

21_GSM850_GPRS 4Tx slots_Back_5mm_Ch251

Communication System: UID 0, GSM 4Tx slots (0); Frequency: 848.8 MHz; Duty Cycle: 1:2.08
Medium: HSL_850 Medium parameters used: $f = 849$ MHz; $\sigma = 0.928$ S/m; $\epsilon_r = 41.081$; $\rho = 1000$ kg/m³

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3843; ConvF(8.69, 8.69, 8.69); Calibrated: 2020.9.23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM1; Type: SAM; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (81x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.30 W/kg

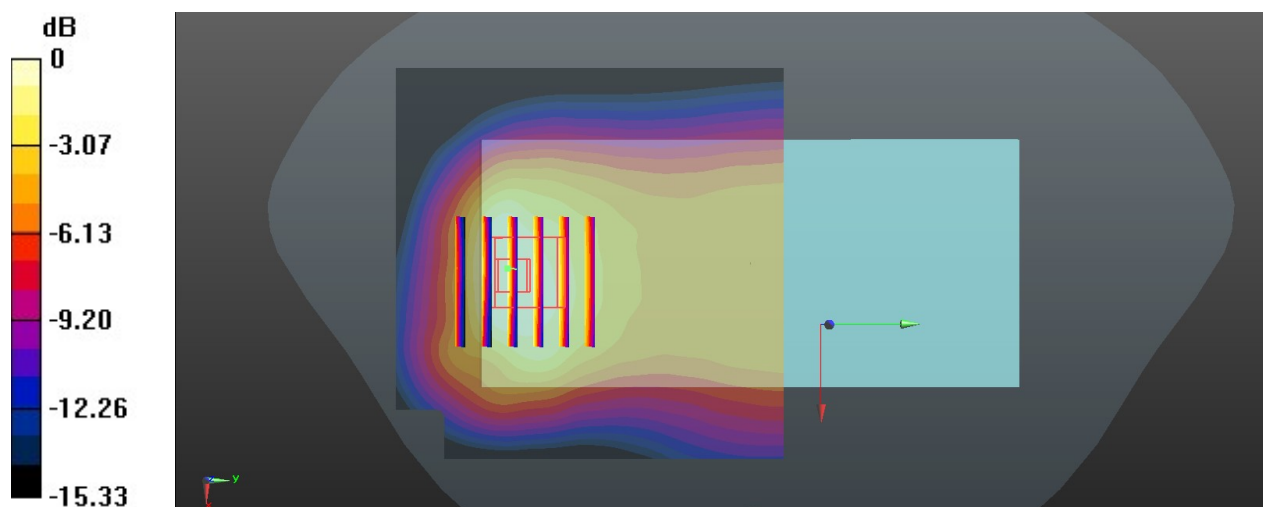
Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.64 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 1.41 W/kg

SAR(1 g) = 0.821 W/kg; SAR(10 g) = 0.512 W/kg

Maximum value of SAR (measured) = 1.11 W/kg



0 dB = 1.11 W/kg = 0.45 dBW/kg

22_GSM1900_GPRS 4Tx slots_Back_5mm_Ch512

Communication System: UID 0, GSM 4Tx slots (0); Frequency: 1850.2 MHz; Duty Cycle: 1:2.08
Medium: HSL_1900 Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.35$ S/m; $\epsilon_r = 40.362$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.1 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3843; ConvF(7.41, 7.41, 7.41); Calibrated: 2020.9.23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM1; Type: SAM; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (81x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.70 W/kg

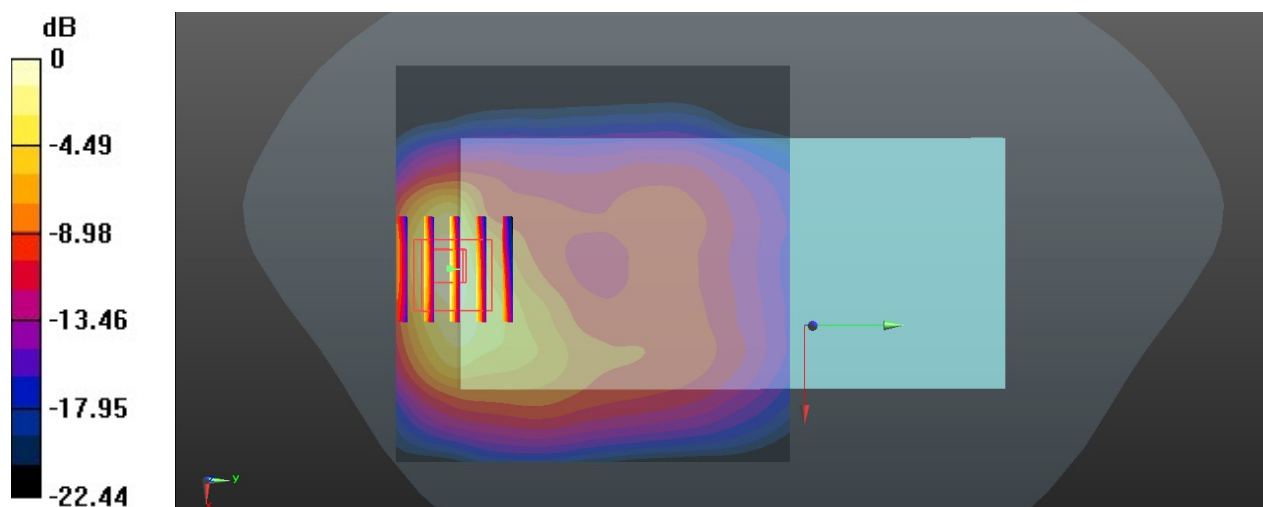
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.954 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 1.96 W/kg

