

27_Bluetooth_1Mbps_Back_10mm_Ch78

Communication System: UID 0, Bluetooth (0); Frequency: 2480 MHz; Duty Cycle: 1:1.298

Medium: HSL_2450 Medium parameters used: $f = 2480$ MHz; $\sigma = 1.89$ S/m; $\epsilon_r = 40.816$; $\rho = 1000$ kg/m³

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3279; ConvF(4.75, 4.75, 4.75); Calibrated: 2021.8.24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x161x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 0.0347 W/kg

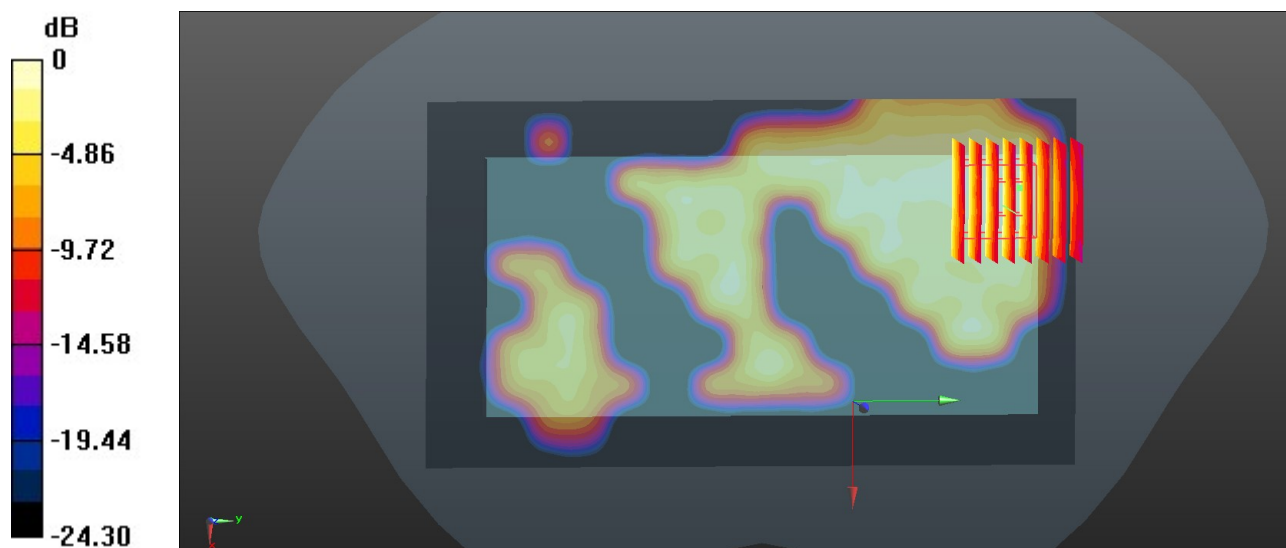
Zoom Scan (8x8x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 3.875 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.0450 W/kg

SAR(1 g) = 0.020 W/kg; SAR(10 g) = 0.011 W/kg

Maximum value of SAR (measured) = 0.0259 W/kg



0 dB = 0.0259 W/kg = -15.87 dBW/kg

28_WLAN5GHz_802.11n-HT40 MCS0_Top Side_10mm_Ch38

Communication System: UID 0, WLAN5GHz (0); Frequency: 5190 MHz; Duty Cycle: 1:1.054

Medium: HSL_5000 Medium parameters used: $f = 5190$ MHz; $\sigma = 4.516$ S/m; $\epsilon_r = 36.384$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2 °C; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7684; ConvF(5.85, 5.85, 5.85); Calibrated: 2021.10.4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021.6.18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (61x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.395 W/kg

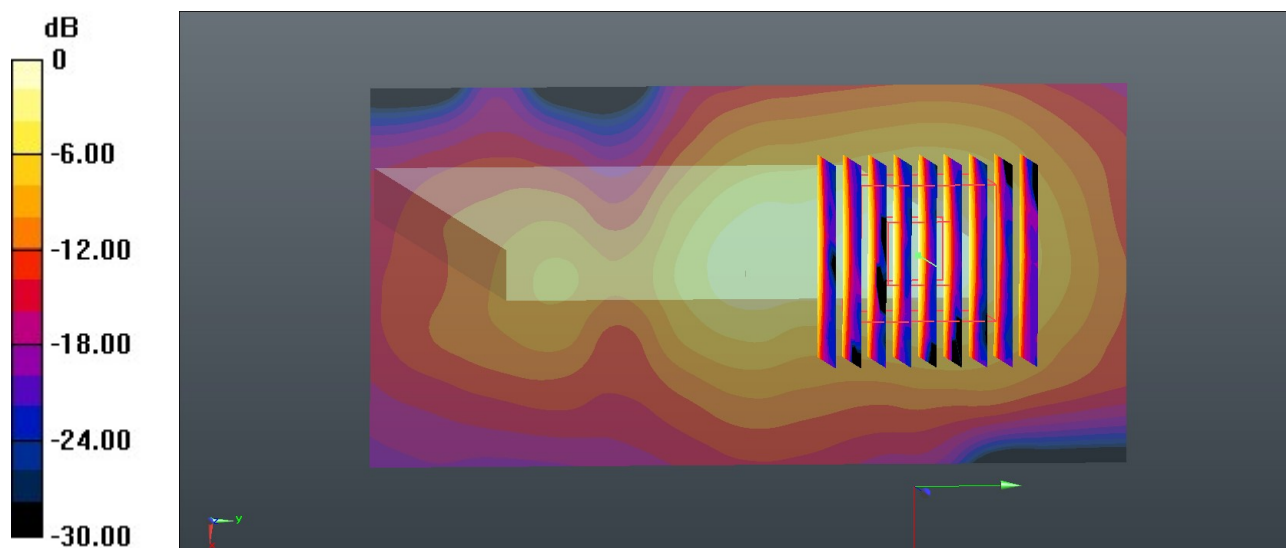
Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 10.08 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.636 W/kg

SAR(1 g) = 0.178 W/kg; SAR(10 g) = 0.065 W/kg

Maximum value of SAR (measured) = 0.393 W/kg



0 dB = 0.393 W/kg = -4.06 dBW/kg

29_WLAN 5GHz_802.11ac-VHT80 MCS0_Top Side_10mm_Ch155

Communication System: UID 0, WLAN5GHz (0); Frequency: 5775 MHz; Duty Cycle: 1:1.116

Medium: HSL_5000 Medium parameters used: $f = 5775$ MHz; $\sigma = 5.192$ S/m; $\epsilon_r = 35.082$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2 °C; Liquid Temperature : 22.9 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7684; ConvF(5.25, 5.25, 5.25); Calibrated: 2021.10.4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021.6.18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (61x121x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.874 W/kg

