Appendix for the SAR Test Report

Dosimetric Assessment
of the Tracking Device
OM247 SOLO2 3G 915MHz from G4S
(FCC ID: 2ACGBSOL915)

According to the FCC Requirements
SAR Distribution Plots

April 08, 2015

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1 SAR Distribution Plots

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: Solo_bahm_1_front.da4

DUT: G4S; Type: Solo;

Program Name: GPRS850 (2TX)

Communication System: GPRS 850; Frequency: 836.6 MHz;Duty Cycle: 1:4

Medium parameters used: f = 836.6 MHz; σ = 0.99 mho/m; ε_r = 53.9; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(9.8, 9.8, 9.8); Calibrated: 24.07.2014

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn335; Calibrated: 19.02.2015

- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (measured) = 1.89 mW/g

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

Reference Value = 28.9 V/m; Power Drift = -0.158 dB

Peak SAR (extrapolated) = 4.63 W/kg

SAR(1 g) = 2.05 mW/g; SAR(10 g) = 1.07 mW/g
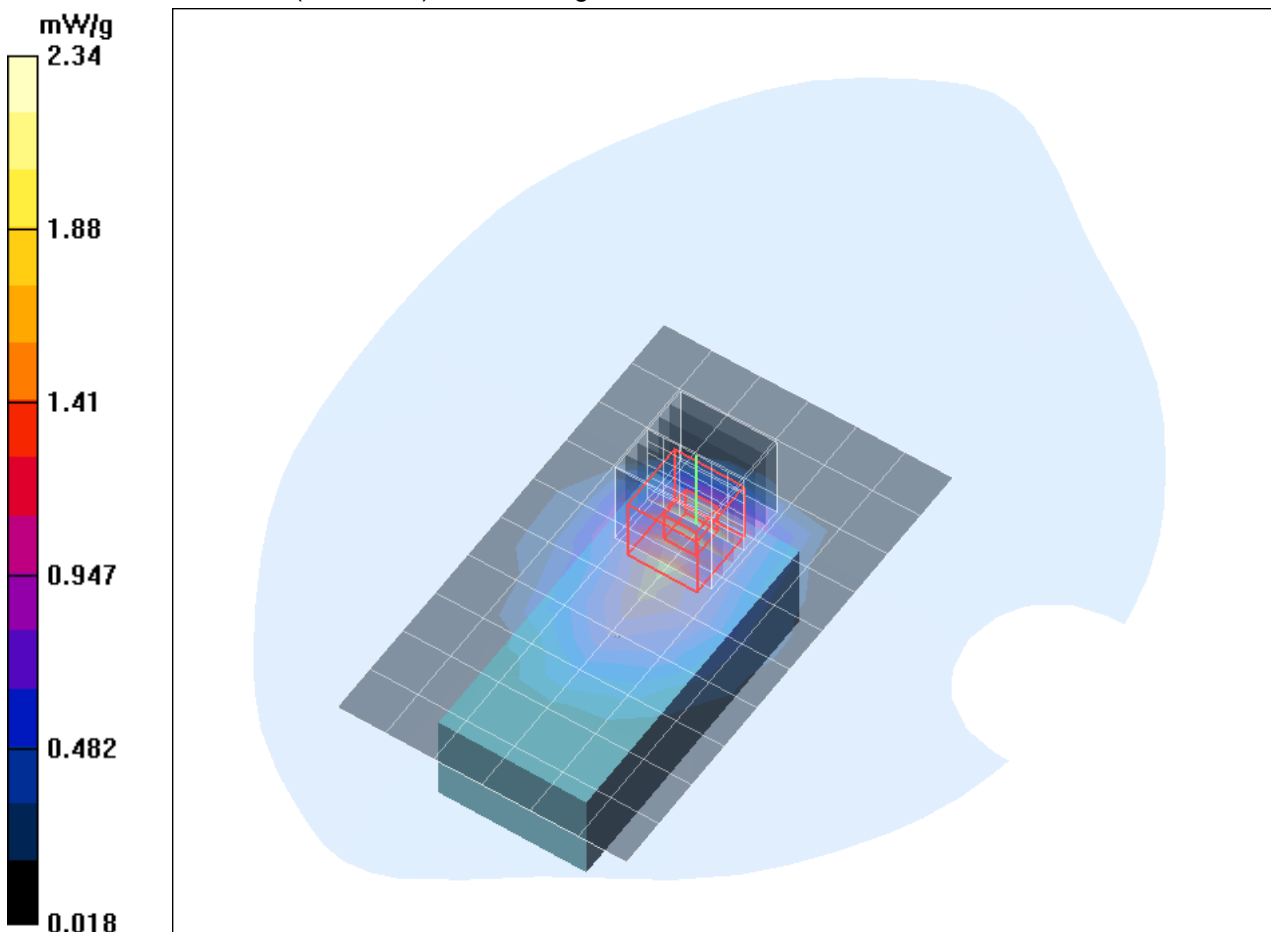
Maximum value of SAR (measured) = 2.34 mW/g

Fig. 1:   SAR distribution for GPRS 850 (2TX), channel 190, front side, 0 mm (March 20, 2015)

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: Solo_bahm_2_back.da4

DUT: G4S; Type: Solo;

Program Name: GPRS850 (2TX)

Communication System: GPRS 850; Frequency: 836.6 MHz; Duty Cycle: 1:4

Medium parameters used: f = 836.6 MHz; σ = 0.99 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(9.8, 9.8, 9.8); Calibrated: 24.07.2014

