

Appendix B - SAR Measurement

Test Laboratory: TUV Inc.

Date: 2024/10/24

86_LTE Band 2_20M_QPSK_1_49_Front_10mm_Ch18700

DUT: 隨身攜帶的通訊裝置

Communication System: LTE FDD; Frequency: 1860 MHz; Duty Cycle: 1:1

Medium: HSL1900_241024 Medium parameters used: $f = 1860$ MHz; $\sigma = 1.398$ S/m; $\epsilon_r = 39.829$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.1 °C; Liquid Temperature : 22.2°C

DASY Configuration:

- Electronics: DAE4 Sn855; Calibrated: 2024/4/22
- Probe: EX3DV4 - SN7400; ConvF(8.44, 8.44, 8.44) @ 1860 MHz; Calibrated: 2024/4/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = -49.0, 31.0$
- Phantom: Right_Twin-SAM V4.0 (20deg probe tilt); Type: QD 000 P40 CC; Serial: TP-1467
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (7x11x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (measured) = 0.360 W/kg

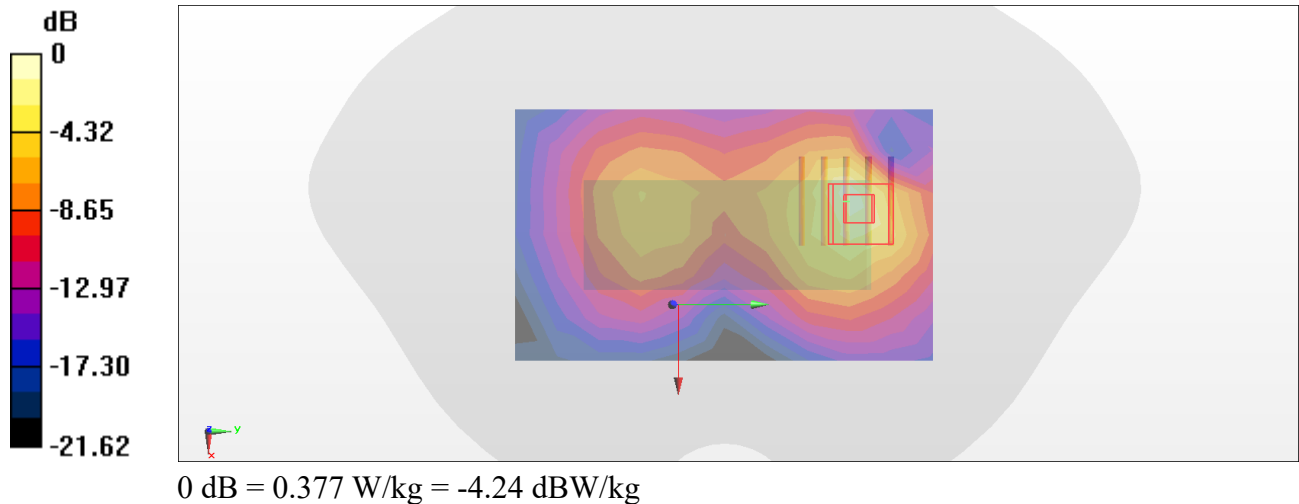
Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm

Reference Value = 15.86 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.474 W/kg

