

## 02\_GSM 1900\_GPRS 4 Tx slots\_Right Cheek\_0mm\_Full Power\_Ch810

Communication System: UID 0, GPRS (4 Tx slots) (0); Frequency: 1909.8 MHz; Duty Cycle: 1:2.08  
Medium: HSL\_1900 Medium parameters used:  $f = 1910$  MHz;  $\sigma = 1.413$  S/m;  $\epsilon_r = 39.048$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.3 °C; Liquid Temperature : 22.7 °C

### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.5, 8.5, 8.5); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch810/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0695 W/kg

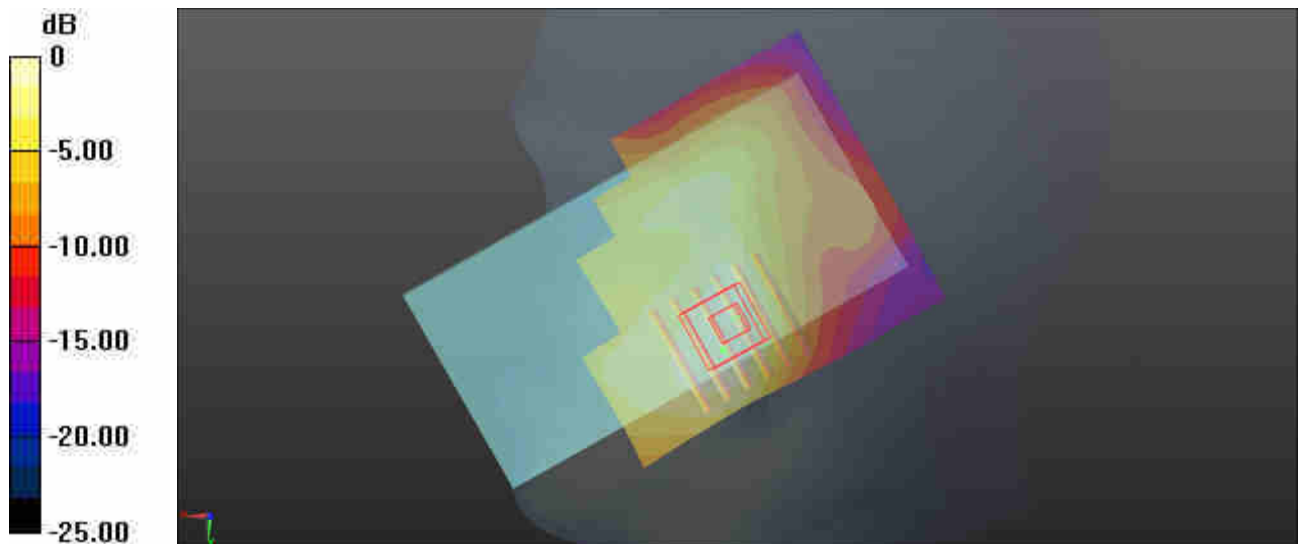
**Ch810/Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.477 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.0770 W/kg

**SAR(1 g) = 0.055 W/kg; SAR(10 g) = 0.036 W/kg**

Maximum value of SAR (measured) = 0.0631 W/kg



0 dB = 0.0695 W/kg = -11.58 dBW/kg

### 03\_WCDMA V\_RMC 12.2Kbps\_Right Cheek\_0mm\_Ch4182

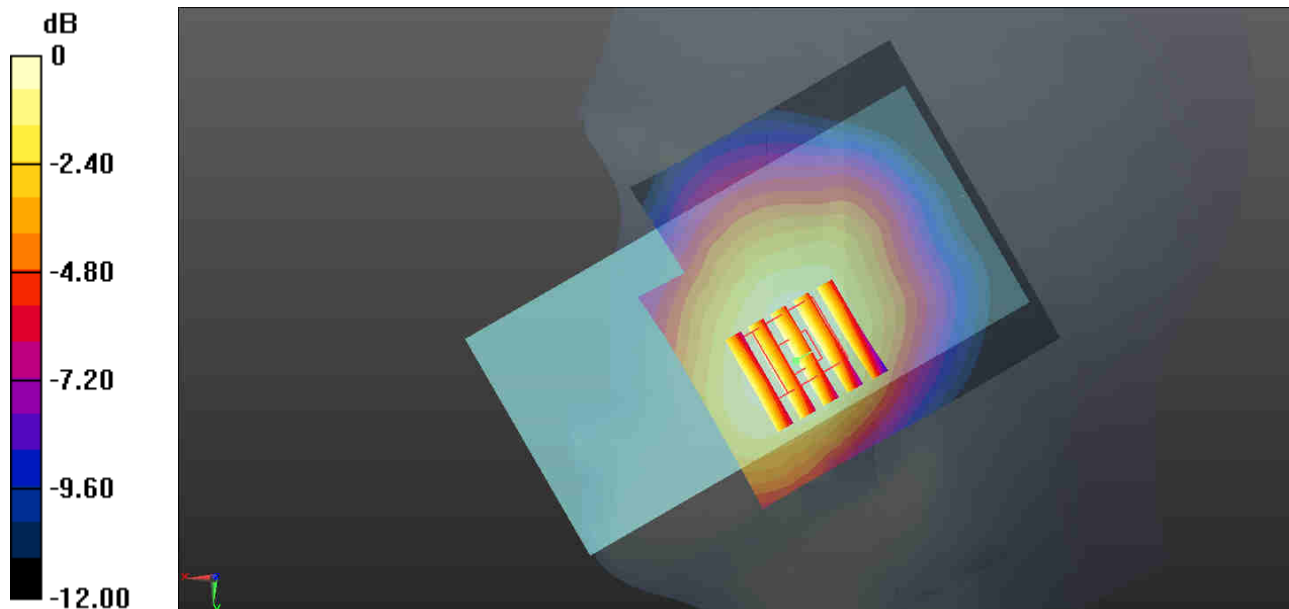
Communication System: UID 0, UMTS (0); Frequency: 836.4 MHz; Duty Cycle: 1:1  
Medium: HSL\_850 Medium parameters used:  $f = 836.4$  MHz;  $\sigma = 0.902$  S/m;  $\epsilon_r = 41.15$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C ; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.48, 10.48, 10.48); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch4182/Area Scan (71x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 0.269 W/kg

**Ch4182/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 4.077 V/m; Power Drift = 0.02 dB  
Peak SAR (extrapolated) = 0.291 W/kg  
**SAR(1 g) = 0.243 W/kg; SAR(10 g) = 0.189 W/kg**  
Maximum value of SAR (measured) = 0.264 W/kg



0 dB = 0.264 W/kg = -5.78 dBW/kg

### 04\_WCDMA II\_RMC 12.2Kbps\_Left Cheek\_0mm\_Ch9400

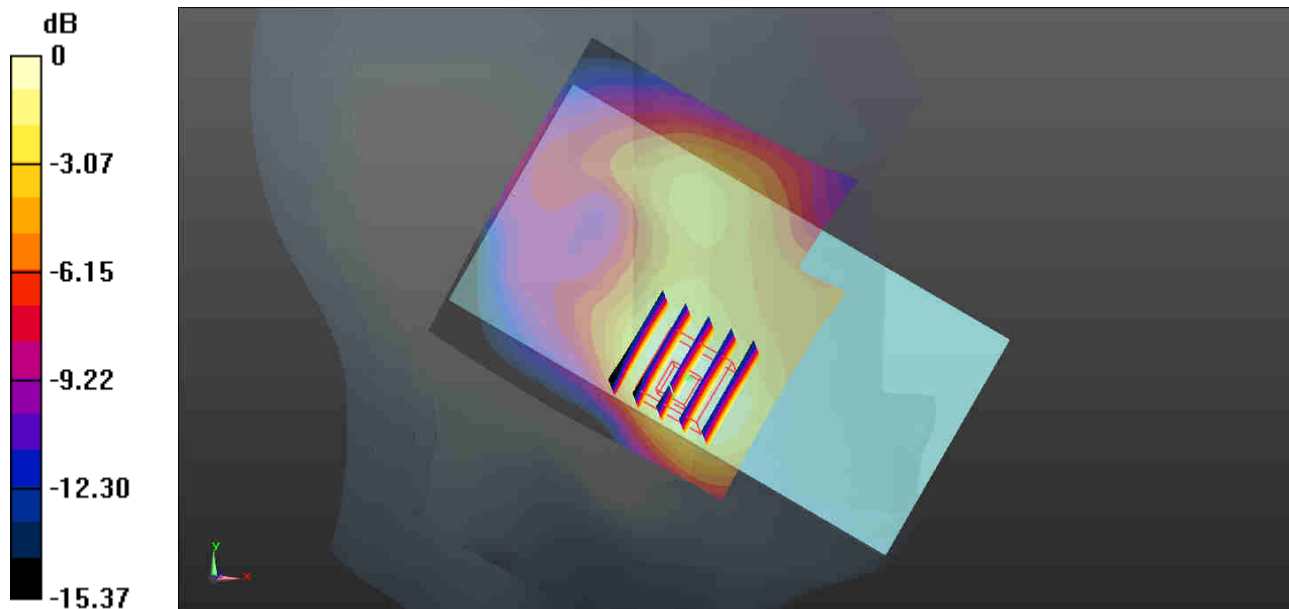
Communication System: UID 0, UMTS (0); Frequency: 1880 MHz; Duty Cycle: 1:1  
Medium: HSL\_1900 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.382$  S/m;  $\epsilon_r = 39.194$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.5, 8.5, 8.5); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch9400/Area Scan (71x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 0.250 W/kg

**Ch9400/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 4.910 V/m; Power Drift = 0.03 dB  
Peak SAR (extrapolated) = 0.343 W/kg  
**SAR(1 g) = 0.203 W/kg; SAR(10 g) = 0.115 W/kg**  
Maximum value of SAR (measured) = 0.236 W/kg



0 dB = 0.236 W/kg = -6.27 dBW/kg

### 05\_LTE Band 26\_15M\_QPSK\_1RB\_0Offset\_Right Cheek\_0mm\_Ch26865

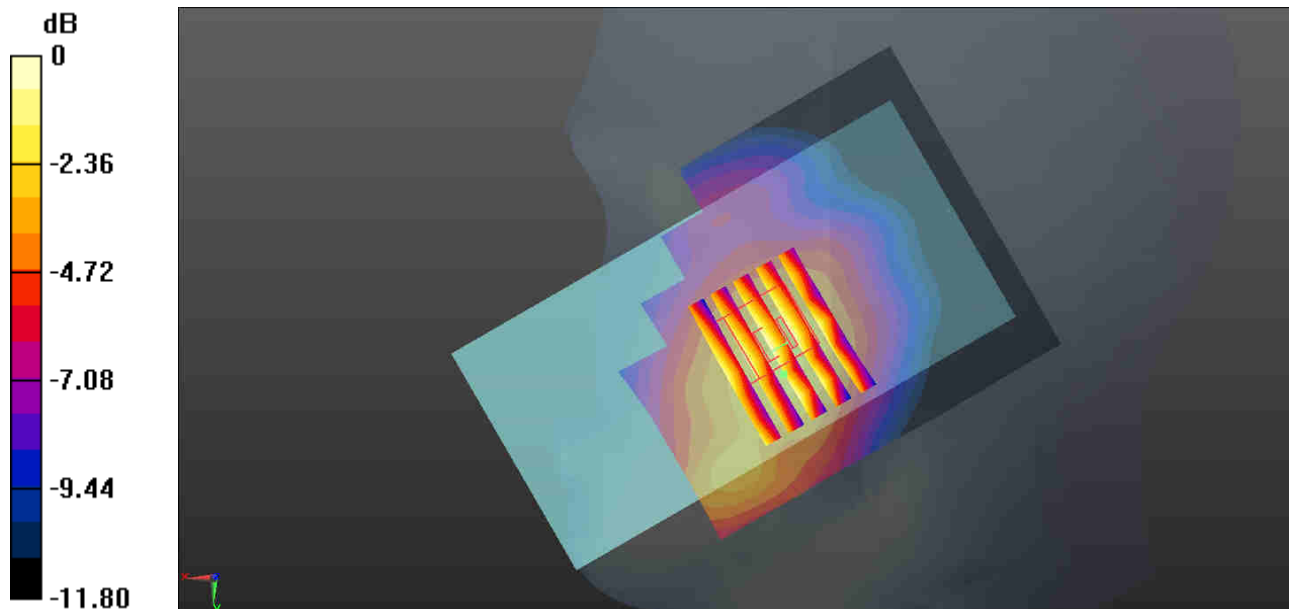
Communication System: UID 0, FDD\_LTE (0); Frequency: 831.5 MHz; Duty Cycle: 1:1  
Medium: HSL\_850 Medium parameters used:  $f = 831.5$  MHz;  $\sigma = 0.897$  S/m;  $\epsilon_r = 41.212$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C ; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.48, 10.48, 10.48); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch26865/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 0.189 W/kg

**Ch26865/Zoom Scan (7x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 4.160 V/m; Power Drift = -0.03 dB  
Peak SAR (extrapolated) = 0.209 W/kg  
**SAR(1 g) = 0.160 W/kg; SAR(10 g) = 0.117 W/kg**  
Maximum value of SAR (measured) = 0.177 W/kg



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

### 06\_LTE Band 4\_20M\_QPSK\_1RB\_0Offset\_Left Cheek\_0mm\_Ch20175

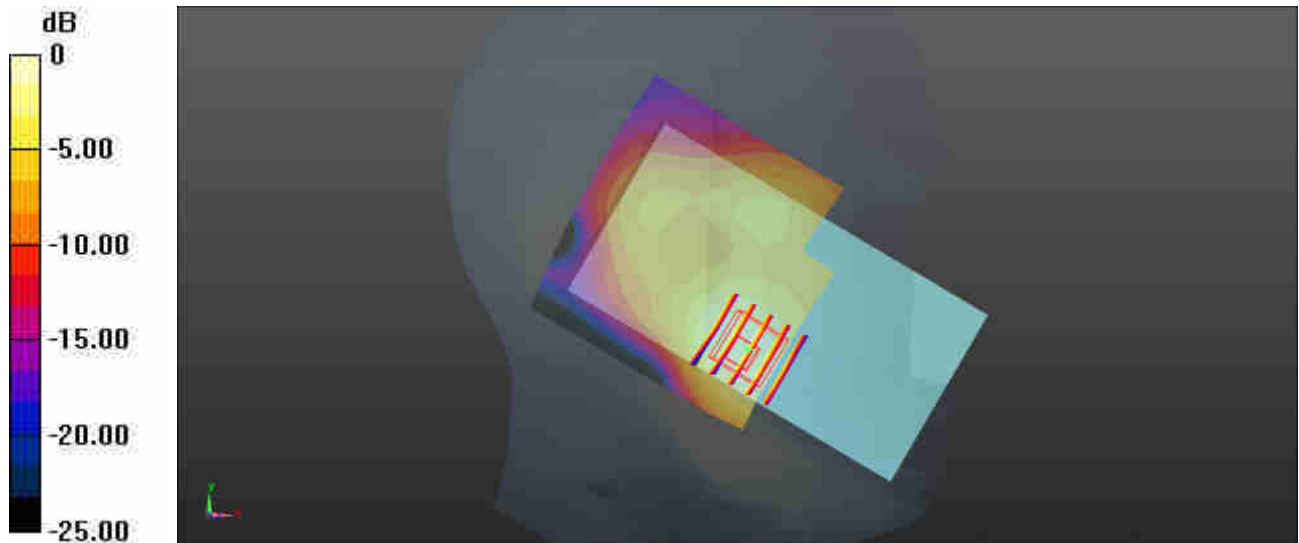
Communication System: UID 0, LTE-FDD (0); Frequency: 1732.5 MHz; Duty Cycle: 1:1  
Medium: HSL\_1750 Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.341$  S/m;  $\epsilon_r = 39.128$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.2 °C; Liquid Temperature : 22.8 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.91, 8.91, 8.91); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch20175/Area Scan (71x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 0.117 W/kg

**Ch20175/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 4.397 V/m; Power Drift = 0.10 dB  
Peak SAR (extrapolated) = 0.150 W/kg  
**SAR(1 g) = 0.105 W/kg; SAR(10 g) = 0.068 W/kg**  
Maximum value of SAR (measured) = 0.119 W/kg



0 dB = 0.117 W/kg = -9.32 dBW/kg

**07\_LTE Band 2\_20M\_QPSK\_1RB\_0Offset\_Left Cheek\_0mm\_Ch18900**

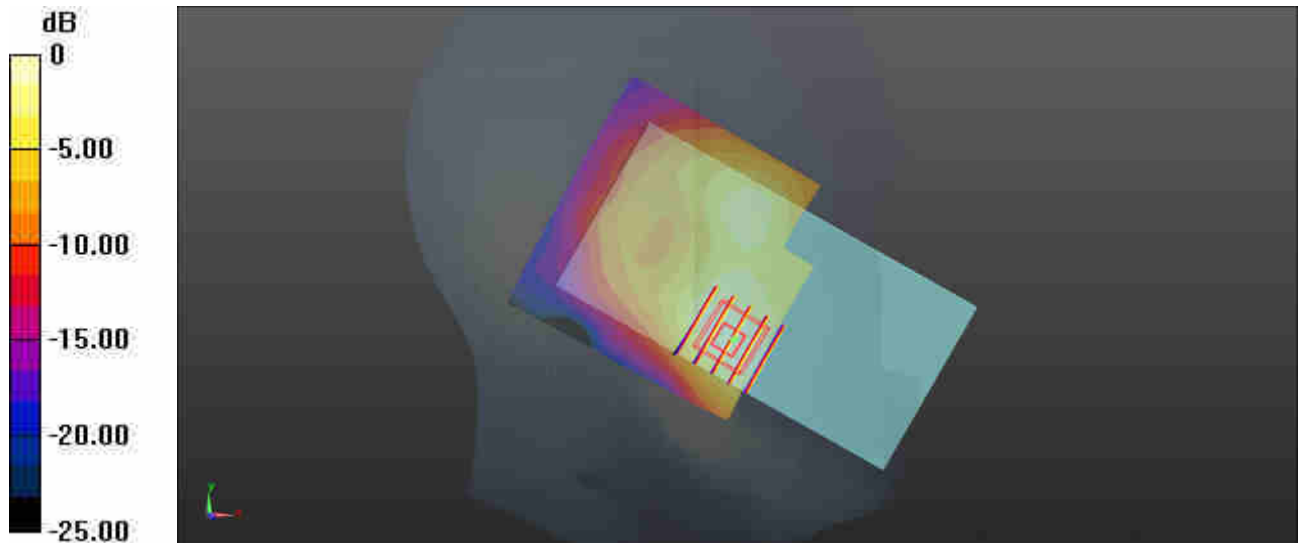
Communication System: UID 0, LTE-FDD (0); Frequency: 1880 MHz; Duty Cycle: 1:1  
Medium: HSL\_1900 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.382$  S/m;  $\epsilon_r = 39.194$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.5, 8.5, 8.5); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch18900/Area Scan (71x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 0.146 W/kg

**Ch18900/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 4.218 V/m; Power Drift = 0.05 dB  
Peak SAR (extrapolated) = 0.185 W/kg  
**SAR(1 g) = 0.124 W/kg; SAR(10 g) = 0.077 W/kg**  
Maximum value of SAR (measured) = 0.140 W/kg



0 dB = 0.146 W/kg = -8.36 dBW/kg

### 08\_LTE Band 7\_20M\_QPSK\_1RB\_0Offset\_Left Cheek\_0mm\_Ch21100

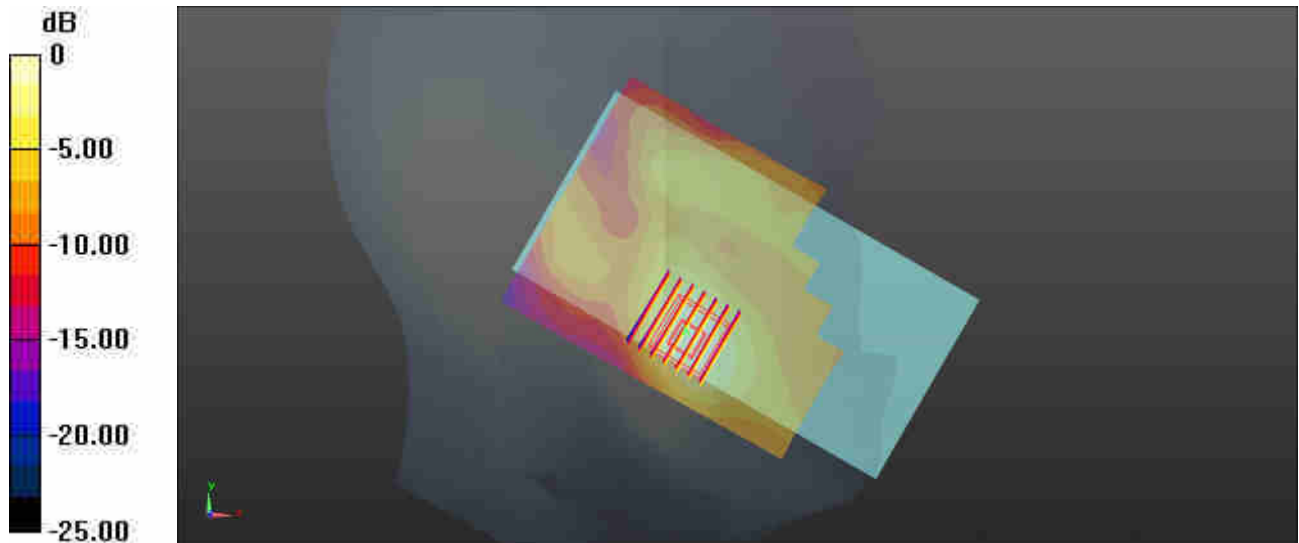
Communication System: UID 0, FDD\_LTE (0); Frequency: 2535 MHz; Duty Cycle: 1:1  
Medium: HSL\_2600 Medium parameters used:  $f = 2535$  MHz;  $\sigma = 1.951$  S/m;  $\epsilon_r = 38.129$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.9 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.38, 7.38, 7.38); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch21100/Area Scan (81x101x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
Maximum value of SAR (interpolated) = 0.350 W/kg

**Ch21100/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 4.752 V/m; Power Drift = 0.05 dB  
Peak SAR (extrapolated) = 0.450 W/kg  
**SAR(1 g) = 0.259 W/kg; SAR(10 g) = 0.140 W/kg**  
Maximum value of SAR (measured) = 0.320 W/kg



0 dB = 0.350 W/kg = -4.56 dBW/kg

### 09\_LTE Band 41\_20M\_QPSK\_1RB\_0Offset\_Left Cheek\_0mm\_Ch40670

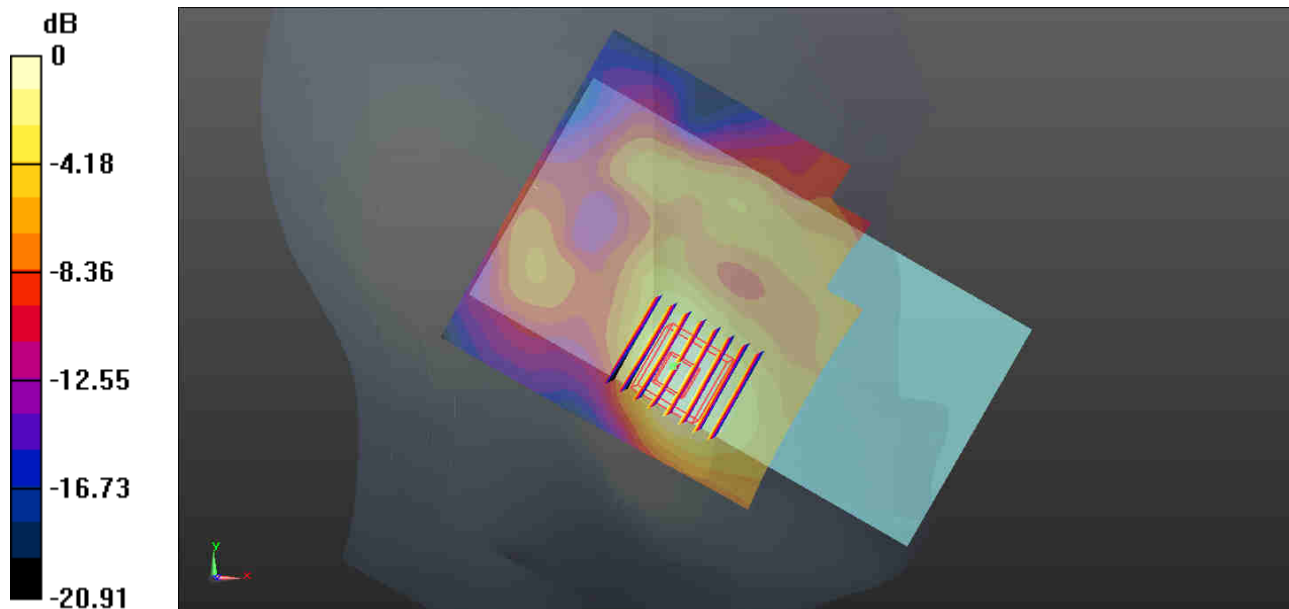
Communication System: UID 0, TDD\_LTE (0); Frequency: 2598 MHz; Duty Cycle: 1:1.59  
Medium: HSL\_2600 Medium parameters used:  $f = 2598$  MHz;  $\sigma = 2.027$  S/m;  $\epsilon_r = 37.88$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.9 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.38, 7.38, 7.38); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch40670/Area Scan (91x91x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
Maximum value of SAR (interpolated) = 0.155 W/kg

**Ch40670/Zoom Scan (7x8x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 3.251 V/m; Power Drift = 0.03 dB  
Peak SAR (extrapolated) = 0.203 W/kg  
**SAR(1 g) = 0.117 W/kg; SAR(10 g) = 0.062 W/kg**  
Maximum value of SAR (measured) = 0.144 W/kg



0 dB = 0.144 W/kg = -8.42 dBW/kg



### 10\_WLAN2.4GHz\_802.11b 1Mbps\_Left Tilted\_0mm\_Ant 1\_Ch1

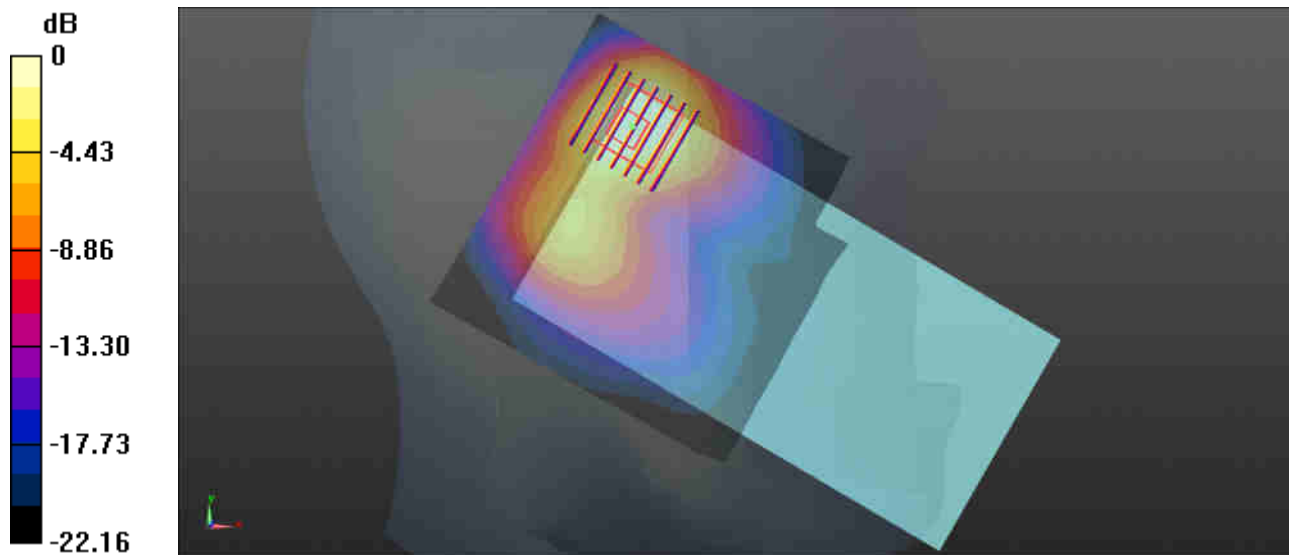
Communication System: UID 0, 802.11b (0); Frequency: 2412 MHz; Duty Cycle: 1:1  
Medium: HSL\_2450 Medium parameters used:  $f = 2412$  MHz;  $\sigma = 1.813$  S/m;  $\epsilon_r = 38.696$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.2 °C; Liquid Temperature : 22.8 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.69, 7.69, 7.69); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch1/Area Scan (91x91x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
Maximum value of SAR (interpolated) = 1.37 W/kg