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn335; Calibrated: 19.02.2015

- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (measured) = 0.616 mW/g

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

Reference Value = 18.8 V/m; Power Drift = 0.040 dB

Peak SAR (extrapolated) = 0.973 W/kg

SAR(1 g) = 0.592 mW/g; SAR(10 g) = 0.401 mW/g

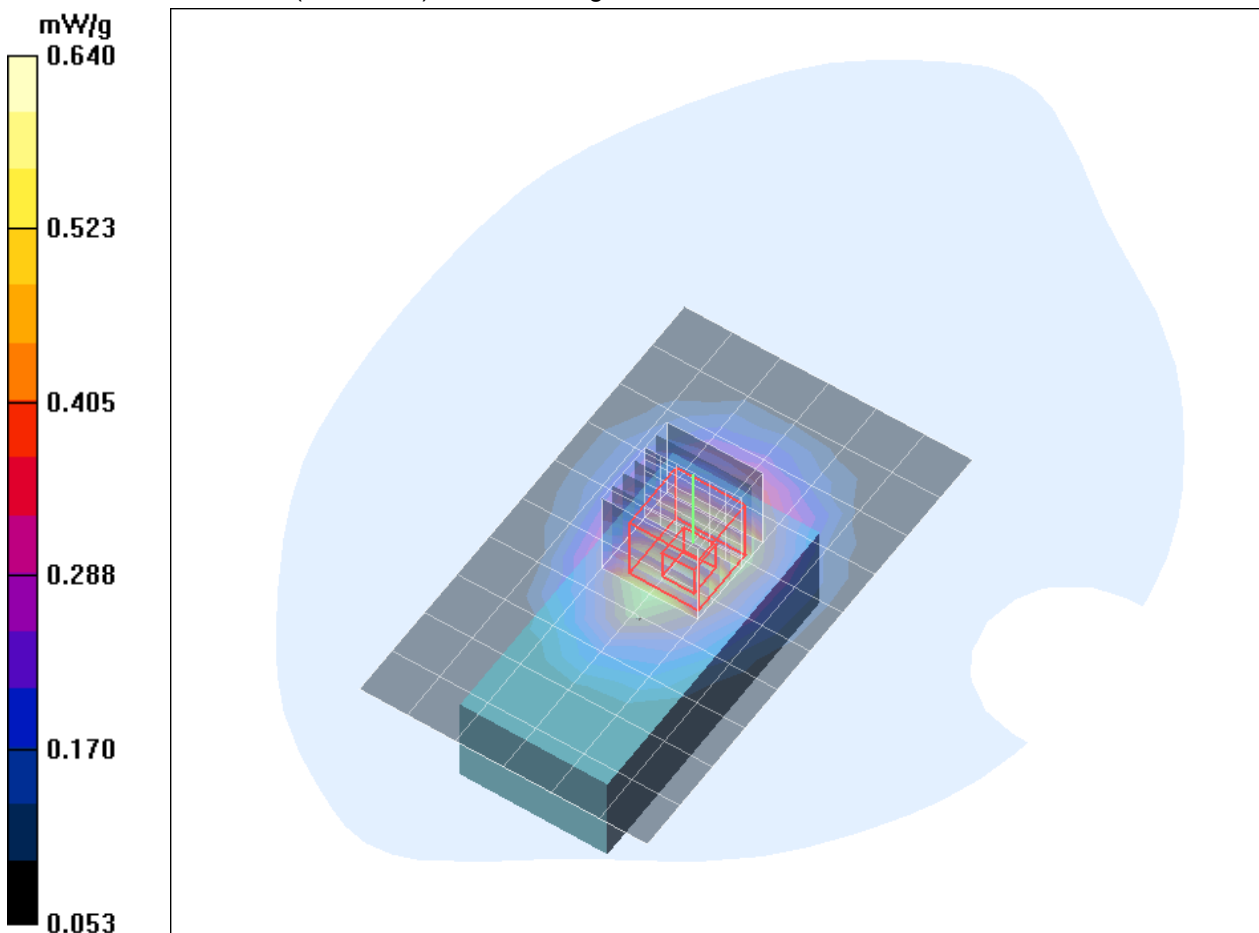Maximum value of SAR (measured) = 0.640 mW/g

Fig. 2: SAR distribution for GPRS 850 (2TX), channel 190, back side, 0 mm (March 20, 2015)

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: Solo_bahm_3_top.da4

DUT: G4S; Type: Solo;

Program Name: GPRS850 (2TX)

Communication System: GPRS 850; Frequency: 836.6 MHz;Duty Cycle: 1:4

Medium parameters used: f = 836.6 MHz; σ = 0.99 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(9.8, 9.8, 9.8); Calibrated: 24.07.2014

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn335; Calibrated: 19.02.2015

- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (measured) = 0.571 mW/g

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

Reference Value = 23.5 V/m; Power Drift = -0.112 dB

Peak SAR (extrapolated) = 1.93 W/kg

SAR(1 g) = 0.652 mW/g; SAR(10 g) = 0.331 mW/g

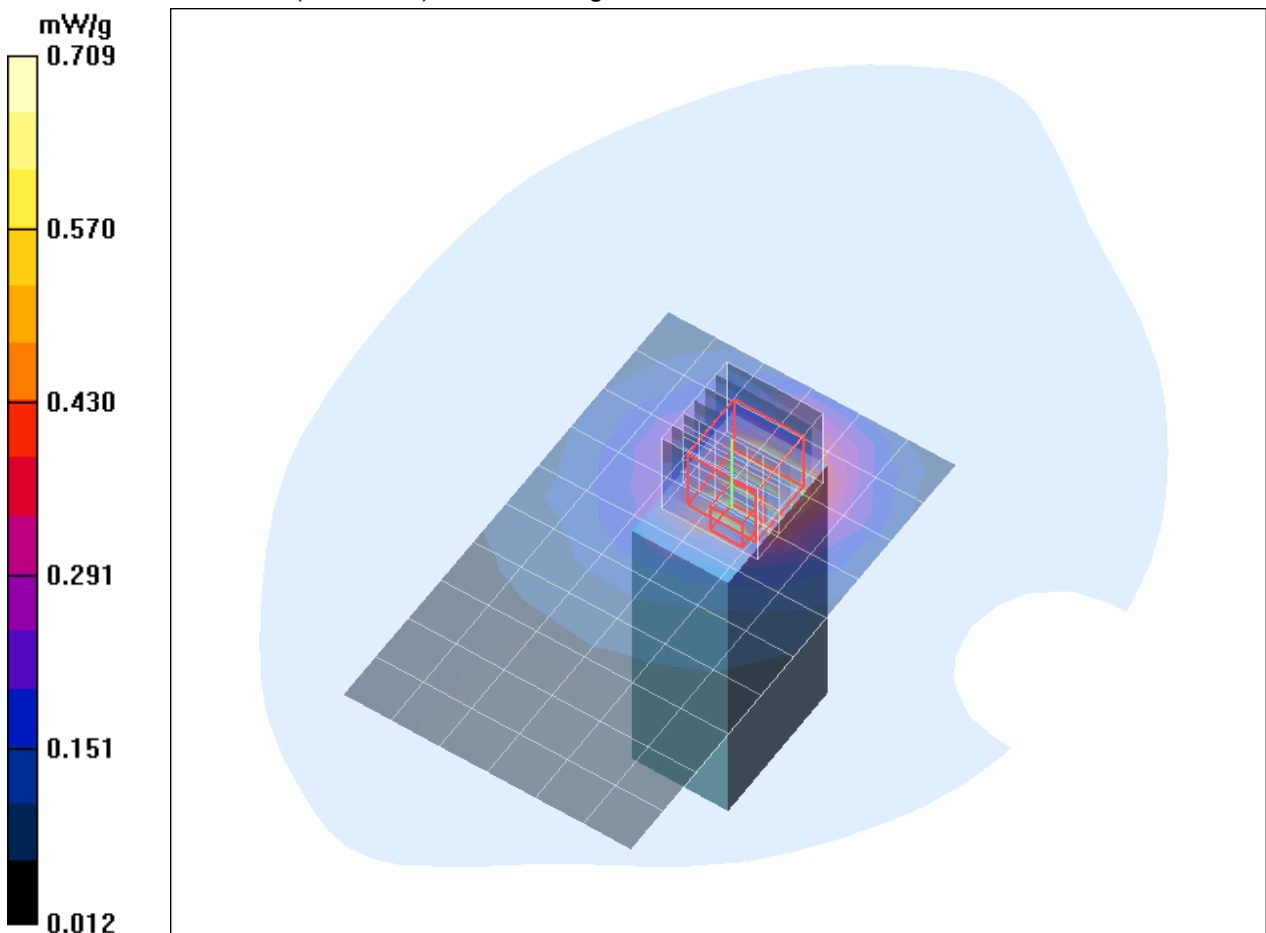Maximum value of SAR (measured) = 0.709 mW/g

Fig. 3:   SAR distribution for GPRS 850 (2TX), channel 190, top side, 0 mm (March 20, 2015)

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: Solo_bahl_1_front.da4

DUT: G4S; Type: Solo;

Program Name: GPRS850 (2TX)

Communication System: GPRS 850; Frequency: 824.2 MHz;Duty Cycle: 1:4

Medium parameters used: f = 824.2 MHz; σ = 0.98 mho/m; ε_r = 54; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(9.8, 9.8, 9.8); Calibrated: 24.07.2014

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn335; Calibrated: 19.02.2015

- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (measured) = 1.72 mW/g

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

Reference Value = 29.0 V/m; Power Drift = -0.130 dB

Peak SAR (extrapolated) = 3.83 W/kg

SAR(1 g) = 1.72 mW/g; SAR(10 g) = 0.910 mW/g
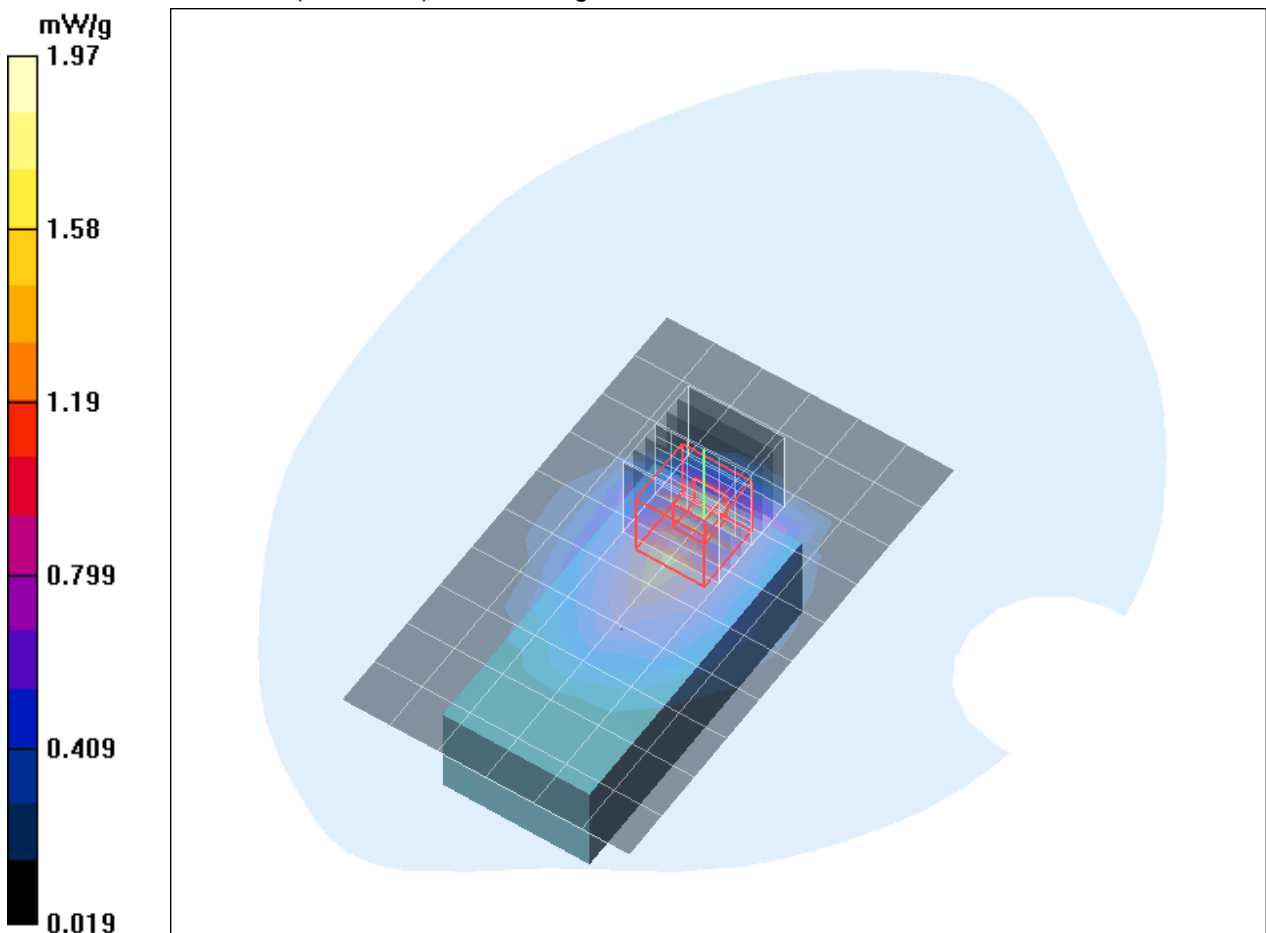
Maximum value of SAR (measured) = 1.97 mW/g

Fig. 4:   SAR distribution for GPRS 850 (2TX), channel 128, front side, 0 mm (March 20, 2015)

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: Solo_bahh_1_front.da4

DUT: G4S; Type: Solo;

Program Name: GPRS850 (2TX)

Communication System: GPRS 850; Frequency: 848.8 MHz;Duty Cycle: 1:4

Medium parameters used: f = 848.8 MHz; σ = 1 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(9.8, 9.8, 9.8); Calibrated: 24.07.2014

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn335; Calibrated: 19.02.2015

- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (measured) = 1.42 mW/g

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

Reference Value = 33.1 V/m; Power Drift = -0.063 dB

Peak SAR (extrapolated) = 3.60 W/kg

SAR(1 g) = 1.33 mW/g; SAR(10 g) = 0.637 mW/g
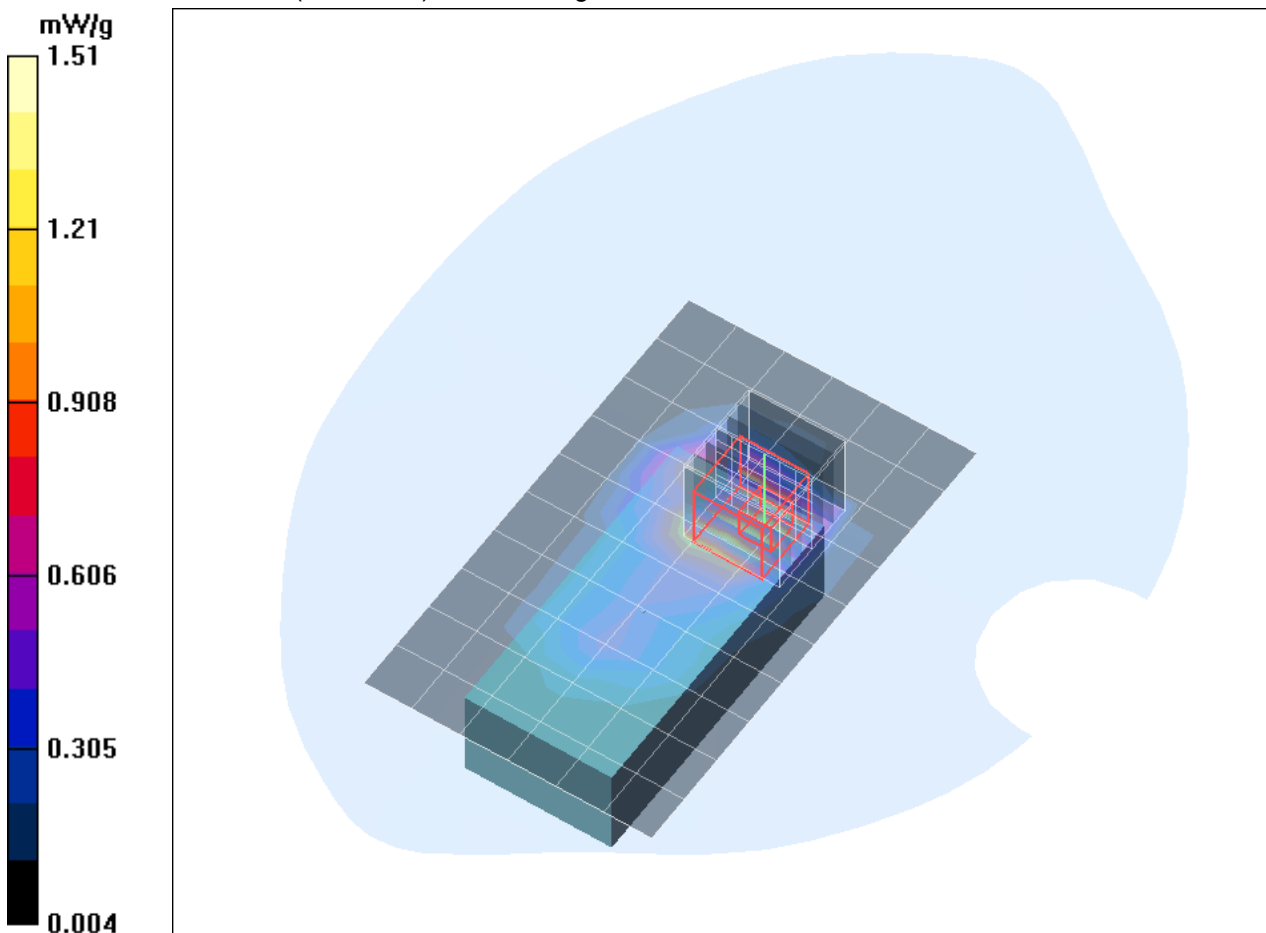
Maximum value of SAR (measured) = 1.51 mW/g

Fig. 5:   SAR distribution for GPRS 850 (2TX), channel 251, front side, 0 mm (March 20, 2015)

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: Solo_bahm_1_front_mv.da4

DUT: G4S; Type: Solo;
Program Name: GPRS850 (2TX)

Communication System: GPRS 850; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium parameters used: f = 836.6 MHz; σ = 0.99 mho/m; $ε_r$ = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3536; ConvF(9.8, 9.8, 9.8); Calibrated: 24.07.2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 19.02.2015
- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body/Area Scan (7x11x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.71 mW/g
Body/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 27.7 V/m; Power Drift = -0.171 dB
Peak SAR (extrapolated) = 4.48 W/kg
SAR(1 g) = 1.89 mW/g; SAR(10 g) = 0.978 mW/g
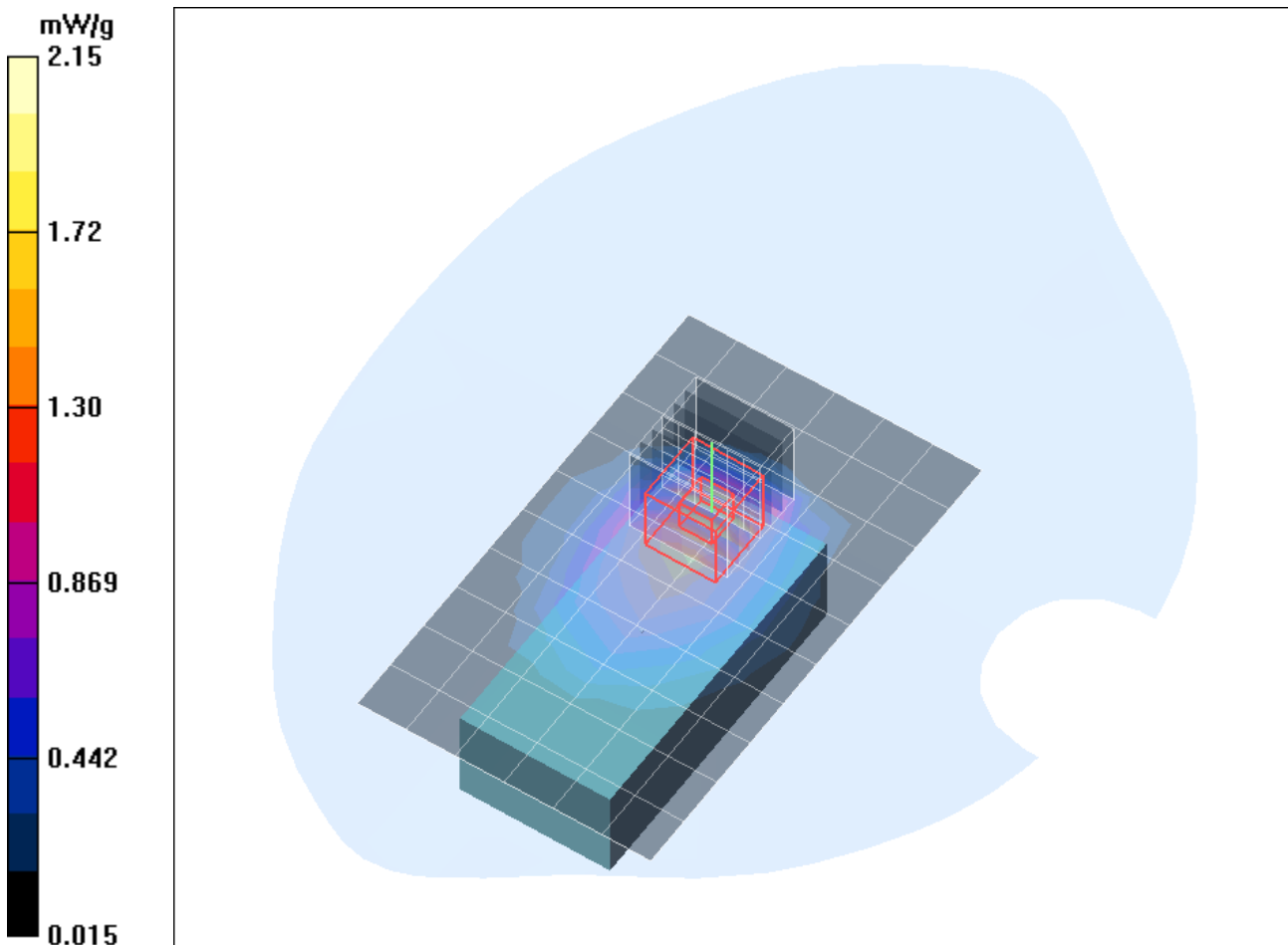Maximum value of SAR (measured) = 2.15 mW/g