SAR(1 g) = 0.231 W/kg; SAR(10 g) = 0.115 W/kg

Maximum value of SAR (measured) = 0.377 W/kg



01_LTE Band 5_10M_QPSK_1_0_Front_10mm_Ch20525

DUT: 隨身攜帶的通訊裝置

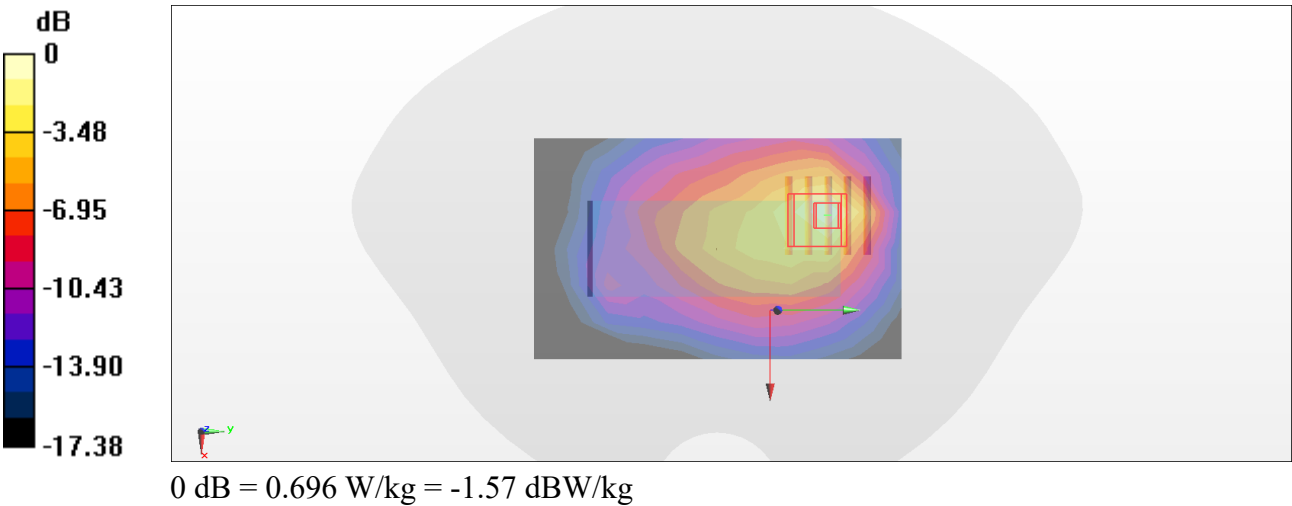
Communication System: LTE FDD; Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: HSL835_241021 Medium parameters used: $f = 836.5\text{ MHz}$; $\sigma = 0.919\text{ S/m}$; $\epsilon_r = 42.486$; $\rho = 1000\text{ kg/m}^3$
Ambient Temperature : 23.3 °C;Liquid Temperature : 22.4°C

DASY Configuration:

- Electronics: DAE4 Sn855; Calibrated: 2024/4/22
- Probe: EX3DV4 - SN7400; ConvF(9.77, 9.77, 9.77) @ 836.5 MHz; Calibrated: 2024/4/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = -49.0, 31.0$
- Phantom: Right_Twin-SAM V4.0 (20deg probe tilt); Type: QD 000 P40 CC; Serial: TP-1467
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (7x11x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (measured) = 0.722 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
Reference Value = 28.65 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 1.07 W/kg
SAR(1 g) = 0.425 W/kg; SAR(10 g) = 0.241 W/kg
Maximum value of SAR (measured) = 0.696 W/kg



13_LTE Band 12_10M_QPSK_1_0_Front_10mm_Ch23095

DUT: 隨身攜帶的通訊裝置

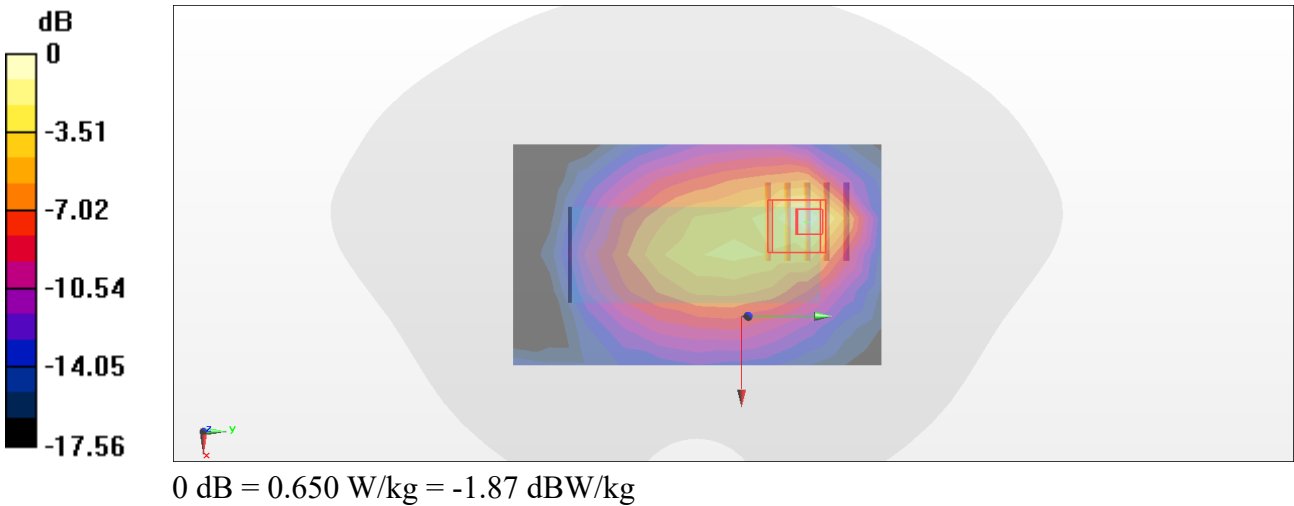
Communication System: LTE FDD; Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: HSL750_241021 Medium parameters used: $f = 708\text{ MHz}$; $\sigma = 0.877\text{ S/m}$; $\epsilon_r = 42.783$; $\rho = 1000\text{ kg/m}^3$
Ambient Temperature : 23.3 °C;Liquid Temperature : 22.4°C