SAR(1 g) = 1.02 W/kg; SAR(10 g) = 0.508 W/kg

Maximum value of SAR (measured) = 1.63 W/kg



0 dB = 1.63 W/kg = 2.12 dBW/kg

23_WCDMA II_9262_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; $\sigma = 1.352$ S/m; $\epsilon_r = 40.353$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.1 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3843; ConvF(7.41, 7.41, 7.41); Calibrated: 2020.9.23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM1; Type: SAM; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (81x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.26 W/kg

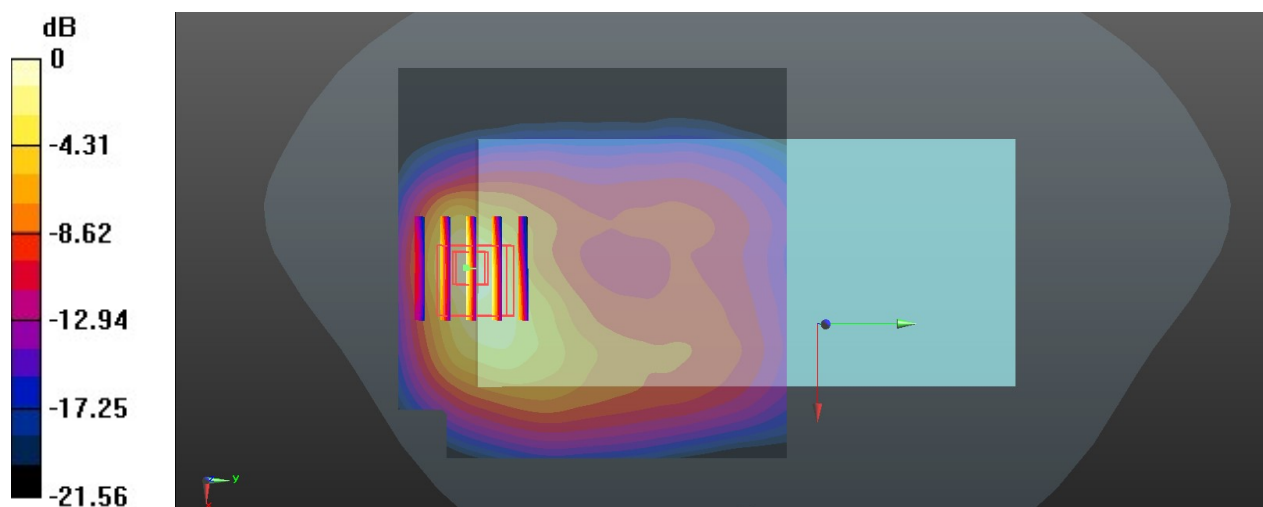
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.208 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 1.79 W/kg

SAR(1 g) = 0.911 W/kg; SAR(10 g) = 0.453 W/kg

Maximum value of SAR (measured) = 1.44 W/kg



0 dB = 1.44 W/kg = 1.58 dBW/kg

24_WCDMA V_RMC 12.2Kbps_Back_5mm_Ch4182

Communication System: UID 0, WCDMA (0); Frequency: 836.4 MHz; Duty Cycle: 1:1

Medium: HSL_835 Medium parameters used: $f = 836.4$ MHz; $\sigma = 0.916$ S/m; $\epsilon_r = 41.246$; $\rho = 1000$ kg/m³

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3843; ConvF(8.69, 8.69, 8.69); Calibrated: 2020.9.23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM1; Type: SAM; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (81x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.601 W/kg

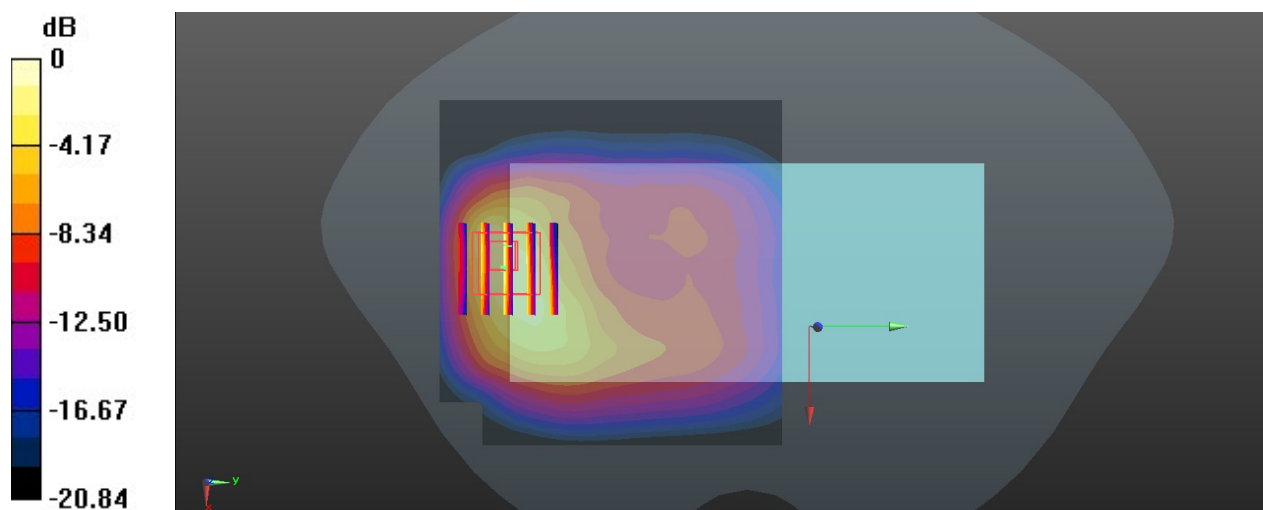
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.069 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.02 W/kg

