

Appendix A. SAR Plots of System Verification

The plots for system verification with largest deviation for each SAR system combination are shown as follows.

S01 System Check_H1900_210226

DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d036

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: H16T20N1_0226 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.46$ S/m; $\epsilon_r = 38.262$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3887; ConvF(7.98, 7.98, 7.98) @ 1900 MHz; Calibrated: 2020/10/22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2020/06/22
- Phantom: ELI Phantom_1206; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.95 W/kg

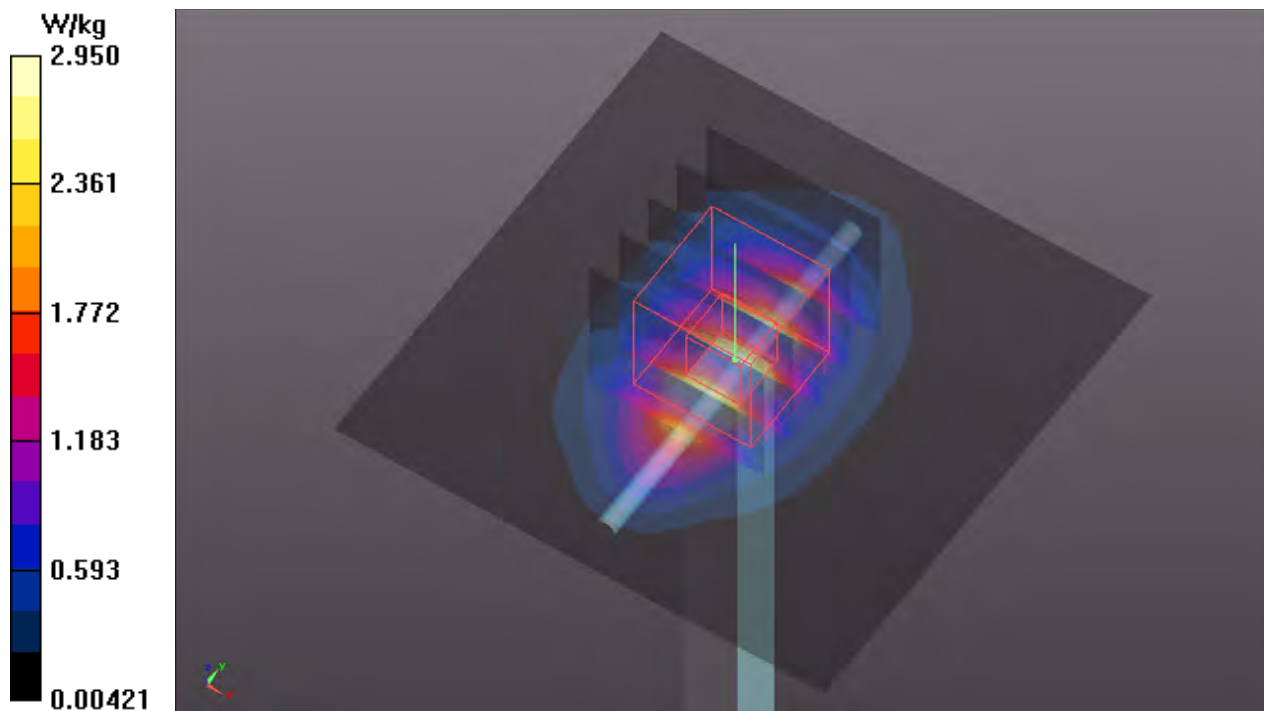
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 45.86 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 3.69 W/kg

SAR(1 g) = 1.91 W/kg; SAR(10 g) = 0.997 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 3.10 W/kg



S02 System Check_H1750_210223

DUT: Dipole 1750 MHz; Type: D1750V2; SN: 1055

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

Medium: H16T20N1_0223 Medium parameters used: $f = 1750$ MHz; $\sigma = 1.326$ S/m; $\epsilon_r = 38.746$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3887; ConvF(8.24, 8.24, 8.24) @ 1750 MHz; Calibrated: 2020/10/22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2020/06/22
- Phantom: ELI Phantom_1206; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.69 W/kg

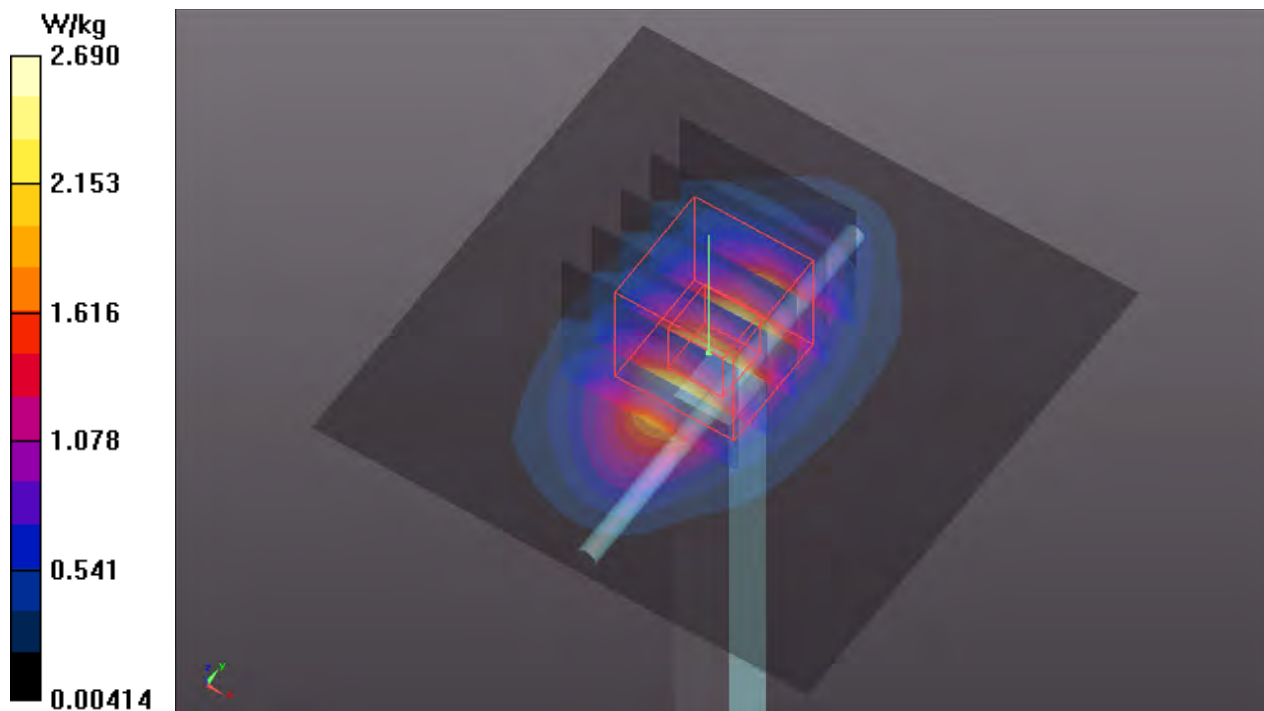
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 45.72 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 3.20 W/kg

SAR(1 g) = 1.78 W/kg; SAR(10 g) = 0.942 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 2.71 W/kg



S03 System Check_H835_210306

DUT: Dipole 835 MHz; Type: D835V2; SN: 4d121

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

Medium: H07T10N1_0306 Medium parameters used: $f = 835$ MHz; $\sigma = 0.901$ S/m; $\epsilon_r = 42.932$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(10.05, 10.05, 10.05) @ 835 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.648 W/kg

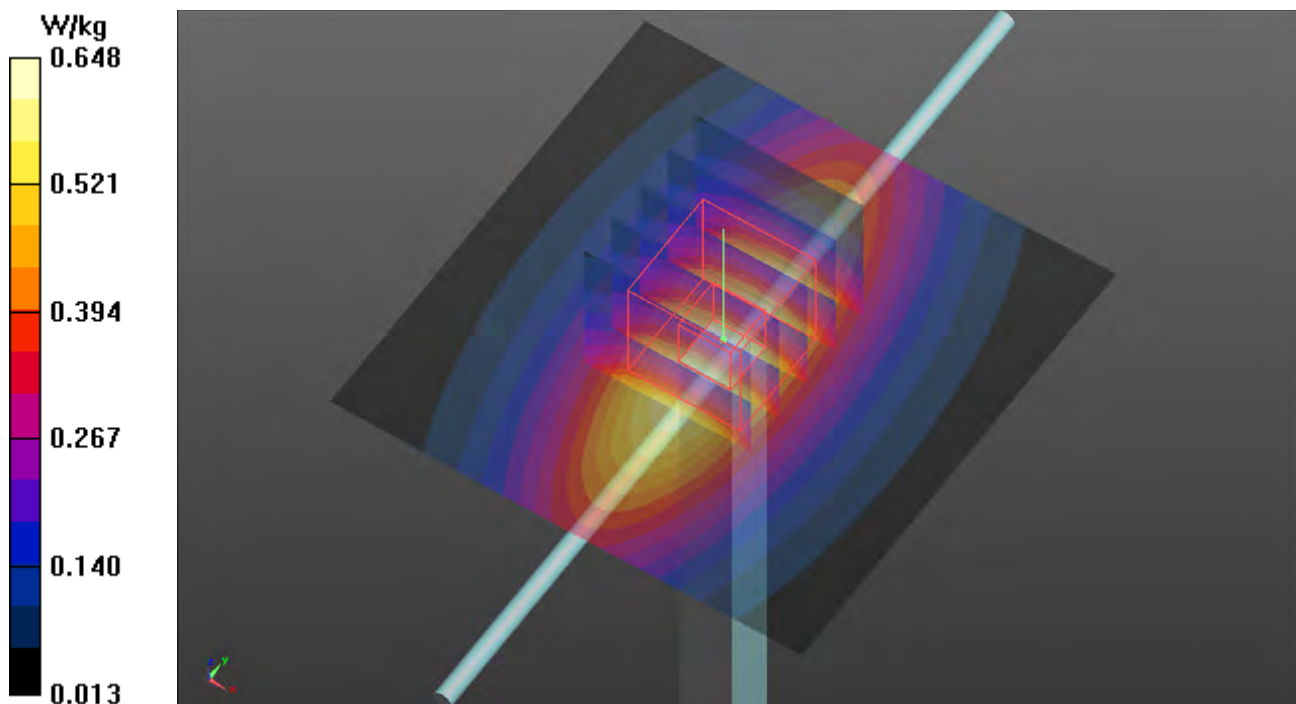
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.11 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.741 W/kg

SAR(1 g) = 0.490 W/kg; SAR(10 g) = 0.318 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 0.651 W/kg



S04 System Check_H1900_210224**DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d036**

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: H16T20N1_0224 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.454$ S/m; $\epsilon_r = 38.289$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(8.26, 8.26, 8.26) @ 1900 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 3.11 W/kg

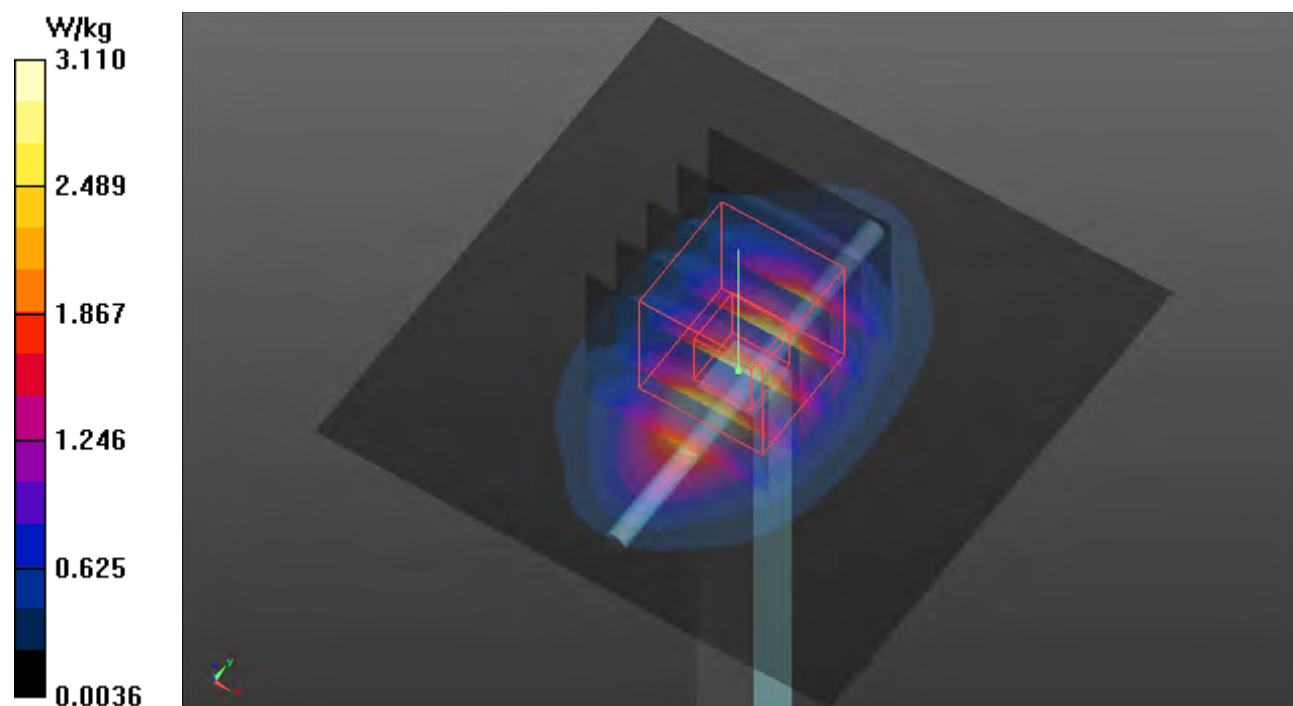
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 47.75 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 3.75 W/kg

SAR(1 g) = 1.93 W/kg; SAR(10 g) = 1.01 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 3.13 W/kg



S05 System Check_H1750_210224**DUT: Dipole 1750 MHz; Type: D1750V2; SN: 1055**

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

Medium: H16T20N1_0224 Medium parameters used: $f = 1750$ MHz; $\sigma = 1.326$ S/m; $\epsilon_r = 38.856$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(8.58, 8.58, 8.58) @ 1750 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.71 W/kg

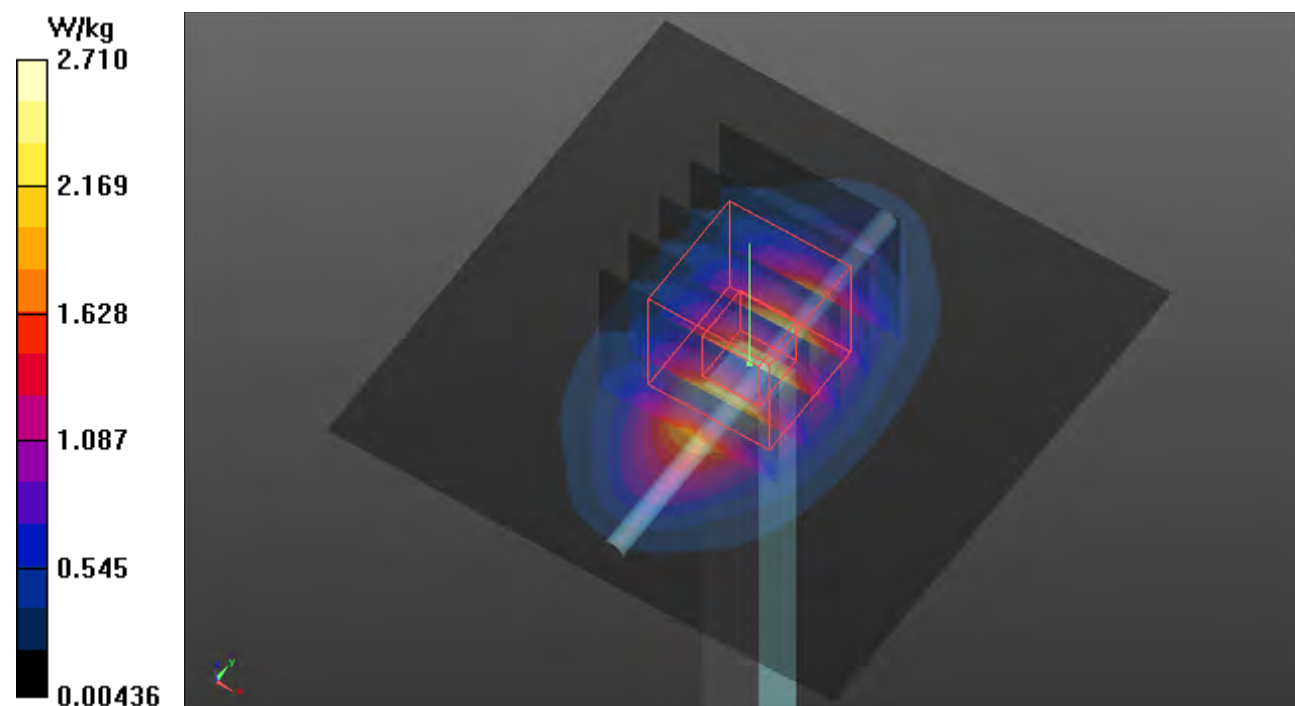
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 46.80 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 3.26 W/kg

SAR(1 g) = 1.78 W/kg; SAR(10 g) = 0.937 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 2.74 W/kg



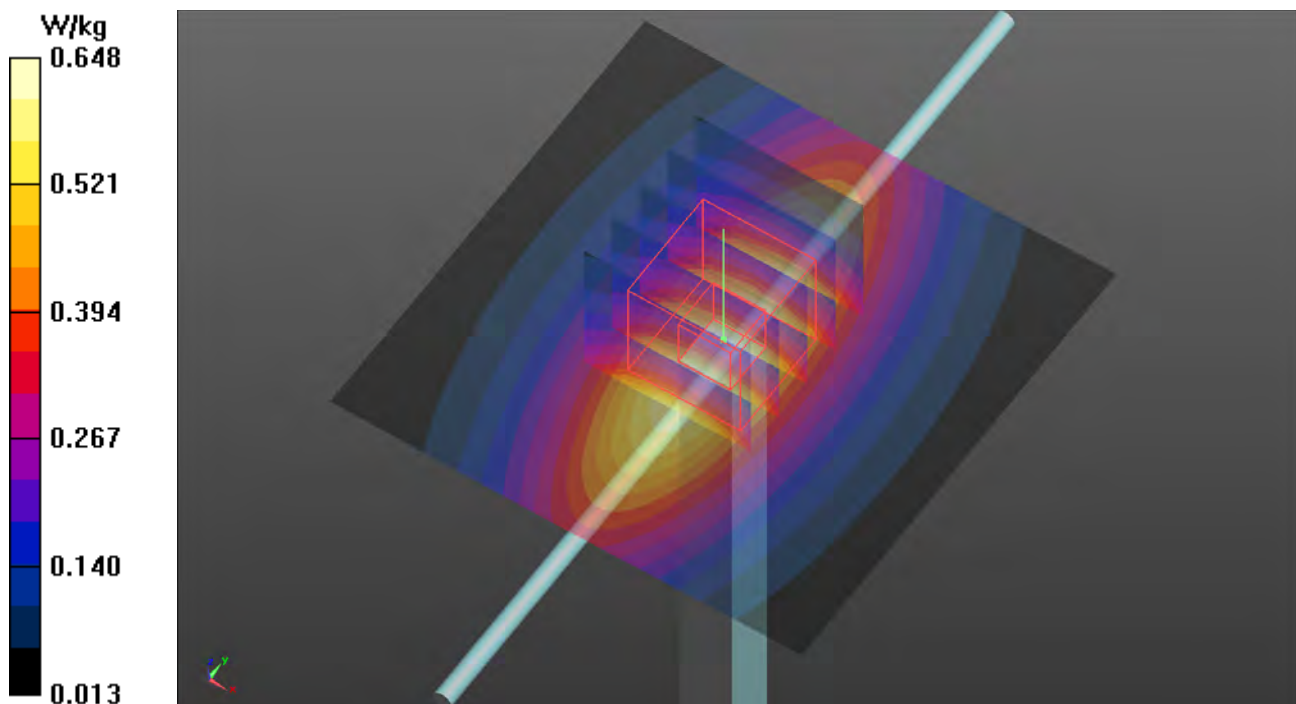
S06 System Check_H835_210306**DUT: Dipole 835 MHz; Type: D835V2; SN: 4d121**

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

Medium: H07T10N1_0306 Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.901 \text{ S/m}$; $\epsilon_r = 42.932$; $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature : $23.5 \text{ }^\circ\text{C}$; Liquid Temperature : $23.1 \text{ }^\circ\text{C}$

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(10.05, 10.05, 10.05) @ 835 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$ Maximum value of SAR (interpolated) = 0.648 W/kg **Pin=50mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 28.11 V/m ; Power Drift = -0.03 dB Peak SAR (extrapolated) = 0.741 W/kg **SAR(1 g) = 0.490 W/kg ; SAR(10 g) = 0.318 W/kg** (SAR corrected for target medium)Maximum value of SAR (measured) = 0.651 W/kg 

S07 System Check_H2600_210226**DUT: Dipole 2600 MHz; Type: D2600V2; SN: 1020**

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: H19T27N1_0226 Medium parameters used: $f = 2600$ MHz; $\sigma = 2.016$ S/m; $\epsilon_r = 37.567$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7°C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(7.28, 7.28, 7.28) @ 2600 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 5.04 W/kg

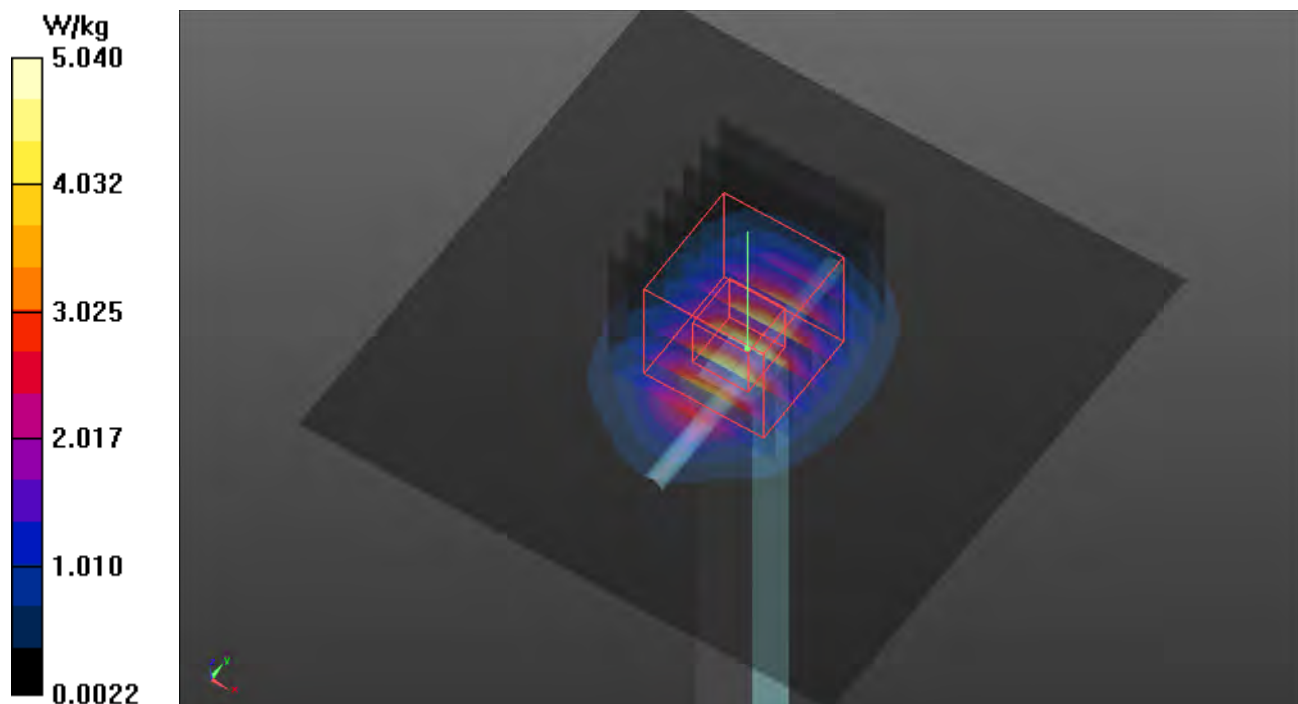
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 52.46 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 6.27 W/kg

SAR(1 g) = 2.9 W/kg; SAR(10 g) = 1.31 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 5.05 W/kg



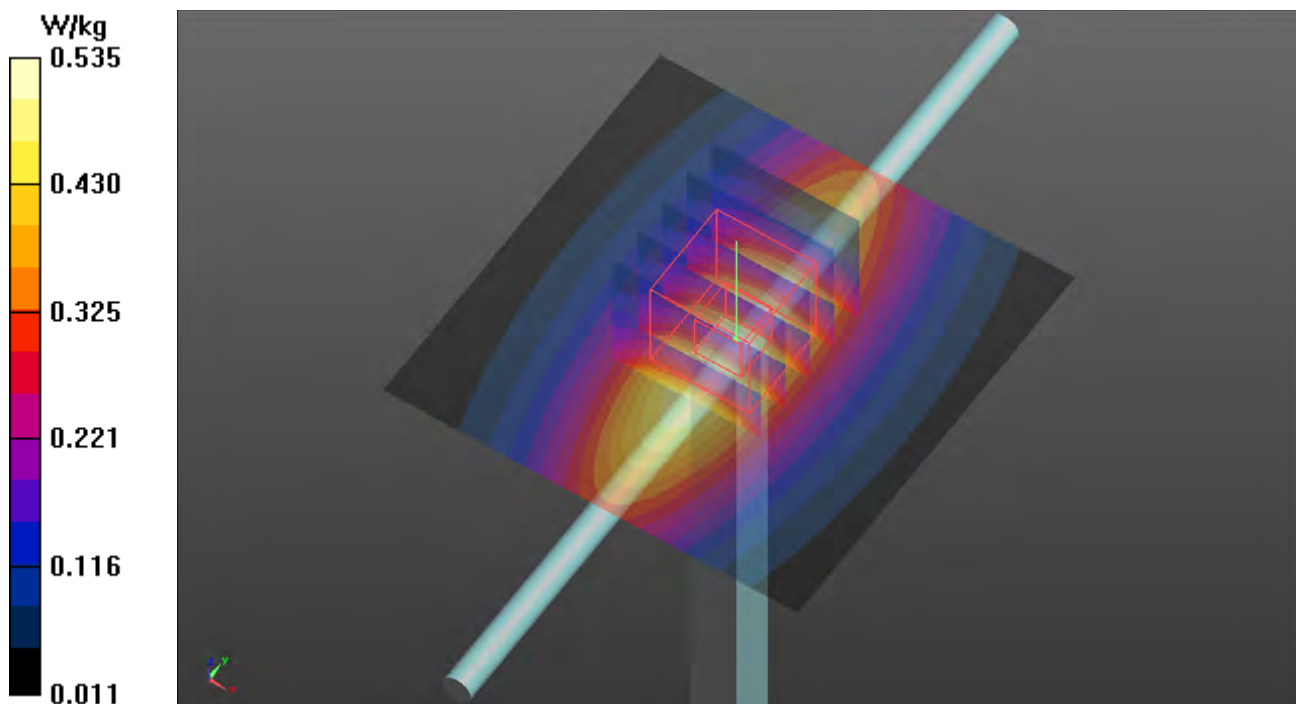
S08 System Check_H750_210225**DUT: Dipole 750 MHz; Type: D750V3; SN: 1013**

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: H06T09N1_0225 Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.891 \text{ S/m}$; $\epsilon_r = 41.003$; $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature : $23.5 \text{ }^\circ\text{C}$; Liquid Temperature : $23.2 \text{ }^\circ\text{C}$

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(10.39, 10.39, 10.39) @ 750 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$ Maximum value of SAR (interpolated) = 0.535 W/kg **Pin=50mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 25.40 V/m ; Power Drift = -0.02 dB Peak SAR (extrapolated) = 0.611 W/kg **SAR(1 g) = 0.401 W/kg ; SAR(10 g) = 0.263 W/kg** (SAR corrected for target medium)Maximum value of SAR (measured) = 0.540 W/kg 

S09 System Check_H750_210225**DUT: Dipole 750 MHz; Type: D750V3; SN: 1013**

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: H06T09N1_0225 Medium parameters used: $f = 750$ MHz; $\sigma = 0.891$ S/m; $\epsilon_r = 41.003$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(10.39, 10.39, 10.39) @ 750 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.535 W/kg

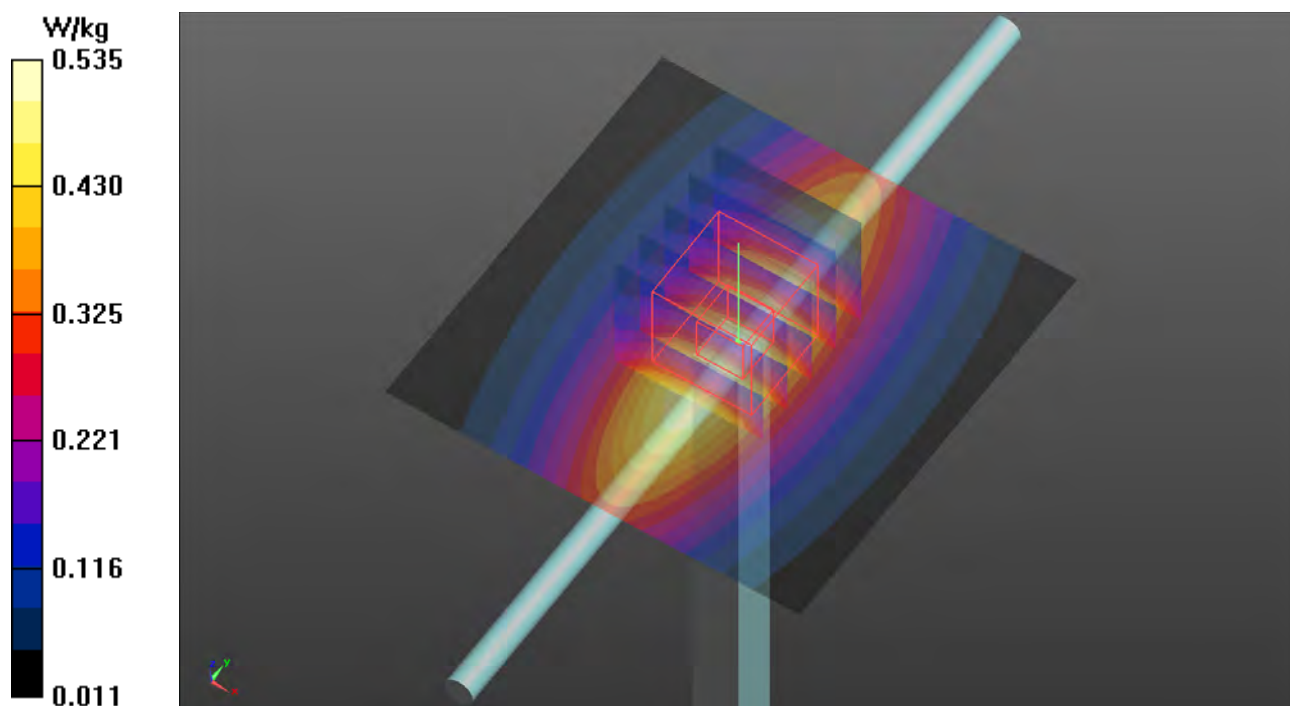
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.40 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.611 W/kg

SAR(1 g) = 0.401 W/kg; SAR(10 g) = 0.263 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 0.540 W/kg



S10 System Check_H750_210225**DUT: Dipole 750 MHz; Type: D750V3; SN: 1013**

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: H06T09N1_0225 Medium parameters used: $f = 750$ MHz; $\sigma = 0.891$ S/m; $\epsilon_r = 41.003$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(10.39, 10.39, 10.39) @ 750 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.535 W/kg

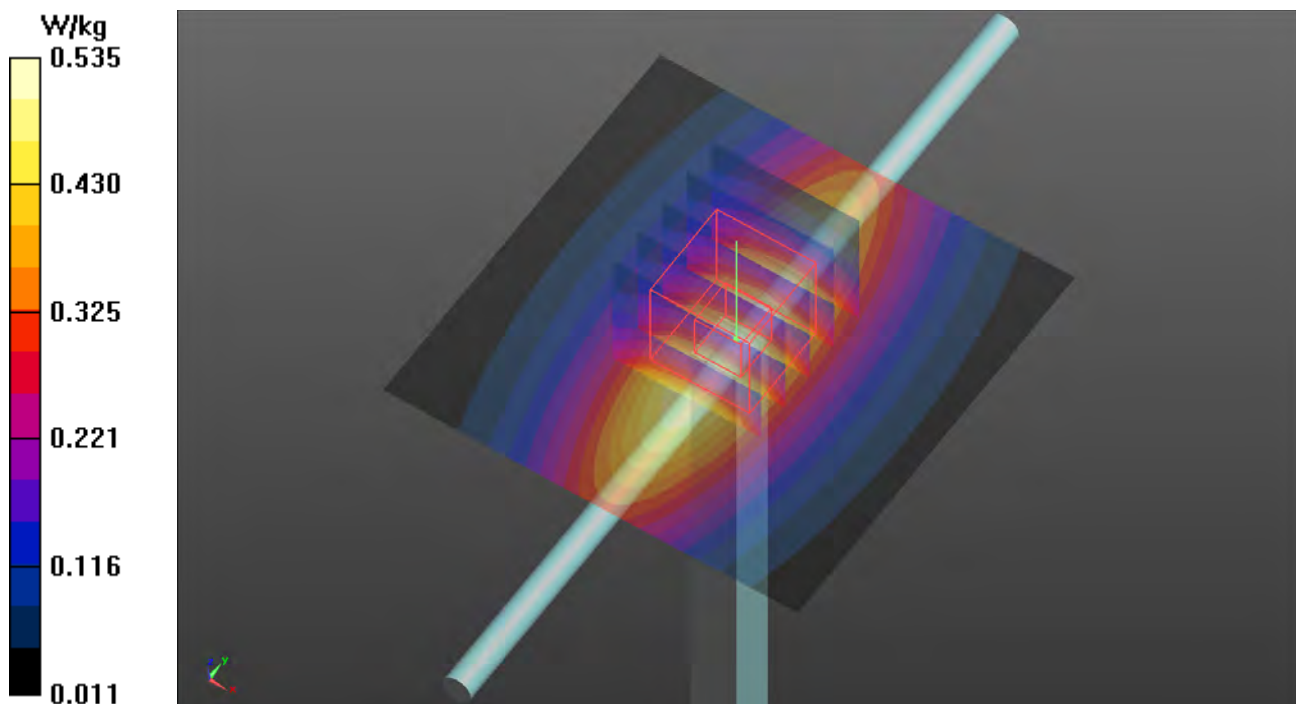
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.40 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.611 W/kg

SAR(1 g) = 0.401 W/kg; SAR(10 g) = 0.263 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 0.540 W/kg



S11 System Check_H750_210225

DUT: Dipole 750 MHz; Type: D750V3; SN: 1013

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: H06T09N1_0225 Medium parameters used: $f = 750$ MHz; $\sigma = 0.891$ S/m; $\epsilon_r = 41.003$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(10.39, 10.39, 10.39) @ 750 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.535 W/kg

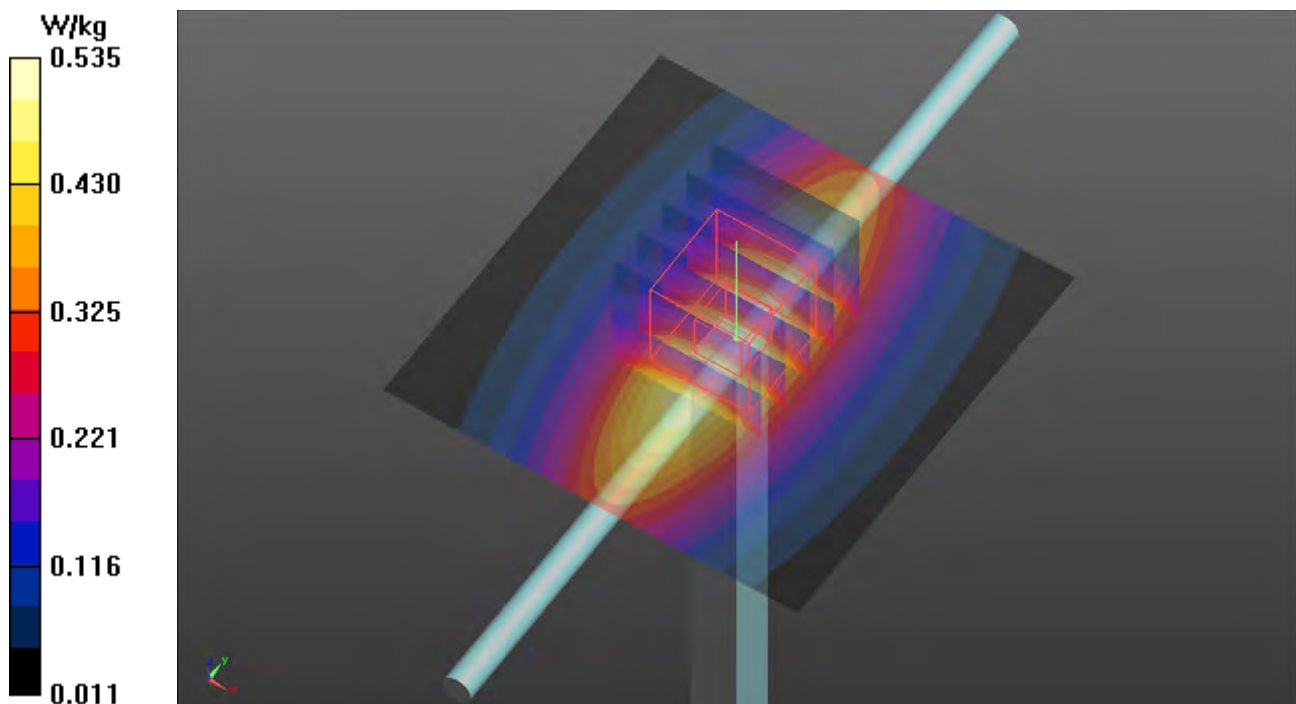
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.40 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.611 W/kg

SAR(1 g) = 0.401 W/kg; SAR(10 g) = 0.263 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 0.540 W/kg



S12 System Check_H1900_210226

DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d036

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: H16T20N1_0226 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.46$ S/m; $\epsilon_r = 38.262$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3887; ConvF(7.98, 7.98, 7.98) @ 1900 MHz; Calibrated: 2020/10/22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2020/06/22
- Phantom: ELI Phantom_1206; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.95 W/kg

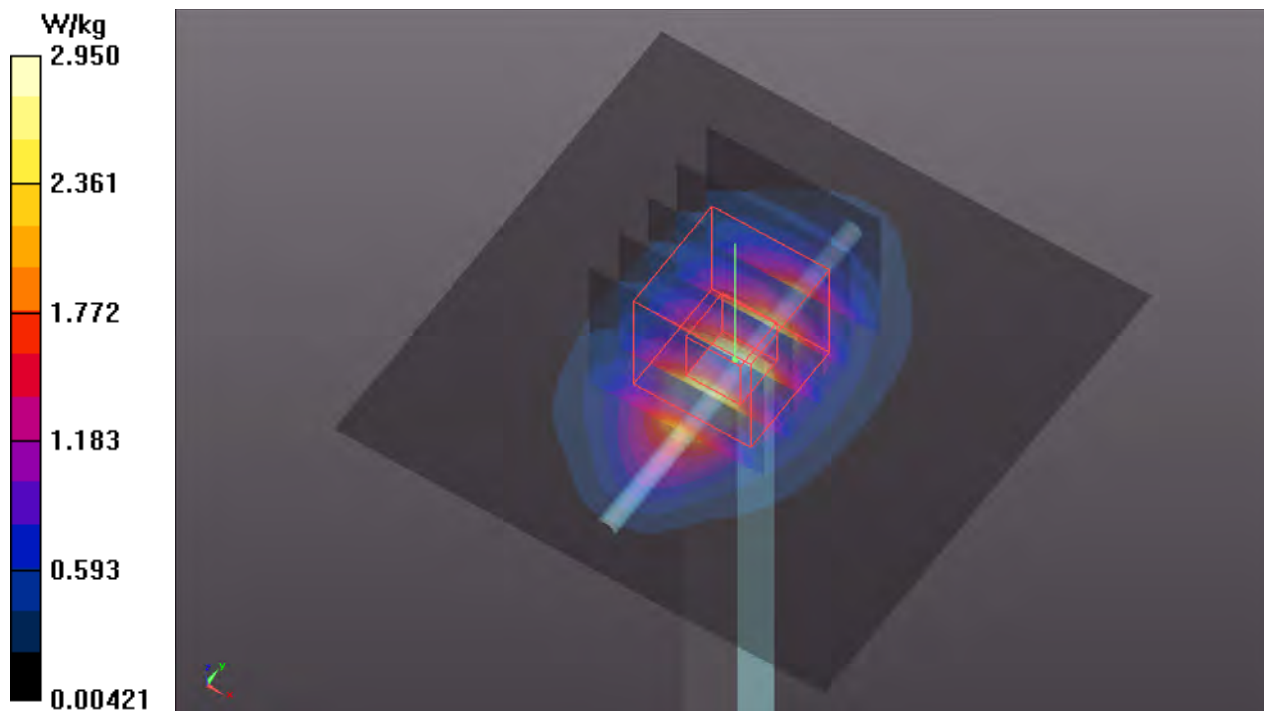
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 45.86 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 3.69 W/kg

SAR(1 g) = 1.91 W/kg; SAR(10 g) = 0.997 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 3.10 W/kg



S13 System Check_H835_210224

DUT: Dipole 835 MHz; Type: D835V2; SN: 4d121

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

Medium: H07T10N1_0224 Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.914 \text{ S/m}$; $\epsilon_r = 42.593$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature : 23.8°C ; Liquid Temperature : 23.6°C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(10.05, 10.05, 10.05) @ 835 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.657 W/kg

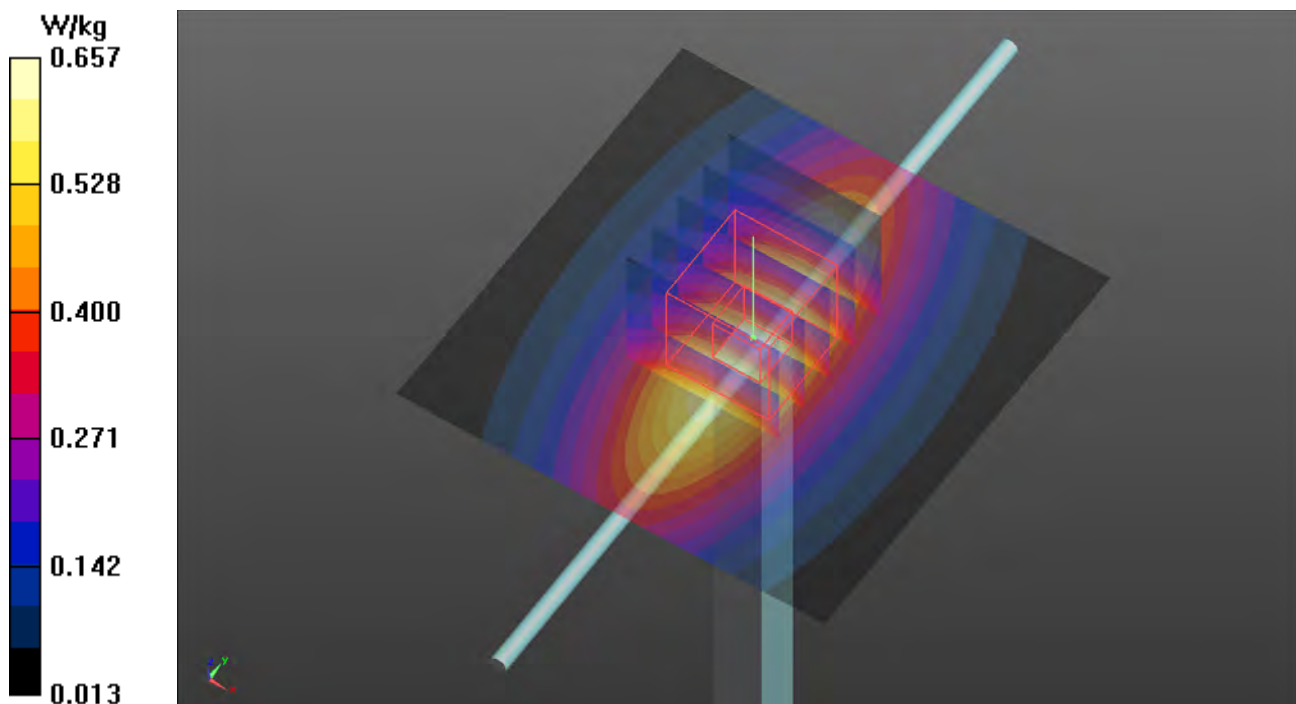
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 28.11 V/m ; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.752 W/kg