DASY Configuration:

- Electronics: DAE4 Sn855; Calibrated: 2024/4/22
- Probe: EX3DV4 - SN7400; ConvF(10.05, 10.05, 10.05) @ 707.5 MHz; Calibrated: 2024/4/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = -49.0, 31.0$
- Phantom: Right_Twin-SAM V4.0 (20deg probe tilt); Type: QD 000 P40 CC; Serial: TP-1467
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (7x11x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (measured) = 0.674 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
Reference Value = 28.20 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.382 W/kg; SAR(10 g) = 0.207 W/kg
Maximum value of SAR (measured) = 0.650 W/kg



25_LTE Band 14_10M_QPSK_1_0_Front_10mm_Ch23330

DUT: 隨身攜帶的通訊裝置

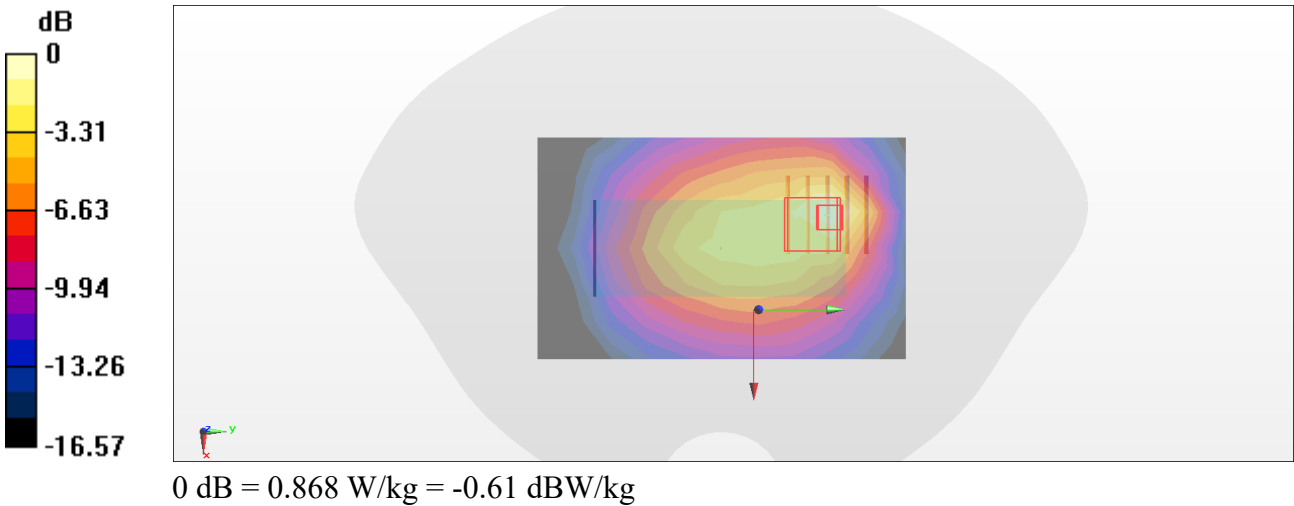
Communication System: LTE FDD; Frequency: 793 MHz; Duty Cycle: 1:1
Medium: HSL750_241021 Medium parameters used: $f = 793\text{ MHz}$; $\sigma = 0.905\text{ S/m}$; $\epsilon_r = 42.58$; $\rho = 1000\text{ kg/m}^3$
Ambient Temperature : 23.3 °C;Liquid Temperature : 22.4°C

DASY Configuration:

- Electronics: DAE4 Sn855; Calibrated: 2024/4/22
- Probe: EX3DV4 - SN7400; ConvF(10.05, 10.05, 10.05) @ 793 MHz; Calibrated: 2024/4/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = -49.0, 31.0$
- Phantom: Right_Twin-SAM V4.0 (20deg probe tilt); Type: QD 000 P40 CC; Serial: TP-1467
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (7x11x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (measured) = 0.938 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
Reference Value = 32.45 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 1.32 W/kg
SAR(1 g) = 0.546 W/kg; SAR(10 g) = 0.325 W/kg
Maximum value of SAR (measured) = 0.868 W/kg



