/2020 | 7490     | 1900            | Body | 1.582              | 50.652                 | PASS          | PASS            | PASS           | GMSK            | PASS        | N/A  |
| J          | 1900        | 1/1/2020  | 7571     | 1900            | Body | 1.579              | 51.919                 | PASS          | PASS            | PASS           | GMSK            | PASS        | N/A  |
| G          | 5250        | 8/16/2020 | 7538     | 5250            | Body | 5.476              | 47.185                 | PASS          | PASS            | PASS           | OFDM            | N/A         | PASS |
| G          | 5600        | 8/16/2020 | 7538     | 5600            | Body | 5.937              | 46.607                 | PASS          | PASS            | PASS           | OFDM            | N/A         | PASS |

NOTE: While the probes have been calibrated for both CW and modulated signals, all measurements were performed using communication systems calibrated for CW signals only. Modulations in the table above represent test configurations for which the measurement system has been validated per FCC KDB Publication 865664 D01v01r04 for scenarios when CW probe calibrations are used with other signal types. SAR systems were validated for modulated signals with a periodic duty cycle, such as GMSK, or with a high peak to average ratio (>5 dB), such as OFDM according to FCC KDB Publication 865664 D01v01r04.

|                                    |                                                                                     |                       |                                                                                       |                                 |
|------------------------------------|-------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------|---------------------------------|
| FCC ID ZNFK920AM                   |  | SAR EVALUATION REPORT |  | Approved by:<br>Quality Manager |
| Test Dates:<br>09/15/20 - 10/04/20 | DUT Type:<br>Portable Handset                                                       |                       |                                                                                       | APPENDIX D:<br>Page 2 of 2      |

## APPENDIX F: PROBE AND DIPOLE CALIBRATION CERTIFICATES



Accredited by the Swiss Accreditation Service (SAS)  
 The Swiss Accreditation Service is one of the signatories to the EA  
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **PC Test**

Certificate No: **D750V3-1034 May18**

## CALIBRATION CERTIFICATE

Object **D750V8 - SN 1034**

Calibration procedure(s) **QA CAL 05.v10  
 Calibration procedure for dipole validation kits above 700 MHz**

Calibration date: **May 18, 2018**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature  $(22 \pm 3)^\circ\text{C}$  and humidity  $< 70\%$ .

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards           | ID #               | Cal Date (Certificate No.)        | Scheduled Calibration  |
|-----------------------------|--------------------|-----------------------------------|------------------------|
| Power meter NRP             | SN: 104778         | 04-Apr-18 (No. 217-02672/02673)   | Apr-19                 |
| Power sensor NRP-Z91        | SN: 103244         | 04-Apr-18 (No. 217-02672)         | Apr-19                 |
| Power sensor NRP-Z91        | SN: 103245         | 04-Apr-18 (No. 217-02673)         | Apr-19                 |
| Reference 20 dB Attenuator  | SN: 5058 (20k)     | 04-Apr-18 (No. 217-02682)         | Apr-19                 |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 04-Apr-18 (No. 217-02683)         | Apr-19                 |
| Reference Probe EX3DV4      | SN: 7349           | 30-Dec-17 (No. EX3-7349_Dec17)    | Dec-18                 |
| DAE4                        | SN: 601            | 26-Oct-17 (No. DAE4-601_Oct17)    | Oct-18                 |
| Secondary Standards         | ID #               | Check Date (in house)             | Scheduled Check        |
| Power meter EPM-442A        | SN: GB37480704     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A       | SN: US37292783     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A       | SN: MY41092317     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| RF generator R&S SMT-06     | SN: 100972         | 15-Jun-15 (in house check Oct-16) | In house check: Oct-18 |
| Network Analyzer HP 8753E   | SN: US37390585     | 18-Oct-01 (in house check Oct-17) | In house check: Oct-18 |

Calibrated by: **Manu Seitz** **Manu Seitz** **Manu Seitz**  
 Name Function Signature  
 Laboratory Technician

Approved by: **Katja Pokovic** **Katja Pokovic**  
 Name Function  
 Technical Manager

Issued: May 22, 2018

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

### Glossary:

|       |                                 |
|-------|---------------------------------|
| TSL   | tissue simulating liquid        |
| ConvF | sensitivity in TSL / NORM x,y,z |
| N/A   | not applicable or not measured  |

### Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### Additional Documentation:

- DASY4/5 System Handbook

### Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

|                                     |                        |             |
|-------------------------------------|------------------------|-------------|
| <b>DASY Version</b>                 | DASY5                  | V52.10.1    |
| <b>Extrapolation</b>                | Advanced Extrapolation |             |
| <b>Phantom</b>                      | Modular Flat Phantom   |             |
| <b>Distance Dipole Center - TSL</b> | 15 mm                  | with Spacer |
| <b>Zoom Scan Resolution</b>         | dx, dy, dz = 5 mm      |             |
| <b>Frequency</b>                    | 750 MHz $\pm$ 1 MHz    |             |

## Head TSL parameters

The following parameters and calculations were applied.

|                                                | Temperature         | Permittivity   | Conductivity         |
|------------------------------------------------|---------------------|----------------|----------------------|
| <b>Nominal Head TSL parameters</b>             | 22.0 °C             | 41.9           | 0.89 mho/m           |
| <b>Measured Head TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 41.0 $\pm$ 6 % | 0.89 mho/m $\pm$ 6 % |
| <b>Head TSL temperature change during test</b> | < 0.5 °C            | ----           | ----                 |

## SAR result with Head TSL

|                                                             |                    |                                                |
|-------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Head TSL</b> | Condition          |                                                |
| SAR measured                                                | 250 mW input power | 2.09 W/kg                                      |
| SAR for nominal Head TSL parameters                         | normalized to 1W   | <b>8.32 W/kg <math>\pm</math> 17.0 % (k=2)</b> |

|                                                               |                    |                                                |
|---------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Head TSL</b> | condition          |                                                |
| SAR measured                                                  | 250 mW input power | 1.36 W/kg                                      |
| SAR for nominal Head TSL parameters                           | normalized to 1W   | <b>5.42 W/kg <math>\pm</math> 16.5 % (k=2)</b> |

## Body TSL parameters

The following parameters and calculations were applied.

|                                                | Temperature         | Permittivity   | Conductivity         |
|------------------------------------------------|---------------------|----------------|----------------------|
| <b>Nominal Body TSL parameters</b>             | 22.0 °C             | 55.5           | 0.96 mho/m           |
| <b>Measured Body TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 54.7 $\pm$ 6 % | 0.96 mho/m $\pm$ 6 % |
| <b>Body TSL temperature change during test</b> | < 0.5 °C            | ----           | ----                 |

## SAR result with Body TSL

|                                                             |                    |                                                |
|-------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Body TSL</b> | Condition          |                                                |
| SAR measured                                                | 250 mW input power | 2.15 W/kg                                      |
| SAR for nominal Body TSL parameters                         | normalized to 1W   | <b>8.57 W/kg <math>\pm</math> 17.0 % (k=2)</b> |

|                                                               |                    |                                                |
|---------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Body TSL</b> | condition          |                                                |
| SAR measured                                                  | 250 mW input power | 1.42 W/kg                                      |
| SAR for nominal Body TSL parameters                           | normalized to 1W   | <b>5.67 W/kg <math>\pm</math> 16.5 % (k=2)</b> |

## Appendix (Additional assessments outside the scope of SCS 0108)

### Antenna Parameters with Head TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 55.3 $\Omega$ + 0.0 j $\Omega$ |
| Return Loss                          | - 26.0 dB                      |

### Antenna Parameters with Body TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 50.0 $\Omega$ - 3.2 j $\Omega$ |
| Return Loss                          | - 29.8 dB                      |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.034 ns |
|----------------------------------|----------|

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

|                 |               |
|-----------------|---------------|
| Manufactured by | SPEAG         |
| Manufactured on | July 06, 2011 |

## DASY5 Validation Report for Head TSL

Date: 17.05.2018

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1034**

Communication System: UID 0 - CW; Frequency: 750 MHz

Medium parameters used:  $f = 750$  MHz;  $\sigma = 0.89$  S/m;  $\epsilon_r = 41$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.22, 10.22, 10.22) @ 750 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 4.9 (front); Type: QD 00L P49 AA; Serial: 1001
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

**Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:**

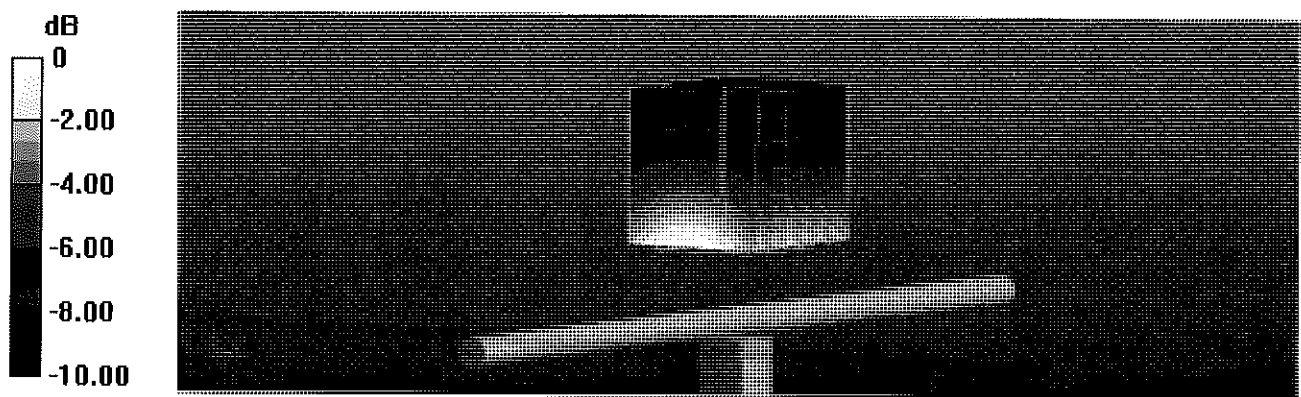
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 59.66 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 3.18 W/kg