SAR(1 g) = 0.491 W/kg ; SAR(10 g) = 0.320 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 0.661 W/kg



S14 System Check_H2300_210306

DUT: Dipole 2300 MHz; Type: D2300V2; SN:1004

Communication System: UID 0, CW; Frequency: 2300 MHz; Duty Cycle: 1:1

Medium: H19T27N1_0306 Medium parameters used: $f = 2300$ MHz; $\sigma = 1.724$ S/m; $\epsilon_r = 39.634$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(7.62, 7.62, 7.62) @ 2300 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 3.73 W/kg

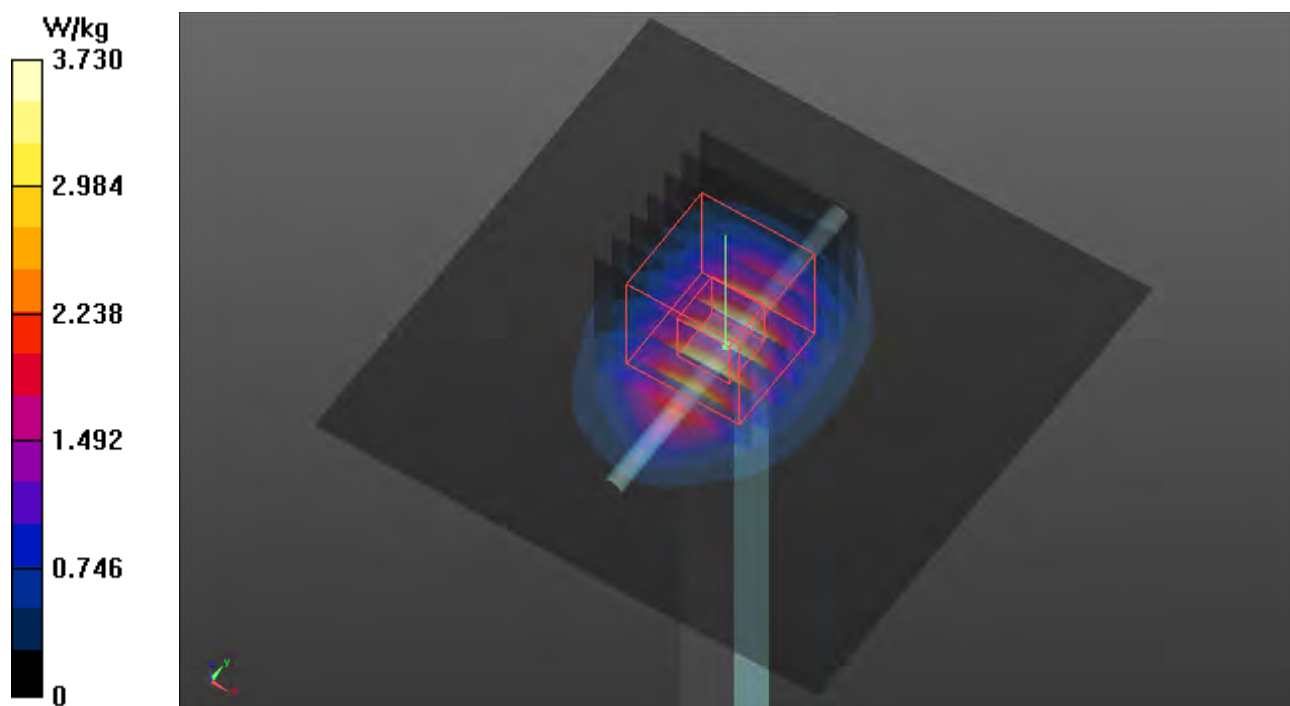
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 46.81 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 4.75 W/kg

SAR(1 g) = 2.3 W/kg; SAR(10 g) = 1.1 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 3.84 W/kg



S15 System Check_H2600_210302

DUT: Dipole 2600 MHz; Type: D2600V2; SN: 1020

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: H19T27N1_0302 Medium parameters used: $f = 2600$ MHz; $\sigma = 2.045$ S/m; $\epsilon_r = 38.308$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7555; ConvF(7.36, 7.36, 7.36) @ 2600 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1589; Calibrated: 2020/09/15
- Phantom: ELI V5.0 1204; Type: QD OVA 002 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 5.12 W/kg

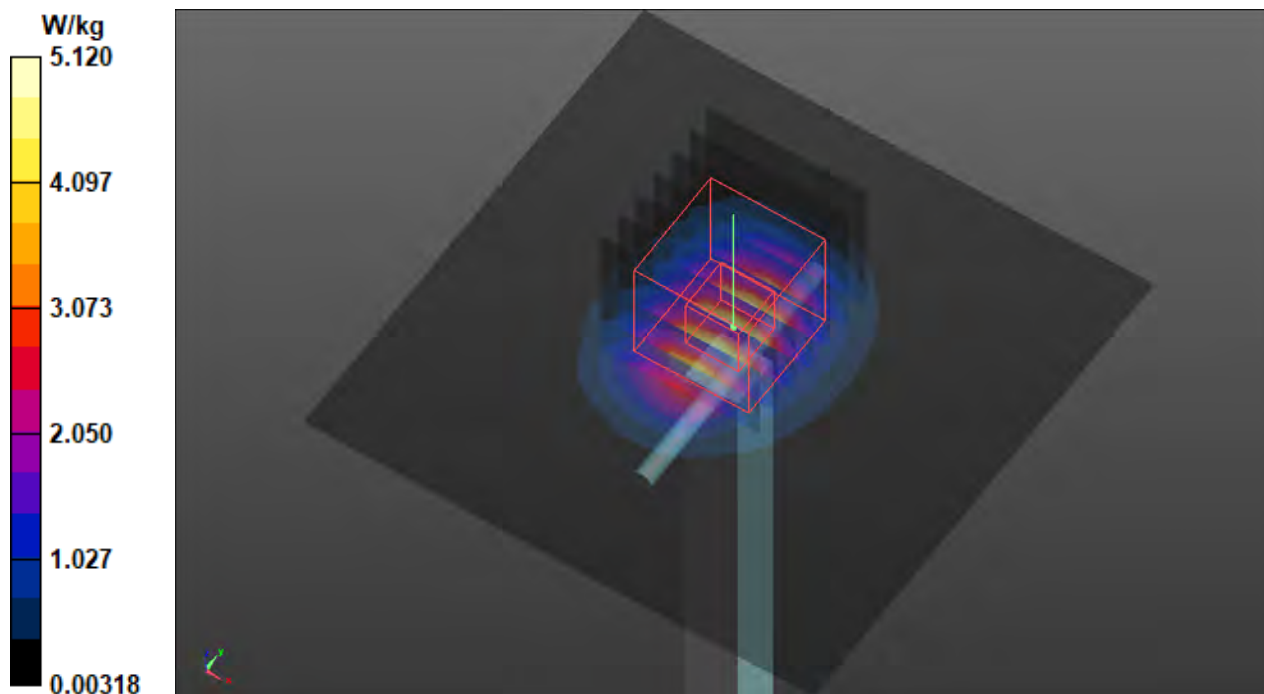
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 49.47 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 6.39 W/kg

SAR(1 g) = 2.94 W/kg; SAR(10 g) = 1.33 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 5.12 W/kg



S16 System Check_H2600_210307**DUT: Dipole 2600 MHz; Type: D2600V2; SN: 1020**

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: H19T27N1_0307 Medium parameters used: $f = 2600$ MHz; $\sigma = 2.029$ S/m; $\epsilon_r = 38.61$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(7.28, 7.28, 7.28) @ 2600 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 5.07 W/kg

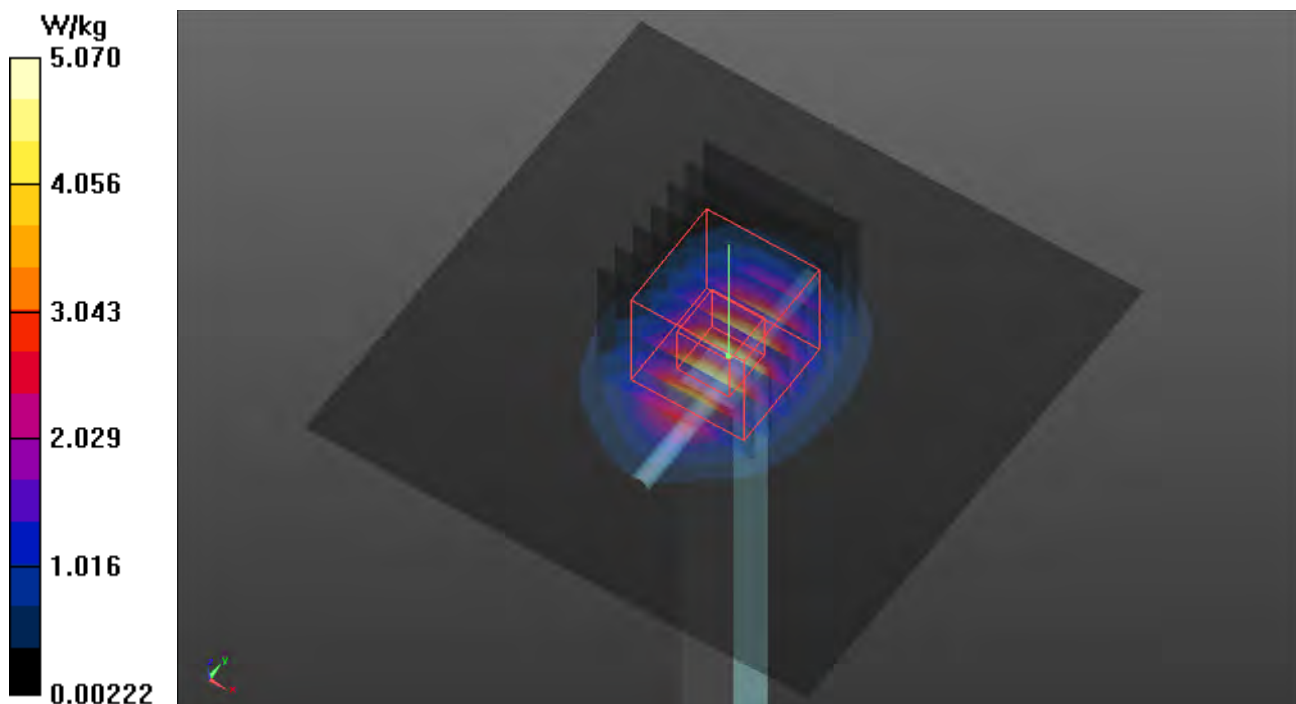
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 52.46 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 6.31 W/kg

SAR(1 g) = 2.93 W/kg; SAR(10 g) = 1.32 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 5.08 W/kg



S17 System Check_H1750_210223

DUT: Dipole 1750 MHz; Type: D1750V2; SN: 1055

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

Medium: H16T20N1_0223 Medium parameters used: $f = 1750$ MHz; $\sigma = 1.326$ S/m; $\epsilon_r = 38.746$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3887; ConvF(8.24, 8.24, 8.24) @ 1750 MHz; Calibrated: 2020/10/22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2020/06/22
- Phantom: ELI Phantom_1206; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.69 W/kg

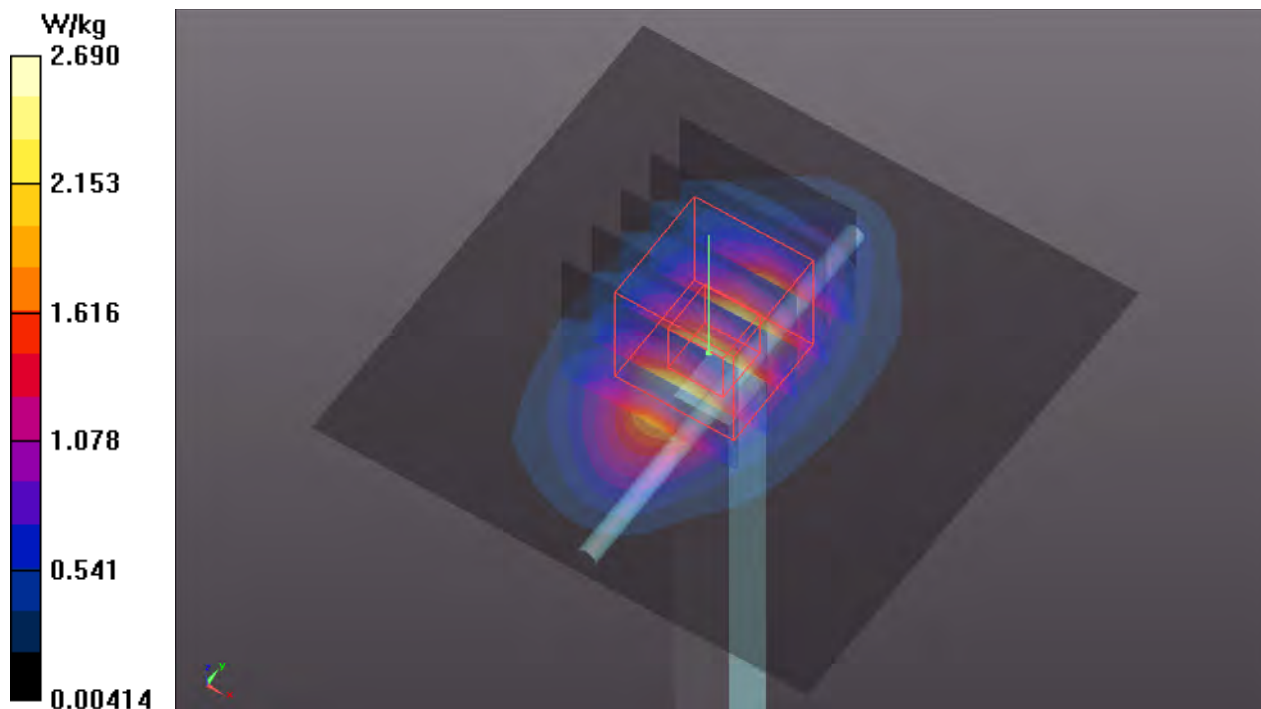
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 45.72 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 3.20 W/kg

SAR(1 g) = 1.78 W/kg; SAR(10 g) = 0.942 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 2.71 W/kg



S18 System Check_H2450_210304

DUT: Dipole 2450 MHz; Type: D2450V2; SN: 737

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: H19T27N1_0304 Medium parameters used (interpolated): $f = 2450$ MHz; $\sigma = 1.881$ S/m; $\epsilon_r = 38.071$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(7.87, 7.87, 7.87) @ 2450 MHz; Calibrated: 2021/01/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2021/01/19
- Phantom: ELI Phantom_1245; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 4.26 W/kg

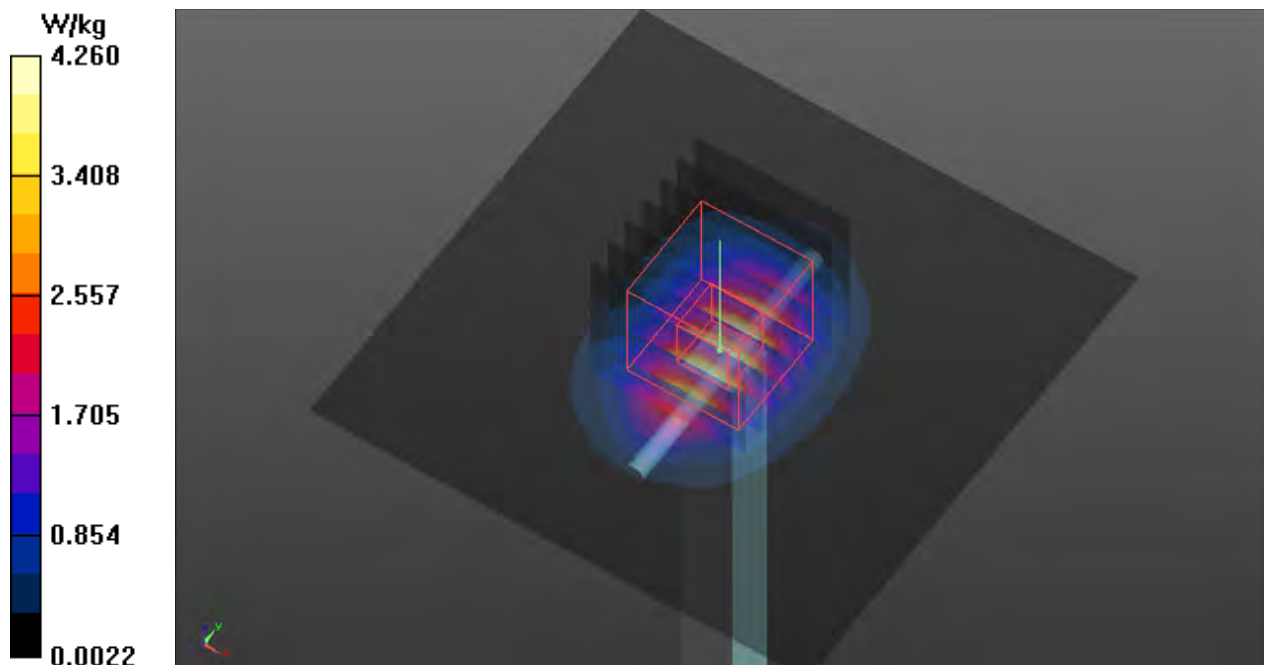
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 50.24 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 5.22 W/kg

SAR(1 g) = 2.57 W/kg; SAR(10 g) = 1.23 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 4.30 W/kg



S19 System Check_H5250_210305

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1

Medium: H34T60N1_0305 Medium parameters used: $f = 5250$ MHz; $\sigma = 4.58$ S/m; $\epsilon_r = 36.321$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(5.2, 5.2, 5.2) @ 5250 MHz; Calibrated: 2021/01/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2021/01/19
- Phantom: ELI Phantom_1245; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 12.2 W/kg

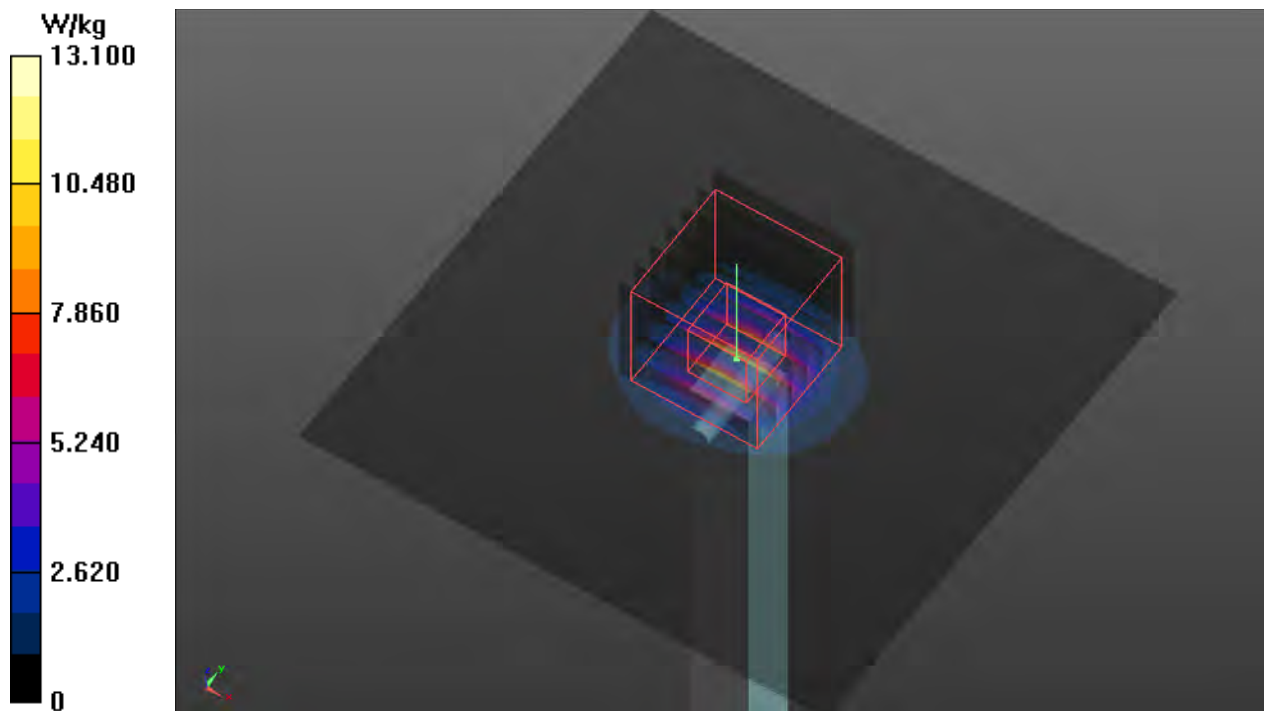
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 58.49 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 20.8 W/kg

SAR(1 g) = 4.32 W/kg; SAR(10 g) = 1.5 W/kg

Maximum value of SAR (measured) = 13.1 W/kg



S20 System Check_H5600_210304

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: H34T60N1_0304 Medium parameters used: $f = 5600$ MHz; $\sigma = 5.122$ S/m; $\epsilon_r = 34.375$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(4.9, 4.9, 4.9) @ 5600 MHz; Calibrated: 2021/01/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2021/01/19
- Phantom: ELI Phantom_1245; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 10.6 W/kg

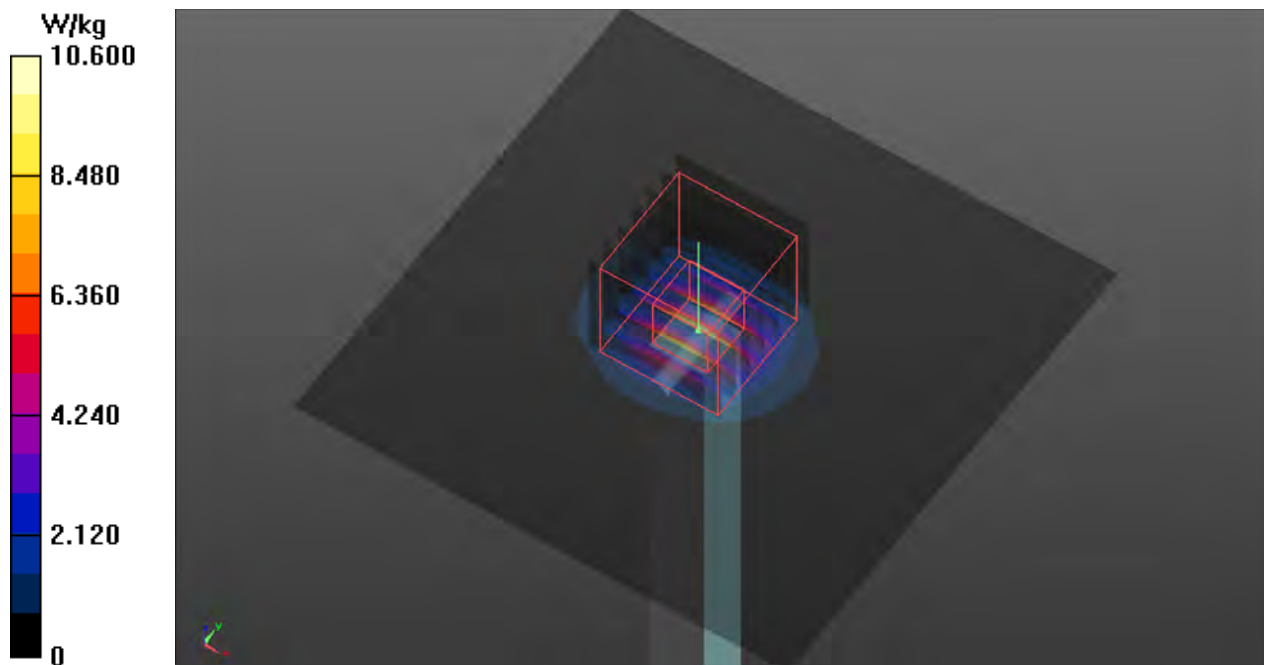
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 49.74 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 18.6 W/kg

SAR(1 g) = 4.43 W/kg; SAR(10 g) = 1.31 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 11.3 W/kg



S21 System Check_H5750_210305

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1

Medium: H34T60N1_0305 Medium parameters used: $f = 5750$ MHz; $\sigma = 5.153$ S/m; $\epsilon_r = 34.572$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(4.8, 4.8, 4.8) @ 5750 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 9.80 W/kg

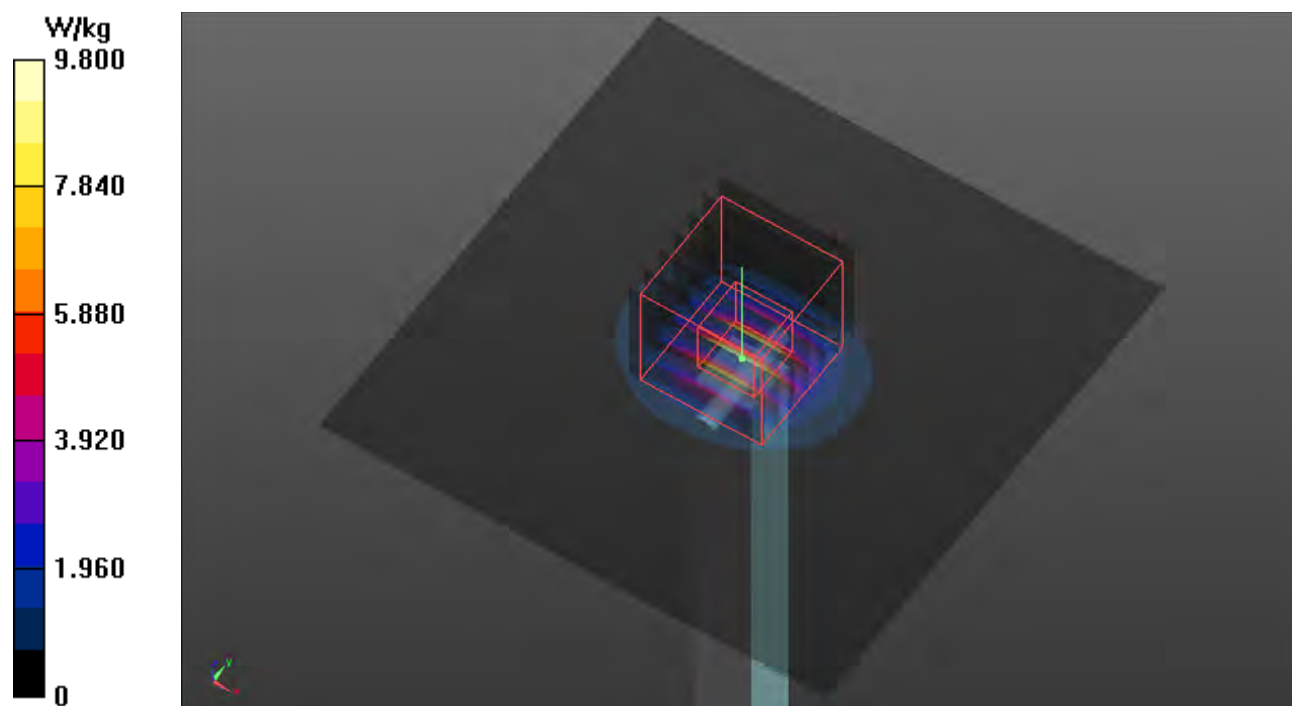
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 50.01 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 18.2 W/kg

SAR(1 g) = 3.97 W/kg; SAR(10 g) = 1.13 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 10.5 W/kg



S22 System Check_H2450_210305**DUT: Dipole 2450 MHz; Type: D2450V2; SN: 737**

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: H19T27N1_0305 Medium parameters used (interpolated): $f = 2450$ MHz; $\sigma = 1.873$ S/m; $\epsilon_r = 38.311$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(7.41, 7.41, 7.41) @ 2450 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 4.54 W/kg

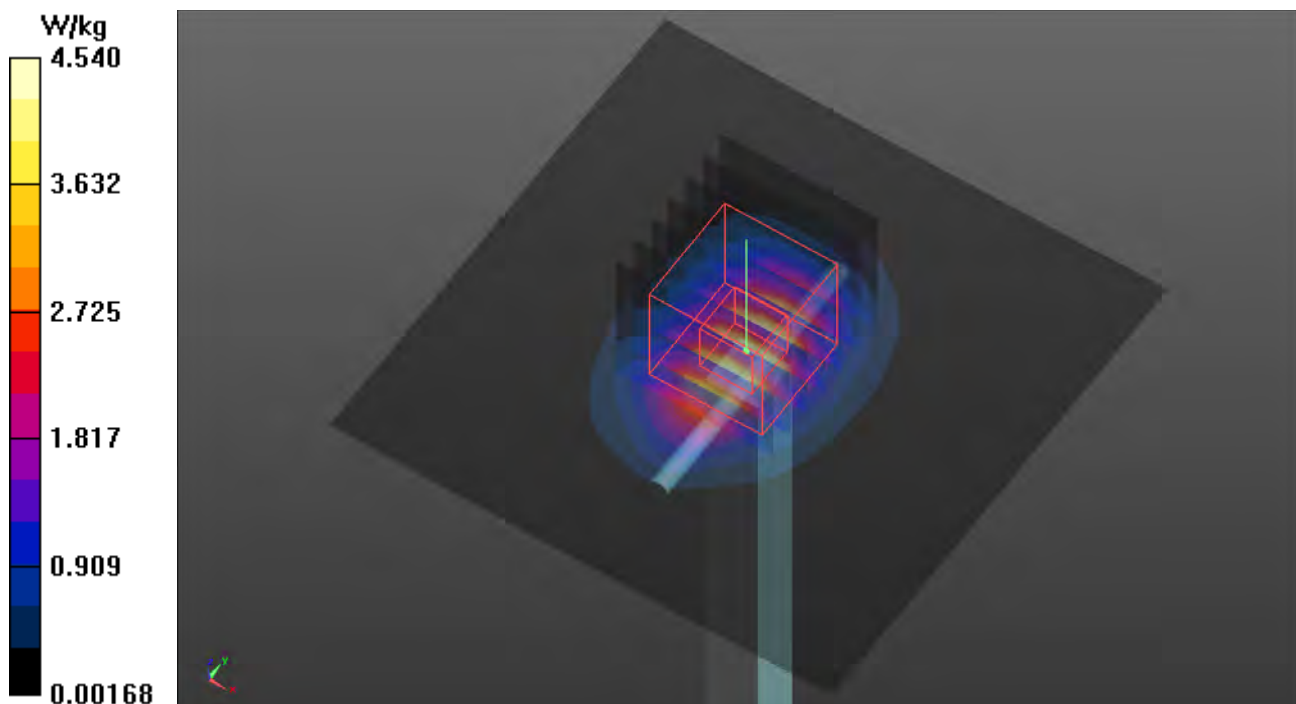
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 51.24 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 5.69 W/kg

SAR(1 g) = 2.69 W/kg; SAR(10 g) = 1.27 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 4.61 W/kg



S23 System Check_H1900_210302

DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d036

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: H16T20N2_0302 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.464$ S/m; $\epsilon_r = 38.131$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(8.23, 8.23, 8.23) @ 1900 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 3.33 W/kg

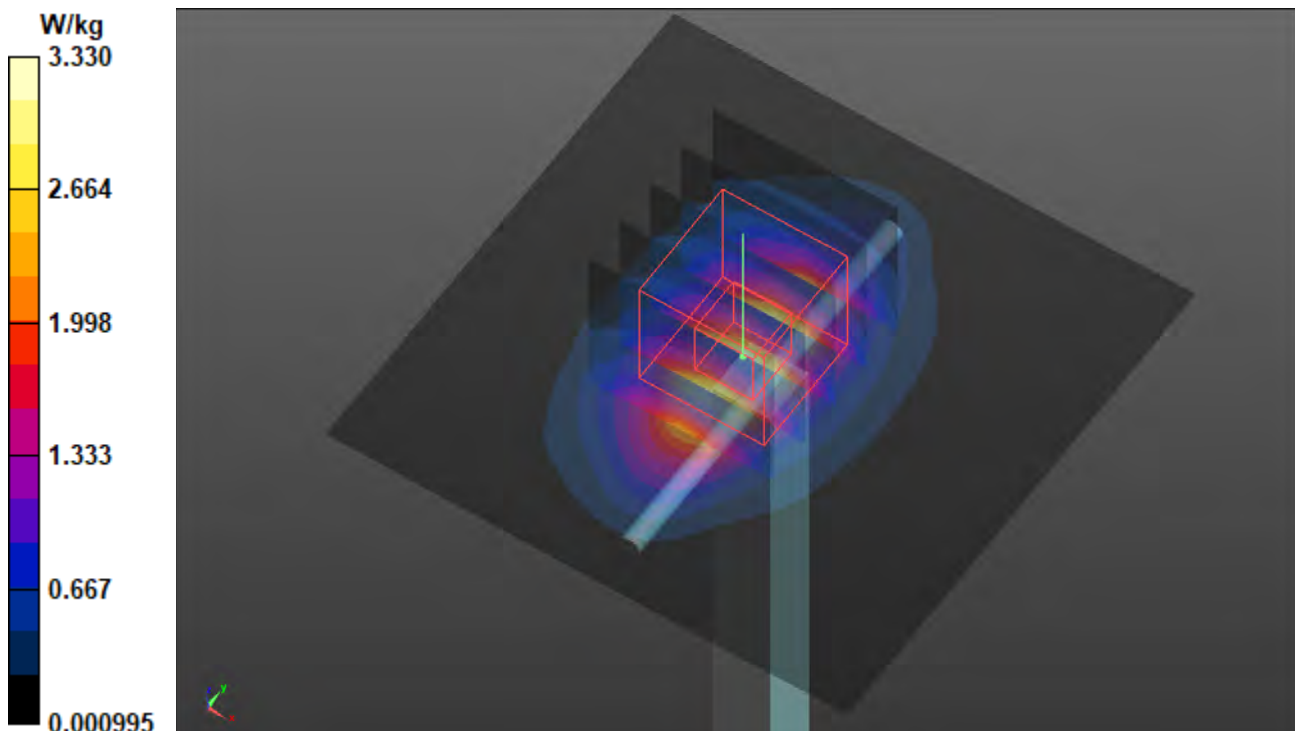
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 48.08 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 4.13 W/kg

SAR(1 g) = 2.01 W/kg; SAR(10 g) = 1.09 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 3.43 W/kg



S24 System Check_H1750_210302

DUT: Dipole 1750 MHz; Type: D1750V2; SN: 1055

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

Medium: H16T20N2_0302 Medium parameters used: $f = 1750$ MHz; $\sigma = 1.333$ S/m; $\epsilon_r = 38.7$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(8.54, 8.54, 8.54) @ 1750 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.70 W/kg

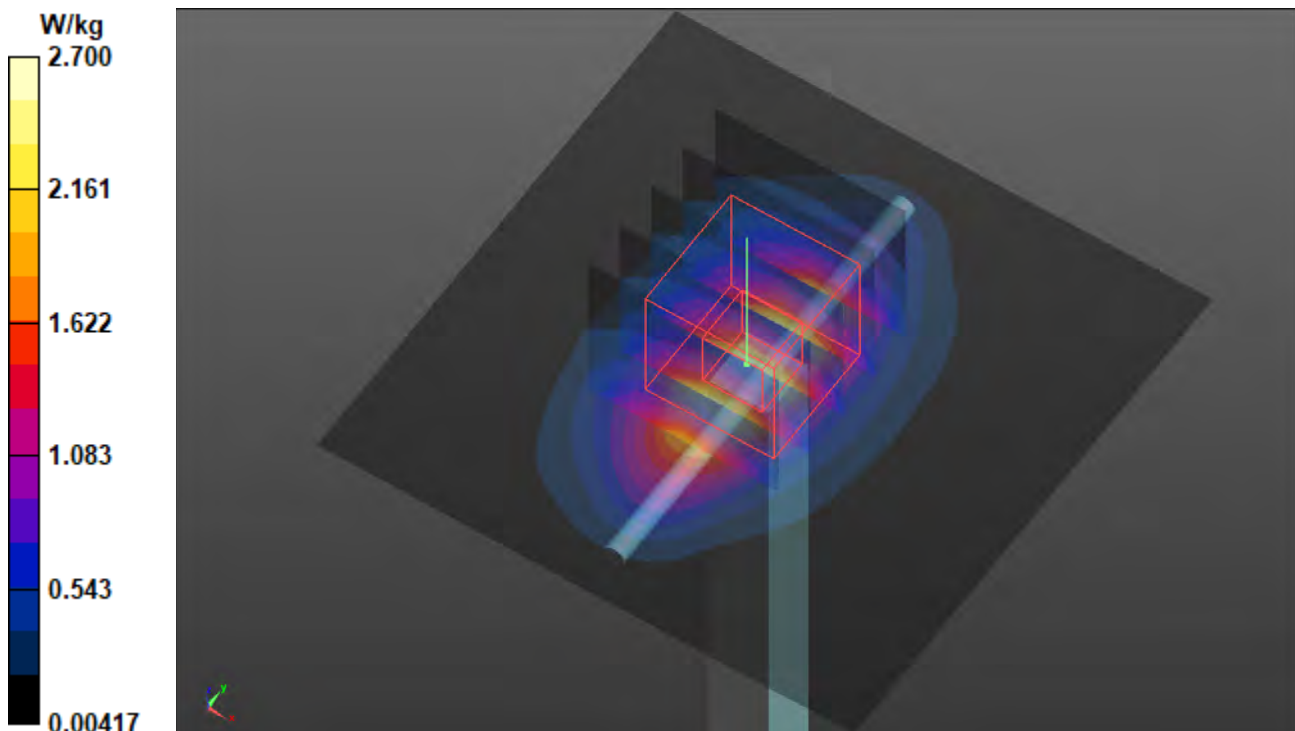
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 45.73 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 3.22 W/kg

SAR(1 g) = 1.78 W/kg; SAR(10 g) = 0.944 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 2.72 W/kg



S25 System Check_H835_210303

DUT: Dipole 835 MHz; Type: D835V2; SN: 4d121

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

Medium: H07T10N1_0303 Medium parameters used: $f = 835$ MHz; $\sigma = 0.913$ S/m; $\epsilon_r = 41.623$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(9.69, 9.69, 9.69) @ 835 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.657 W/kg

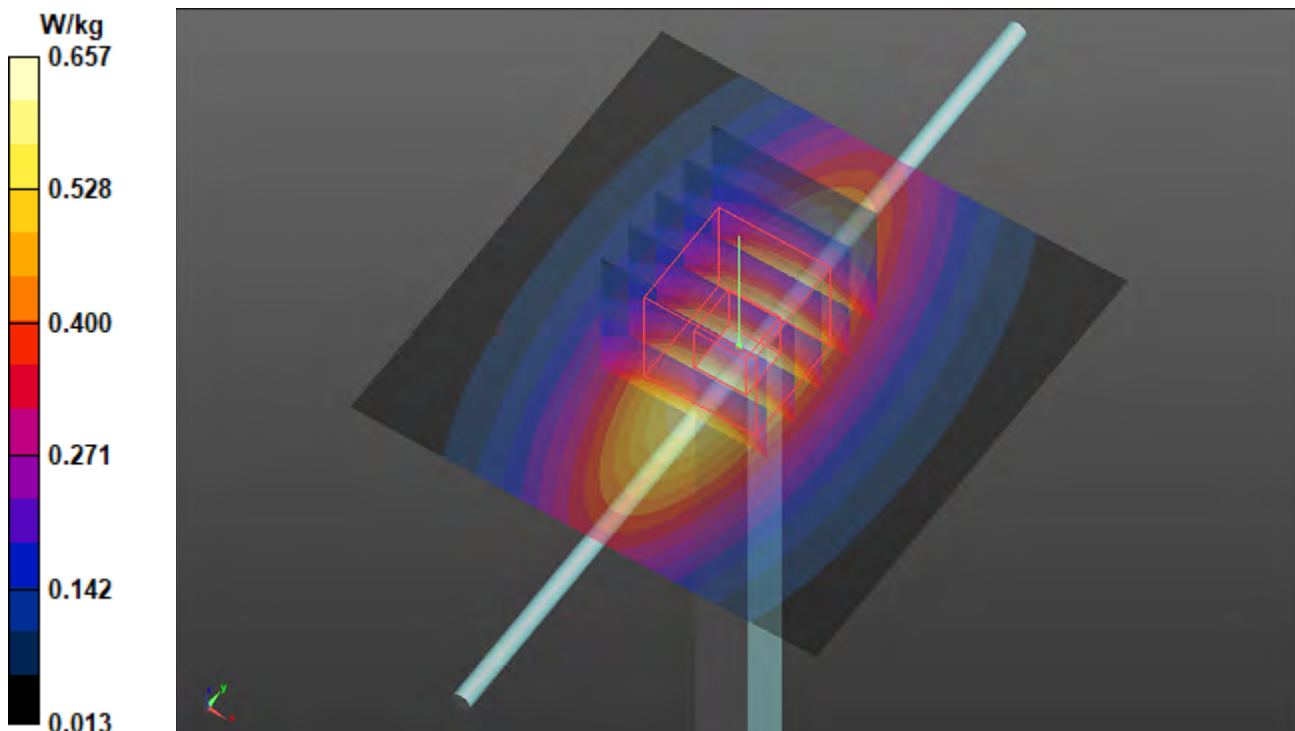
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.13 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.752 W/kg

SAR(1 g) = 0.481 W/kg; SAR(10 g) = 0.319 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 0.660 W/kg



S26 System Check_H1900_210302

DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d036

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: H16T20N1_0302 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.459$ S/m; $\epsilon_r = 38.258$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7555; ConvF(8.42, 8.42, 8.42) @ 1900 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1589; Calibrated: 2020/09/15
- Phantom: ELI V5.0 1204; Type: QD OVA 002 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 3.32 W/kg

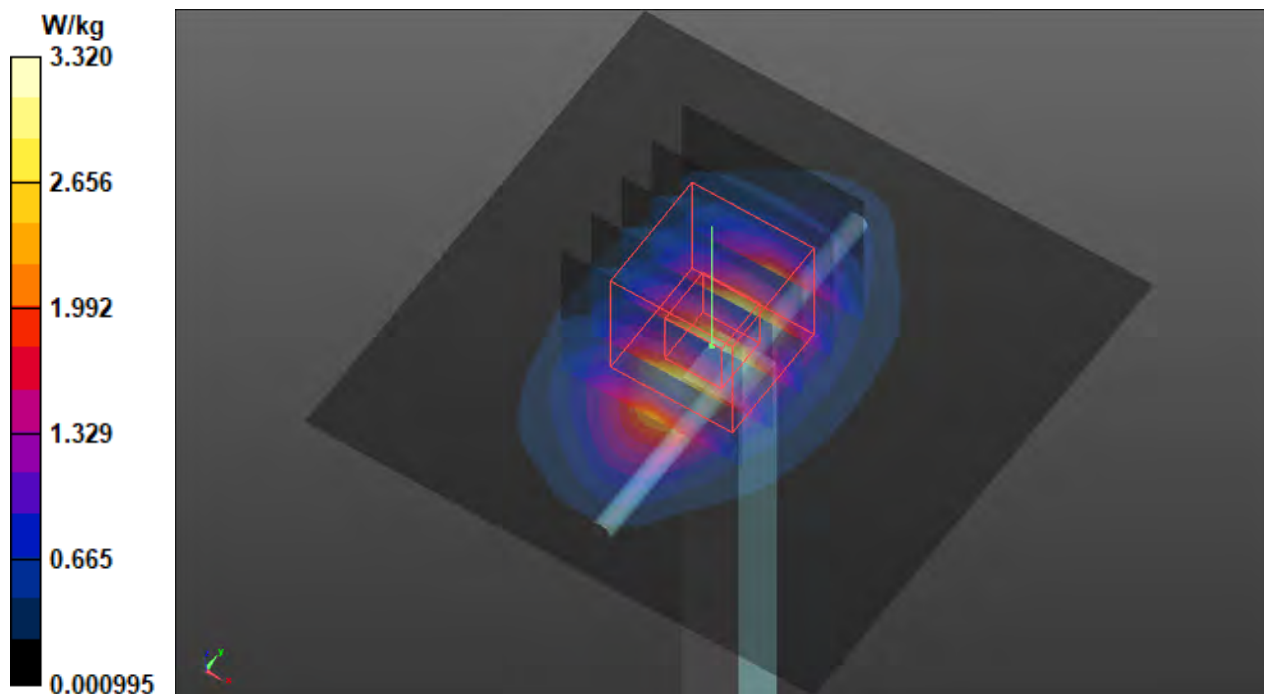
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 48.10 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 4.12 W/kg