**Ch1/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 15.37 V/m; Power Drift = -0.10 dB  
Peak SAR (extrapolated) = 2.03 W/kg  
**SAR(1 g) = 0.955 W/kg; SAR(10 g) = 0.456 W/kg**  
Maximum value of SAR (measured) = 1.22 W/kg



0 dB = 1.22 W/kg = 0.86 dBW/kg

### 11\_Bluetooth\_1Mbps\_Left Cheek\_0mm\_Ant 1\_Ch39

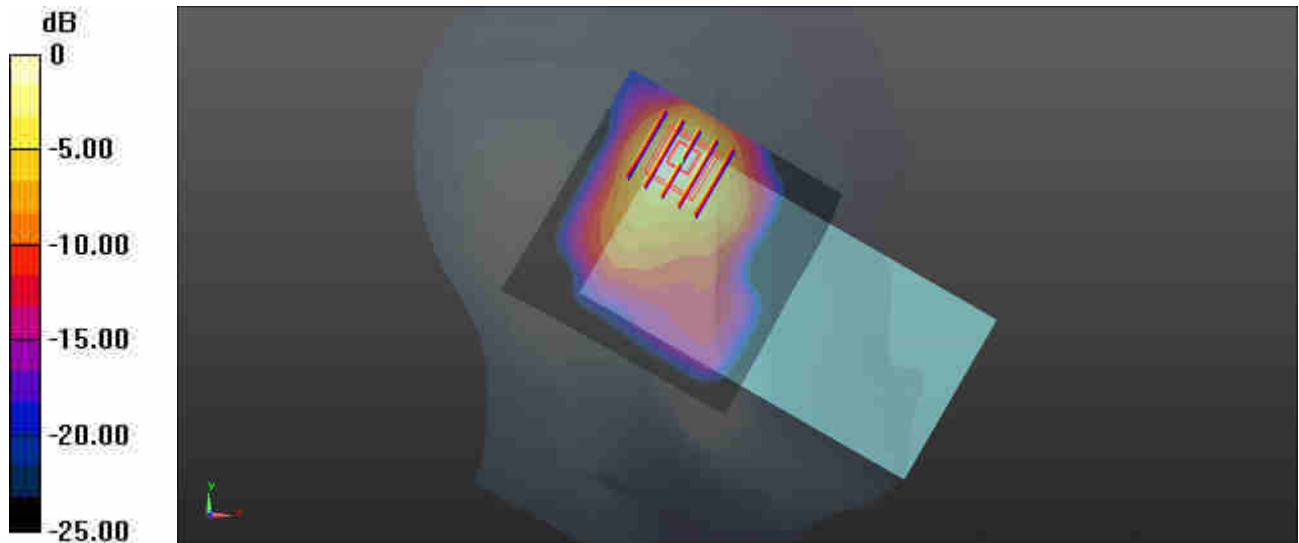
Communication System: UID 0, Bluetooth (0); Frequency: 2441 MHz; Duty Cycle: 1:1.304  
Medium: HSL\_2450 Medium parameters used:  $f = 2441$  MHz;  $\sigma = 1.847$  S/m;  $\epsilon_r = 38.558$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.2 °C; Liquid Temperature : 22.8 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.69, 7.69, 7.69); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch39/Area Scan (71x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 0.291 W/kg

**Ch39/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 5.970 V/m; Power Drift = 0.14 dB  
Peak SAR (extrapolated) = 0.396 W/kg  
**SAR(1 g) = 0.184 W/kg; SAR(10 g) = 0.091 W/kg**  
Maximum value of SAR (measured) = 0.226 W/kg



0 dB = 0.291 W/kg = -5.36 dBW/kg

### 12\_WLAN5GHz\_802.11a 6Mbps\_Left Cheek\_0mm\_Full Power\_Ch56

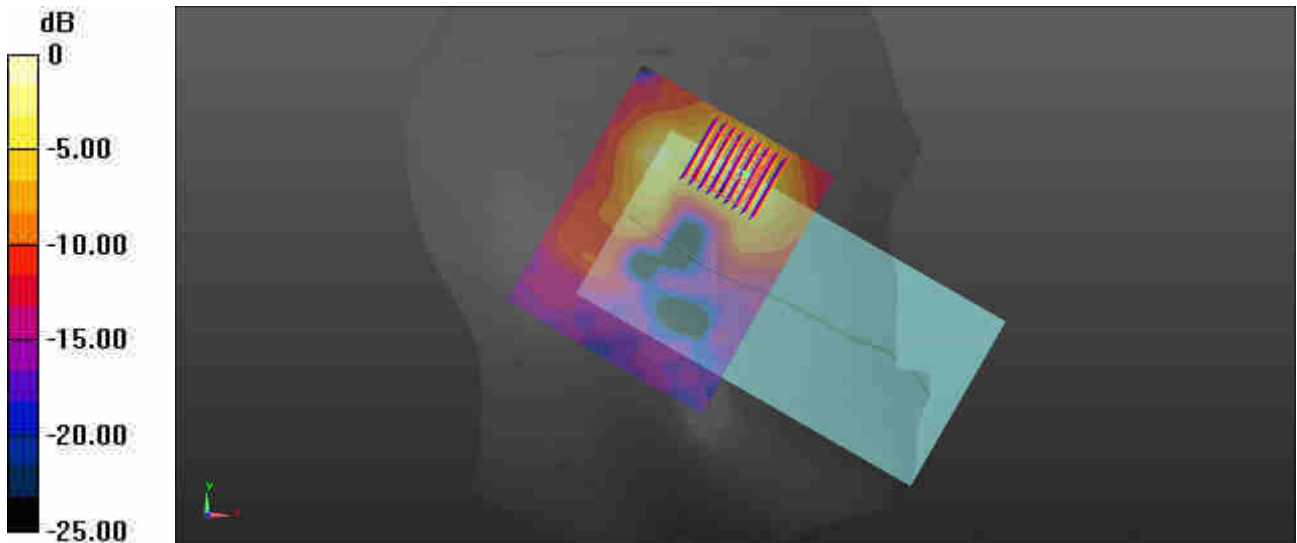
Communication System: UID 0, 802.11a (0); Frequency: 5280 MHz; Duty Cycle: 1:1.021  
Medium: HSL\_5000 Medium parameters used:  $f = 5280$  MHz;  $\sigma = 4.63$  S/m;  $\epsilon_r = 36.369$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.6 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3857; ConvF(5.19, 5.19, 5.19); Calibrated: 2019.5.27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2019.7.23
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch56/Area Scan (111x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm  
Maximum value of SAR (interpolated) = 1.00 W/kg

**Ch56/Zoom Scan (8x9x16)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm  
Reference Value = 6.835 V/m; Power Drift = -0.03 dB  
Peak SAR (extrapolated) = 2.15 W/kg  
**SAR(1 g) = 0.472 W/kg; SAR(10 g) = 0.171 W/kg**  
Maximum value of SAR (measured) = 1.19 W/kg



0 dB = 1.00 W/kg = 0.00 dBW/kg

### 13\_WLAN5GHz\_802.11a 6Mbps\_Left Cheek\_0mm\_Full Power\_Ch100

Communication System: UID 0, 802.11a (0); Frequency: 5500 MHz; Duty Cycle: 1:1.021  
Medium: HSL\_5000 Medium parameters used:  $f = 5500$  MHz;  $\sigma = 4.873$  S/m;  $\epsilon_r = 35.978$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.4 °C ; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3857; ConvF(4.92, 4.92, 4.92); Calibrated: 2019.5.27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2019.7.23
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch100/Area Scan (111x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.04 W/kg

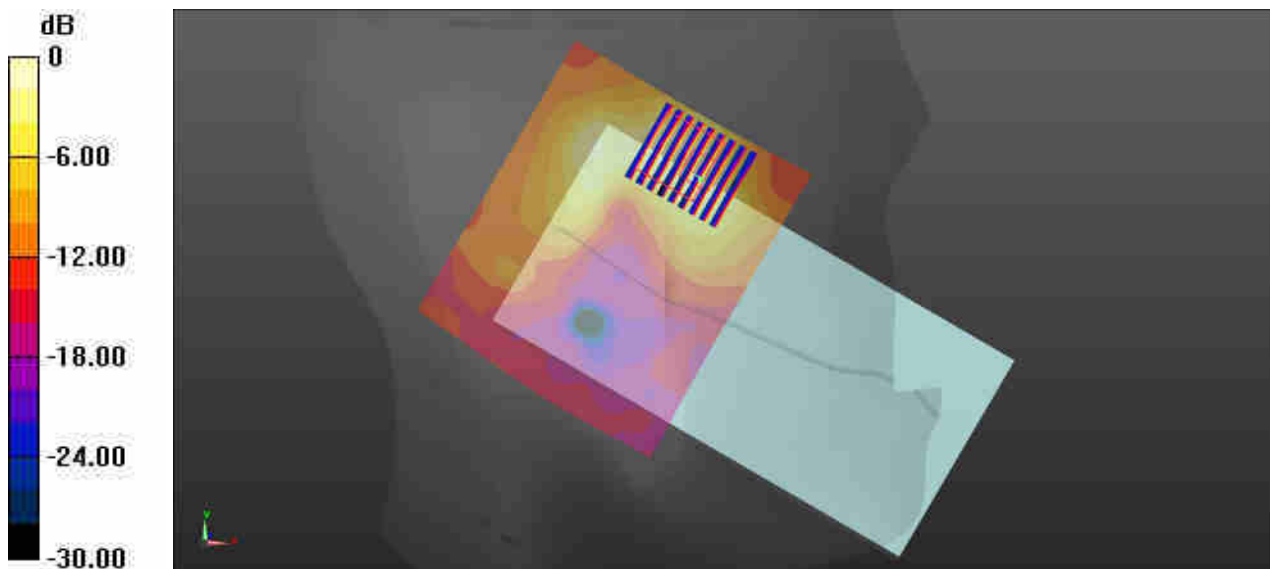
**Ch100/Zoom Scan (8x9x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 7.017 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 2.28 W/kg

**SAR(1 g) = 0.472 W/kg; SAR(10 g) = 0.186 W/kg**

Maximum value of SAR (measured) = 1.19 W/kg



0 dB = 1.04 W/kg = 0.17 dBW/kg

### 14\_WLAN5GHz\_802.11a 6Mbps\_Left Cheek\_0mm\_Full Power\_Ch157

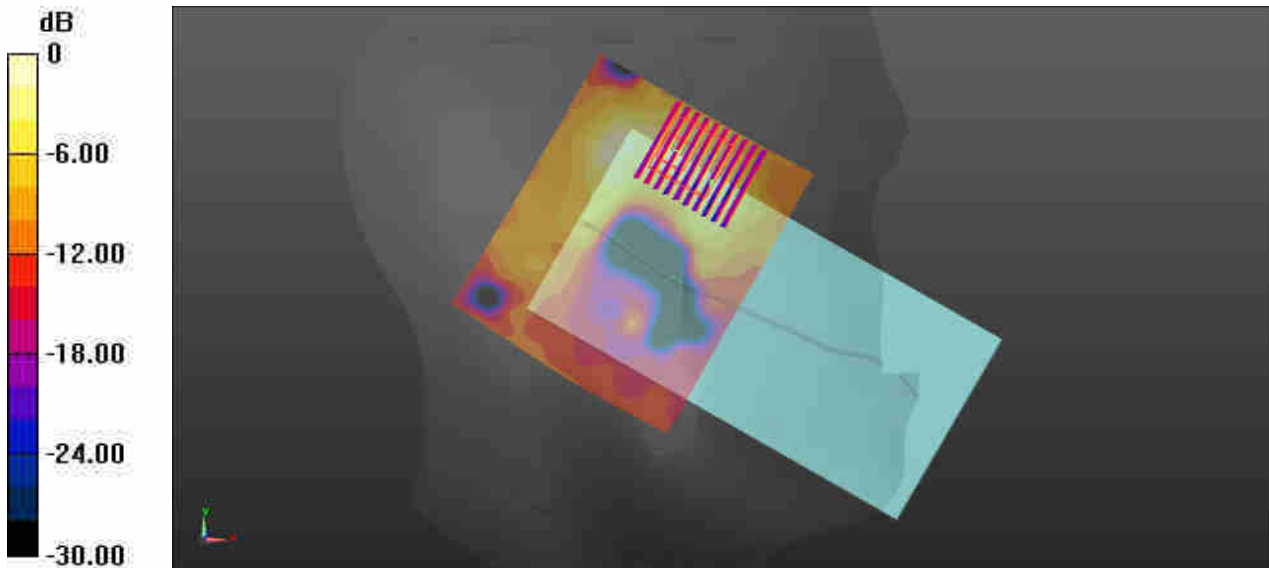
Communication System: UID 0, 802.11a (0); Frequency: 5785 MHz; Duty Cycle: 1:1.021  
Medium: HSL\_5000 Medium parameters used:  $f = 5785$  MHz;  $\sigma = 5.204$  S/m;  $\epsilon_r = 35.534$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.4 °C ; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3857; ConvF(5.17, 5.17, 5.17); Calibrated: 2019.5.27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2019.7.23
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch157/Area Scan (111x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm  
Maximum value of SAR (interpolated) = 0.584 W/kg

**Ch157/Zoom Scan (9x10x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm  
Reference Value = 5.438 V/m; Power Drift = 0.01 dB  
Peak SAR (extrapolated) = 1.29 W/kg  
**SAR(1 g) = 0.265 W/kg; SAR(10 g) = 0.097 W/kg**  
Maximum value of SAR (measured) = 0.669 W/kg



0 dB = 0.584 W/kg = -2.34 dBW/kg

### 15\_GSM 850\_GPRS 4 Tx slots\_Back\_5mm\_Ch251

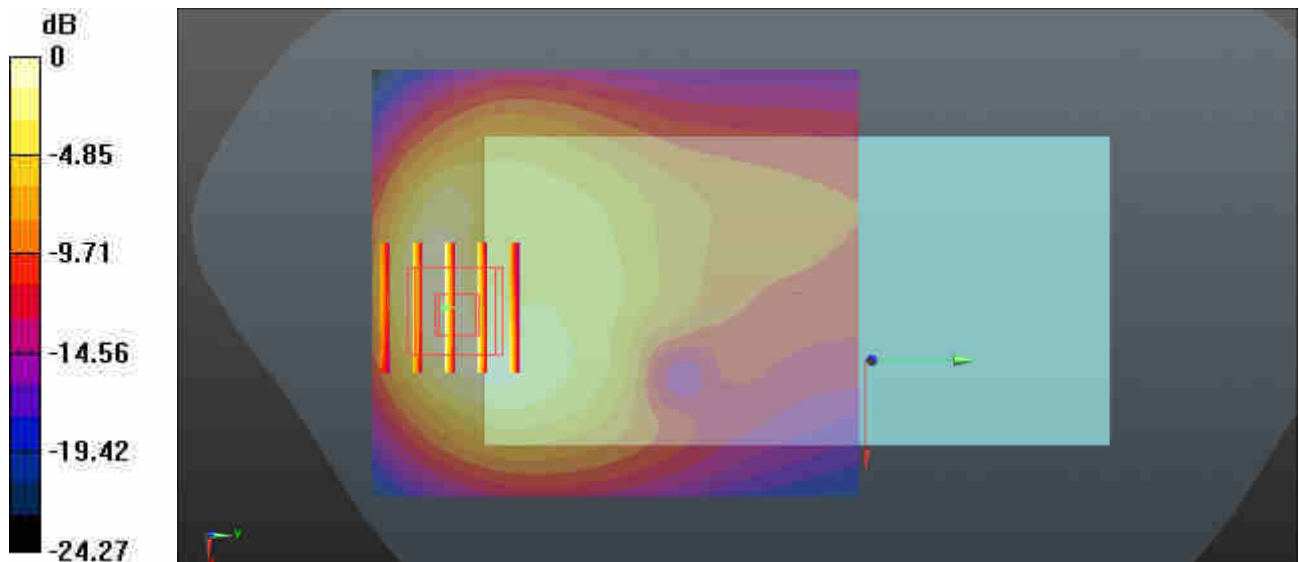
Communication System: UID 0, GPRS (4 Tx slots) (0); Frequency: 848.8 MHz; Duty Cycle: 1:2.08  
Medium: HSL\_850 Medium parameters used:  $f = 849$  MHz;  $\sigma = 0.914$  S/m;  $\epsilon_r = 41.001$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C ; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.48, 10.48, 10.48); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch251/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 1.15 W/kg

**Ch251/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 11.66 V/m; Power Drift = -0.03 dB  
Peak SAR (extrapolated) = 1.66 W/kg  
**SAR(1 g) = 0.880 W/kg; SAR(10 g) = 0.468 W/kg**  
Maximum value of SAR (measured) = 1.30 W/kg



0 dB = 1.15 W/kg = 0.61 dBW/kg

### 16\_GSM1900\_GPRS 4 Tx slots\_Bottom Side\_5mm\_Ch512

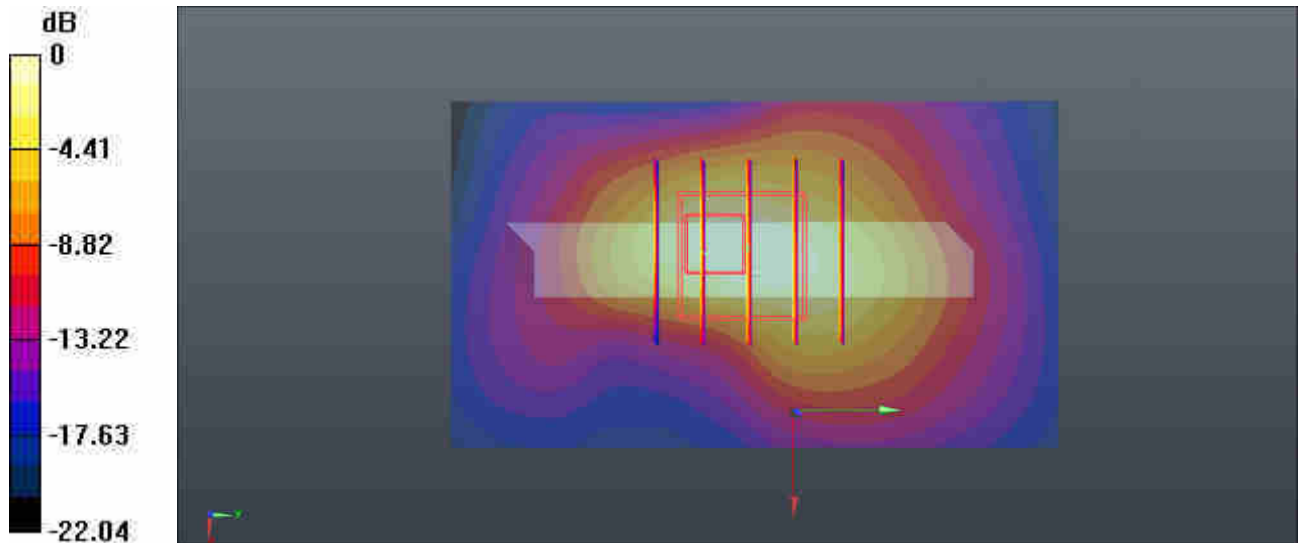
Communication System: UID 0, GPRS (4 Tx slots) (0); Frequency: 1850.2 MHz; Duty Cycle: 1:2.08  
Medium: HSL\_1900 Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.353$  S/m;  $\epsilon_r = 39.302$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.5, 8.5, 8.5); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch512/Area Scan (41x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 1.50 W/kg

**Ch512/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 31.42 V/m; Power Drift = 0.01 dB  
Peak SAR (extrapolated) = 1.97 W/kg  
**SAR(1 g) = 0.951 W/kg; SAR(10 g) = 0.487 W/kg**  
Maximum value of SAR (measured) = 1.53 W/kg



0 dB = 1.50 W/kg = 1.76 dBW/kg

### 17\_WCDMA V\_RMC 12.2Kbps\_Back\_5mm\_Ch4233

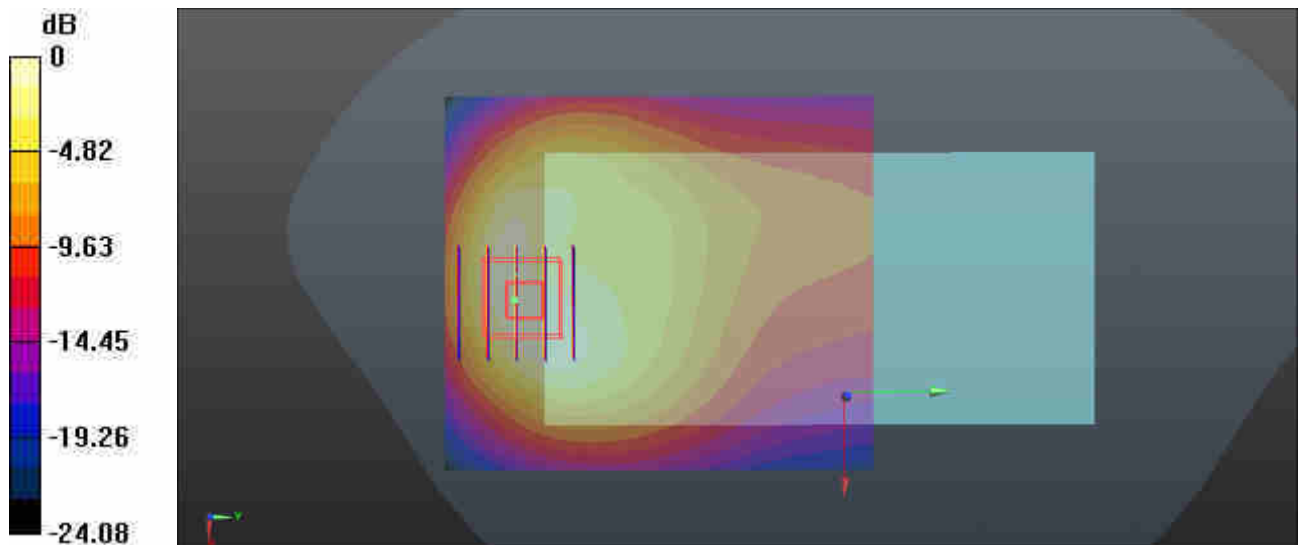
Communication System: UID 0, WCDMA (0); Frequency: 846.6 MHz; Duty Cycle: 1:1  
Medium: HSL\_850 Medium parameters used:  $f = 847$  MHz;  $\sigma = 0.912$  S/m;  $\epsilon_r = 41.028$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.48, 10.48, 10.48); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch4233/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 1.33 W/kg

**Ch4233/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 13.13 V/m; Power Drift = 0.06 dB  
Peak SAR (extrapolated) = 2.17 W/kg  
**SAR(1 g) = 1.11 W/kg; SAR(10 g) = 0.584 W/kg**  
Maximum value of SAR (measured) = 1.64 W/kg



0 dB = 1.33 W/kg = 1.24 dBW/kg



### 18\_WCDMA II\_RMC 12.2Kbps\_Bottom Side\_5mm\_Ch9262

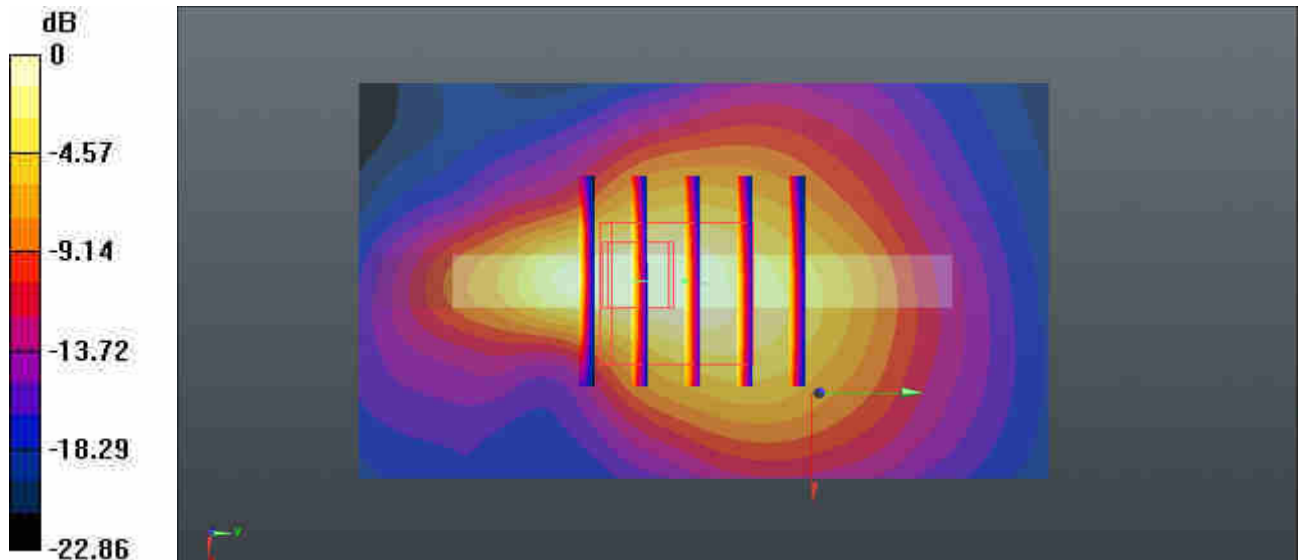
Communication System: UID 0, WCDMA (0); Frequency: 1852.4 MHz; Duty Cycle: 1:1  
Medium: HSL\_1900 Medium parameters used:  $f = 1852.4$  MHz;  $\sigma = 1.355$  S/m;  $\epsilon_r = 39.296$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.5, 8.5, 8.5); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch9262/Area Scan (41x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 2.02 W/kg

**Ch9262/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 35.13 V/m; Power Drift = -0.03 dB  
Peak SAR (extrapolated) = 2.25 W/kg  
**SAR(1 g) = 1.13 W/kg; SAR(10 g) = 0.592 W/kg**  
Maximum value of SAR (measured) = 1.81 W/kg