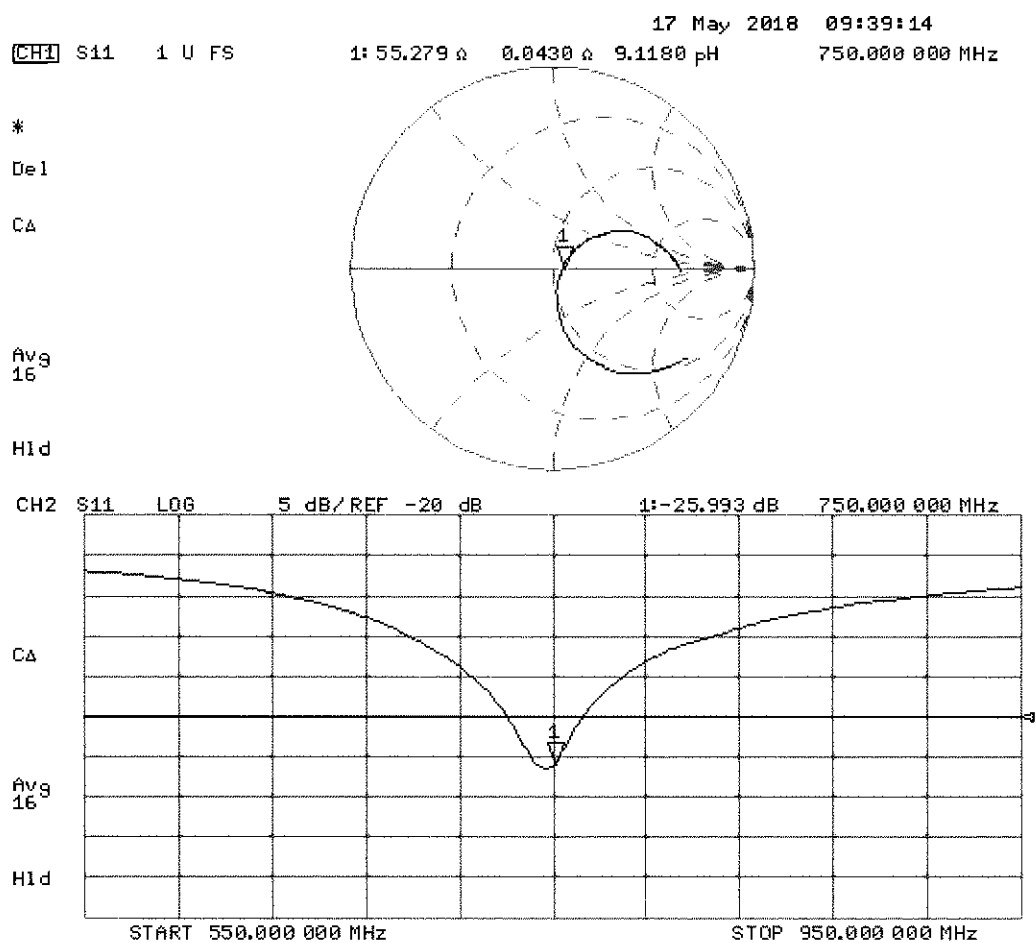
**SAR(1 g) = 2.09 W/kg; SAR(10 g) = 1.36 W/kg**

Maximum value of SAR (measured) = 2.82 W/kg



0 dB = 2.82 W/kg = 4.50 dBW/kg

## Impedance Measurement Plot for Head TSL



## DASY5 Validation Report for Body TSL

Date: 18.05.2018

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1034**

Communication System: UID 0 - CW; Frequency: 750 MHz

Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.96 \text{ S/m}$ ;  $\epsilon_r = 54.7$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.19, 10.19, 10.19) @ 750 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 4.9 (Back); Type: QD 00R P49 AA; Serial: 1005
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

### **Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:**

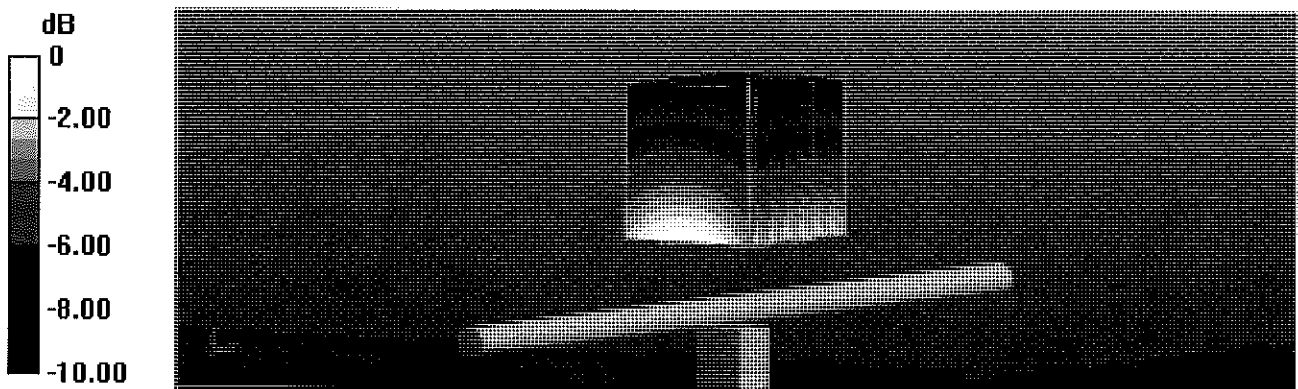
Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 57.60 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 3.16 W/kg

**SAR(1 g) = 2.15 W/kg; SAR(10 g) = 1.42 W/kg**

Maximum value of SAR (measured) = 2.83 W/kg

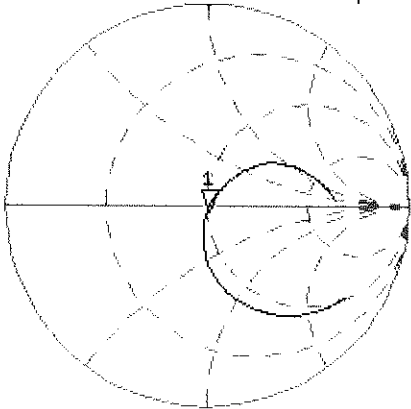


0 dB = 2.83 W/kg = 4.52 dBW/kg

Impedance Measurement Plot for Body TSL

18 May 2018 09:54:01  
CH1 S11 1 U FS 1: 49.951  $\angle$  -3.2324  $\angle$  65.649 pF 750.000 000 MHz

\*  
De1  
Cor



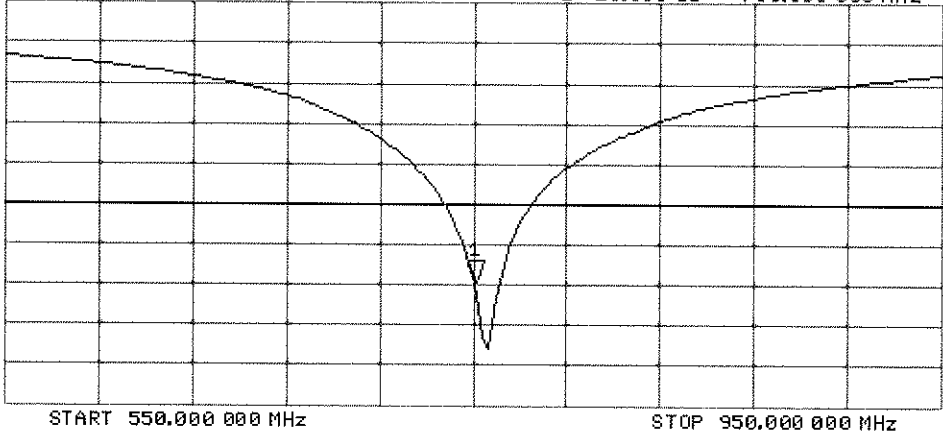
Avg  
16  
H1d

CH2 S11 LOG 5 dB/ REF -20 dB 1: -29.809 dB 750.000 000 MHz

Cor

Avg  
16

H1d



# Certification of Calibration

Object D750V3 – SN: 1034

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

Extended Calibration date: May 16, 2019

Description: SAR Validation Dipole at 750 MHz.

## Calibration Equipment used:

| Manufacturer          | Model     | Description                                             | Cal Date   | Cal Interval | Cal Due    | Serial Number |
|-----------------------|-----------|---------------------------------------------------------|------------|--------------|------------|---------------|
| Agilent               | 8753ES    | S-Parameter Network Analyzer                            | 10/2/2018  | Annual       | 10/2/2019  | US39170118    |
| Agilent               | N5182A    | MXG Vector Signal Generator                             | 6/15/2018  | Annual       | 6/15/2019  | MY47420837    |
| Amplifier Research    | 15S1G6    | Amplifier                                               | CBT        | N/A          | CBT        | 343972        |
| Anritsu               | ML2495A   | Power Meter                                             | 10/21/2018 | Annual       | 10/21/2019 | 941001        |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 10/30/2018 | Annual       | 10/30/2019 | 1207470       |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 11/20/2018 | Annual       | 11/20/2019 | 1339007       |
| Control Company       | 4040      | Temperature / Humidity Monitor                          | 2/28/2018  | Biennial     | 2/28/2020  | 150761911     |
| Control Company       | 4352      | Ultra Long Stem Thermometer                             | 2/28/2018  | Biennial     | 2/28/2020  | 170330160     |
| Keysight              | 772D      | Dual Directional Coupler                                | CBT        | N/A          | CBT        | MY52180215    |
| Keysight Technologies | 85033E    | Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm) | 6/4/2018   | Annual       | 6/4/2019   | MY53401181    |
| Mini-Circuits         | BW-N20W5+ | DC to 18 GHz Precision Fixed 20 dB Attenuator           | CBT        | N/A          | CBT        | N/A           |
| Mini-Circuits         | NLP-2950+ | Low Pass Filter DC to 2700 MHz                          | CBT        | N/A          | CBT        | N/A           |
| Narda                 | 4772-3    | Attenuator (3dB)                                        | CBT        | N/A          | CBT        | 9406          |
| Pasternack            | PE2208-6  | Bidirectional Coupler                                   | CBT        | N/A          | CBT        | N/A           |
| Pasternack            | PE5011-1  | Torque Wrench                                           | 7/19/2017  | Biennial     | 7/19/2019  | N/A           |
| SPEAG                 | DAKS-3.5  | Portable DAK                                            | 9/11/2018  | Annual       | 9/11/2019  | 1045          |
| SPEAG                 | EX3DV4    | SAR Probe                                               | 7/20/2018  | Annual       | 7/20/2019  | 7416          |
| SPEAG                 | DAE4      | Dasy Data Acquisition Electronics                       | 7/10/2018  | Annual       | 7/10/2019  | 1402          |