98_ LTE Band 30_10M_QPSK_1_0_Front_10mm_Ch27710

DUT: 隨身攜帶的通訊裝置

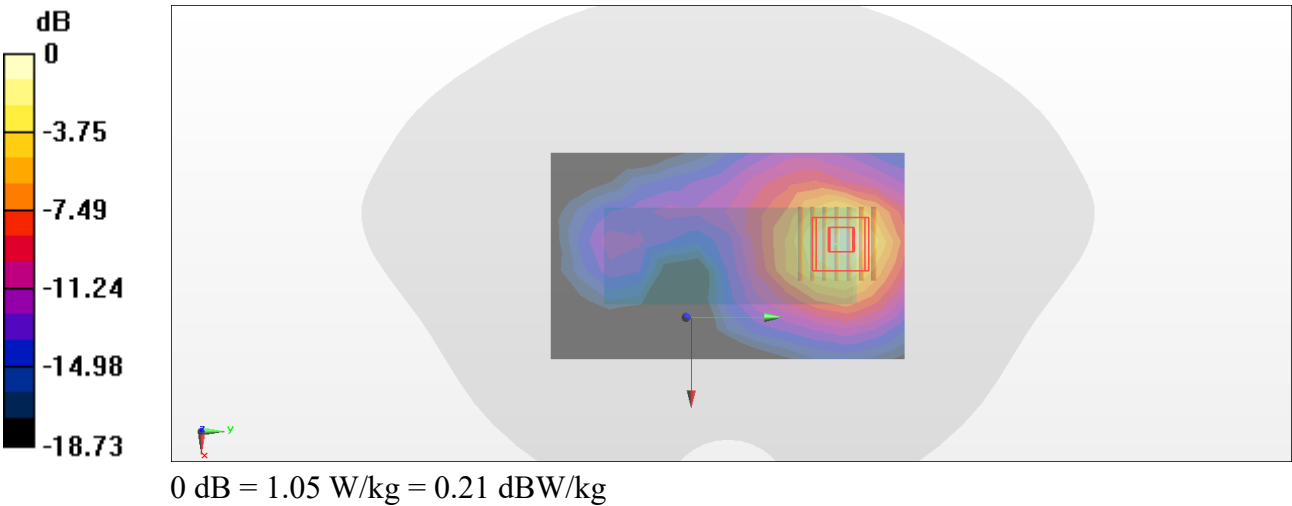
Communication System: LTE FDD; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: HSL2300_241024 Medium parameters used: f = 2310 MHz; $\sigma = 1.689 \text{ S/m}$; $\epsilon_r = 39.994$; $\rho = 1000 \text{ kg/m}^3$
Ambient Temperature : 23.1 °C;Liquid Temperature : 22.2°C

DASY Configuration:

- Electronics: DAE4 Sn855; Calibrated: 2024/4/22
- Probe: EX3DV4 - SN7400; ConvF(7.83, 7.83, 7.83) @ 2310 MHz; Calibrated: 2024/4/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -49.0, 31.0
- Phantom: Right_Twin-SAM V4.0 (20deg probe tilt); Type: QD 000 P40 CC; Serial: TP-1467
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (8x13x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 1.04 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 26.25 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 0.680 W/kg; SAR(10 g) = 0.347 W/kg
Maximum value of SAR (measured) = 1.05 W/kg