SAR(1 g) = 0.481 W/kg; SAR(10 g) = 0.248 W/kg

Maximum value of SAR (measured) = 0.815 W/kg



0 dB = 0.815 W/kg = -0.58 dBW/kg

25_LTE Band 2_20M_QPSK_1RB_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; $\sigma = 1.361$ S/m; $\epsilon_r = 40.327$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.1 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3843; ConvF(7.41, 7.41, 7.41); Calibrated: 2020.9.23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM1; Type: SAM; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (81x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.10 W/kg

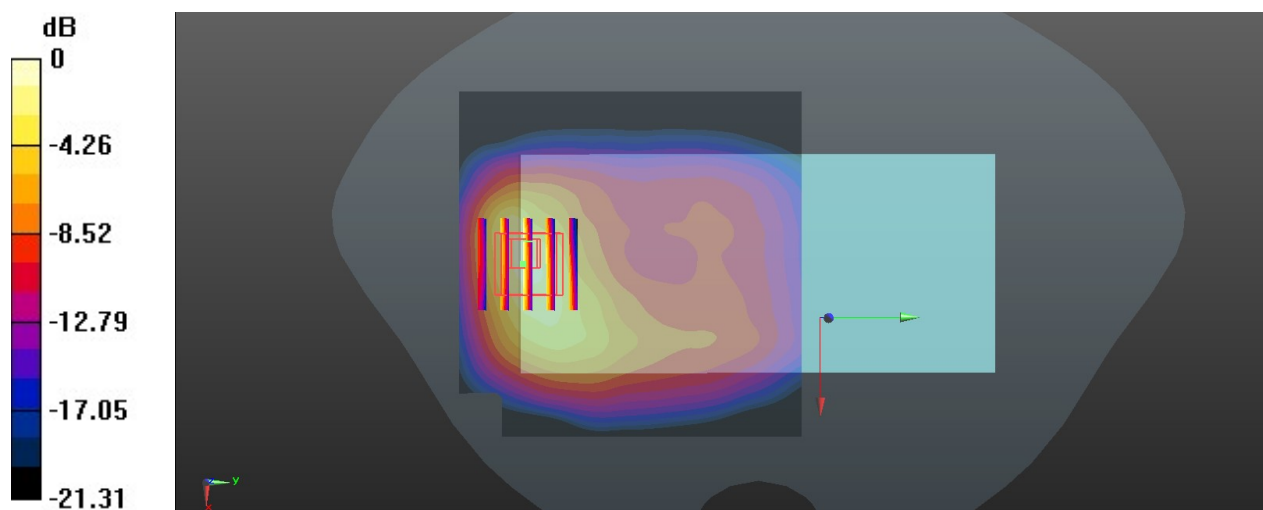
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.372 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 1.75 W/kg

SAR(1 g) = 0.875 W/kg; SAR(10 g) = 0.438 W/kg

Maximum value of SAR (measured) = 1.41 W/kg



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

26_LTE Band 7_20M_QPSK_1RB_0Offset_Back_5mm_Ch21100

Communication System: UID 0, LTE FDD (0); Frequency: 2535 MHz; Duty Cycle: 1:1

Medium: HSL_2600 Medium parameters used: $f = 2535$ MHz; $\sigma = 1.857$ S/m; $\epsilon_r = 40.367$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3843; ConvF(6.76, 6.76, 6.76); Calibrated: 2020.9.23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM1; Type: SAM; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.44 W/kg

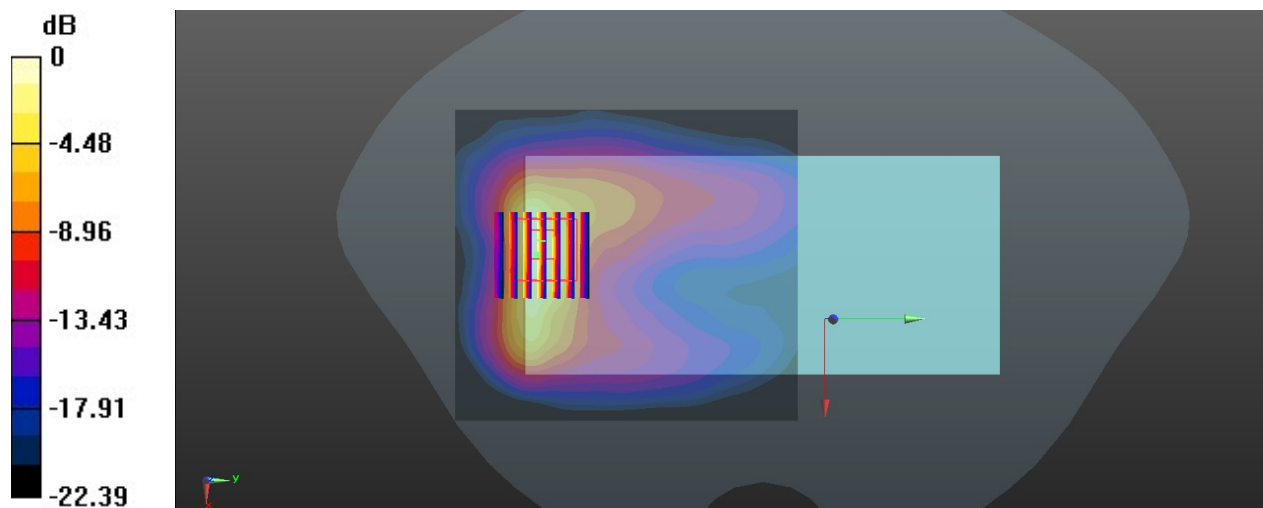
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.260 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 2.12 W/kg