Measurement Uncertainty =  $\pm 23\%$  (k=2)

|                | Name            | Function                 | Signature           |
|----------------|-----------------|--------------------------|---------------------|
| Calibrated By: | Parker Jones    | Team Lead Engineer       | <i>Parker Jones</i> |
| Approved By:   | Kaitlin O'Keefe | Senior Technical Manager | <i>KOK</i>          |

# DIPOLE CALIBRATION EXTENSION

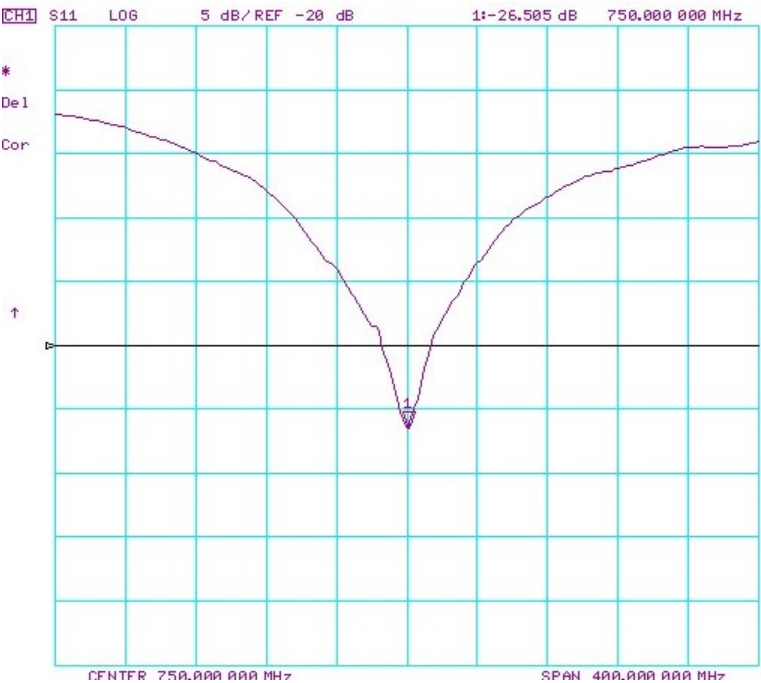
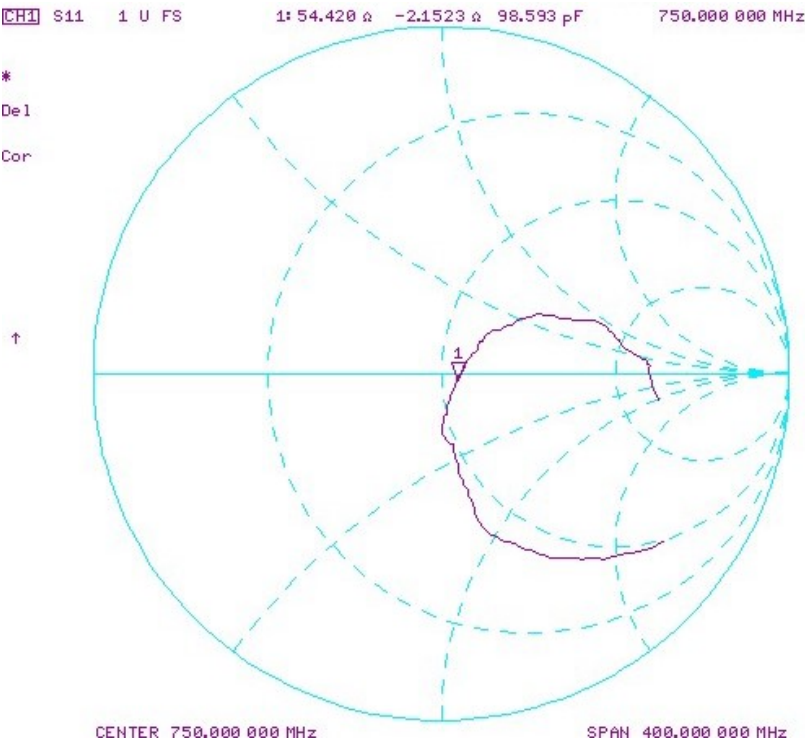
Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

1. The measured SAR does not deviate more than 10% from the target on the calibration certificate.
2. The return-loss does not deviate more than 20% from the previous measurement and meets the required 20dB minimum return-loss requirement.
3. The measurement of real or imaginary parts of impedance does not deviate more than 5Ω from the previous measurement.

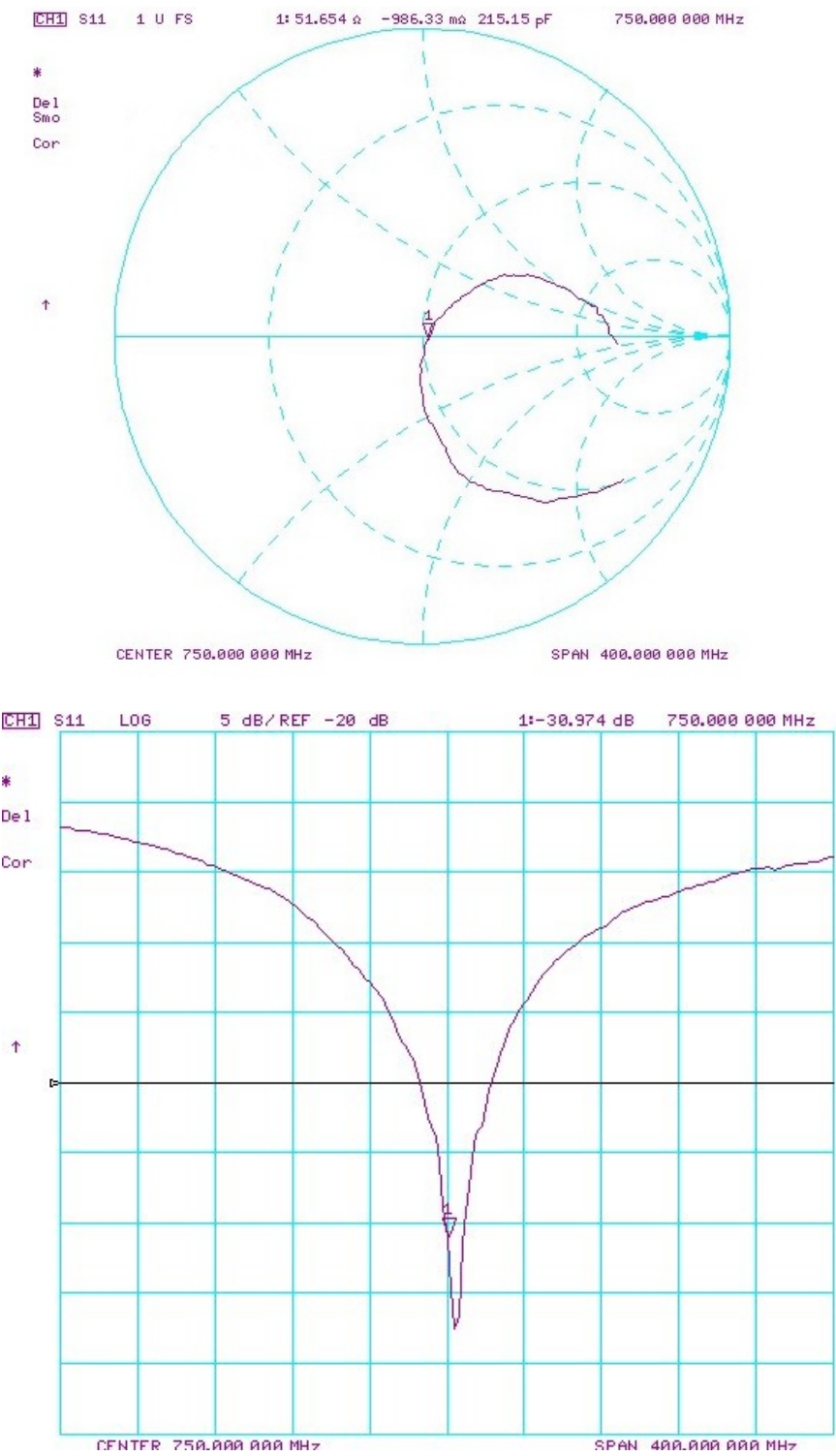
The following dipole was checked to pass the above 3 requirements to have 2-year calibration period from the calibration date:

| Calibration Date | Extension Date | Certificate Electrical Delay (ns) | Certificate SAR Target Head (1g) W/kg @ 23.0 dBm | Measured Head SAR (1g) W/kg @ 23.0 dBm | Deviation 1g (%) | Certificate SAR Target Head (10g) W/kg @ 23.0 dBm | Measured Head SAR (10g) W/kg @ 23.0 dBm | Deviation 10g (%) | Certificate Impedance Head (Ohm) Real | Measured Impedance Head (Ohm) Real | Difference (Ohm) Real | Certificate Impedance Head (Ohm) Imaginary | Measured Impedance Head (Ohm) Imaginary | Difference (Ohm) Imaginary | Certificate Return Loss Head (dB) | Measured Return Loss Head (dB) | Deviation (%) | PASS/FAIL |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 5/18/2018        | 5/16/2019      | 1.034                             | 1.664                                            | 1.65                                   | -0.84%           | 1.064                                             | 1.08                                    | -0.37%            | 55.3                                  | 54.4                               | 0.9                   | 0                                          | -2.2                                    | 2.2                        | -26                               | -26.5                          | -1.90%        | PASS      |
| Calibration Date | Extension Date | Certificate Electrical Delay (ns) | Certificate SAR Target Body (1g) W/kg @ 23.0 dBm | Measured Body SAR (1g) W/kg @ 23.0 dBm | Deviation 1g (%) | Certificate SAR Target Body (10g) W/kg @ 23.0 dBm | Measured Body SAR (10g) W/kg @ 23.0 dBm | Deviation 10g (%) | Certificate Impedance Body (Ohm) Real | Measured Impedance Body (Ohm) Real | Difference (Ohm) Real | Certificate Impedance Body (Ohm) Imaginary | Measured Impedance Body (Ohm) Imaginary | Difference (Ohm) Imaginary | Certificate Return Loss Body (dB) | Measured Return Loss Body (dB) | Deviation (%) | PASS/FAIL |
| 5/18/2018        | 5/16/2019      | 1.034                             | 1.714                                            | 1.81                                   | 5.60%            | 1.134                                             | 1.19                                    | 4.94%             | 50                                    | 51.7                               | 1.7                   | -3.2                                       | -1                                      | 2.2                        | -29.8                             | -31                            | -3.90%        | PASS      |

Impedance & Return-Loss Measurement Plot for Head TSL



Impedance & Return-Loss Measurement Plot for Body TSL



## Certification of Calibration

Object D750V3 – SN: 1034

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

Extended Calibration date: May 18, 2020

Description: SAR Validation Dipole at 750 MHz.