0 dB = 2.02 W/kg = 3.05 dBW/kg

### 19\_LTE Band 26\_15M\_QPSK\_1RB\_0Offset\_Back\_5mm\_Ch26865

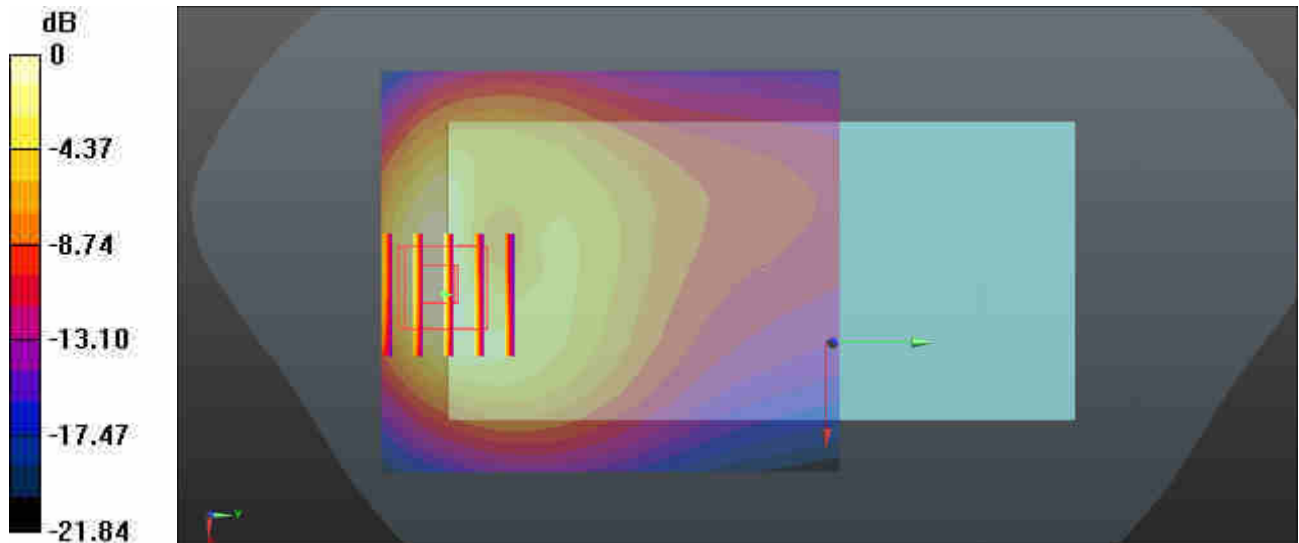
Communication System: UID 0, LTE-FDD (0); Frequency: 831.5 MHz; Duty Cycle: 1:1  
Medium: HSL\_850 Medium parameters used:  $f = 831.5$  MHz;  $\sigma = 0.897$  S/m;  $\epsilon_r = 41.212$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.48, 10.48, 10.48); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch26865/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 1.48 W/kg

**Ch26865/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 12.47 V/m; Power Drift = 0.12 dB  
Peak SAR (extrapolated) = 2.04 W/kg  
**SAR(1 g) = 1.08 W/kg; SAR(10 g) = 0.567 W/kg**  
Maximum value of SAR (measured) = 1.42 W/kg



0 dB = 1.48 W/kg = 1.70 dBW/kg

**20\_LTE Band 4\_20M\_QPSK\_50RB\_0Offset\_Back\_5mm\_Ch20175**

Communication System: UID 0, LTE-FDD (0); Frequency: 1732.5 MHz; Duty Cycle: 1:1

Medium: HSL\_1750 Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.341$  S/m;  $\epsilon_r = 39.128$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.2 °C; Liquid Temperature : 22.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.91, 8.91, 8.91); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch20175/Area Scan (71x81x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 1.67 W/kg

**Ch20175/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 6.804 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 2.15 W/kg

**SAR(1 g) = 1.24 W/kg; SAR(10 g) = 0.637 W/kg**

Maximum value of SAR (measured) = 1.64 W/kg

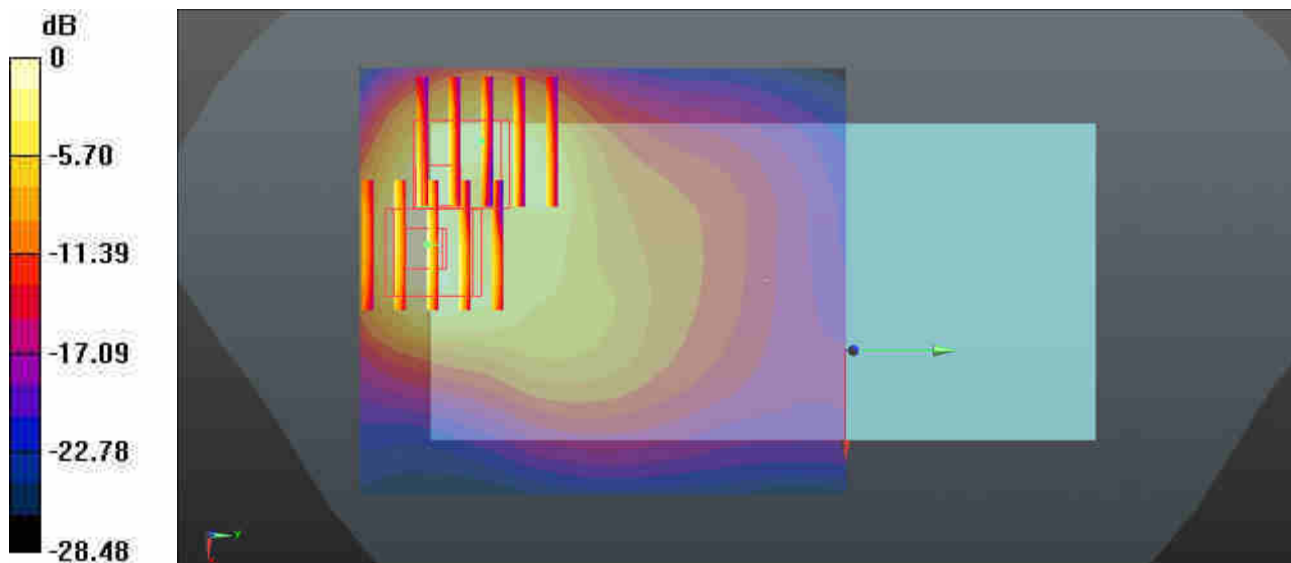
**Ch20175/Zoom Scan (5x5x7)/Cube 1:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 6.804 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.92 W/kg

**SAR(1 g) = 0.837 W/kg; SAR(10 g) = 0.431 W/kg**

Maximum value of SAR (measured) = 1.37 W/kg



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

**21\_LTE Band 2\_20M\_QPSK\_50RB\_0Offset\_Back\_5mm\_Ch18700**

Communication System: UID 0, LTE-FDD (0); Frequency: 1860 MHz;Duty Cycle: 1:1  
 Medium: HSL\_1900 Medium parameters used:  $f = 1860$  MHz;  $\sigma = 1.363$  S/m;  $\epsilon_r = 39.275$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Ambient Temperature : 23.3 °C; Liquid Temperature : 22.7 °C

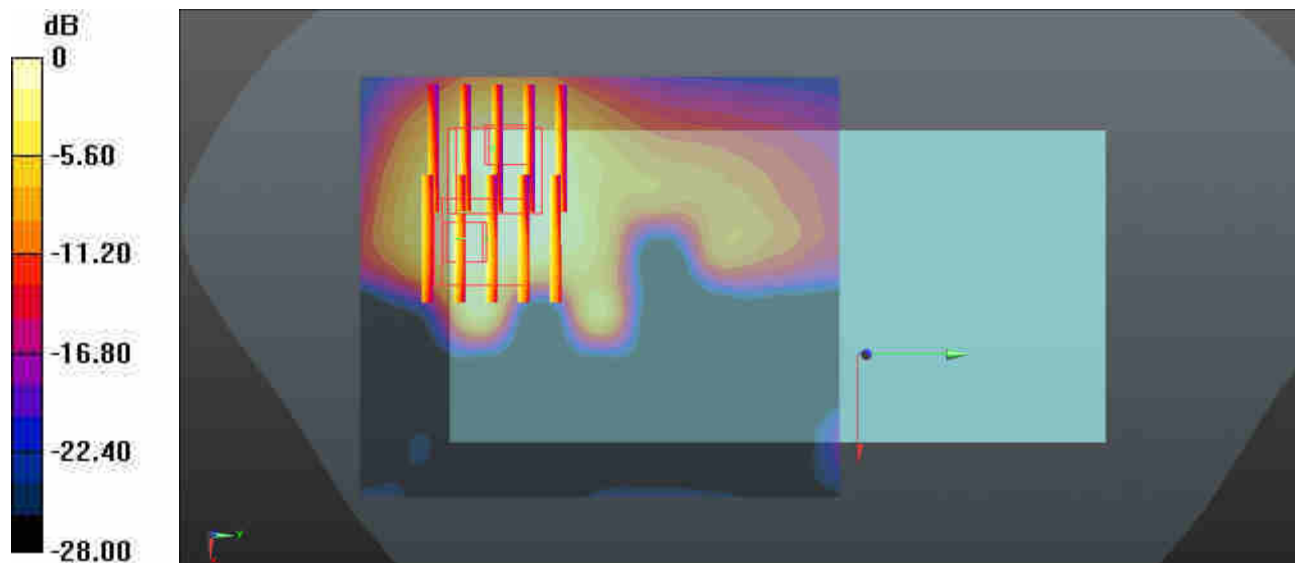
**DASY5 Configuration:**

- Probe: EX3DV4 - SN3935; ConvF(8.5, 8.5, 8.5); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch18700/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
 Maximum value of SAR (interpolated) = 1.49 W/kg

**Ch18700/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
 Reference Value = 8.024 V/m; Power Drift = 0.03 dB  
 Peak SAR (extrapolated) = 1.66 W/kg  
**SAR(1 g) = 1.01 W/kg; SAR(10 g) = 0.588 W/kg**  
 Maximum value of SAR (measured) = 1.25 W/kg

**Ch18700/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
 Reference Value = 8.024 V/m; Power Drift = 0.03 dB  
 Peak SAR (extrapolated) = 2.01 W/kg  
**SAR(1 g) = 0.919 W/kg; SAR(10 g) = 0.487 W/kg**  
 Maximum value of SAR (measured) = 1.22 W/kg



0 dB = 1.49 W/kg = 1.73 dBW/kg

## 22\_LTE Band 7\_20M\_QPSK\_50RB\_0Offset\_Back\_5mm\_Ch21350

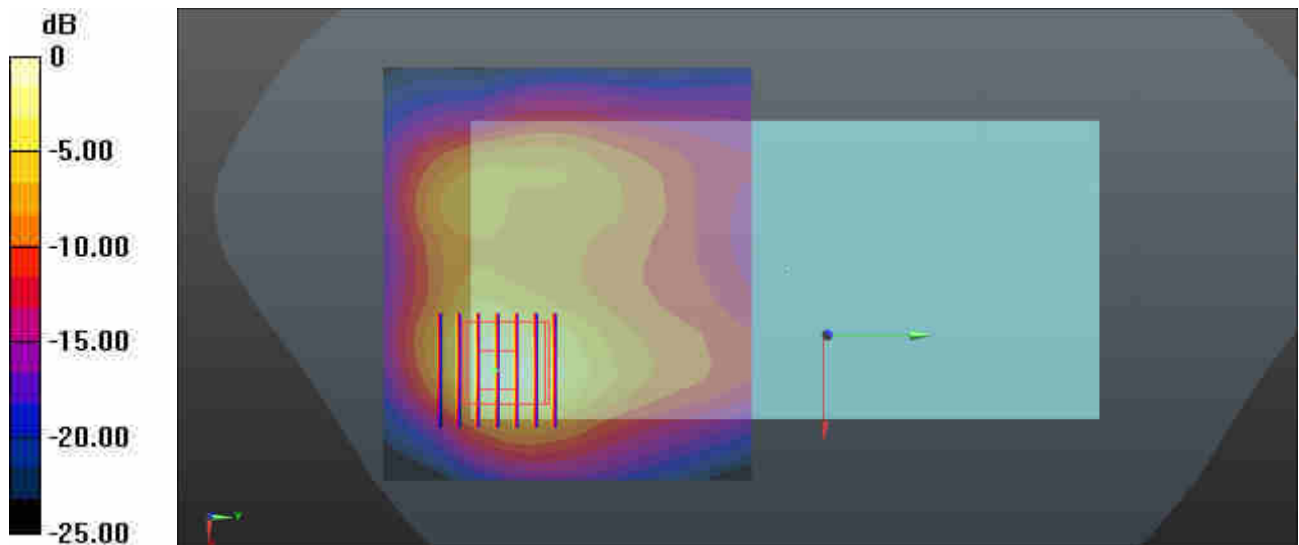
Communication System: UID 0, LTE-FDD (0); Frequency: 2560 MHz; Duty Cycle: 1:1  
Medium: HSL\_2600 Medium parameters used:  $f = 2560$  MHz;  $\sigma = 1.984$  S/m;  $\epsilon_r = 38.035$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.9 °C

### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.38, 7.38, 7.38); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch21350/Area Scan (91x81x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
Maximum value of SAR (interpolated) = 1.67 W/kg

**Ch21350/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 5.315 V/m; Power Drift = -0.16 dB  
Peak SAR (extrapolated) = 2.43 W/kg  
**SAR(1 g) = 1.08 W/kg; SAR(10 g) = 0.496 W/kg**  
Maximum value of SAR (measured) = 1.45 W/kg



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

### 23\_LTE Band 41\_20M\_QPSK\_1RB\_0Offset\_Back\_5mm\_Ch40400

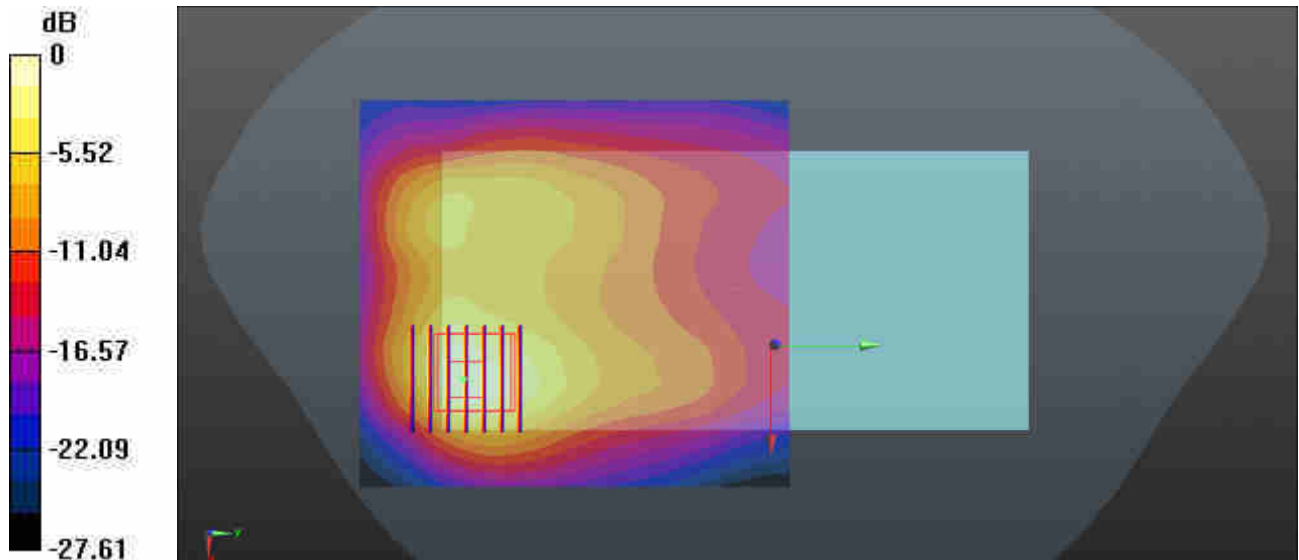
Communication System: UID 0, LTE-TDD (0); Frequency: 2571 MHz; Duty Cycle: 1:1.59  
Medium: HSL\_2600 Medium parameters used:  $f = 2571$  MHz;  $\sigma = 1.996$  S/m;  $\epsilon_r = 38.006$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.9 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.38, 7.38, 7.38); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch40400/Area Scan (91x101x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
Maximum value of SAR (interpolated) = 1.38 W/kg

**Ch40400/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 5.459 V/m; Power Drift = 0.03 dB  
Peak SAR (extrapolated) = 2.02 W/kg  
**SAR(1 g) = 0.921 W/kg; SAR(10 g) = 0.428 W/kg**  
Maximum value of SAR (measured) = 1.22 W/kg



0 dB = 1.38 W/kg = 1.40 dBW/kg

### 24\_WLAN2.4GHz\_802.11b 1Mbps\_Back\_5mm\_Ant 1\_Ch1

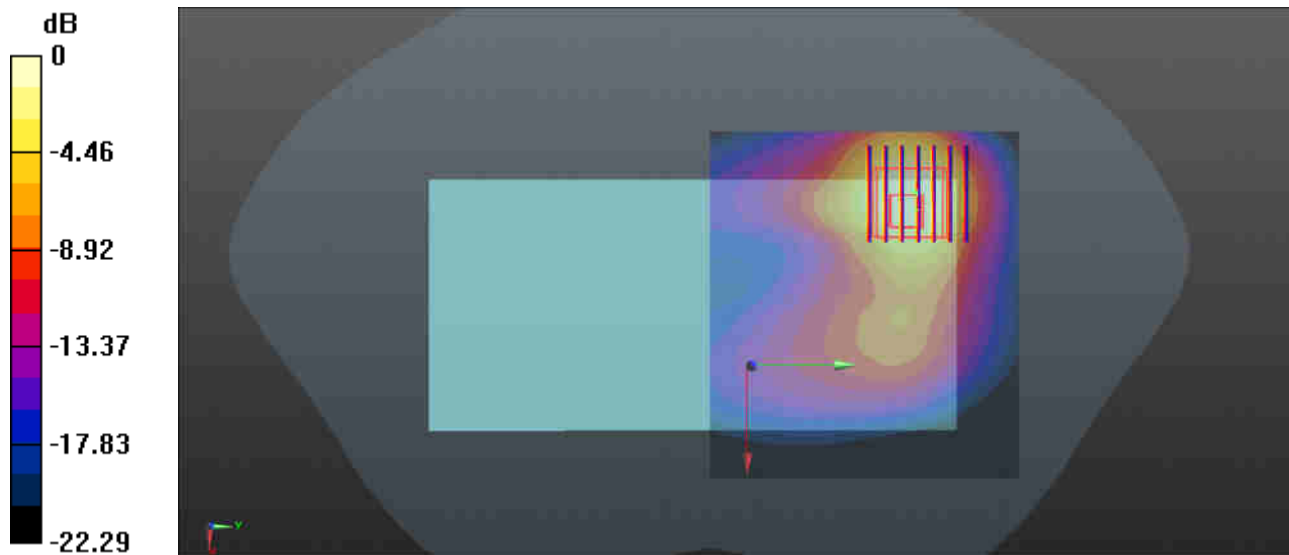
Communication System: UID 0, 802.11b (0); Frequency: 2412 MHz; Duty Cycle: 1:1  
Medium: HSL\_2450 Medium parameters used:  $f = 2412$  MHz;  $\sigma = 1.813$  S/m;  $\epsilon_r = 38.696$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.2 °C; Liquid Temperature : 22.8 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.69, 7.69, 7.69); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch1/Area Scan (91x81x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
Maximum value of SAR (interpolated) = 1.45 W/kg

**Ch1/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 3.220 V/m; Power Drift = -0.03 dB  
Peak SAR (extrapolated) = 1.87 W/kg  
**SAR(1 g) = 0.953 W/kg; SAR(10 g) = 0.461 W/kg**  
Maximum value of SAR (measured) = 1.24 W/kg



0 dB = 1.24 W/kg = 0.93 dBW/kg

### 25\_Bluetooth\_1Mbps\_Back\_5mm\_Ant 1\_Ch39

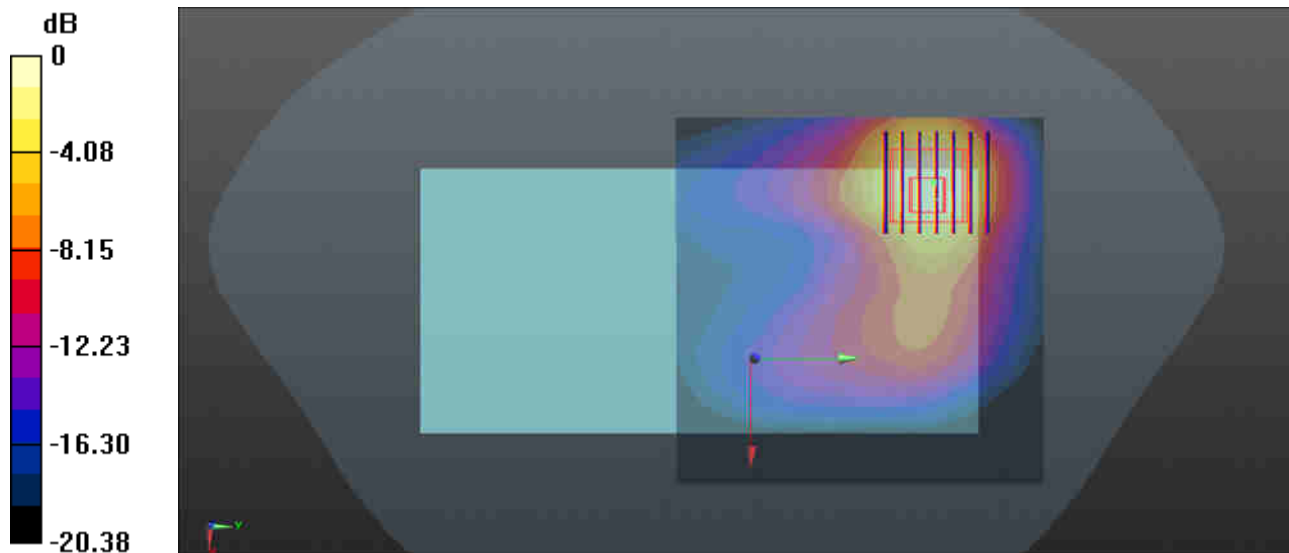
Communication System: UID 0, Bluetooth (0); Frequency: 2441 MHz; Duty Cycle: 1:1.304  
Medium: HSL\_2450 Medium parameters used:  $f = 2441$  MHz;  $\sigma = 1.847$  S/m;  $\epsilon_r = 38.558$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.2 °C; Liquid Temperature : 22.8 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.69, 7.69, 7.69); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch39/Area Scan (91x91x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
Maximum value of SAR (interpolated) = 0.307 W/kg

**Ch39/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 1.043 V/m; Power Drift = 0.05 dB  
Peak SAR (extrapolated) = 0.418 W/kg  
**SAR(1 g) = 0.210 W/kg; SAR(10 g) = 0.102 W/kg**  
Maximum value of SAR (measured) = 0.279 W/kg



0 dB = 0.279 W/kg = -5.54 dBW/kg



### 26\_WLAN5GHz\_802.11a 6Mbps\_Right Side\_5mm\_Ch48

Communication System: UID 0, 802.11a (0); Frequency: 5240 MHz; Duty Cycle: 1:1.021  
Medium: HSL\_5000 Medium parameters used:  $f = 5240$  MHz;  $\sigma = 4.585$  S/m;  $\epsilon_r = 36.403$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C ; Liquid Temperature : 22.6 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3857; ConvF(5.19, 5.19, 5.19); Calibrated: 2019.5.27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2019.7.23
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

#### Ch48/Area Scan (61x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 2.43 W/kg

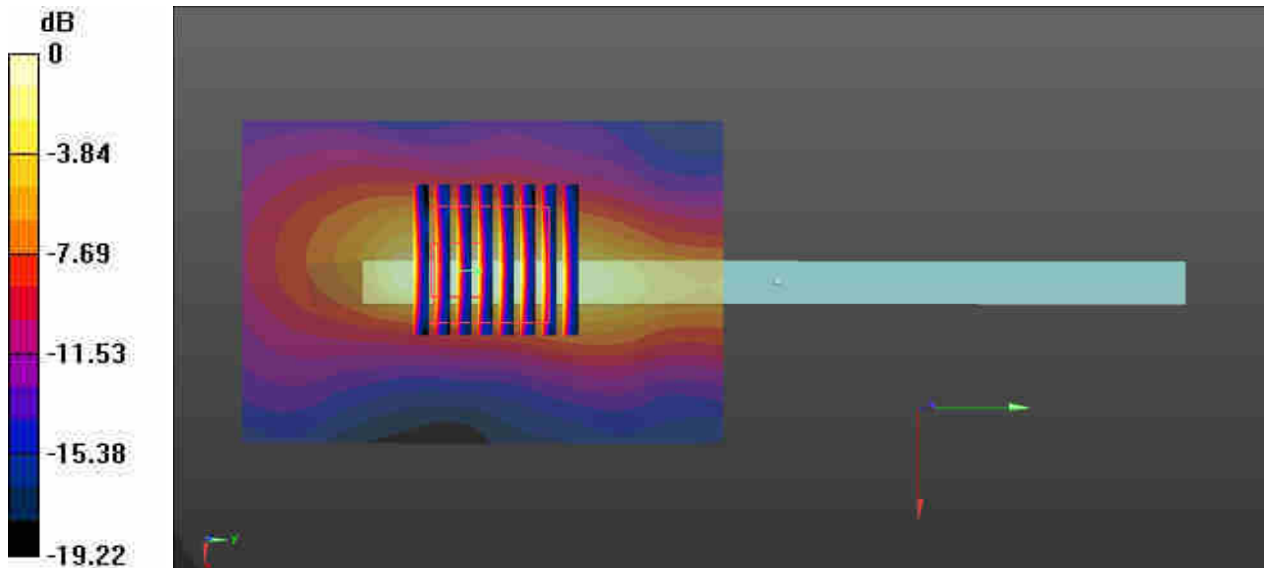
#### Ch48/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 12.00 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 4.01 W/kg

**SAR(1 g) = 0.991 W/kg; SAR(10 g) = 0.354 W/kg**

Maximum value of SAR (measured) = 2.37 W/kg



0 dB = 2.43 W/kg = 3.86 dBW/kg

### 27\_WLAN5GHz\_802.11a 6Mbps\_Right Side\_5mm\_Ch165

Communication System: UID 0, 802.11a (0); Frequency: 5825 MHz; Duty Cycle: 1:1.021  
Medium: HSL\_5000 Medium parameters used:  $f = 5825$  MHz;  $\sigma = 5.249$  S/m;  $\epsilon_r = 35.438$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.4 °C; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3857; ConvF(5.17, 5.17, 5.17); Calibrated: 2019.5.27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2019.7.23
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch165/Area Scan (61x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 2.34 W/kg

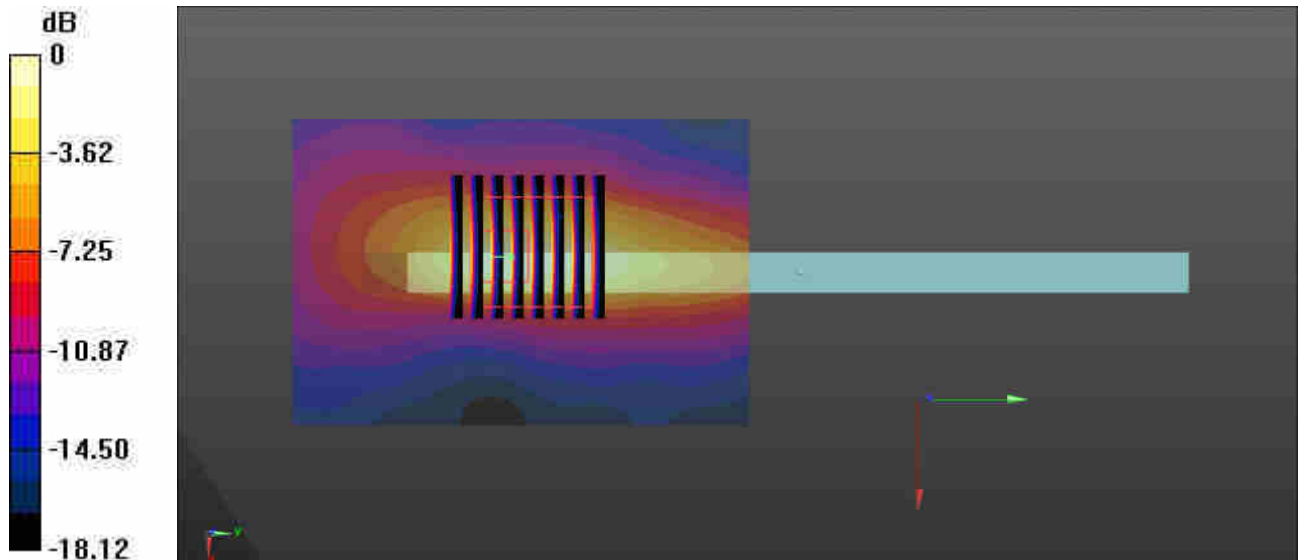
**Ch165/Zoom Scan (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 10.87 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 4.21 W/kg