SAR(1 g) = 2.08 W/kg; SAR(10 g) = 1.09 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 3.43 W/kg



S27 System Check_H1750_210303

DUT: Dipole 1750 MHz; Type: D1750V2; SN: 1055

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

Medium: H16T20N1_0303 Medium parameters used: $f = 1750$ MHz; $\sigma = 1.332$ S/m; $\epsilon_r = 39.524$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(8.54, 8.54, 8.54) @ 1750 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.73 W/kg

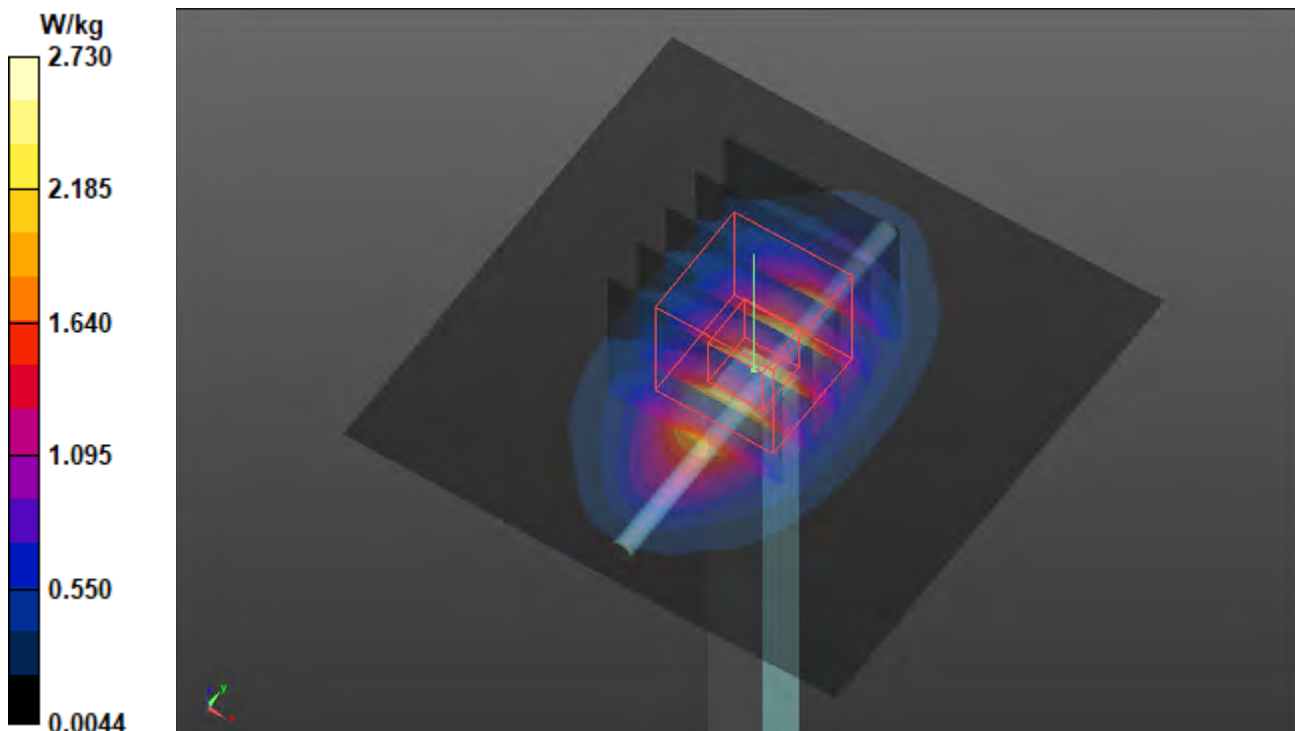
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 46.83 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 3.28 W/kg

SAR(1 g) = 1.79 W/kg; SAR(10 g) = 0.944 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 2.76 W/kg



S28 System Check_H835_210303

DUT: Dipole 835 MHz; Type: D835V2; SN: 4d121

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

Medium: H07T10N1_0303 Medium parameters used: $f = 835$ MHz; $\sigma = 0.913$ S/m; $\epsilon_r = 41.623$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(9.69, 9.69, 9.69) @ 835 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.657 W/kg

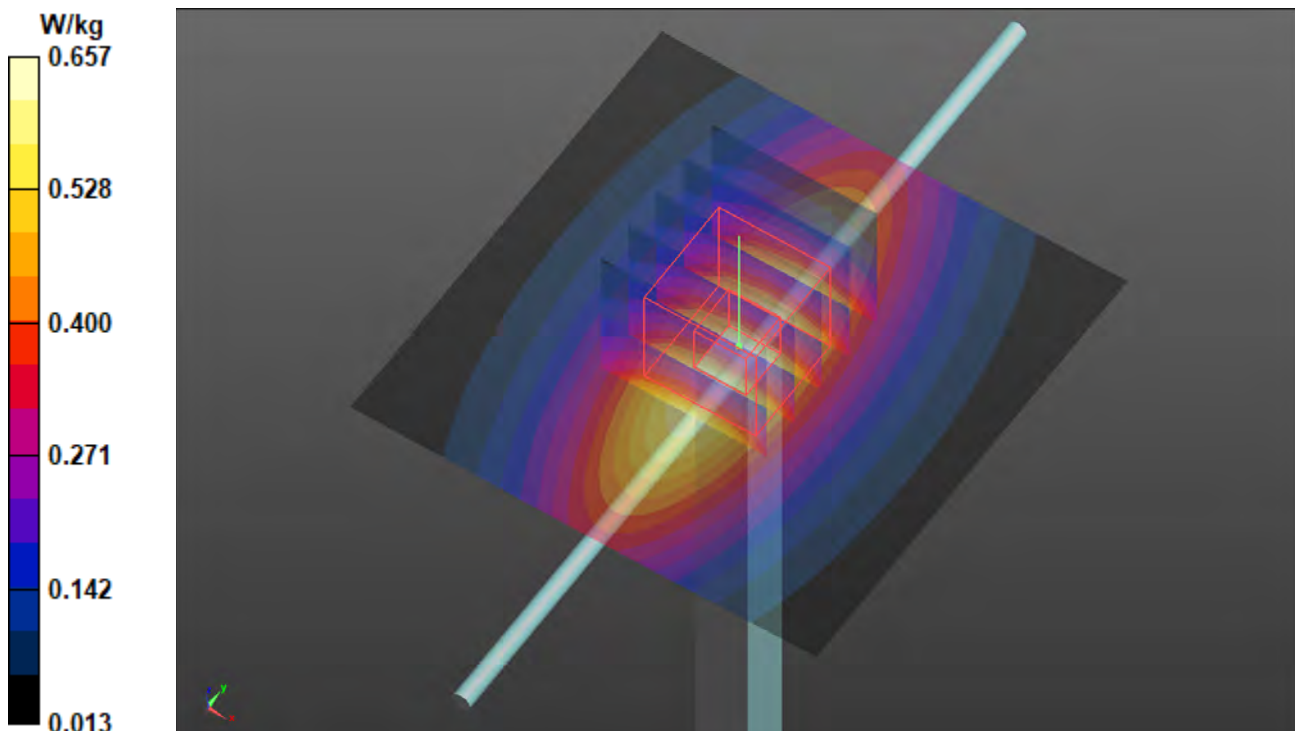
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.13 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.752 W/kg

SAR(1 g) = 0.481 W/kg; SAR(10 g) = 0.319 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 0.660 W/kg



S29 System Check_H2600_210302

DUT: Dipole 2600 MHz; Type: D2600V2; SN: 1020

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: H19T27N2_0302 Medium parameters used: $f = 2600$ MHz; $\sigma = 2.012$ S/m; $\epsilon_r = 38.257$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(7.56, 7.56, 7.56) @ 2600 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 5.03 W/kg

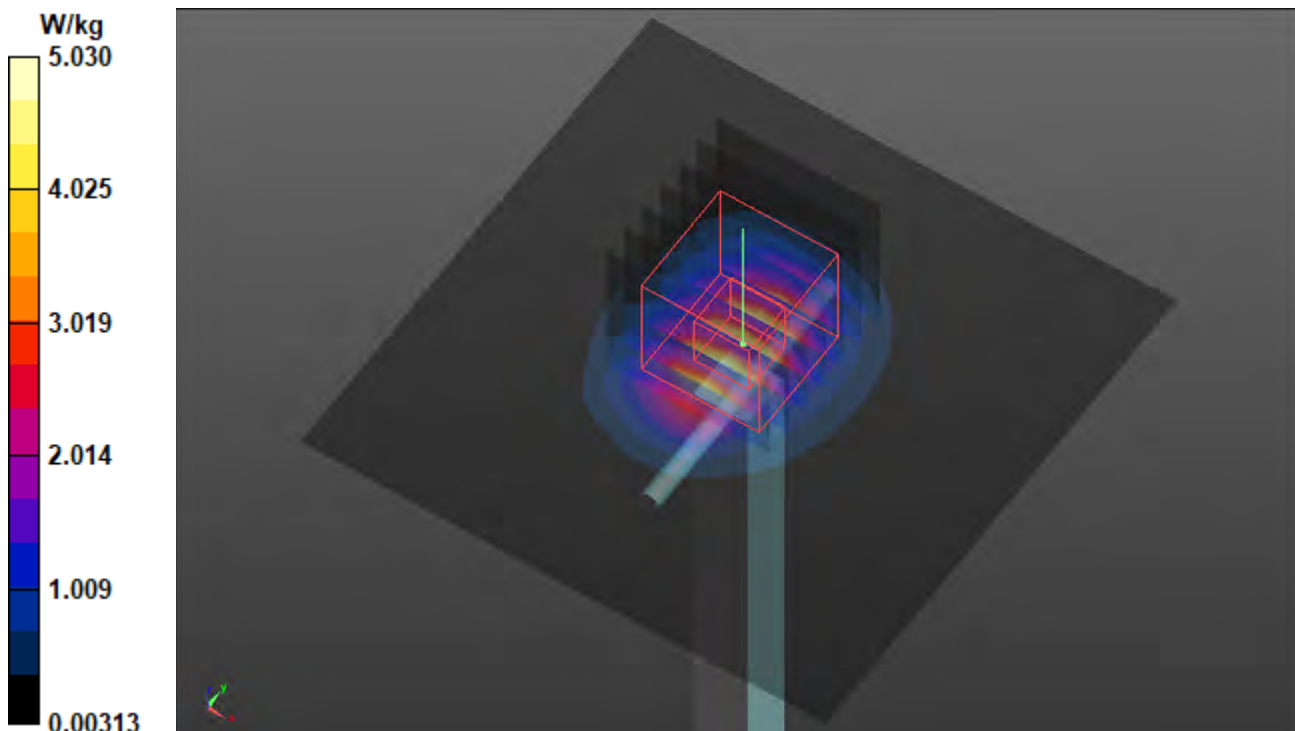
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 49.45 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 6.28 W/kg

SAR(1 g) = 2.81 W/kg; SAR(10 g) = 1.21 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 5.03 W/kg



S30 System Check_H750_210303

DUT: Dipole 750 MHz; Type: D750V3; SN: 1013

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: H06T09N1_0303 Medium parameters used: $f = 750$ MHz; $\sigma = 0.9$ S/m; $\epsilon_r = 42.446$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(9.83, 9.83, 9.83) @ 750 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.542 W/kg

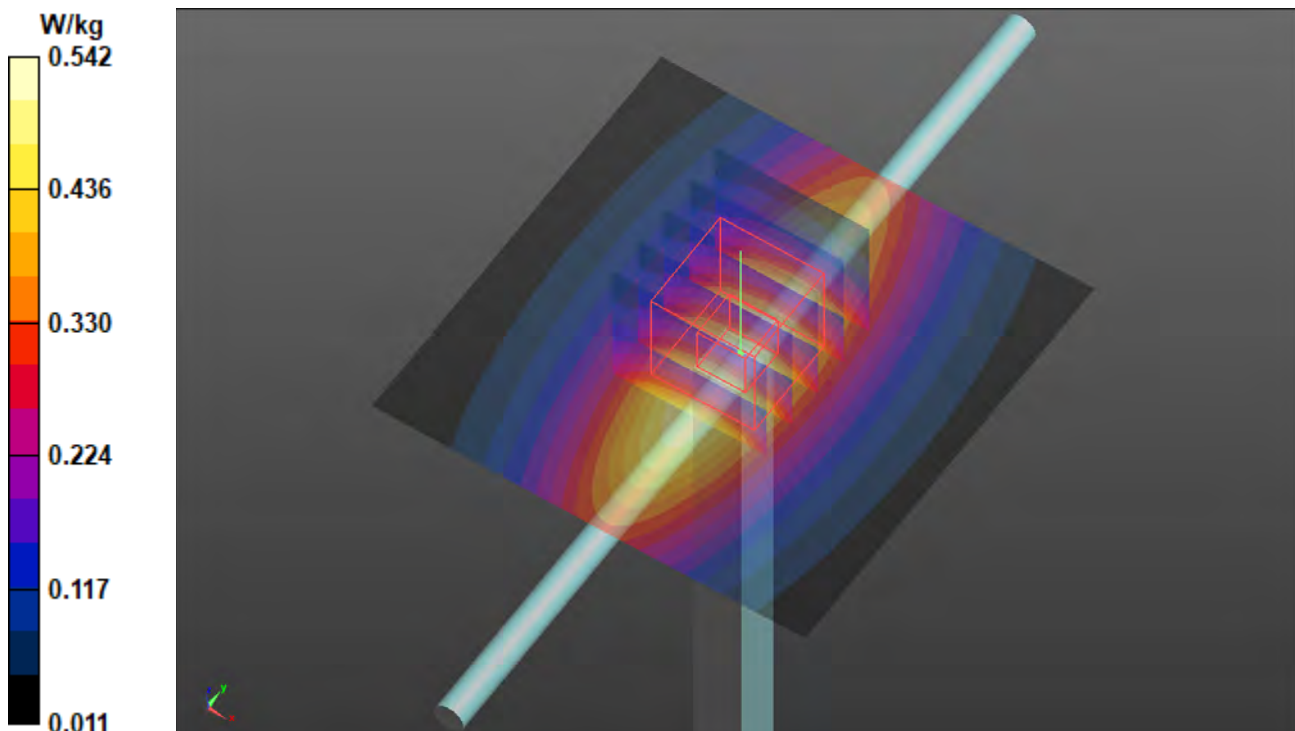
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.42 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.619 W/kg

SAR(1 g) = 0.421 W/kg; SAR(10 g) = 0.276 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 0.547 W/kg



S31 System Check_H750_210303

DUT: Dipole 750 MHz; Type: D750V3; SN: 1013

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: H06T09N1_0303 Medium parameters used: $f = 750$ MHz; $\sigma = 0.9$ S/m; $\epsilon_r = 42.446$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(9.83, 9.83, 9.83) @ 750 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.542 W/kg

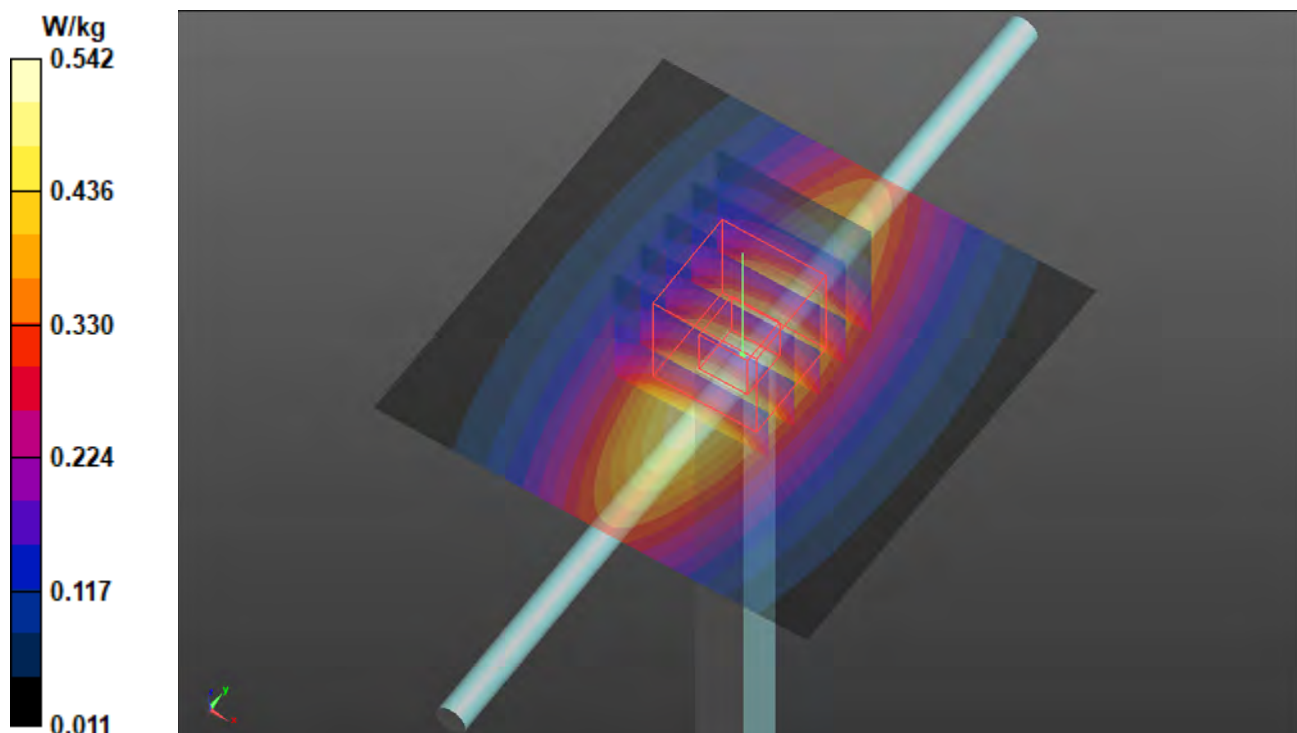
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.42 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.619 W/kg

SAR(1 g) = 0.421 W/kg; SAR(10 g) = 0.276 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 0.547 W/kg



S32 System Check_H750_210303

DUT: Dipole 750 MHz; Type: D750V3; SN: 1013

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: H06T09N1_0303 Medium parameters used: $f = 750$ MHz; $\sigma = 0.9$ S/m; $\epsilon_r = 42.446$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(9.83, 9.83, 9.83) @ 750 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.542 W/kg

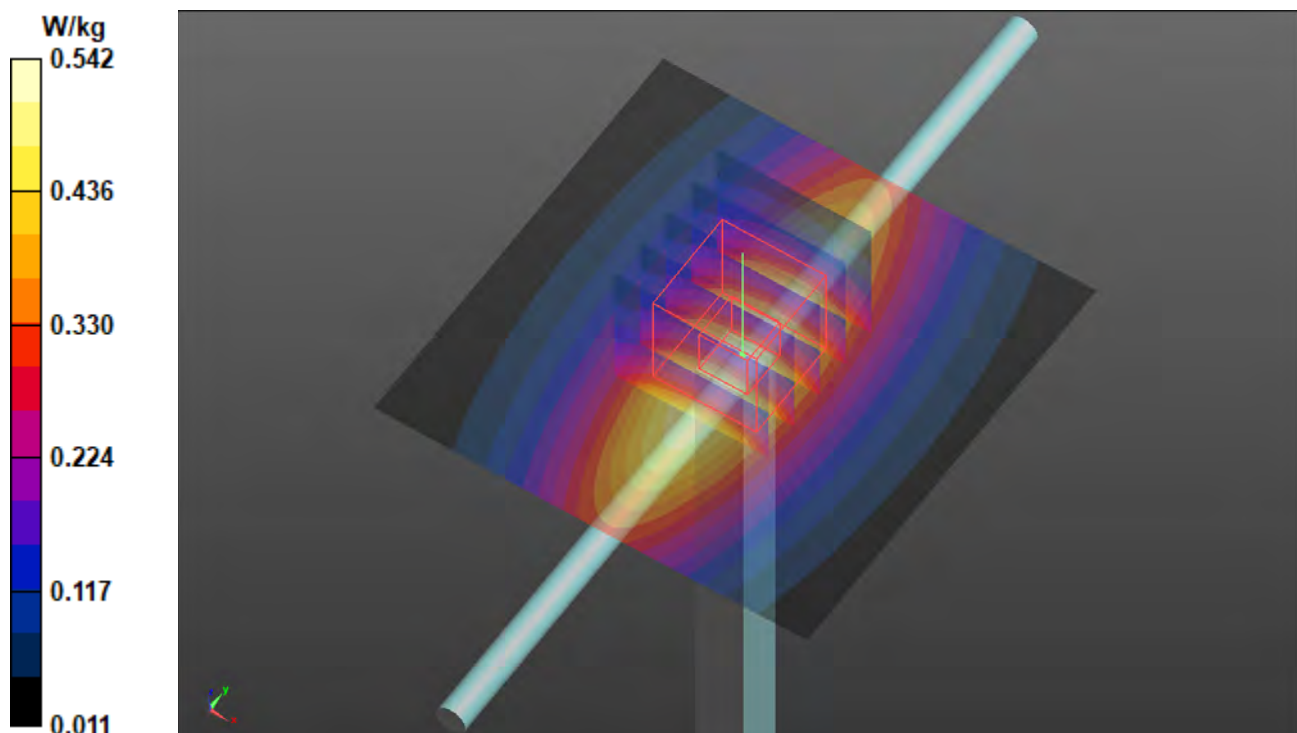
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.42 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.619 W/kg

SAR(1 g) = 0.421 W/kg; SAR(10 g) = 0.276 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 0.547 W/kg



S33 System Check_H750_210303

DUT: Dipole 750 MHz; Type: D750V3; SN: 1013

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: H06T09N1_0303 Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.9 \text{ S/m}$; $\epsilon_r = 42.446$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature : $23.5 \text{ }^\circ\text{C}$; Liquid Temperature : $23.3 \text{ }^\circ\text{C}$

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(9.83, 9.83, 9.83) @ 750 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.542 W/kg

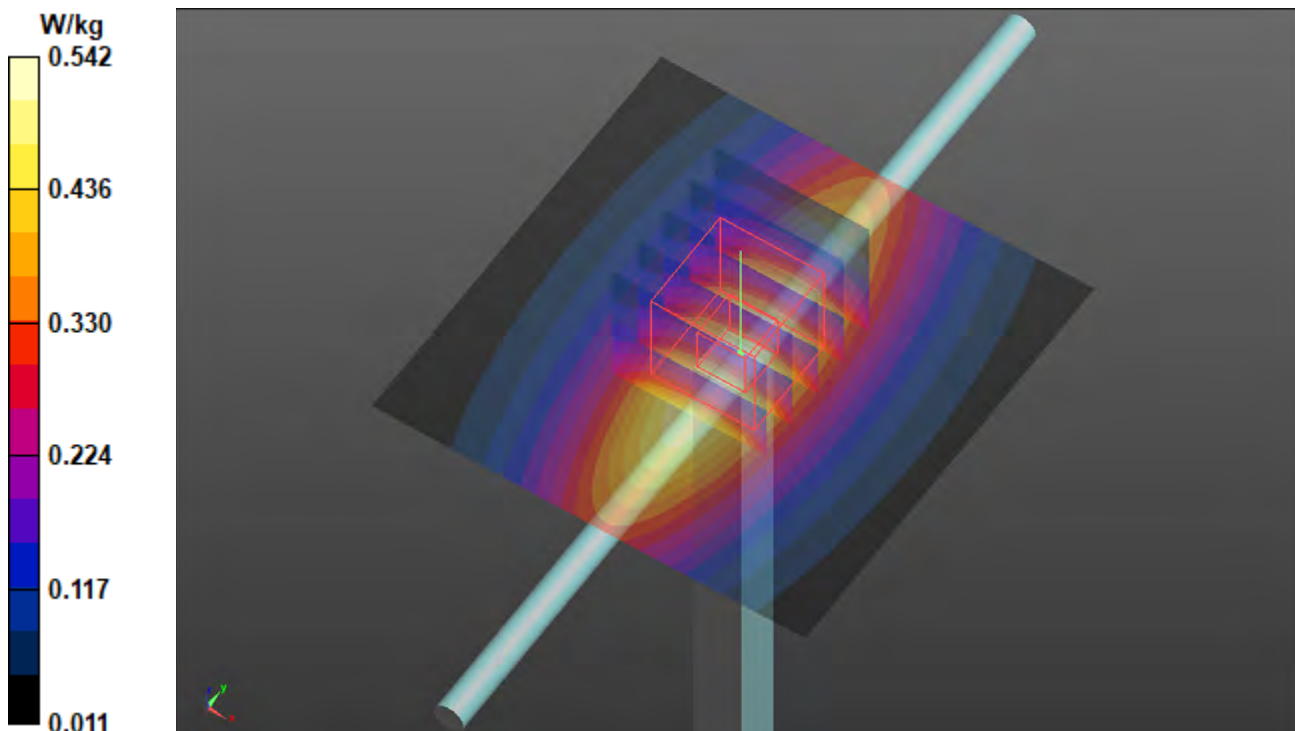
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 25.42 V/m ; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.619 W/kg

SAR(1 g) = 0.421 W/kg ; SAR(10 g) = 0.276 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 0.547 W/kg



S34 System Check_H1900_210302

DUT: Dipole 1900 MHz; Type: D1900V2; SN: 5d036

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: H16T20N2_0302 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.464$ S/m; $\epsilon_r = 38.131$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(8.23, 8.23, 8.23) @ 1900 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 3.33 W/kg

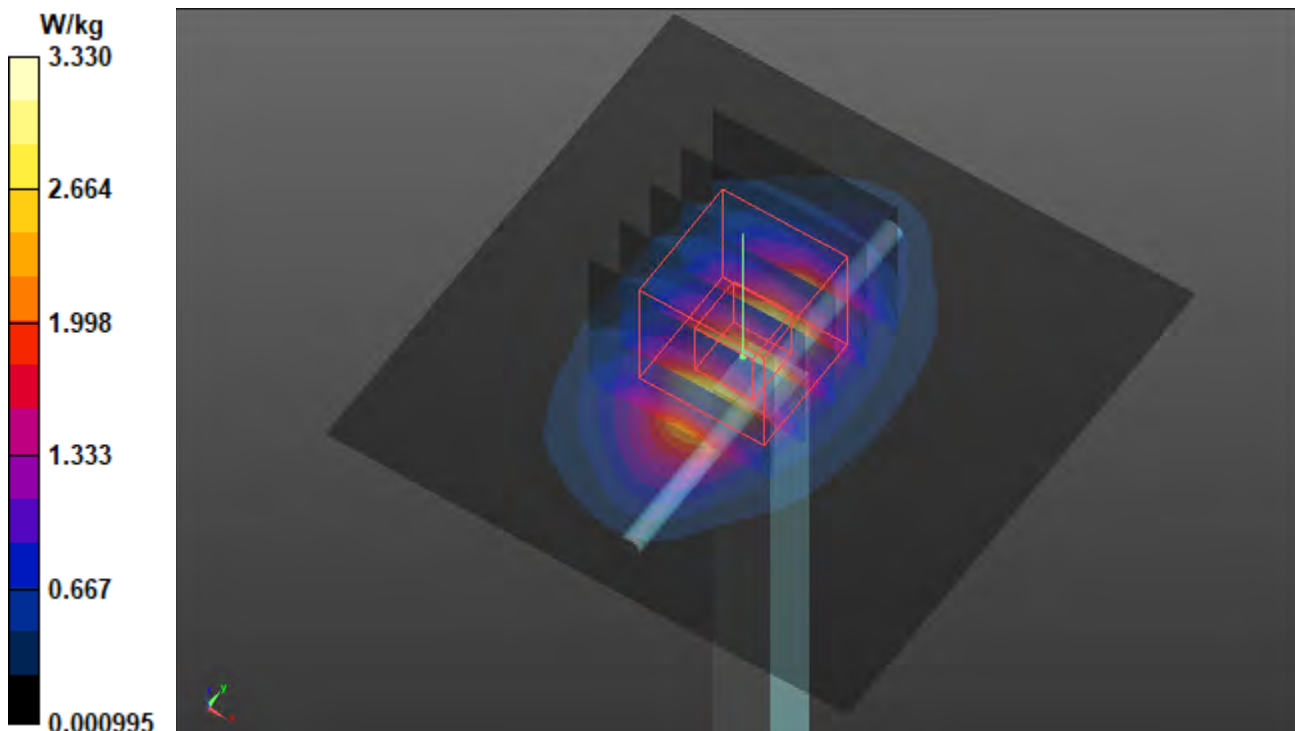
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 48.08 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 4.13 W/kg

SAR(1 g) = 2.01 W/kg; SAR(10 g) = 1.09 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 3.43 W/kg



S35 System Check_H835_210303

DUT: Dipole 835 MHz; Type: D835V2; SN: 4d121

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

Medium: H07T10N1_0303 Medium parameters used: $f = 835$ MHz; $\sigma = 0.913$ S/m; $\epsilon_r = 41.623$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(9.69, 9.69, 9.69) @ 835 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.657 W/kg

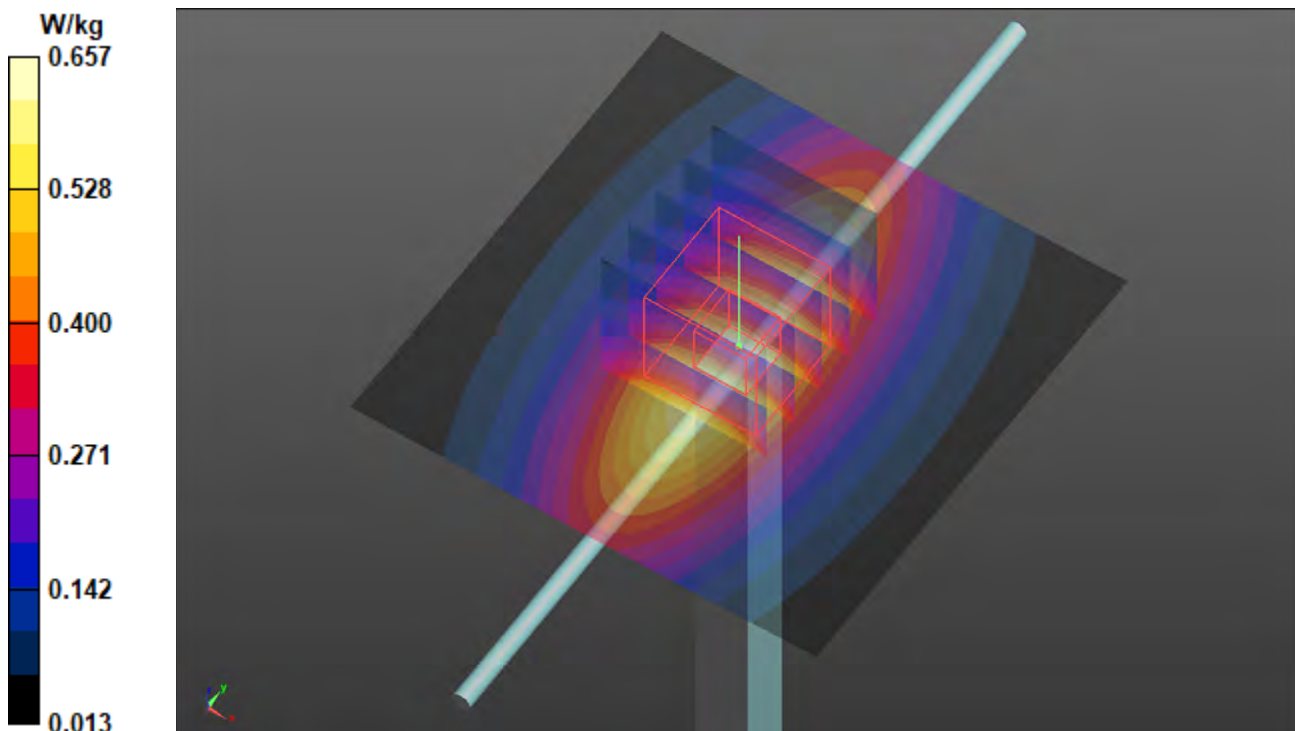
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.13 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.752 W/kg

SAR(1 g) = 0.481 W/kg; SAR(10 g) = 0.319 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 0.660 W/kg



S36 System Check_H2300_210302

DUT: Dipole 2300 MHz; Type: D2300V2; SN:1004

Communication System: UID 0, CW; Frequency: 2300 MHz; Duty Cycle: 1:1

Medium: H19T27N2_0302 Medium parameters used: $f = 2300$ MHz; $\sigma = 1.713$ S/m; $\epsilon_r = 39.322$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(7.97, 7.97, 7.97) @ 2300 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 3.72 W/kg

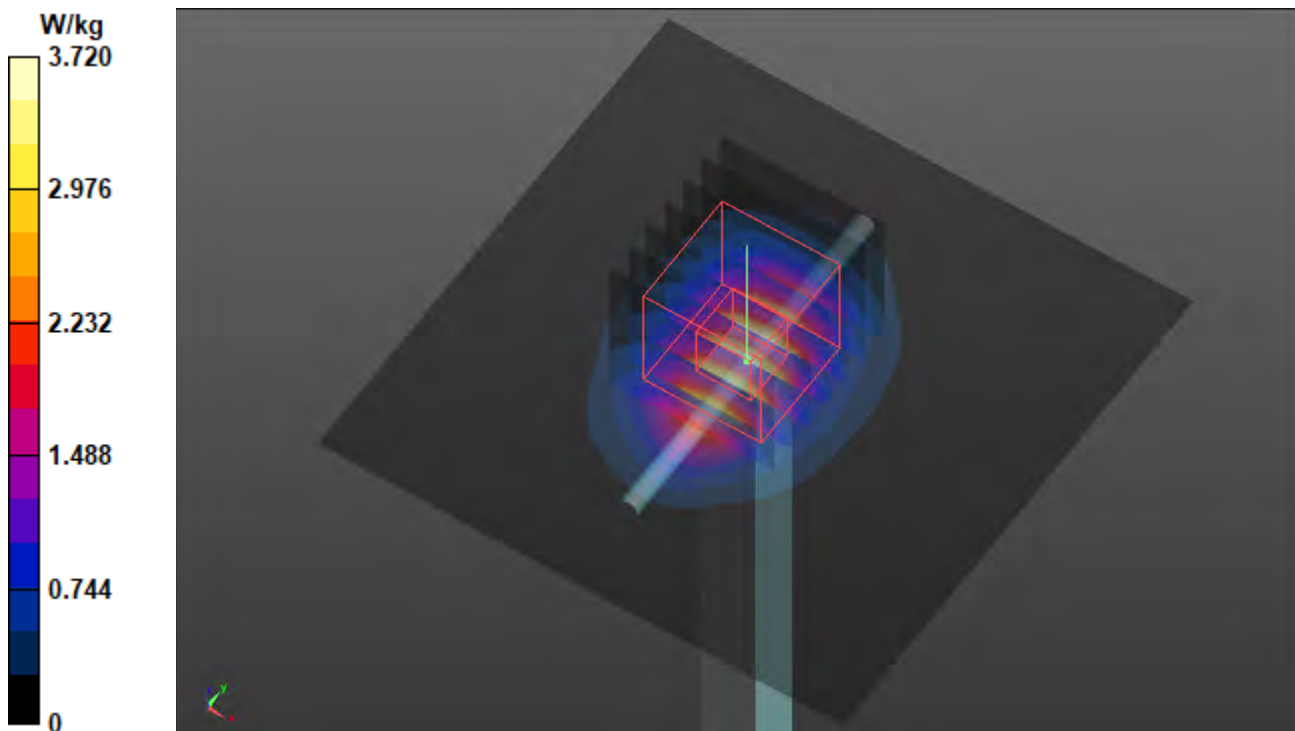
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 46.85 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 4.73 W/kg

SAR(1 g) = 2.46 W/kg; SAR(10 g) = 1.19 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 3.82 W/kg



S37 System Check_H2600_210307**DUT: Dipole 2600 MHz; Type: D2600V2; SN: 1020**

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: H19T27N1_0307 Medium parameters used: $f = 2600$ MHz; $\sigma = 2.029$ S/m; $\epsilon_r = 38.61$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(7.28, 7.28, 7.28) @ 2600 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 5.07 W/kg

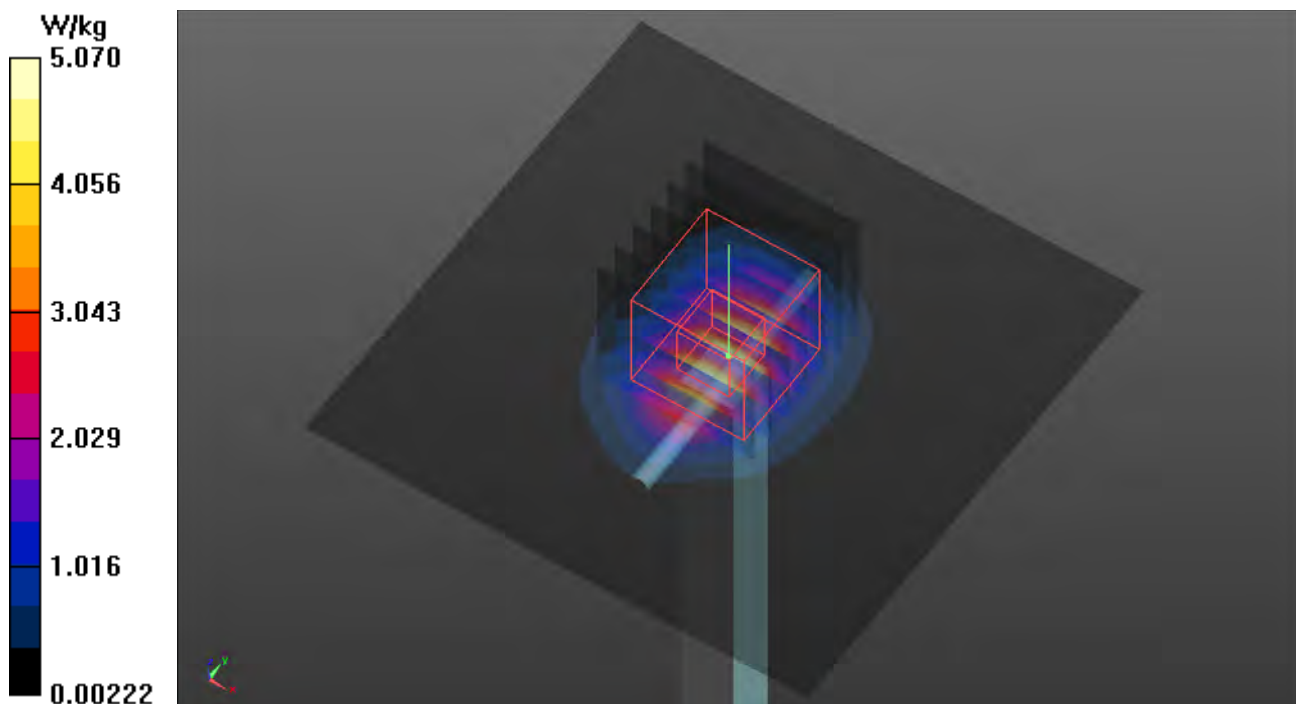
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 52.46 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 6.31 W/kg

SAR(1 g) = 2.93 W/kg; SAR(10 g) = 1.32 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 5.08 W/kg



S38 System Check_H2600_210307**DUT: Dipole 2600 MHz; Type: D2600V2; SN: 1020**

Communication System: UID 0, CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: H19T27N1_0307 Medium parameters used: $f = 2600$ MHz; $\sigma = 2.029$ S/m; $\epsilon_r = 38.61$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(7.28, 7.28, 7.28) @ 2600 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 5.07 W/kg

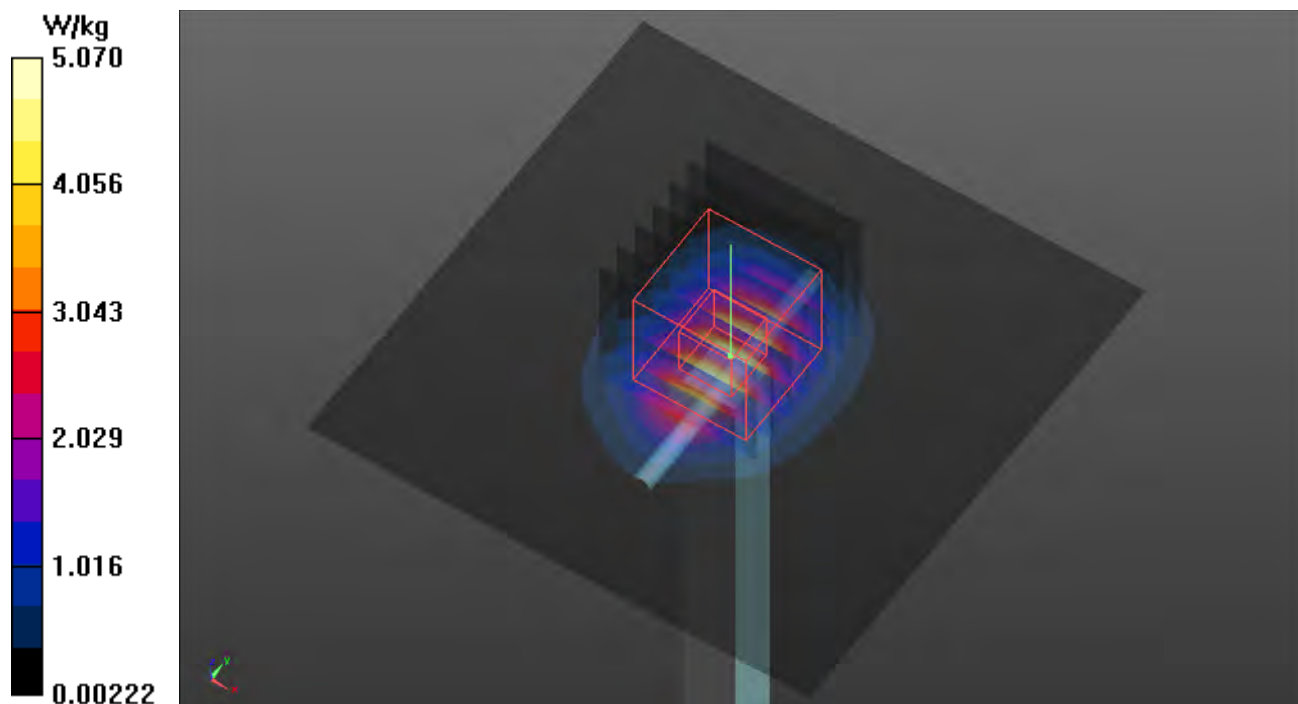
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 52.46 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 6.31 W/kg

SAR(1 g) = 2.93 W/kg; SAR(10 g) = 1.32 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 5.08 W/kg



S39 System Check_H1750_210303

DUT: Dipole 1750 MHz; Type: D1750V2; SN: 1055

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

Medium: H16T20N1_0303 Medium parameters used: $f = 1750$ MHz; $\sigma = 1.332$ S/m; $\epsilon_r = 39.524$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(8.54, 8.54, 8.54) @ 1750 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.73 W/kg