Calibration Equipment used:

| Manufacturer          | Model     | Description                                             | Cal Date  | Cal Interval | Cal Due   | Serial Number |
|-----------------------|-----------|---------------------------------------------------------|-----------|--------------|-----------|---------------|
| Agilent               | 8753ES    | S-Parameter Network Analyzer                            | 1/16/2020 | Annual       | 1/16/2021 | US39170118    |
| Agilent               | N5182A    | MXG Vector Signal Generator                             | 8/19/2019 | Annual       | 8/19/2020 | MY47420837    |
| Amplifier Research    | 15S1G6    | Amplifier                                               | CBT       | N/A          | CBT       | 343972        |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 1/21/2020 | Annual       | 1/21/2021 | 1207470       |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 1/21/2020 | Annual       | 1/21/2021 | 1339007       |
| Anritsu               | ML2495A   | Power Meter                                             | 1/15/2020 | Annual       | 1/15/2021 | 1328004       |
| Control Company       | 62344-734 | Therm./ Clock/ Humidity Monitor                         | 3/18/2019 | Biennial     | 3/18/2021 | 192038436     |
| Control Company       | 4352      | Ultra Long Stem Thermometer                             | 8/2/2018  | Biennial     | 8/2/2020  | 181292000     |
| Keysight Technologies | 85033E    | Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm) | 7/2/2019  | Annual       | 7/2/2020  | MY53401181    |
| MiniCircuits          | VLF-6000+ | Low Pass Filter                                         | CBT       | N/A          | CBT       | N/A           |
| Mini-Circuits         | BW-N20W5+ | DC to 18 GHz Precision Fixed 20 dB Attenuator           | CBT       | N/A          | CBT       | N/A           |
| Narda                 | 4772-3    | Attenuator (3dB)                                        | CBT       | N/A          | CBT       | 9406          |
| Pasternack            | PE2208-6  | Bidirectional Coupler                                   | CBT       | N/A          | CBT       | N/A           |
| Pasternack            | NC-100    | Torque Wrench                                           | 5/23/2018 | Biennial     | 5/23/2020 | N/A           |
| SPEAG                 | DAE4      | Dasy Data Acquisition Electronics                       | 2/13/2020 | Annual       | 2/13/2021 | 1403          |
| SPEAG                 | DAE4      | Dasy Data Acquisition Electronics                       | 3/19/2020 | Annual       | 3/19/2021 | 604           |
| SPEAG                 | DAK-3.5   | Dielectric Assessment Kit                               | 5/12/2020 | Annual       | 5/12/2021 | 1070          |
| SPEAG                 | EX3DV4    | SAR Probe                                               | 2/19/2020 | Annual       | 2/19/2021 | 7427          |
| SPEAG                 | EX3DV4    | SAR Probe                                               | 3/20/2020 | Annual       | 3/20/2021 | 7421          |

Measurement Uncertainty =  $\pm 23\%$  (k=2)

|                | Name            | Function           | Signature           |
|----------------|-----------------|--------------------|---------------------|
| Calibrated By: | Parker Jones    | Team Lead Engineer | <i>Parker Jones</i> |
| Approved By:   | Kaitlin O'Keefe | Managing Director  | <i>KOK</i>          |

# DIPOLE CALIBRATION EXTENSION

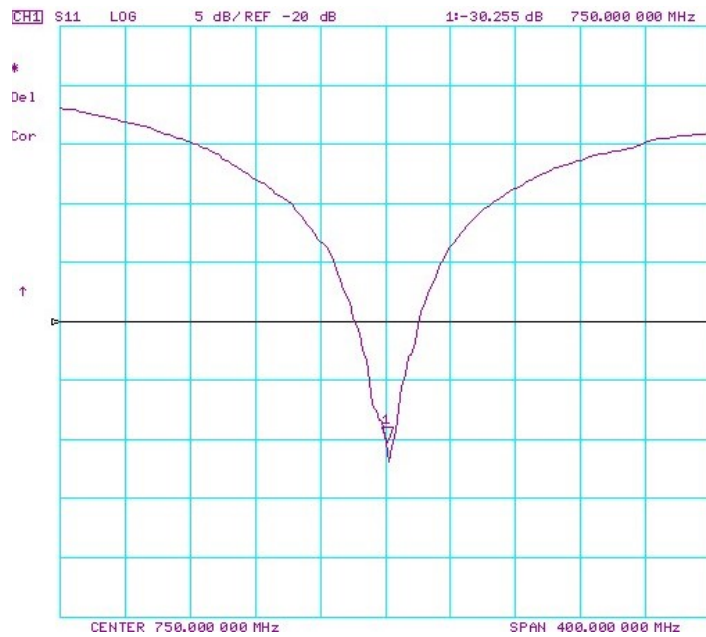
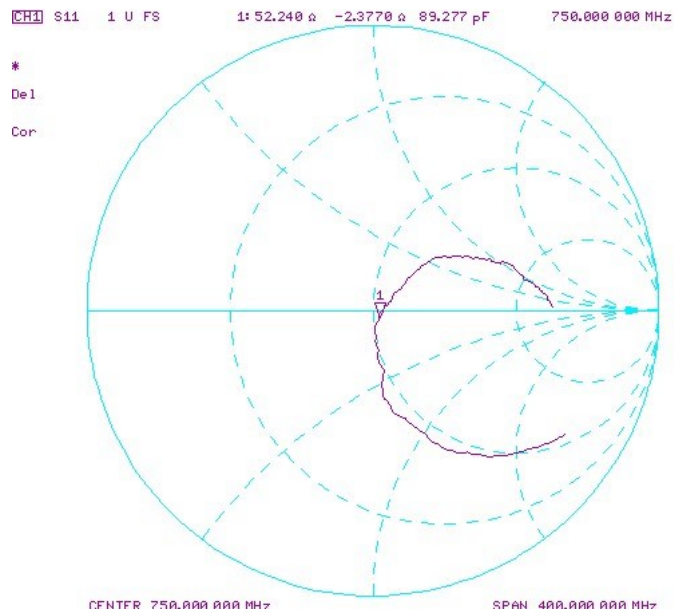
Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

1. The measured SAR does not deviate more than 10% from the target on the calibration certificate.
2. The return-loss does not deviate more than 20% from the previous measurement and meets the required 20dB minimum return-loss requirement.
3. The measurement of real or imaginary parts of impedance does not deviate more than 5Ω from the previous measurement.

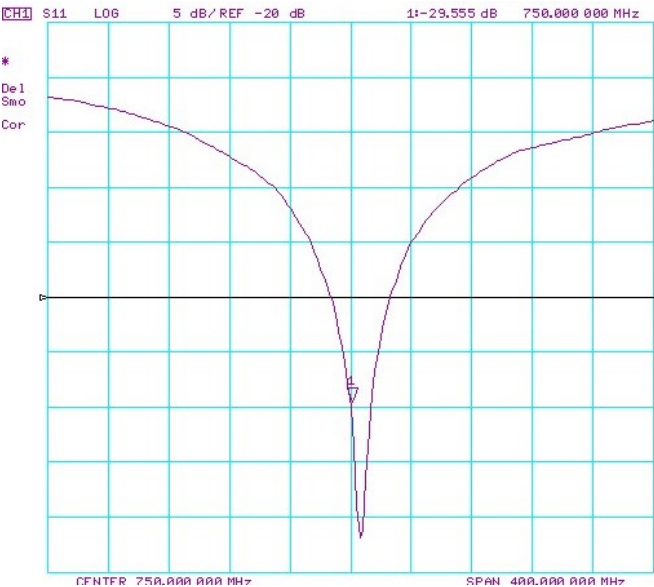
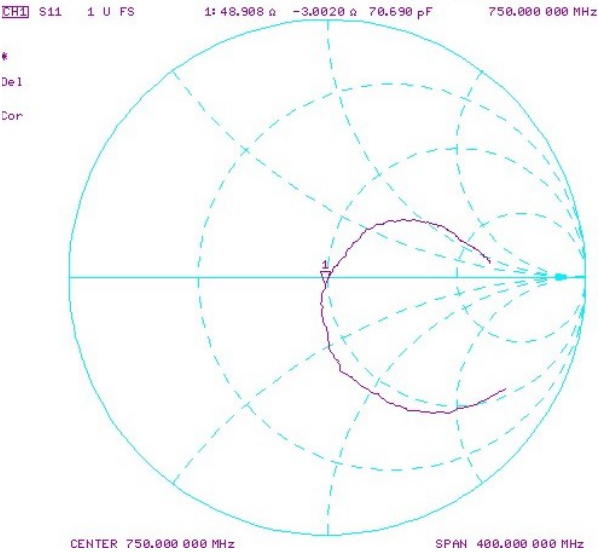
The following dipole was checked to pass the above 3 requirements to have 3-year calibration period from the calibration date:

| Calibration Date | Extension Date | Certificate Electrical Delay (ns) | Certificate SAR Target Head (1g) W/kg @ 23.0 dBm | Measured Head SAR (1g) W/kg @ 23.0 dBm | Deviation 1g (%) | Certificate SAR Target Head (10g) W/kg @ 23.0 dBm | Measured Head SAR (10g) W/kg @ 23.0 dBm | Deviation 10g (%) | Certificate Impedance Head (Ohm) Real | Measured Impedance Head (Ohm) Real | Difference (Ohm) Real | Certificate Impedance Head (Ohm) Imaginary | Measured Impedance Head (Ohm) Imaginary | Difference (Ohm) Imaginary | Certificate Return Loss Head (dB) | Measured Return Loss Head (dB) | Deviation (%) | PASS/FAIL |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 5/18/2018        | 5/18/2020      | 1.034                             | 1.664                                            | 1.63                                   | -2.04%           | 1.064                                             | 1.08                                    | -0.37%            | 55.3                                  | 52.2                               | -3.1                  | 0                                          | -2.4                                    | 2.4                        | -26                               | -30.3                          | -16.50%       | PASS      |
| Calibration Date | Extension Date | Certificate Electrical Delay (ns) | Certificate SAR Target Body (1g) W/kg @ 23.0 dBm | Measured Body SAR (1g) W/kg @ 23.0 dBm | Deviation 1g (%) | Certificate SAR Target Body (10g) W/kg @ 23.0 dBm | Measured Body SAR (10g) W/kg @ 23.0 dBm | Deviation 10g (%) | Certificate Impedance Body (Ohm) Real | Measured Impedance Body (Ohm) Real | Difference (Ohm) Real | Certificate Impedance Body (Ohm) Imaginary | Measured Impedance Body (Ohm) Imaginary | Difference (Ohm) Imaginary | Certificate Return Loss Body (dB) | Measured Return Loss Body (dB) | Deviation (%) | PASS/FAIL |
| 5/18/2018        | 5/18/2020      | 1.034                             | 1.714                                            | 1.73                                   | 0.93%            | 1.134                                             | 1.15                                    | 1.41%             | 50                                    | 46.9                               | -3.1                  | -3.2                                       | -3                                      | 0.2                        | -29.8                             | -29.6                          | 0.70%         | PASS      |