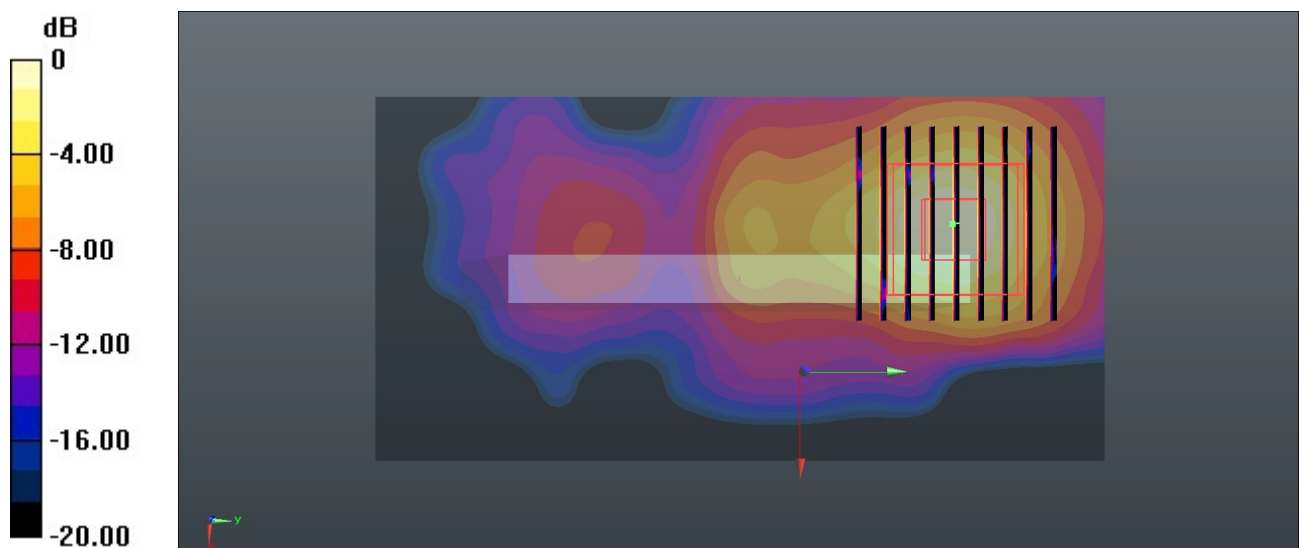
Zoom Scan (9x9x7)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 14.53 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 1.38 W/kg

SAR(1 g) = 0.302 W/kg; SAR(10 g) = 0.110 W/kg

Maximum value of SAR (measured) = 0.877 W/kg



0 dB = 0.877 W/kg = -0.57 dBW/kg

30_GSM850_GPRS(1 Tx slots)_Back_15mm_Ch189

Communication System: UID 0, GSM850 (0); Frequency: 836.4 MHz; Duty Cycle: 1:8.3

Medium: HSL_835 Medium parameters used: $f = 836.4$ MHz; $\sigma = 0.934$ S/m; $\epsilon_r = 41.473$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3279; ConvF(6.23, 6.23, 6.23); Calibrated: 2021.8.24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x131x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.209 W/kg

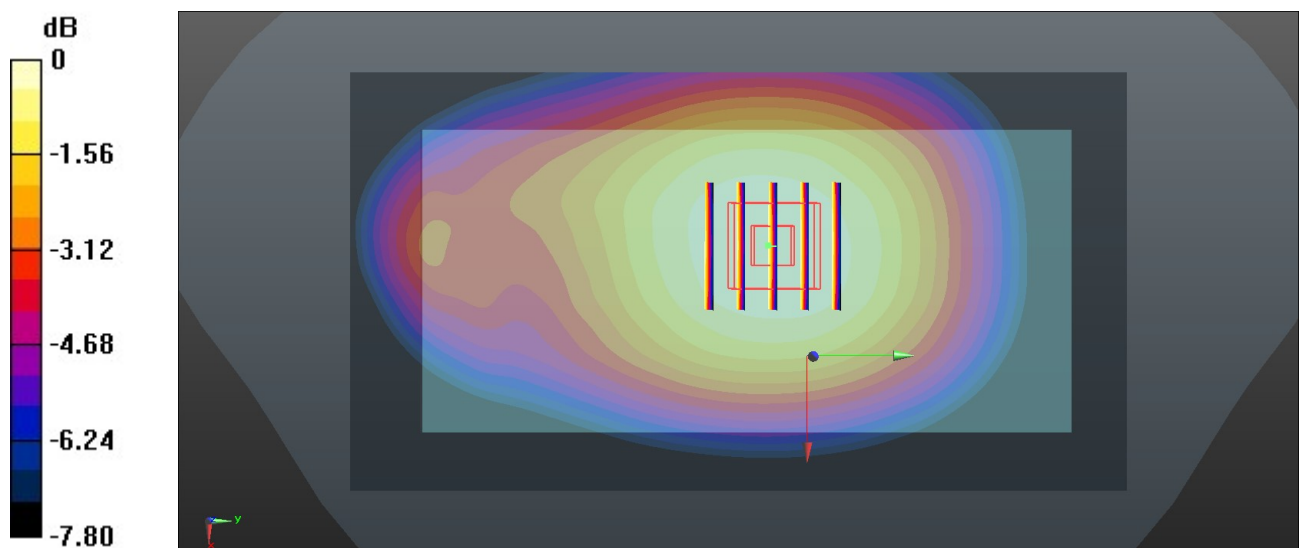
Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 15.55 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.238 W/kg

SAR(1 g) = 0.188 W/kg; SAR(10 g) = 0.142 W/kg

Maximum value of SAR (measured) = 0.206 W/kg



0 dB = 0.206 W/kg = -6.86 dBW/kg

31_WCDMA V_RMC 12.2Kbps_Back_15mm_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; $\sigma = 0.934$ S/m; $\epsilon_r = 41.473$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3279; ConvF(6.23, 6.23, 6.23); Calibrated: 2021.8.24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.219 W/kg

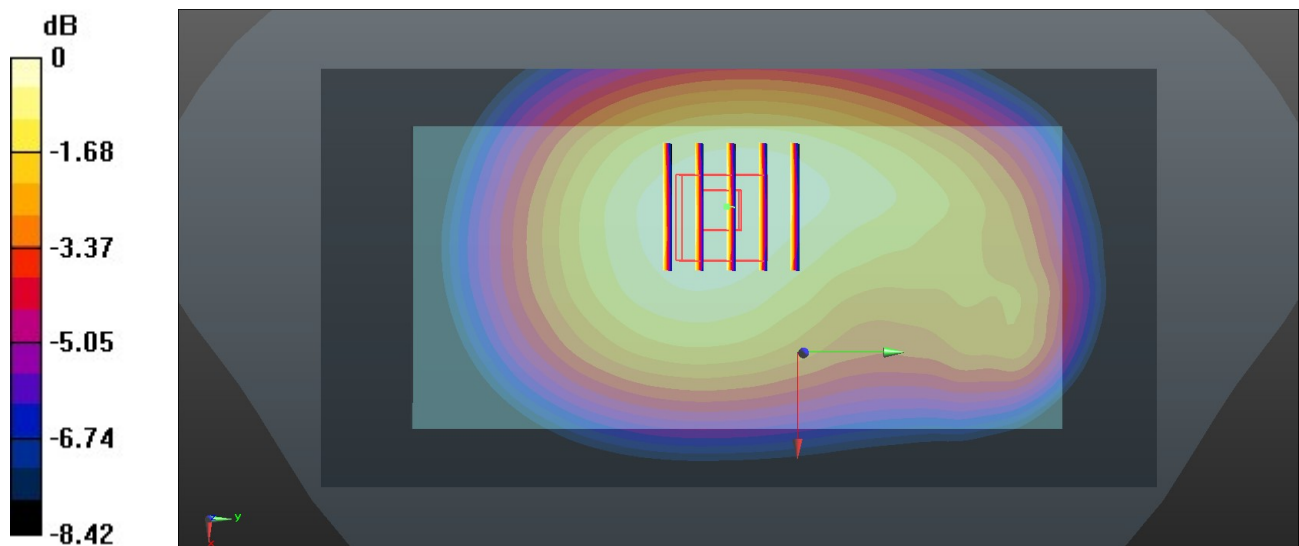
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.84 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.251 W/kg

SAR(1 g) = 0.197 W/kg; SAR(10 g) = 0.148 W/kg

Maximum value of SAR (measured) = 0.218 W/kg



0 dB = 0.218 W/kg = -6.62 dBW/kg

32_LTE Band 5_10M_QPSK_1RB_0Offset_Back_15mm_Ch20525

Communication System: UID 0, LTE-FDD (0); Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: HSL_835 Medium parameters used: $f = 836.5$ MHz; $\sigma = 0.934$ S/m; $\epsilon_r = 41.47$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3279; ConvF(6.23, 6.23, 6.23); Calibrated: 2021.8.24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x141x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm
Maximum value of SAR (interpolated) = 0.246 W/kg