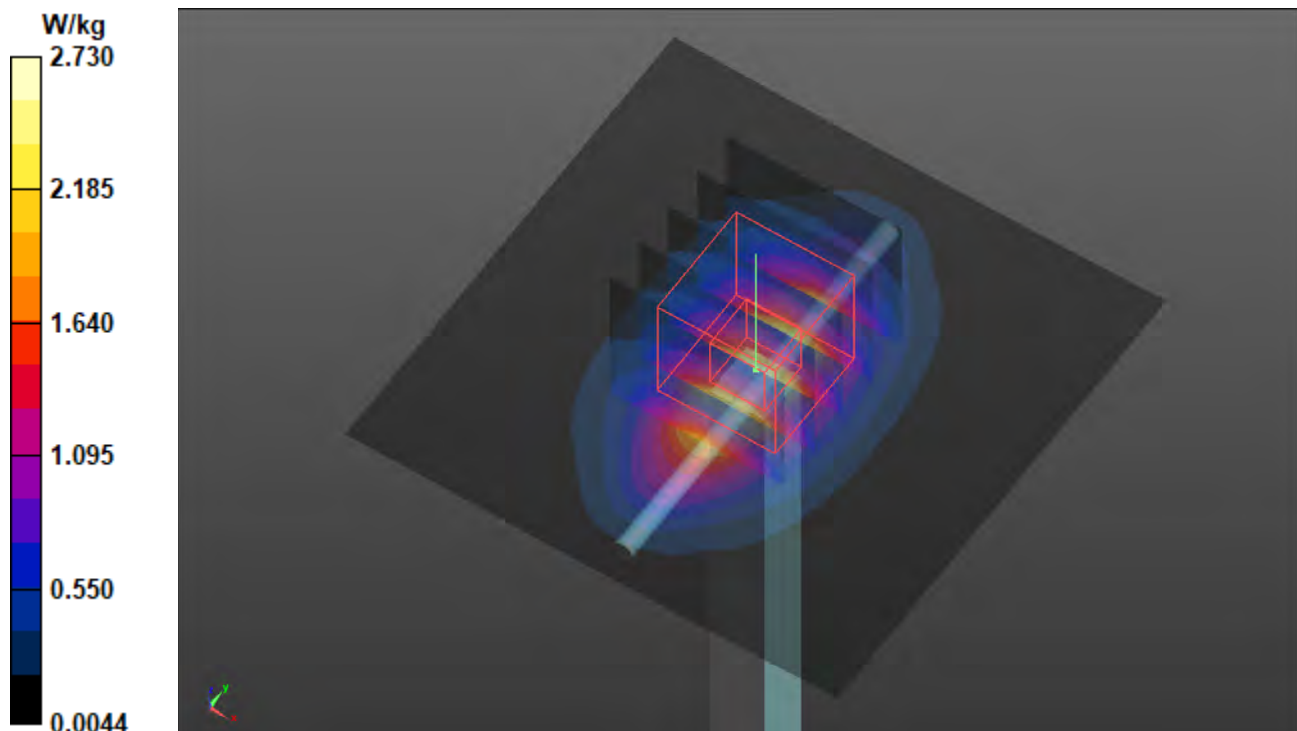
Pin=50mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 46.83 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 3.28 W/kg

SAR(1 g) = 1.79 W/kg; SAR(10 g) = 0.944 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 2.76 W/kg



S40 System Check_H2450_210303**DUT: Dipole 2450 MHz; Type: D2450V2; SN: 737**

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: H19T27N1_0303 Medium parameters used (interpolated): $f = 2450$ MHz; $\sigma = 1.869$ S/m; $\epsilon_r = 39.083$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(7.41, 7.41, 7.41) @ 2450 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 4.53 W/kg

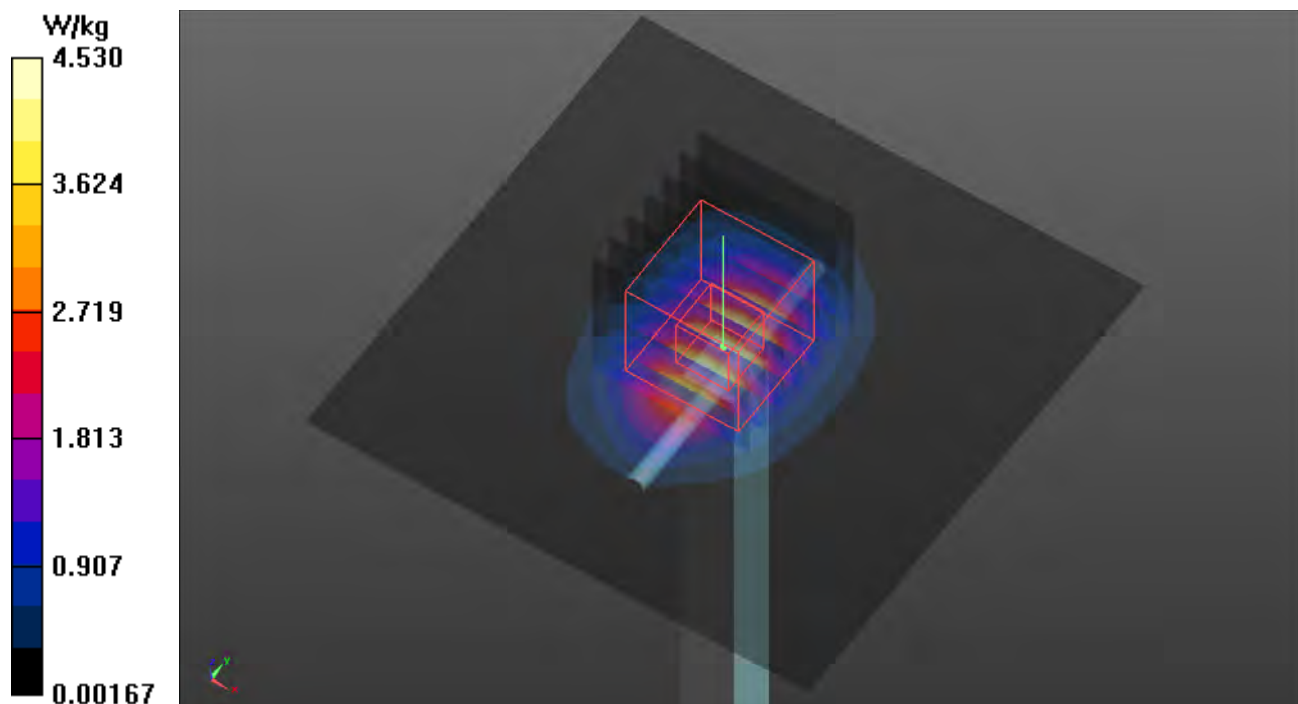
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 51.24 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 5.68 W/kg

SAR(1 g) = 2.7 W/kg; SAR(10 g) = 1.27 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 4.60 W/kg



S41 System Check_H5250_210303**DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019**

Communication System: UID 0, CW; Frequency: 5250 MHz; Duty Cycle: 1:1

Medium: H34T60N1_0303 Medium parameters used (interpolated): $f = 5250$ MHz; $\sigma = 4.76$ S/m; $\epsilon_r = 35.003$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(5.12, 5.12, 5.12) @ 5250 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 10.1 W/kg

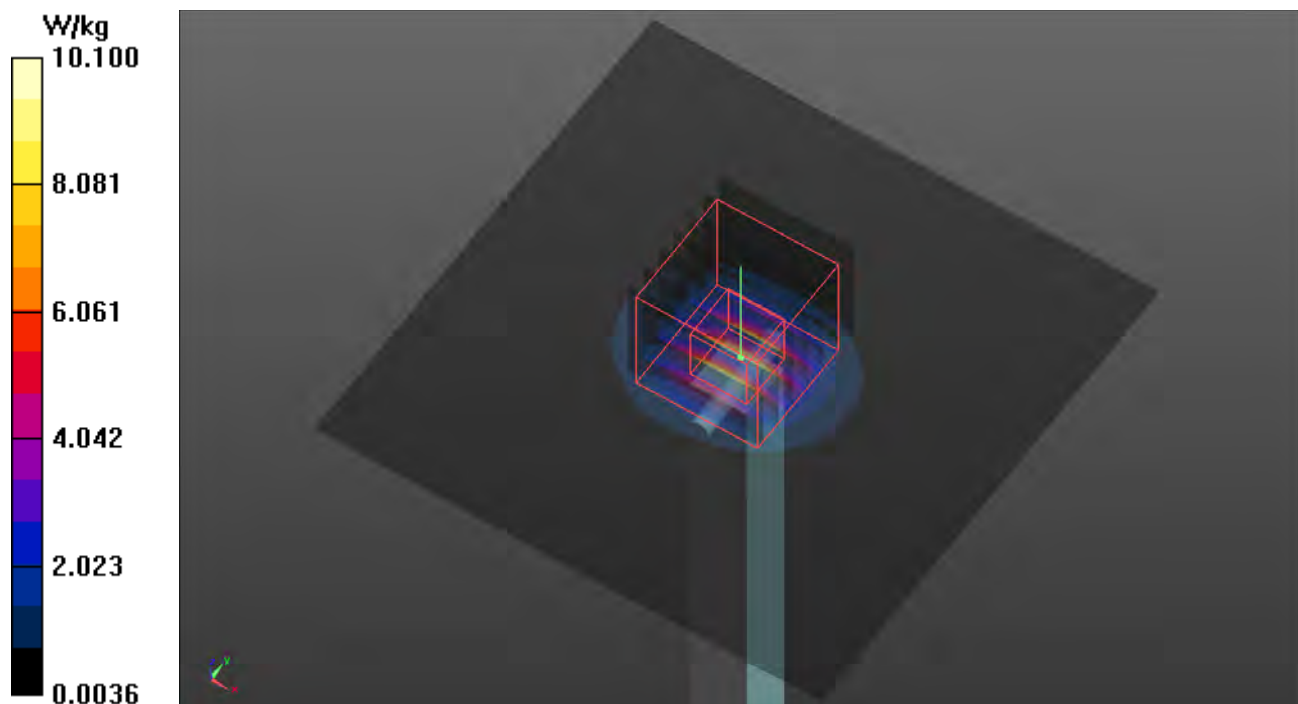
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 52.57 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 17.0 W/kg

SAR(1 g) = 4.25 W/kg; SAR(10 g) = 1.22 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 10.7 W/kg



S42 System Check_H5600_210303**DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019**

Communication System: UID 0, CW; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: H34T60N1_0303 Medium parameters used: $f = 5600$ MHz; $\sigma = 5.128$ S/m; $\epsilon_r = 34.518$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(4.65, 4.65, 4.65) @ 5600 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 11.5 W/kg

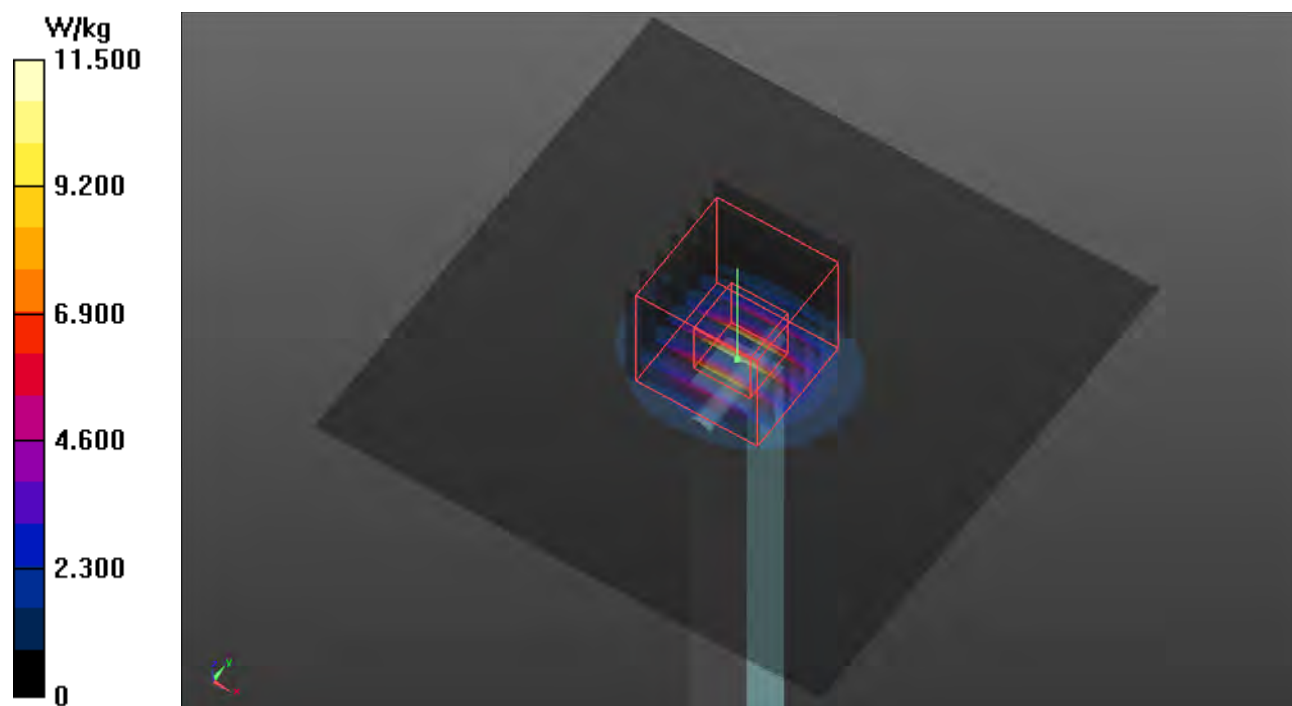
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 53.89 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 20.7 W/kg

SAR(1 g) = 4.58 W/kg; SAR(10 g) = 1.22 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 12.3 W/kg



S43 System Check_H5750_210303

DUT: Dipole 5 GHz; Type: D5GHzV2; SN: 1019

Communication System: UID 0, CW; Frequency: 5750 MHz; Duty Cycle: 1:1

Medium: H34T60N1_0303 Medium parameters used: $f = 5750$ MHz; $\sigma = 5.275$ S/m; $\epsilon_r = 34.361$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(4.8, 4.8, 4.8) @ 5750 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

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

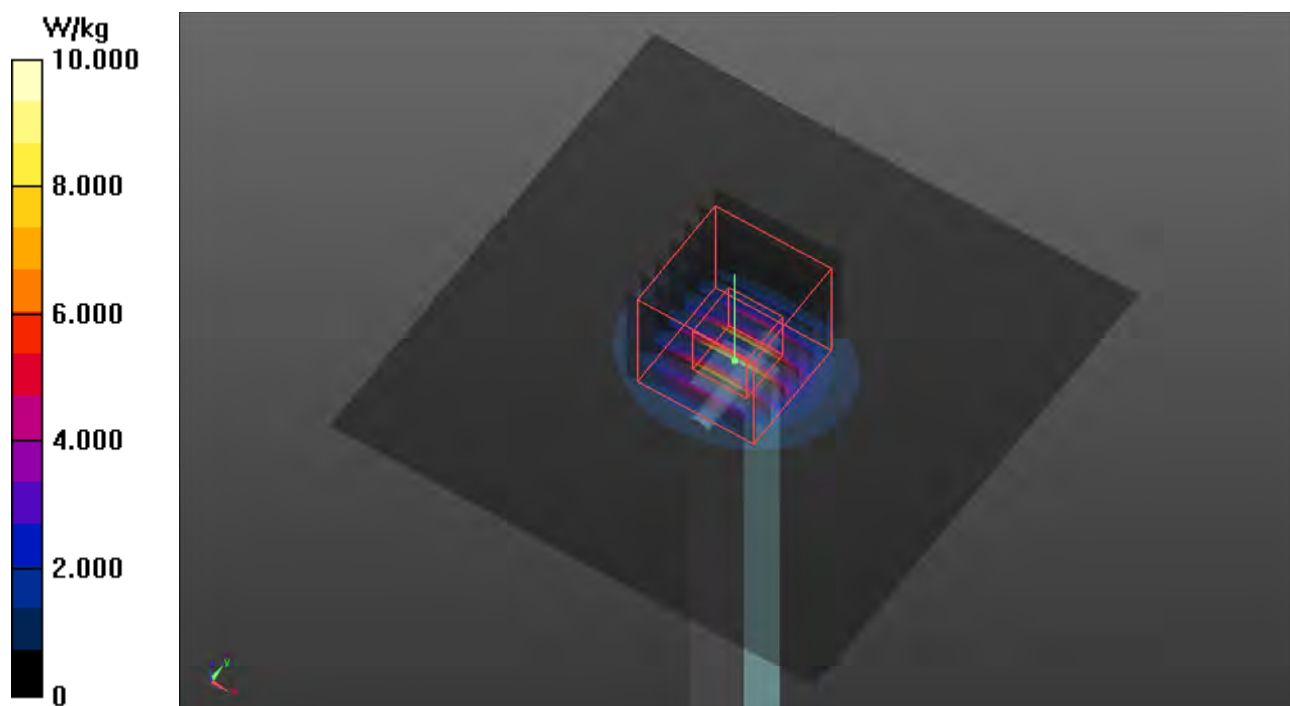
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 50.01 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 18.6 W/kg

SAR(1 g) = 4.06 W/kg; SAR(10 g) = 1.16 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 10.7 W/kg



S44 System Check_H2450_210303**DUT: Dipole 2450 MHz; Type: D2450V2; SN: 737**

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: H19T27N1_0303 Medium parameters used (interpolated): $f = 2450$ MHz; $\sigma = 1.869$ S/m; $\epsilon_r = 39.083$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(7.41, 7.41, 7.41) @ 2450 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=50mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 4.53 W/kg

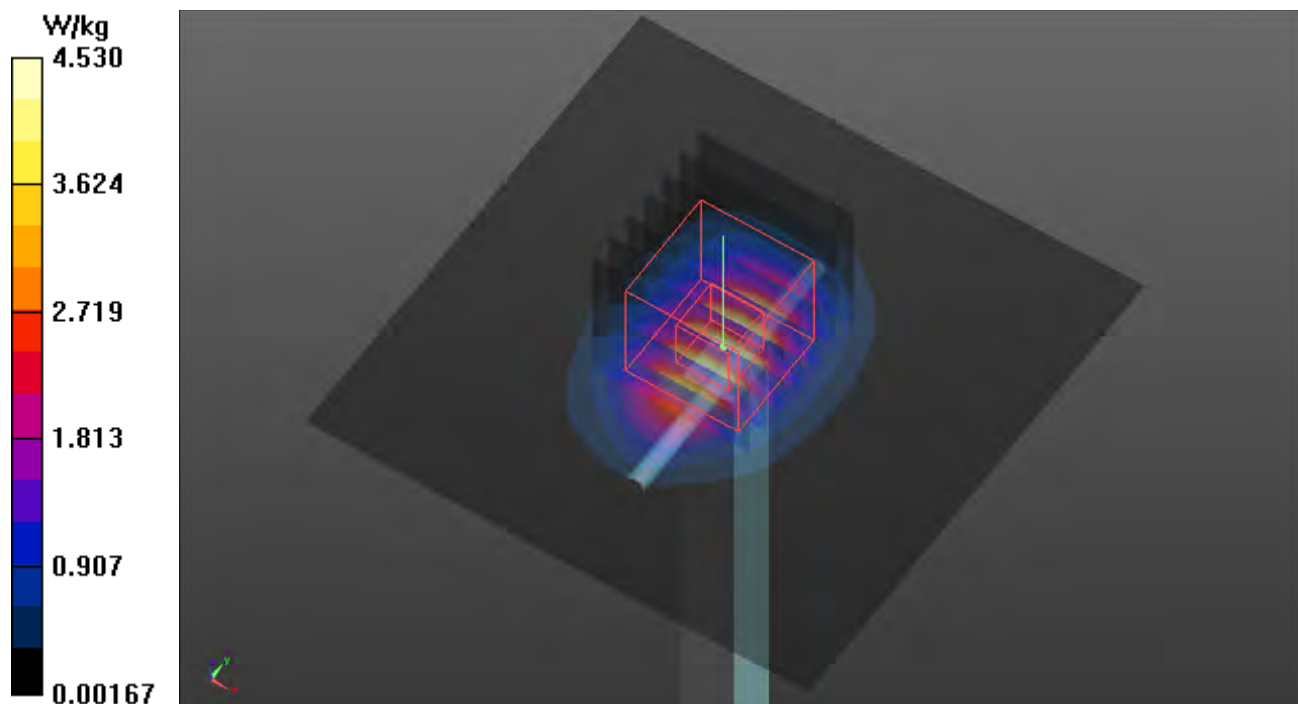
Pin=50mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 51.24 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 5.68 W/kg

SAR(1 g) = 2.7 W/kg; SAR(10 g) = 1.27 W/kg (SAR corrected for target medium)

Maximum value of SAR (measured) = 4.60 W/kg



Appendix B. SAR Plots of SAR Measurement

The SAR plots for highest measured SAR in each exposure configuration, wireless mode and frequency band combination, and measured SAR > 1.5 W/kg are shown as follows.

P01 WCDMA II_RMC12.2K_Rear Face_0mm_CH9538_Sample1_P-Sensor_w**DUT: P21010157**

Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1907.6 MHz; Duty Cycle: 1:1.95

Medium: H16T20N1_0226 Medium parameters used: $f = 1908$ MHz; $\sigma = 1.467$ S/m; $\epsilon_r = 38.238$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3887; ConvF(7.98, 7.98, 7.98) @ 1907.6 MHz; Calibrated: 2020/10/22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2020/06/22
- Phantom: ELI Phantom_1206; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

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

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

Reference Value = 30.53 V/m; Power Drift = 0.11 dB

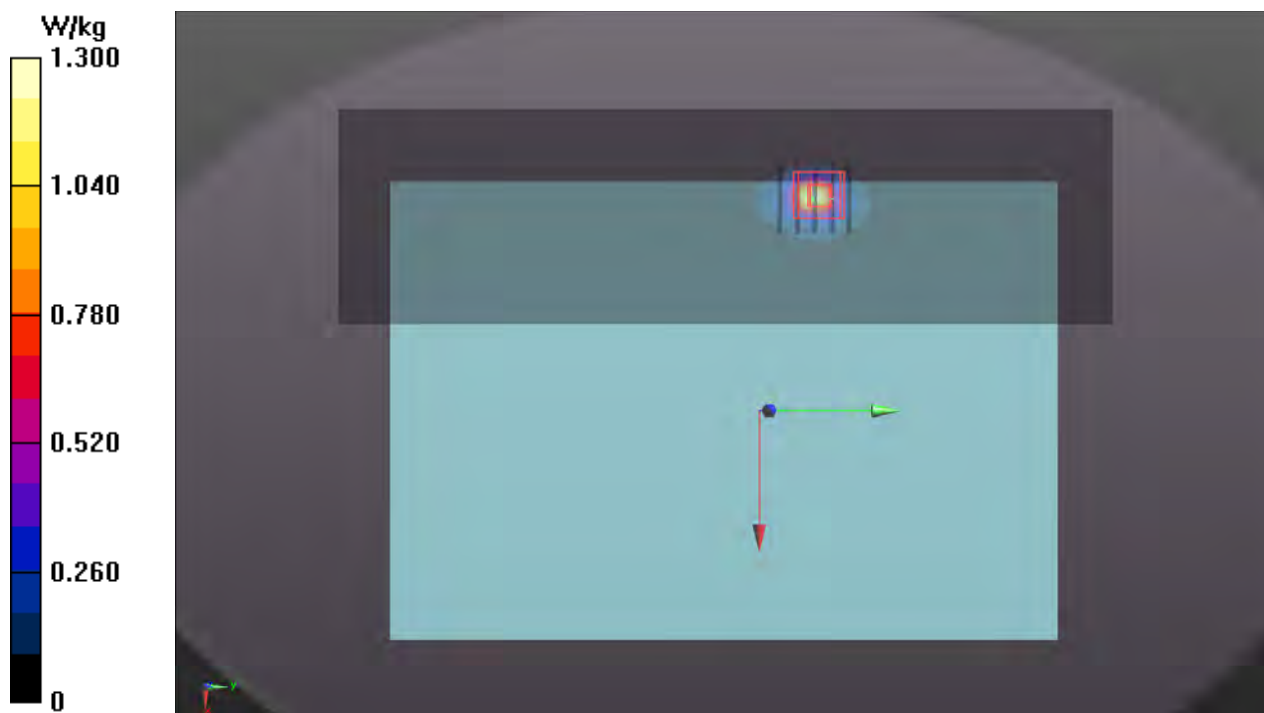
Peak SAR (extrapolated) = 1.99 W/kg

SAR(1 g) = 0.727 W/kg; SAR(10 g) = 0.282 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 8.2 mm

Ratio of SAR at M2 to SAR at M1 = 39.5%

Maximum value of SAR (measured) = 1.35 W/kg



P02 WCDMA IV_RMC12.2K_Rear Face_0mm_CH1413_Sample1_P-Sensor_w**DUT: P21010157**

Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1732.6 MHz; Duty Cycle: 1:1.95

Medium: H16T20N1_0223 Medium parameters used: $f = 1733$ MHz; $\sigma = 1.31$ S/m; $\epsilon_r = 38.808$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3887; ConvF(8.24, 8.24, 8.24) @ 1732.6 MHz; Calibrated: 2020/10/22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2020/06/22
- Phantom: ELI Phantom_1206; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.790 W/kg

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

Reference Value = 24.78 V/m; Power Drift = 0.19 dB

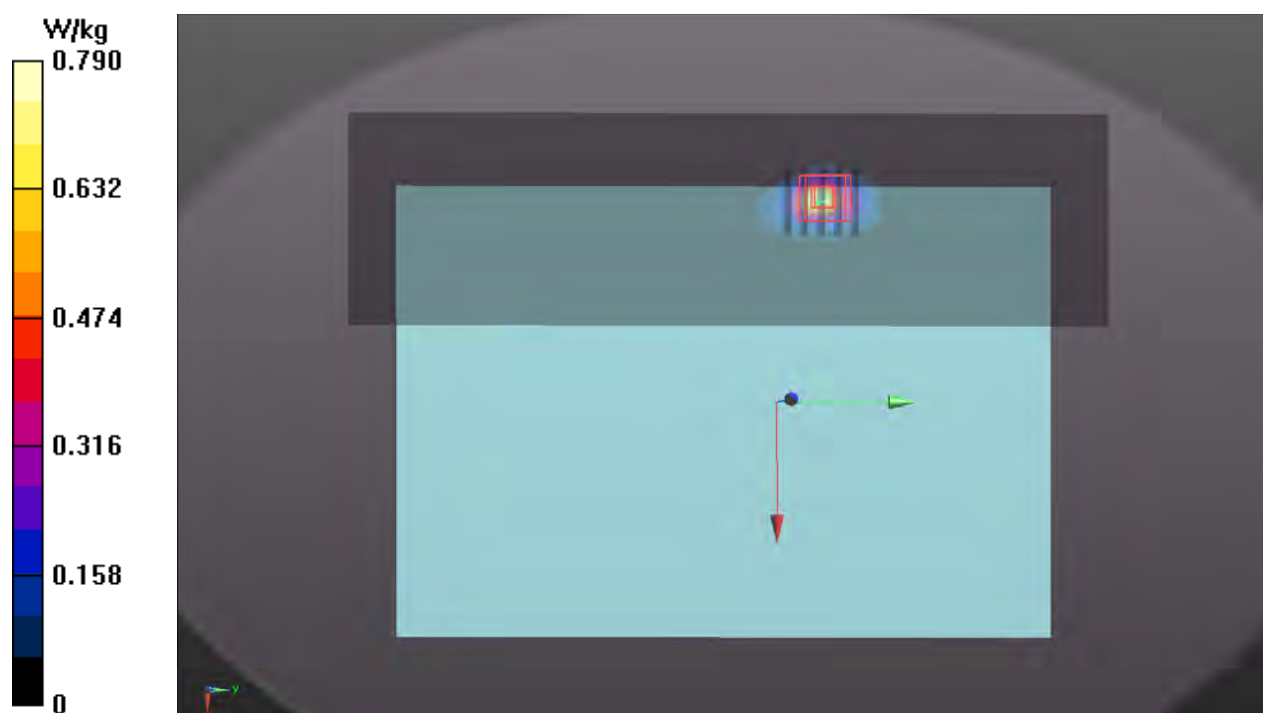
Peak SAR (extrapolated) = 1.21 W/kg

SAR(1 g) = 0.474 W/kg; SAR(10 g) = 0.191 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 8.2 mm

Ratio of SAR at M2 to SAR at M1 = 40.5%

Maximum value of SAR (measured) = 0.793 W/kg



P03 WCDMA V_RMC12.2K_Rear Face_0mm_Ch4132_Sample1_P-Sensor_w**DUT: P21010157**

Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 826.4 MHz; Duty Cycle: 1:1.95

Medium: H07T10N1_0306 Medium parameters used (interpolated): $f = 826.4$ MHz; $\sigma = 0.893$ S/m; $\epsilon_r = 43.029$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(10.05, 10.05, 10.05) @ 826.4 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.654 W/kg

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

Reference Value = 27.01 V/m; Power Drift = -0.12 dB

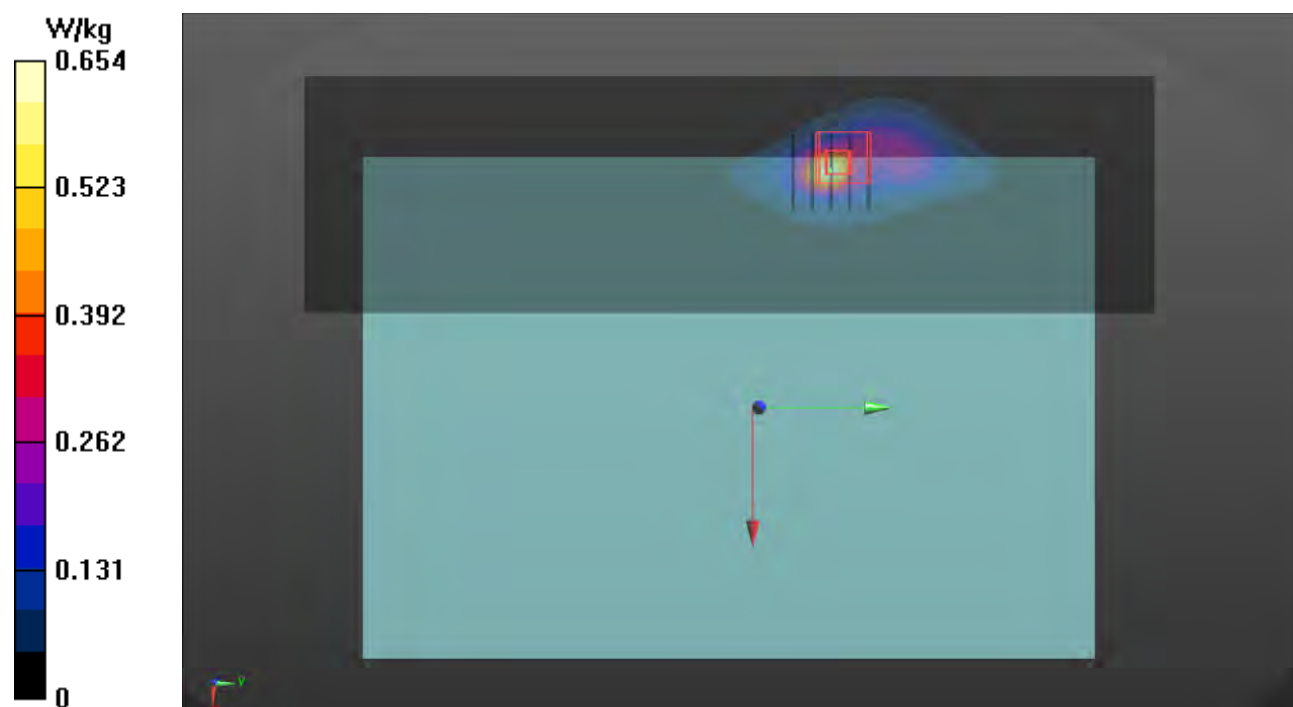
Peak SAR (extrapolated) = 0.878 W/kg

SAR(1 g) = 0.353 W/kg; SAR(10 g) = 0.161 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 8.4 mm

Ratio of SAR at M2 to SAR at M1 = 38%

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



**P04 LTE 2_QPSK20M_Rear
Face_0mm_Ch18700_1RB_OS0_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10169 - CAE, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);

Frequency: 1860 MHz; Duty Cycle: 1:3.74

Medium: H16T20N1_0224 Medium parameters used: $f = 1860$ MHz; $\sigma = 1.421$ S/m; $\epsilon_r = 38.43$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(8.26, 8.26, 8.26) @ 1860 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

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

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

Reference Value = 28.71 V/m; Power Drift = -0.04 dB

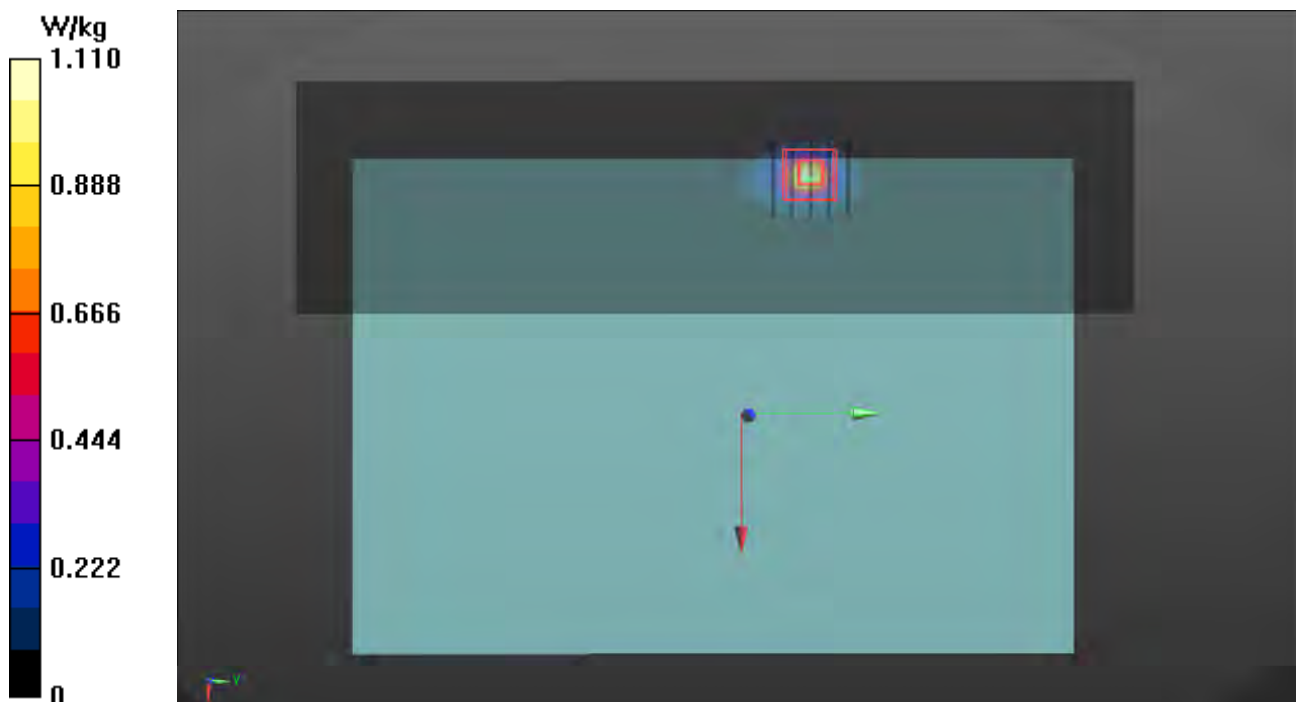
Peak SAR (extrapolated) = 1.48 W/kg

SAR(1 g) = 0.548 W/kg; SAR(10 g) = 0.214 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 8.6 mm

Ratio of SAR at M2 to SAR at M1 = 39.1%

Maximum value of SAR (measured) = 1.01 W/kg



**P05 LTE 4_QPSK20M_Rear
Face_0mm_Ch20300_1RB_OS0_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10169 - CAE, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);

Frequency: 1745 MHz; Duty Cycle: 1:3.74

Medium: H16T20N1_0224 Medium parameters used (interpolated): $f = 1745$ MHz; $\sigma = 1.322$ S/m; $\epsilon_r = 38.875$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(8.58, 8.58, 8.58) @ 1745 MHz; Calibrated: 2020/09/28

- Sensor-Surface: 1.4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15

- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;

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

Area Scan (71x241x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.986 W/kg

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

Reference Value = 28.14 V/m; Power Drift = -0.05 dB

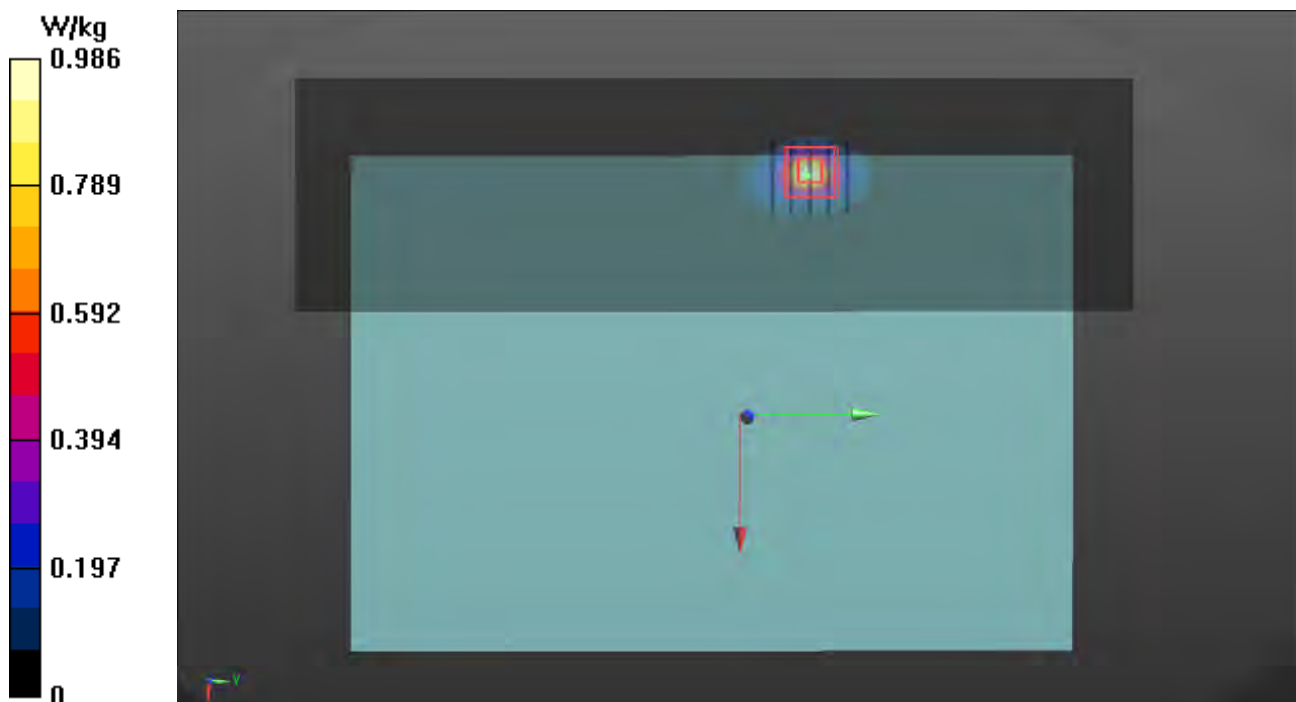
Peak SAR (extrapolated) = 1.36 W/kg

SAR(1 g) = 0.521 W/kg; SAR(10 g) = 0.208 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 8.2 mm

Ratio of SAR at M2 to SAR at M1 = 39.7%

Maximum value of SAR (measured) = 0.899 W/kg



**P06 LTE 5_QPSK10M_Rear
Face_0mm_Ch20525_25RB_OS0_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10154 - CAG, LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK);

Frequency: 836.5 MHz; Duty Cycle: 1:3.76

Medium: H07T10N1_0306 Medium parameters used (interpolated): $f = 836.5$ MHz; $\sigma = 0.903$ S/m; $\epsilon_r = 42.918$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(10.05, 10.05, 10.05) @ 836.5 MHz; Calibrated: 2020/09/28

- Sensor-Surface: 1.4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15

- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;

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

Area Scan (71x241x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.616 W/kg

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

Reference Value = 25.31 V/m; Power Drift = -0.03 dB

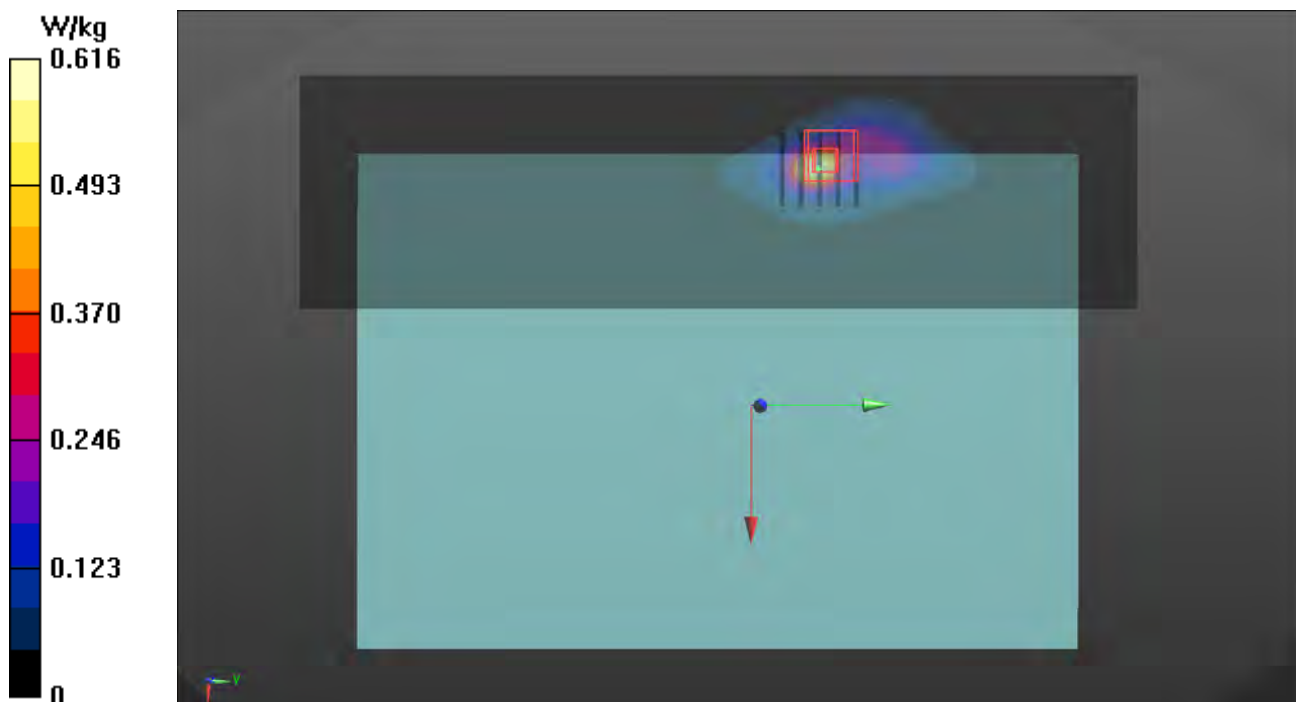
Peak SAR (extrapolated) = 0.788 W/kg

SAR(1 g) = 0.312 W/kg; SAR(10 g) = 0.143 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 8.4 mm

Ratio of SAR at M2 to SAR at M1 = 38.1%

Maximum value of SAR (measured) = 0.565 W/kg



P07 LTE 7_QPSK20M_Bottom
Side_15mm_Ch21350_1RB_OS0_Sample1_P-Sensor_w_o

DUT: P200605C40

Communication System: UID 10169 - CAE, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);

Frequency: 2560 MHz; Duty Cycle: 1:3.74

Medium: H19T27N1_0226 Medium parameters used: $f = 2560$ MHz; $\sigma = 1.975$ S/m; $\epsilon_r = 37.699$;
 $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(7.28, 7.28, 7.28) @ 2560 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x301x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.453 W/kg