## Impedance & Return-Loss Measurement Plot for Head TSL



Impedance & Return-Loss Measurement Plot for Body TSL





Accredited by the Swiss Accreditation Service (SAS)  
 The Swiss Accreditation Service is one of the signatories to the EA  
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **PC Test**

Certificate No: **D835V2-4d040\_Jun19**

## CALIBRATION CERTIFICATE

Object **D835V2 - SN:4d040**

Calibration procedure(s) **QA CAL-05.v11**  
**Calibration Procedure for SAR Validation Sources between 0.7-3 GHz**

Calibration date: **June 20, 2019**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature ( $22 \pm 3$ )°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards           | ID #               | Cal Date (Certificate No.)      | Scheduled Calibration |
|-----------------------------|--------------------|---------------------------------|-----------------------|
| Power meter NRP             | SN: 104778         | 03-Apr-19 (No. 217-02892/02893) | Apr-20                |
| Power sensor NRP-Z91        | SN: 103244         | 03-Apr-19 (No. 217-02892)       | Apr-20                |
| Power sensor NRP-Z91        | SN: 103245         | 03-Apr-19 (No. 217-02893)       | Apr-20                |
| Reference 20 dB Attenuator  | SN: 5058 (20k)     | 04-Apr-19 (No. 217-02894)       | Apr-20                |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 04-Apr-19 (No. 217-02895)       | Apr-20                |
| Reference Probe EX3DV4      | SN: 7349           | 29-May-19 (No. EX3-7349_May19)  | May-20                |
| DAE4                        | SN: 601            | 30-Apr-19 (No. DAE4-601_Apr19)  | Apr-20                |

| Secondary Standards             | ID #           | Check Date (in house)             | Scheduled Check        |
|---------------------------------|----------------|-----------------------------------|------------------------|
| Power meter E4419B              | SN: GB39512475 | 30-Oct-14 (in house check Feb-19) | In house check: Oct-20 |
| Power sensor HP 8481A           | SN: US37292783 | 07-Oct-15 (in house check Oct-18) | In house check: Oct-20 |
| Power sensor HP 8481A           | SN: MY41092317 | 07-Oct-15 (in house check Oct-18) | In house check: Oct-20 |
| RF generator R&S SMT-06         | SN: 100972     | 15-Jun-15 (in house check Oct-18) | In house check: Oct-20 |
| Network Analyzer Agilent E8358A | SN: US41080477 | 31-Mar-14 (in house check Oct-18) | In house check: Oct-19 |

|                |               |                       |           |
|----------------|---------------|-----------------------|-----------|
|                | Name          | Function              | Signature |
| Calibrated by: | Manu Sellz    | Laboratory Technician |           |
| Approved by:   | Katja Pokovic | Technical Manager     |           |

Issued: June 21, 2019

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

### Glossary:

|       |                                 |
|-------|---------------------------------|
| TSL   | tissue simulating liquid        |
| ConvF | sensitivity in TSL / NORM x,y,z |
| N/A   | not applicable or not measured  |

### Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### Additional Documentation:

- DASY4/5 System Handbook

### Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

|                                     |                        |             |
|-------------------------------------|------------------------|-------------|
| <b>DASY Version</b>                 | DASY5                  | V52.10.2    |
| <b>Extrapolation</b>                | Advanced Extrapolation |             |
| <b>Phantom</b>                      | Modular Flat Phantom   |             |
| <b>Distance Dipole Center - TSL</b> | 15 mm                  | with Spacer |
| <b>Zoom Scan Resolution</b>         | dx, dy, dz = 5 mm      |             |
| <b>Frequency</b>                    | 835 MHz $\pm$ 1 MHz    |             |

## Head TSL parameters

The following parameters and calculations were applied.

|                                                | Temperature         | Permittivity   | Conductivity         |
|------------------------------------------------|---------------------|----------------|----------------------|
| <b>Nominal Head TSL parameters</b>             | 22.0 °C             | 41.5           | 0.90 mho/m           |
| <b>Measured Head TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 41.8 $\pm$ 6 % | 0.91 mho/m $\pm$ 6 % |
| <b>Head TSL temperature change during test</b> | < 0.5 °C            | ----           | ----                 |

## SAR result with Head TSL

|                                                             |                    |                                                |
|-------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Head TSL</b> | Condition          |                                                |
| SAR measured                                                | 250 mW input power | 2.39 W/kg                                      |
| SAR for nominal Head TSL parameters                         | normalized to 1W   | <b>9.50 W/kg <math>\pm</math> 17.0 % (k=2)</b> |

|                                                               |                    |                                                |
|---------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Head TSL</b> | condition          |                                                |
| SAR measured                                                  | 250 mW input power | 1.54 W/kg                                      |
| SAR for nominal Head TSL parameters                           | normalized to 1W   | <b>6.13 W/kg <math>\pm</math> 16.5 % (k=2)</b> |

## Body TSL parameters

The following parameters and calculations were applied.

|                                                | Temperature         | Permittivity   | Conductivity         |
|------------------------------------------------|---------------------|----------------|----------------------|
| <b>Nominal Body TSL parameters</b>             | 22.0 °C             | 55.2           | 0.97 mho/m           |
| <b>Measured Body TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 55.4 $\pm$ 6 % | 0.98 mho/m $\pm$ 6 % |
| <b>Body TSL temperature change during test</b> | < 0.5 °C            | ----           | ----                 |

## SAR result with Body TSL

|                                                             |                    |                                                |
|-------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Body TSL</b> | Condition          |                                                |
| SAR measured                                                | 250 mW input power | 2.40 W/kg                                      |
| SAR for nominal Body TSL parameters                         | normalized to 1W   | <b>9.53 W/kg <math>\pm</math> 17.0 % (k=2)</b> |

|                                                               |                    |                                                |
|---------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Body TSL</b> | condition          |                                                |
| SAR measured                                                  | 250 mW input power | 1.57 W/kg                                      |
| SAR for nominal Body TSL parameters                           | normalized to 1W   | <b>6.24 W/kg <math>\pm</math> 16.5 % (k=2)</b> |

## Appendix (Additional assessments outside the scope of SCS 0108)

### Antenna Parameters with Head TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 49.6 $\Omega$ - 4.1 j $\Omega$ |
| Return Loss                          | - 27.7 dB                      |

### Antenna Parameters with Body TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 46.6 $\Omega$ - 6.5 j $\Omega$ |
| Return Loss                          | - 22.4 dB                      |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.393 ns |
|----------------------------------|----------|

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

|                 |       |
|-----------------|-------|
| Manufactured by | SPEAG |
|-----------------|-------|

## DASY5 Validation Report for Head TSL

Date: 20.06.2019

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d040**

Communication System: UID 0 - CW; Frequency: 835 MHz

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.91 \text{ S/m}$ ;  $\epsilon_r = 41.8$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(9.89, 9.89, 9.89) @ 835 MHz; Calibrated: 29.05.2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.04.2019
- Phantom: Flat Phantom 4.9 (front); Type: QD 00L P49 AA; Serial: 1001
- DASY52 52.10.2(1504); SEMCAD X 14.6.12(7470)

### Dipole Calibration for Head Tissue/ $P_{in}=250 \text{ mW}$ , $d=15\text{mm}$ /Zoom Scan (7x7x7)/Cube 0:

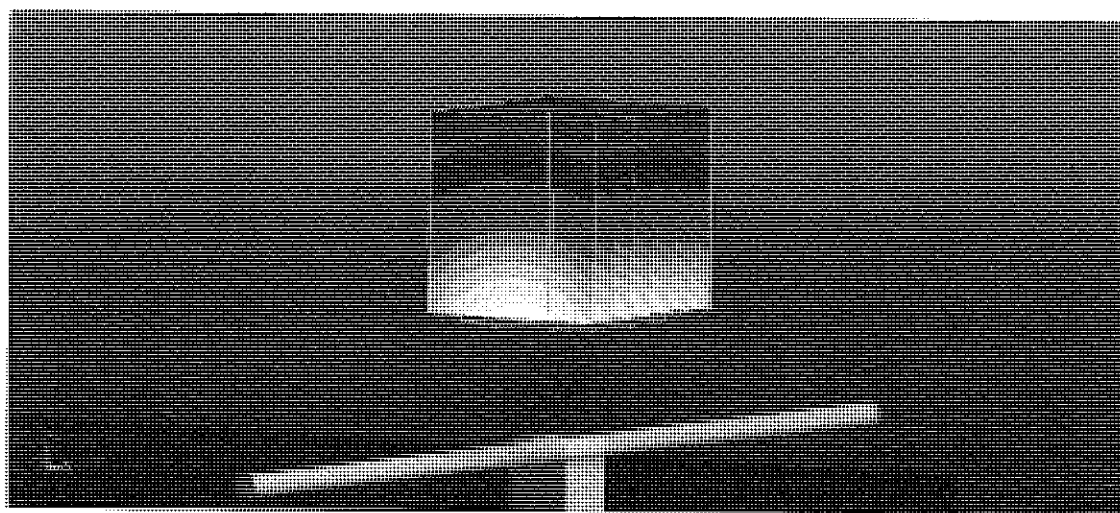
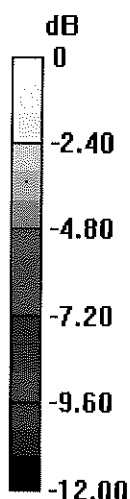
Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $63.05 \text{ V/m}$ ; Power Drift =  $-0.08 \text{ dB}$