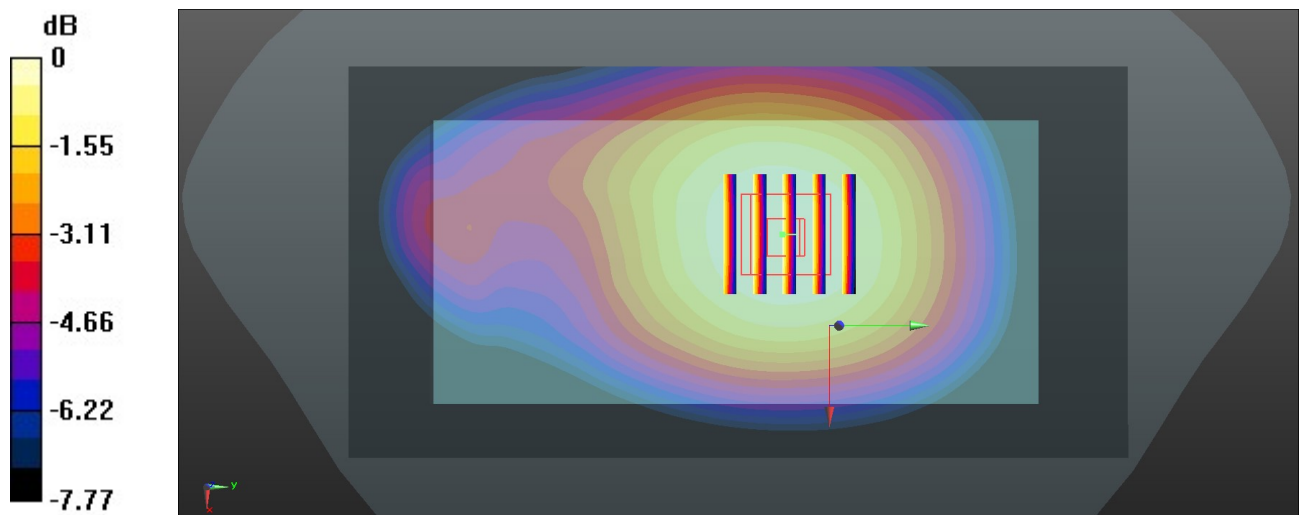
Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 16.72 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.273 W/kg

SAR(1 g) = 0.220 W/kg; SAR(10 g) = 0.169 W/kg

Maximum value of SAR (measured) = 0.242 W/kg



0 dB = 0.242 W/kg = -6.16 dBW/kg

33_WCDMA IV_RMC 12.2Kbps_Back_15mm_Ch1413

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1
Medium: HSL_1750 Medium parameters used: $f = 1733$ MHz; $\sigma = 1.344$ S/m; $\epsilon_r = 40.163$; $\rho = 1000$ kg/m³

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3279; ConvF(5.52, 5.52, 5.52); Calibrated: 2021.8.24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.989 W/kg

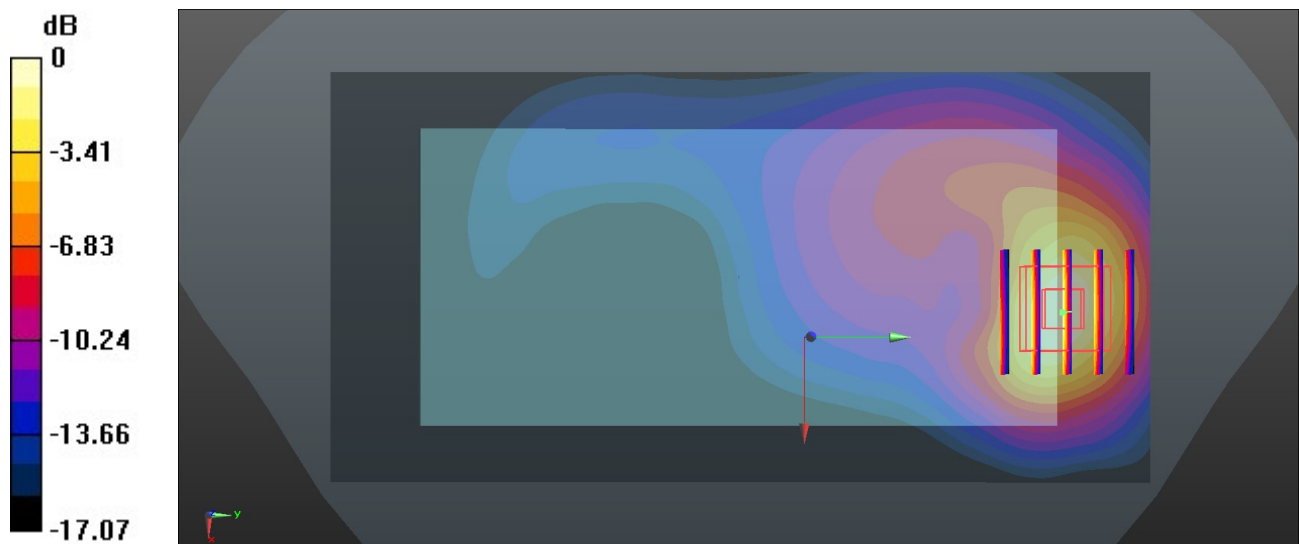
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.24 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 1.37 W/kg

SAR(1 g) = 0.792 W/kg; SAR(10 g) = 0.428 W/kg

Maximum value of SAR (measured) = 0.994 W/kg



0 dB = 0.994 W/kg = -0.03 dBW/kg

34_LTE Band 4_20M_QPSK_1RB_0Offset_Back_15mm_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; $\sigma = 1.344$ S/m; $\epsilon_r = 40.163$; $\rho = 1000$ kg/m³

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3279; ConvF(5.52, 5.52, 5.52); Calibrated: 2021.8.24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.691 W/kg

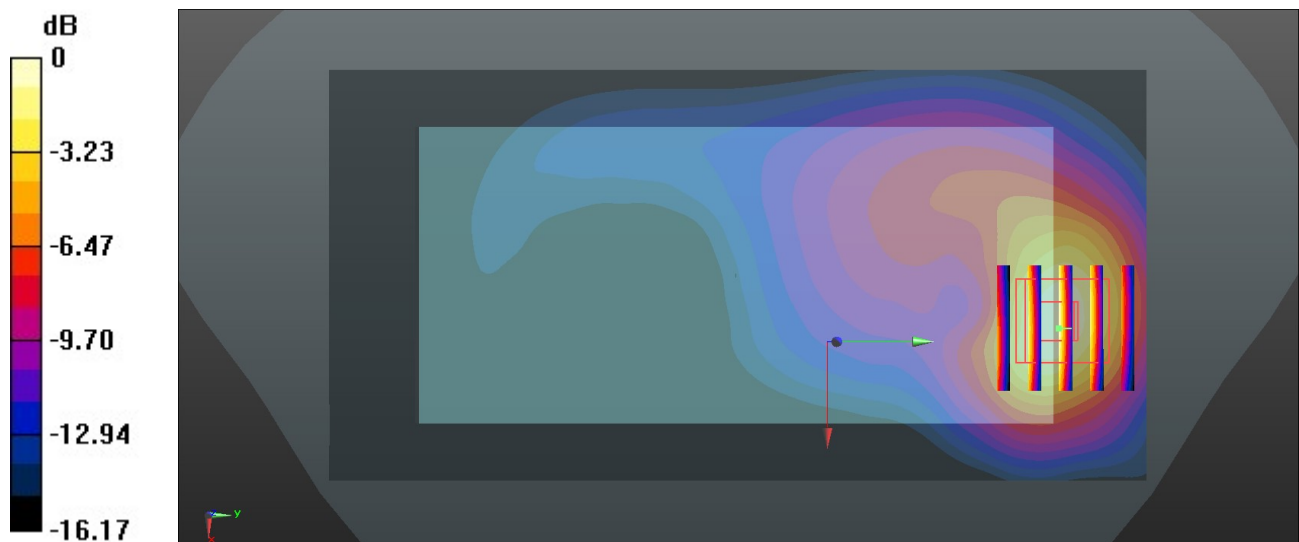
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.21 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.953 W/kg