**SAR(1 g) = 0.898 W/kg; SAR(10 g) = 0.316 W/kg**

Maximum value of SAR (measured) = 2.34 W/kg



0 dB = 2.34 W/kg = 3.69 dBW/kg

### 28\_GSM 850\_GPRS 4 Tx slots\_Back\_5mm\_Headset\_Ch251

Communication System: UID 0, GPRS (4 Tx slots) (0); Frequency: 848.8 MHz; Duty Cycle: 1:2.08  
Medium: HSL\_850 Medium parameters used:  $f = 849$  MHz;  $\sigma = 0.914$  S/m;  $\epsilon_r = 41.001$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.3 °C; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.48, 10.48, 10.48); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch251/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.12 W/kg

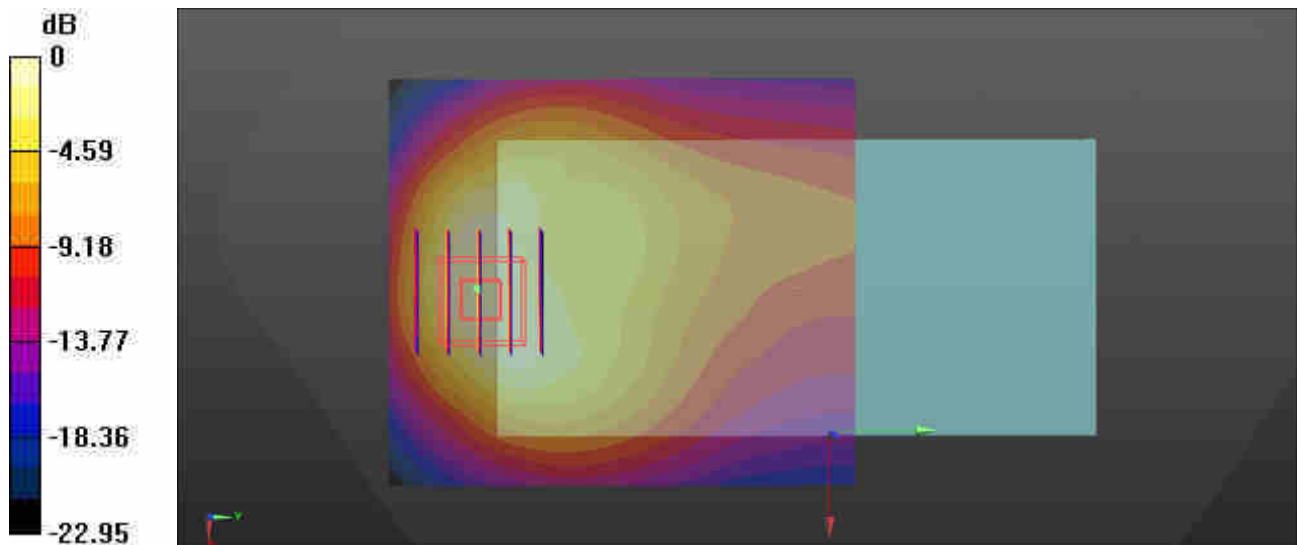
**Ch251/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.70 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.82 W/kg

**SAR(1 g) = 0.881 W/kg; SAR(10 g) = 0.450 W/kg**

Maximum value of SAR (measured) = 1.48 W/kg



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

### 29\_GSM1900\_GPRS 4 Tx slots\_Back\_5mm\_Ch810

Communication System: UID 0, GPRS (4 Tx slots) (0); Frequency: 1909.8 MHz; Duty Cycle: 1:2.08  
Medium: HSL\_1900 Medium parameters used:  $f = 1910$  MHz;  $\sigma = 1.413$  S/m;  $\epsilon_r = 39.048$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.3 °C; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.5, 8.5, 8.5); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch810/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 3.74 W/kg

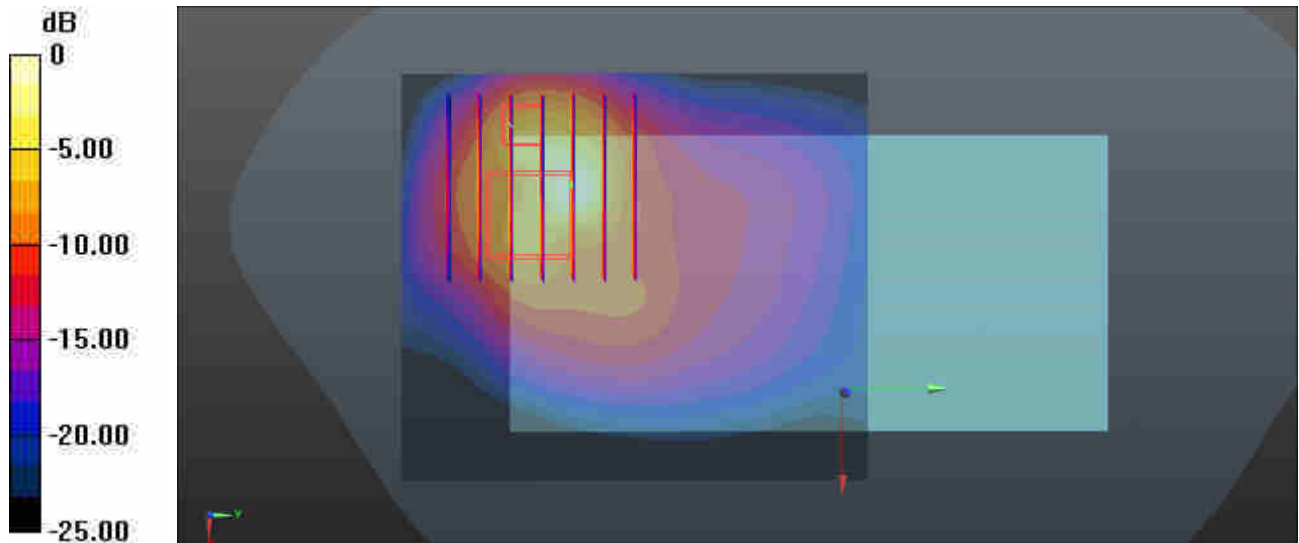
**Ch810/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.724 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 5.93 W/kg

**SAR(1 g) = 0.741 W/kg; SAR(10 g) = 0.365 W/kg**

Maximum value of SAR (measured) = 2.98 W/kg



0 dB = 3.74 W/kg = 5.73 dBW/kg

### 30\_WCDMA V\_RMC 12.2Kbps\_Back\_5mm\_Ch4233

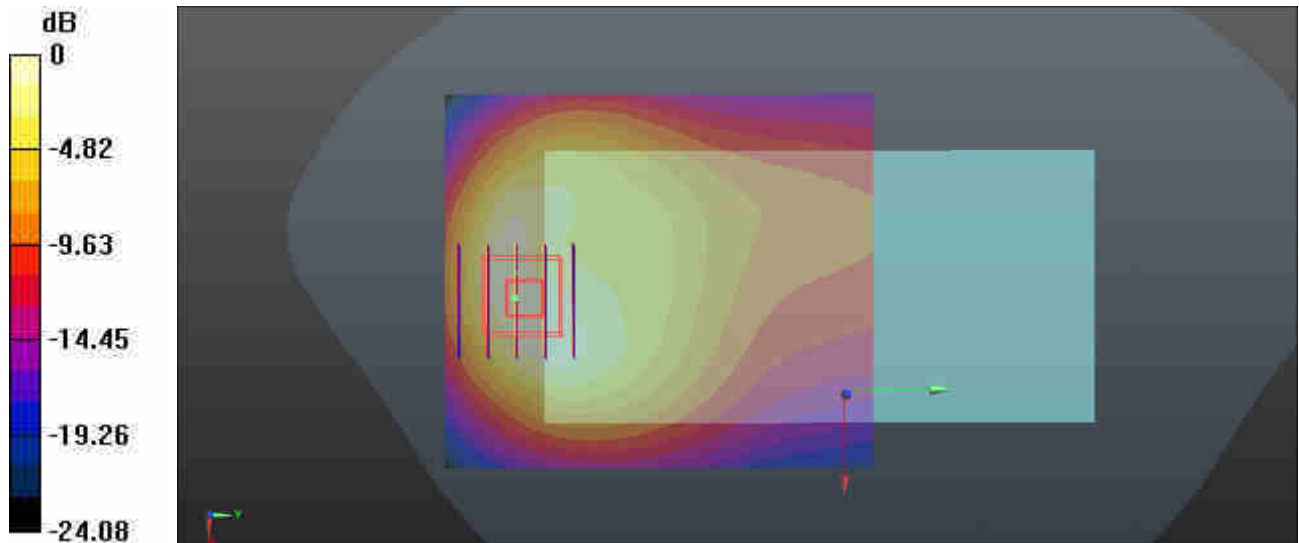
Communication System: UID 0, WCDMA (0); Frequency: 846.6 MHz; Duty Cycle: 1:1  
Medium: HSL\_850 Medium parameters used:  $f = 847$  MHz;  $\sigma = 0.912$  S/m;  $\epsilon_r = 41.028$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.48, 10.48, 10.48); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch4233/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 1.33 W/kg

**Ch4233/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 13.13 V/m; Power Drift = 0.06 dB  
Peak SAR (extrapolated) = 2.17 W/kg  
**SAR(1 g) = 1.11 W/kg; SAR(10 g) = 0.584 W/kg**  
Maximum value of SAR (measured) = 1.64 W/kg



0 dB = 1.33 W/kg = 1.24 dBW/kg

**31\_WCDMA II\_RMC 12.2Kbps\_Back\_5mm\_Ch9262**

Communication System: UID 0, WCDMA (0); Frequency: 1852.4 MHz; Duty Cycle: 1:1  
 Medium: HSL\_1900 Medium parameters used:  $f = 1852.4$  MHz;  $\sigma = 1.355$  S/m;  $\epsilon_r = 39.296$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Ambient Temperature : 23.3 °C ; Liquid Temperature : 22.7 °C

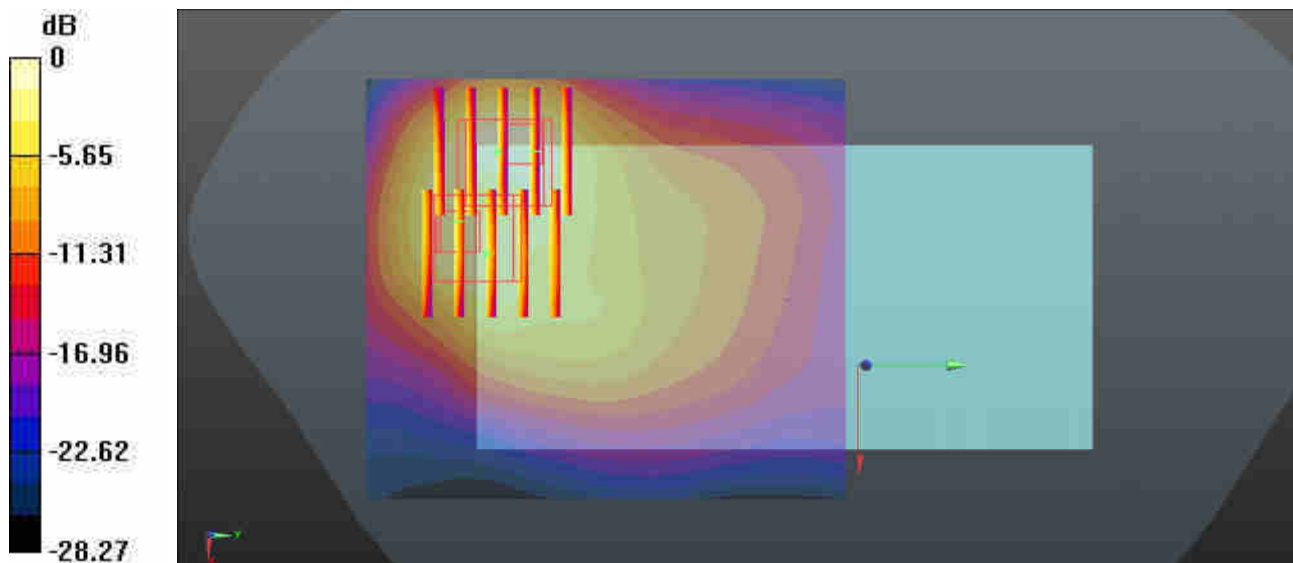
**DASY5 Configuration:**

- Probe: EX3DV4 - SN3935; ConvF(8.5, 8.5, 8.5); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch9262/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
 Maximum value of SAR (interpolated) = 2.23 W/kg

**Ch9262/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
 Reference Value = 9.253 V/m; Power Drift = 0.09 dB  
 Peak SAR (extrapolated) = 2.33 W/kg  
**SAR(1 g) = 1.05 W/kg; SAR(10 g) = 0.547 W/kg**  
 Maximum value of SAR (measured) = 1.77 W/kg

**Ch9262/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
 Reference Value = 9.253 V/m; Power Drift = 0.09 dB  
 Peak SAR (extrapolated) = 2.04 W/kg  
**SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.643 W/kg**  
 Maximum value of SAR (measured) = 1.77 W/kg



0 dB = 2.23 W/kg = 3.48 dBW/kg

### 32\_LTE Band 26\_15M\_QPSK\_1RB\_0Offset\_Back\_5mm\_Ch26865

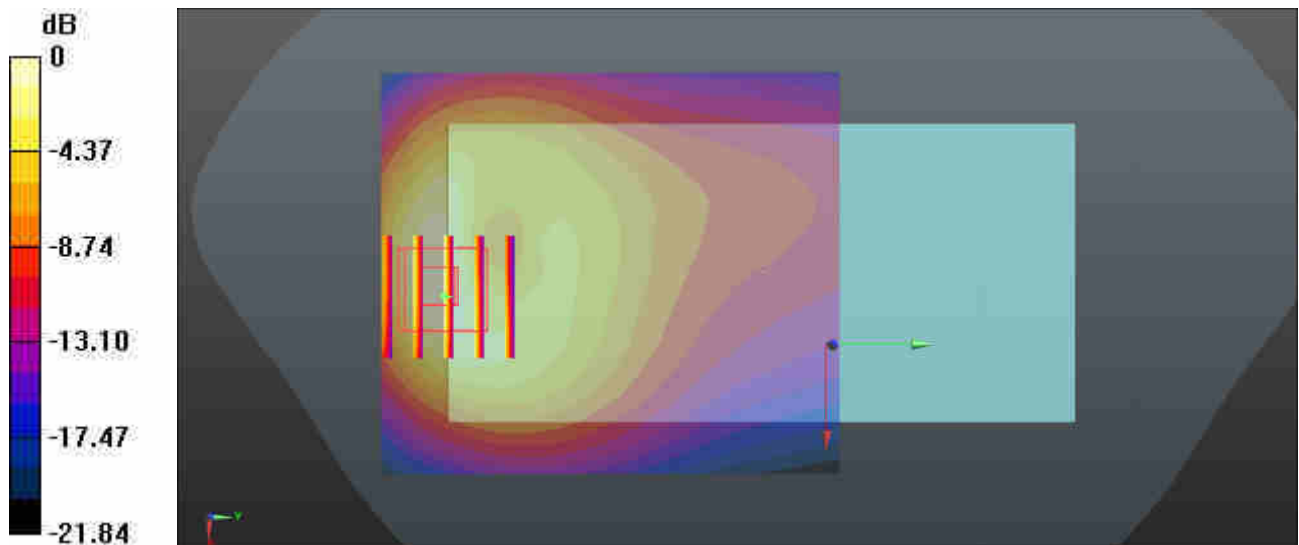
Communication System: UID 0, LTE-FDD (0); Frequency: 831.5 MHz; Duty Cycle: 1:1  
Medium: HSL\_850 Medium parameters used:  $f = 831.5$  MHz;  $\sigma = 0.897$  S/m;  $\epsilon_r = 41.212$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.48, 10.48, 10.48); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch26865/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 1.48 W/kg

**Ch26865/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 12.47 V/m; Power Drift = 0.12 dB  
Peak SAR (extrapolated) = 2.04 W/kg  
**SAR(1 g) = 1.08 W/kg; SAR(10 g) = 0.567 W/kg**  
Maximum value of SAR (measured) = 1.42 W/kg



0 dB = 1.48 W/kg = 1.70 dBW/kg

**33\_LTE Band 4\_20M\_QPSK\_50RB\_0Offset\_Back\_5mm\_Headset\_Ch20175**

Communication System: UID 0, LTE-FDD (0); Frequency: 1732.5 MHz; Duty Cycle: 1:1

Medium: HSL\_1750 Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.341$  S/m;  $\epsilon_r = 39.128$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.2 °C; Liquid Temperature : 22.8 °C

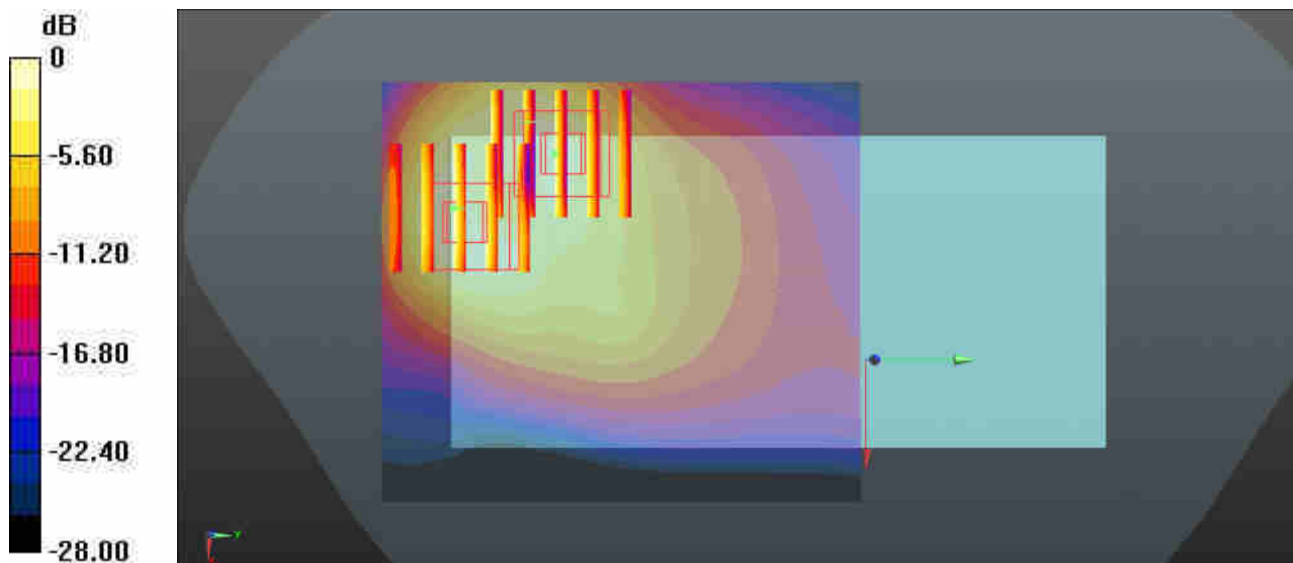
DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.91, 8.91, 8.91); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch20175/Area Scan (71x81x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm  
Maximum value of SAR (interpolated) = 1.36 W/kg

**Ch20175/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm  
Reference Value = 7.013 V/m; Power Drift = 0.16 dB  
Peak SAR (extrapolated) = 2.17 W/kg  
**SAR(1 g) = 1.25 W/kg; SAR(10 g) = 0.654 W/kg**  
Maximum value of SAR (measured) = 1.51 W/kg

**Ch20175/Zoom Scan (5x5x7)/Cube 1:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm  
Reference Value = 7.013 V/m; Power Drift = 0.16 dB  
Peak SAR (extrapolated) = 1.66 W/kg  
**SAR(1 g) = 0.835 W/kg; SAR(10 g) = 0.430 W/kg**  
Maximum value of SAR (measured) = 1.07 W/kg



0 dB = 1.36 W/kg = 1.34 dBW/kg



**34\_LTE Band 2\_20M\_QPSK\_50RB\_0Offset\_Back\_5mm\_Ch18700**

Communication System: UID 0, LTE-FDD (0); Frequency: 1860 MHz; Duty Cycle: 1:1

Medium: HSL\_1900 Medium parameters used:  $f = 1860$  MHz;  $\sigma = 1.363$  S/m;  $\epsilon_r = 39.275$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.3 °C; Liquid Temperature : 22.7 °C

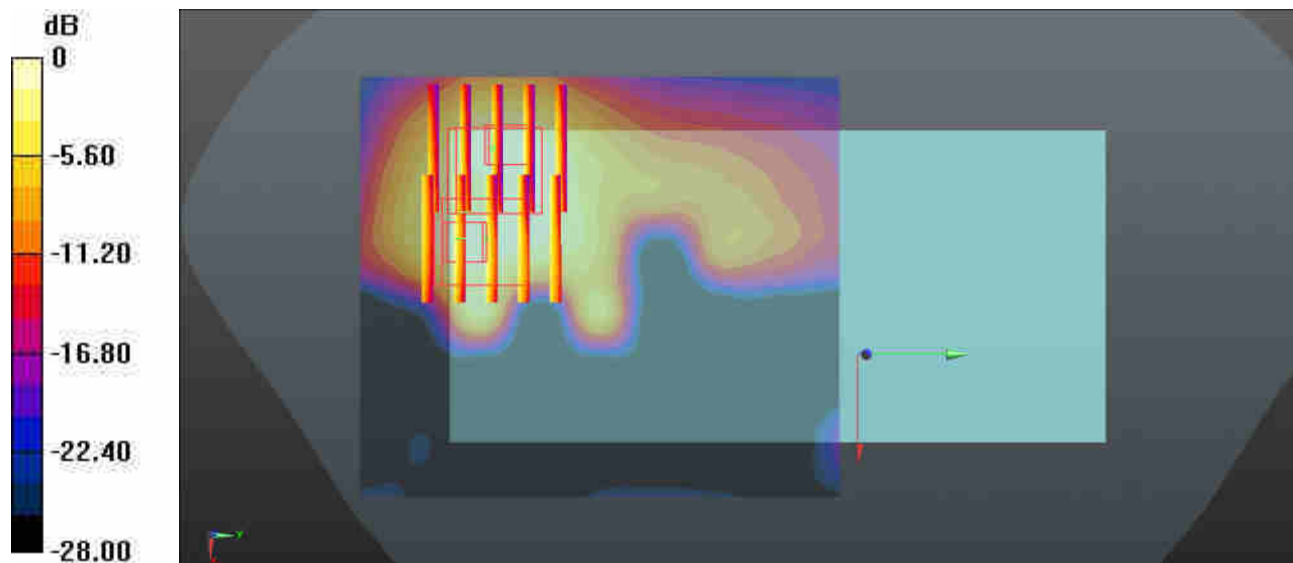
DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.5, 8.5, 8.5); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch18700/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 1.49 W/kg

**Ch18700/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 8.024 V/m; Power Drift = 0.03 dB  
Peak SAR (extrapolated) = 1.66 W/kg  
**SAR(1 g) = 1.01 W/kg; SAR(10 g) = 0.588 W/kg**  
Maximum value of SAR (measured) = 1.25 W/kg

**Ch18700/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 8.024 V/m; Power Drift = 0.03 dB  
Peak SAR (extrapolated) = 2.01 W/kg  
**SAR(1 g) = 0.919 W/kg; SAR(10 g) = 0.487 W/kg**  
Maximum value of SAR (measured) = 1.22 W/kg



0 dB = 1.49 W/kg = 1.73 dBW/kg

**35\_LTE Band 7\_20M\_QPSK\_50RB\_0Offset\_Back\_5mm\_Ch21350**

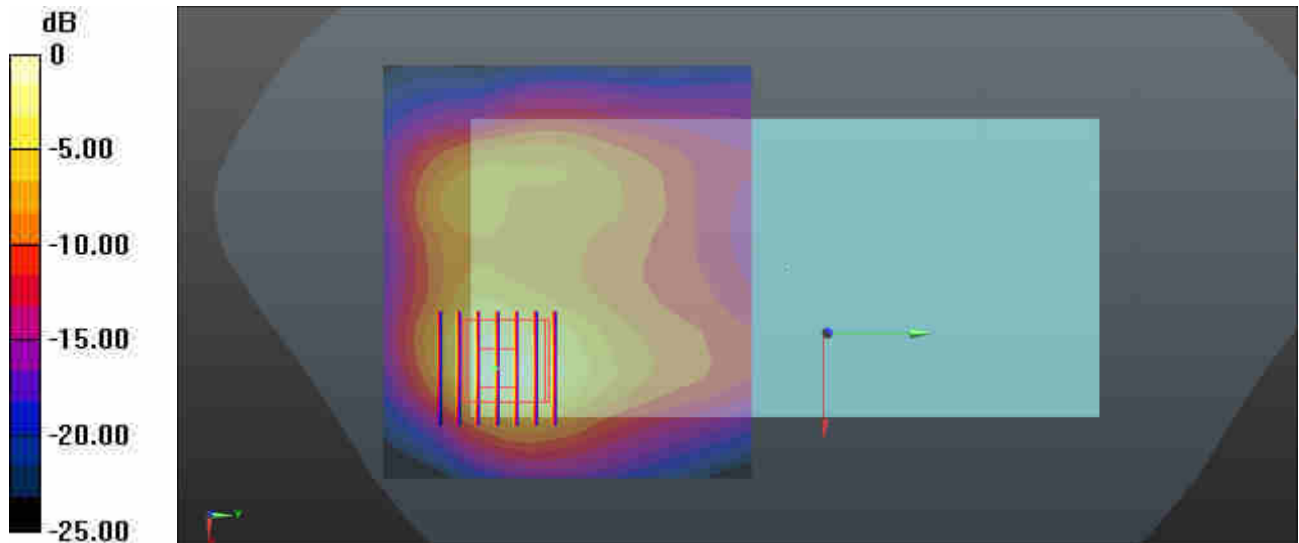
Communication System: UID 0, LTE-FDD (0); Frequency: 2560 MHz; Duty Cycle: 1:1  
 Medium: HSL\_2600 Medium parameters used:  $f = 2560$  MHz;  $\sigma = 1.984$  S/m;  $\epsilon_r = 38.035$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Ambient Temperature : 23.3 °C; Liquid Temperature : 22.9 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.38, 7.38, 7.38); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch21350/Area Scan (91x81x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
 Maximum value of SAR (interpolated) = 1.67 W/kg

**Ch21350/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
 Reference Value = 5.315 V/m; Power Drift = -0.16 dB  
 Peak SAR (extrapolated) = 2.43 W/kg  
**SAR(1 g) = 1.08 W/kg; SAR(10 g) = 0.496 W/kg**  
 Maximum value of SAR (measured) = 1.45 W/kg



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

### 36\_LTE Band 41\_20M\_QPSK\_1RB\_0Offset\_Back\_5mm\_Headset\_Ch40140

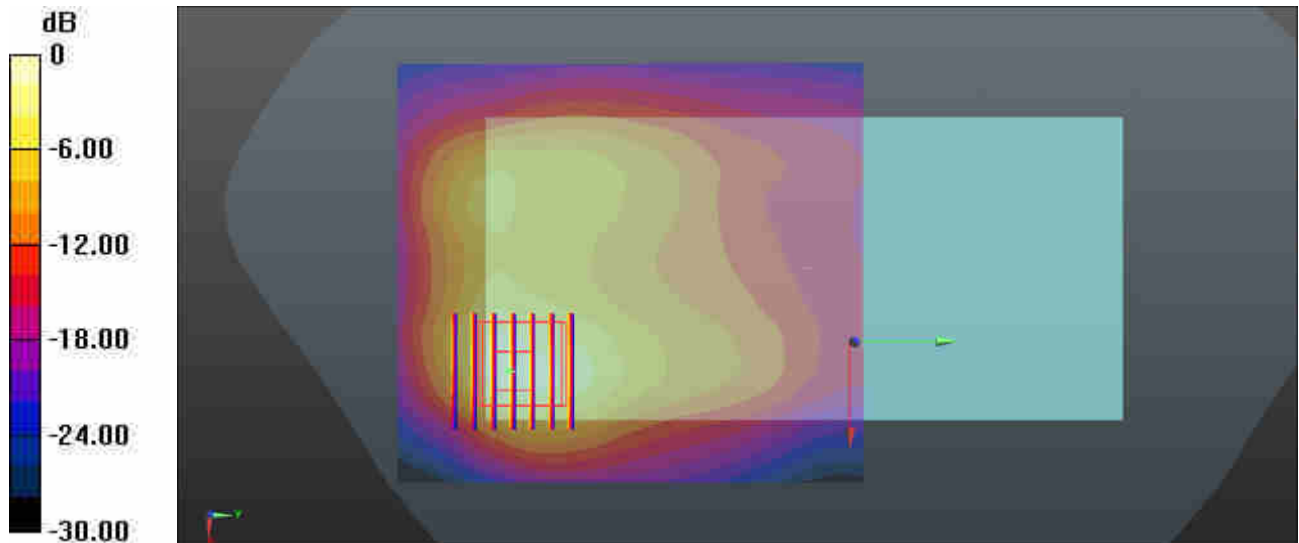
Communication System: UID 0, LTE-TDD (0); Frequency: 2545 MHz; Duty Cycle: 1:1.59  
Medium: HSL\_2600 Medium parameters used:  $f = 2545$  MHz;  $\sigma = 1.964$  S/m;  $\epsilon_r = 38.085$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.9 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.38, 7.38, 7.38); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch40140/Area Scan (91x101x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
Maximum value of SAR (interpolated) = 1.66 W/kg