SAR(1 g) = 0.950 W/kg; SAR(10 g) = 0.407 W/kg

Maximum value of SAR (measured) = 1.69 W/kg



0 dB = 1.69 W/kg = 2.28 dBW/kg

27_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; $\sigma = 0.912$ S/m; $\epsilon_r = 41.313$; $\rho = 1000$ kg/m³

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

DASY5 Configuration:

- Probe: EX3DV4 - SN3843; ConvF(8.69, 8.69, 8.69); Calibrated: 2020.9.23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM1; Type: SAM; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

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

Maximum value of SAR (interpolated) = 0.798 W/kg

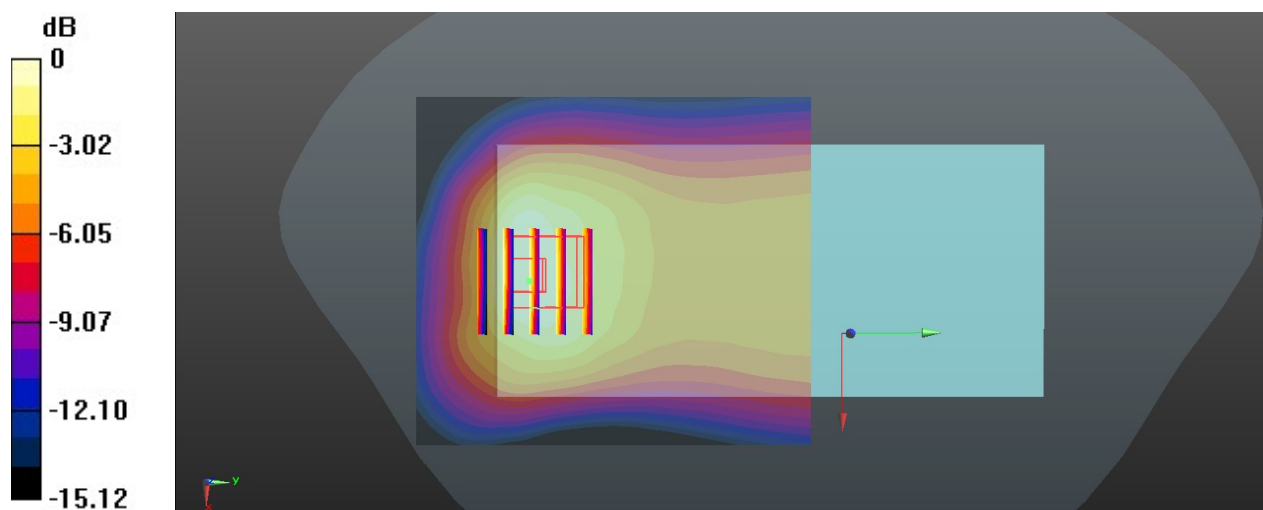
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.47 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.929 W/kg

SAR(1 g) = 0.521 W/kg; SAR(10 g) = 0.336 W/kg

Maximum value of SAR (measured) = 0.708 W/kg



0 dB = 0.708 W/kg = -1.50 dBW/kg

28_LTE Band 41_20M_QPSK_1RB_0Offset_Back_5mm_Ch40670

Communication System: UID 0, LTE-TDD (0); Frequency: 2598 MHz; Duty Cycle: 1:1.59

Medium: HSL_2600 Medium parameters used: $f = 2598$ MHz; $\sigma = 1.932$ S/m; $\epsilon_r = 40.125$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3843; ConvF(6.76, 6.76, 6.76); Calibrated: 2020.9.23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM1; Type: SAM; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (101x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.52 W/kg

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

Reference Value = 2.968 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 2.71 W/kg