SAR(1 g) = 0.568 W/kg; SAR(10 g) = 0.312 W/kg

Maximum value of SAR (measured) = 0.696 W/kg



0 dB = 0.696 W/kg = -1.57 dBW/kg

35_GSM1900_GPRS(1 Tx slots)_Back_15mm_Ch661

Communication System: UID 0, PCS (0); Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: HSL_1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.423$ S/m; $\epsilon_r = 39.939$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.1 °C; Liquid Temperature : 22.8 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3279; ConvF(5.28, 5.28, 5.28); Calibrated: 2021.8.24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x131x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.603 W/kg

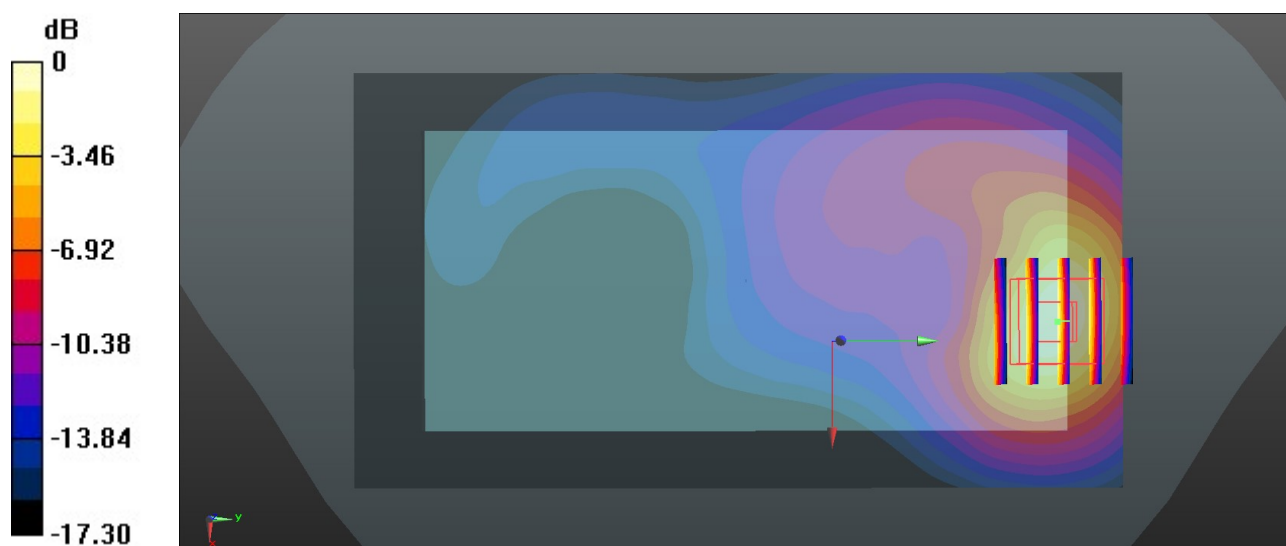
Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 21.33 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.860 W/kg

SAR(1 g) = 0.505 W/kg; SAR(10 g) = 0.274 W/kg

Maximum value of SAR (measured) = 0.622 W/kg



0 dB = 0.622 W/kg = -2.06 dBW/kg

36_WCDMA II_RMC 12.2Kbps_Back_15mm_Ch9400

Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: HSL_1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.423$ S/m; $\epsilon_r = 39.939$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.1 °C; Liquid Temperature : 22.8 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3279; ConvF(5.28, 5.28, 5.28); Calibrated: 2021.8.24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x141x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 1.20 W/kg

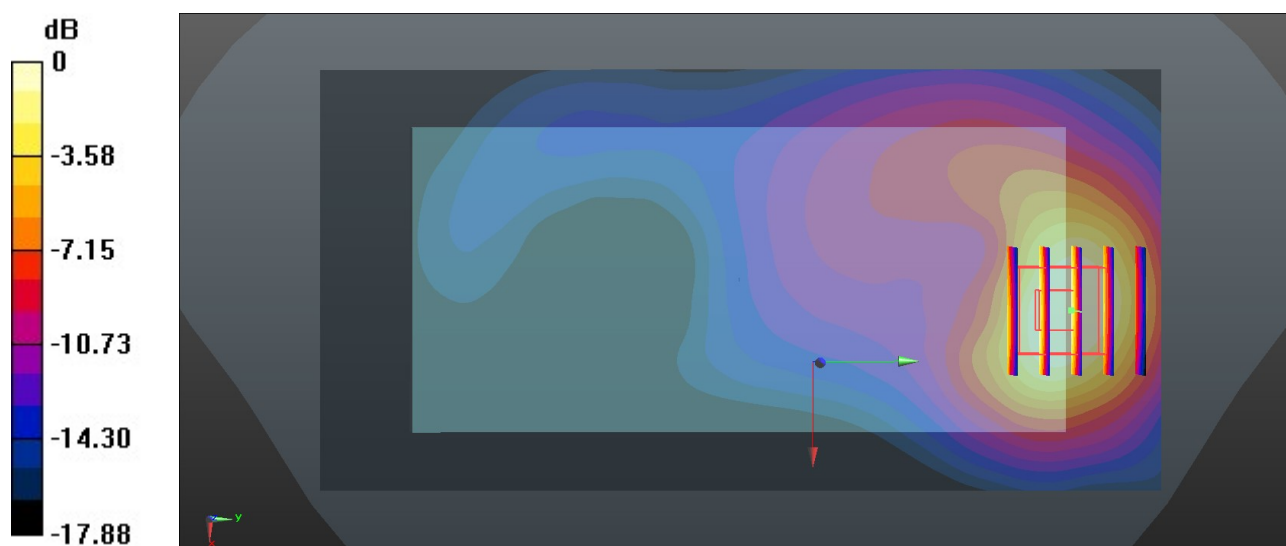
Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 30.07 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.41 W/kg

SAR(1 g) = 0.825 W/kg; SAR(10 g) = 0.443 W/kg

Maximum value of SAR (measured) = 0.953 W/kg



0 dB = 0.953 W/kg = -0.21 dBW/kg

37_LTE Band 2_20M_QPSK_1RB_0Offset_Back_15mm_Ch18900

Communication System: UID 0, LTE-FDD (0); Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: HSL_1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.423$ S/m; $\epsilon_r = 39.939$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.1 °C; Liquid Temperature : 22.8 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3279; ConvF(5.28, 5.28, 5.28); Calibrated: 2021.8.24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x141x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm
Maximum value of SAR (interpolated) = 1.27 W/kg