Fig. 6:   Measurement variability for GPRS 850 (2TX), channel 190, front side, 0 mm (March 20, 2015)

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: Solo_yphm_1_front.da4

DUT: G4S; Type: Solo;

Program Name: GPRS1900 (2TX)

Communication System: GPRS 1900; Frequency: 1880 MHz;Duty Cycle: 1:4

Medium parameters used: f = 1880 MHz; σ = 1.49 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.05, 8.05, 8.05); Calibrated: 24.07.2014

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn631; Calibrated: 23.07.2014

- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (measured) = 2.59 mW/g

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

Reference Value = 34.2 V/m; Power Drift = 0.183 dB

Peak SAR (extrapolated) = 6.15 W/kg

SAR(1 g) = 2.74 mW/g; SAR(10 g) = 1.47 mW/g

Maximum value of SAR (measured) = 3.02 mW/g
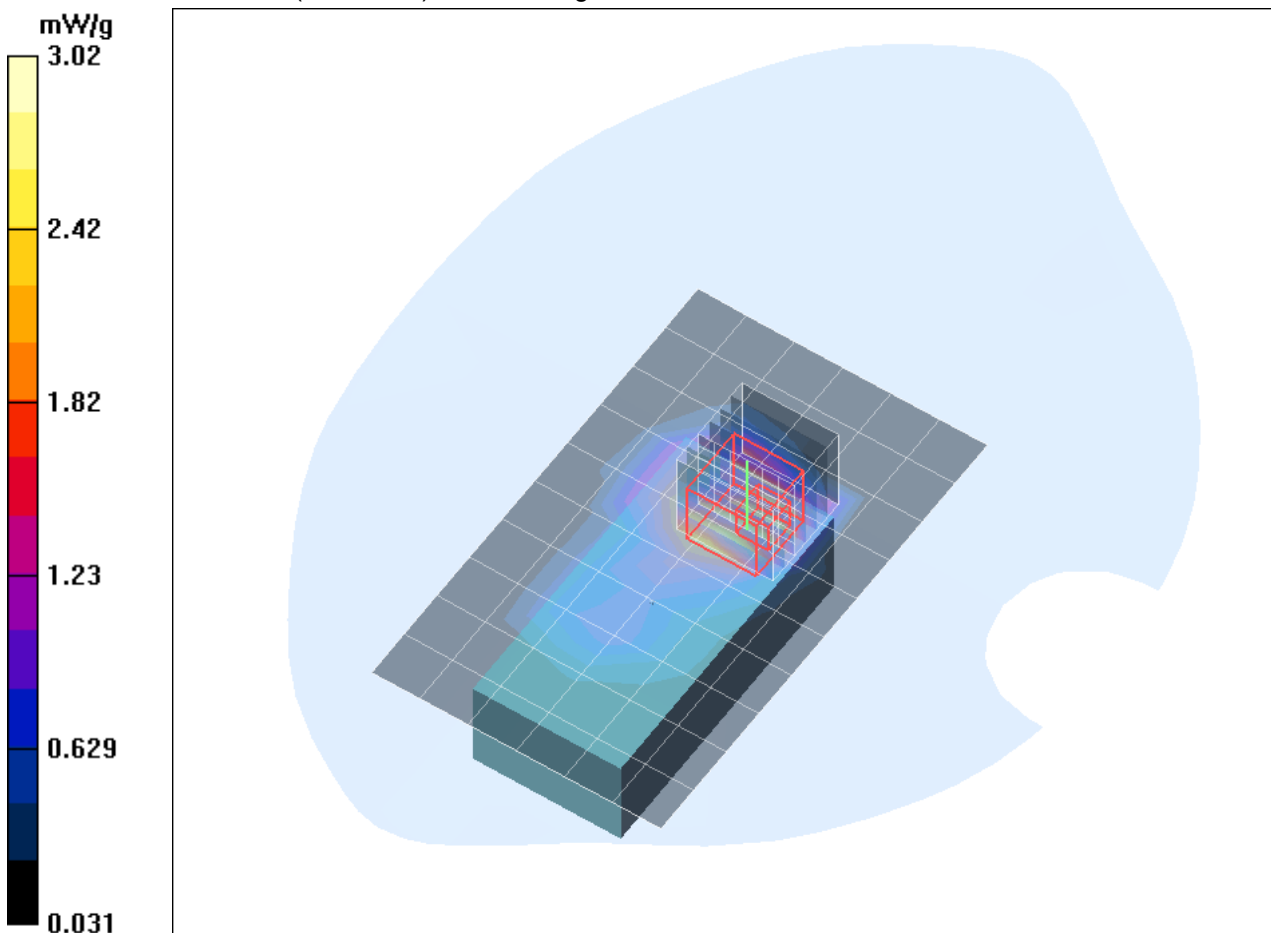