SAR(1 g) = 1.16 W/kg; SAR(10 g) = 0.498 W/kg

Maximum value of SAR (measured) = 1.52 W/kg

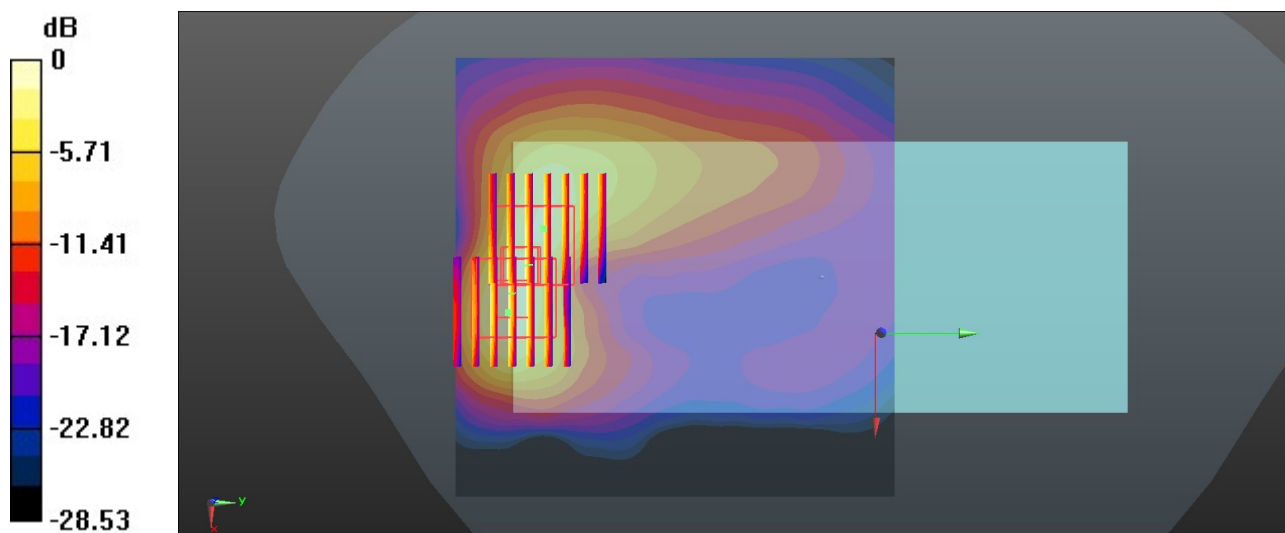
Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.968 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 2.76 W/kg

SAR(1 g) = 1.08 W/kg; SAR(10 g) = 0.429 W/kg

Maximum value of SAR (measured) = 1.50 W/kg



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

29_WLAN2.4GHz_802.11b 1Mbps_Back_5mm_Ch6

Communication System: UID 0, WIFI2.4G (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: HSL_2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.846$ S/m; $\epsilon_r = 38.639$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.3 °C; Liquid Temperature : 22.9 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3843; ConvF(6.85, 6.85, 6.85); Calibrated: 2020.9.23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM1; Type: SAM; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

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

Maximum value of SAR (interpolated) = 1.16 W/kg

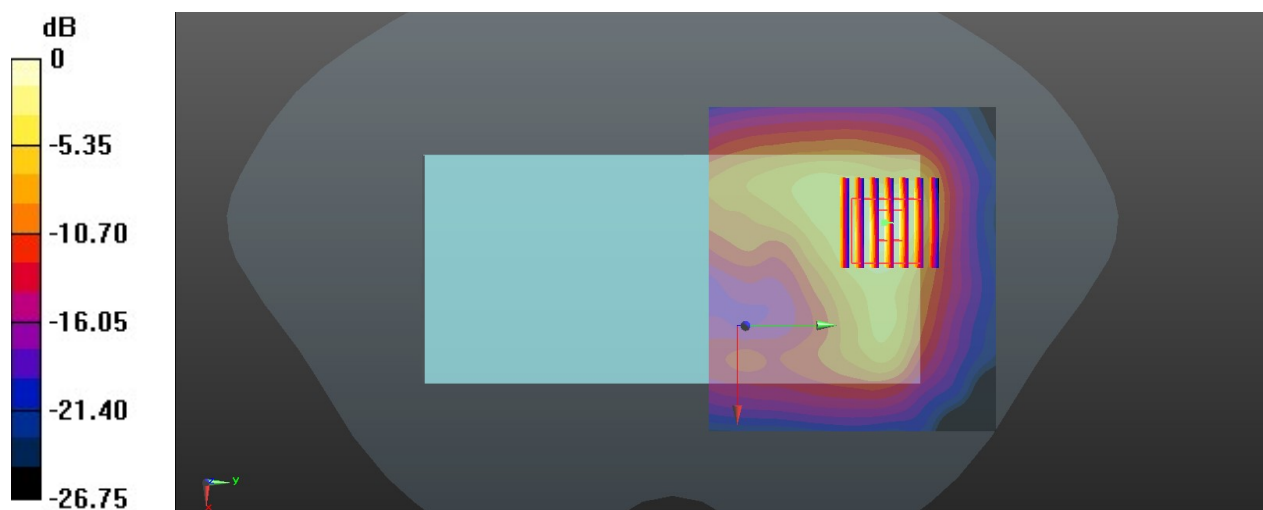
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.791 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.50 W/kg

SAR(1 g) = 0.670 W/kg; SAR(10 g) = 0.295 W/kg

Maximum value of SAR (measured) = 1.16 W/kg



30_Bluetooth_1Mbps_Back_5mm_Ch39

Communication System: UID 0, Bluetooth (0); Frequency: 2441 MHz; Duty Cycle: 1:1.3

Medium: HSL_2450 Medium parameters used: $f = 2441$ MHz; $\sigma = 1.845$ S/m; $\epsilon_r = 39.156$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.3 °C; Liquid Temperature : 22.9 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3843; ConvF(6.85, 6.85, 6.85); Calibrated: 2020.9.23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM1; Type: SAM; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