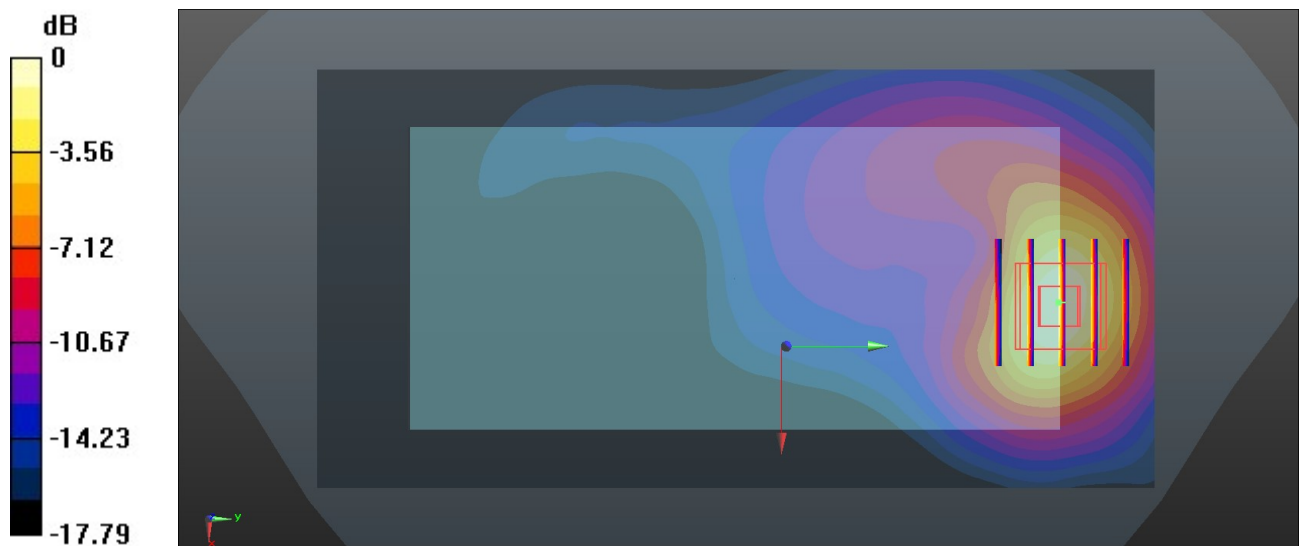
Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 30.09 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 1.73 W/kg

SAR(1 g) = 1 W/kg; SAR(10 g) = 0.538 W/kg

Maximum value of SAR (measured) = 1.24 W/kg



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

38_LTE Band 7_20M_QPSK_1RB_0Offset_Back_15mm_Ch21100

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

Medium: HSL_2600 Medium parameters used: $f = 2535$ MHz; $\sigma = 1.935$ S/m; $\epsilon_r = 40.652$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3279; ConvF(4.47, 4.47, 4.47); Calibrated: 2021.8.24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x161x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 1.02 W/kg

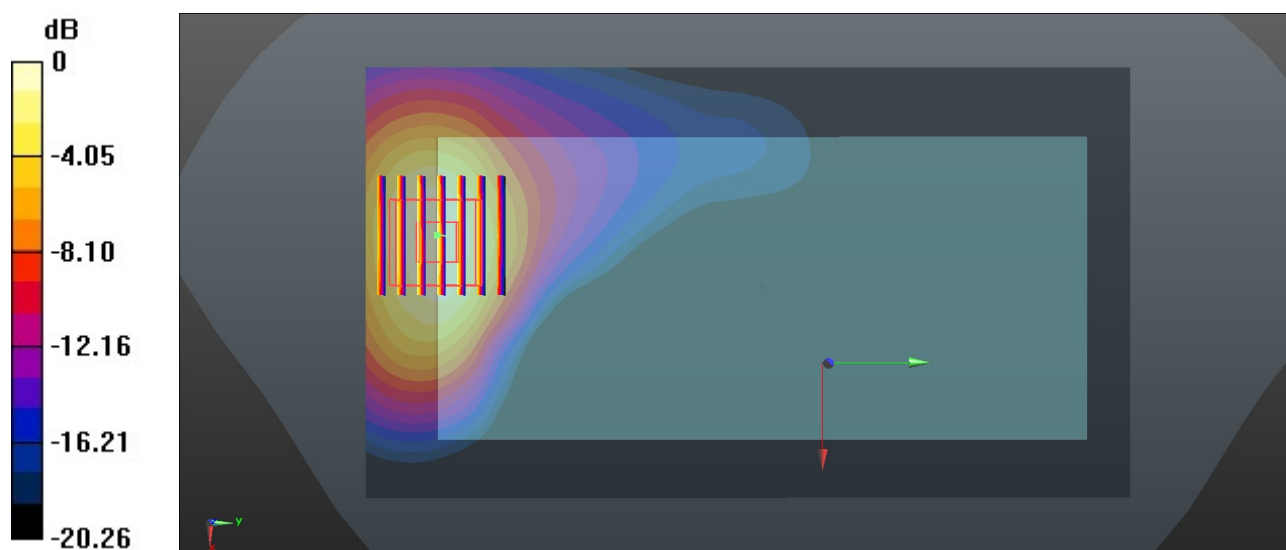
Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 23.52 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.49 W/kg

SAR(1 g) = 0.803 W/kg; SAR(10 g) = 0.421 W/kg

Maximum value of SAR (measured) = 1.02 W/kg



39_LTE Band 41_20M_QPSK_1RB_0Offset_Back_15mm_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; $\sigma = 1.961$ S/m; $\epsilon_r = 40.632$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3279; ConvF(4.47, 4.47, 4.47); Calibrated: 2021.8.24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.774 W/kg

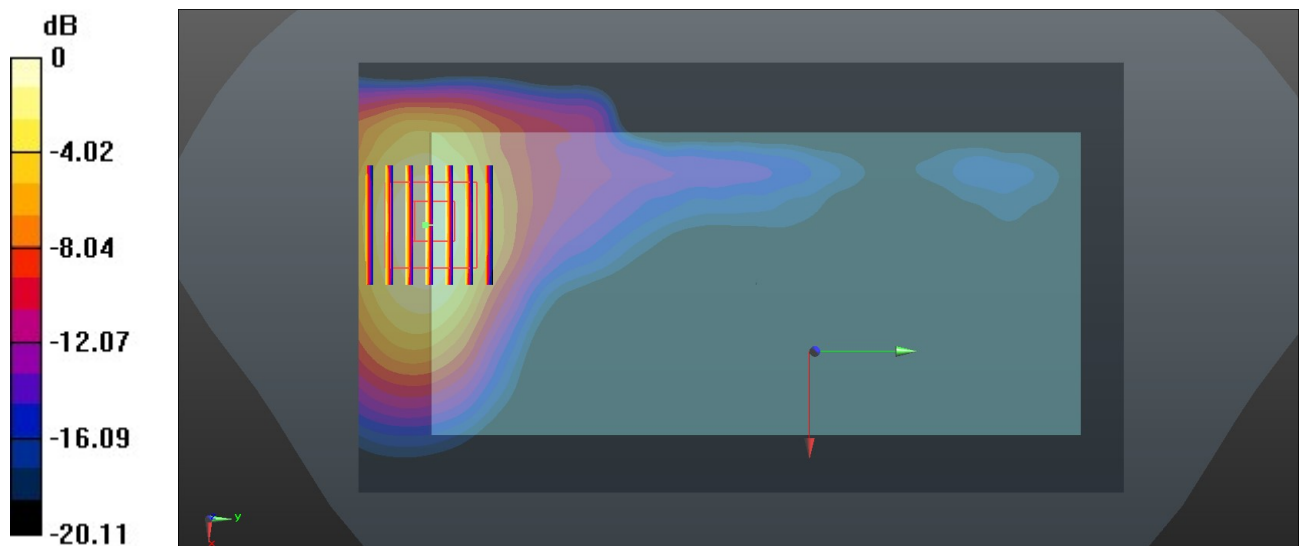
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 20.82 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 1.16 W/kg

SAR(1 g) = 0.617 W/kg; SAR(10 g) = 0.319 W/kg

Maximum value of SAR (measured) = 0.765 W/kg



0 dB = 0.765 W/kg = -1.16 dBW/kg

40_WLAN2.4GHz_802.11b 1Mbps_Back_15mm_Ch1

Communication System: UID 0, WLAN2.4GHz (0); Frequency: 2412 MHz; Duty Cycle: 1:1.017
Medium: HSL_2450 Medium parameters used: $f = 2412$ MHz; $\sigma = 1.786$ S/m; $\epsilon_r = 38.579$; $\rho = 1000$ kg/m³