110_ LTE Band 66_20M_QPSK_1_99_Front_10mm_Ch132572

DUT: 隨身攜帶的通訊裝置

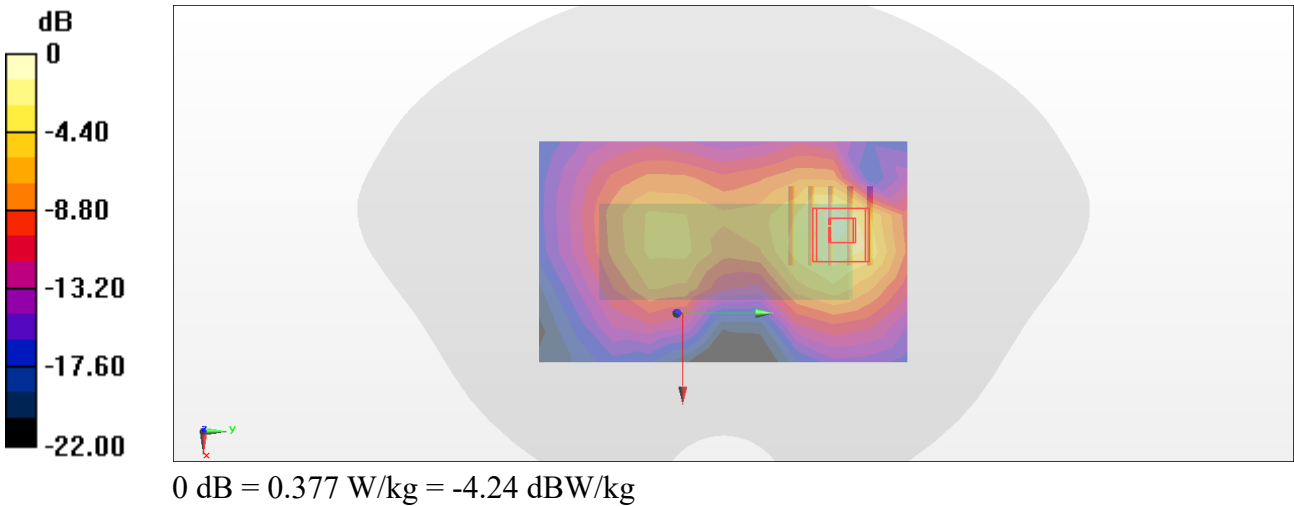
Communication System: LTE FDD; Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: HSL1800_241024 Medium parameters used: f = 1770 MHz; $\sigma = 1.346 \text{ S/m}$; $\epsilon_r = 39.954$; $\rho = 1000 \text{ kg/m}^3$
Ambient Temperature : 23.1 °C;Liquid Temperature : 22.2°C

DASY Configuration:

- Electronics: DAE4 Sn855; Calibrated: 2024/4/22
- Probe: EX3DV4 - SN7400; ConvF(8.68, 8.68, 8.68) @ 1770 MHz; Calibrated: 2024/4/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), z = -49.0, 31.0
- Phantom: Right_Twin-SAM V4.0 (20deg probe tilt); Type: QD 000 P40 CC; Serial: TP-1467
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.344 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.13 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 0.473 W/kg
SAR(1 g) = 0.230 W/kg; SAR(10 g) = 0.120 W/kg
Maximum value of SAR (measured) = 0.377 W/kg



51_FR1 n2_20M_BPSK_50_28_Front_10mm_Ch376000

DUT: 隨身攜帶的通訊裝置

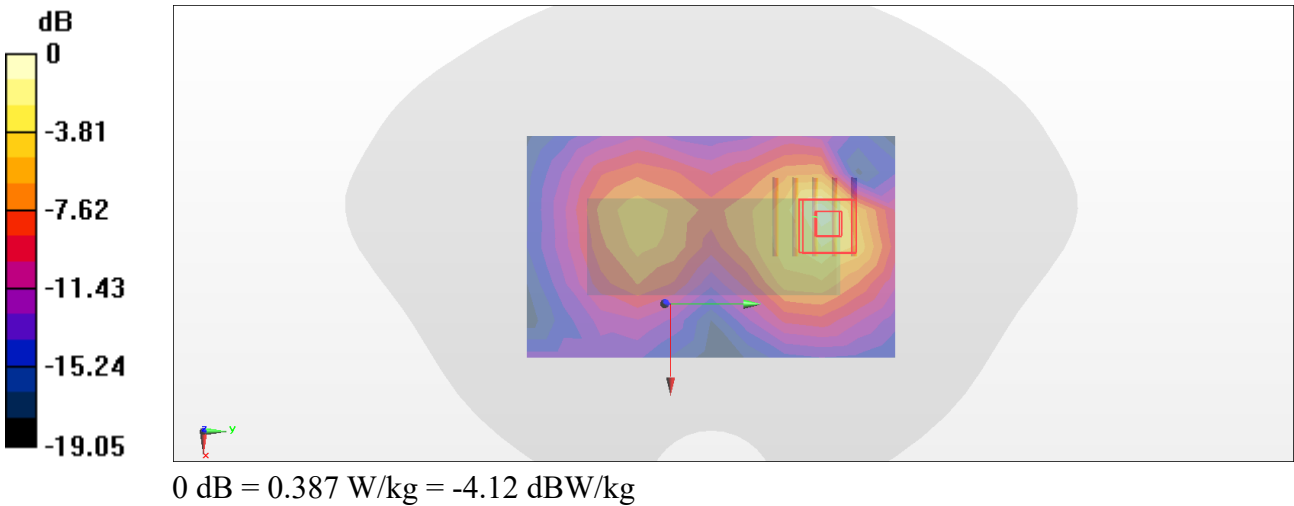
Communication System: FR1; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: HSL1900_241023 Medium parameters used: $f = 1880\text{ MHz}$; $\sigma = 1.397\text{ S/m}$; $\epsilon_r = 40.638$; $\rho = 1000\text{ kg/m}^3$
Ambient Temperature : 23.4 °C;Liquid Temperature : 22.6°C