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

Reference Value = 13.13 V/m; Power Drift = -0.07 dB

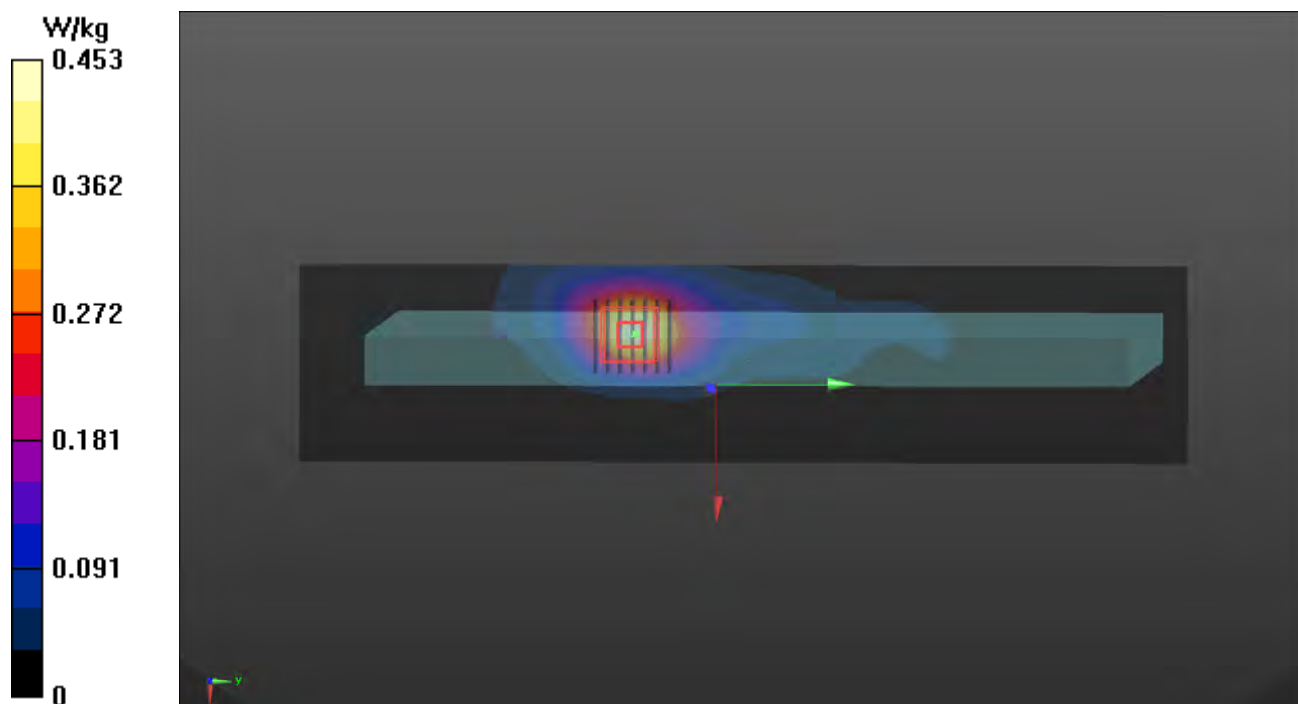
Peak SAR (extrapolated) = 0.802 W/kg

SAR(1 g) = 0.345 W/kg; SAR(10 g) = 0.157 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 8 mm

Ratio of SAR at M2 to SAR at M1 = 51.8%

Maximum value of SAR (measured) = 0.646 W/kg



**P08 LTE 12_QPSK10M_Rear
Face_0mm_Ch23130_1RB_OS0_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10175 - CAG, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK);

Frequency: 711 MHz; Duty Cycle: 1:3.74

Medium: H06T09N1_0225 Medium parameters used: $f = 711$ MHz; $\sigma = 0.854$ S/m; $\epsilon_r = 41.519$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(10.39, 10.39, 10.39) @ 711 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.553 W/kg

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

Reference Value = 25.69 V/m; Power Drift = -0.09 dB

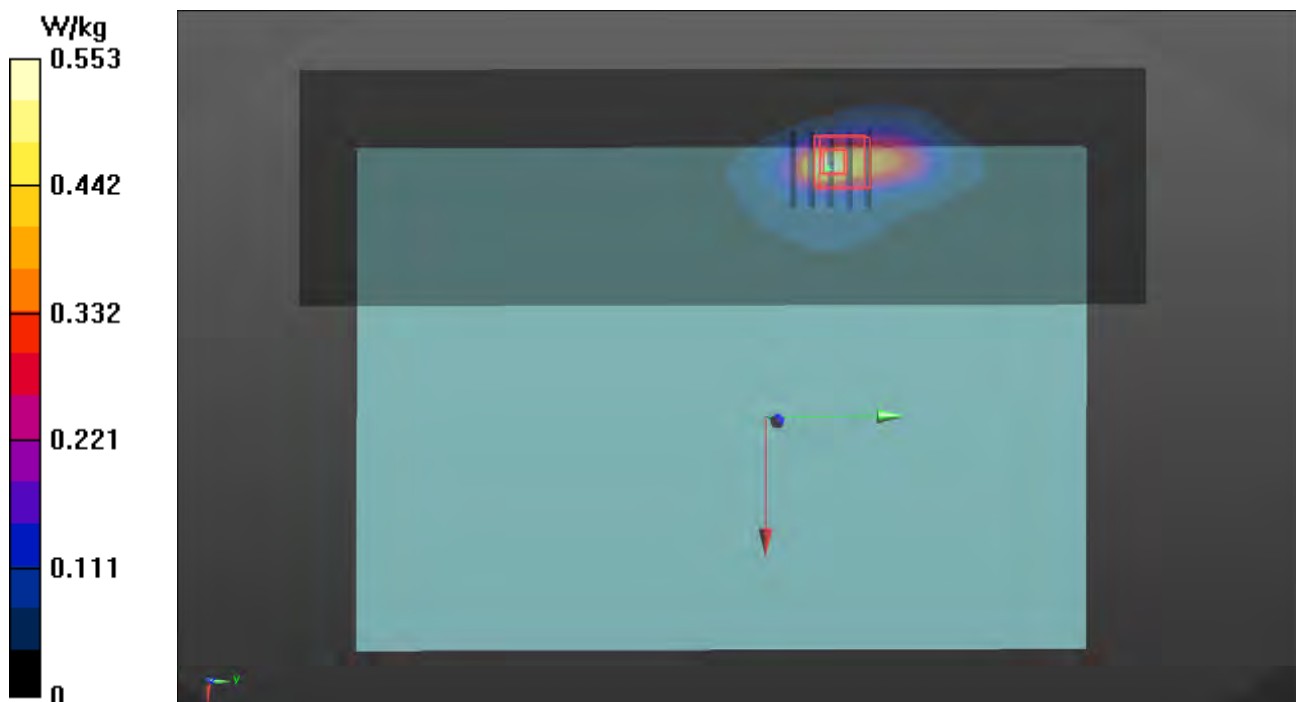
Peak SAR (extrapolated) = 0.849 W/kg

SAR(1 g) = 0.336 W/kg; SAR(10 g) = 0.156 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 8.2 mm

Ratio of SAR at M2 to SAR at M1 = 40%

Maximum value of SAR (measured) = 0.584 W/kg



P09 LTE 13_QPSK10M_Rear
Face_0mm_Ch23230_25RB_OS0_Sample1_P-Sensor_w

DUT: P21010157

Communication System: UID 10154 - CAG, LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK);

Frequency: 782 MHz; Duty Cycle: 1:3.76

Medium: H06T09N1_0225 Medium parameters used: $f = 782$ MHz; $\sigma = 0.921$ S/m; $\epsilon_r = 40.574$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(10.39, 10.39, 10.39) @ 782 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): 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 = 37.27 V/m; Power Drift = -0.14 dB

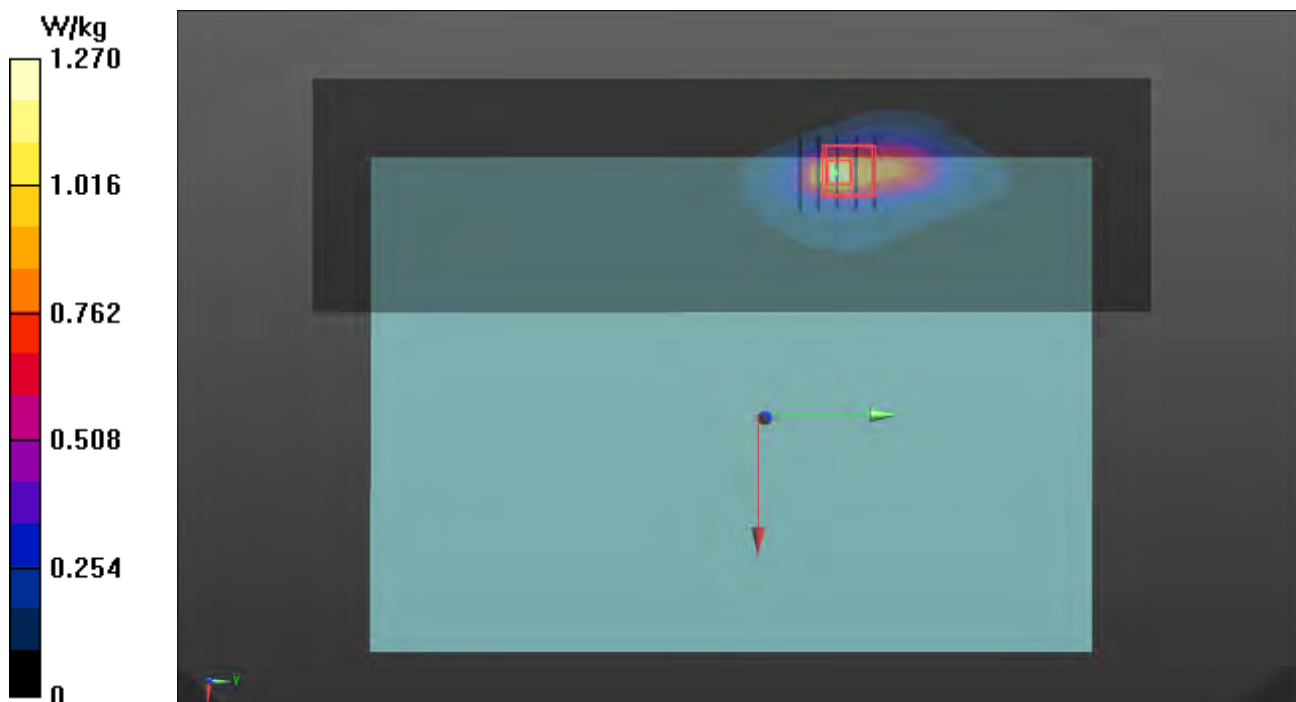
Peak SAR (extrapolated) = 1.85 W/kg

SAR(1 g) = 0.721 W/kg; SAR(10 g) = 0.346 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 8.6 mm

Ratio of SAR at M2 to SAR at M1 = 40.4%

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



P10 LTE 14_QPSK10M_Rear
Face_0mm_Ch23330_25RB_OS0_Sample1_P-Sensor_w

DUT: P21010157

Communication System: UID 10154 - CAG, LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK);

Frequency: 793 MHz; Duty Cycle: 1:3.76

Medium: H06T09N1_0225 Medium parameters used: $f = 793$ MHz; $\sigma = 0.931$ S/m; $\epsilon_r = 40.43$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(10.39, 10.39, 10.39) @ 793 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 1.23 W/kg

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

Reference Value = 36.45 V/m; Power Drift = -0.05 dB

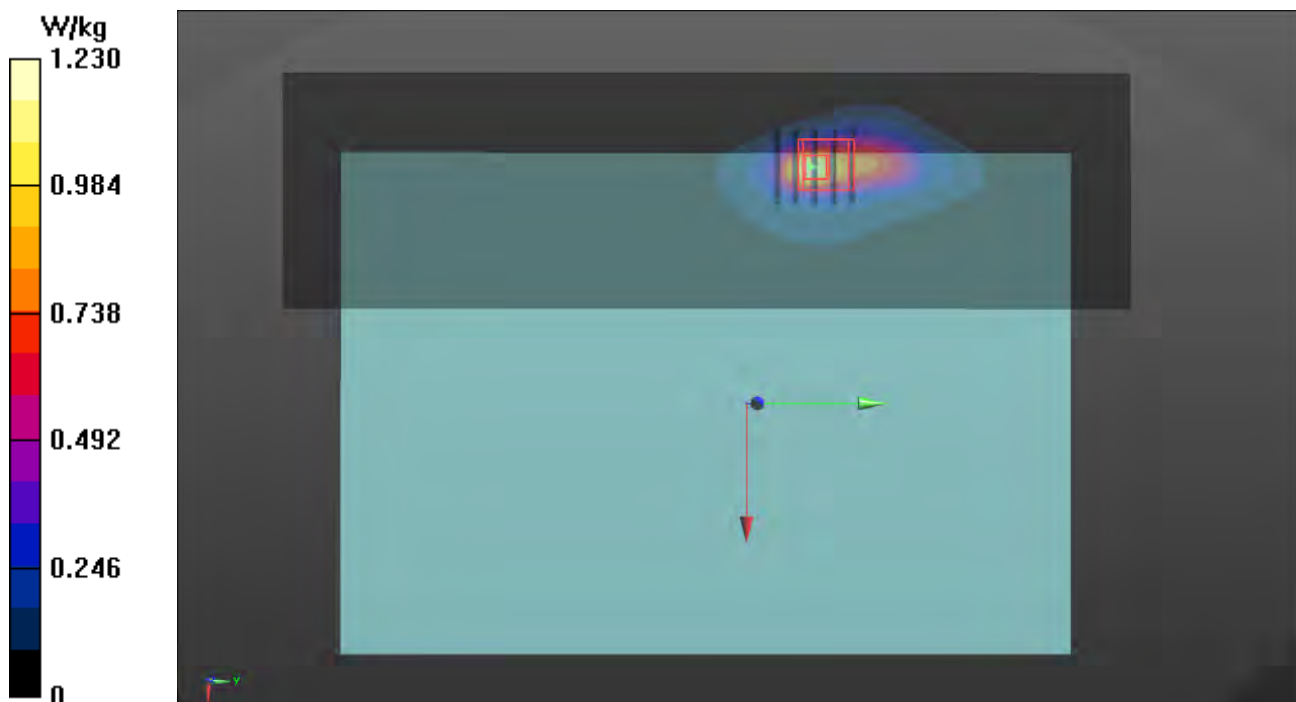
Peak SAR (extrapolated) = 1.77 W/kg

SAR(1 g) = 0.699 W/kg; SAR(10 g) = 0.336 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 8.6 mm

Ratio of SAR at M2 to SAR at M1 = 40.8%

Maximum value of SAR (measured) = 1.31 W/kg



P11 LTE 17_QPSK10M_Rear
Face_0mm_Ch23800_25RB_OS0_Sample1_P-Sensor_w

DUT: P21010157

Communication System: UID 10154 - CAG, LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK);

Frequency: 711 MHz; Duty Cycle: 1:3.76

Medium: H06T09N1_0225 Medium parameters used: $f = 711$ MHz; $\sigma = 0.854$ S/m; $\epsilon_r = 41.519$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(10.39, 10.39, 10.39) @ 711 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.758 W/kg

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

Reference Value = 30.00 V/m; Power Drift = 0.09 dB

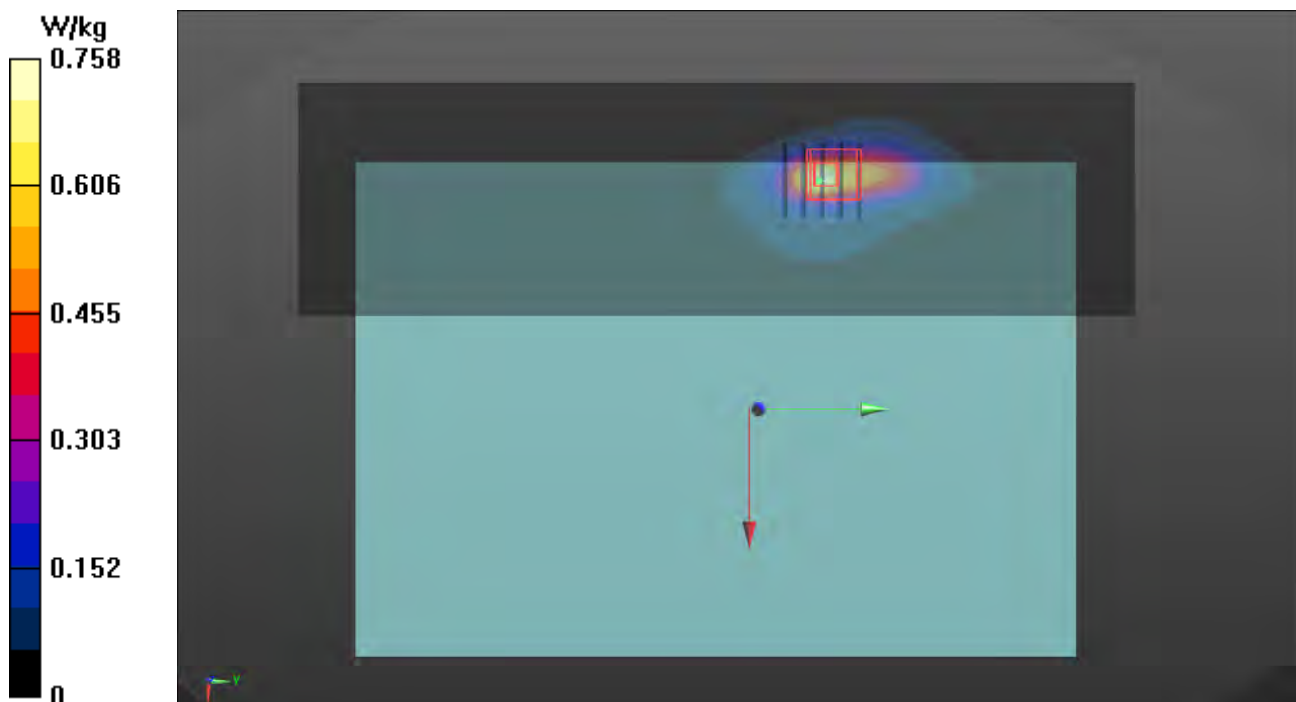
Peak SAR (extrapolated) = 1.14 W/kg

SAR(1 g) = 0.459 W/kg; SAR(10 g) = 0.213 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 8.3 mm

Ratio of SAR at M2 to SAR at M1 = 40.1%

Maximum value of SAR (measured) = 0.788 W/kg



**P12 LTE 25_QPSK20M_Rear
Face_0mm_Ch26590_1RB_OS0_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10169 - CAE, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);
Frequency: 1905 MHz; Duty Cycle: 1:3.74

Medium: H16T20N1_0226 Medium parameters used (interpolated): $f = 1905$ MHz; $\sigma = 1.465$ S/m;
 $\epsilon_r = 38.248$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3887; ConvF(7.98, 7.98, 7.98) @ 1905 MHz; Calibrated: 2020/10/22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2020/06/22
- Phantom: ELI Phantom_1206; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.673 W/kg

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

Reference Value = 20.96 V/m; Power Drift = 0.18 dB

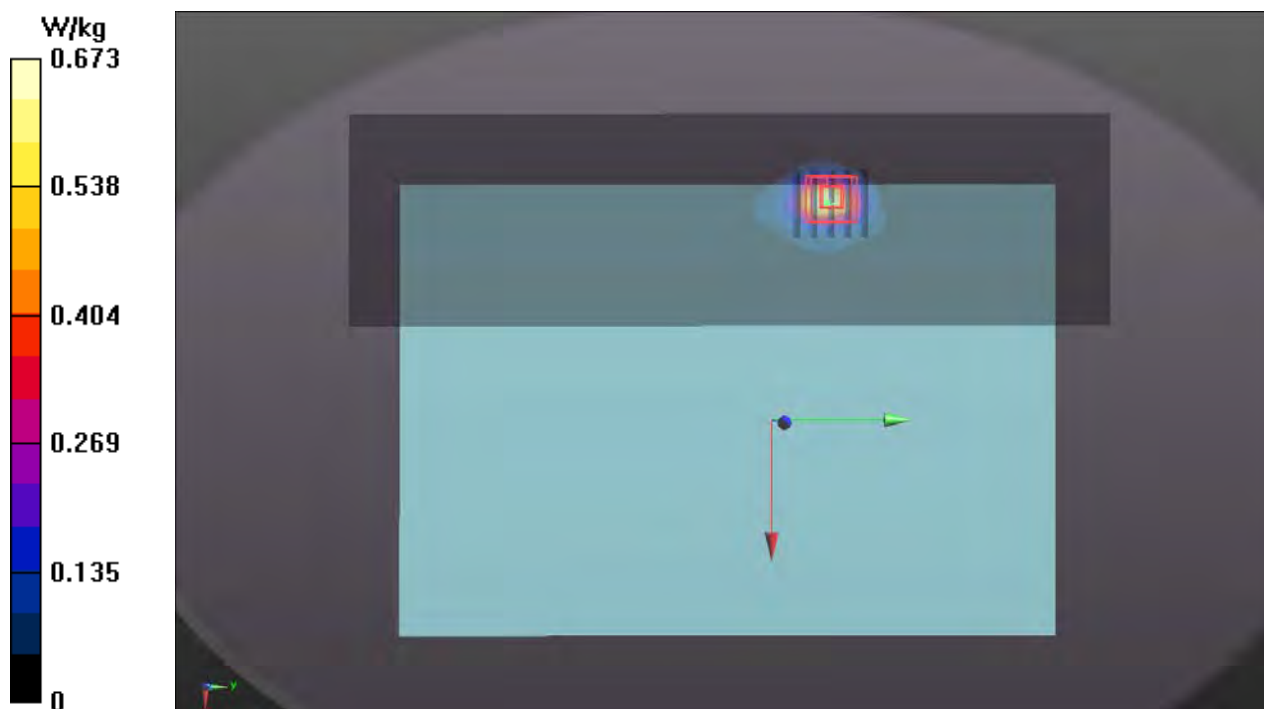
Peak SAR (extrapolated) = 1.63 W/kg

SAR(1 g) = 0.590 W/kg; SAR(10 g) = 0.228 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 8.3 mm

Ratio of SAR at M2 to SAR at M1 = 40.2%

Maximum value of SAR (measured) = 1.07 W/kg



**P13 LTE 26_QPSK15M_Rear
Face_0mm_Ch26765_1RB_OS0_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10181 - CAE, LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK);

Frequency: 821.5 MHz; Duty Cycle: 1:3.74

Medium: H07T10N1_0224 Medium parameters used (interpolated): $f = 821.5$ MHz; $\sigma = 0.902$ S/m; $\epsilon_r = 42.777$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(10.05, 10.05, 10.05) @ 821.5 MHz; Calibrated: 2020/09/28

- Sensor-Surface: 1.4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15

- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;

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

Area Scan (71x241x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 1.35 W/kg

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

Reference Value = 38.95 V/m; Power Drift = -0.09 dB

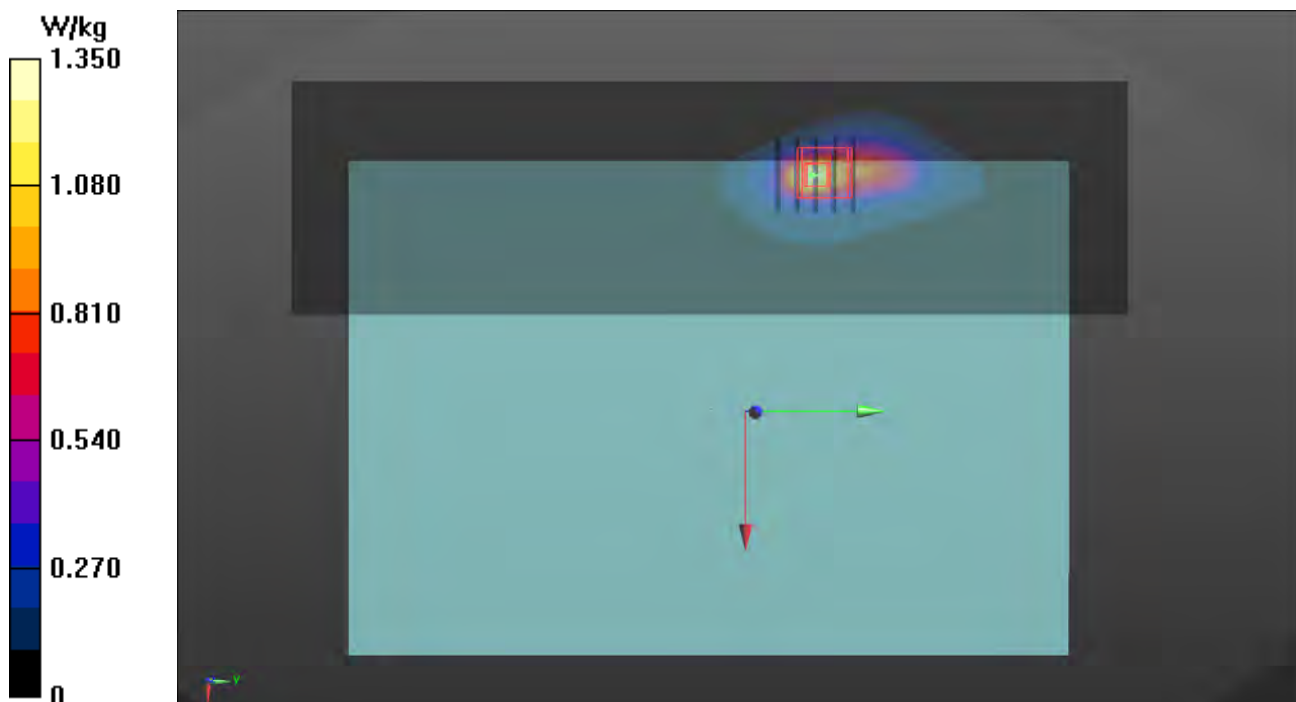
Peak SAR (extrapolated) = 1.95 W/kg

SAR(1 g) = 0.732 W/kg; SAR(10 g) = 0.304 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 8.6 mm

Ratio of SAR at M2 to SAR at M1 = 40.2%

Maximum value of SAR (measured) = 1.45 W/kg



**P14 LTE 30_QPSK10M_Rear
Face_0mm_Ch27710_1RB_OS0_Sample3_P-Sensor_w****DUT: P21010157**

Communication System: UID 10175 - CAG, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK);

Frequency: 2310 MHz; Duty Cycle: 1:3.74

Medium: H19T27N1_0306 Medium parameters used: $f = 2310$ MHz; $\sigma = 1.731$ S/m; $\epsilon_r = 39.579$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(7.62, 7.62, 7.62) @ 2310 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x301x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 0.550 W/kg

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

Reference Value = 17.99 V/m; Power Drift = -0.04 dB

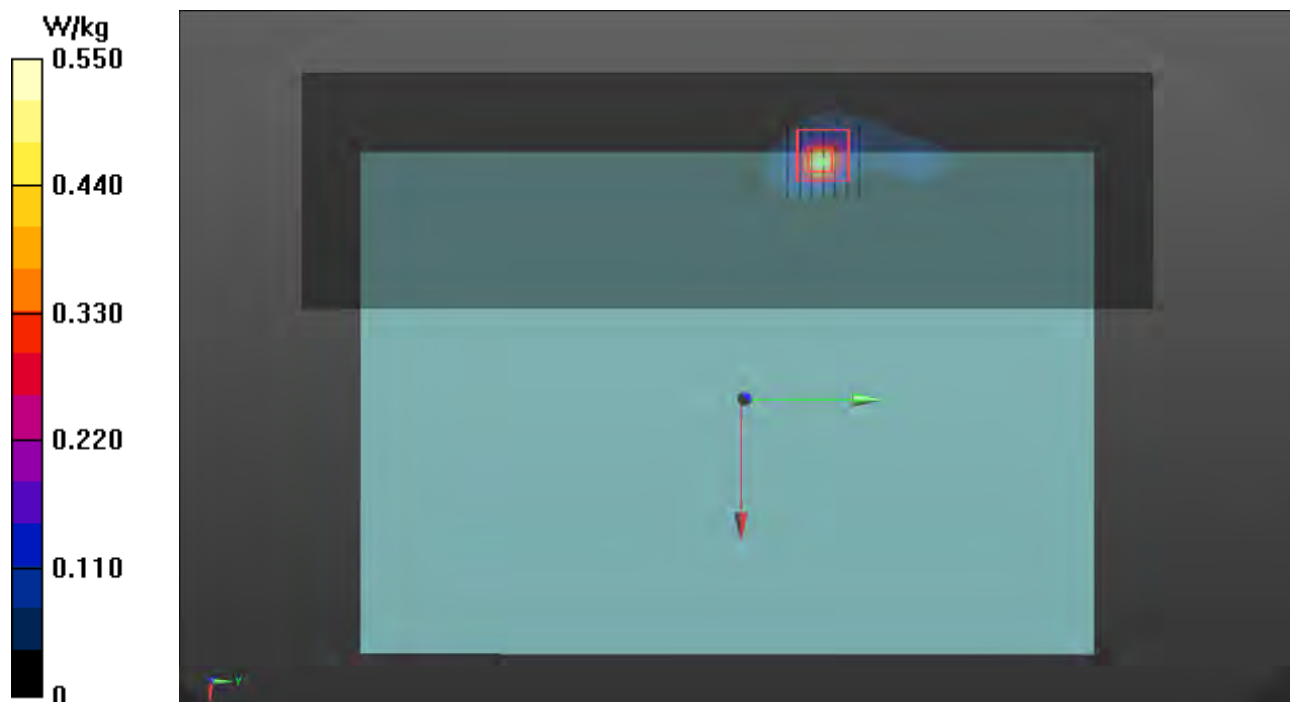
Peak SAR (extrapolated) = 0.787 W/kg

SAR(1 g) = 0.279 W/kg; SAR(10 g) = 0.104 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 7 mm

Ratio of SAR at M2 to SAR at M1 = 37.1%

Maximum value of SAR (measured) = 0.578 W/kg



P15 LTE 38_QPSK20M_Rear Face_0mm_Ch37850_50RB_OS0_Sample1_P-Sensor_w

DUT: P21010157

Communication System: UID 10151 - CAG, LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK);
Frequency: 2580 MHz; Duty Cycle: 1:8.47

Medium: H19T27N1_0302 Medium parameters used: $f = 2580$ MHz; $\sigma = 2.021$ S/m; $\epsilon_r = 38.38$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7555; ConvF(7.36, 7.36, 7.36) @ 2580 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1589; Calibrated: 2020/09/15
- Phantom: ELI V5.0 1204; Type: QD OVA 002 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x301x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 0.388 W/kg

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

Reference Value = 13.49 V/m; Power Drift = 0.03 dB

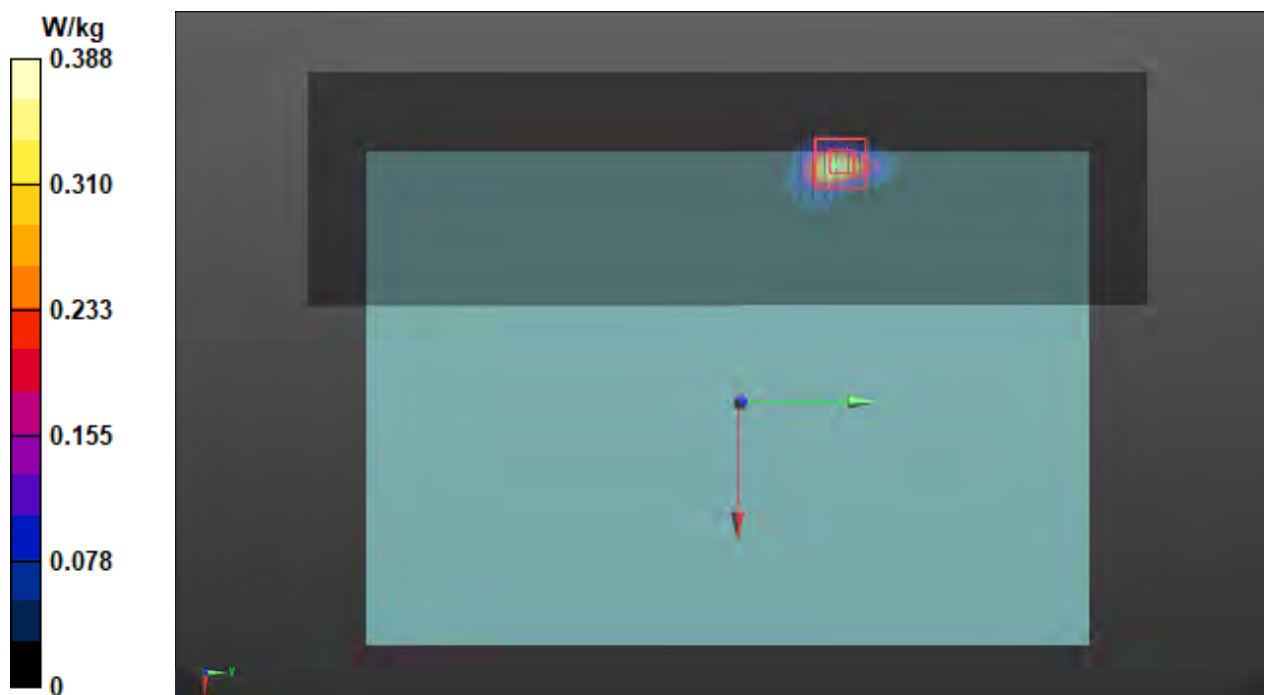
Peak SAR (extrapolated) = 0.883 W/kg

SAR(1 g) = 0.304 W/kg; SAR(10 g) = 0.109 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 5.8 mm

Ratio of SAR at M2 to SAR at M1 = 36%

Maximum value of SAR (measured) = 0.640 W/kg



**P16 LTE 41_QPSK20M_Bottom
Side_0mm_Ch40185_50RB_OS0_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10151 - CAG, LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK);

Frequency: 2549.5 MHz; Duty Cycle: 1:8.47

Medium: H19T27N1_0307 Medium parameters used: $f = 2550$ MHz; $\sigma = 1.971$ S/m; $\epsilon_r = 38.761$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(7.28, 7.28, 7.28) @ 2549.5 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x241x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.341 W/kg

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

Reference Value = 13.06 V/m; Power Drift = -0.03 dB

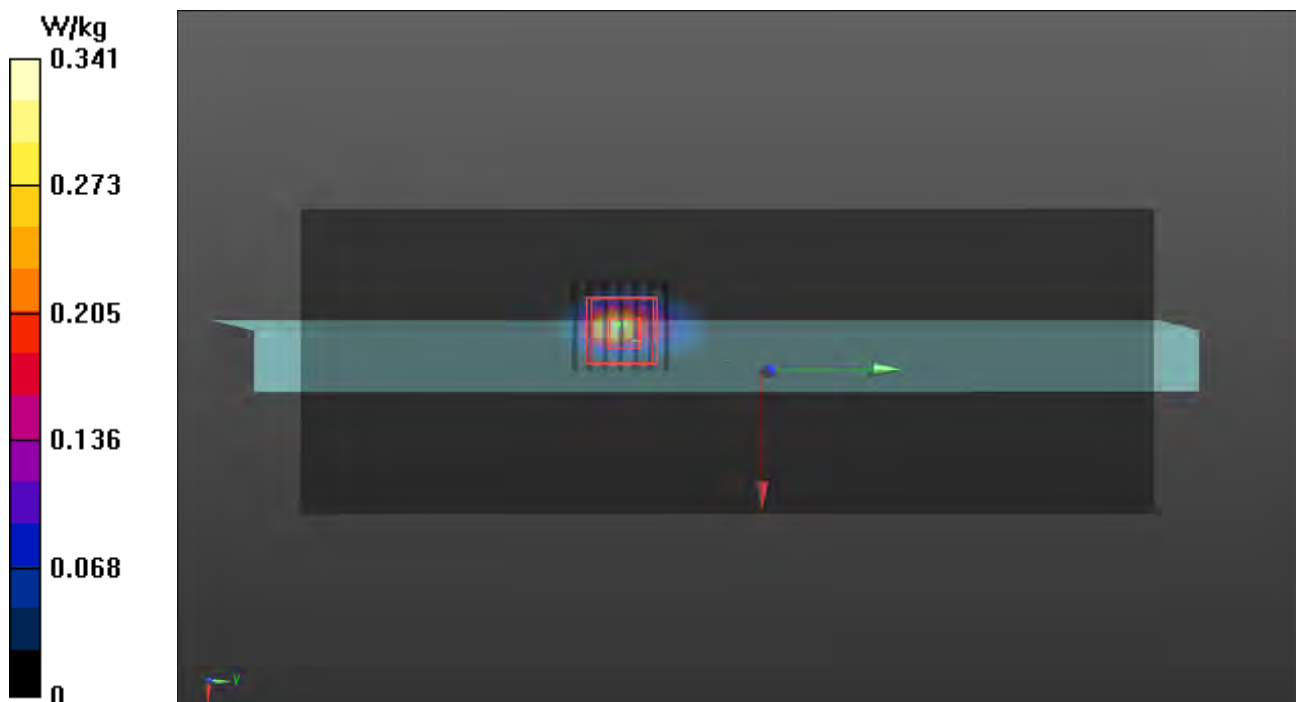
Peak SAR (extrapolated) = 0.531 W/kg

SAR(1 g) = 0.175 W/kg; SAR(10 g) = 0.058 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 5.4 mm

Ratio of SAR at M2 to SAR at M1 = 34.2%

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



**P17 LTE 66_QPSK20M_Rear
Face_0mm_Ch132072_1RB_OS0_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10169 - CAE, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);

Frequency: 1720 MHz; Duty Cycle: 1:3.74

Medium: H16T20N1_0223 Medium parameters used: $f = 1720$ MHz; $\sigma = 1.298$ S/m; $\epsilon_r = 38.86$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 23.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3887; ConvF(8.24, 8.24, 8.24) @ 1720 MHz; Calibrated: 2020/10/22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn905; Calibrated: 2020/06/22
- Phantom: ELI Phantom_1206; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.459 W/kg

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

Reference Value = 17.03 V/m; Power Drift = 0.12 dB

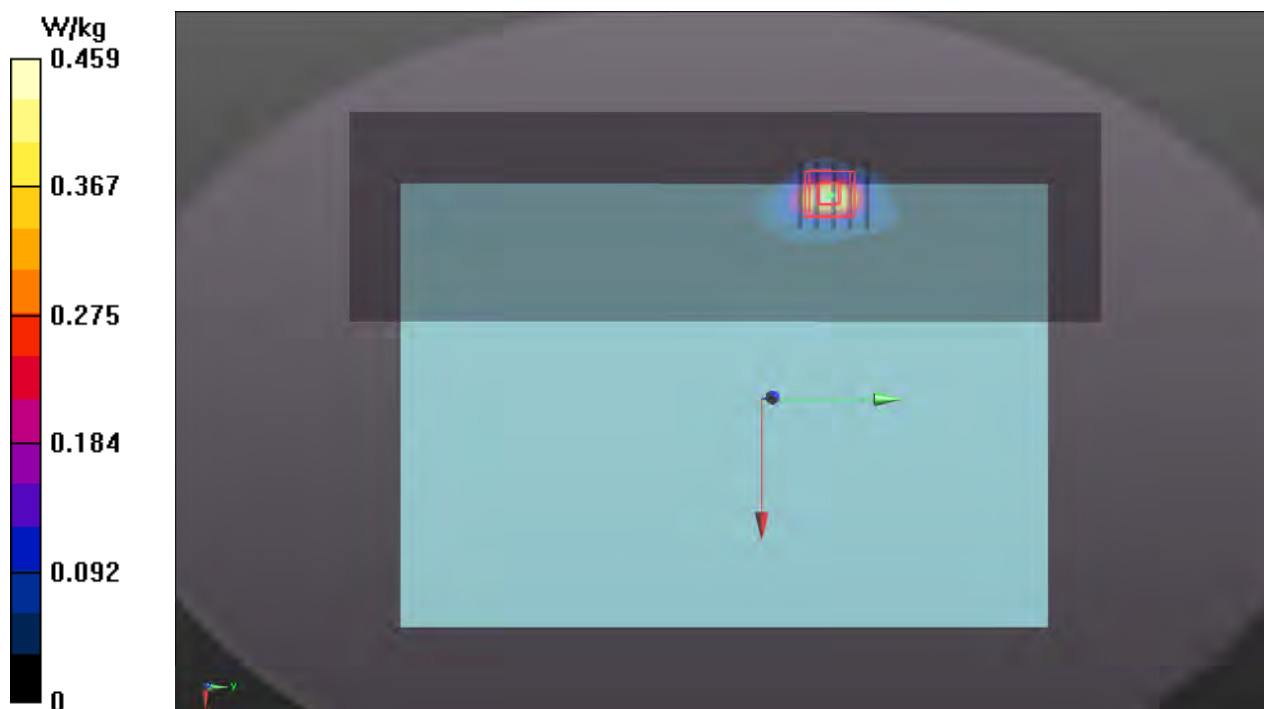
Peak SAR (extrapolated) = 0.892 W/kg

SAR(1 g) = 0.350 W/kg; SAR(10 g) = 0.143 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 8.2 mm

Ratio of SAR at M2 to SAR at M1 = 39%

Maximum value of SAR (measured) = 0.678 W/kg



P18 WLAN2.4G_802.11b_Top Side_0mm_Ch1_Ant1_Sample3_P-Sensor_w**DUT: P21010157**

Communication System: UID 10012 - CAB, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps);

Frequency: 2412 MHz; Duty Cycle: 1:1

Medium: H19T27N1_0304 Medium parameters used: $f = 2412$ MHz; $\sigma = 1.843$ S/m; $\epsilon_r = 38.227$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(7.87, 7.87, 7.87) @ 2412 MHz; Calibrated: 2021/01/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2021/01/19
- Phantom: ELI Phantom_1245; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x301x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 0.886 W/kg

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

Reference Value = 21.82 V/m; Power Drift = 0.02 dB

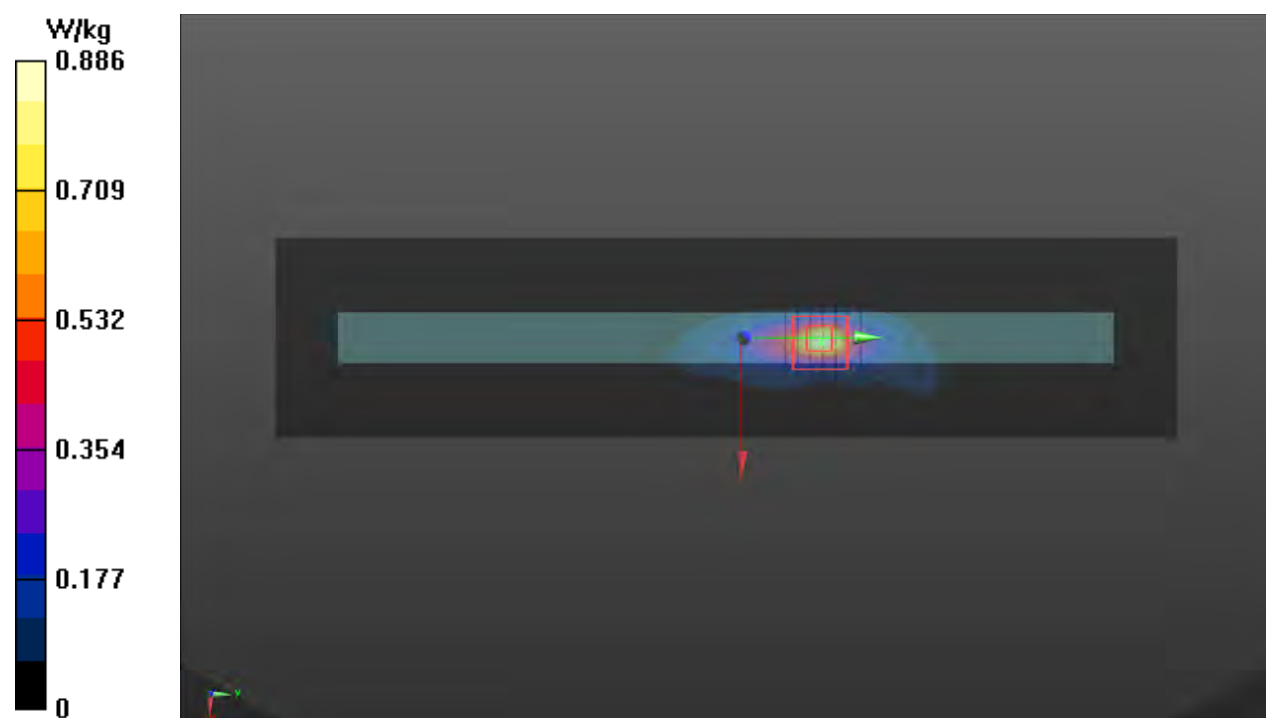
Peak SAR (extrapolated) = 1.17 W/kg

SAR(1 g) = 0.487 W/kg; SAR(10 g) = 0.200 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 5.8 mm