**Ch40140/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 3.459 V/m; Power Drift = 0.01 dB  
Peak SAR (extrapolated) = 2.28 W/kg  
**SAR(1 g) = 1.01 W/kg; SAR(10 g) = 0.461 W/kg**  
Maximum value of SAR (measured) = 1.33 W/kg



0 dB = 1.66 W/kg = 2.20 dBW/kg

### 37\_WLAN2.4GHz\_802.11b 1Mbps\_Back\_5mm\_Ant 1\_Ch1

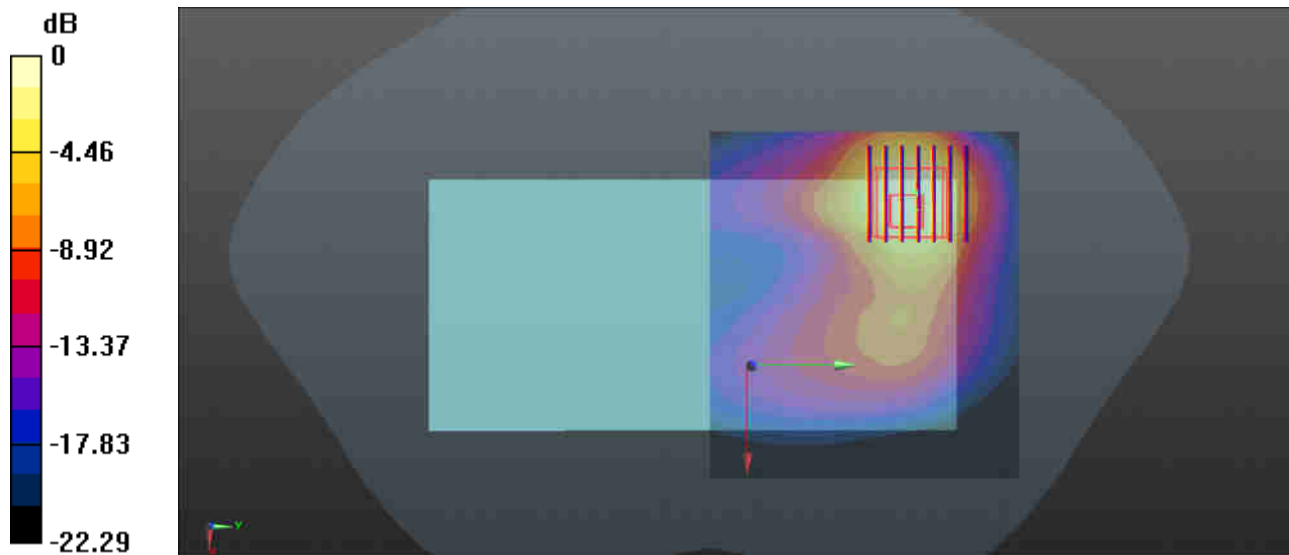
Communication System: UID 0, 802.11b (0); Frequency: 2412 MHz; Duty Cycle: 1:1  
Medium: HSL\_2450 Medium parameters used:  $f = 2412$  MHz;  $\sigma = 1.813$  S/m;  $\epsilon_r = 38.696$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.2 °C; Liquid Temperature : 22.8 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.69, 7.69, 7.69); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch1/Area Scan (91x81x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
Maximum value of SAR (interpolated) = 1.45 W/kg

**Ch1/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 3.220 V/m; Power Drift = -0.03 dB  
Peak SAR (extrapolated) = 1.87 W/kg  
**SAR(1 g) = 0.953 W/kg; SAR(10 g) = 0.461 W/kg**  
Maximum value of SAR (measured) = 1.24 W/kg



0 dB = 1.24 W/kg = 0.93 dBW/kg

### 38\_Bluetooth\_1Mbps\_Back\_5mm\_Ant 1\_Ch39

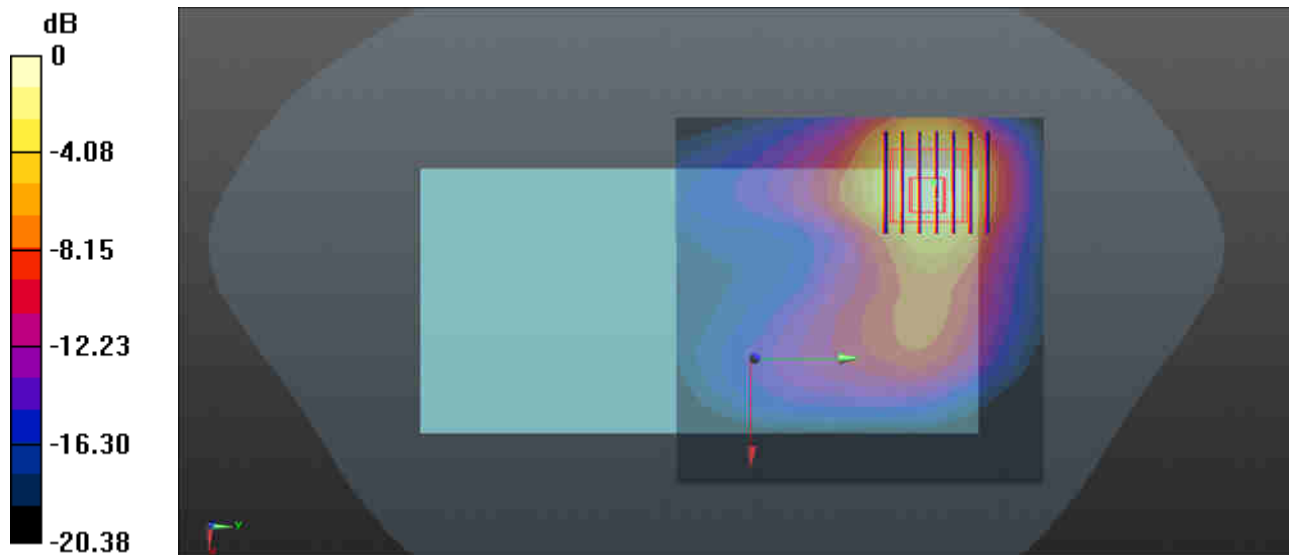
Communication System: UID 0, Bluetooth (0); Frequency: 2441 MHz; Duty Cycle: 1:1.304  
 Medium: HSL\_2450 Medium parameters used:  $f = 2441$  MHz;  $\sigma = 1.847$  S/m;  $\epsilon_r = 38.558$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Ambient Temperature : 23.2 °C; Liquid Temperature : 22.8 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.69, 7.69, 7.69); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch39/Area Scan (91x91x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
 Maximum value of SAR (interpolated) = 0.307 W/kg

**Ch39/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
 Reference Value = 1.043 V/m; Power Drift = 0.05 dB  
 Peak SAR (extrapolated) = 0.418 W/kg  
**SAR(1 g) = 0.210 W/kg; SAR(10 g) = 0.102 W/kg**  
 Maximum value of SAR (measured) = 0.279 W/kg



0 dB = 0.279 W/kg = -5.54 dBW/kg

### 39\_WLAN5GHz\_802.11a 6Mbps\_Back\_5mm\_Ch56

Communication System: UID 0, 802.11a (0); Frequency: 5280 MHz; Duty Cycle: 1:1.021  
Medium: HSL\_5000 Medium parameters used:  $f = 5280$  MHz;  $\sigma = 4.63$  S/m;  $\epsilon_r = 36.369$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C ; Liquid Temperature : 22.6 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3857; ConvF(5.19, 5.19, 5.19); Calibrated: 2019.5.27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2019.7.23
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch56/Area Scan (101x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 2.06 W/kg

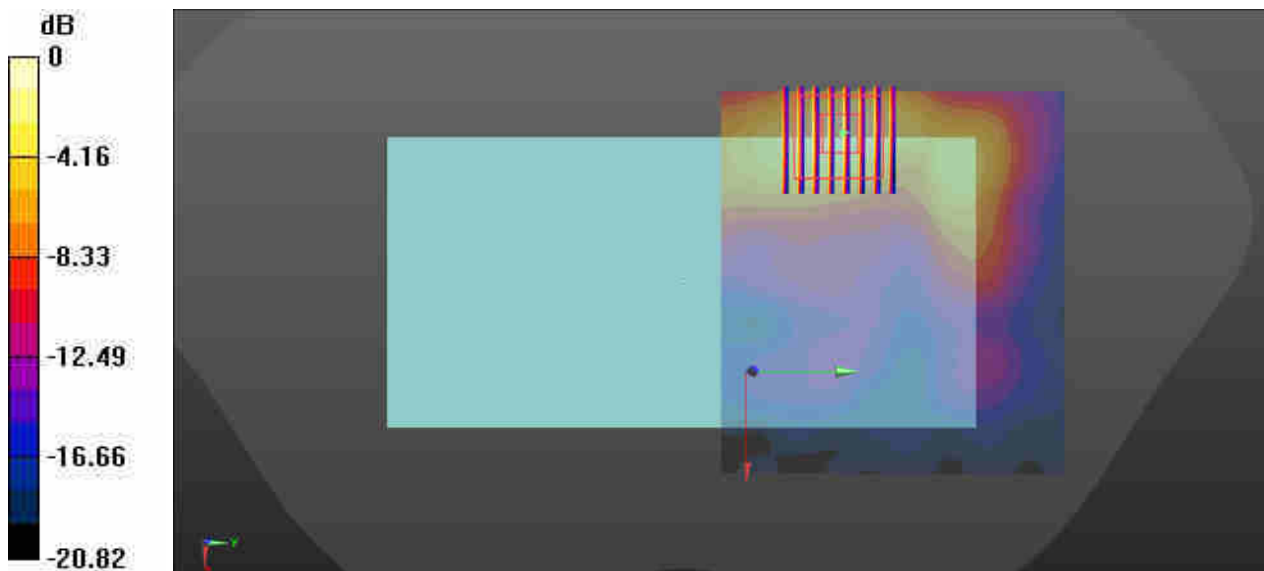
**Ch56/Zoom Scan (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 4.628 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 3.36 W/kg

**SAR(1 g) = 0.866 W/kg; SAR(10 g) = 0.316 W/kg**

Maximum value of SAR (measured) = 2.01 W/kg



0 dB = 2.06 W/kg = 3.14 dBW/kg

### 40\_WLAN5GHz\_802.11a\_6Mbps\_Back\_5mm\_Ch100

Communication System: UID 0, 802.11a (0); Frequency: 5500 MHz; Duty Cycle: 1:1.021  
Medium: HSL\_5000 Medium parameters used:  $f = 5500$  MHz;  $\sigma = 4.873$  S/m;  $\epsilon_r = 35.978$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.4 °C ; Liquid Temperature : 22.7 °C

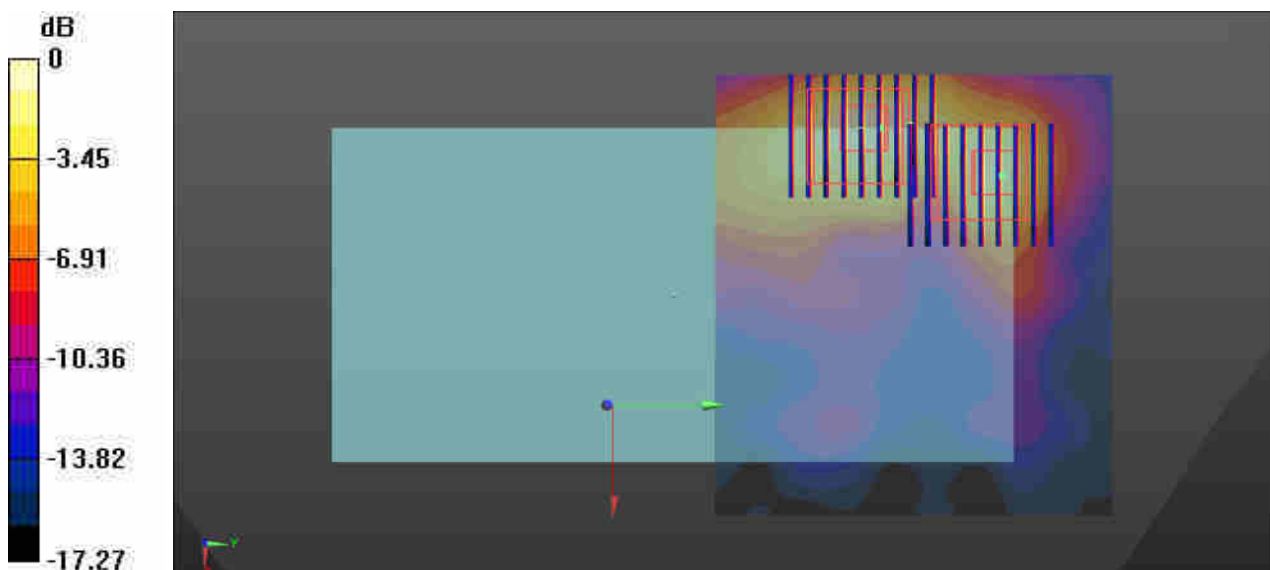
#### DASY5 Configuration:

- Probe: EX3DV4 - SN3857; ConvF(4.92, 4.92, 4.92); Calibrated: 2019.5.27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2019.7.23
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch100/Area Scan (101x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm  
Maximum value of SAR (interpolated) = 1.41 W/kg

**Ch100/Zoom Scan (8x9x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm  
Reference Value = 5.486 V/m; Power Drift = 0.01 dB  
Peak SAR (extrapolated) = 2.57 W/kg  
**SAR(1 g) = 0.637 W/kg; SAR(10 g) = 0.247 W/kg**  
Maximum value of SAR (measured) = 1.50 W/kg

**Ch100/Zoom Scan (8x9x7)/Cube 1:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm  
Reference Value = 5.486 V/m; Power Drift = 0.01 dB  
Peak SAR (extrapolated) = 2.08 W/kg  
**SAR(1 g) = 0.510 W/kg; SAR(10 g) = 0.200 W/kg**  
Maximum value of SAR (measured) = 1.21 W/kg



0 dB = 1.41 W/kg = 1.49 dBW/kg

### 41\_WLAN5GHz\_802.11a\_6Mbps\_Back\_5mm\_Ch157

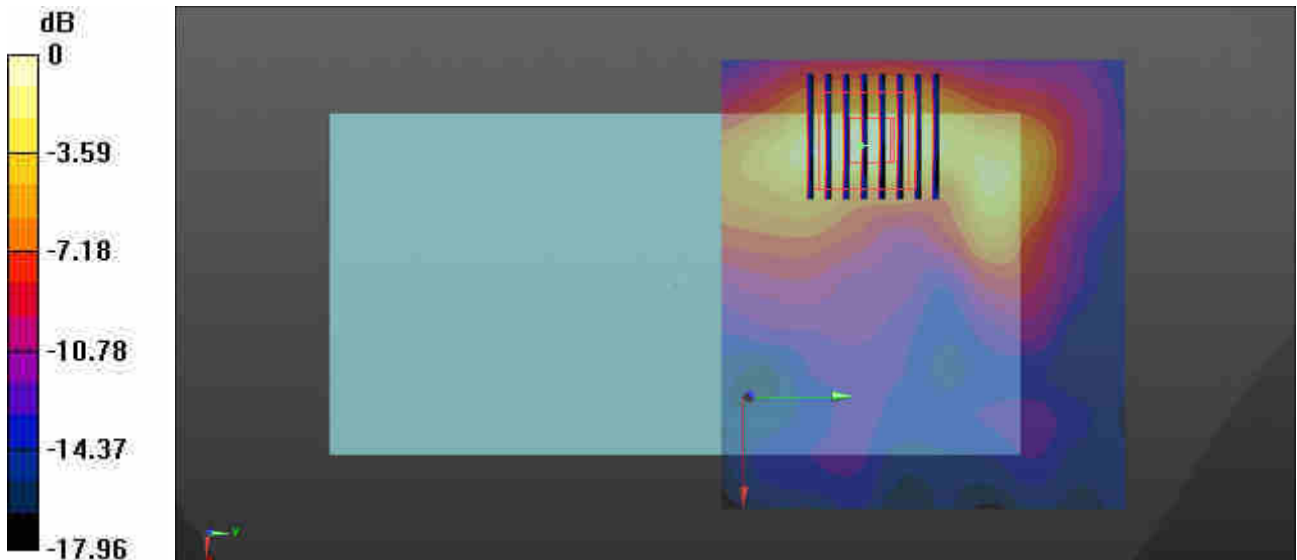
Communication System: UID 0, 802.11a (0); Frequency: 5785 MHz; Duty Cycle: 1:1.021  
Medium: HSL\_5000 Medium parameters used:  $f = 5785$  MHz;  $\sigma = 5.204$  S/m;  $\epsilon_r = 35.534$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.4 °C; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3857; ConvF(5.17, 5.17, 5.17); Calibrated: 2019.5.27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2019.7.23
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch157/Area Scan (101x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm  
Maximum value of SAR (interpolated) = 1.51 W/kg

**Ch157/Zoom Scan (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm  
Reference Value = 5.019 V/m; Power Drift = 0.09 dB  
Peak SAR (extrapolated) = 2.76 W/kg  
**SAR(1 g) = 0.628 W/kg; SAR(10 g) = 0.236 W/kg**  
Maximum value of SAR (measured) = 1.52 W/kg



0 dB = 1.51 W/kg = 1.79 dBW/kg



### 42\_GSM 850\_GPRS 4 Tx slots\_Back\_0mm\_Ch251

Communication System: UID 0, GPRS (4 Tx slots) (0); Frequency: 848.8 MHz; Duty Cycle: 1:2.08  
Medium: HSL\_850 Medium parameters used:  $f = 849$  MHz;  $\sigma = 0.914$  S/m;  $\epsilon_r = 41.001$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.3 °C ; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.48, 10.48, 10.48); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch251/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 4.34 W/kg

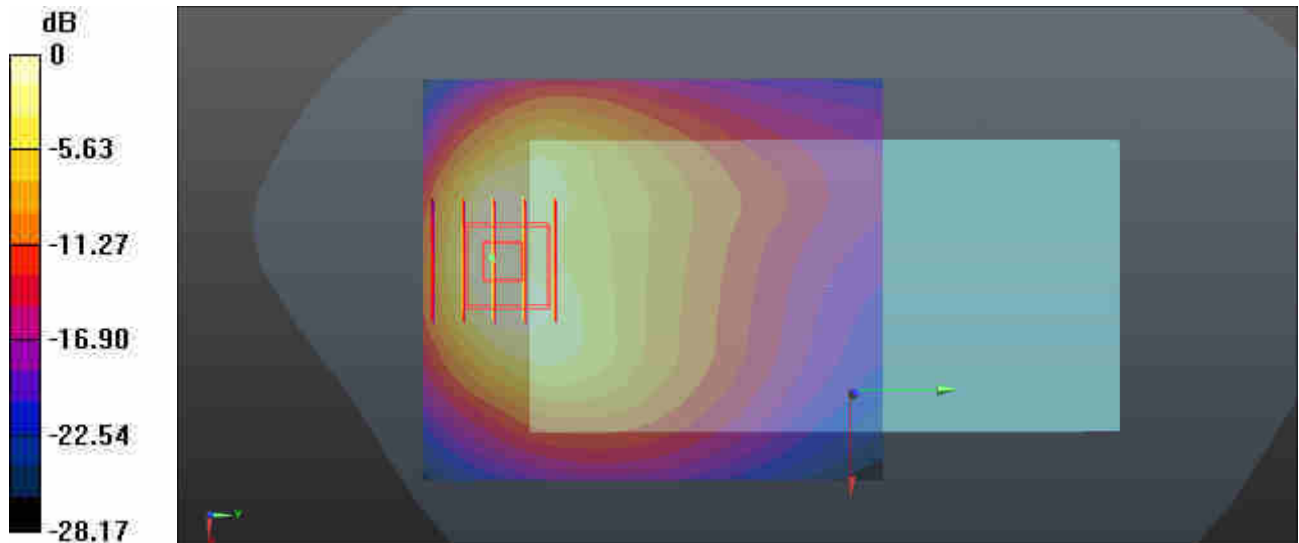
**Ch251/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.34 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 8.78 W/kg

**SAR(1 g) = 3.7 W/kg; SAR(10 g) = 1.82 W/kg**

Maximum value of SAR (measured) = 5.88 W/kg



0 dB = 4.34 W/kg = 6.37 dBW/kg

### 43\_GSM1900\_GPRS 4 Tx slots\_Back\_0mm\_Ch661

Communication System: UID 0, GPRS (4 Tx slots) (0); Frequency: 1880 MHz; Duty Cycle: 1:2.08  
Medium: HSL\_1900 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.382$  S/m;  $\epsilon_r = 39.194$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.5, 8.5, 8.5); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch661/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 6.62 W/kg

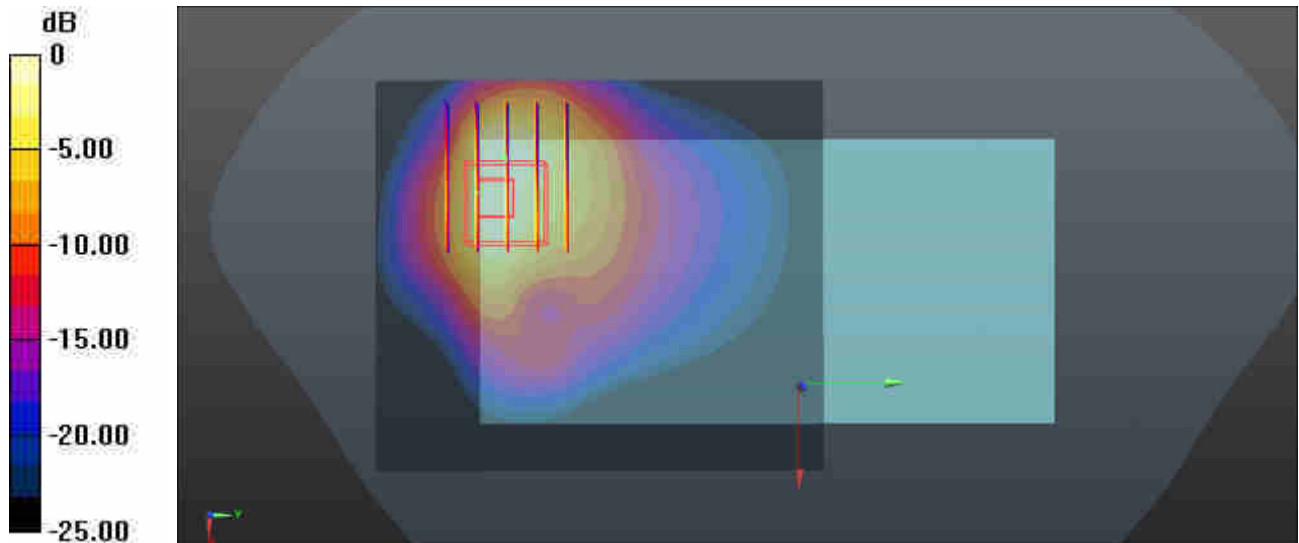
**Ch661/Zoom Scan (6x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.368 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 6.17 W/kg

**SAR(1 g) = 2.98 W/kg; SAR(10 g) = 1.6 W/kg**

Maximum value of SAR (measured) = 3.92 W/kg



0 dB = 6.62 W/kg = 8.21 dBW/kg

### 44\_WCDMA V\_RMC 12.2Kbps\_Back\_0mm\_Ch4233

Communication System: UID 0, WCDMA (0); Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: HSL\_850 Medium parameters used:  $f = 847$  MHz;  $\sigma = 0.912$  S/m;  $\epsilon_r = 41.028$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.3 °C ; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.48, 10.48, 10.48); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch4233/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 3.87 W/kg

**Ch4233/Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.40 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 10.0 W/kg

**SAR(1 g) = 3.72 W/kg; SAR(10 g) = 1.8 W/kg**

Maximum value of SAR (measured) = 6.49 W/kg

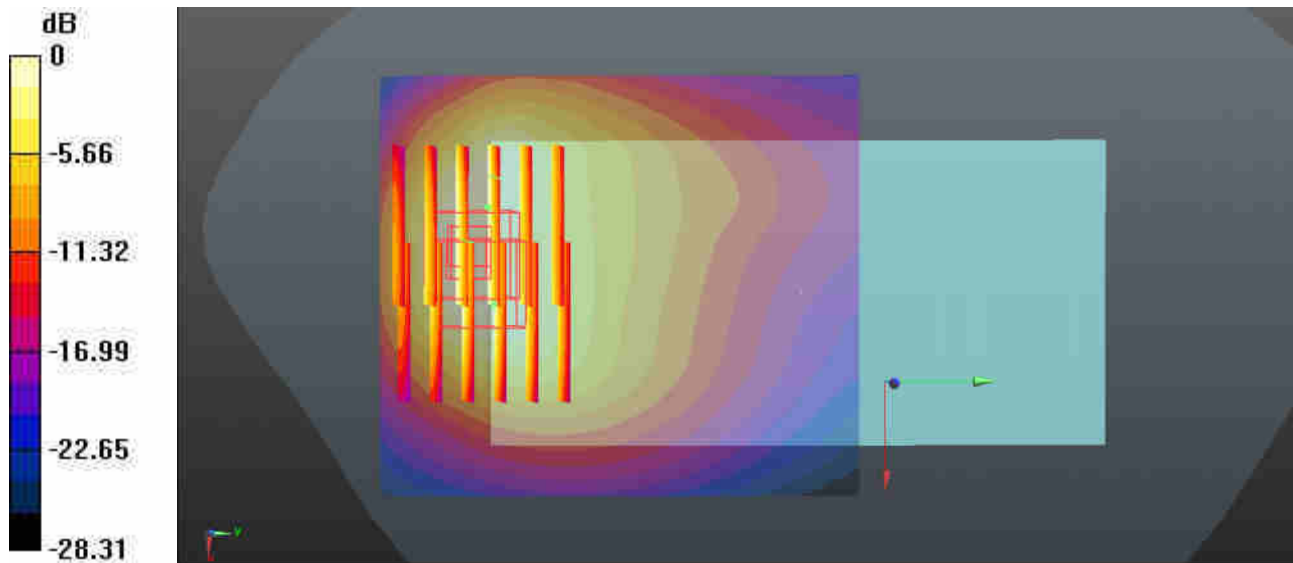
**Ch4233/Zoom Scan (6x6x7)/Cube 1:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.40 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 9.54 W/kg