Fig. 7:   SAR distribution for GPRS 1900 (2TX), channel 661, front side, 0 mm (March 19, 2015)

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: Solo_yphm_2_back.da4

DUT: G4S; Type: Solo;

Program Name: GPRS1900 (2TX)

Communication System: GPRS 1900; Frequency: 1880 MHz;Duty Cycle: 1:4

Medium parameters used: f = 1880 MHz; σ = 1.49 mho/m; $ε_r$ = 52.1; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.05, 8.05, 8.05); Calibrated: 24.07.2014

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn631; Calibrated: 23.07.2014

- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (measured) = 0.930 mW/g

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

Reference Value = 17.4 V/m; Power Drift = -0.038 dB

Peak SAR (extrapolated) = 1.72 W/kg

SAR(1 g) = 0.902 mW/g; SAR(10 g) = 0.512 mW/g
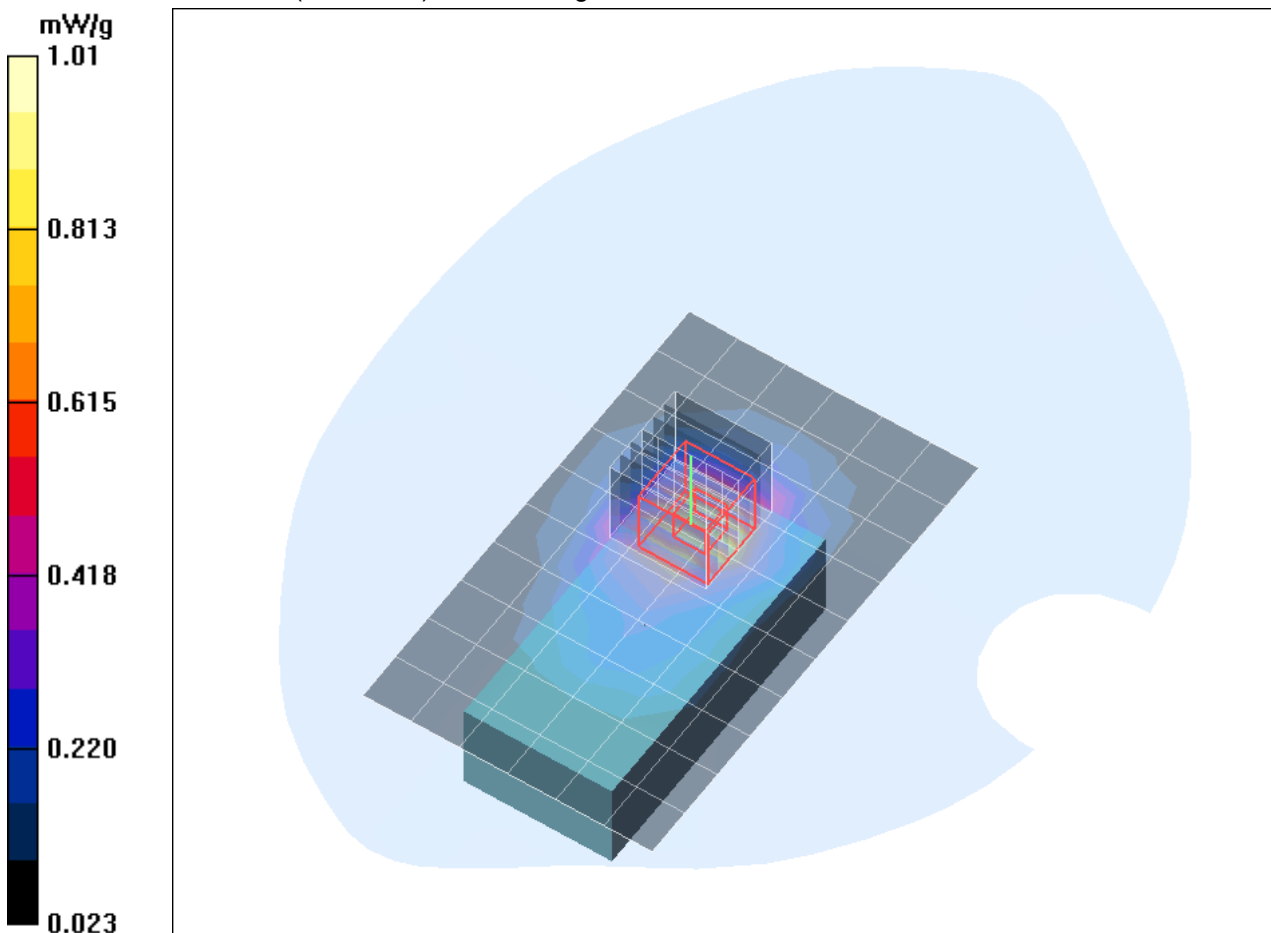
Maximum value of SAR (measured) = 1.01 mW/g

Fig. 8:   SAR distribution for GPRS 1900 (2TX), channel 661, back side, 0 mm (March 19, 2015)