Ratio of SAR at M2 to SAR at M1 = 44.2%

Maximum value of SAR (measured) = 0.821 W/kg



**P19 WLAN5.3G_802.11ac VHT160_Top
Side_0mm_Ch50_Ant0+1_Sample3_P-Sensor_w****DUT: 200605C40**

Communication System: UID 10554 - AAD, IEEE 802.11ac WiFi (160MHz, MCS0); Frequency: 5250 MHz; Duty Cycle: 1:1.01

Medium: H34T60N1_0305 Medium parameters used: $f = 5250$ MHz; $\sigma = 4.58$ S/m; $\epsilon_r = 36.321$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(5.2, 5.2, 5.2) @ 5250 MHz; Calibrated: 2021/01/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1277; Calibrated: 2021/01/19
- Phantom: ELI Phantom_1245; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (61x361x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 1.31 W/kg

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

Reference Value = 16.01 V/m; Power Drift = -0.14 dB

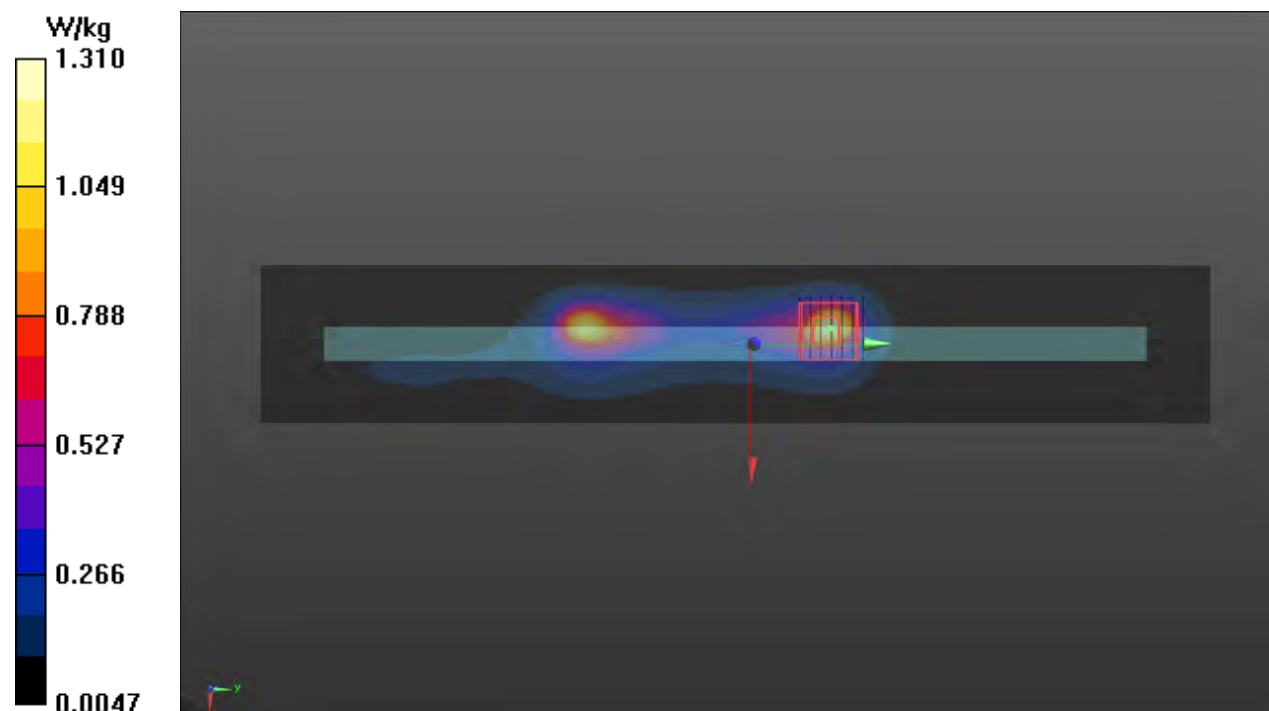
Peak SAR (extrapolated) = 2.98 W/kg

SAR(1 g) = 0.740 W/kg; SAR(10 g) = 0.217 W/kg

Smallest distance from peaks to all points 3 dB below = 6.4 mm

Ratio of SAR at M2 to SAR at M1 = 67.6%

Maximum value of SAR (measured) = 1.85 W/kg



**P20 WLAN5.6G_802.11ac VHT160_Top
Side_2mm_Ch114_Ant0+1_Sample3_P-Sensor_w_o****DUT: P21010157**

Communication System: UID 10554 - AAD, IEEE 802.11ac WiFi (160MHz, MCS0); Frequency: 5570 MHz; Duty Cycle: 1:1.01

Medium: H34T60N1_0304 Medium parameters used (interpolated): $f = 5570$ MHz; $\sigma = 5.02$ S/m; $\epsilon_r = 35.635$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.3 °C ; Liquid Temperature : 23 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(4.65, 4.65, 4.65) @ 5570 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (101x361x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 2.30 W/kg

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

Reference Value = 22.72 V/m; Power Drift = -0.14 dB

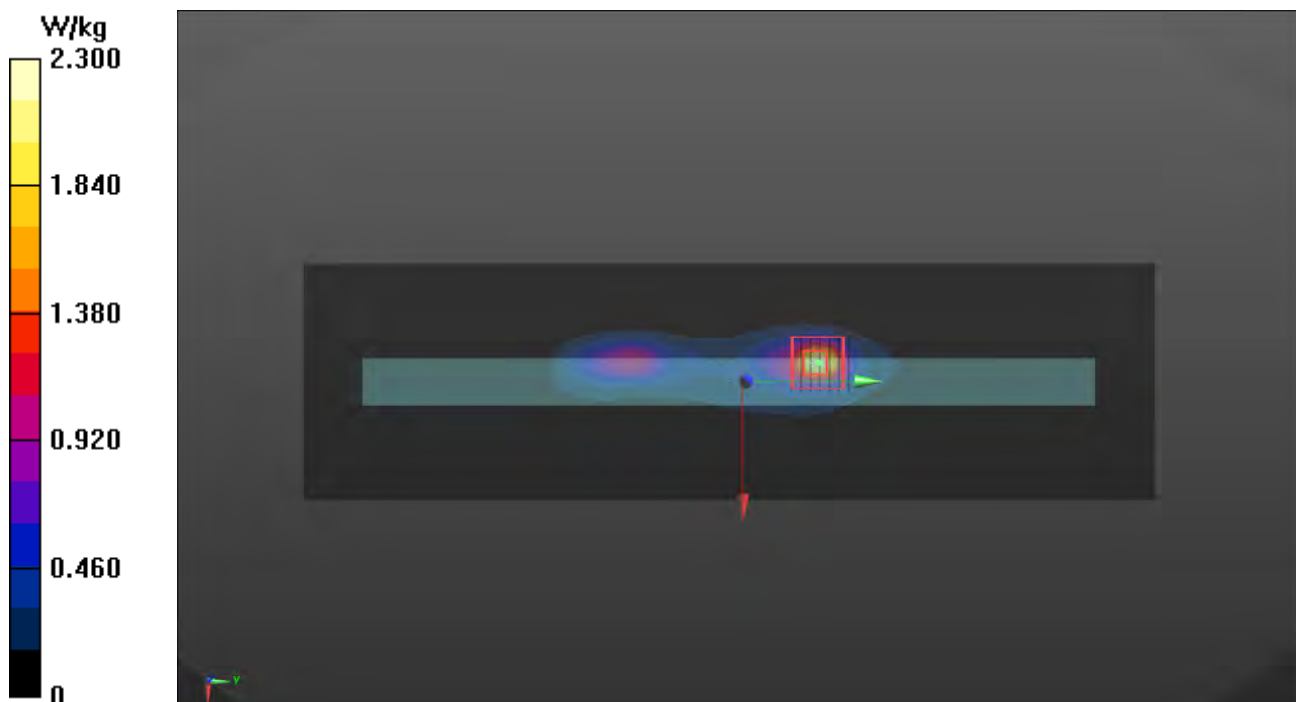
Peak SAR (extrapolated) = 3.74 W/kg

SAR(1 g) = 0.986 W/kg; SAR(10 g) = 0.342 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 8.4 mm

Ratio of SAR at M2 to SAR at M1 = 63.2%

Maximum value of SAR (measured) = 2.26 W/kg



**P21 WLAN5.8G_802.11ac VHT80_Top
Side_0mm_Ch155_Ant0+1_Sample3_P-Sensor_w**

DUT: P21010157

Communication System: UID 10544 - AAC, IEEE 802.11ac WiFi (80MHz, MCS0); Frequency: 5775 MHz; Duty Cycle: 1:1.02

Medium: H34T60N1_0305 Medium parameters used: $f = 5775$ MHz; $\sigma = 5.23$ S/m; $\epsilon_r = 34.585$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(4.8, 4.8, 4.8) @ 5775 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (101x361x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.59 W/kg

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

Reference Value = 15.92 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 3.10 W/kg

SAR(1 g) = 0.762 W/kg; SAR(10 g) = 0.237 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 6.1 mm

Ratio of SAR at M2 to SAR at M1 = 62.6%

Maximum value of SAR (measured) = 1.83 W/kg

Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 15.92 V/m; Power Drift = -0.01 dB

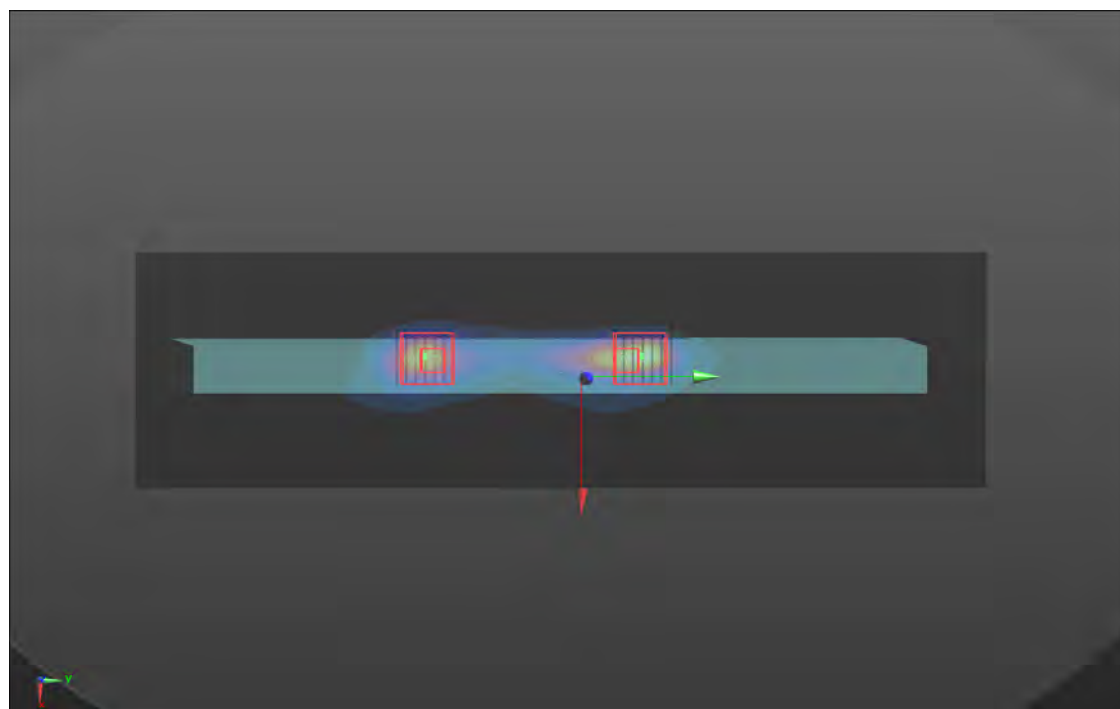
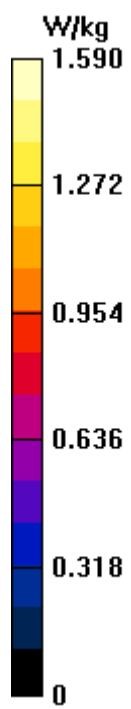
Peak SAR (extrapolated) = 3.38 W/kg

SAR(1 g) = 0.725 W/kg; SAR(10 g) = 0.187 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 5.6 mm

Ratio of SAR at M2 to SAR at M1 = 61.9%

Maximum value of SAR (measured) = 1.98 W/kg



P22 BT_BDR_Top Side_2mm_Ch0_Ant1_Sample3_P-Sensor_w_o**DUT: P21010157**

Communication System: UID 10032 - CAA, IEEE 802.15.1 Bluetooth (GFSK, DH5); Frequency: 2402 MHz; Duty Cycle: 1:1.3

Medium: H19T27N1_0305 Medium parameters used (interpolated): $f = 2402$ MHz; $\sigma = 1.824$ S/m;

$\epsilon_r = 38.54$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(7.41, 7.41, 7.41) @ 2402 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x301x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.116 W/kg

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

Reference Value = 7.181 V/m; Power Drift = -0.02 dB

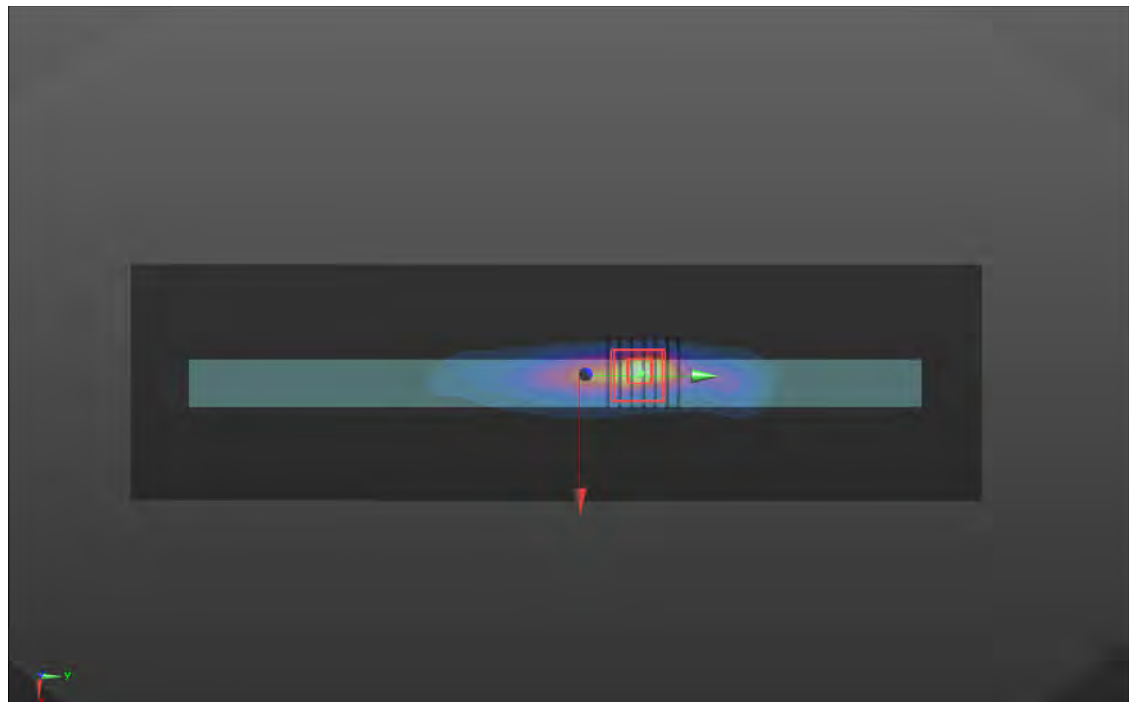
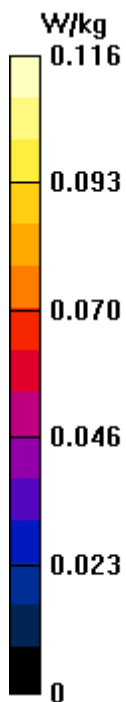
Peak SAR (extrapolated) = 0.164 W/kg

SAR(1 g) = 0.066 W/kg; SAR(10 g) = 0.027 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 5.4 mm

Ratio of SAR at M2 to SAR at M1 = 45.5%

Maximum value of SAR (measured) = 0.119 W/kg



P23 WCDMA II_RMC12.2K_Bottom_0mm_Ch9538_Sample1_P-Sensor_w**DUT: P21010157**

Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1907.6 MHz; Duty Cycle: 1:1.95

Medium: H16T20N2_0302 Medium parameters used: $f = 1908$ MHz; $\sigma = 1.471$ S/m; $\epsilon_r = 38.097$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(8.23, 8.23, 8.23) @ 1907.6 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.781 W/kg

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

Reference Value = 19.00 V/m; Power Drift = 0.06 dB

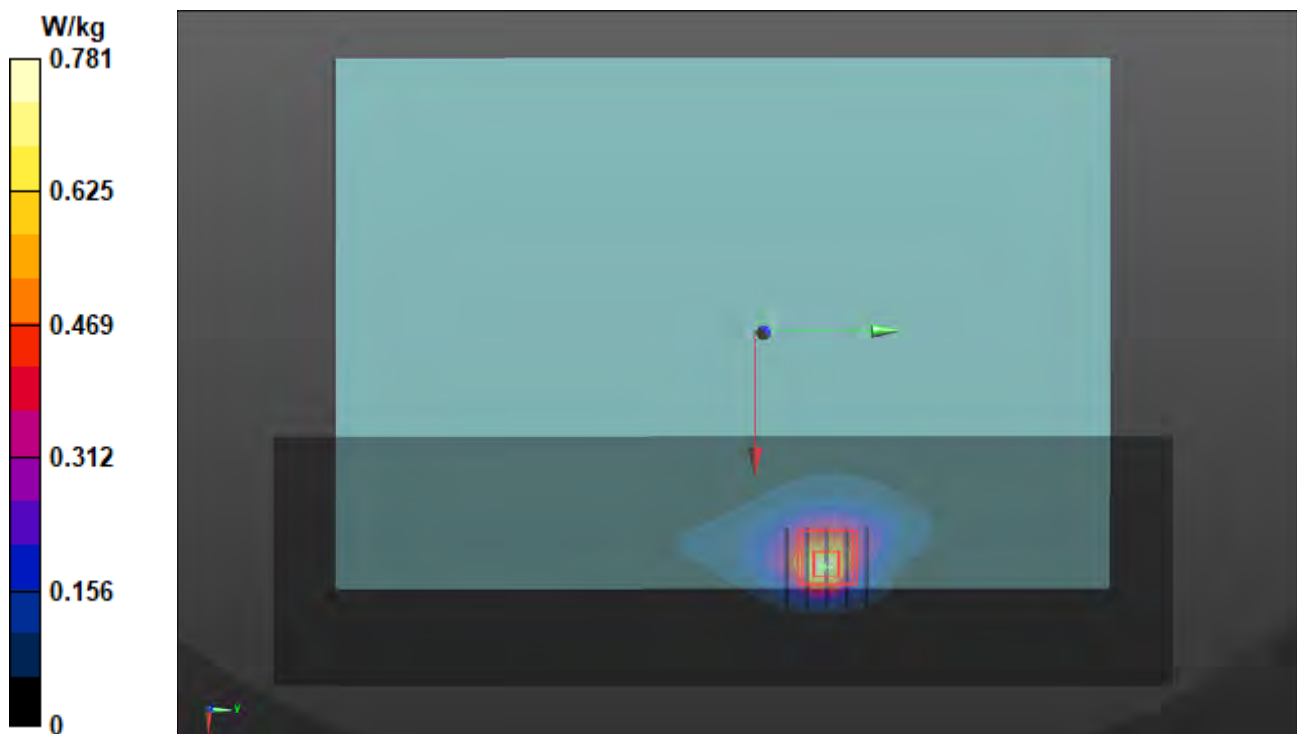
Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.478 W/kg; SAR(10 g) = 0.240 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 11.2 mm

Ratio of SAR at M2 to SAR at M1 = 48.2%

Maximum value of SAR (measured) = 0.818 W/kg



P24 WCDMA IV_RMC12.2K_Bottom_0mm_Ch1312_Sample1_P-Sensor_w**DUT: P21010157**

Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 1712.4 MHz; Duty Cycle: 1:1.95

Medium: H16T20N2_0302 Medium parameters used (interpolated): $f = 1712.4$ MHz; $\sigma = 1.296$ S/m; $\epsilon_r = 38.858$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(8.54, 8.54, 8.54) @ 1712.4 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x261x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.407 W/kg

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

Reference Value = 13.84 V/m; Power Drift = 0.07 dB

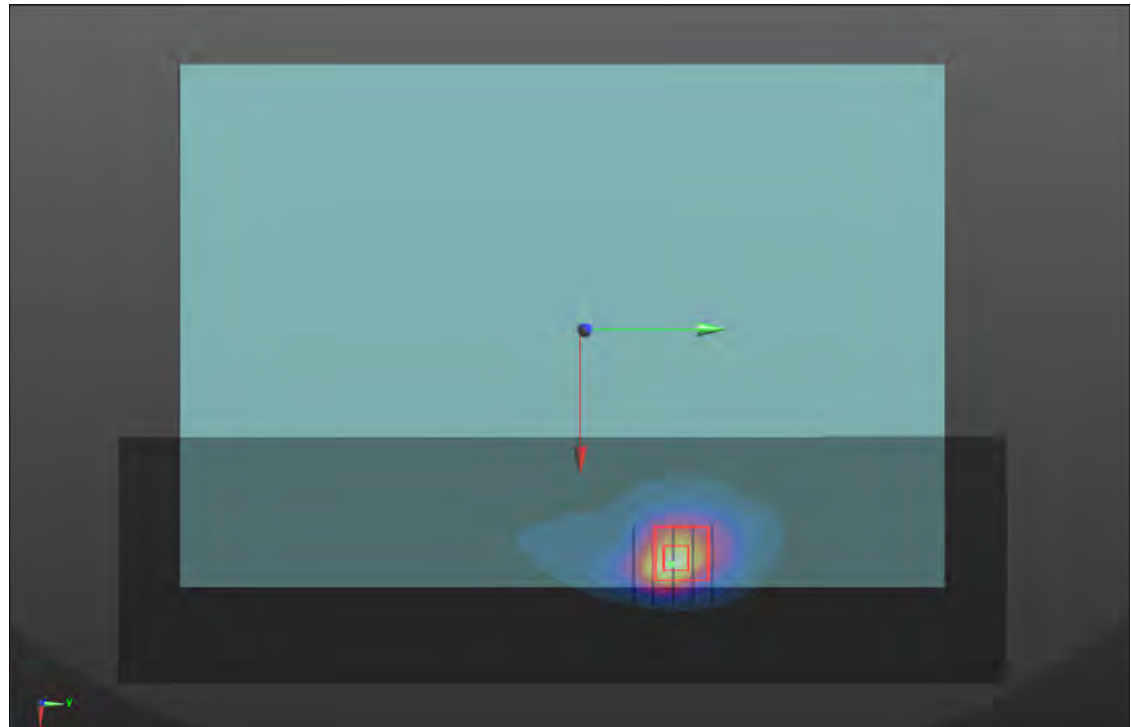
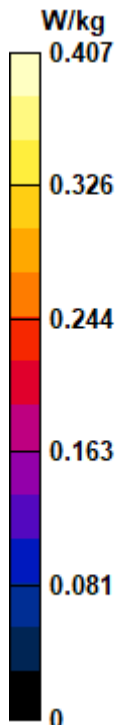
Peak SAR (extrapolated) = 0.588 W/kg

SAR(1 g) = 0.285 W/kg; SAR(10 g) = 0.140 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 9.3 mm

Ratio of SAR at M2 to SAR at M1 = 47.5%

Maximum value of SAR (measured) = 0.460 W/kg



P25 WCDMA V_RMC12.2K_Bottom_0mm_Ch4132_Sample1_P-Sensor_w**DUT: P21010157**

Communication System: UID 10011 - CAB, UMTS-FDD (WCDMA); Frequency: 826.4 MHz; Duty Cycle: 1:1.95

Medium: H07T10N1_0303 Medium parameters used (interpolated): $f = 826.4$ MHz; $\sigma = 0.905$ S/m; $\epsilon_r = 41.733$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(9.69, 9.69, 9.69) @ 826.4 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.812 W/kg

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

Reference Value = 28.02 V/m; Power Drift = -0.01 dB

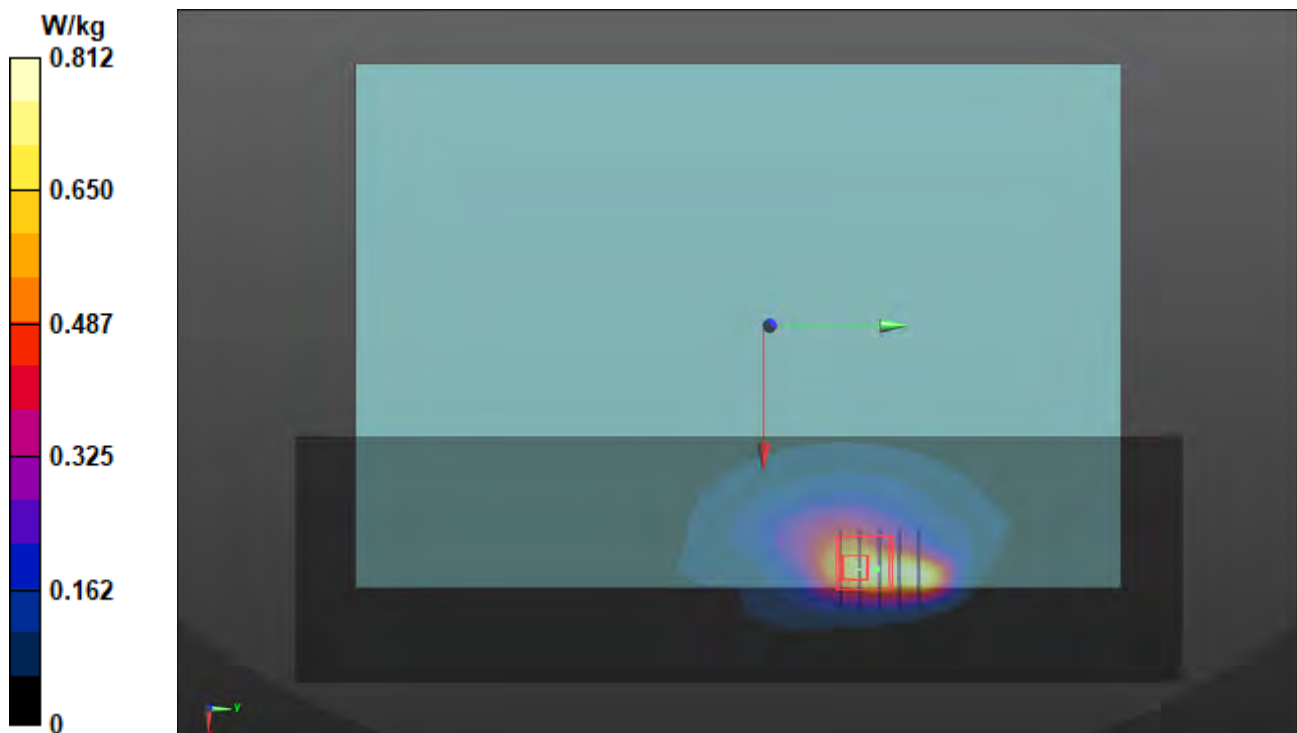
Peak SAR (extrapolated) = 0.999 W/kg

SAR(1 g) = 0.539 W/kg; SAR(10 g) = 0.297 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 11.3 mm

Ratio of SAR at M2 to SAR at M1 = 53.7%

Maximum value of SAR (measured) = 0.837 W/kg



P26 LTE**2_QPSK20M_Bottom_0mm_Ch19100_1RB_OS0_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10169 - CAE, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);

Frequency: 1900 MHz; Duty Cycle: 1:3.74

Medium: H16T20N1_0302 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.459$ S/m; $\epsilon_r = 38.258$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C; Liquid Temperature : 23.2 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7555; ConvF(8.42, 8.42, 8.42) @ 1900 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1589; Calibrated: 2020/09/15
- Phantom: ELI V5.0 1204; Type: QD OVA 002 AA;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.523 W/kg

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

Reference Value = 18.74 V/m; Power Drift = -0.05 dB

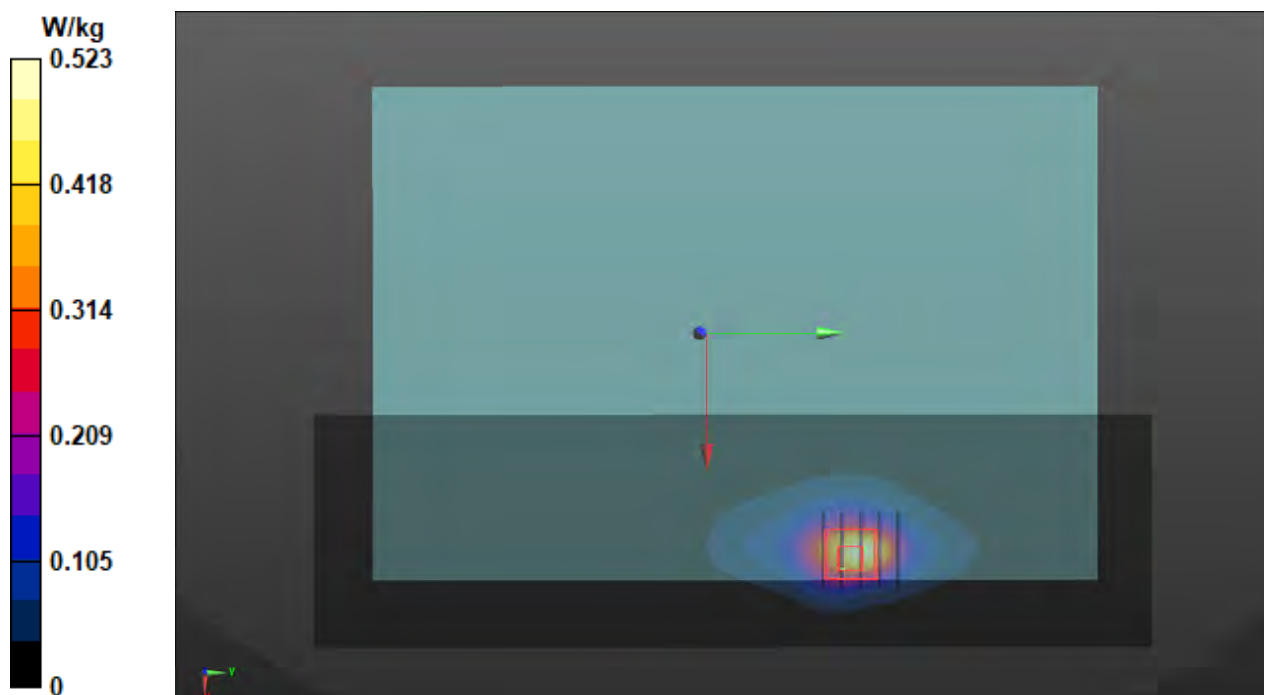
Peak SAR (extrapolated) = 0.953 W/kg

SAR(1 g) = 0.404 W/kg; SAR(10 g) = 0.192 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 8.5 mm

Ratio of SAR at M2 to SAR at M1 = 42.3%

Maximum value of SAR (measured) = 0.690 W/kg



P27 LTE 4_QPSK20M_Bottom_0mm_Ch20050_1RB_OS0_Sample1_P-Sensor_w**DUT: P21010157**

Communication System: UID 10169 - CAE, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);

Frequency: 1720 MHz; Duty Cycle: 1:3.74

Medium: H16T20N1_0303 Medium parameters used: $f = 1720$ MHz; $\sigma = 1.307$ S/m; $\epsilon_r = 39.672$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(8.54, 8.54, 8.54) @ 1720 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.410 W/kg

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

Reference Value = 13.59 V/m; Power Drift = 0.04 dB

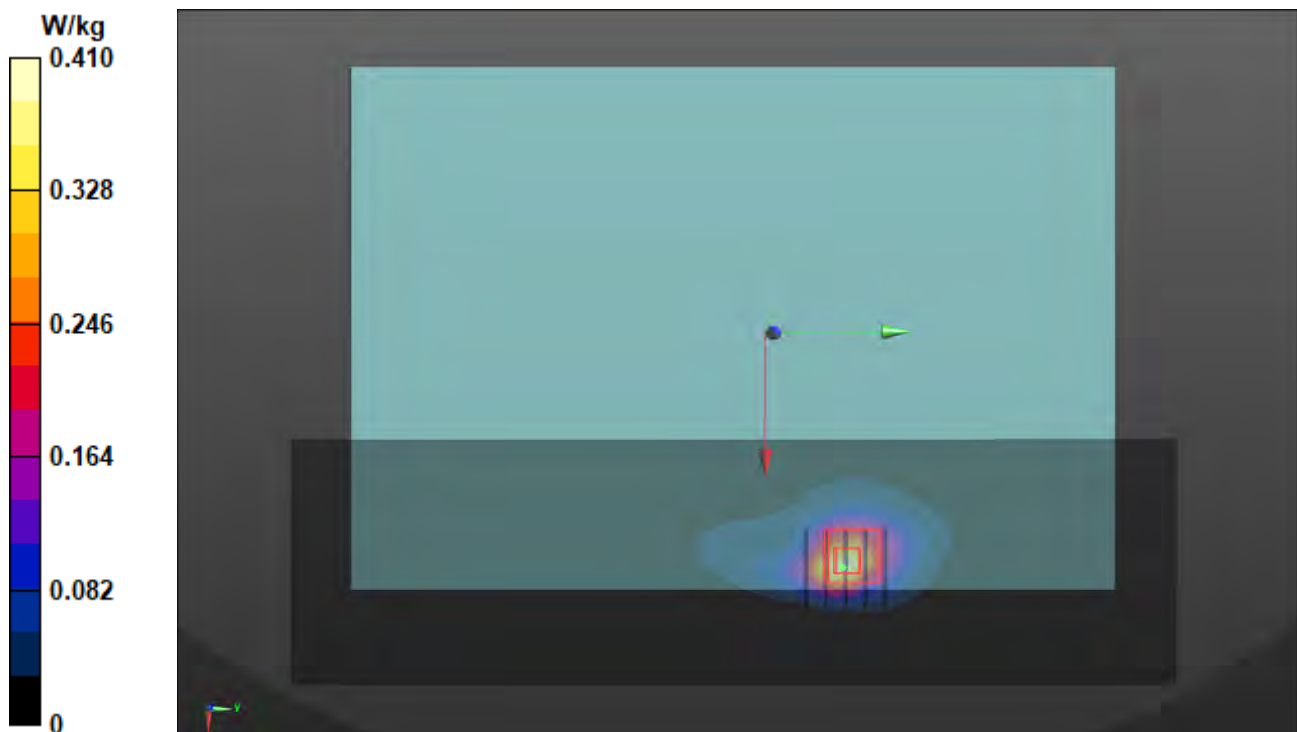
Peak SAR (extrapolated) = 0.569 W/kg

SAR(1 g) = 0.274 W/kg; SAR(10 g) = 0.134 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 9.3 mm

Ratio of SAR at M2 to SAR at M1 = 47.3%

Maximum value of SAR (measured) = 0.445 W/kg



P28 LTE 5_QPSK10M_Bottom_0mm_Ch20450_1RB_OS0_Sample1_P-Sensor_w**DUT: P21010157**

Communication System: UID 10175 - CAG, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK);

Frequency: 829 MHz; Duty Cycle: 1:3.74

Medium: H07T10N1_0303 Medium parameters used: $f = 829$ MHz; $\sigma = 0.907$ S/m; $\epsilon_r = 41.7$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(9.69, 9.69, 9.69) @ 829 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.755 W/kg

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

Reference Value = 27.00 V/m; Power Drift = 0.05 dB

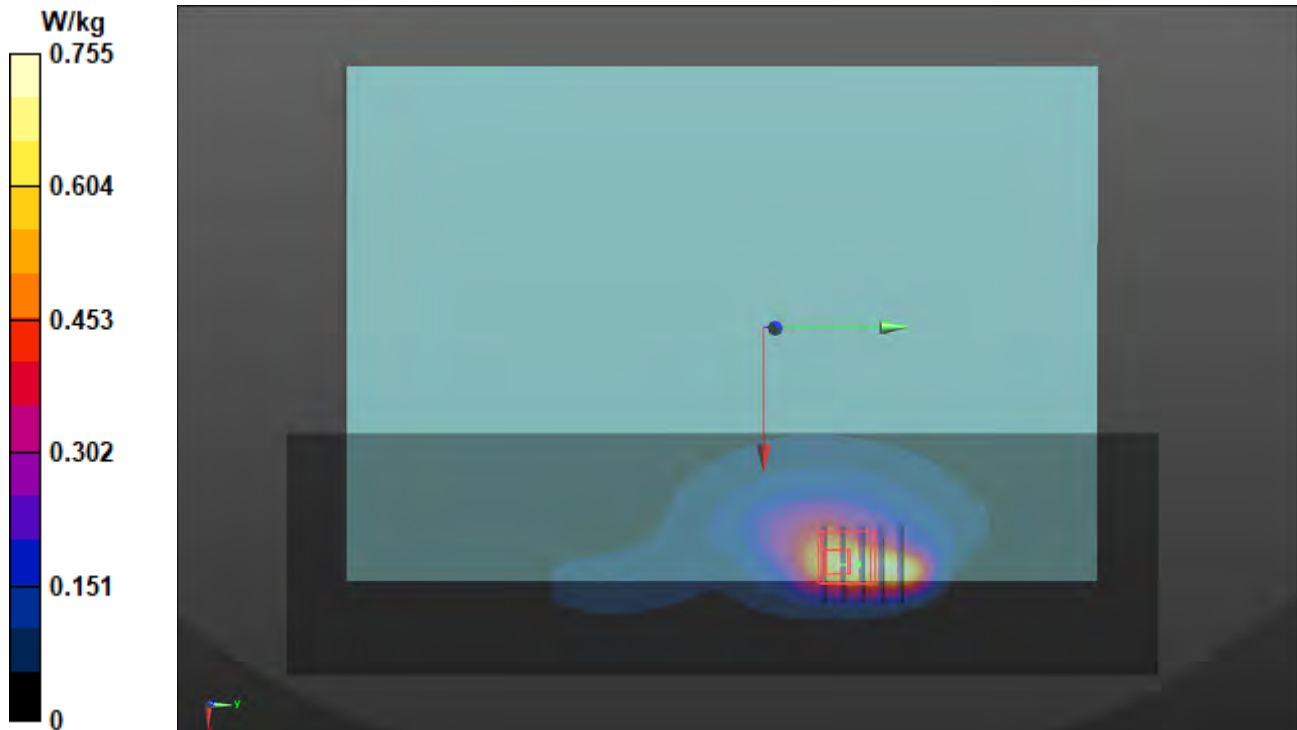
Peak SAR (extrapolated) = 0.913 W/kg

SAR(1 g) = 0.495 W/kg; SAR(10 g) = 0.274 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 10.1 mm

Ratio of SAR at M2 to SAR at M1 = 54.1%

Maximum value of SAR (measured) = 0.767 W/kg



P29 LTE 7_QPSK20M_Bottom_0mm_Ch21350_1RB_OS0_Sample1_P-Sensor_w**DUT: P21010157**

Communication System: UID 10169 - CAE, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);

Frequency: 2560 MHz; Duty Cycle: 1:3.74

Medium: H19T27N2_0302 Medium parameters used: $f = 2560$ MHz; $\sigma = 1.97$ S/m; $\epsilon_r = 38.41$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(7.56, 7.56, 7.56) @ 2560 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x301x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

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

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

Reference Value = 24.01 V/m; Power Drift = 0.03 dB

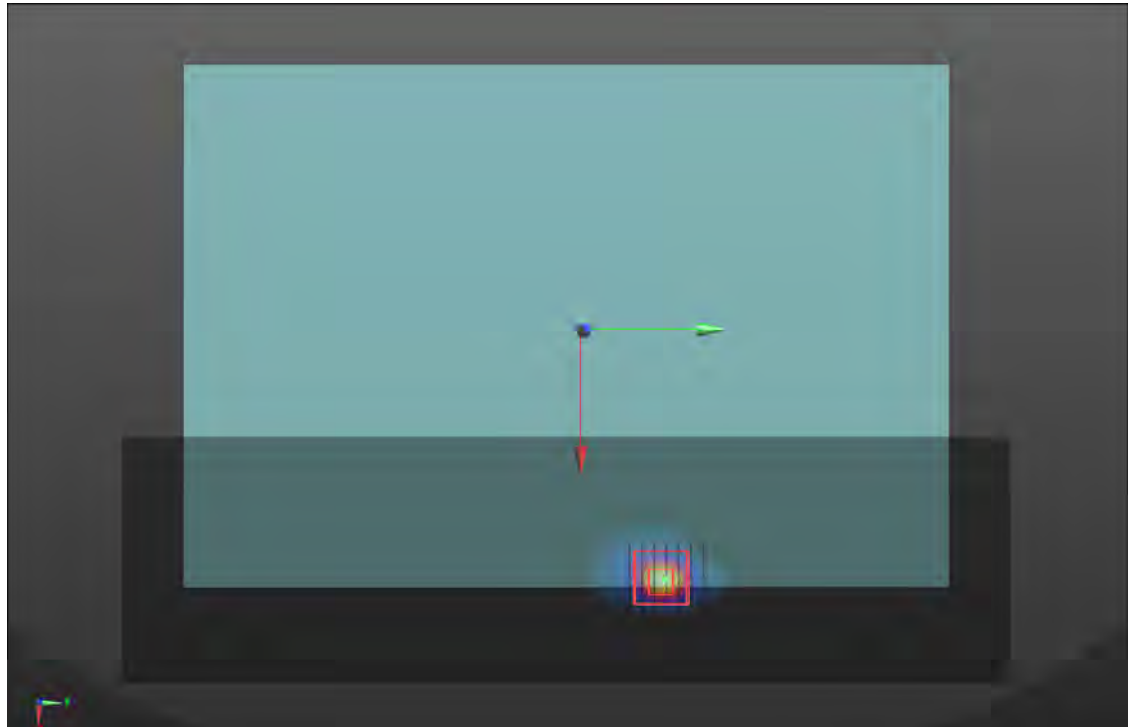
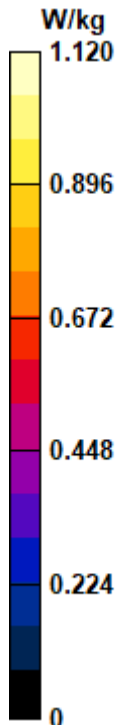
Peak SAR (extrapolated) = 1.47 W/kg

SAR(1 g) = 0.553 W/kg; SAR(10 g) = 0.206 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 6 mm

Ratio of SAR at M2 to SAR at M1 = 41.3%

Maximum value of SAR (measured) = 1.09 W/kg



P30 LTE**12_QPSK10M_Bottom_0mm_Ch23130_1RB_OS0_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10175 - CAG, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK);

Frequency: 711 MHz; Duty Cycle: 1:3.74

Medium: H06T09N1_0303 Medium parameters used: $f = 711$ MHz; $\sigma = 0.888$ S/m; $\epsilon_r = 42.567$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(9.83, 9.83, 9.83) @ 711 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.305 W/kg