**SAR(1 g) = 3.72 W/kg; SAR(10 g) = 1.74 W/kg**

Maximum value of SAR (measured) = 7.09 W/kg



0 dB = 3.87 W/kg = 5.88 dBW/kg

### 45\_WCDMA II\_RMC 12.2Kbps\_Back\_0mm\_Ch9538

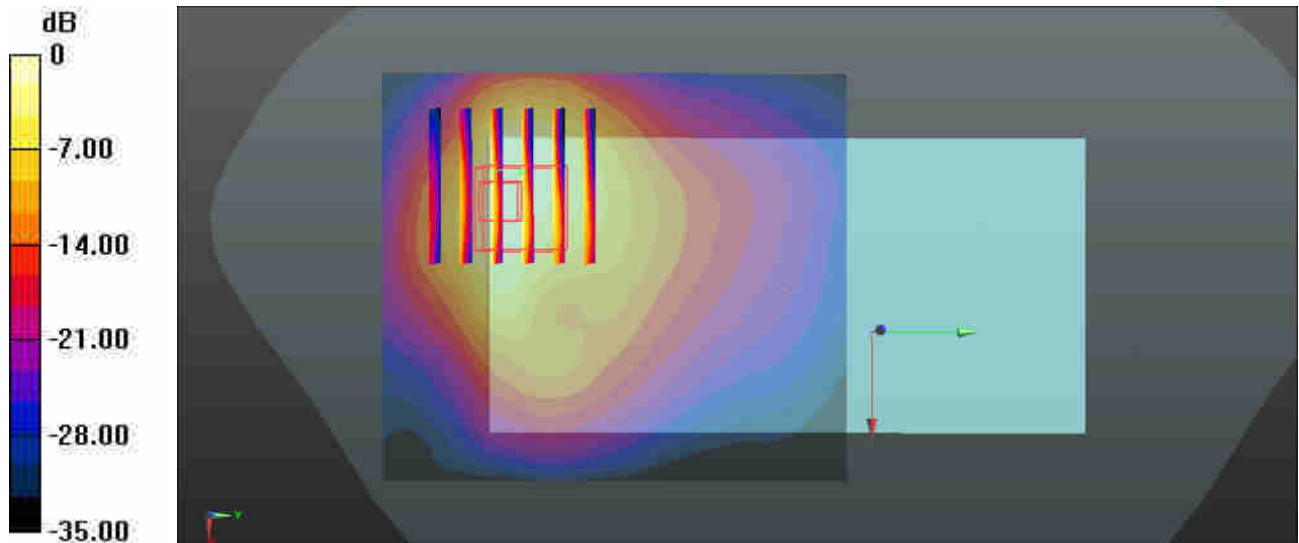
Communication System: UID 0, WCDMA (0); Frequency: 1907.6 MHz; Duty Cycle: 1:1  
Medium: HSL\_1900 Medium parameters used:  $f = 1908$  MHz;  $\sigma = 1.411$  S/m;  $\epsilon_r = 39.06$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.5, 8.5, 8.5); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch9538/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 11.8 W/kg

**Ch9538/Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 7.111 V/m; Power Drift = 0.03 dB  
Peak SAR (extrapolated) = 12.5 W/kg  
**SAR(1 g) = 5.56 W/kg; SAR(10 g) = 2.96 W/kg**  
Maximum value of SAR (measured) = 9.07 W/kg



0 dB = 11.8 W/kg = 10.72 dBW/kg

### 46\_LTE Band 26\_15M\_QPSK\_1RB\_0Offset\_Back\_0mm\_Ch26865

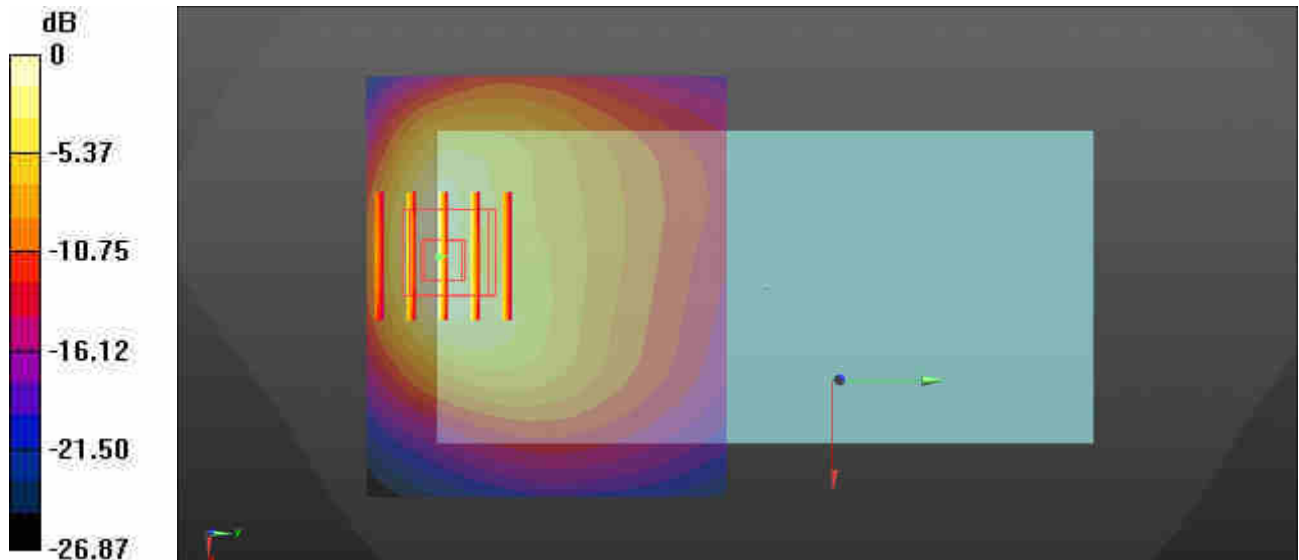
Communication System: UID 0, LTE-FDD (0); Frequency: 831.5 MHz; Duty Cycle: 1:1  
Medium: HSL\_850 Medium parameters used:  $f = 831.5$  MHz;  $\sigma = 0.897$  S/m;  $\epsilon_r = 41.212$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C ; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(10.48, 10.48, 10.48); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch26865/Area Scan (71x61x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 3.17 W/kg

**Ch26865/Zoom Scan (5x5x4)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 9.433 V/m; Power Drift = -0.12 dB  
Peak SAR (extrapolated) = 5.88 W/kg  
**SAR(1 g) = 2.4 W/kg; SAR(10 g) = 1.17 W/kg**  
Maximum value of SAR (measured) = 4.46 W/kg



0 dB = 3.17 W/kg = 5.01 dBW/kg

### 47\_LTE Band 4\_20M\_QPSK\_1RB\_0Offset\_Back\_0mm\_Ch20175

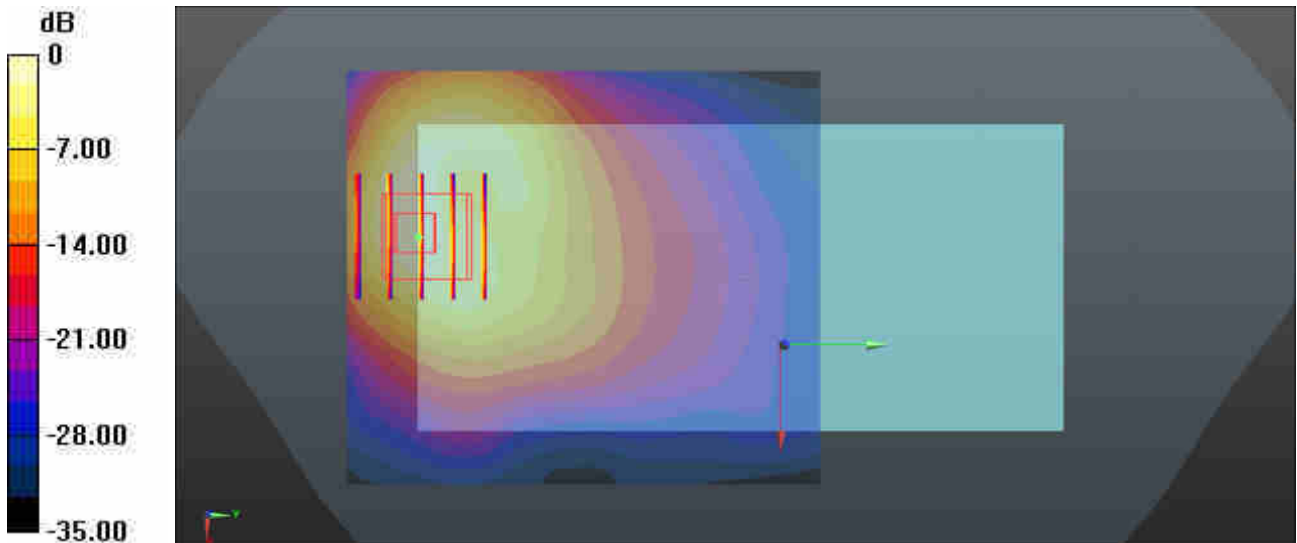
Communication System: UID 0, LTE-FDD (0); Frequency: 1732.5 MHz; Duty Cycle: 1:1  
Medium: HSL\_1750 Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.341$  S/m;  $\epsilon_r = 39.128$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.2 °C; Liquid Temperature : 22.8 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.91, 8.91, 8.91); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch20175/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 5.78 W/kg

**Ch20175/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 5.469 V/m; Power Drift = 0.09 dB  
Peak SAR (extrapolated) = 7.66 W/kg  
**SAR(1 g) = 4.11 W/kg; SAR(10 g) = 2.1 W/kg**  
Maximum value of SAR (measured) = 5.64 W/kg



0 dB = 5.78 W/kg = 7.62 dBW/kg

### 48\_LTE Band 2\_20M\_QPSK\_1RB\_0Offset\_Back\_0mm\_Ch19100

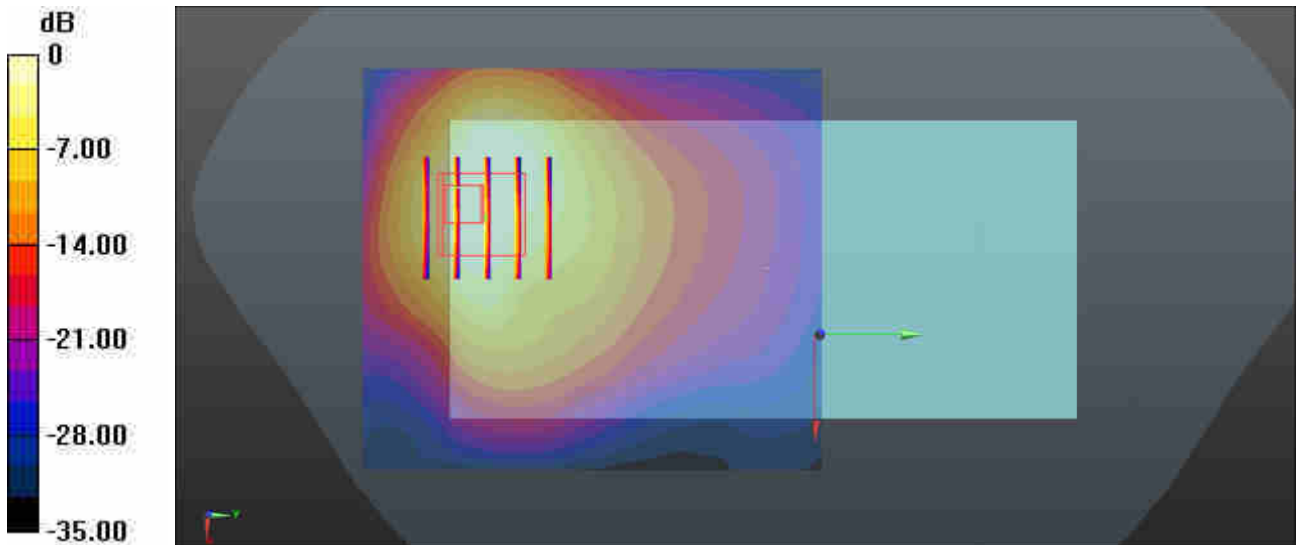
Communication System: UID 0, LTE-FDD (0); Frequency: 1900 MHz; Duty Cycle: 1:1  
Medium: HSL\_1900 Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.402$  S/m;  $\epsilon_r = 39.092$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.7 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(8.5, 8.5, 8.5); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch19100/Area Scan (71x81x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 5.18 W/kg

**Ch19100/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 16.38 V/m; Power Drift = -0.05 dB  
Peak SAR (extrapolated) = 7.44 W/kg  
**SAR(1 g) = 3.95 W/kg; SAR(10 g) = 2.14 W/kg**  
Maximum value of SAR (measured) = 5.01 W/kg



0 dB = 5.18 W/kg = 7.14 dBW/kg

### 49\_LTE Band 7\_20M\_QPSK\_1RB\_0Offset\_Back\_0mm\_Ch20850

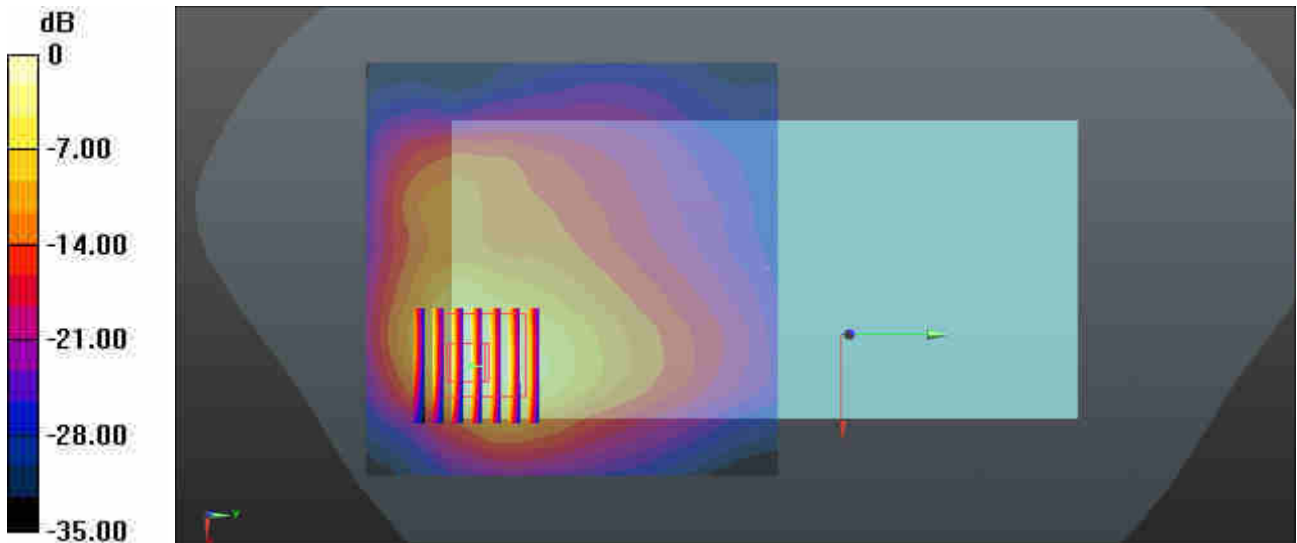
Communication System: UID 0, LTE-FDD (0); Frequency: 2510 MHz; Duty Cycle: 1:1  
Medium: HSL\_2600 Medium parameters used:  $f = 2510$  MHz;  $\sigma = 1.923$  S/m;  $\epsilon_r = 38.236$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.9 °C

#### DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.38, 7.38, 7.38); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch20850/Area Scan (91x91x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
Maximum value of SAR (interpolated) = 9.11 W/kg

**Ch20850/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 0.7120 V/m; Power Drift = 0.01 dB  
Peak SAR (extrapolated) = 17.7 W/kg  
**SAR(1 g) = 6.43 W/kg; SAR(10 g) = 2.63 W/kg**  
Maximum value of SAR (measured) = 8.80 W/kg



0 dB = 9.11 W/kg = 9.60 dBW/kg



**50\_LTE Band 41\_20M\_QPSK\_1RB\_0Offset\_Back\_0mm\_Ch40140**

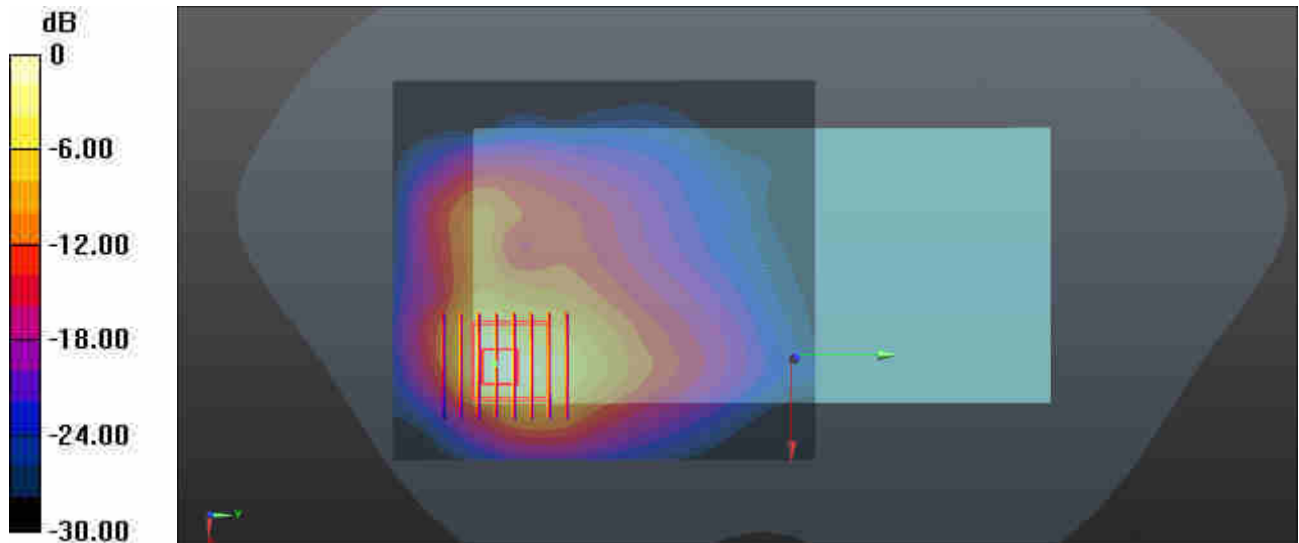
Communication System: UID 0, LTE-TDD (0); Frequency: 2545 MHz; Duty Cycle: 1:1.59  
Medium: HSL\_2600 Medium parameters used:  $f = 2545$  MHz;  $\sigma = 1.964$  S/m;  $\epsilon_r = 38.085$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.9 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.38, 7.38, 7.38); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch40140/Area Scan (91x101x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
Maximum value of SAR (interpolated) = 5.70 W/kg

**Ch40140/Zoom Scan (7x8x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 2.824 V/m; Power Drift = 0.06 dB  
Peak SAR (extrapolated) = 8.95 W/kg  
**SAR(1 g) = 3.5 W/kg; SAR(10 g) = 1.43 W/kg**  
Maximum value of SAR (measured) = 4.89 W/kg



0 dB = 5.70 W/kg = 7.56 dBW/kg

### 51\_WLAN2.4GHz\_802.11b 1Mbps\_Back\_0mm\_Ant 1\_Ch1

Communication System: UID 0, 802.11b (0); Frequency: 2412 MHz; Duty Cycle: 1:1

Medium: HSL\_2450 Medium parameters used:  $f = 2412$  MHz;  $\sigma = 1.813$  S/m;  $\epsilon_r = 38.696$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.2 °C ; Liquid Temperature : 22.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3935; ConvF(7.69, 7.69, 7.69); Calibrated: 2018.11.26
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2018.10.22
- Phantom: SAM2; Type: SAM; Serial: TP-1754
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch1/Area Scan (91x81x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 2.82 W/kg

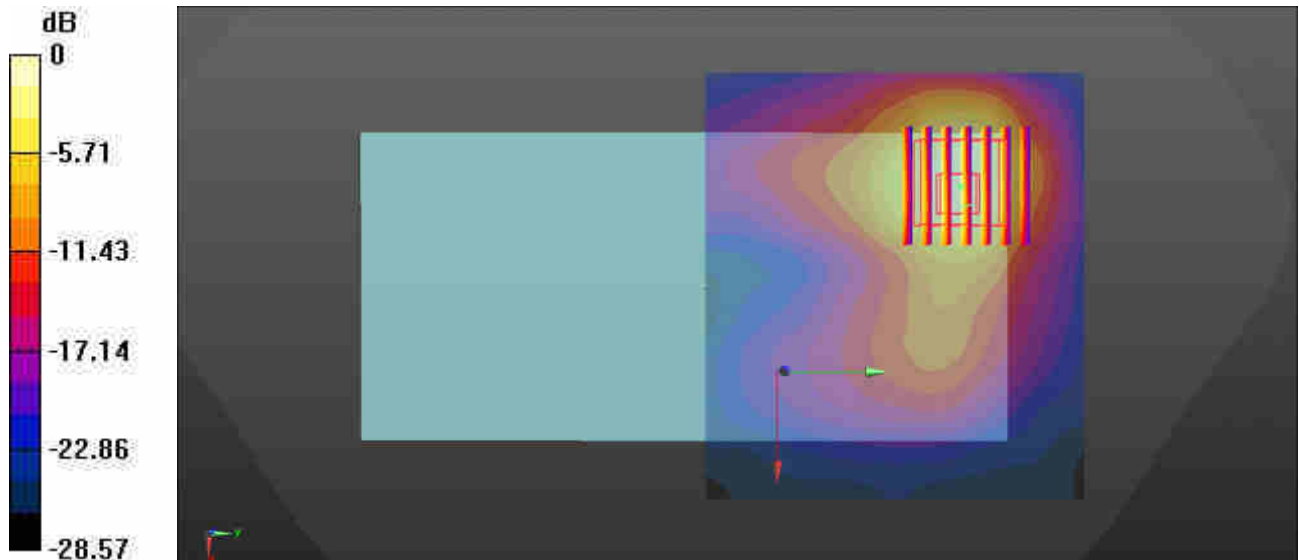
**Ch1/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.064 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 3.85 W/kg

**SAR(1 g) = 1.92 W/kg; SAR(10 g) = 0.925 W/kg**

Maximum value of SAR (measured) = 2.44 W/kg



0 dB = 2.82 W/kg = 4.50 dBW/kg

### 52\_WLAN5GHz\_802.11a 6Mbps\_Right Side\_0mm\_Ch48

Communication System: UID 0, 802.11a (0); Frequency: 5240 MHz; Duty Cycle: 1:1.021

Medium: HSL\_5000 Medium parameters used:  $f = 5240$  MHz;  $\sigma = 4.585$  S/m;  $\epsilon_r = 36.403$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.3 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3857; ConvF(5.19, 5.19, 5.19); Calibrated: 2019.5.27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2019.7.23
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch48/Area Scan (61x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 8.69 W/kg

**Ch48/Zoom Scan (9x10x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 16.54 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 21.3 W/kg

**SAR(1 g) = 3.24 W/kg; SAR(10 g) = 0.851 W/kg**

Maximum value of SAR (measured) = 8.64 W/kg

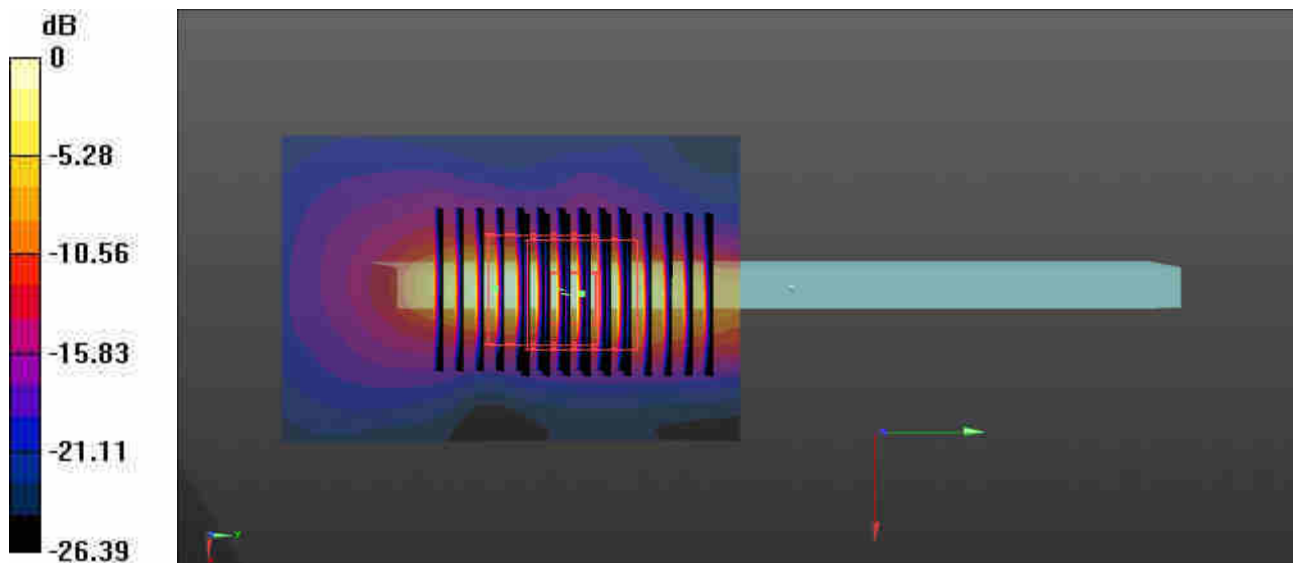
**Ch48/Zoom Scan (9x10x7)/Cube 1:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 16.54 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 20.5 W/kg

**SAR(1 g) = 3.24 W/kg; SAR(10 g) = 0.814 W/kg**

Maximum value of SAR (measured) = 9.97 W/kg



0 dB = 8.69 W/kg = 9.39 dBW/kg

### 53\_WLAN5GHz\_802.11a 6Mbps\_Right Side\_0mm\_Ch56

Communication System: UID 0, 802.11a (0); Frequency: 5280 MHz; Duty Cycle: 1:1.021  
Medium: HSL\_5000 Medium parameters used:  $f = 5280$  MHz;  $\sigma = 4.63$  S/m;  $\epsilon_r = 36.369$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.3 °C; Liquid Temperature : 22.6 °C

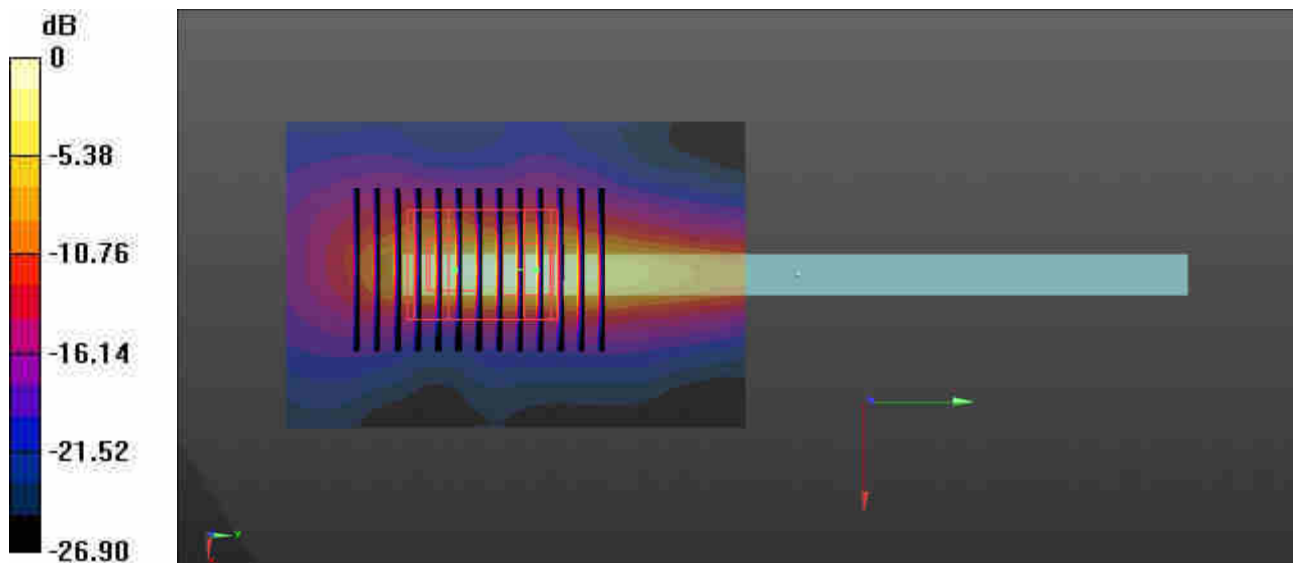
#### DASY5 Configuration:

- Probe: EX3DV4 - SN3857; ConvF(5.19, 5.19, 5.19); Calibrated: 2019.5.27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2019.7.23
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch56/Area Scan (61x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm  
Maximum value of SAR (interpolated) = 11.4 W/kg

**Ch56/Zoom Scan (9x9x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm  
Reference Value = 17.51 V/m; Power Drift = 0.01 dB  
Peak SAR (extrapolated) = 26.1 W/kg  
**SAR(1 g) = 4.09 W/kg; SAR(10 g) = 1.06 W/kg**  
Maximum value of SAR (measured) = 12.9 W/kg

**Ch56/Zoom Scan (9x9x7)/Cube 1:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm  
Reference Value = 17.51 V/m; Power Drift = 0.01 dB  
Peak SAR (extrapolated) = 26.0 W/kg  
**SAR(1 g) = 3.52 W/kg; SAR(10 g) = 0.956 W/kg**  
Maximum value of SAR (measured) = 12.9 W/kg



0 dB = 11.4 W/kg = 10.57 dBW/kg

**54\_WLAN5GHz\_802.11a 6Mbps\_Right Side\_0mm\_Ch100**

Communication System: UID 0, 802.11a (0); Frequency: 5500 MHz; Duty Cycle: 1:1.021  
 Medium: HSL\_5000 Medium parameters used:  $f = 5500$  MHz;  $\sigma = 4.873$  S/m;  $\epsilon_r = 35.978$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
 Ambient Temperature : 23.4 °C ; Liquid Temperature : 22.7 °C

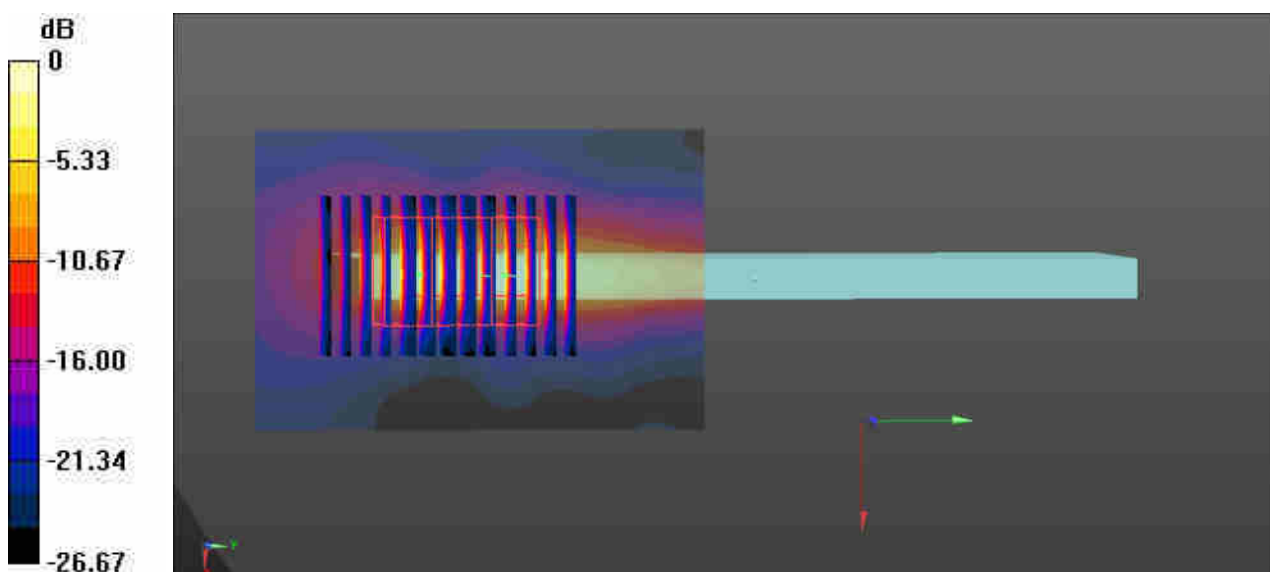
DASY5 Configuration:

- Probe: EX3DV4 - SN3857; ConvF(4.92, 4.92, 4.92); Calibrated: 2019.5.27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2019.7.23
- Phantom: SAM1; Type: SAM; Serial: TP-1839
- Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

**Ch100/Area Scan (61x91x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm  
 Maximum value of SAR (interpolated) = 14.4 W/kg

**Ch100/Zoom Scan (9x9x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm  
 Reference Value = 18.64 V/m; Power Drift = 0.15 dB  
 Peak SAR (extrapolated) = 30.9 W/kg  
**SAR(1 g) = 4.68 W/kg; SAR(10 g) = 1.19 W/kg**  
 Maximum value of SAR (measured) = 15.0 W/kg

**Ch100/Zoom Scan (9x9x7)/Cube 1:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm  
 Reference Value = 18.64 V/m; Power Drift = 0.15 dB  
 Peak SAR (extrapolated) = 27.8 W/kg  
**SAR(1 g) = 3.83 W/kg; SAR(10 g) = 0.989 W/kg**  
 Maximum value of SAR (measured) = 13.4 W/kg



0 dB = 14.4 W/kg = 11.58 dBW/kg



**Appendix C. Supplemental Tuner Head & Body SAR Results**

The results are shown as follows.

Head SAR

Mode	Service/Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																									
									Auto-Tune	0	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105	112	119	126	133	140				
GSM850	GPRS 4 Tx slots	189	836.4	N/A	N/A	Right Cheek	0mm	0.416	0.465	0.007	0.075	0.156	0.015	0.051	0.076	0.100	0.110	0.022	0.125	0.217	0.048	0.155	0.245	0.054	0.154	0.232	0.042	0.152	0.004	0.018				
Mode	Service/Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																									
									Auto-Tune	0	8	15	22	29	36	43	50	57	64	71	78	85	92	99	106	113	120	127	134	141				
GSM1900	GPRS 4 Tx slots	810	1909.8	N/A	N/A	Right Cheek	0mm	0.055	0.070	0.012	0.022	0.022	0.024	0.025	0.024	0.023	0.020	0.020	0.022	0.021	0.024	0.021	0.018	0.029	0.024	0.011	0.021	0.016	0.001	0.001				
Mode	Service/Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																									
									Auto-Tune	1	9	16	23	30	37	44	51	58	65	72	79	86	93	100	107	114	121	128	135	142				
WCDMA B5	RMC12.2K	4182	836.4	N/A	N/A	Right Cheek	0mm	0.243	0.269	0.042	0.129	0.183	0.047	0.088	0.128	0.159	0.223	0.102	0.186	0.232	0.124	0.210	0.247	0.133	0.203	0.009	0.096	0.230	0.006	0.020				
Mode	Service/Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																									
									Auto-Tune	2	10	17	24	31	38	45	52	59	66	73	80	87	94	101	108	115	122	129	136	143				
WCDMA II	RMC 12.2Kbps	9400	1880	N/A	N/A	Left Cheek	0mm	0.203	0.25	0.197	0.187	0.177	0.132	0.129	0.125	0.120	0.113	0.151	0.135	0.048	0.135	0.120	0.109	0.143	0.124	0.120	0.115	0.096	0.011	0.016				
Mode	Service/Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																									
									Auto-Tune	3	11	18	25	32	39	46	53	60	67	74	81	88	95	102	109	116	123	130	137					
LTE Band 26/5	QPSK	26865	831.5	1	0	Right Cheek	0mm	0.16	0.189	0.063	0.118	0.145	0.037	0.058	0.073	0.086	0.026	0.122	0.160	0.046	0.148	0.176	0.028	0.141	0.169	0.004	0.092	0.122	0.004					
Mode	Service/Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																									
									Auto-Tune	4	12	19	26	33	40	47	54	61	68	75	82	89	96	103	110	117	124	131	138					
LTE Band 4	QPSK	20175	1732.5	1	0	Left Cheek	0mm	0.105	0.117	0.025	0.031	0.024	0.037	0.038	0.042	0.045	0.045	0.046	0.043	0.104	0.059	0.051	0.051	0.048	0.044	0.047	0.043	0.000	0.004					
Mode	Service/Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																									
									Auto-Tune	5	13	20	27	34	41	48	55	62	69	76	83	90	97	104	111	118	125	132	139					
LTE Band 2	QPSK	18900	1880	1	0	Left Cheek	0mm	0.124	0.146	0.088	0.099	0.093	0.091	0.089	0.085	0.078	0.082	0.090	0.087	0.081	0.087	0.076	0.092	0.097	0.088	0.096	0.074	0.000	0.010					

**Body SAR**

Mode	Service/Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																					
									Auto-Tune	0	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105	112	119	126	133	140
GSM 835	GPRS 4 Tx slots	251	848.8	n/a	n/a	Back+Headset	5mm	0.981	1.12	0.053	0.648	1.066	0.122	0.436	0.667	0.893	0.990	0.147	0.746	1.079	0.162	0.694	1.059	0.268	0.876	1.002	0.224	1.029	0.029	0.132
GSM 1900	GPRS 4 Tx slots	512	1850.5	n/a	n/a	Bottom Side	5mm	0.951	1.5	0.457	0.739	0.739	0.759	0.753	0.775	0.766	0.707	1.398	0.825	0.768	0.812	0.788	0.702	1.429	1.408	0.440	0.753	0.632	0.069	0.132
WCDMA B5	RMC12.2K	4233	846.6	n/a	n/a	Back	5mm	1.11	1.33	0.170	0.553	1.121	0.258	0.491	0.700	1.030	1.160	0.316	0.596	0.727	0.285	0.534	0.652	0.412	0.631	0.028	0.415	0.941	0.027	0.109
WCDMA B2	RMC12.2K	9262	1852.4	n/a	n/a	Back	5mm	1.15	2.23	1.118	1.253	1.214	1.183	1.188	1.182	1.176	1.128	2.106	1.262	0.703	2.128	1.201	1.108	1.300	1.981	1.224	1.156	1.015	0.158	0.223
LTE B26/5	QPSK	26865	831.5	1	0	Back	5mm	1.08	1.48	0.707	1.259	1.407	0.490	0.755	0.966	1.115	0.212	1.092	1.478	0.276	1.056	1.389	0.203	1.239	1.424	0.039	1.019	1.301	0.053	
LTE B4	QPSK	20175	1732.5	50	0	Back+Headset	5mm	1.25	1.36	0.464	0.551	0.372	0.516	0.546	0.575	0.567	0.621	0.632	0.604	1.295	0.764	0.659	0.694	0.654	0.613	0.641	0.592	0.019	0.091	
LTE B2	QPSK	18700	1860	50	0	Back	5mm	1.01	1.49	0.869	0.895	0.766	0.831	0.830	0.825	0.768	0.781	0.902	0.834	1.355	1.367	0.579	0.846	0.905	0.831	0.886	0.761	0.034	0.144	



Verified single SAR >1.2W/Kg

Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																															
									Auto-Tune	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20										
									GSM 850	GPRS 4 Tx slots	251	848.8	n/a	n/a	Back+Headset	5mm	0.881	1.12	0.053	0.082	0.156	0.248	0.348	0.445	0.540	0.648	0.732	0.857	0.949	1.033	1.035	1.060	1.066	1.002	1.066	1.076	1.022	0.073	0.095	
0.122	0.179	0.241	0.279	0.314	0.354	0.394	0.436	0.476											0.486	0.526	0.557	0.595	0.627	0.667	0.714	0.733	0.776	0.809	0.838	0.864										
0.893	0.937	0.956	0.990	1.069	1.048	1.083	0.990	1.087											1.047	1.062	0.048	0.075	0.108	0.147	0.228	0.326	0.412	0.517	0.617	0.613	0.701									
0.746	0.821	0.945	1.036	1.104	1.070	1.050	1.079	1.022											1.025	0.042	0.066	0.093	0.127	0.162	0.201	0.286	0.369	0.462	0.555	0.636										
0.694	0.751	0.842	0.913	0.967	1.030	1.091	1.059	1.002											1.021	1.044	0.046	0.071	0.137	0.268	0.397	0.501	0.595	0.668	0.719	0.801										
105	106	107	108	109	110	111	112	113											114	115	116	117	118	119	120	121	122	123	124	125										
126	127	128	129	130	131	132	133	134											135	136	137	138	139	140	141	142	143													
1.029	1.053	1.062	1.010	1.001	0.018	0.021	0.029	0.036											0.050	0.065	0.082	0.098	0.117	0.132	0.182	0.220	0.241													
Sensor on																																								
GSM 1900	GPRS 4 Tx slots	512	1850.5	n/a	n/a	Bottom Side	5mm	0.951											1.5	0.358	0.457	0.591	0.662	0.698	0.707	0.740	0.736	0.739	0.749	0.748	0.750	0.759	0.753	0.741	0.739	0.731	0.734	0.743	0.665	0.704
																				0.732	0.759	0.763	0.767	0.772	0.773	0.778	0.772	0.753	0.777	0.763	0.774	0.761	0.754	0.773	0.775	0.776	0.776	0.767	0.774	0.755
																				0.755	0.766	0.766	0.768	0.708	0.712	0.693	0.744	0.707	0.701	0.716	0.434	0.572	0.668	0.730	1.398	1.422	1.421	1.429	1.428	1.423
																				0.827	0.825	0.818	0.814	0.807	0.770	0.765	0.763	0.768	0.784	0.410	0.565	0.679	0.756	0.795	0.812	0.840	0.821	0.804	0.810	0.789
																				0.804	0.788	0.782	0.772	0.758	0.746	0.707	0.700	0.702	0.705	0.711	0.423	0.565	0.737	1.422	1.429	1.423	1.426	1.415	1.424	1.421
																				105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125
																				1.423	1.408	1.400	1.364	1.359	0.751	0.733	0.768	0.440	0.620	0.736	0.440	0.698	0.791	0.776	0.753	0.744	0.731	0.720	0.702	0.687
									126	127	128	129	130	131	132	133	134	135		136	137	138	139	140	141	142	143													
									0.631	0.632	0.634	0.657	0.574	0.027	0.037	0.056	0.069	0.099		0.113	0.131	0.134	0.135	0.135	0.132	0.143	0.151													
									Sensor on																															
									WCDMA B5	RMC12.2K	4233	846.6	n/a	n/a	Back	5mm	1.11	1.33		0.066	0.098	0.170	0.244	0.315	0.368	0.423	0.469	0.505	0.553	0.587	0.612	0.635	0.654	0.684	1.103	1.121	1.136	1.142	0.477	0.502
																				0.129	0.195	0.258	0.295	0.334	0.373	0.412	0.450	0.489	0.491	0.525	0.559	0.590	0.620	0.649	0.675	0.700	0.719	0.741	0.761	0.778
																				0.998	1.017	1.030	1.047	1.061	1.097	1.122	1.042	1.156	1.160	1.274	0.068	0.099	0.135	0.172	0.247	0.316	0.372	0.426	0.470	0.507
																				0.527	0.555	0.596	0.627	0.650	0.677	0.695	0.710	0.719	0.727	0.060	0.088	0.120	0.154	0.188	0.220	0.285	0.334	0.382	0.427	0.460
																				0.481	0.503	0.534	0.556	0.577	0.591	0.614	0.630	0.645	0.652	0.655	0.065	0.095	0.166	0.271	0.358	0.412	0.454	0.492	0.511	0.540
																				105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125
0.568	0.610	0.631	0.659	0.675	0.690	0.700	0.706	0.017											0.028	0.042	0.019	0.049	0.118	0.251	0.372	0.415	0.542	0.644	0.792	0.867										
126	127	128	129	130	131	132	133	134											135	136	137	138	139	140	141	142	143													
0.872	0.923	0.941	0.940	0.903	0.011	0.012	0.016	0.019											0.027	0.036	0.043	0.051	0.060	0.067	0.092	0.109	0.119													
Sensor on																																								

Hotspot on									Average Value of Time Sweep (W/kg)																					
Mode	Service/Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Auto-Tune	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
WCDMA B2	RMC12.2K	9262	1852.4	n/a	n/a	Back	5mm	1.15	2.23	0.641	0.805	1.017	1.118	1.178	1.195	1.222	1.237	1.236	1.244	1.253	1.257	1.260	1.264	1.230	1.223	1.214	1.214	1.240	1.047	1.093
										21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
										1.130	1.170	1.178	1.183	1.187	1.188	1.186	1.188	1.184	1.192	1.188	1.190	1.187	1.190	1.191	1.190	1.192	1.182	1.186	1.184	1.181
										42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
										1.181	1.179	1.178	1.176	1.109	1.107	1.102	1.177	1.101	1.106	1.128	0.779	0.990	1.930	2.016	2.088	2.110	2.106	2.104	2.095	2.084
										63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83
										1.291	1.283	1.278	1.262	1.249	1.194	1.185	1.177	1.189	1.211	0.703	0.956	1.136	1.936	2.052	2.101	2.130	2.128	2.114	2.093	2.068
										84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104
										1.255	1.235	1.219	1.201	1.184	1.163	1.084	1.083	1.077	1.086	1.108	0.762	0.977	1.219	1.313	1.317	1.309	1.300	1.289	1.290	1.287
										105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125
										2.072	2.062	2.050	1.981	1.978	1.965	1.172	1.202	0.757	1.049	1.224	0.805	1.170	1.263	1.219	1.180	1.164	1.156	1.134	1.118	1.077
										126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143			
										0.994	0.987	0.991	1.015	0.901	0.038	0.053	0.084	0.103	0.144	0.158	0.194	0.198	0.203	0.202	0.194	0.211	0.223			
Sensor on									Average Value of Time Sweep (W/kg)																					
Mode	Service/Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Auto-Tune	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LTE B26/5	QPSK	26865	831.5	1	0	Back	5mm	1.08	1.48	0.168	0.247	0.414	0.569	0.707	0.813	0.917	1.002	1.069	1.157	1.211	1.259	1.309	1.338	1.392	1.421	1.455	1.480	1.407	0.132	0.172
										21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
										0.215	0.307	0.393	0.442	0.490	0.537	0.585	0.631	0.675	0.679	0.717	0.755	0.792	0.826	0.860	0.885	0.913	0.936	0.966	0.994	1.017
										42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
										1.031	1.055	1.077	1.098	1.115	1.169	1.225	1.089	1.295	1.332	1.352	0.212	0.308	0.413	0.514	0.691	0.865	0.981	1.092	1.178	1.235
										63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83
										1.272	1.317	1.390	1.428	1.478	1.401	1.421	1.420	1.428	1.427	0.186	0.276	0.373	0.474	0.568	0.666	0.832	0.954	1.056	1.136	1.208
										84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104
										1.248	1.285	1.323	1.361	1.389	1.409	1.419	1.444	1.459	1.459	1.458	0.203	0.298	0.499	0.773	0.971	1.082	1.168	1.239	1.262	1.304
										105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125
										1.372	1.432	1.457	1.399	1.424	1.427	1.428	1.426	0.031	0.056	0.091	0.039	0.107	0.260	0.507	0.697	0.756	0.916	1.019	1.175	1.245
										126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143			
										1.129	1.285	1.318	1.330	1.301	0.012	0.013	0.018	0.026	0.032	0.044	0.053	0.063	0.076	0.083	0.108	0.126	0.134			
Sensor on									Average Value of Time Sweep (W/kg)																					
Mode	Service/Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Auto-Tune	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LTE B4	QPSK	20175	1732.5	50	0	Back+Headset	5mm	1.25	1.36	0.237	0.290	0.363	0.408	0.447	0.464	0.485	0.501	0.506	0.523	0.534	0.543	0.551	0.558	0.564	0.564	0.563	0.567	0.572	0.372	0.400
										21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
										0.424	0.462	0.483	0.495	0.506	0.516	0.525	0.533	0.543	0.530	0.537	0.543	0.546	0.553	0.557	0.561	0.566	0.567	0.571	0.575	0.579
										42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
										0.581	0.584	0.586	0.588	0.566	0.567	0.567	0.588	0.571	0.572	0.580	0.588	0.621	0.631	0.638	0.636	0.637	0.638	0.637	0.632	0.628
										63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83
										0.631	0.629	0.627	0.625	0.623	0.604	0.603	0.604	0.608	0.612	1.308	1.351	1.295	1.323	1.258	0.992	0.892	0.844	0.797	0.764	0.733
										84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104
										0.737	0.721	0.699	0.685	0.670	0.659	0.603	0.605	0.606	0.609	0.612	0.671	0.694	0.697	0.687	0.678	0.666	0.662	0.653	0.654	0.650
										105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125
										0.647	0.640	0.638	0.612	0.613	0.613	0.616	0.621	1.117	1.160	1.078	0.621	0.641	0.634	0.617	0.608	0.607	0.604	0.599	0.592	0.588
										126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143			
										0.544	0.542	0.547	0.554	0.503	0.019	0.027	0.041	0.049	0.067	0.078	0.088	0.091	0.093	0.091	0.092	0.100	0.103			

Full Power									Average Value of Time Sweep (W/kg)																							
Mode	Service/Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Auto-Tune	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
LTE B2	QPSK	18700	1860	50	0	Back	5mm	1.01	1.49	0.452	0.577	0.723	0.795	0.846	0.848	0.869	0.875	0.876	0.889	0.886	0.886	0.893	0.895	0.872	0.865	0.853	0.859	0.871	0.734	0.766		
										21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
										0.789	0.819	0.821	0.831	0.824	0.829	0.831	0.823	0.826	0.832	0.826	0.826	0.830	0.830	0.832	0.833	0.825	0.822	0.823	0.823	0.825		
										42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62		
										0.826	0.826	0.824	0.821	0.769	0.077	0.768	0.768	0.771	0.769	0.787	0.534	0.677	0.781	0.848	0.899	1.414	1.413	1.418	1.400	0.902		
										63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83		
										1.404	1.399	1.396	1.386	1.378	0.841	0.834	0.824	0.828	0.851	0.742	0.654	0.773	1.355	1.408	1.424	1.423	1.412	1.399	1.379	1.367		
										84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104		
										0.873	0.866	0.855	0.845	0.832	0.818	0.579	0.758	0.760	0.762	0.776	0.518	0.677	0.846	0.926	0.921	0.915	0.914	0.908	0.913	0.905		
										105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125		
										0.895	0.884	0.878	0.833	0.829	0.823	0.831	0.841	0.513	0.709	0.836	0.540	0.808	0.886	0.850	0.821	0.817	0.814	0.797	0.769	0.761		
										126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143					
										0.698	0.695	0.698	0.710	0.631	0.025	0.034	0.056	0.071	0.098	0.117	0.135	0.139	0.144	0.144	0.145	0.156	0.161					



**Appendix D. DAS Y Calibration Certificate**

The DAS Y calibration certificates are shown as follows.



In Collaboration with  
**s p e a g**  
CALIBRATION LABORATORY



中国认可  
国际互认  
校准  
CALIBRATION  
CNAS L0570

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China  
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504  
E-mail: cttl@chinattl.com http://www.chinattl.cn

Client

**Sporton**

Certificate No:

**Z19-60082**

## CALIBRATION CERTIFICATE

Object: D835V2 - SN: 4d151

Calibration Procedure(s): FF-Z11-003-01  
Calibration Procedures for dipole validation kits

Calibration date: March 27, 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±3)°C and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	106277	20-Aug-18 (CTTL, No.J18X06862)	Aug-19
Power sensor NRP8S	104291	20-Aug-18 (CTTL, No.J18X06862)	Aug-19
Reference Probe EX3DV4	SN 3617	31-Jan-19(SPEAG,No.EX3-3617_Jan19)	Jan-20
DAE4	SN 1331	06-Feb-19(SPEAG,No.DAE4-1331_Feb19)	Feb-20
Secondary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Signal Generator E4438C	MY49071430	23-Jan-19 (CTTL, No.J19X00336)	Jan-20
NetworkAnalyzer E5071C	MY46110673	24-Jan-19 (CTTL, No.J19X00547)	Jan-20

	Name	Function	Signature
Calibrated by:	Zhao Jing	SAR Test Engineer	
Reviewed by:	Lin Hao	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	

Issued: March 30, 2019

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### Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM <sub>x,y,z</sub>
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 assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices- Part 1: Device used next to the ear (Frequency range of 300MHz to 6GHz)", July 2016
- IEC 62209-2, "Procedure to measure the Specific Absorption Rate (SAR) For wireless communication devices used in close proximity to the human body (frequency range of 30MHz to 6GHz)", March 2010
- KDB865664, 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%.