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

Maximum value of SAR (interpolated) = 0.0276 W/kg

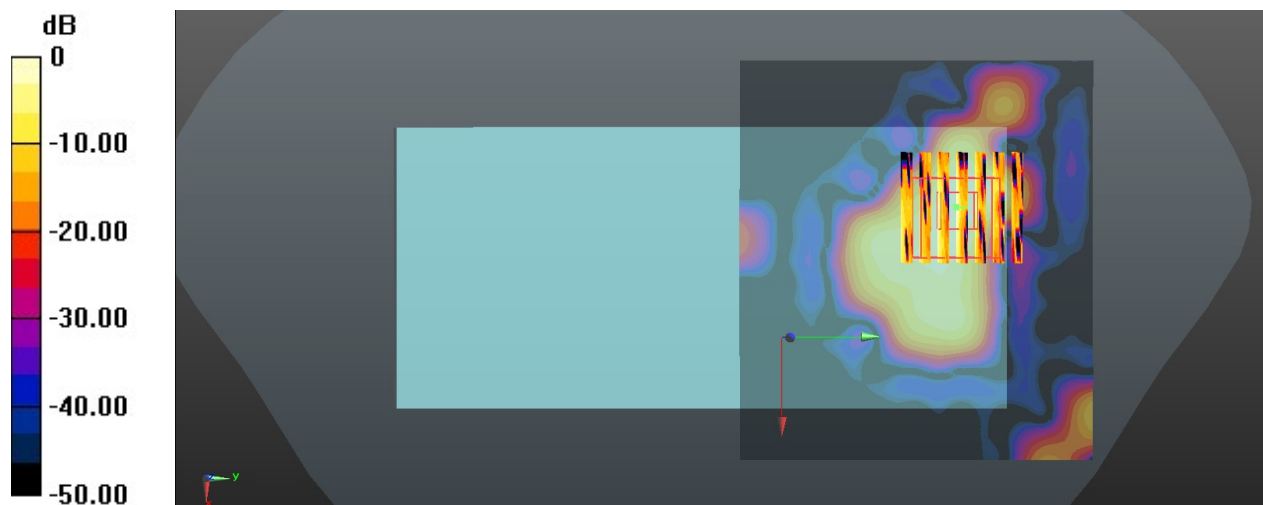
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.0320 W/kg

SAR(1 g) = 0.009 W/kg; SAR(10 g) = 0.003 W/kg

Maximum value of SAR (measured) = 0.0216 W/kg



0 dB = 0.0216 W/kg = -16.66 dBW/kg

31_GSM1900_GPRS 4Tx slots_Bottom Side_0mm_Ch512

Communication System: UID 0, GSM 4Tx slots (0); Frequency: 1850.2 MHz; Duty Cycle: 1:2.08
Medium: HSL_1900 Medium parameters used: $f = 1850.2$ MHz; $\sigma = 1.35$ S/m; $\epsilon_r = 40.362$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.1 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3843; ConvF(7.41, 7.41, 7.41); Calibrated: 2020.9.23
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM1; Type: SAM; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (41x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 8.62 W/kg

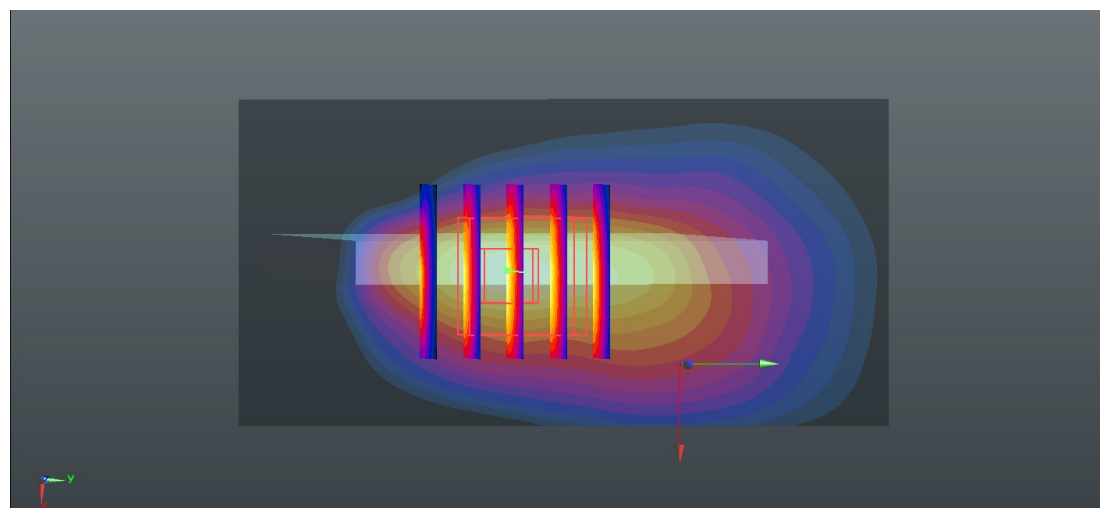
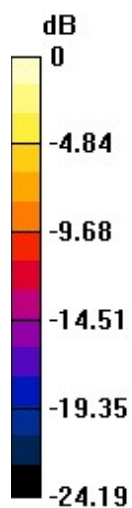
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 68.55 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 11.5 W/kg

SAR(1 g) = 4.86 W/kg; SAR(10 g) = 2.02 W/kg

Maximum value of SAR (measured) = 9.20 W/kg



0 dB = 9.20 W/kg = 9.64 dBW/kg

32_WCDMA II_RMC 12.2Kbps_Back_0mm_Ch9400

Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: HSL_1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.38$ S/m; $\epsilon_r = 40.24$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.1 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3843; ConvF(7.41, 7.41, 7.41); Calibrated: 2020.9.23
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM1; Type: SAM; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (81x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 6.06 W/kg