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

Reference Value = 16.83 V/m; Power Drift = 0.08 dB

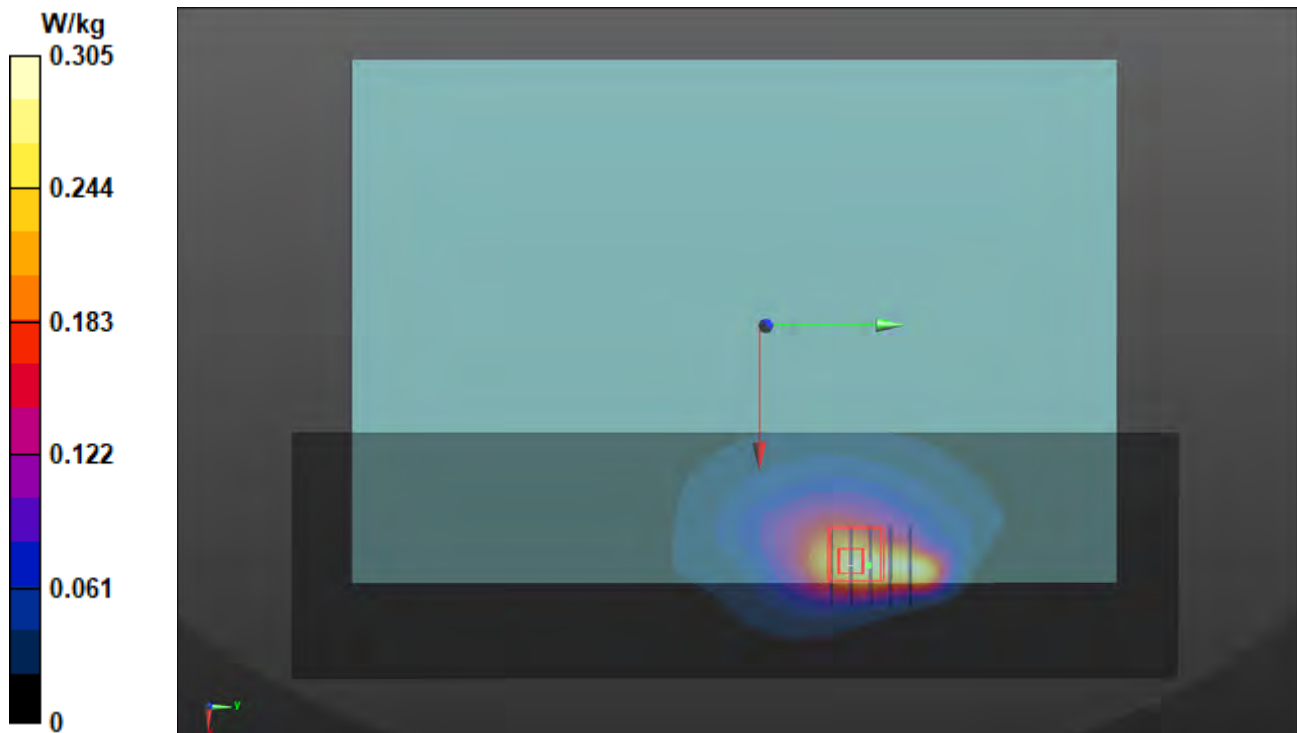
Peak SAR (extrapolated) = 0.363 W/kg

SAR(1 g) = 0.201 W/kg; SAR(10 g) = 0.116 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 12.2 mm

Ratio of SAR at M2 to SAR at M1 = 54.7%

Maximum value of SAR (measured) = 0.303 W/kg



P31 LTE**13_QPSK10M_Bottom_0mm_Ch23230_1RB_OS0_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10175 - CAG, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK);

Frequency: 782 MHz; Duty Cycle: 1:3.74

Medium: H06T09N1_0303 Medium parameters used: $f = 782$ MHz; $\sigma = 0.913$ S/m; $\epsilon_r = 42.352$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(9.83, 9.83, 9.83) @ 782 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.665 W/kg

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

Reference Value = 24.88 V/m; Power Drift = 0.17 dB

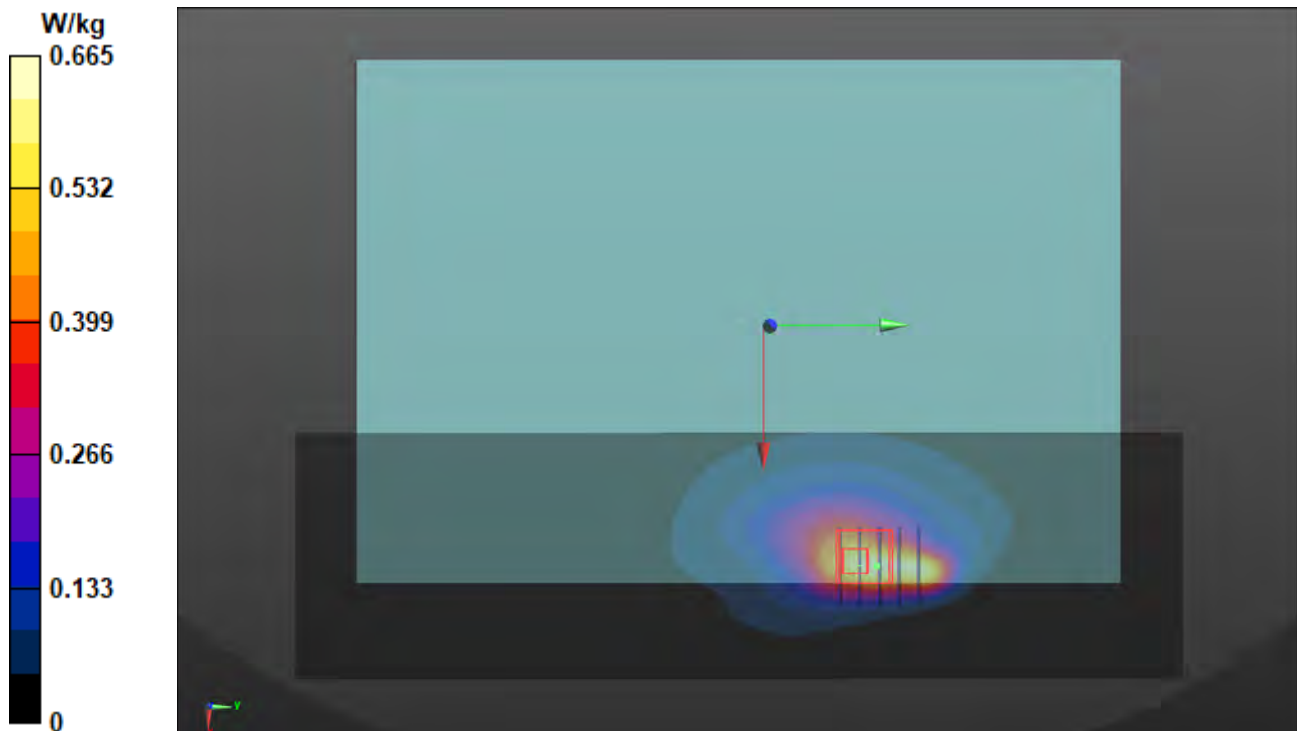
Peak SAR (extrapolated) = 0.810 W/kg

SAR(1 g) = 0.442 W/kg; SAR(10 g) = 0.249 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 11.3 mm

Ratio of SAR at M2 to SAR at M1 = 54.7%

Maximum value of SAR (measured) = 0.681 W/kg



P32 LTE**14_QPSK10M_Bottom_0mm_Ch23330_1RB_OS0_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10175 - CAG, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK);

Frequency: 793 MHz; Duty Cycle: 1:3.74

Medium: H06T09N1_0303 Medium parameters used: $f = 793$ MHz; $\sigma = 0.916$ S/m; $\epsilon_r = 42.317$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(9.83, 9.83, 9.83) @ 793 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.698 W/kg

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

Reference Value = 25.25 V/m; Power Drift = 0.01 dB

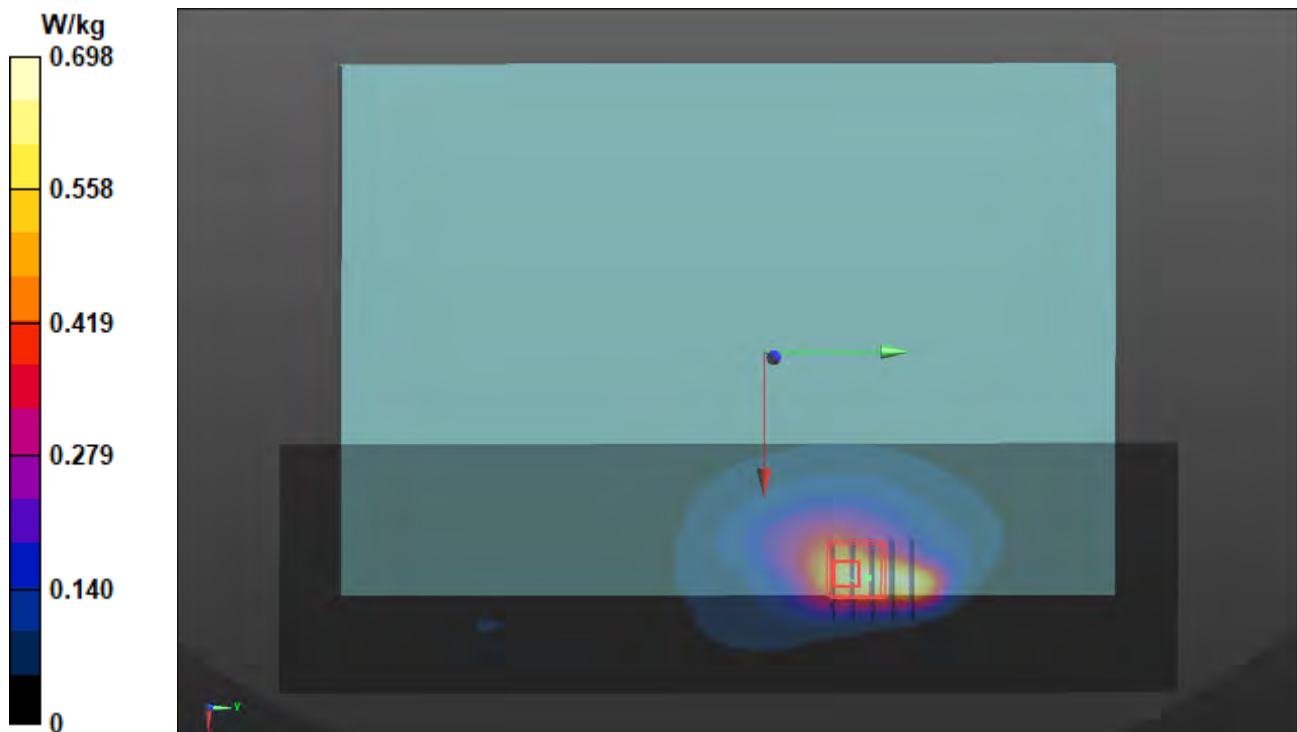
Peak SAR (extrapolated) = 0.849 W/kg

SAR(1 g) = 0.462 W/kg; SAR(10 g) = 0.260 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 11.2 mm

Ratio of SAR at M2 to SAR at M1 = 54.7%

Maximum value of SAR (measured) = 0.715 W/kg



P33 LTE**17_QPSK10M_Bottom_0mm_Ch23800_1RB_OS0_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10175 - CAG, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK);

Frequency: 711 MHz; Duty Cycle: 1:3.74

Medium: H06T09N1_0303 Medium parameters used: $f = 711$ MHz; $\sigma = 0.888$ S/m; $\epsilon_r = 42.567$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(9.83, 9.83, 9.83) @ 711 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.394 W/kg

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

Reference Value = 19.10 V/m; Power Drift = 0.02 dB

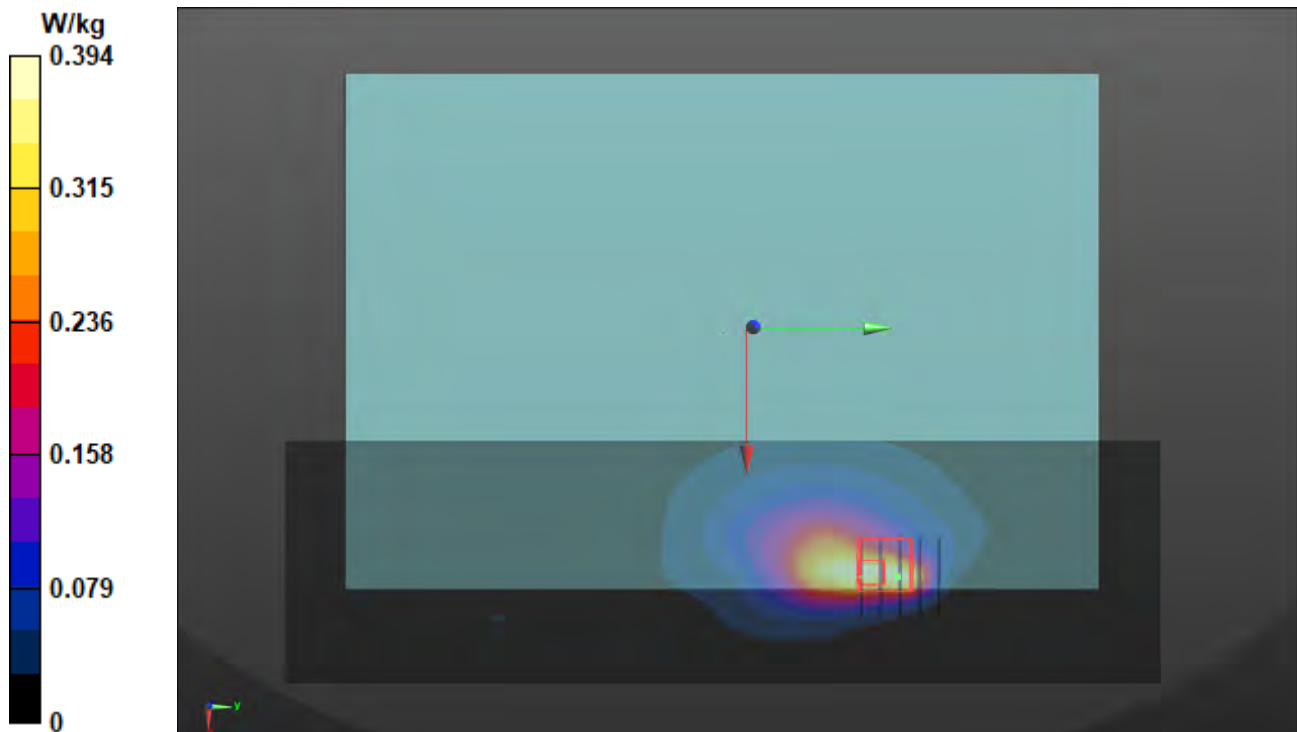
Peak SAR (extrapolated) = 0.408 W/kg

SAR(1 g) = 0.205 W/kg; SAR(10 g) = 0.110 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 11.2 mm

Ratio of SAR at M2 to SAR at M1 = 55.4%

Maximum value of SAR (measured) = 0.340 W/kg



P34 LTE**25_QPSK20M_Bottom_0mm_Ch26590_1RB_OS0_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10169 - CAE, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);

Frequency: 1905 MHz; Duty Cycle: 1:3.74

Medium: H16T20N2_0302 Medium parameters used (interpolated): $f = 1905$ MHz; $\sigma = 1.468$ S/m; $\epsilon_r = 38.11$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(8.23, 8.23, 8.23) @ 1905 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.637 W/kg

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

Reference Value = 17.39 V/m; Power Drift = -0.05 dB

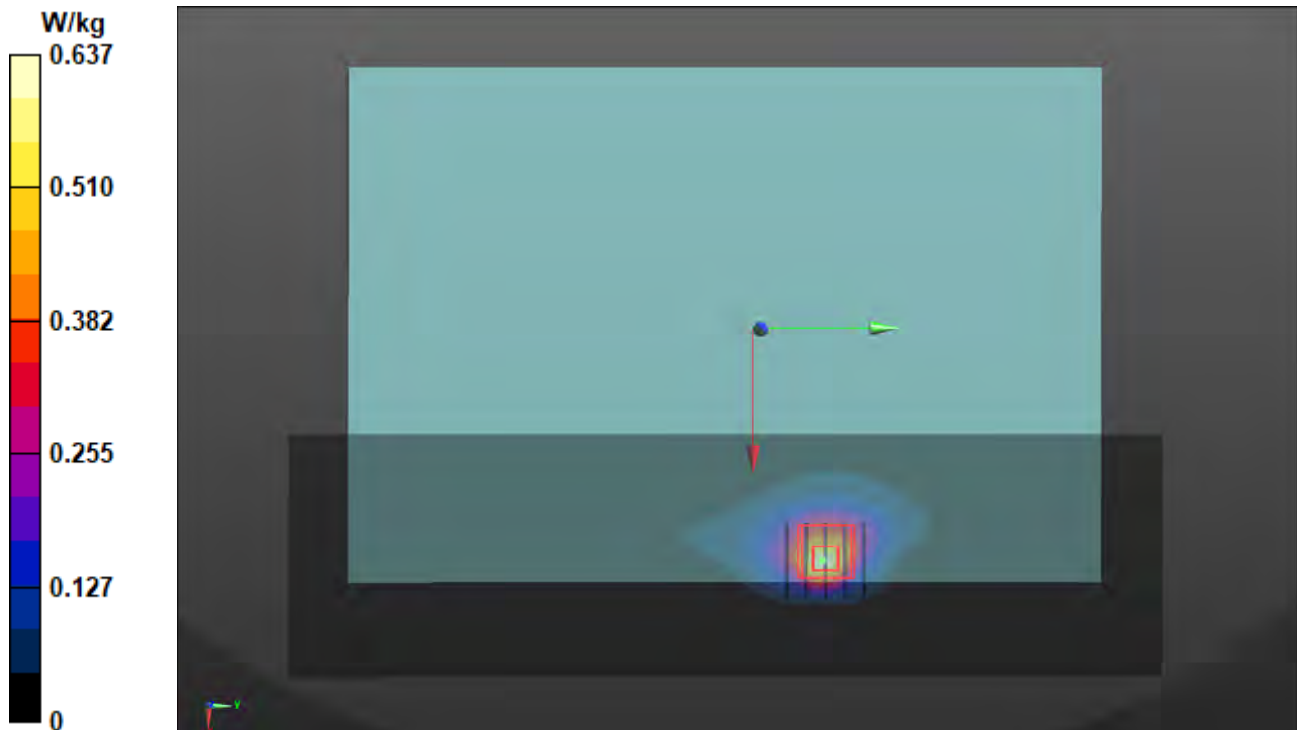
Peak SAR (extrapolated) = 0.843 W/kg

SAR(1 g) = 0.391 W/kg; SAR(10 g) = 0.196 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 11.2 mm

Ratio of SAR at M2 to SAR at M1 = 48.1%

Maximum value of SAR (measured) = 0.672 W/kg



P35 LTE**26_QPSK15M_Bottom_0mm_Ch26765_1RB_OS0_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10181 - CAE, LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK);

Frequency: 821.5 MHz; Duty Cycle: 1:3.74

Medium: H07T10N1_0303 Medium parameters used (interpolated): $f = 821.5$ MHz; $\sigma = 0.9$ S/m; $\epsilon_r = 41.797$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(9.69, 9.69, 9.69) @ 821.5 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.758 W/kg

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

Reference Value = 26.87 V/m; Power Drift = -0.03 dB

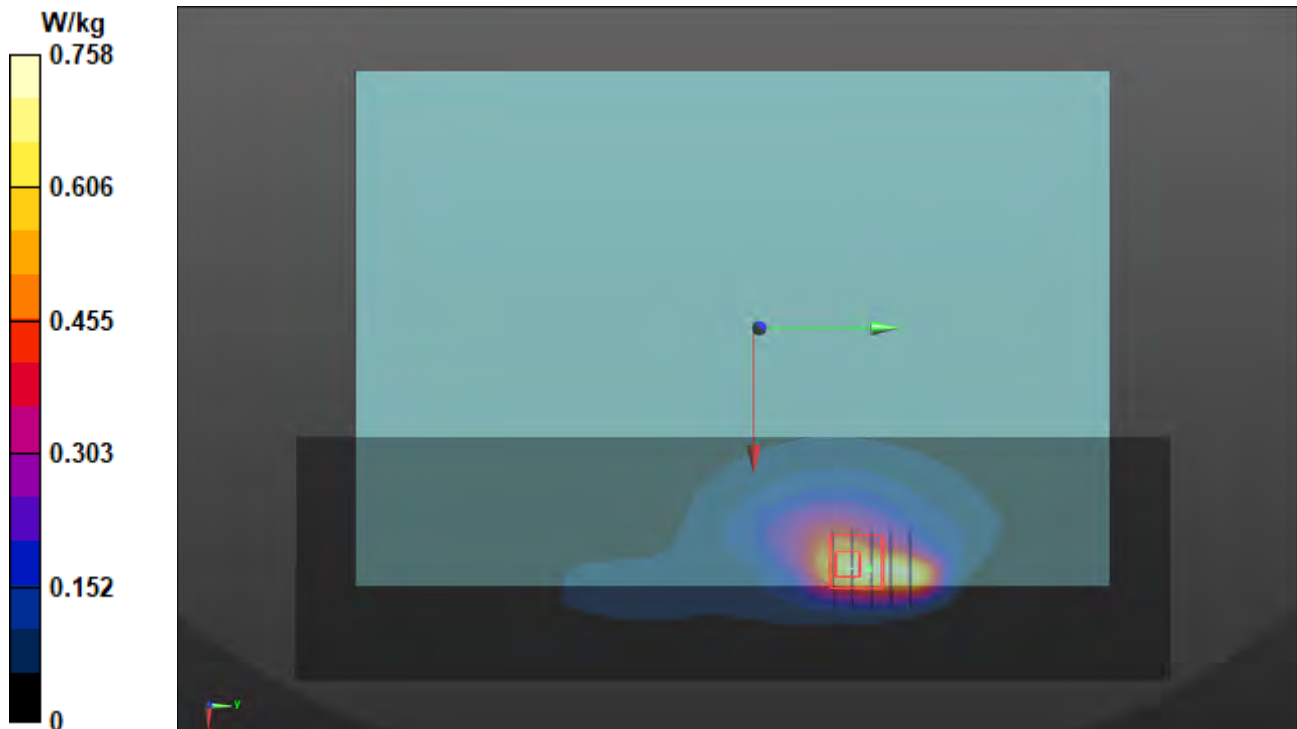
Peak SAR (extrapolated) = 0.907 W/kg

SAR(1 g) = 0.500 W/kg; SAR(10 g) = 0.278 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 11.6 mm

Ratio of SAR at M2 to SAR at M1 = 54.6%

Maximum value of SAR (measured) = 0.763 W/kg



P36 LTE**30_QPSK10M_Bottom_0mm_Ch27710_1RB_OS0_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10175 - CAG, LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK);

Frequency: 2310 MHz; Duty Cycle: 1:3.74

Medium: H19T27N2_0302 Medium parameters used: $f = 2310$ MHz; $\sigma = 1.722$ S/m; $\epsilon_r = 39.294$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(7.97, 7.97, 7.97) @ 2310 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x301x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

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

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

Reference Value = 16.92 V/m; Power Drift = -0.05 dB

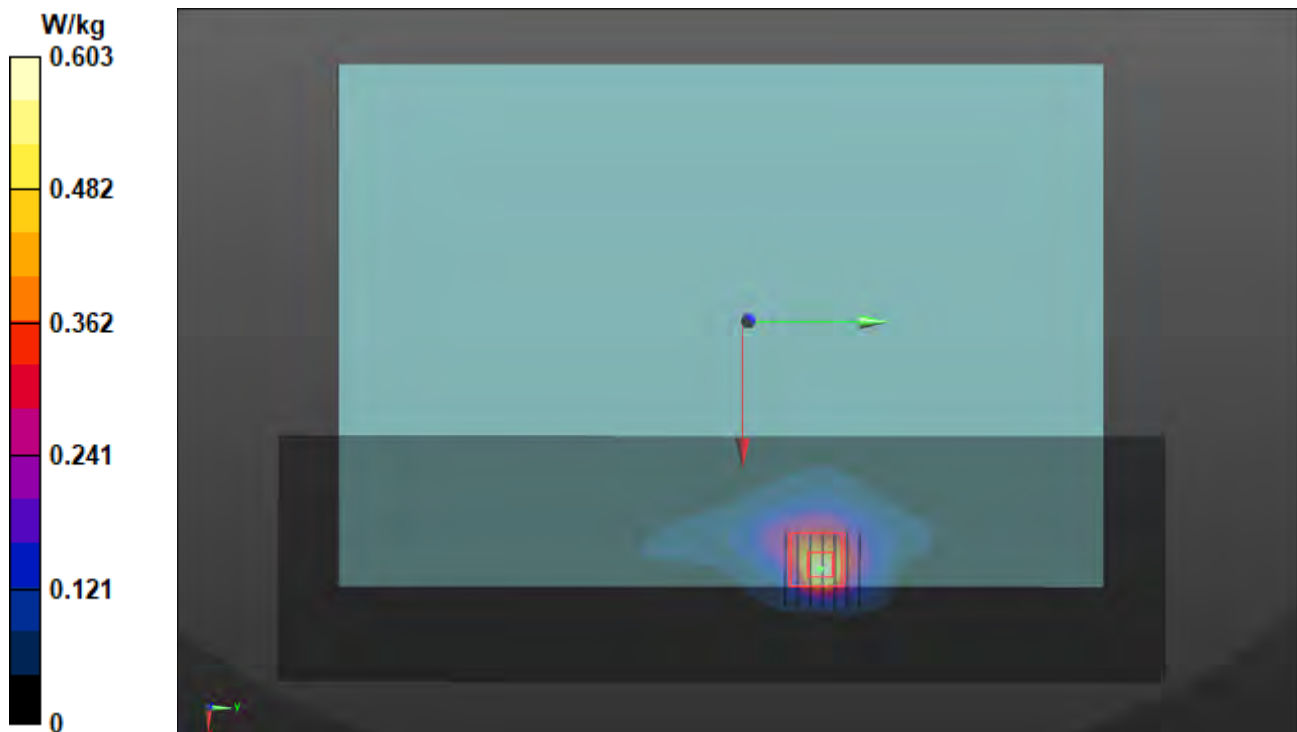
Peak SAR (extrapolated) = 0.950 W/kg

SAR(1 g) = 0.405 W/kg; SAR(10 g) = 0.192 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 8.5 mm

Ratio of SAR at M2 to SAR at M1 = 42.9%

Maximum value of SAR (measured) = 0.737 W/kg



P37 LTE**38_QPSK20M_Bottom_0mm_Ch37850_1RB_OS0_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10172 - CAG, LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK);

Frequency: 2580 MHz; Duty Cycle: 1:8.33

Medium: H19T27N1_0307 Medium parameters used: $f = 2580$ MHz; $\sigma = 2.006$ S/m; $\epsilon_r = 38.664$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(7.28, 7.28, 7.28) @ 2580 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x241x1): Interpolated grid: $dx=1.200$ mm, $dy=1.200$ mm

Maximum value of SAR (interpolated) = 0.329 W/kg

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

Reference Value = 12.69 V/m; Power Drift = -0.05 dB

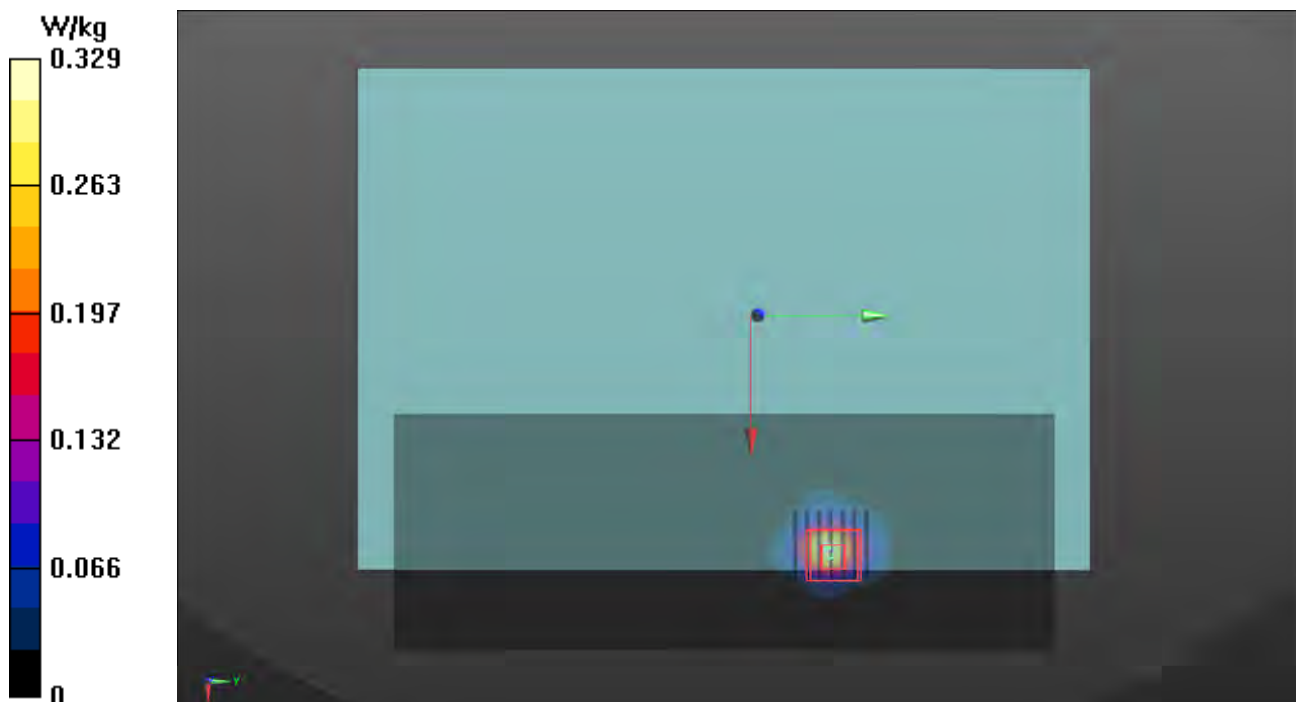
Peak SAR (extrapolated) = 0.487 W/kg

SAR(1 g) = 0.191 W/kg; SAR(10 g) = 0.076 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 7.2 mm

Ratio of SAR at M2 to SAR at M1 = 40.2%

Maximum value of SAR (measured) = 0.366 W/kg



P38 LTE**41_QPSK20M_Bottom_0mm_Ch40185_1RB_OS0_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10172 - CAG, LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK);

Frequency: 2549.5 MHz; Duty Cycle: 1:8.33

Medium: H19T27N1_0307 Medium parameters used: $f = 2550$ MHz; $\sigma = 1.971$ S/m; $\epsilon_r = 38.761$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.1 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(7.28, 7.28, 7.28) @ 2549.5 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x241x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.290 W/kg

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

Reference Value = 12.46 V/m; Power Drift = -0.08 dB

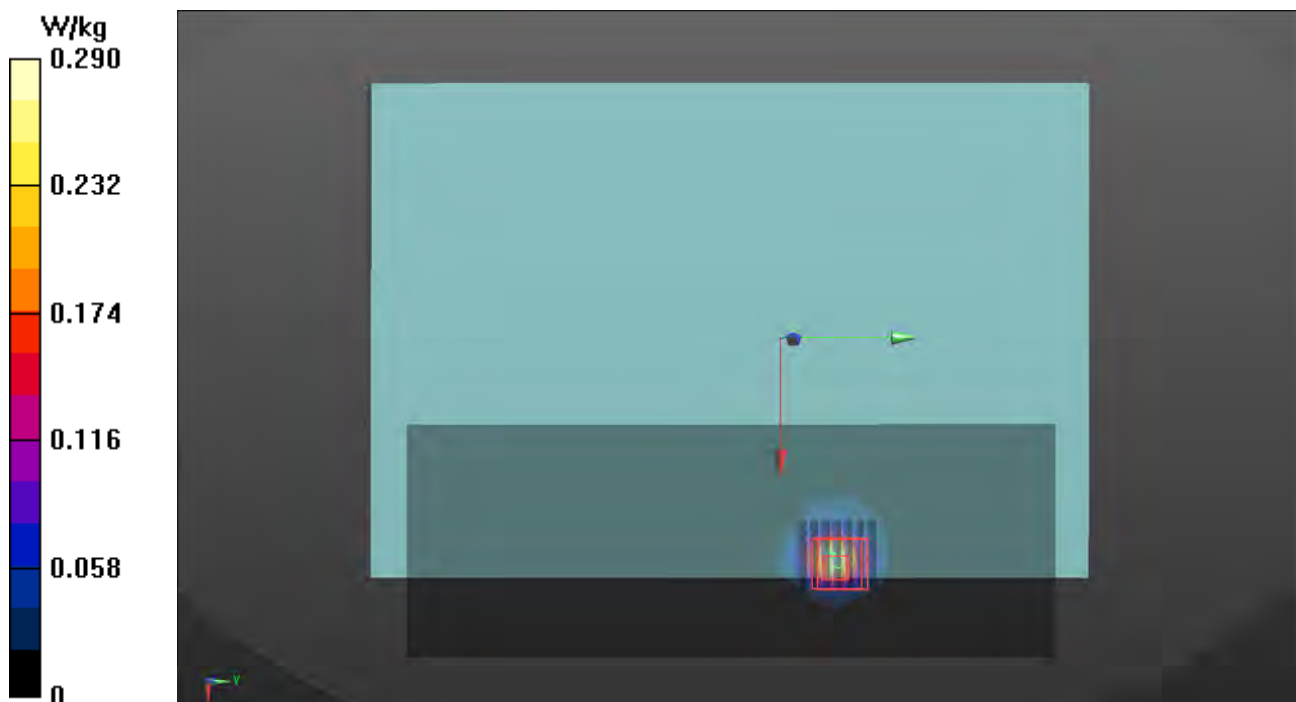
Peak SAR (extrapolated) = 0.479 W/kg

SAR(1 g) = 0.187 W/kg; SAR(10 g) = 0.073 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 7 mm

Ratio of SAR at M2 to SAR at M1 = 41.1%

Maximum value of SAR (measured) = 0.355 W/kg



P39 LTE**66_QPSK20M_Bottom_0mm_Ch132572_1RB_OS0_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10169 - CAE, LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK);

Frequency: 1770 MHz; Duty Cycle: 1:3.74

Medium: H16T20N1_0303 Medium parameters used: $f = 1770$ MHz; $\sigma = 1.347$ S/m; $\epsilon_r = 39.435$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 23.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3650; ConvF(8.54, 8.54, 8.54) @ 1770 MHz; Calibrated: 2020/03/25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn861; Calibrated: 2020/05/27
- Phantom: ELI Phantom_2105; Type: QD OVA 004 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (71x241x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.328 W/kg

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

Reference Value = 12.29 V/m; Power Drift = 0.06 dB

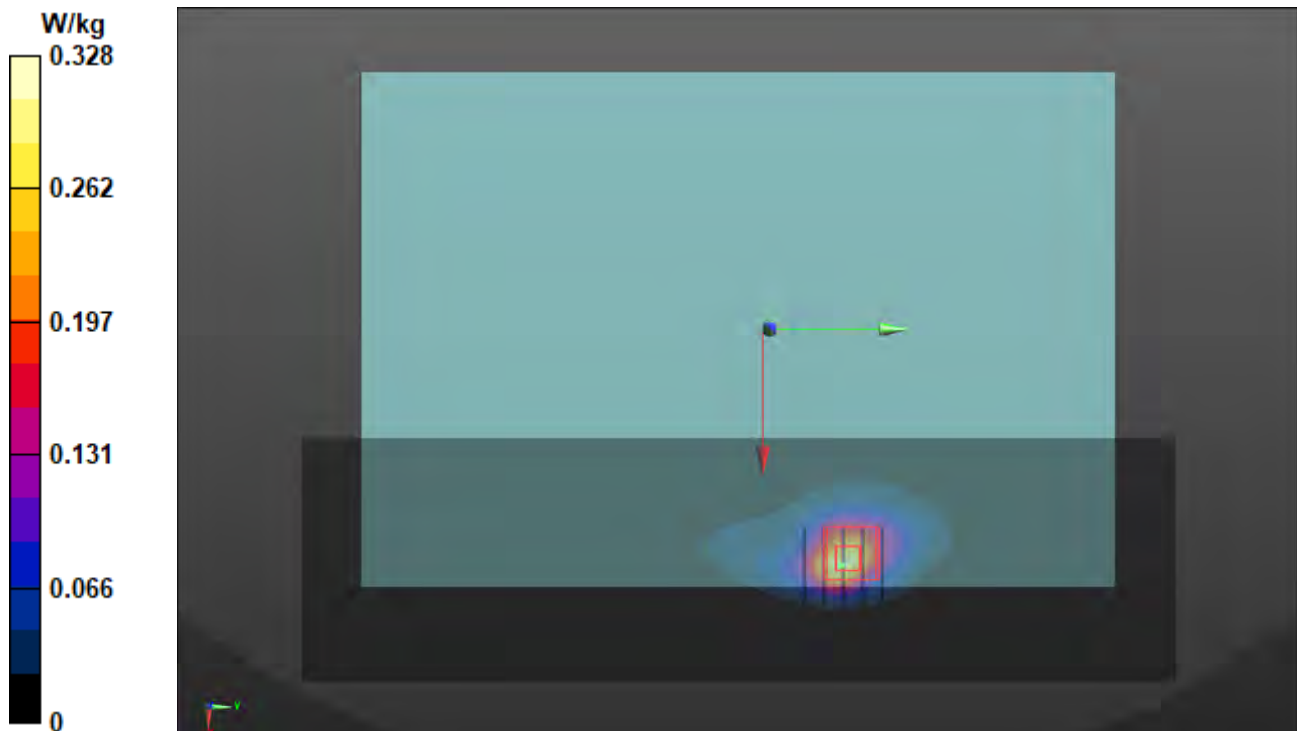
Peak SAR (extrapolated) = 0.456 W/kg

SAR(1 g) = 0.218 W/kg; SAR(10 g) = 0.106 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 9.7 mm

Ratio of SAR at M2 to SAR at M1 = 46.8%

Maximum value of SAR (measured) = 0.352 W/kg



P40 WLAN2.4G_802.11b_Bottom_0mm_Ch11_Ant0_Sample1_P-Sensor_w**DUT: P21010157**

Communication System: UID 10012 - CAB, IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps);

Frequency: 2462 MHz; Duty Cycle: 1:1.01

Medium: H19T27N1_0303 Medium parameters used: $f = 2462$ MHz; $\sigma = 1.883$ S/m; $\epsilon_r = 39.056$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(7.41, 7.41, 7.41) @ 2462 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x301x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

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

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

Reference Value = 24.91 V/m; Power Drift = -0.06 dB

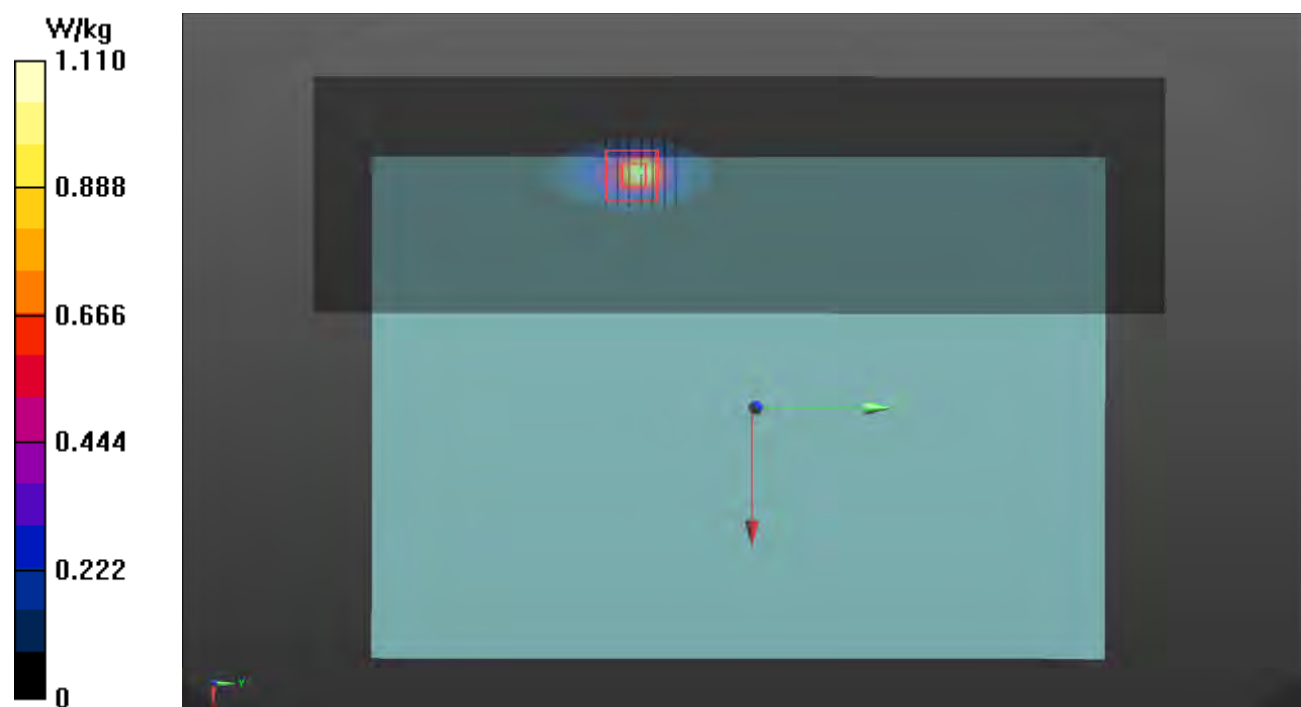
Peak SAR (extrapolated) = 1.74 W/kg

SAR(1 g) = 0.582 W/kg; SAR(10 g) = 0.201 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 5.2 mm

Ratio of SAR at M2 to SAR at M1 = 39.1%

Maximum value of SAR (measured) = 1.15 W/kg



P41 WLAN5.3G_802.11ac
VHT160_Bottom_0mm_Ch50_Ant0+1_Sample1_P-Sensor_w

DUT: P21010157

Communication System: UID 10554 - AAD, IEEE 802.11ac WiFi (160MHz, MCS0); Frequency: 5250 MHz; Duty Cycle: 1:1.01

Medium: H34T60N1_0303 Medium parameters used (interpolated): $f = 5250 \text{ MHz}$; $\sigma = 4.76 \text{ S/m}$; $\epsilon_r = 35.003$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature : $23.8 \text{ }^\circ\text{C}$; Liquid Temperature : $23.6 \text{ }^\circ\text{C}$

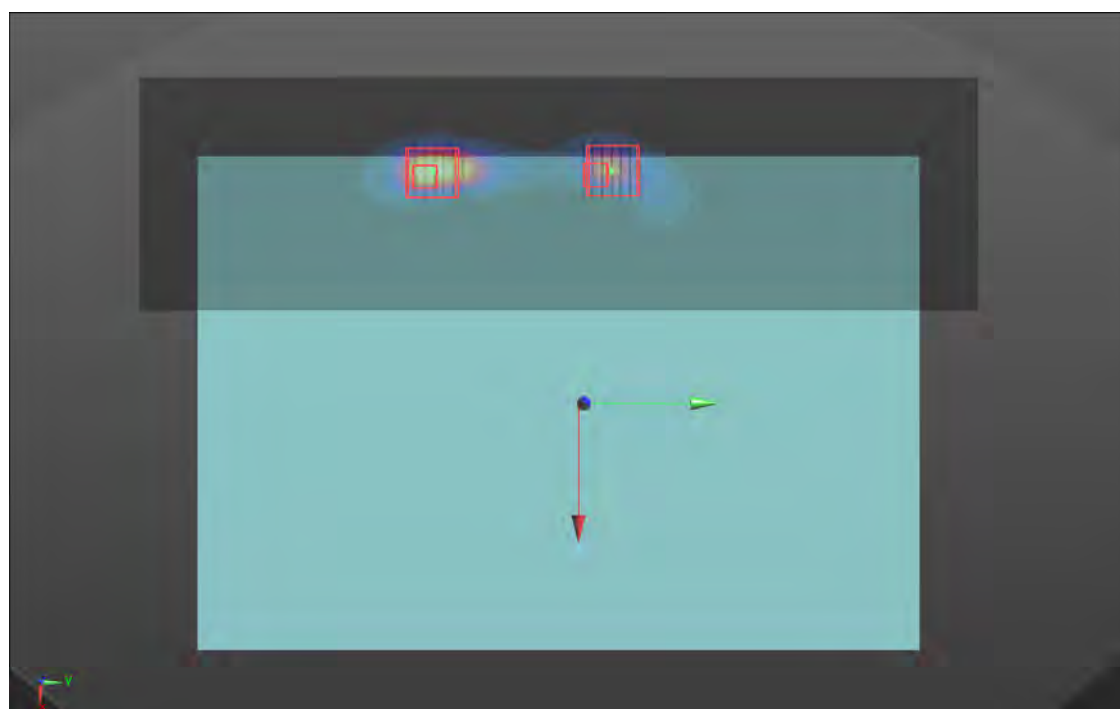
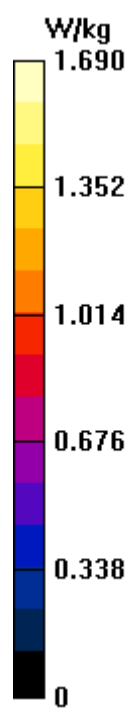
DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(5.12, 5.12, 5.12) @ 5250 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (101x361x1): Interpolated grid: $dx=1.000 \text{ mm}$, $dy=1.000 \text{ mm}$
Maximum value of SAR (interpolated) = 1.69 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$
Reference Value = 19.72 V/m ; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 3.14 W/kg
SAR(1 g) = 0.746 W/kg ; SAR(10 g) = 0.203 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 6.4 mm
Ratio of SAR at M2 to SAR at M1 = 64.8%
Maximum value of SAR (measured) = 1.96 W/kg