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3279; ConvF(4.75, 4.75, 4.75); Calibrated: 2021.8.24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x161x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm
Maximum value of SAR (interpolated) = 0.126 W/kg

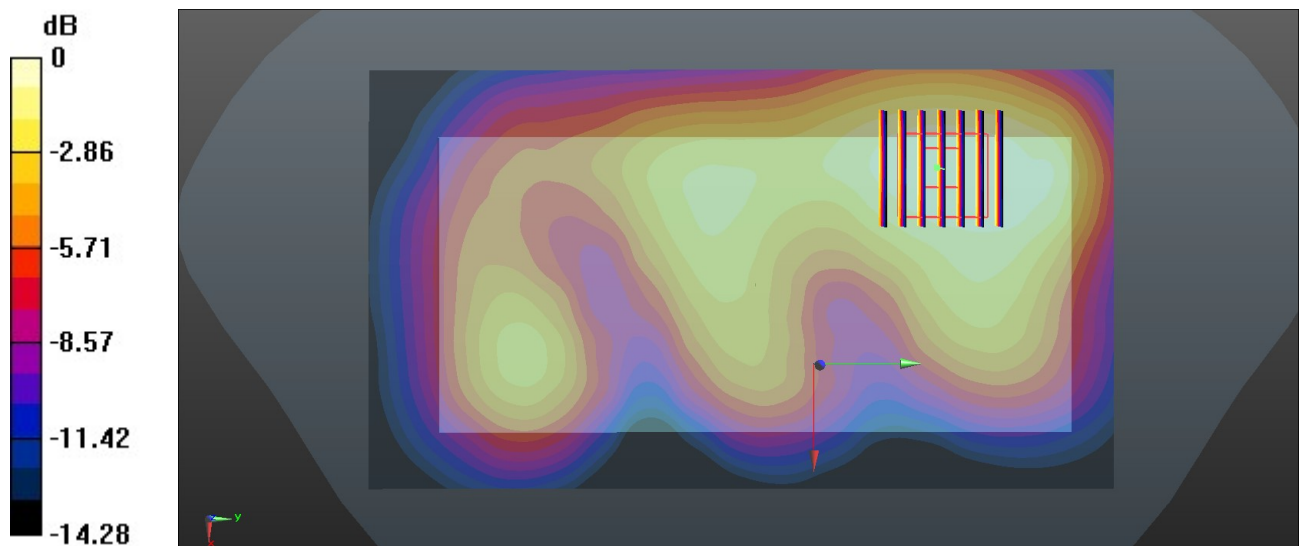
Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 8.536 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.177 W/kg

SAR(1 g) = 0.104 W/kg; SAR(10 g) = 0.062 W/kg

Maximum value of SAR (measured) = 0.124 W/kg



0 dB = 0.124 W/kg = -9.07 dBW/kg

41_Bluetooth_1Mbps_Back_15mm_Ch78

Communication System: UID 0, Bluetooth (0); Frequency: 2480 MHz; Duty Cycle: 1:1.298

Medium: HSL_2450 Medium parameters used: $f = 2480$ MHz; $\sigma = 1.831$ S/m; $\epsilon_r = 38.396$; $\rho = 1000$ kg/m³

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

DASY5 Configuration:

- Probe: ES3DV3 - SN3279; ConvF(4.75, 4.75, 4.75); Calibrated: 2021.8.24
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1356; Calibrated: 2021.6.1
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x161x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 0.0111 W/kg

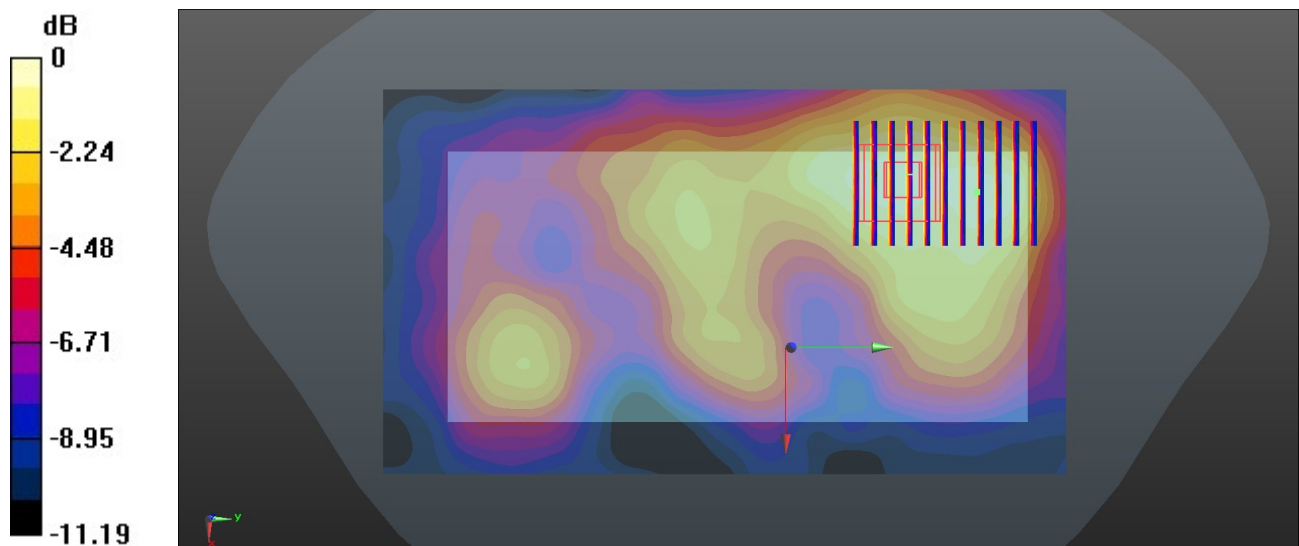
Zoom Scan (8x11x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 2.648 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.0190 W/kg

SAR(1 g) = 0.00982 W/kg; SAR(10 g) = 0.00611 W/kg

Maximum value of SAR (measured) = 0.0120 W/kg



0 dB = 0.0120 W/kg = -19.21 dBW/kg

42_WLAN5GHz_802.11n-HT40 MCS0_Back_15mm_Ch62

Communication System: UID 0, WLAN5GHz (0); Frequency: 5310 MHz; Duty Cycle: 1:1.054

Medium: HSL_5000 Medium parameters used: $f = 5310$ MHz; $\sigma = 4.677$ S/m; $\epsilon_r = 35.783$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2 °C; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7684; ConvF(5.85, 5.85, 5.85); Calibrated: 2021.10.4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021.6.18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (121x201x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.408 W/kg

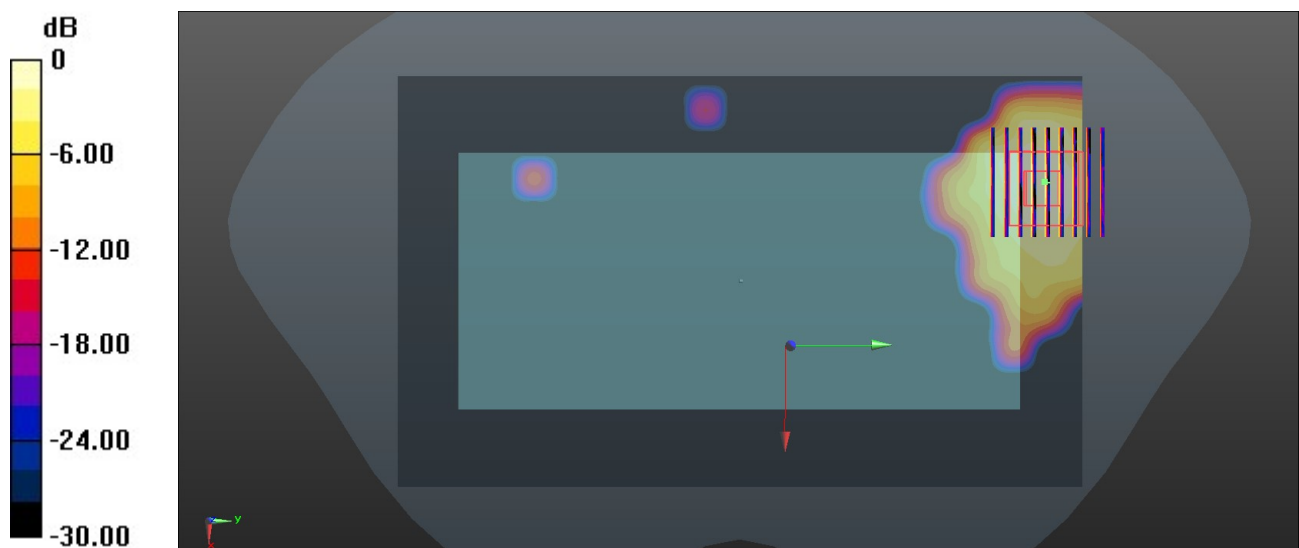
Zoom Scan (9x9x7)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 10.56 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.635 W/kg