Peak SAR (extrapolated) =  $3.60 \text{ W/kg}$

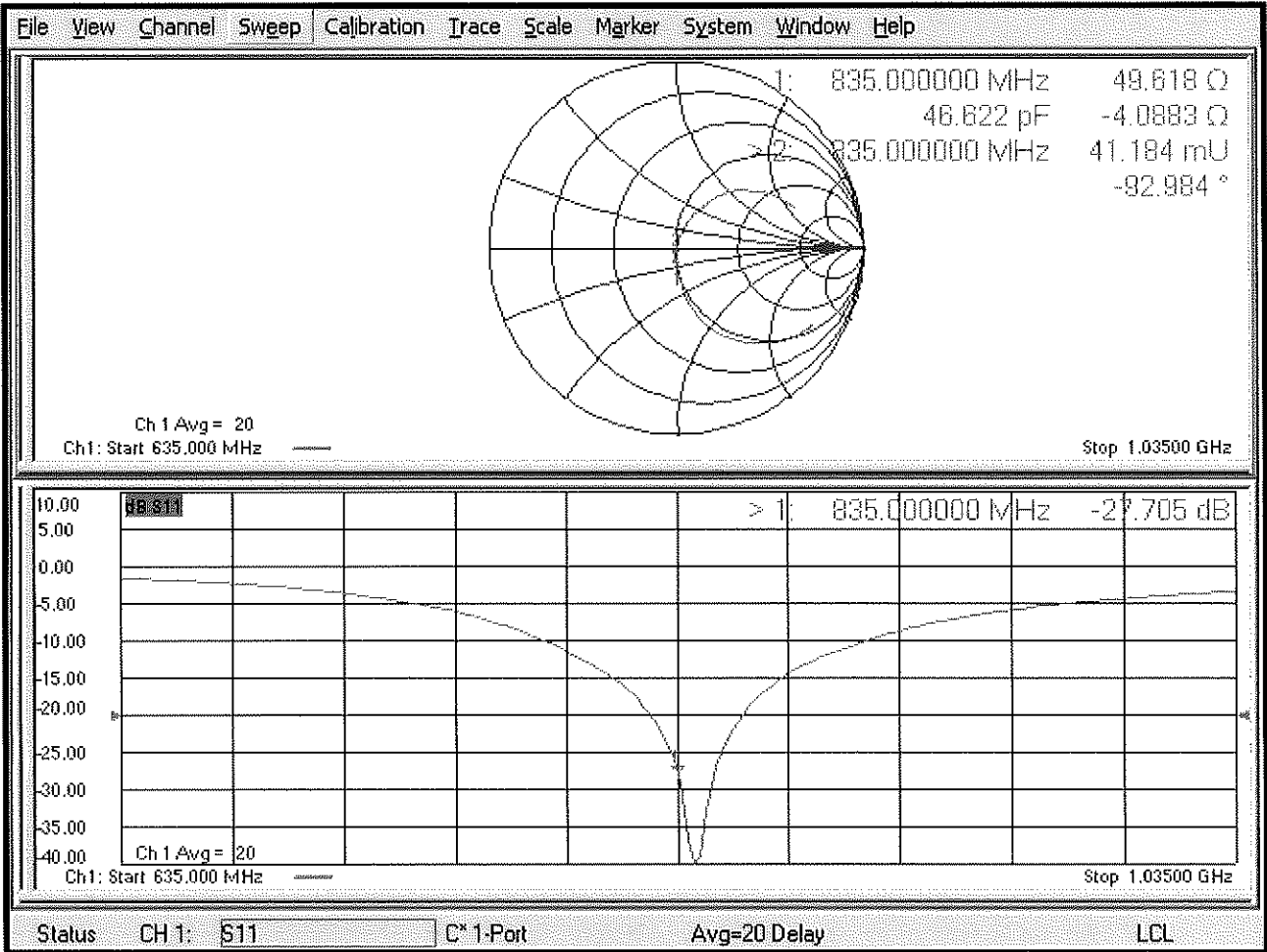
**SAR(1 g) =  $2.39 \text{ W/kg}$ ; SAR(10 g) =  $1.54 \text{ W/kg}$**

Maximum value of SAR (measured) =  $3.19 \text{ W/kg}$



0 dB =  $3.19 \text{ W/kg}$  =  $5.04 \text{ dBW/kg}$

Impedance Measurement Plot for Head TSL



## DASY5 Validation Report for Body TSL

Date: 13.06.2019

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d040**

Communication System: UID 0 - CW; Frequency: 835 MHz

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.98 \text{ S/m}$ ;  $\epsilon_r = 55.4$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.16, 10.16, 10.16) @ 835 MHz; Calibrated: 29.05.2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 30.04.2019
- Phantom: Flat Phantom 4.9 (Back); Type: QD 00R P49 AA; Serial: 1005
- DASY52 52.10.2(1504); SEMCAD X 14.6.12(7470)

### Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

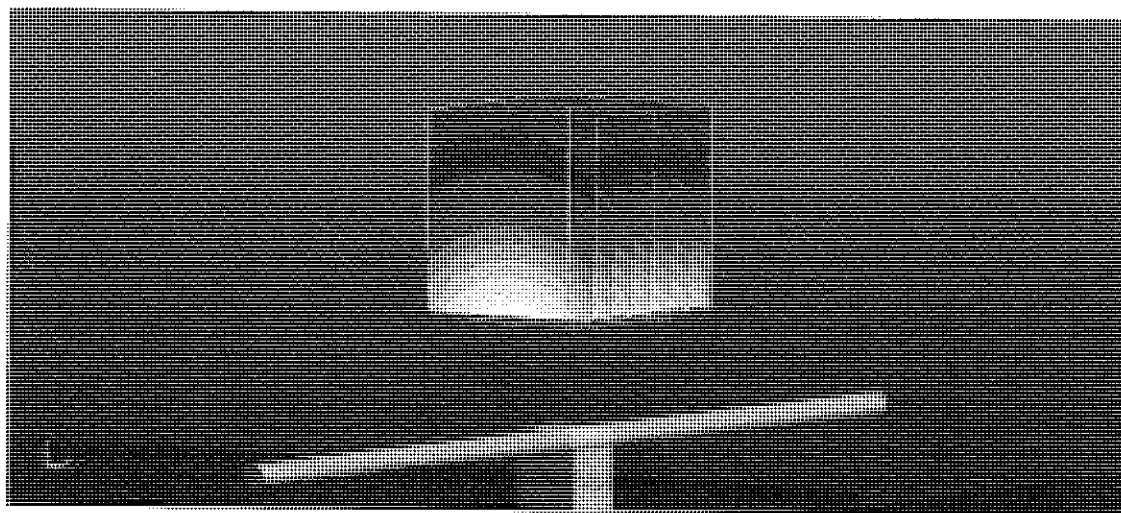
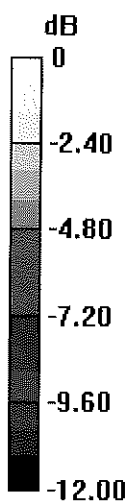
Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 57.73 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 3.59 W/kg

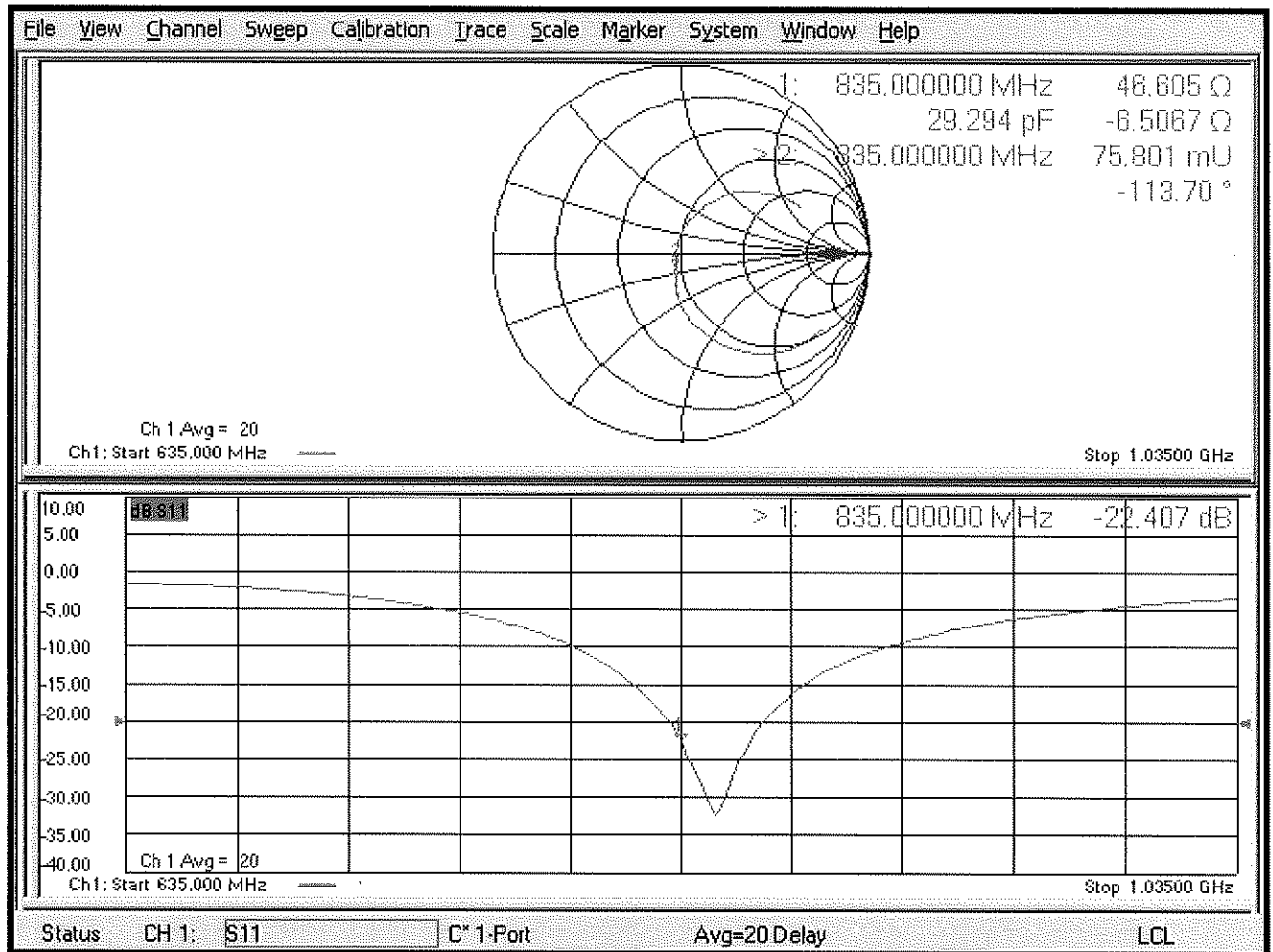
**SAR(1 g) = 2.4 W/kg; SAR(10 g) = 1.57 W/kg**

Maximum value of SAR (measured) = 3.21 W/kg



0 dB = 3.21 W/kg = 5.07 dBW/kg

## Impedance Measurement Plot for Body TSL



## Certification of Calibration

Object D835V2 – SN: 4d040

Calibration procedure(s) Procedure for Calibration Extension for SAR Dipoles.