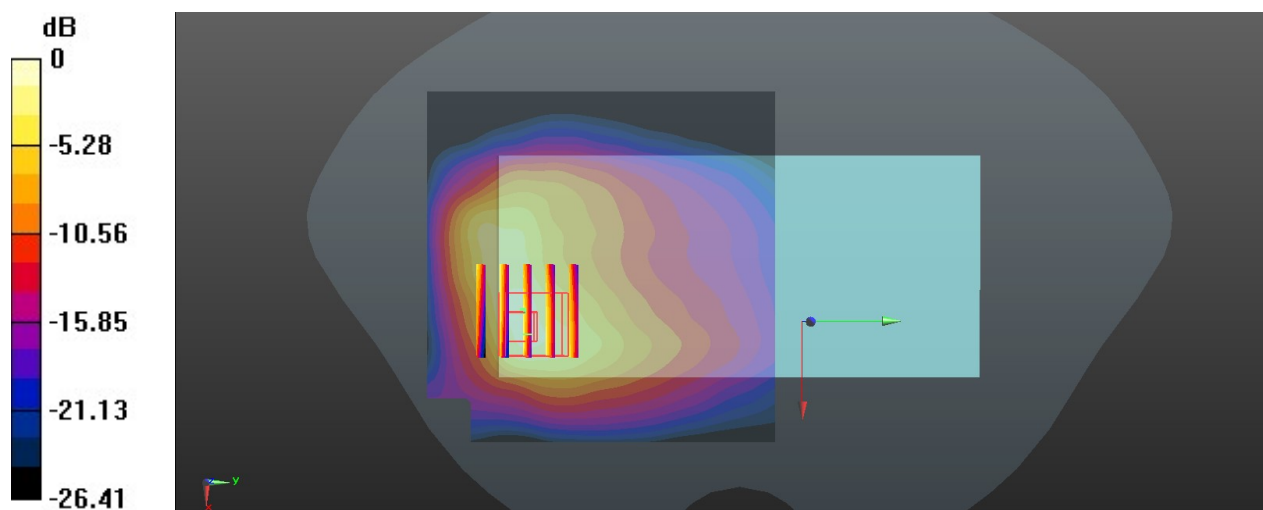
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.35 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 8.91 W/kg

SAR(1 g) = 3.48 W/kg; SAR(10 g) = 1.67 W/kg

Maximum value of SAR (measured) = 6.78 W/kg



0 dB = 6.78 W/kg = 8.31 dBW/kg

33_LTE Band 2_20M_QPSK_1RB_0Offset_Bottom Side_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; $\sigma = 1.38$ S/m; $\epsilon_r = 40.24$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.1 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3843; ConvF(7.41, 7.41, 7.41); Calibrated: 2020.9.23
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM1; Type: SAM; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (41x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 13.8 W/kg

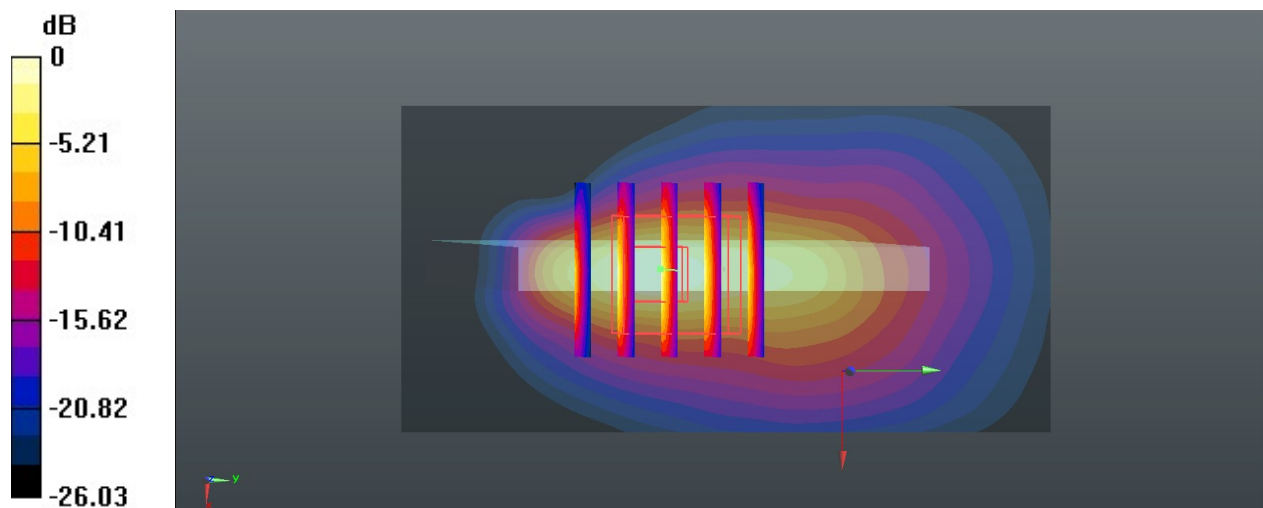
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 78.16 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 16.0 W/kg

SAR(1 g) = 6.71 W/kg; SAR(10 g) = 2.75 W/kg

Maximum value of SAR (measured) = 13.2 W/kg



0 dB = 13.2 W/kg = 11.21 dBW/kg

34_LTE Band 7_20M_QPSK_1RB_0Offset_Back_0mm_Ch21100

Communication System: UID 0, LTE FDD (0); Frequency: 2535 MHz; Duty Cycle: 1:1

Medium: HSL_2600 Medium parameters used: $f = 2535$ MHz; $\sigma = 1.857$ S/m; $\epsilon_r = 40.367$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3843; ConvF(6.76, 6.76, 6.76); Calibrated: 2020.9.23
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM1; Type: SAM; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x101x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 7.17 W/kg