SAR(1 g) = 0.185 W/kg; SAR(10 g) = 0.068 W/kg

Maximum value of SAR (measured) = 0.408 W/kg



43_WLAN5GHz_802.11n-HT40 MCS0_Back_15mm_Ch134

Communication System: UID 0, WLAN5GHz (0); Frequency: 5670 MHz; Duty Cycle: 1:1.054

Medium: HSL_5000 Medium parameters used: $f = 5670$ MHz; $\sigma = 5.085$ S/m; $\epsilon_r = 35.218$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7684; ConvF(5.05, 5.05, 5.05); Calibrated: 2021.10.4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021.6.18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (111x201x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.478 W/kg

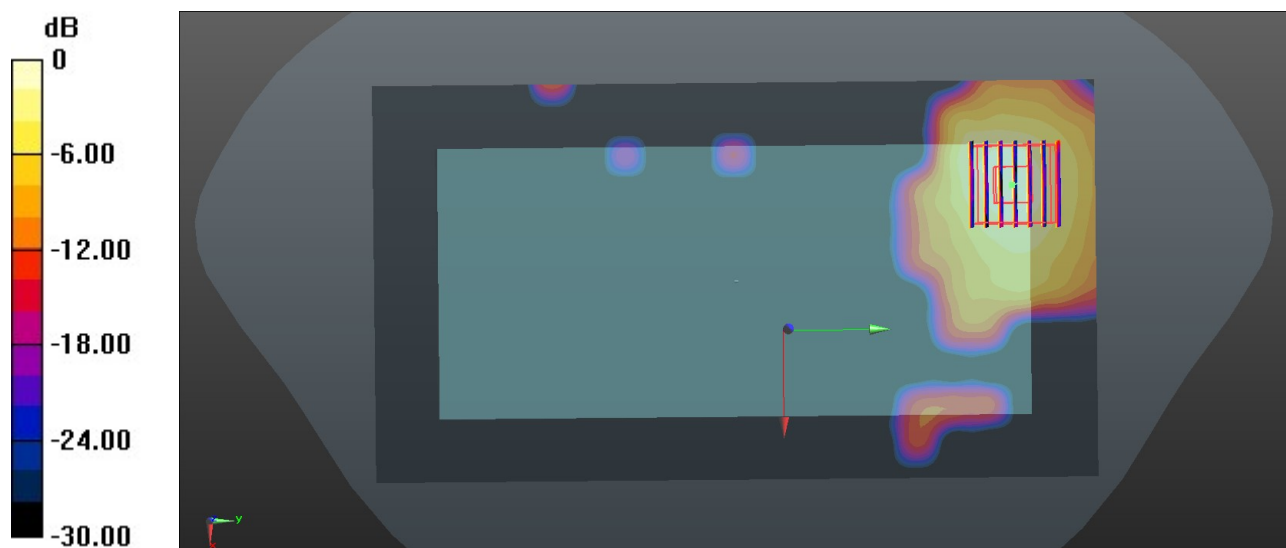
Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 10.99 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.823 W/kg

SAR(1 g) = 0.215 W/kg; SAR(10 g) = 0.072 W/kg

Maximum value of SAR (measured) = 0.518 W/kg



0 dB = 0.518 W/kg = -2.86 dBW/kg

44_WLAN5GHz_802.11ac-VHT80 MCS0_Back_15mm_Ch155

Communication System: UID 0, WLAN5GHz (0); Frequency: 5775 MHz; Duty Cycle: 1:1.116

Medium: HSL_5000 Medium parameters used: $f = 5775$ MHz; $\sigma = 5.204$ S/m; $\epsilon_r = 35.075$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2 °C; Liquid Temperature : 22.9 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7684; ConvF(5.25, 5.25, 5.25); Calibrated: 2021.10.4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021.6.18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (121x201x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 0.469 W/kg

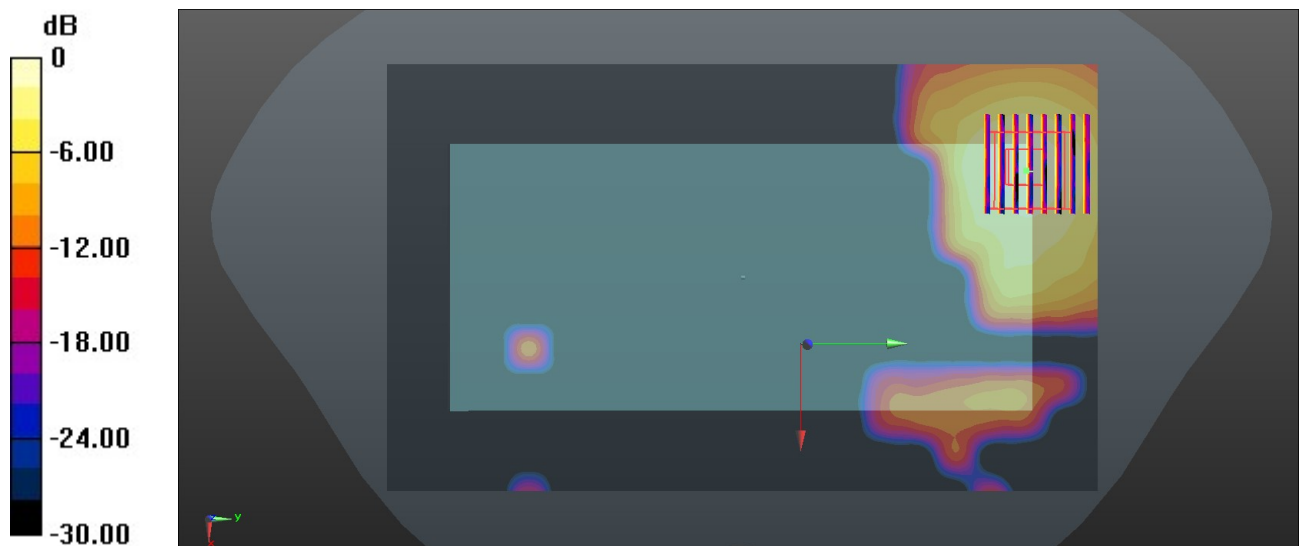
Zoom Scan (8x8x7)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 10.34 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.740 W/kg

SAR(1 g) = 0.201 W/kg; SAR(10 g) = 0.076 W/kg

Maximum value of SAR (measured) = 0.454 W/kg



45_WLAN5GHz_802.11n-HT40 MCS0_Top Side_0mm_Ch62

Communication System: UID 0, WLAN5GHz (0); Frequency: 5310 MHz; Duty Cycle: 1:1.054

Medium: HSL_5000 Medium parameters used: $f = 5310$ MHz; $\sigma = 4.642$ S/m; $\epsilon_r = 36.192$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2 °C; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7684; ConvF(5.85, 5.85, 5.85); Calibrated: 2021.10.4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021.6.18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (61x121x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 4.04 W/kg