DASY Configuration:

- Electronics: DAE4 Sn855; Calibrated: 2024/4/22
- Probe: EX3DV4 - SN7400; ConvF(8.44, 8.44, 8.44) @ 1880 MHz; Calibrated: 2024/4/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = -49.0, 31.0$
- Phantom: Right_Twin-SAM V4.0 (20deg probe tilt); Type: QD 000 P40 CC; Serial: TP-1467
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (7x11x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (measured) = 0.368 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
Reference Value = 16.81 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 0.486 W/kg
SAR(1 g) = 0.248 W/kg; SAR(10 g) = 0.125 W/kg
Maximum value of SAR (measured) = 0.387 W/kg



39_FR1 n5_20M_BPSK_50_28_Front_10mm_Ch167300

DUT: 隨身攜帶的通訊裝置

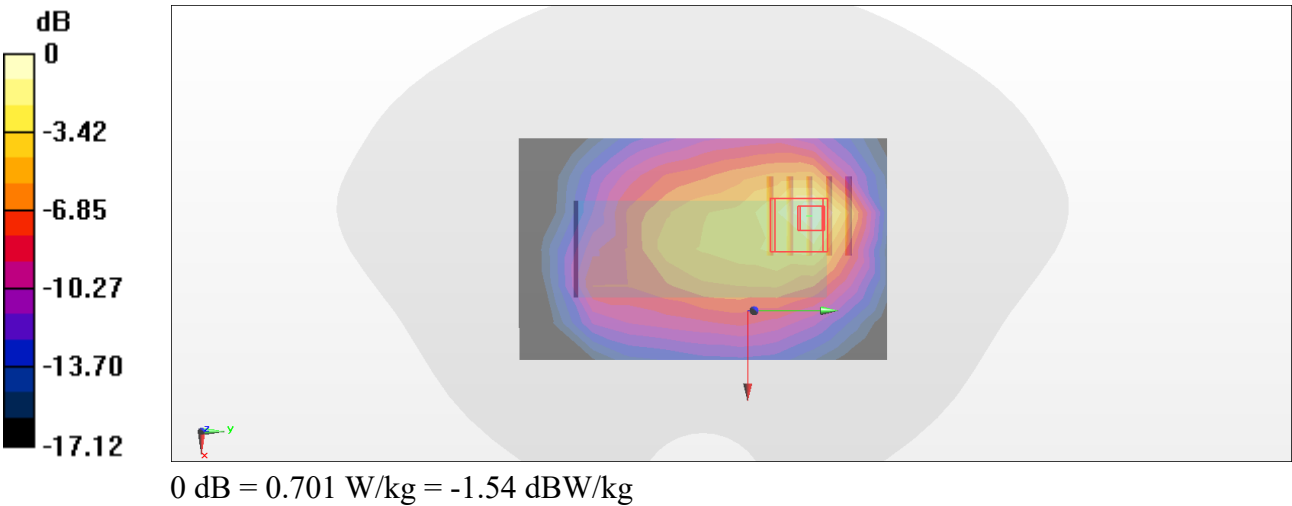
Communication System: FR1; Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: HSL835_241021 Medium parameters used: $f = 836.5\text{ MHz}$; $\sigma = 0.919\text{ S/m}$; $\epsilon_r = 42.486$; $\rho = 1000\text{ kg/m}^3$
Ambient Temperature : 23.3 °C;Liquid Temperature : 22.4°C

DASY Configuration:

- Electronics: DAE4 Sn855; Calibrated: 2024/4/22
- Probe: EX3DV4 - SN7400; ConvF(9.77, 9.77, 9.77) @ 836.5 MHz; Calibrated: 2024/4/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = -49.0, 31.0$
- Phantom: Right_Twin-SAM V4.0 (20deg probe tilt); Type: QD 000 P40 CC; Serial: TP-1467
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (7x11x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (measured) = 0.764 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
Reference Value = 28.69 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.443 W/kg; SAR(10 g) = 0.259 W/kg
Maximum value of SAR (measured) = 0.701 W/kg



63_FR1 n30_10M_BPSK_25_14_Front_10mm_Ch462000

DUT: 隨身攜帶的通訊裝置

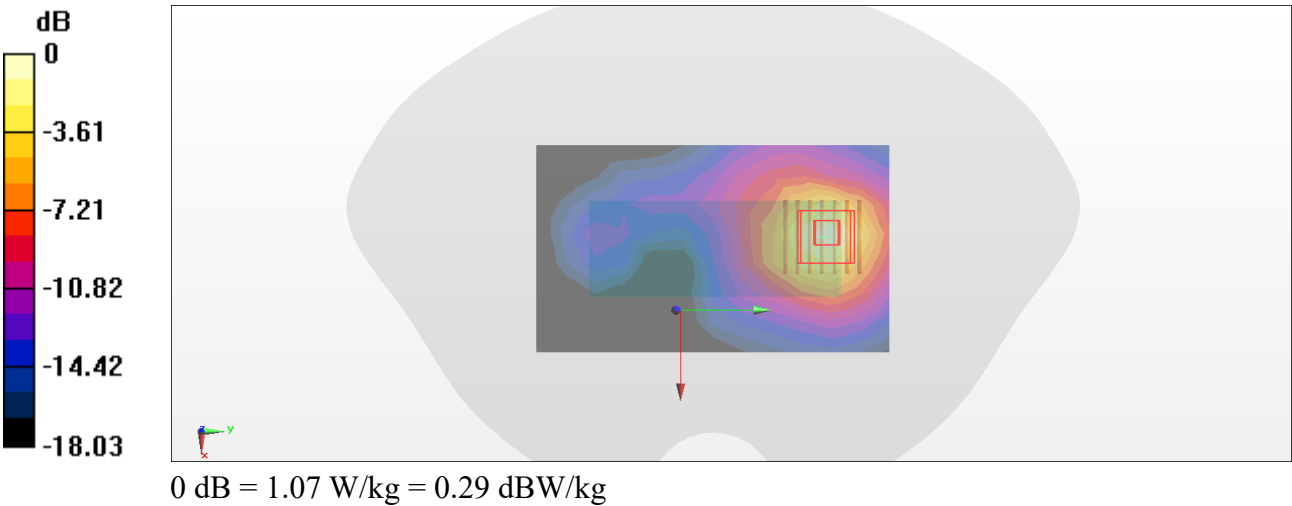
Communication System: FR1; Frequency: 2310 MHz; Duty Cycle: 1:1
Medium: HSL2300_241023 Medium parameters used: $f = 2310\text{ MHz}$; $\sigma = 1.725\text{ S/m}$; $\epsilon_r = 40.274$; $\rho = 1000\text{ kg/m}^3$
Ambient Temperature : 23.4 °C;Liquid Temperature : 22.6°C

DASY Configuration:

- Electronics: DAE4 Sn855; Calibrated: 2024/4/22
- Probe: EX3DV4 - SN7400; ConvF(7.83, 7.83, 7.83) @ 2310 MHz; Calibrated: 2024/4/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = -49.0, 31.0$
- Phantom: Right_Twin-SAM V4.0 (20deg probe tilt); Type: QD 000 P40 CC; Serial: TP-1467
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (8x13x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$
Maximum value of SAR (measured) = 1.04 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$
Reference Value = 26.41 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 1.31 W/kg
SAR(1 g) = 0.702 W/kg; SAR(10 g) = 0.361 W/kg
Maximum value of SAR (measured) = 1.07 W/kg