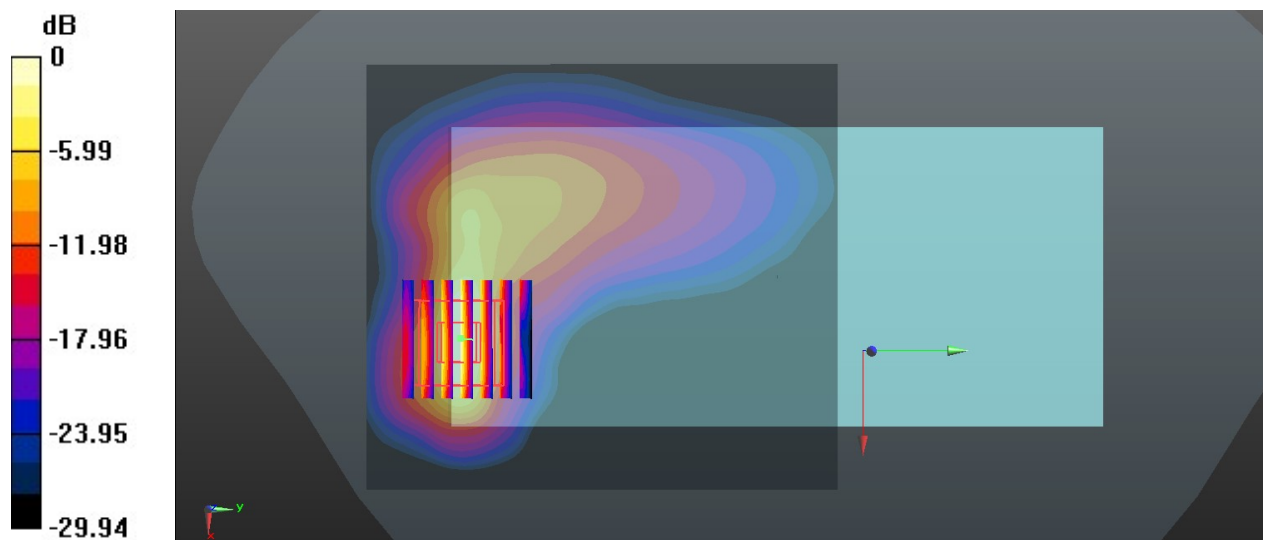
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.220 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 9.8 W/kg

SAR(1 g) = 3.72 W/kg; SAR(10 g) = 1.3 W/kg

Maximum value of SAR (measured) = 7.18 W/kg



0 dB = 7.18 W/kg = 8.28 dBW/kg

35_LTE Band 41_20M_QPSK_1RB_0Offset_Back_0mm_Ch40670

Communication System: UID 0, LTE TDD (0); Frequency: 2598 MHz; Duty Cycle: 1:1.59

Medium: HSL_2600 Medium parameters used: $f = 2598$ MHz; $\sigma = 1.87$ S/m; $\epsilon_r = 40.326$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3843; ConvF(6.76, 6.76, 6.76); Calibrated: 2020.9.23
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM1; Type: SAM; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x101x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 8.44 W/kg

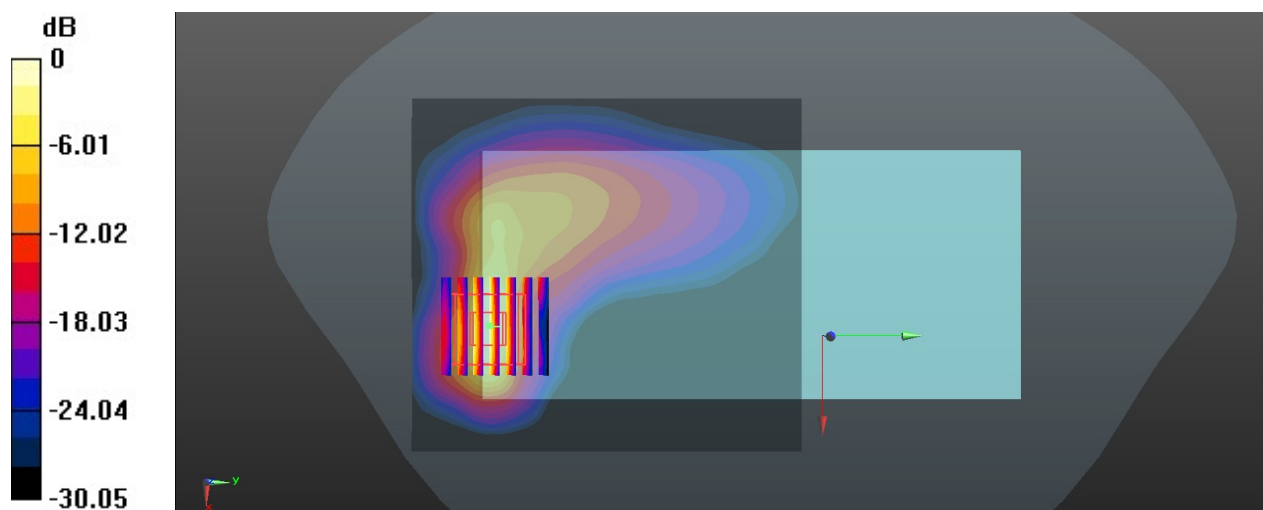
Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 2.524 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 12.3 W/kg

SAR(1 g) = 4.22 W/kg; SAR(10 g) = 1.35 W/kg

Maximum value of SAR (measured) = 8.78 W/kg





Appendix C. DASY Calibration Certificate

The DASY 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
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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)℃ 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

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



In Collaboration with

s p e a g
CALIBRATION LABORATORY

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Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM _{x,y,z}
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for 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%.