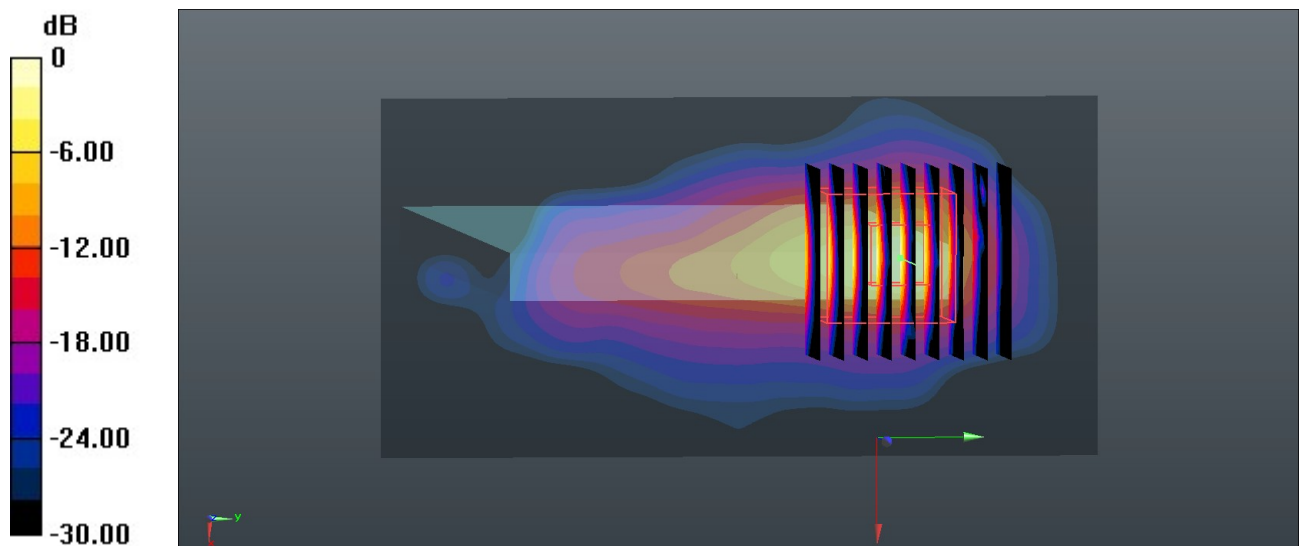
Zoom Scan (9x9x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 28.21 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 14.1 W/kg

SAR(1 g) = 1.99 W/kg; SAR(10 g) = 0.436 W/kg

Maximum value of SAR (measured) = 6.60 W/kg



0 dB = 6.60 W/kg = 8.20 dBW/kg

46_WLAN5GHz_802.11n-HT40 MCS0_Top Side_0mm_Ch134

Communication System: UID 0, WLAN5GHz (0); Frequency: 5670 MHz; Duty Cycle: 1:1.054
Medium: HSL_5000 Medium parameters used: $f = 5670$ MHz; $\sigma = 5.05$ S/m; $\epsilon_r = 35.644$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.2 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7684; ConvF(5.05, 5.05, 5.05); Calibrated: 2021.10.4
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2021.6.18
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1697
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (61x121x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm
Maximum value of SAR (interpolated) = 7.23 W/kg

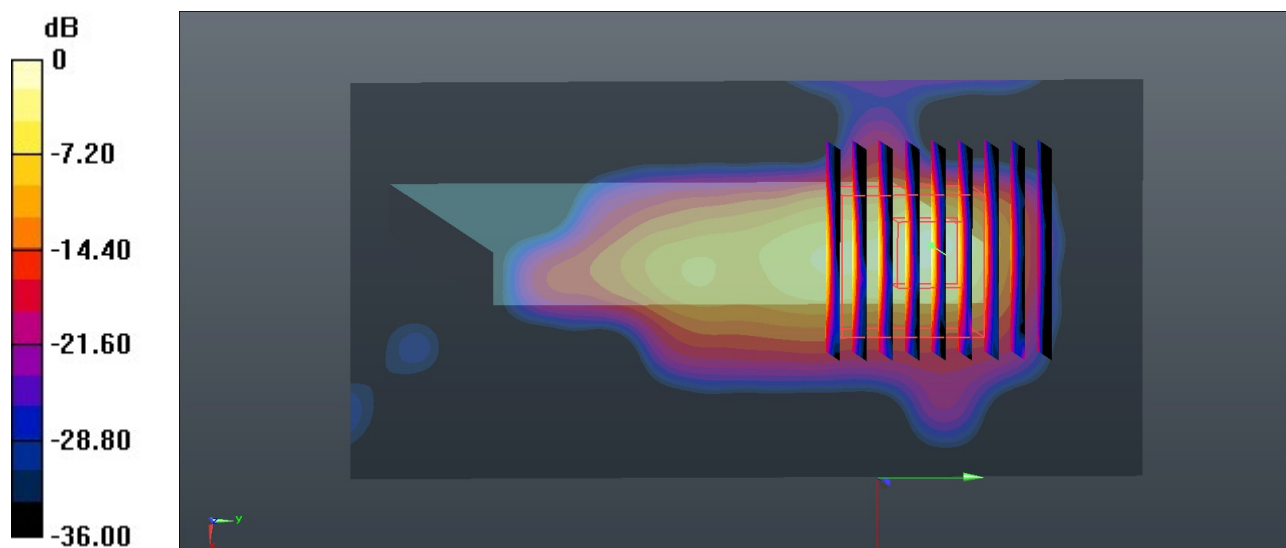
Zoom Scan (9x9x7)/Cube 0: Measurement grid: $dx=4$ mm, $dy=4$ mm, $dz=1.4$ mm

Reference Value = 34.07 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 20.0 W/kg

SAR(1 g) = 2.94 W/kg; SAR(10 g) = 0.672 W/kg

Maximum value of SAR (measured) = 10.0 W/kg



0 dB = 10.0 W/kg = 10.00 dBW/kg



Appendix C. DASY Calibration Certificate

The DASY calibration certificates are shown as follows.



Accredited by the Swiss Accreditation Service (SAS)

The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **Sporton**

Certificate No: **D835V2-4d258_May20**

CALIBRATION CERTIFICATE

Object **D835V2 - SN:4d258**

Calibration procedure(s) **QA CAL-05.v11
Calibration Procedure for SAR Validation Sources between 0.7-3 GHz**

Calibration date: **May 07, 2020**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	01-Apr-20 (No. 217-03100/03101)	Apr-21
Power sensor NRP-Z91	SN: 103244	01-Apr-20 (No. 217-03100)	Apr-21
Power sensor NRP-Z91	SN: 103245	01-Apr-20 (No. 217-03101)	Apr-21
Reference 20 dB Attenuator	SN: BH9394 (20k)	31-Mar-20 (No. 217-03106)	Apr-21
Type-N mismatch combination	SN: 310982 / 06327	31-Mar-20 (No. 217-03104)	Apr-21
Reference Probe EX3DV4	SN: 7349	31-Dec-19 (No. EX3-7349_Dec19)	Dec-20
DAE4	SN: 601	27-Dec-19 (No. DAE4-601_Dec19)	Dec-20
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB39512475	30-Oct-14 (in house check Feb-19)	In house check: Oct-20
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-18)	In house check: Oct-20
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-18)	In house check: Oct-20
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-18)	In house check: Oct-20
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-19)	In house check: Oct-20

Calibrated by: **Jeffrey Katzman** Name: Jeffrey Katzman Function: Laboratory Technician

Approved by: **Katja Pokovic** Name: Katja Pokovic Function: Technical Manager

Signature

Issued: May 7, 2020

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



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Glossary:

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

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.