75_FR1_n66_30M_BPSK_80_40_Front_10mm_Ch353000

DUT: 隨身攜帶的通訊裝置

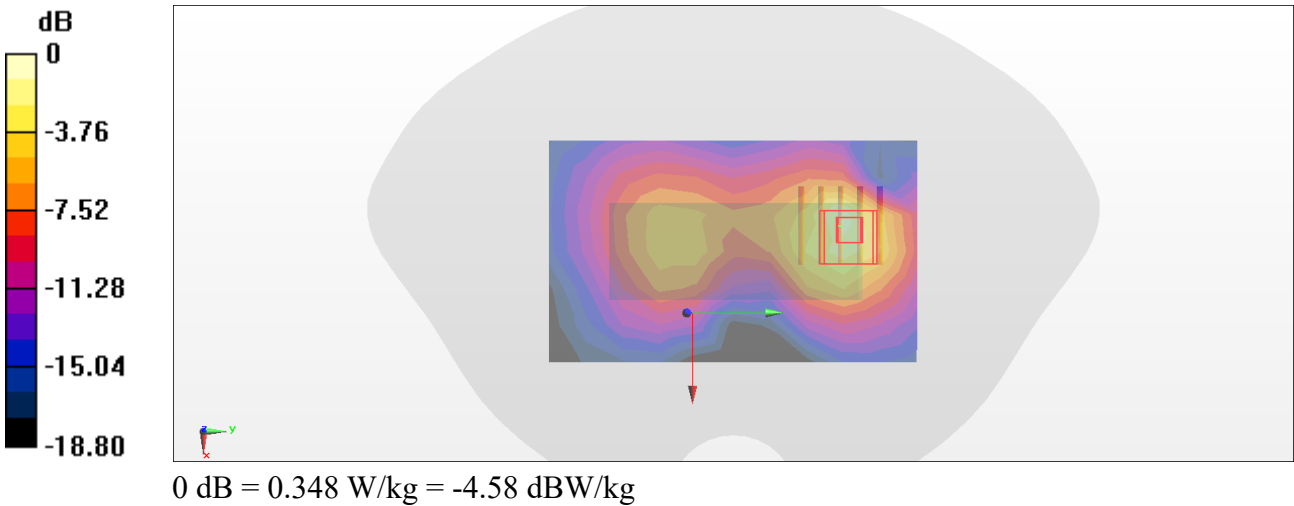
Communication System: FR1; Frequency: 1765 MHz; Duty Cycle: 1:1
Medium: HSL1800_241023 Medium parameters used: $f = 1765\text{ MHz}$; $\sigma = 1.352\text{ S/m}$; $\epsilon_r = 40.812$; $\rho = 1000\text{ kg/m}^3$
Ambient Temperature : 23.4 °C;Liquid Temperature : 22.6°C

DASY Configuration:

- Electronics: DAE4 Sn855; Calibrated: 2024/4/22
- Probe: EX3DV4 - SN7400; ConvF(8.68, 8.68, 8.68) @ 1765 MHz; Calibrated: 2024/4/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = -49.0, 31.0$
- Phantom: Right_Twin-SAM V4.0 (20deg probe tilt); Type: QD 000 P40 CC; Serial: TP-1467
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (7x11x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (measured) = 0.307 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$
Reference Value = 15.51 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 0.438 W/kg
SAR(1 g) = 0.210 W/kg; SAR(10 g) = 0.113 W/kg
Maximum value of SAR (measured) = 0.348 W/kg



124_FR1 n77_100M_BPSK_135_69_Front_10mm_Ch656000

DUT: 隨身攜帶的通訊裝置

Communication System: FR1; Frequency: 3840 MHz; Duty Cycle: 1:2.331
Medium: HSL3900_241026 Medium parameters used: $f = 3840\text{ MHz}$; $\sigma = 3.131\text{ S/m}$; $\epsilon_r = 37.315$; $\rho = 1000\text{ kg/m}^3$
Ambient Temperature : 23.5 °C;Liquid Temperature : 22.3°C

DASY Configuration:

- Electronics: DAE4 Sn855; Calibrated: 2024/4/22
- Probe: EX3DV4 - SN7400; ConvF(6.81, 6.81, 6.81) @ 3840 MHz; Calibrated: 2024/4/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection), $z = -49.0, 29.0$
- Phantom: Right_Twin-SAM V4.0 (20deg probe tilt); Type: QD 000 P40 CC; Serial: TP-1467
- DASY52 52.10.4(1535); SEMCAD X 14.6.14(7501)

Area Scan (9x14x1): Measurement grid: $dx=12\text{mm}$, $dy=12\text{mm}$
Maximum value of SAR (measured) = 0.933 W/kg

Zoom Scan (7x7x8)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=1.4\text{mm}$
Reference Value = 18.18 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 1.31 W/kg
SAR(1 g) = 0.484 W/kg; SAR(10 g) = 0.182 W/kg
Maximum value of SAR (measured) = 0.944 W/kg