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### Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY52	52.10.2.1495
Extrapolation	Advanced Extrapolation	
Phantom	Triple Flat Phantom 5.1C	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 1 MHz	

### Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	42.7 ± 6 %	0.93 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C	----	----

### SAR result with Head TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.36 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	9.30 W/kg ± 18.8 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	1.56 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	6.16 W/kg ± 18.7 % (k=2)

### Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	56.7 ± 6 %	0.94 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °C	----	----

### SAR result with Body TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.32 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	9.53 W /kg ± 18.8 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	Condition	
SAR measured	250 mW input power	1.52 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	6.20 W/kg ± 18.7 % (k=2)



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## Appendix (Additional assessments outside the scope of CNAS L0570)

### Antenna Parameters with Head TSL

Impedance, transformed to feed point	50.8Ω- 3.28jΩ
Return Loss	- 29.5dB

### Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.7Ω- 3.98jΩ
Return Loss	- 25.5dB

### General Antenna Parameters and Design

Electrical Delay (one direction)	1.253 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
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**DASY5 Validation Report for Head TSL**

Date: 03.26.2019

Test Laboratory: CTTL, Beijing, China

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d151**

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

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.925$  S/m;  $\epsilon_r = 42.68$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3617; ConvF(9.75, 9.75, 9.75) @ 835 MHz; Calibrated: 1/31/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 2/6/2019
- Phantom: MFP\_V5.1C ; Type: QD 000 P51CA; Serial: 1062
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

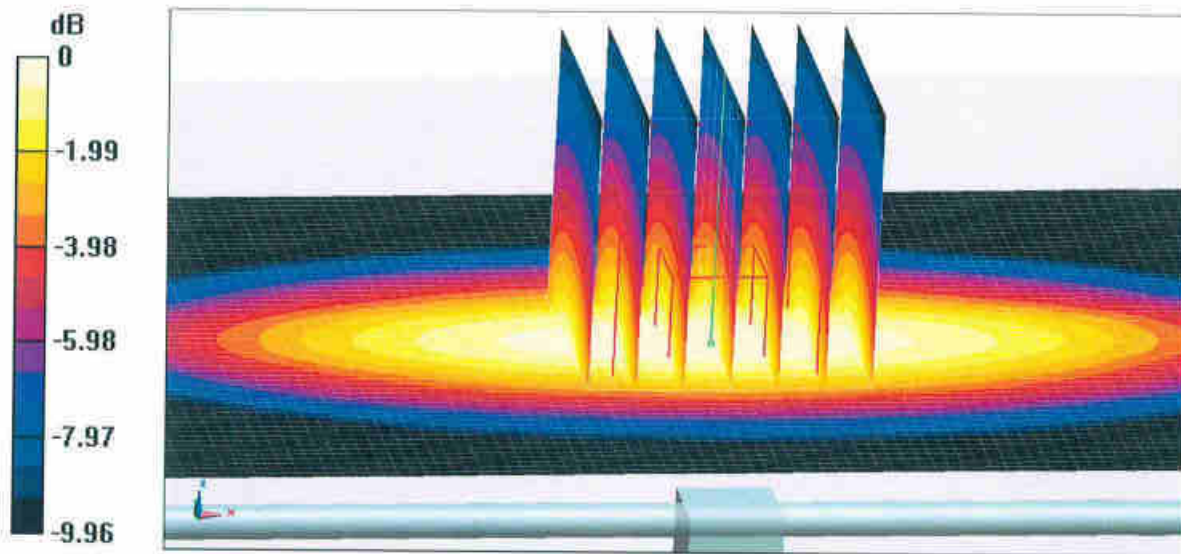
**Dipole Calibration/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 57.34 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 3.55 W/kg

**SAR(1 g) = 2.36 W/kg; SAR(10 g) = 1.56 W/kg**

Maximum value of SAR (measured) = 3.14 W/kg

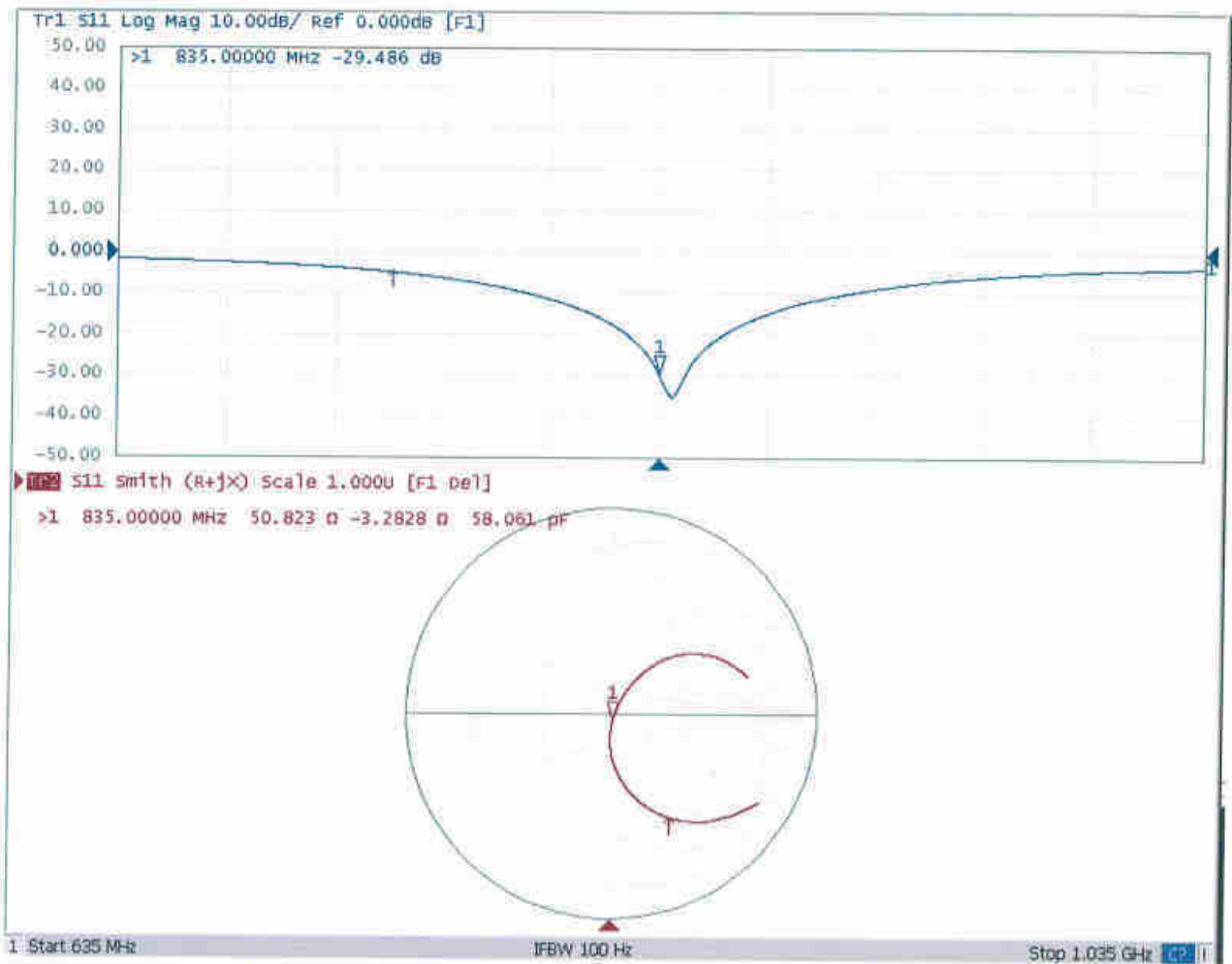


**0 dB = 3.14 W/kg = 4.97 dBW/kg**



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### Impedance Measurement Plot for Head TSL





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**DASY5 Validation Report for Body TSL**

Date: 03.26.2019

Test Laboratory: CTTL, Beijing, China

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d151**

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

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.944$  S/m;  $\epsilon_r = 56.66$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3617; ConvF(9.61, 9.61, 9.61) @ 835 MHz; Calibrated: 1/31/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 2/6/2019
- Phantom: MFP\_V5.1C ; Type: QD 000 P51CA; Serial: 1062
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

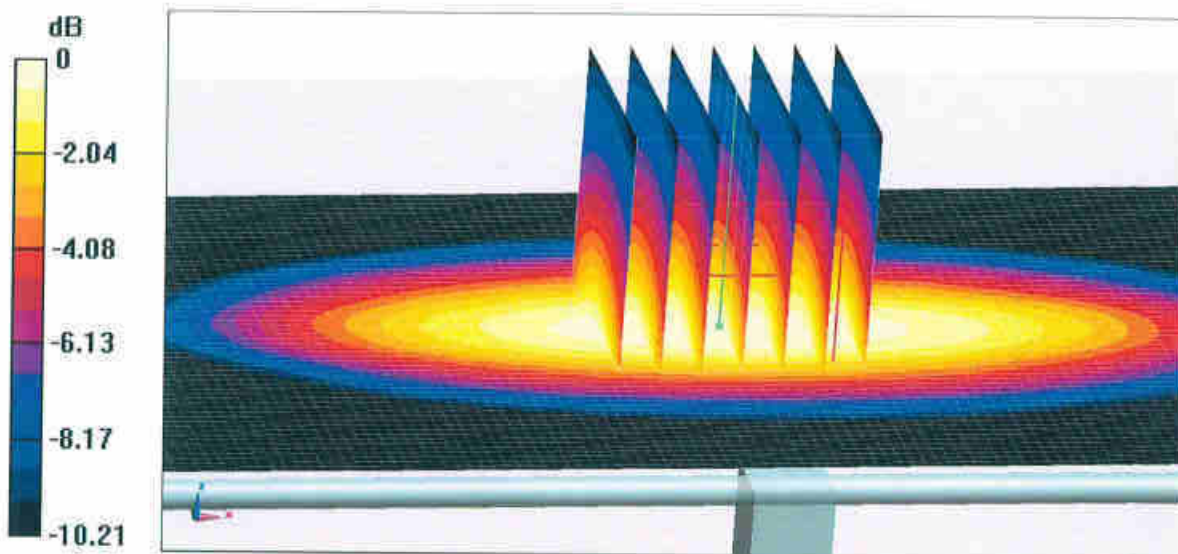
**Dipole Calibration/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56.03 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 3.53 W/kg

**SAR(1 g) = 2.32 W/kg; SAR(10 g) = 1.52 W/kg**

Maximum value of SAR (measured) = 3.12 W/kg

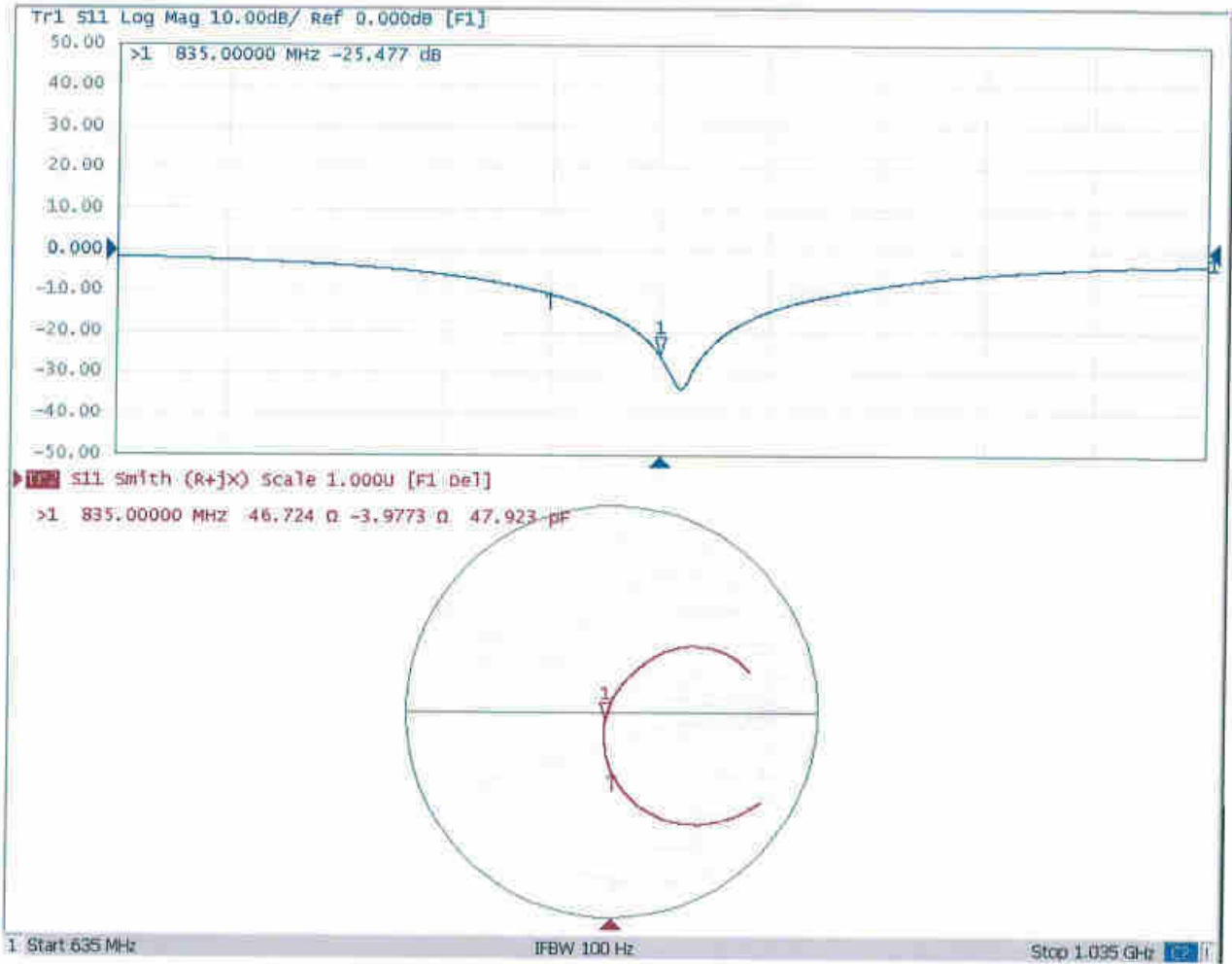


**0 dB = 3.12 W/kg = 4.94 dBW/kg**



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### Impedance Measurement Plot for Body TSL





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Client **Sporton**

Certificate No: **Z19-60084**

## CALIBRATION CERTIFICATE

Object **D1750V2 - SN: 1090**

Calibration Procedure(s) **FF-Z11-003-01**  
**Calibration Procedures for dipole validation kits**

Calibration date: **March 27, 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±3)℃ and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	106277	20-Aug-18 (CTTL, No.J18X06862)	Aug-19
Power sensor NRP8S	104291	20-Aug-18 (CTTL, No.J18X06862)	Aug-19
Reference Probe EX3DV4	SN 3617	31-Jan-19(SPEAG,No.EX3-3617_Jan19)	Jan-20
DAE4	SN 1331	06-Feb-19(SPEAG,No.DAE4-1331_Feb19)	Feb-20
Secondary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Signal Generator E4438C	MY49071430	23-Jan-19 (CTTL, No.J19X00336)	Jan-20
NetworkAnalyzer E5071C	MY46110673	24-Jan-19 (CTTL, No.J19X00547)	Jan-20

	Name	Function	Signature
Calibrated by:	Zhao Jing	SAR Test Engineer	
Reviewed by:	Lin Hao	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	

Issued: March 29, 2019

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### Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM <sub>x,y,z</sub>
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 assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices- Part 1: Device used next to the ear (Frequency range of 300MHz to 6GHz)", July 2016
- IEC 62209-2, "Procedure to measure the Specific Absorption Rate (SAR) For wireless communication devices used in close proximity to the human body (frequency range of 30MHz to 6GHz)", March 2010
- KDB865664, 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%.



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### Measurement Conditions

DASY system configuration, as far as not given on page 1:

DASY Version	DASY52	52.10.2.1495
Extrapolation	Advanced Extrapolation	
Phantom	Triple Flat Phantom 5.1C	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1750 MHz ± 1 MHz	

### Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.1	1.37 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	41.3 ± 6 %	1.37 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C	---	---

### SAR result with Head TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	9.04 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	36.4 W/kg ± 18.8 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	4.79 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	19.2 W/kg ± 18.7 % (k=2)

### Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.4	1.49 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	55.0 ± 6 %	1.45 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °C	---	---

### SAR result with Body TSL

SAR averaged over 1 cm <sup>3</sup> (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	9.21 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	37.7 W/kg ± 18.8 % (k=2)
SAR averaged over 10 cm <sup>3</sup> (10 g) of Body TSL	Condition	
SAR measured	250 mW input power	4.89 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	19.9 W/kg ± 18.7 % (k=2)



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## Appendix (Additional assessments outside the scope of CNAS L0570)

### Antenna Parameters with Head TSL

Impedance, transformed to feed point	47.5Ω- 2.34 jΩ
Return Loss	- 29.2 dB

### Antenna Parameters with Body TSL

Impedance, transformed to feed point	43.9Ω- 2.19 jΩ
Return Loss	- 23.2 dB

### General Antenna Parameters and Design

Electrical Delay (one direction)	1.085 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
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### DASY5 Validation Report for Head TSL

Date: 03.26.2019

Test Laboratory: CTTL, Beijing, China

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1090**

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.37$  S/m;  $\epsilon_r = 41.27$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3617; ConvF(8.38, 8.38, 8.38) @ 1750 MHz; Calibrated: 1/31/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 2/6/2019
- Phantom: MFP\_V5.1C ; Type: QD 000 P51CA; Serial: 1062
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**System Performance Check/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:**

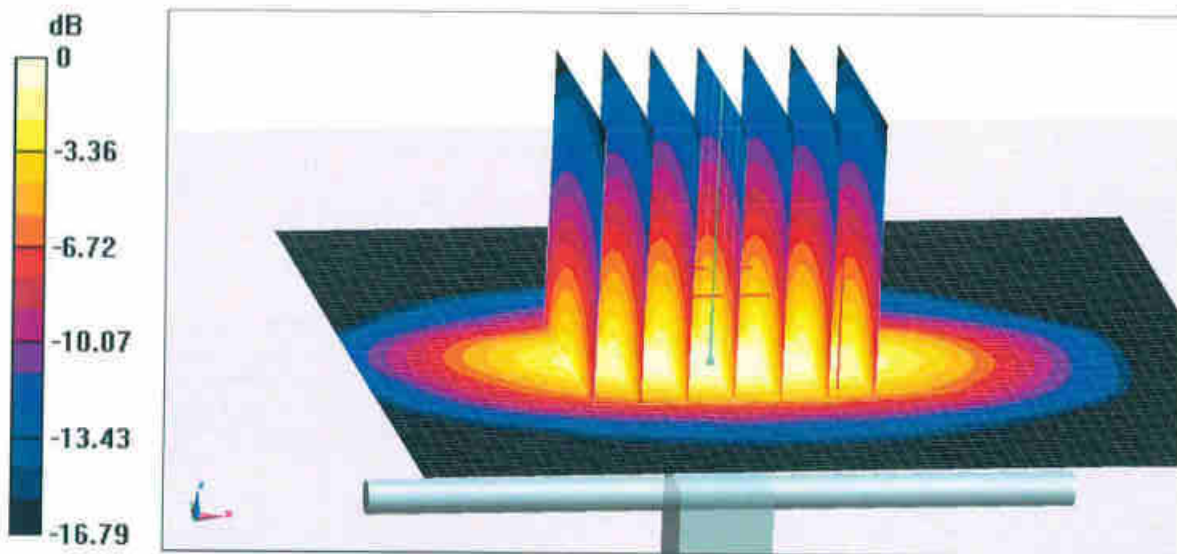
$dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 89.03 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 17.1 W/kg

**SAR(1 g) = 9.04 W/kg; SAR(10 g) = 4.79 W/kg**

Maximum value of SAR (measured) = 14.2 W/kg

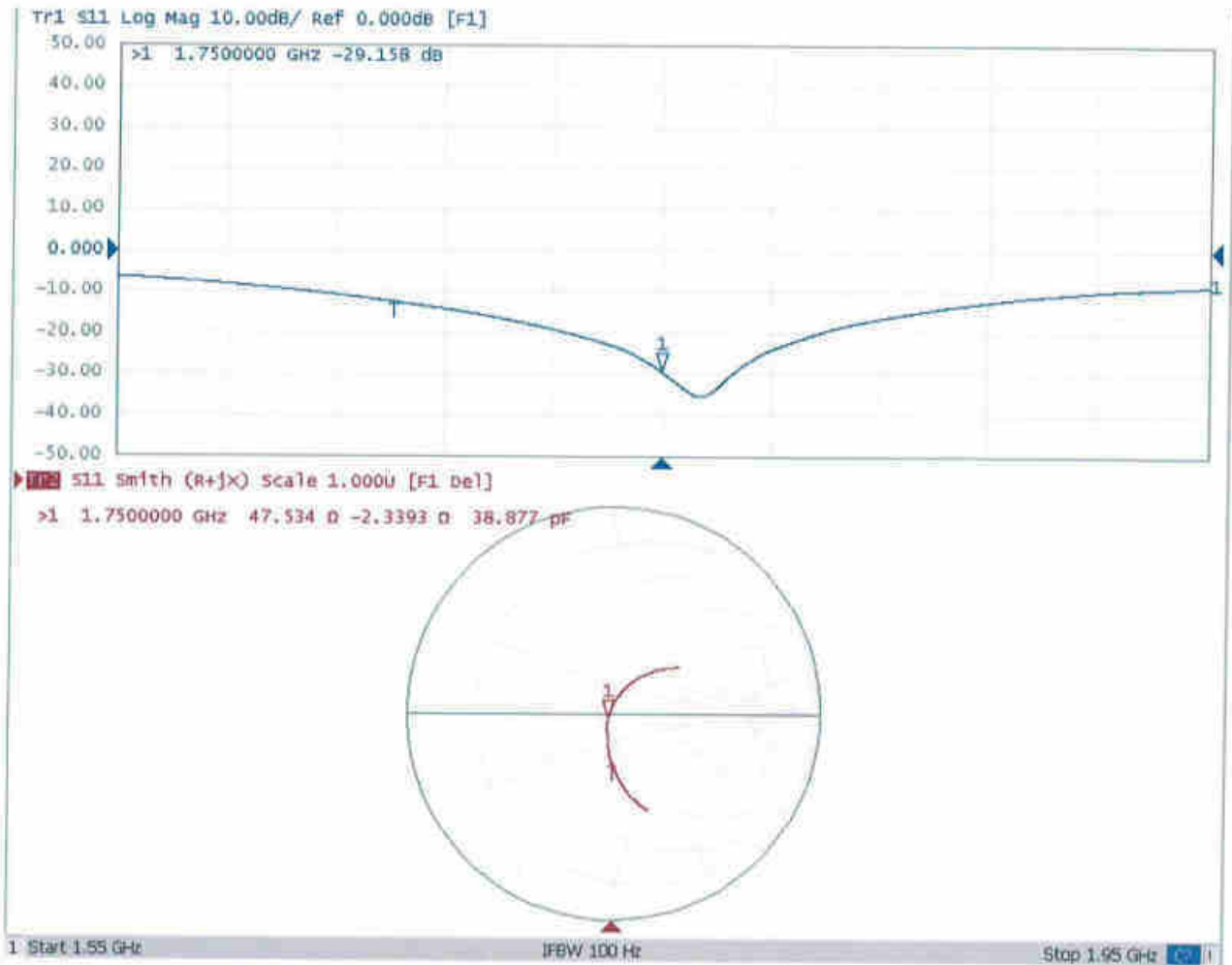


0 dB = 14.2 W/kg = 11.52 dBW/kg



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### Impedance Measurement Plot for Head TSL





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## DASY5 Validation Report for Body TSL

Date: 03.26.2019

Test Laboratory: CTTL, Beijing, China

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1090**

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.449$  S/m;  $\epsilon_r = 54.97$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Center Section

DASY5 Configuration:

- Probe: EX3DV4 - SN3617; ConvF(8.03, 8.03, 8.03) @ 1750 MHz; Calibrated: 1/31/2019
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1331; Calibrated: 2/6/2019
- Phantom: MFP\_V5.1C ; Type: QD 000 P51CA; Serial: 1062
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**System Performance Check/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:**

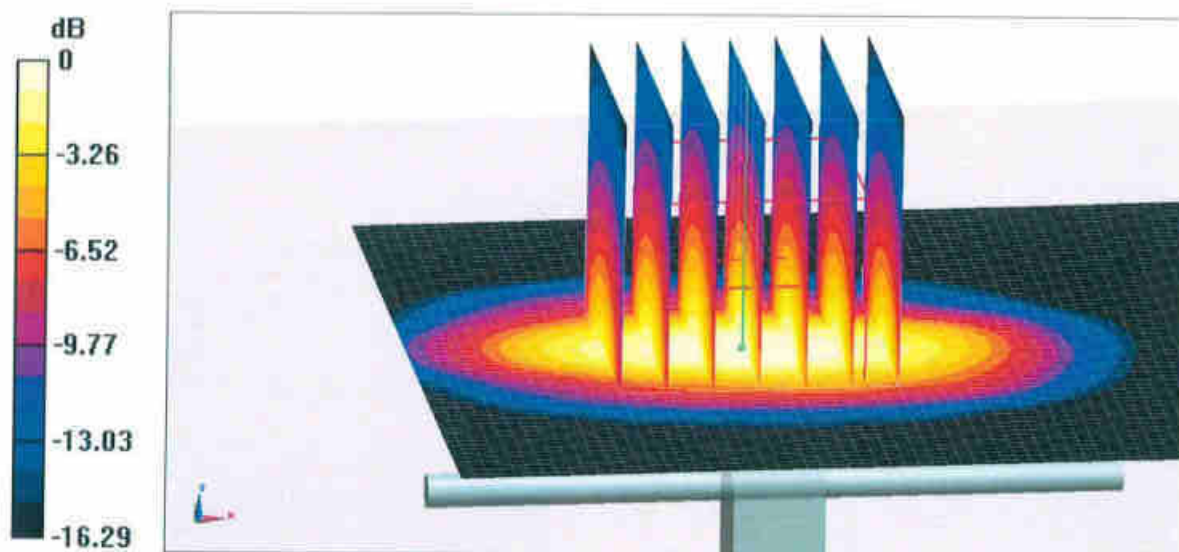
$dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 93.13 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 16.8 W/kg

**SAR(1 g) = 9.21 W/kg; SAR(10 g) = 4.89 W/kg**

Maximum value of SAR (measured) = 14.2 W/kg

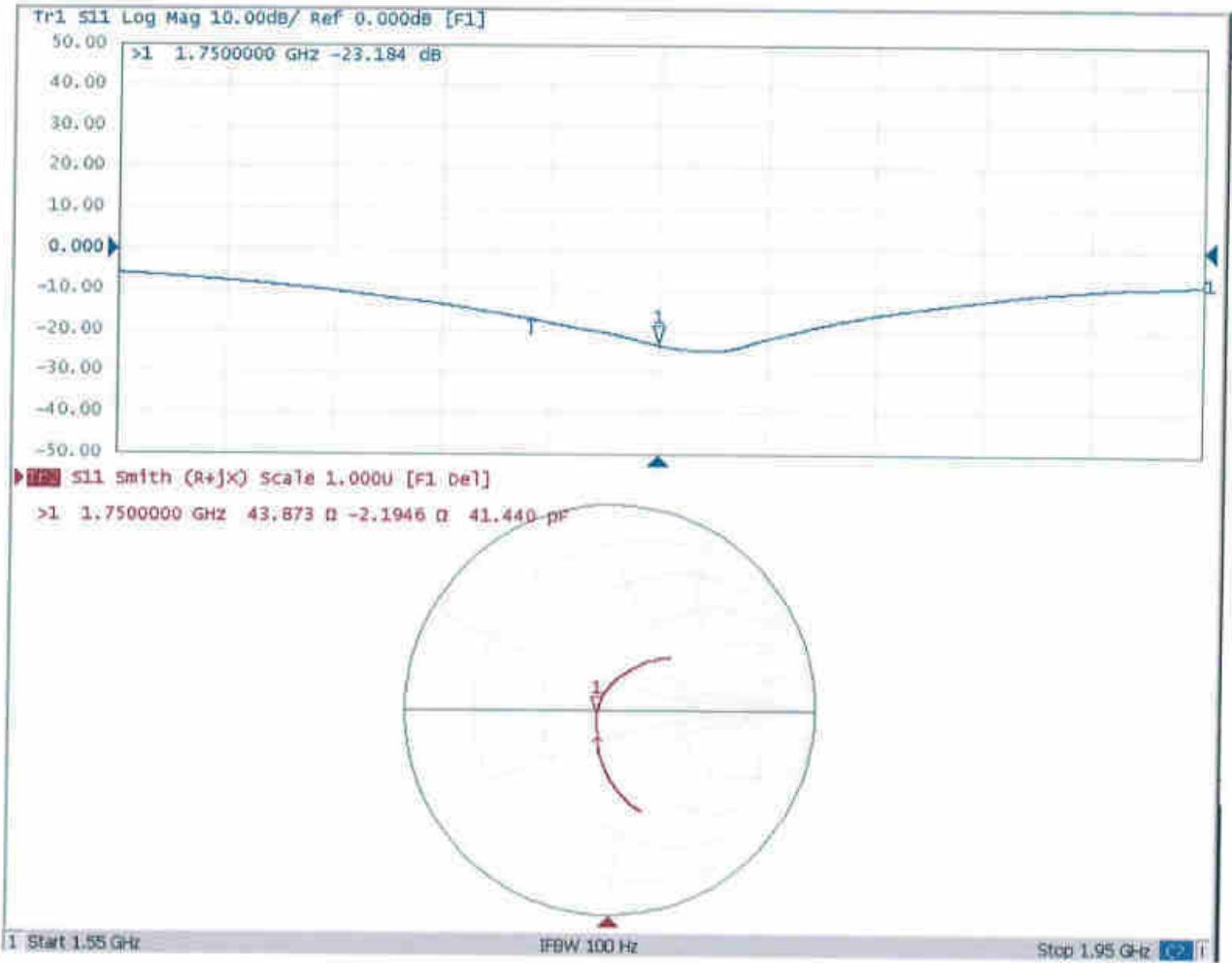


0 dB = 14.2 W/kg = 11.52 dBW/kg



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### Impedance Measurement Plot for Body TSL





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E-mail: cttl@chinattl.com http://www.chinattl.cn

Client **Sporton**

Certificate No: **Z19-60085**

## CALIBRATION CERTIFICATE

Object **D1900V2 - SN: 5d170**

Calibration Procedure(s) **FF-Z11-003-01**  
**Calibration Procedures for dipole validation kits**

Calibration date: **March 26, 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±3)°C and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	106277	20-Aug-18 (CTTL, No.J18X06862)	Aug-19
Power sensor NRP8S	104291	20-Aug-18 (CTTL, No.J18X06862)	Aug-19
Reference Probe EX3DV4	SN 3617	31-Jan-19(SPEAG,No.EX3-3617_Jan19)	Jan-20
DAE4	SN 1331	06-Feb-19(SPEAG,No.DAE4-1331_Feb19)	Feb-20
Secondary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Signal Generator E4438C	MY49071430	23-Jan-19 (CTTL, No.J19X00336)	Jan-20
NetworkAnalyzer E5071C	MY46110673	24-Jan-19 (CTTL, No.J19X00547)	Jan-20

	Name	Function	Signature
Calibrated by:	Zhao Jing	SAR Test Engineer	
Reviewed by:	Lin Hao	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	

Issued: March 29, 2019

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