Zoom Scan (7x7x7)/Cube 1: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$
Reference Value = 19.72 V/m ; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 3.10 W/kg
SAR(1 g) = 0.592 W/kg ; SAR(10 g) = 0.179 W/kg (SAR corrected for target medium)
Smallest distance from peaks to all points 3 dB below = 5.1 mm
Ratio of SAR at M2 to SAR at M1 = 60%
Maximum value of SAR (measured) = 1.74 W/kg



P42 WLAN5.6G_802.11ac

VHT160_Bottom_0mm_Ch114_Ant0+1_Sample1_P-Sensor_w

DUT: P21010157

Communication System: UID 10554 - AAD, IEEE 802.11ac WiFi (160MHz, MCS0); Frequency: 5570 MHz; Duty Cycle: 1:1.01

Medium: H34T60N1_0303 Medium parameters used (interpolated): $f = 5570$ MHz; $\sigma = 5.081$ S/m;

$\epsilon_r = 34.54$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(4.65, 4.65, 4.65) @ 5570 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (101x361x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.51 W/kg

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

Reference Value = 17.68 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 3.64 W/kg

SAR(1 g) = 0.857 W/kg; SAR(10 g) = 0.208 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 5.1 mm

Ratio of SAR at M2 to SAR at M1 = 65.3%

Maximum value of SAR (measured) = 2.31 W/kg

Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 17.68 V/m; Power Drift = -0.05 dB

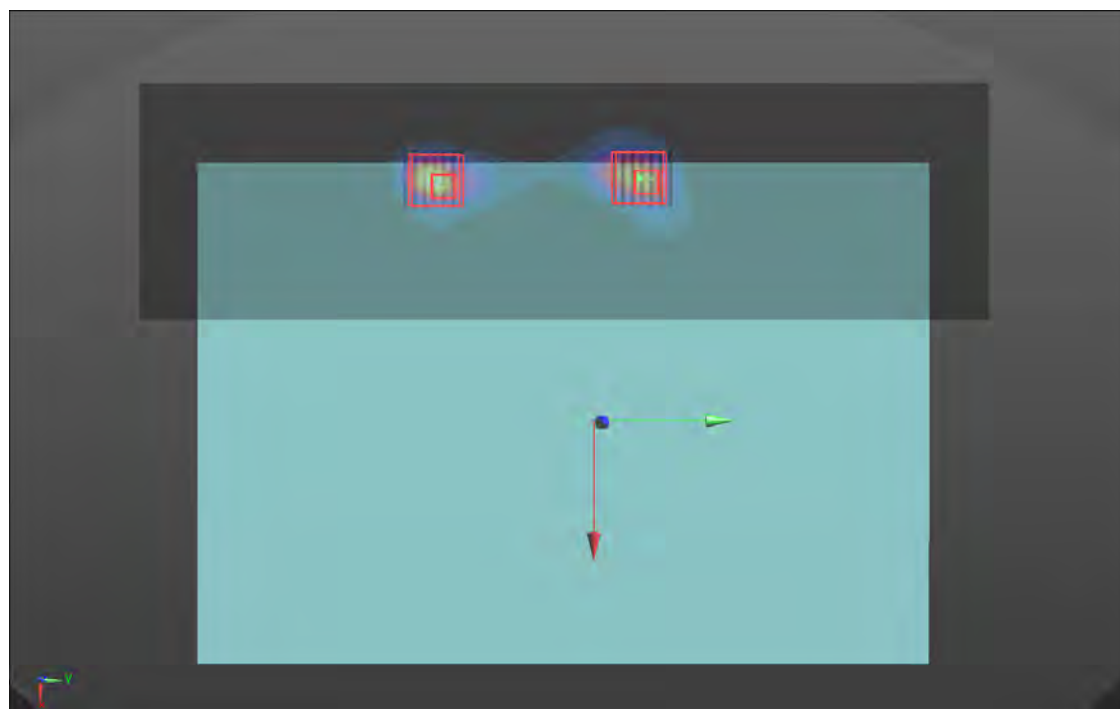
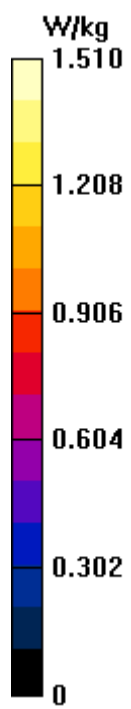
Peak SAR (extrapolated) = 3.59 W/kg

SAR(1 g) = 0.645 W/kg; SAR(10 g) = 0.176 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 4.7 mm

Ratio of SAR at M2 to SAR at M1 = 60.3%

Maximum value of SAR (measured) = 1.85 W/kg



P43 WLAN5.8G_802.11ac**VHT80_Bottom_0mm_Ch155_Ant0+1_Sample1_P-Sensor_w****DUT: P21010157**

Communication System: UID 10544 - AAC, IEEE 802.11ac WiFi (80MHz, MCS0); Frequency: 5775 MHz; Duty Cycle: 1:1.02

Medium: H34T60N1_0303 Medium parameters used: $f = 5775$ MHz; $\sigma = 5.29$ S/m; $\epsilon_r = 34.289$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(4.8, 4.8, 4.8) @ 5775 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (101x361x1): Interpolated grid: $dx=1.000$ mm, $dy=1.000$ mm

Maximum value of SAR (interpolated) = 1.74 W/kg

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

Reference Value = 19.22 V/m; Power Drift = -0.05 dB

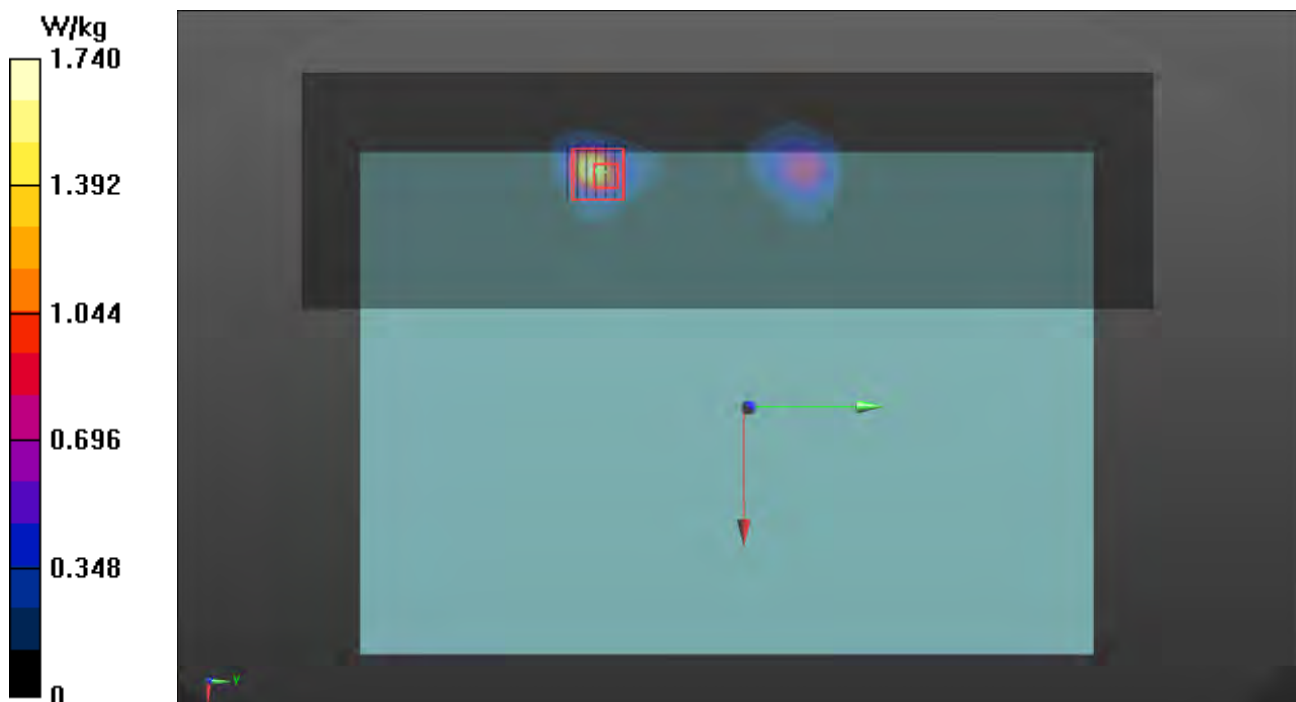
Peak SAR (extrapolated) = 3.74 W/kg

SAR(1 g) = 0.813 W/kg; SAR(10 g) = 0.215 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 5.4 mm

Ratio of SAR at M2 to SAR at M1 = 63.1%

Maximum value of SAR (measured) = 2.05 W/kg



P44 BT_BDR_Bottom_0mm_Ch78_Ant1_Sample1_P-Sensor_w_o**DUT: P21010157**

Communication System: UID 10032 - CAA, IEEE 802.15.1 Bluetooth (GFSK, DH5); Frequency: 2480 MHz; Duty Cycle: 1:1.3

Medium: H19T27N1_0303 Medium parameters used: $f = 2480$ MHz; $\sigma = 1.901$ S/m; $\epsilon_r = 39.017$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7554; ConvF(7.41, 7.41, 7.41) @ 2480 MHz; Calibrated: 2020/09/28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1590; Calibrated: 2020/09/15
- Phantom: ELI Phantom_1043_P1aP2a; Type: QD OVA 002 Ax;
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Area Scan (91x301x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.517 W/kg

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

Reference Value = 17.08 V/m; Power Drift = -0.07 dB

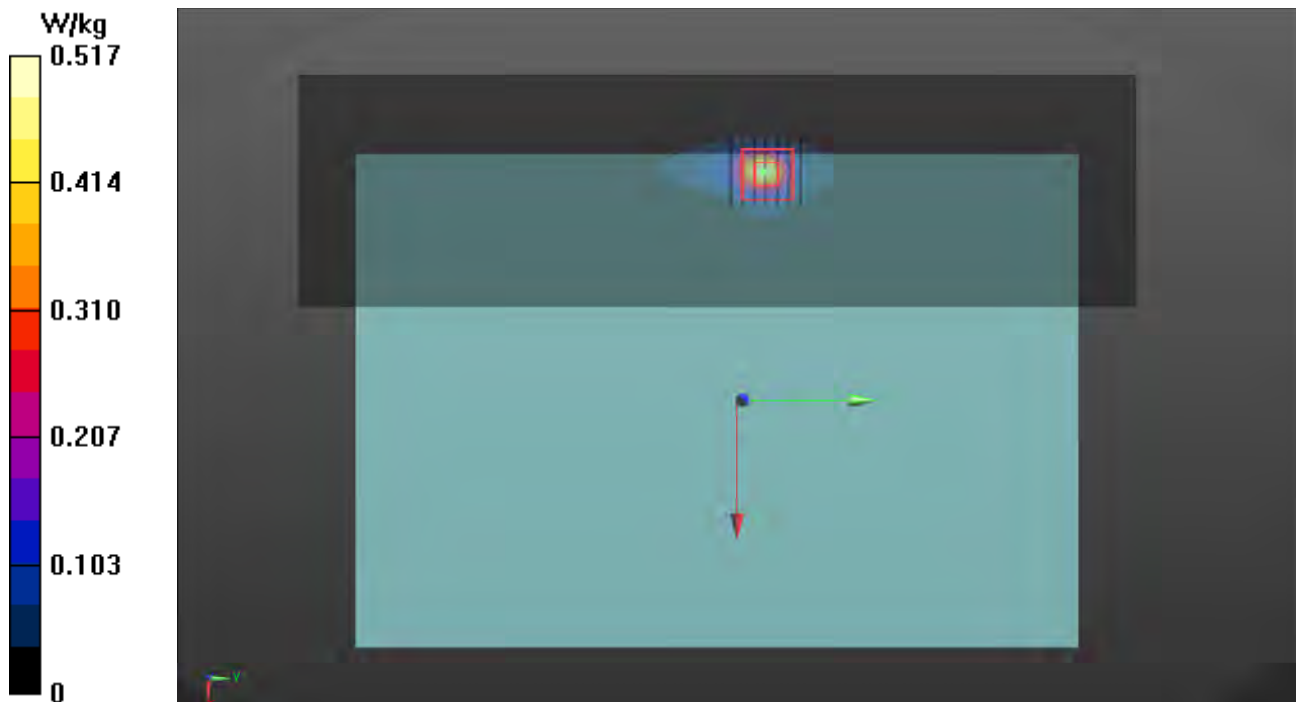
Peak SAR (extrapolated) = 0.764 W/kg

SAR(1 g) = 0.201 W/kg; SAR(10 g) = 0.068 W/kg (SAR corrected for target medium)

Smallest distance from peaks to all points 3 dB below = 5.7 mm

Ratio of SAR at M2 to SAR at M1 = 37.5%

Maximum value of SAR (measured) = 0.573 W/kg



Appendix C. Calibration Certificate for Probe and Dipole

The SPEAG calibration certificates are shown as follows.



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

Client **B.V. ADT (Auden)**

Certificate No: **D750V3-1013_Aug20**

CALIBRATION CERTIFICATE

Object **D750V3 - SN:1013**

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

Calibration date: **August 13, 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	29-Jun-20 (No. EX3-7349_Jun20)	Jun-21
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

	Name	Function	Signature
Calibrated by:	Jeffrey Katzman	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: August 14, 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%.

Measurement Conditions

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

DASY Version	DASY5	V52.10.4
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	750 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.9	0.89 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	42.4 $\pm$ 6 %	0.91 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	-----	-----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.15 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	8.48 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.40 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	5.53 W/kg $\pm$ 16.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	53.0 Ω - 0.8 j Ω
Return Loss	- 30.5 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.036 ns
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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: 13.08.2020

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1013

Communication System: UID 0 - CW; Frequency: 750 MHz

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.91 \text{ S/m}$; $\epsilon_r = 42.4$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(9.97, 9.97, 9.97) @ 750 MHz; Calibrated: 29.06.2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.12.2019
- Phantom: Flat Phantom 4.9 (front); Type: QD 00L P49 AA; Serial: 1001
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 59.14 V/m; Power Drift = -0.06 dB

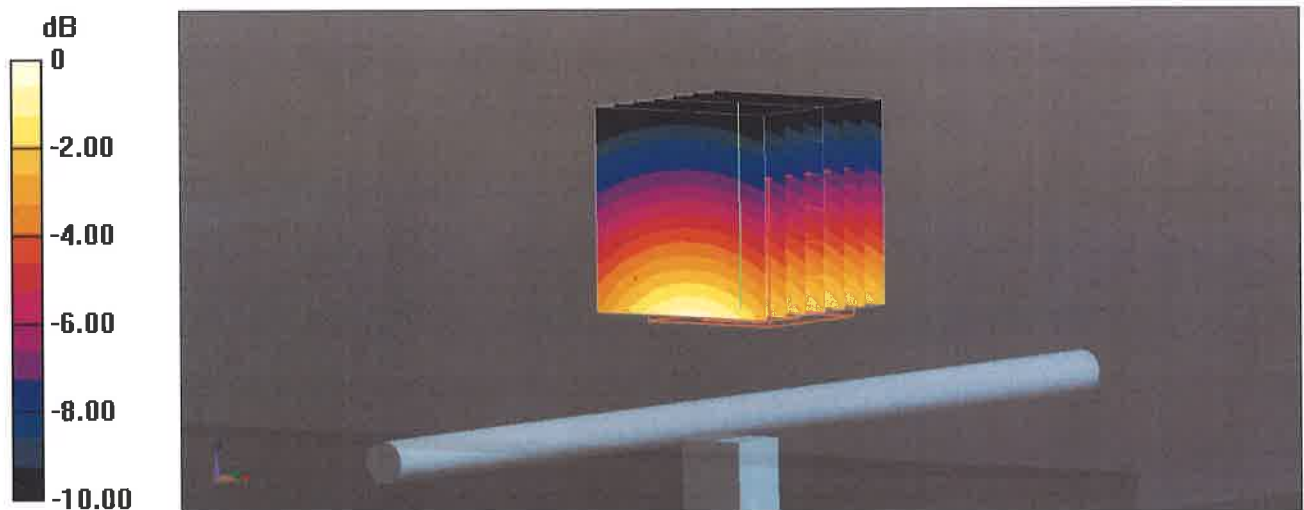
Peak SAR (extrapolated) = 3.22 W/kg

SAR(1 g) = 2.15 W/kg; SAR(10 g) = 1.4 W/kg

Smallest distance from peaks to all points 3 dB below = 17 mm

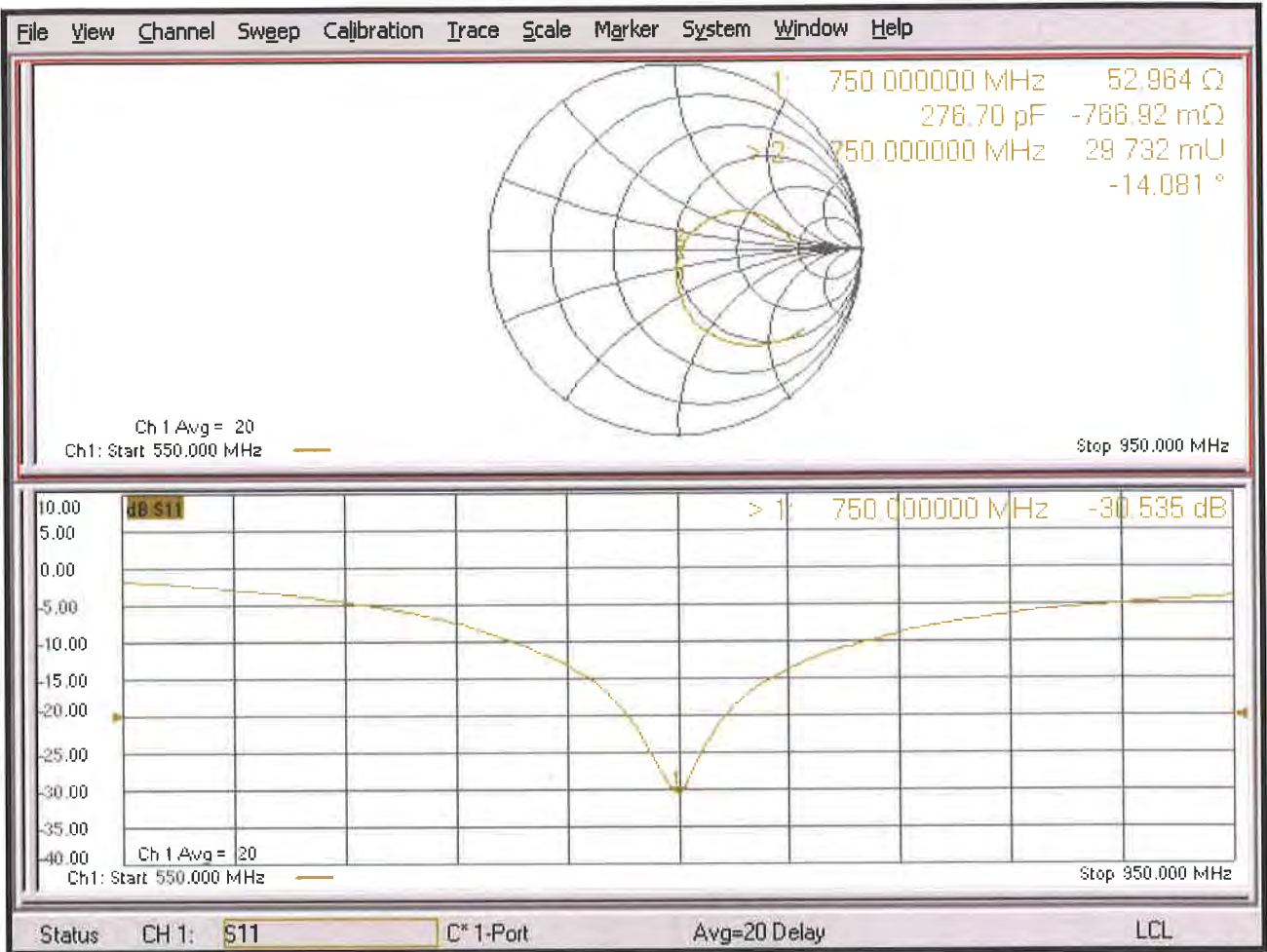
Ratio of SAR at M2 to SAR at M1 = 66.8%

Maximum value of SAR (measured) = 2.83 W/kg



0 dB = 2.83 W/kg = 4.52 dBW/kg

Impedance Measurement Plot for Head TSL





Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

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Multilateral Agreement for the recognition of calibration certificates

Client **B.V. ADT (Auden)**

Certificate No: **D835V2-4d121_Aug20**

CALIBRATION CERTIFICATE

Object **D835V2 - SN:4d121**

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

Calibration date: **August 13, 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	29-Jun-20 (No. EX3-7349_Jun20)	Jun-21
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:	Name Jeffrey Katzman	Function Laboratory Technician	Signature
Approved by:	Katja Pokovic	Technical Manager	

Issued: August 14, 2020

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Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

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

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

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

Measurement Conditions

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

DASY Version	DASY5	V52.10.4
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz $\pm$ 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 $\pm$ 0.2) °C	42.2 $\pm$ 6 %	0.93 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	---	---

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.43 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	9.52 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.58 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	6.21 W/kg $\pm$ 16.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	49.8 Ω - 3.4 j Ω
Return Loss	- 29.4 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.394 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: 13.08.2020

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d121

Communication System: UID 0 - CW; Frequency: 835 MHz

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.93 \text{ S/m}$; $\epsilon_r = 42.2$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(9.69, 9.69, 9.69) @ 835 MHz; Calibrated: 29.06.2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.12.2019
- Phantom: Flat Phantom 4.9 (front); Type: QD 00L P49 AA; Serial: 1001
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 62.61 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 3.60 W/kg

SAR(1 g) = 2.43 W/kg; SAR(10 g) = 1.58 W/kg

Smallest distance from peaks to all points 3 dB below = 17 mm

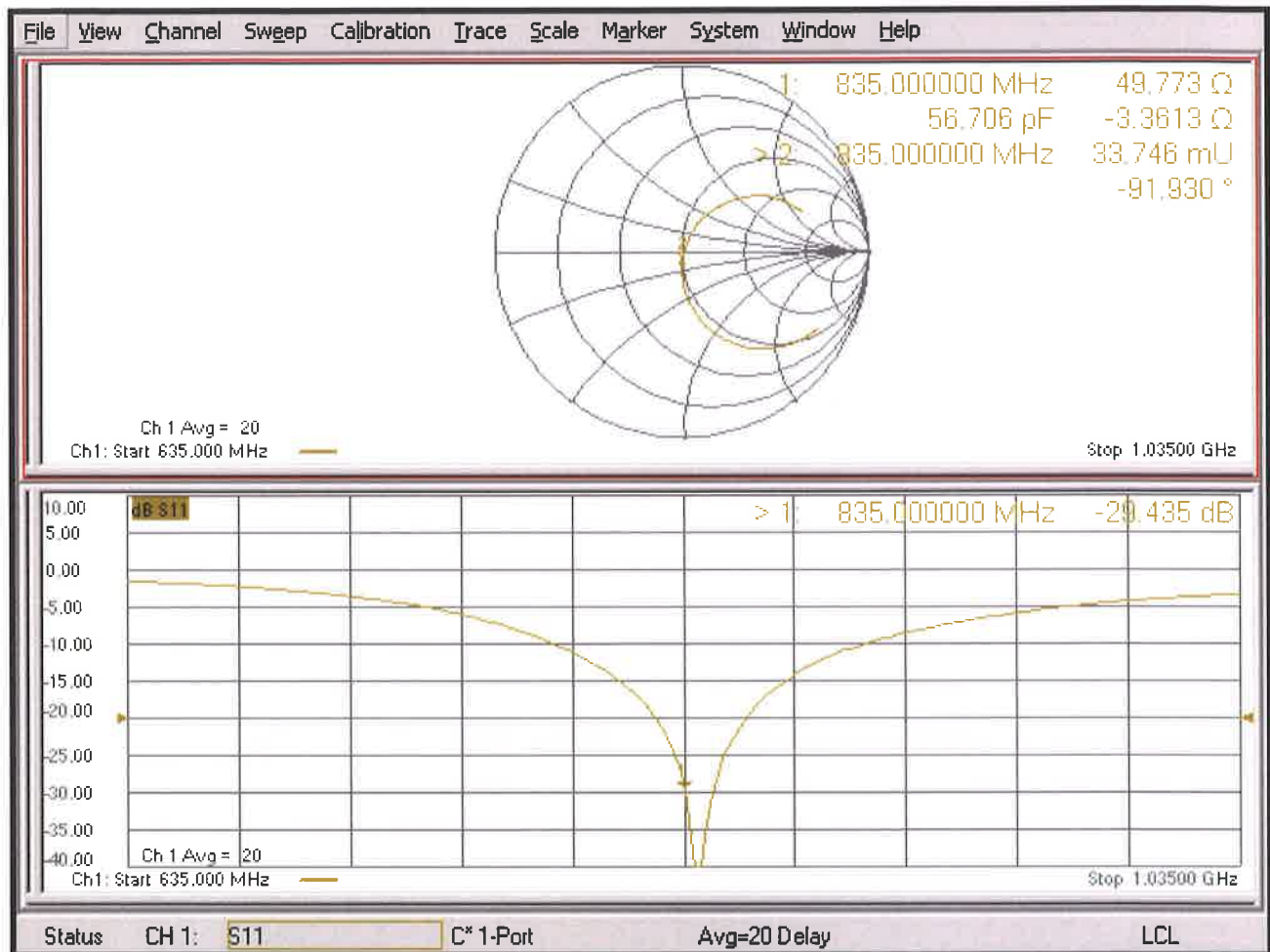
Ratio of SAR at M2 to SAR at M1 = 67.5%

Maximum value of SAR (measured) = 3.21 W/kg



0 dB = 3.21 W/kg = 5.07 dBW/kg

Impedance Measurement Plot for Head TSL





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

Client **B.V. ADT (Auden)**

Certificate No: **D1750V2-1055_Aug20**

CALIBRATION CERTIFICATE

Object **D1750V2 - SN:1055**

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

Calibration date: **August 14, 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	29-Jun-20 (No. EX3-7349_Jun20)	Jun-21
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: **Claudio Leubler** **Laboratory Technician**

Signature

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

Issued: August 14, 2020

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



Accredited by the Swiss Accreditation Service (SAS)

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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

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

Measurement Conditions

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

DASY Version	DASY5	V52.10.4
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1750 MHz $\pm$ 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 $\pm$ 0.2) °C	40.4 $\pm$ 6 %	1.35 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	8.89 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	36.0 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	4.69 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	18.9 W/kg $\pm$ 16.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$50.3 \Omega + 0.8 j\Omega$
Return Loss	- 41.5 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.223 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: 14.08.2020

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN:1055

Communication System: UID 0 - CW; Frequency: 1750 MHz

Medium parameters used: $f = 1750$ MHz; $\sigma = 1.35$ S/m; $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.58, 8.58, 8.58) @ 1750 MHz; Calibrated: 29.06.2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 27.12.2019
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 105.6 V/m; Power Drift = -0.03 dB

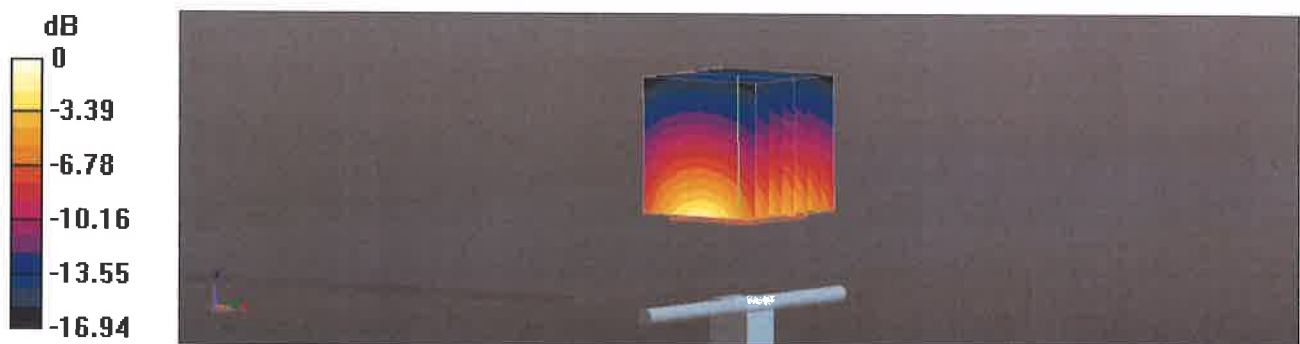
Peak SAR (extrapolated) = 16.6 W/kg

SAR(1 g) = 8.89 W/kg; SAR(10 g) = 4.69 W/kg

Smallest distance from peaks to all points 3 dB below = 10 mm

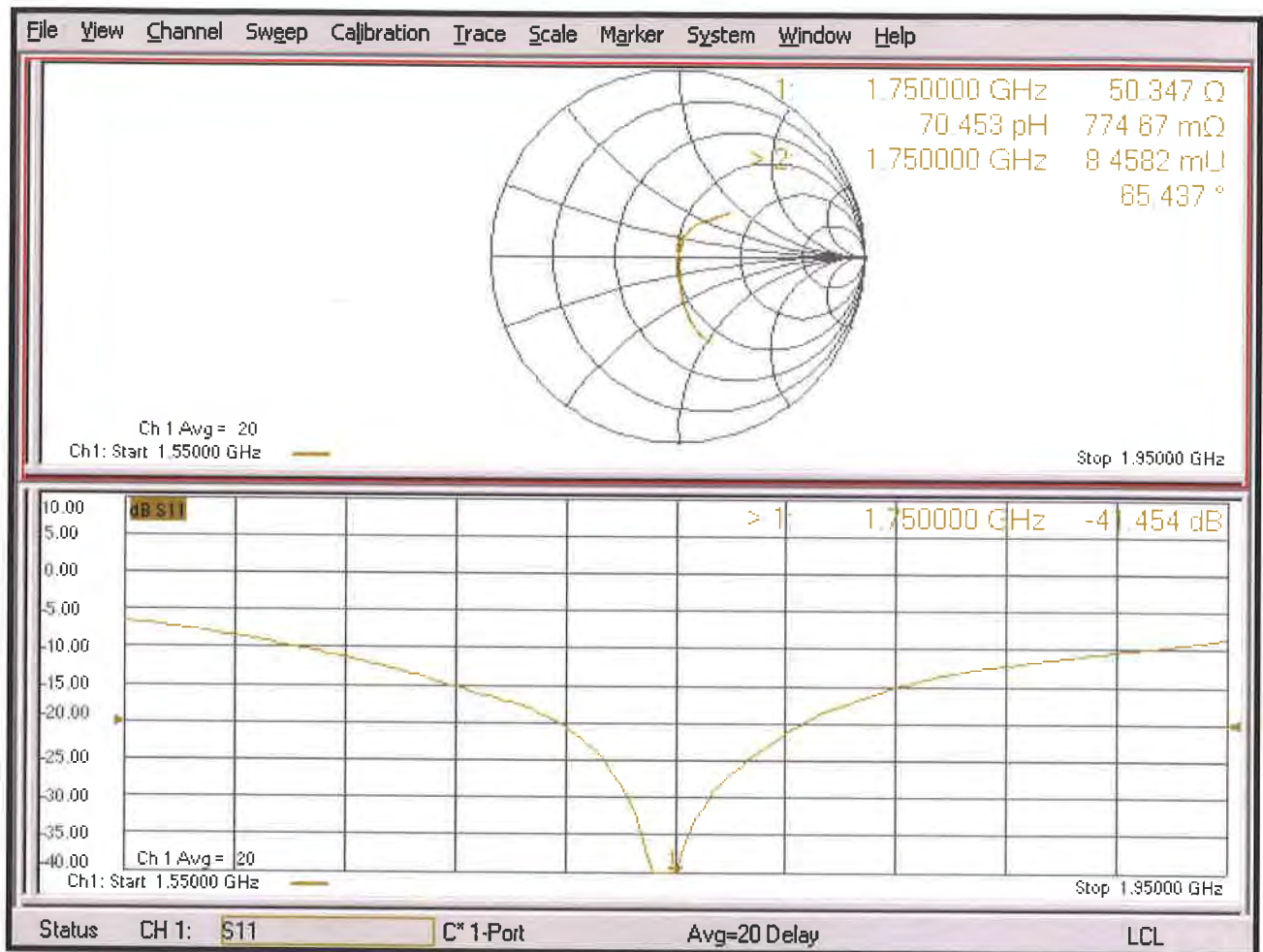
Ratio of SAR at M2 to SAR at M1 = 54%

Maximum value of SAR (measured) = 13.9 W/kg



0 dB = 13.9 W/kg = 11.43 dBW/kg

Impedance Measurement Plot for Head TSL





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

Client **B.V. ADT (Auden)**

Certificate No: **D1900V2-5d036_Jan21**

CALIBRATION CERTIFICATE

Object **D1900V2 - SN:5d036**

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

Calibration date: **January 22, 2021**

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

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^{\circ}\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	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	28-Dec-20 (No. EX3-7349_Dec20)	Dec-21
DAE4	SN: 601	02-Nov-20 (No. DAE4-601_Nov20)	Nov-21

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB39512475	30-Oct-14 (in house check Oct-20)	In house check: Oct-22
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-20)	In house check: Oct-22
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-20)	In house check: Oct-22
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-20)	In house check: Oct-22
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-20)	In house check: Oct-21

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

Signature

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

Issued: January 25, 2021

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Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

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

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

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

Measurement Conditions

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

DASY Version	DASY5	V52.10.4
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	41.2 $\pm$ 6 %	1.39 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm ³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	10.0 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	40.4 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.23 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	21.1 W/kg $\pm$ 16.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	$50.4 \Omega + 5.3 j\Omega$
Return Loss	- 25.5 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.195 ns
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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: 22.01.2021

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d036

Communication System: UID 0 - CW; Frequency: 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.39$ S/m; $\epsilon_r = 41.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(8.43, 8.43, 8.43) @ 1900 MHz; Calibrated: 28.12.2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 02.11.2020
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 109.8 V/m; Power Drift = 0.03 dB

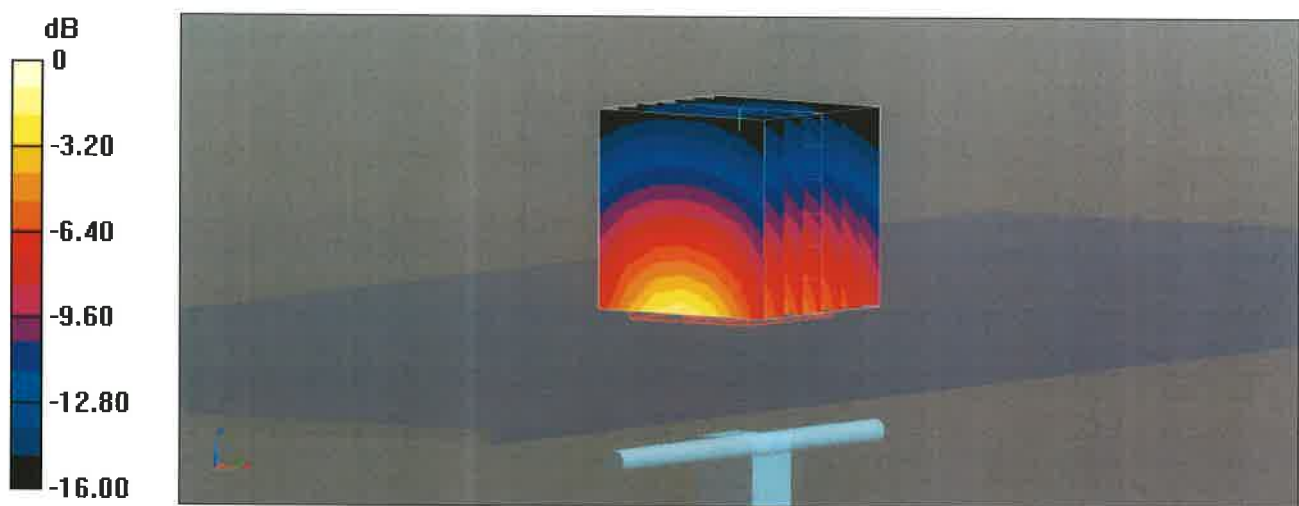
Peak SAR (extrapolated) = 18.4 W/kg

SAR(1 g) = 10.0 W/kg; SAR(10 g) = 5.23 W/kg

Smallest distance from peaks to all points 3 dB below = 9.8 mm

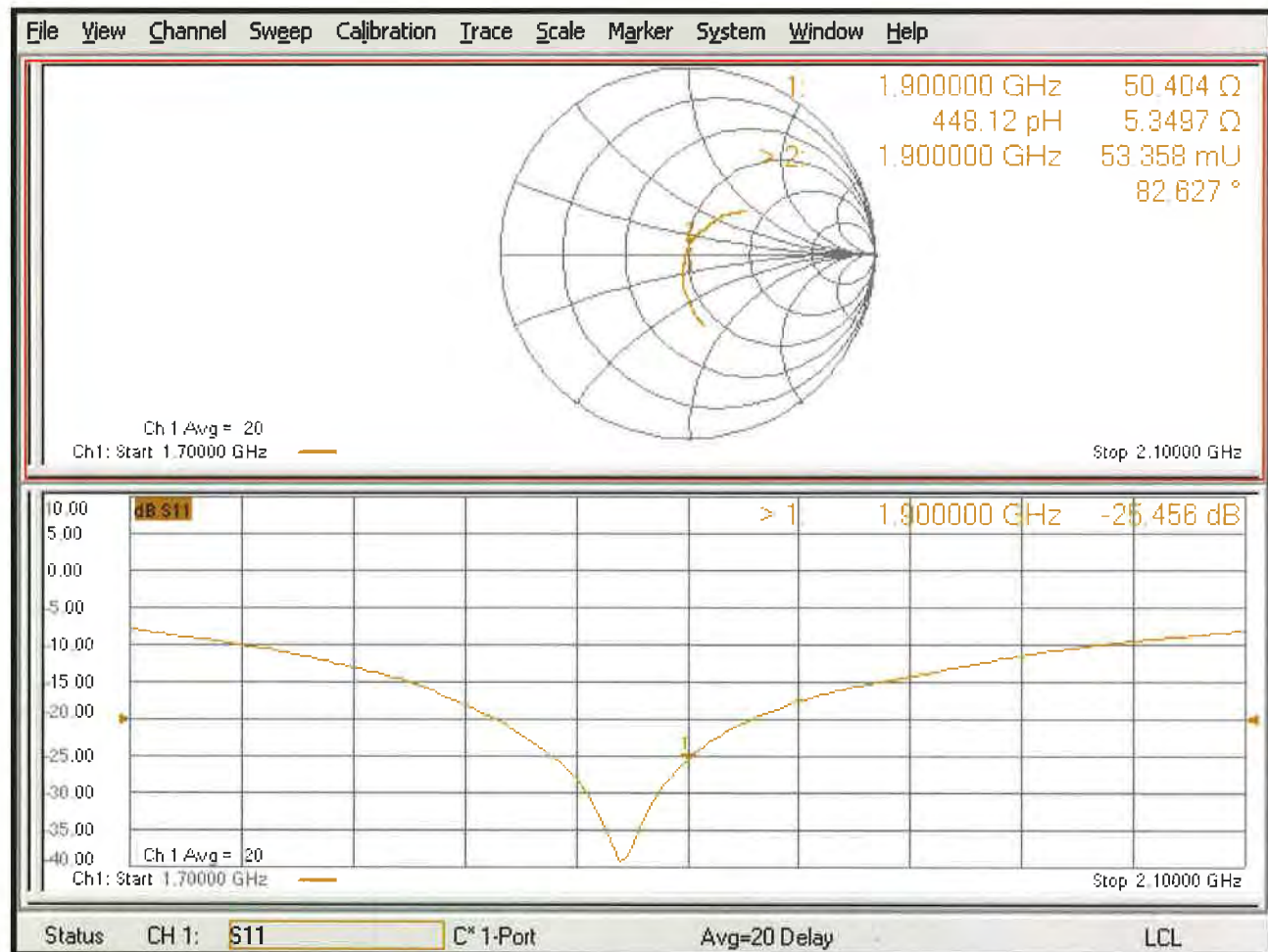
Ratio of SAR at M2 to SAR at M1 = 55.3%

Maximum value of SAR (measured) = 15.3 W/kg



0 dB = 15.3 W/kg = 11.85 dBW/kg

Impedance Measurement Plot for Head TSL





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Accreditation No.: **SCS 0108**

Client **B.V. ADT (Auden)**

Certificate No: **D2300V2-1004_Jan21**

CALIBRATION CERTIFICATE

Object **D2300V2 - SN:1004**

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

Calibration date: **January 22, 2021**

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	28-Dec-20 (No. EX3-7349_Dec20)	Dec-21
DAE4	SN: 601	02-Nov-20 (No. DAE4-601_Nov20)	Nov-21
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB39512475	30-Oct-14 (in house check Oct-20)	In house check: Oct-22
Power sensor HP 8481A	SN: US37292783	07-Oct-15 (in house check Oct-20)	In house check: Oct-22
Power sensor HP 8481A	SN: MY41092317	07-Oct-15 (in house check Oct-20)	In house check: Oct-22
RF generator R&S SMT-06	SN: 100972	15-Jun-15 (in house check Oct-20)	In house check: Oct-22
Network Analyzer Agilent E8358A	SN: US41080477	31-Mar-14 (in house check Oct-20)	In house check: Oct-21

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

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

Signature

Issued: January 25, 2021

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Accredited by the Swiss Accreditation Service (SAS)

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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

- DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

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

Measurement Conditions

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

DASY Version	DASY5	V52.10.4
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2300 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.5	1.67 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	38.7 $\pm$ 6 %	1.71 mho/m $\pm$ 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	12.5 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	49.2 W/kg $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.01 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	23.8 W/kg $\pm$ 16.5 % (k=2)

Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	48.5 Ω - 3.1 j Ω
Return Loss	- 29.2 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.164 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: 22.01.2021

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2300 MHz; Type: D2300V2; Serial: D2300V2 - SN:1004

Communication System: UID 0 - CW; Frequency: 2300 MHz

Medium parameters used: $f = 2300$ MHz; $\sigma = 1.71$ S/m; $\epsilon_r = 38.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.98, 7.98, 7.98) @ 2300 MHz; Calibrated: 28.12.2020
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 02.11.2020
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.4(1527); SEMCAD X 14.6.14(7483)

Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 116.5 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 23.0 W/kg

SAR(1 g) = 12.5 W/kg; SAR(10 g) = 6.01 W/kg

Smallest distance from peaks to all points 3 dB below = 9 mm

Ratio of SAR at M2 to SAR at M1 = 54.8%

Maximum value of SAR (measured) = 19.5 W/kg



0 dB = 19.5 W/kg = 12.90 dBW/kg

Impedance Measurement Plot for Head TSL