Extended Calibration date: June 20, 2020

Description: SAR Validation Dipole at 835 MHz.

Calibration Equipment used:

| Manufacturer          | Model     | Description                                             | Cal Date  | Cal Interval | Cal Due   | Serial Number |
|-----------------------|-----------|---------------------------------------------------------|-----------|--------------|-----------|---------------|
| Agilent               | 8753ES    | S-Parameter Network Analyzer                            | 1/16/2020 | Annual       | 1/16/2021 | US39170118    |
| Agilent               | N5182A    | MXG Vector Signal Generator                             | 8/19/2019 | Annual       | 8/19/2020 | MY47420837    |
| Amplifier Research    | 15S1G6    | Amplifier                                               | CBT       | N/A          | CBT       | 343972        |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 1/21/2020 | Annual       | 1/21/2021 | 1207470       |
| Anritsu               | MA2411B   | Pulse Power Sensor                                      | 1/21/2020 | Annual       | 1/21/2021 | 1339007       |
| Anritsu               | ML2495A   | Power Meter                                             | 1/15/2020 | Annual       | 1/15/2021 | 1328004       |
| Control Company       | 62344-734 | Therm./ Clock/ Humidity Monitor                         | 3/18/2019 | Biennial     | 3/18/2021 | 192038436     |
| Control Company       | 4352      | Ultra Long Stem Thermometer                             | 8/2/2018  | Biennial     | 8/2/2020  | 181292000     |
| Keysight Technologies | 85033E    | Standard Mechanical Calibration Kit (DC to 9GHz, 3.5mm) | 7/2/2019  | Annual       | 7/2/2020  | MY53401181    |
| MiniCircuits          | VLF-6000+ | Low Pass Filter                                         | CBT       | N/A          | CBT       | N/A           |
| Mini-Circuits         | BW-N20W5+ | DC to 18 GHz Precision Fixed 20 dB Attenuator           | CBT       | N/A          | CBT       | N/A           |
| Narda                 | 4772-3    | Attenuator (3dB)                                        | CBT       | N/A          | CBT       | 9406          |
| Pasternack            | PE2208-6  | Bidirectional Coupler                                   | CBT       | N/A          | CBT       | N/A           |
| Seekonk               | NC-100    | Torque Wrench                                           | 7/18/2019 | Annual       | 7/18/2020 | N/A           |
| SPEAG                 | DAE4      | Dasy Data Acquisition Electronics                       | 1/14/2020 | Annual       | 1/14/2021 | 793           |
| SPEAG                 | DAE4      | Dasy Data Acquisition Electronics                       | 3/19/2020 | Annual       | 3/19/2021 | 604           |
| SPEAG                 | DAK-3.5   | Dielectric Assessment Kit                               | 5/12/2020 | Annual       | 5/12/2021 | 1070          |
| SPEAG                 | EX3DV4    | SAR Probe                                               | 1/20/2020 | Annual       | 1/20/2021 | 3837          |
| SPEAG                 | EX3DV4    | SAR Probe                                               | 3/20/2020 | Annual       | 3/20/2021 | 7421          |

Measurement Uncertainty =  $\pm 23\%$  (k=2)

|                | Name            | Function           | Signature           |
|----------------|-----------------|--------------------|---------------------|
| Calibrated By: | Parker Jones    | Team Lead Engineer | <i>Parker Jones</i> |
| Approved By:   | Kaitlin O'Keefe | Managing Director  | <i>KOK</i>          |

# DIPOLE CALIBRATION EXTENSION

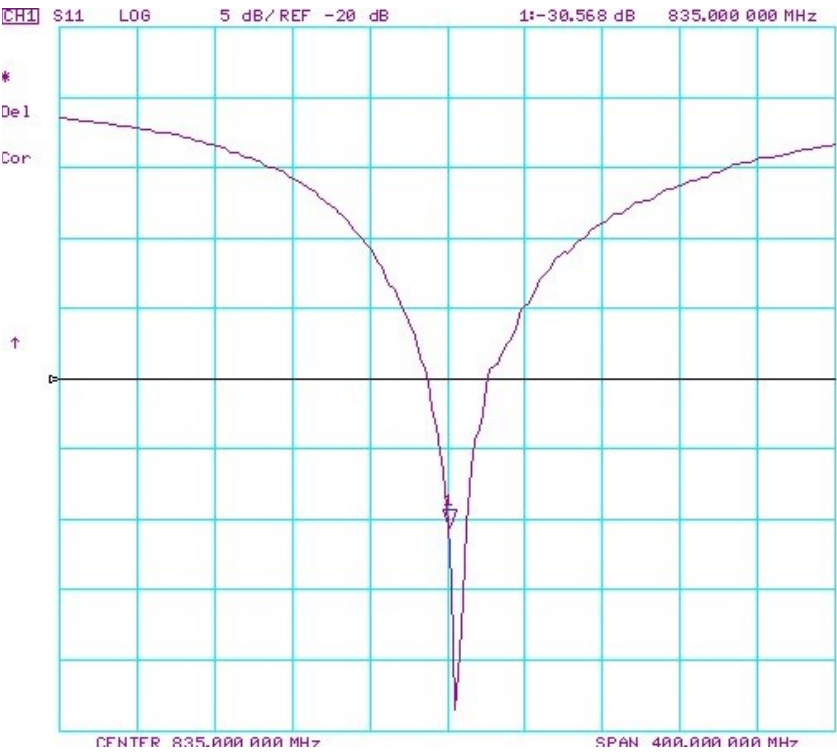
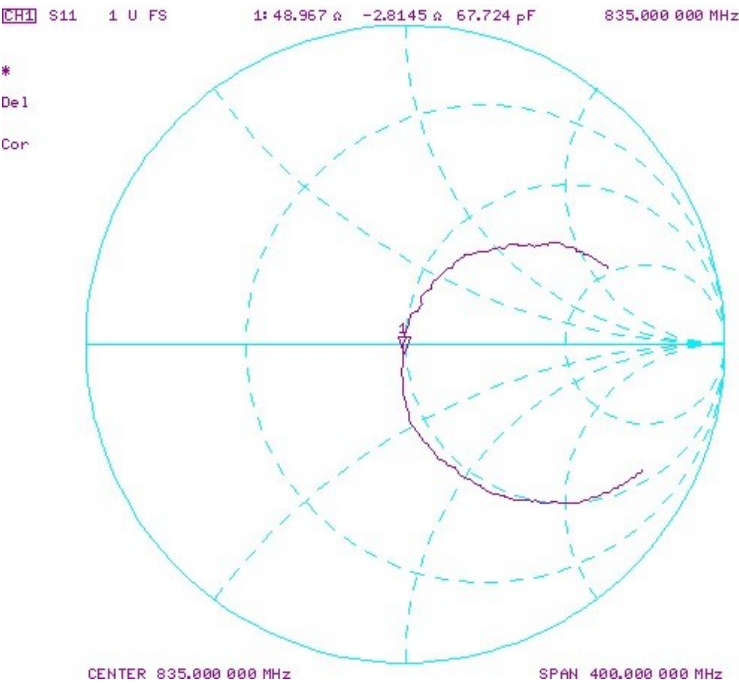
Per KDB 865664 D01, calibration intervals of up to three years may be considered for reference dipoles when it is demonstrated that the SAR target, impedance and return loss of a dipole have remained stable according to the following requirements:

1. The measured SAR does not deviate more than 10% from the target on the calibration certificate.
2. The return-loss does not deviate more than 20% from the previous measurement and meets the required 20dB minimum return-loss requirement.
3. The measurement of real or imaginary parts of impedance does not deviate more than 5Ω from the previous measurement.

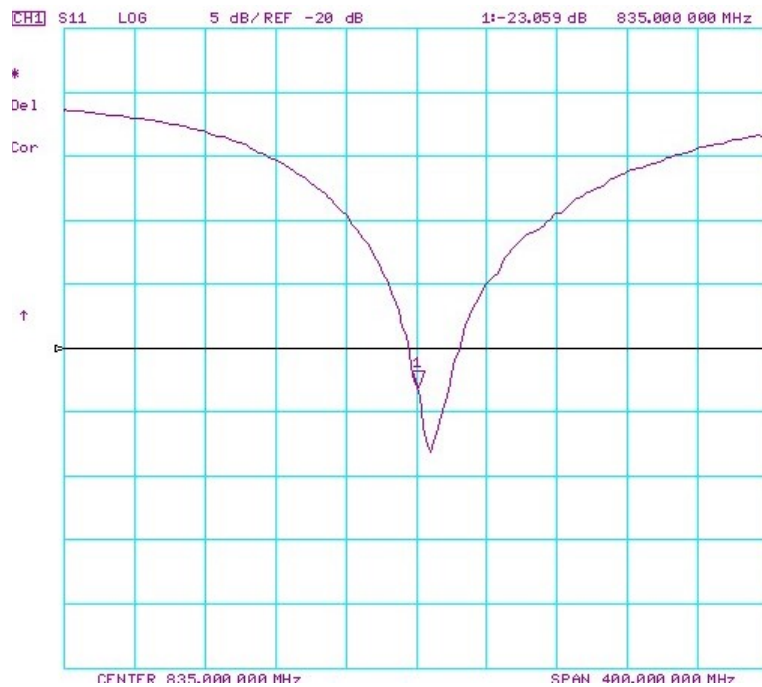
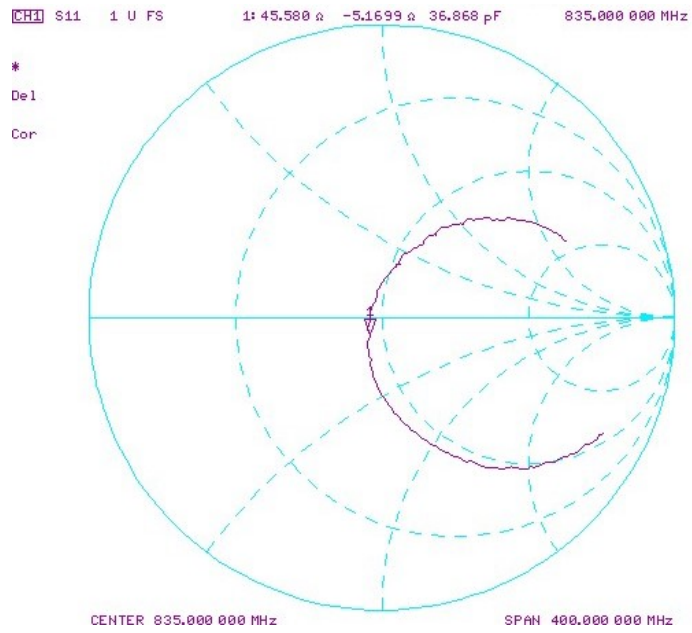
The following dipole was checked to pass the above 3 requirements to have 2-year calibration period from the calibration date:

| Calibration Date | Extension Date | Certificate Electrical Delay (ns) | Certificate SAR Target Head (1g) W/kg @ 23.0 dBm | Measured Head SAR (1g) W/kg @ 23.0 dBm | Deviation 1g (%) | Certificate SAR Target Body (10g) W/kg @ 23.0 dBm | Measured Body SAR (10g) W/kg @ 23.0 dBm | Deviation 10g (%) | Certificate Impedance Head (Ohm) Real | Measured Impedance Head (Ohm) Real | Difference (Ohm) Real | Certificate Impedance Head (Ohm) Imaginary | Measured Impedance Head (Ohm) Imaginary | Difference (Ohm) Imaginary | Certificate Return Loss Head (dB) | Measured Return Loss Head (dB) | Deviation (%) | PASS/FAIL |
|------------------|----------------|-----------------------------------|--------------------------------------------------|----------------------------------------|------------------|---------------------------------------------------|-----------------------------------------|-------------------|---------------------------------------|------------------------------------|-----------------------|--------------------------------------------|-----------------------------------------|----------------------------|-----------------------------------|--------------------------------|---------------|-----------|
| 6/20/2019        | 6/20/2020      | 1.393                             | 1.900                                            | 2                                      | 5.26%            | 1.226                                             | 1.31                                    | 6.85%             | 49.6                                  | 49                                 | 0.6                   | -4.1                                       | -2.8                                    | 1.3                        | -27.7                             | -30.6                          | -10.50%       | PASS      |
| Calibration Date | Extension Date | Certificate Electrical Delay (ns) | Certificate SAR Target Body (1g) W/kg @ 23.0 dBm | Measured Body SAR (1g) W/kg @ 23.0 dBm | Deviation 1g (%) | Certificate SAR Target Body (10g) W/kg @ 23.0 dBm | Measured Body SAR (10g) W/kg @ 23.0 dBm | Deviation 10g (%) | Certificate Impedance Body (Ohm) Real | Measured Impedance Body (Ohm) Real | Difference (Ohm) Real | Certificate Impedance Body (Ohm) Imaginary | Measured Impedance Body (Ohm) Imaginary | Difference (Ohm) Imaginary | Certificate Return Loss Body (dB) | Measured Return Loss Body (dB) | Deviation (%) | PASS/FAIL |
| 6/20/2019        | 6/20/2020      | 1.393                             | 1.906                                            | 2.04                                   | 7.03%            | 1.248                                             | 1.34                                    | 7.37%             | 46.6                                  | 45.6                               | 1                     | -6.5                                       | -5.2                                    | 1.3                        | -22.4                             | -23.1                          | -3.10%        | PASS      |

Impedance & Return-Loss Measurement Plot for Head TSL



## Impedance & Return-Loss Measurement Plot for Body TSL





Accredited by the Swiss Accreditation Service (SAS)  
The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **PC Test**

Certificate No: **D835V2-4d132\_Jan20**

## CALIBRATION CERTIFICATE

Object **D835V2 - SN:4d132**

Calibration procedure(s) **QA CAL-05.v11  
Calibration Procedure for SAR Validation Sources between 0.7-3 GHz**

Calibration date: **January 13, 2020**

*BN ✓*  
*02-05-2020*

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature ( $22 \pm 3$ )°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards           | ID #               | Cal Date (Certificate No.)      | Scheduled Calibration |
|-----------------------------|--------------------|---------------------------------|-----------------------|
| Power meter NRP             | SN: 104778         | 03-Apr-19 (No. 217-02892/02893) | Apr-20                |
| Power sensor NRP-Z91        | SN: 103244         | 03-Apr-19 (No. 217-02892)       | Apr-20                |
| Power sensor NRP-Z91        | SN: 103245         | 03-Apr-19 (No. 217-02893)       | Apr-20                |
| Reference 20 dB Attenuator  | SN: 5058 (20k)     | 04-Apr-19 (No. 217-02894)       | Apr-20                |
| Type-N mismatch combination | SN: 5047.2 / 06327 | 04-Apr-19 (No. 217-02895)       | Apr-20                |
| Reference Probe EX3DV4      | SN: 7349           | 31-Dec-19 (No. EX3-7349_Dec19)  | Dec-20                |
| DAE4                        | SN: 601            | 27-Dec-19 (No. DAE4-601_Dec19)  | Dec-20                |

| Secondary Standards             | ID #           | Check Date (in house)             | Scheduled Check        |
|---------------------------------|----------------|-----------------------------------|------------------------|
| Power meter E4419B              | SN: GB39512475 | 30-Oct-14 (in house check Feb-19) | In house check: Oct-20 |
| Power sensor HP 8481A           | SN: US37292783 | 07-Oct-15 (in house check Oct-18) | In house check: Oct-20 |
| Power sensor HP 8481A           | SN: MY41092317 | 07-Oct-15 (in house check Oct-18) | In house check: Oct-20 |
| RF generator R&S SMT-06         | SN: 100972     | 15-Jun-15 (in house check Oct-18) | In house check: Oct-20 |
| Network Analyzer Agilent E8358A | SN: US41080477 | 31-Mar-14 (in house check Oct-19) | In house check: Oct-20 |

|                |              |                       |                     |
|----------------|--------------|-----------------------|---------------------|
|                | <b>Name</b>  | <b>Function</b>       | <b>Signature</b>    |
| Calibrated by: | Leif Klysner | Laboratory Technician | <i>Leif Klysner</i> |

|              |               |                   |                      |
|--------------|---------------|-------------------|----------------------|
|              | <b>Name</b>   | <b>Function</b>   | <b>Signature</b>     |
| Approved by: | Katja Pokovic | Technical Manager | <i>Katja Pokovic</i> |

Issued: January 21, 2020

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Accreditation Service (SAS)

The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

### Glossary:

|       |                                 |
|-------|---------------------------------|
| TSL   | tissue simulating liquid        |
| ConvF | sensitivity in TSL / NORM x,y,z |
| N/A   | not applicable or not measured  |

### Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### Additional Documentation:

- DASY4/5 System Handbook

### Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

|                                     |                        |             |
|-------------------------------------|------------------------|-------------|
| <b>DASY Version</b>                 | DASY5                  | V52.10.3    |
| <b>Extrapolation</b>                | Advanced Extrapolation |             |
| <b>Phantom</b>                      | Modular Flat Phantom   |             |
| <b>Distance Dipole Center - TSL</b> | 15 mm                  | with Spacer |
| <b>Zoom Scan Resolution</b>         | dx, dy, dz = 5 mm      |             |
| <b>Frequency</b>                    | 835 MHz $\pm$ 1 MHz    |             |

## Head TSL parameters

The following parameters and calculations were applied.

|                                                | Temperature         | Permittivity   | Conductivity         |
|------------------------------------------------|---------------------|----------------|----------------------|
| <b>Nominal Head TSL parameters</b>             | 22.0 °C             | 41.5           | 0.90 mho/m           |
| <b>Measured Head TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 42.6 $\pm$ 6 % | 0.91 mho/m $\pm$ 6 % |
| <b>Head TSL temperature change during test</b> | < 0.5 °C            | ---            | ---                  |

## SAR result with Head TSL

|                                                             |                    |                                                |
|-------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Head TSL</b> | Condition          |                                                |
| SAR measured                                                | 250 mW input power | 2.42 W/kg                                      |
| SAR for nominal Head TSL parameters                         | normalized to 1W   | <b>9.65 W/kg <math>\pm</math> 17.0 % (k=2)</b> |

|                                                               |                    |                                                |
|---------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Head TSL</b> | condition          |                                                |
| SAR measured                                                  | 250 mW input power | 1.58 W/kg                                      |
| SAR for nominal Head TSL parameters                           | normalized to 1W   | <b>6.30 W/kg <math>\pm</math> 16.5 % (k=2)</b> |

## Body TSL parameters

The following parameters and calculations were applied.

|                                                | Temperature         | Permittivity   | Conductivity         |
|------------------------------------------------|---------------------|----------------|----------------------|
| <b>Nominal Body TSL parameters</b>             | 22.0 °C             | 55.2           | 0.97 mho/m           |
| <b>Measured Body TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 55.1 $\pm$ 6 % | 0.99 mho/m $\pm$ 6 % |
| <b>Body TSL temperature change during test</b> | < 0.5 °C            | ----           | ----                 |

## SAR result with Body TSL

|                                                             |                    |                                                |
|-------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Body TSL</b> | Condition          |                                                |
| SAR measured                                                | 250 mW input power | 2.53 W/kg                                      |
| SAR for nominal Body TSL parameters                         | normalized to 1W   | <b>9.96 W/kg <math>\pm</math> 17.0 % (k=2)</b> |

|                                                               |                    |                                                |
|---------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Body TSL</b> | condition          |                                                |
| SAR measured                                                  | 250 mW input power | 1.68 W/kg                                      |
| SAR for nominal Body TSL parameters                           | normalized to 1W   | <b>6.64 W/kg <math>\pm</math> 16.5 % (k=2)</b> |

## Appendix (Additional assessments outside the scope of SCS 0108)

### Antenna Parameters with Head TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 50.4 $\Omega$ - 3.1 j $\Omega$ |
| Return Loss                          | - 30.0 dB                      |

### Antenna Parameters with Body TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 48.7 $\Omega$ - 5.5 j $\Omega$ |
| Return Loss                          | - 24.8 dB                      |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.385 ns |
|----------------------------------|----------|

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

|                 |       |
|-----------------|-------|
| Manufactured by | SPEAG |
|-----------------|-------|