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: Solo_yphm_3_top.da4

DUT: G4S; Type: Solo;

Program Name: GPRS1900 (2TX)

Communication System: GPRS 1900; Frequency: 1880 MHz;Duty Cycle: 1:4

Medium parameters used: f = 1880 MHz; σ = 1.49 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.05, 8.05, 8.05); Calibrated: 24.07.2014

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn631; Calibrated: 23.07.2014

- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Body/Area Scan (7x7x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.85 mW/g

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

Reference Value = 33.0 V/m; Power Drift = -0.107 dB

Peak SAR (extrapolated) = 3.22 W/kg

SAR(1 g) = 1.76 mW/g; SAR(10 g) = 0.925 mW/g

Maximum value of SAR (measured) = 2.00 mW/g
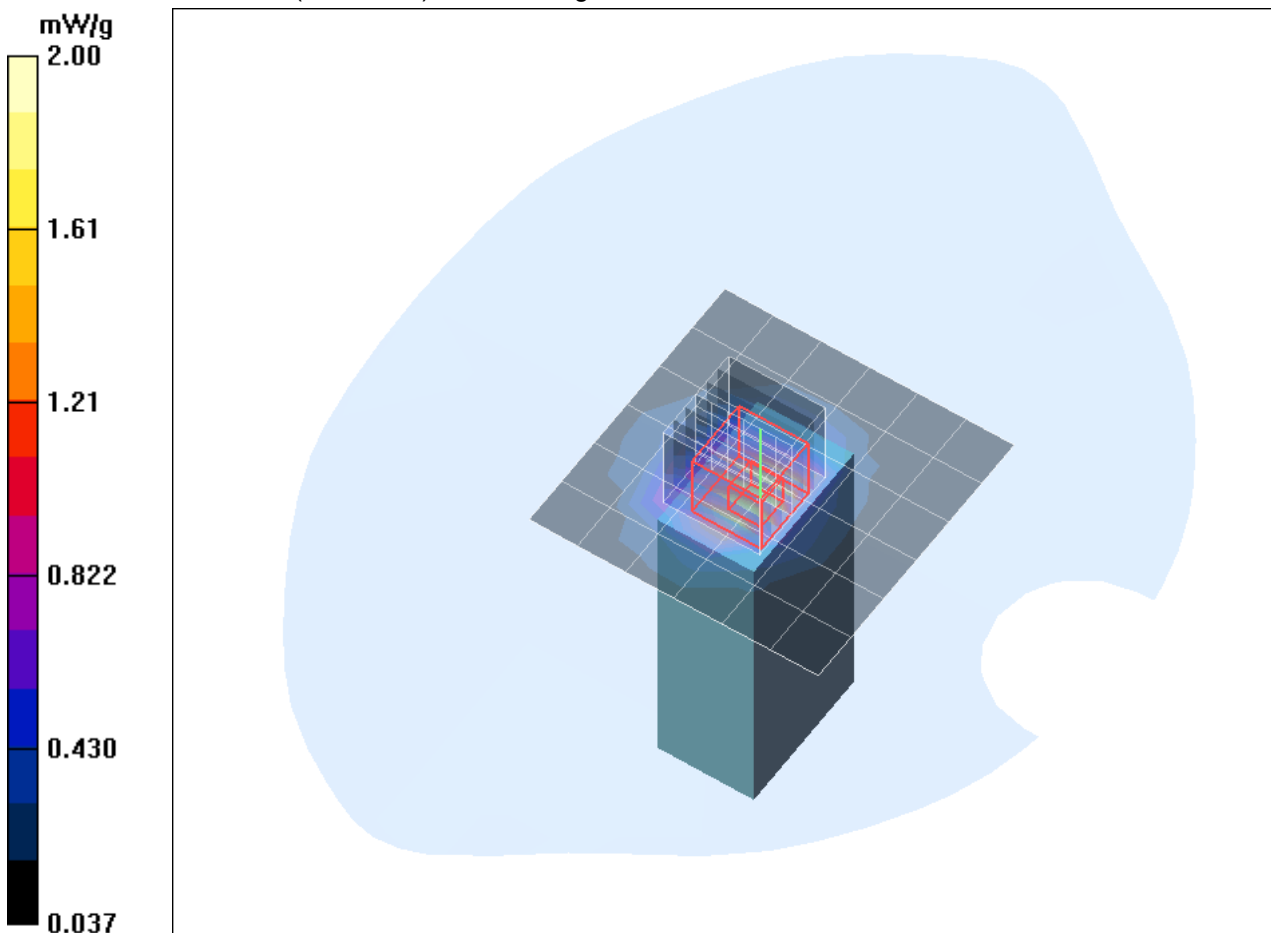

Fig. 9:   SAR distribution for GPRS 1900 (2TX), channel 661, top side, 0 mm (March 19, 2015)

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: Solo_yphl_1_front.da4

DUT: G4S; Type: Solo;

Program Name: GPRS1900 (2TX)

Communication System: GPRS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:4

Medium parameters used: f = 1850.2 MHz; σ = 1.45 mho/m; $ε_r$ = 52.1; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.05, 8.05, 8.05); Calibrated: 24.07.2014

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn631; Calibrated: 23.07.2014

- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (measured) = 2.80 mW/g

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

Reference Value = 36.5 V/m; Power Drift = -0.138 dB

Peak SAR (extrapolated) = 6.33 W/kg

SAR(1 g) = 2.75 mW/g; SAR(10 g) = 1.46 mW/g
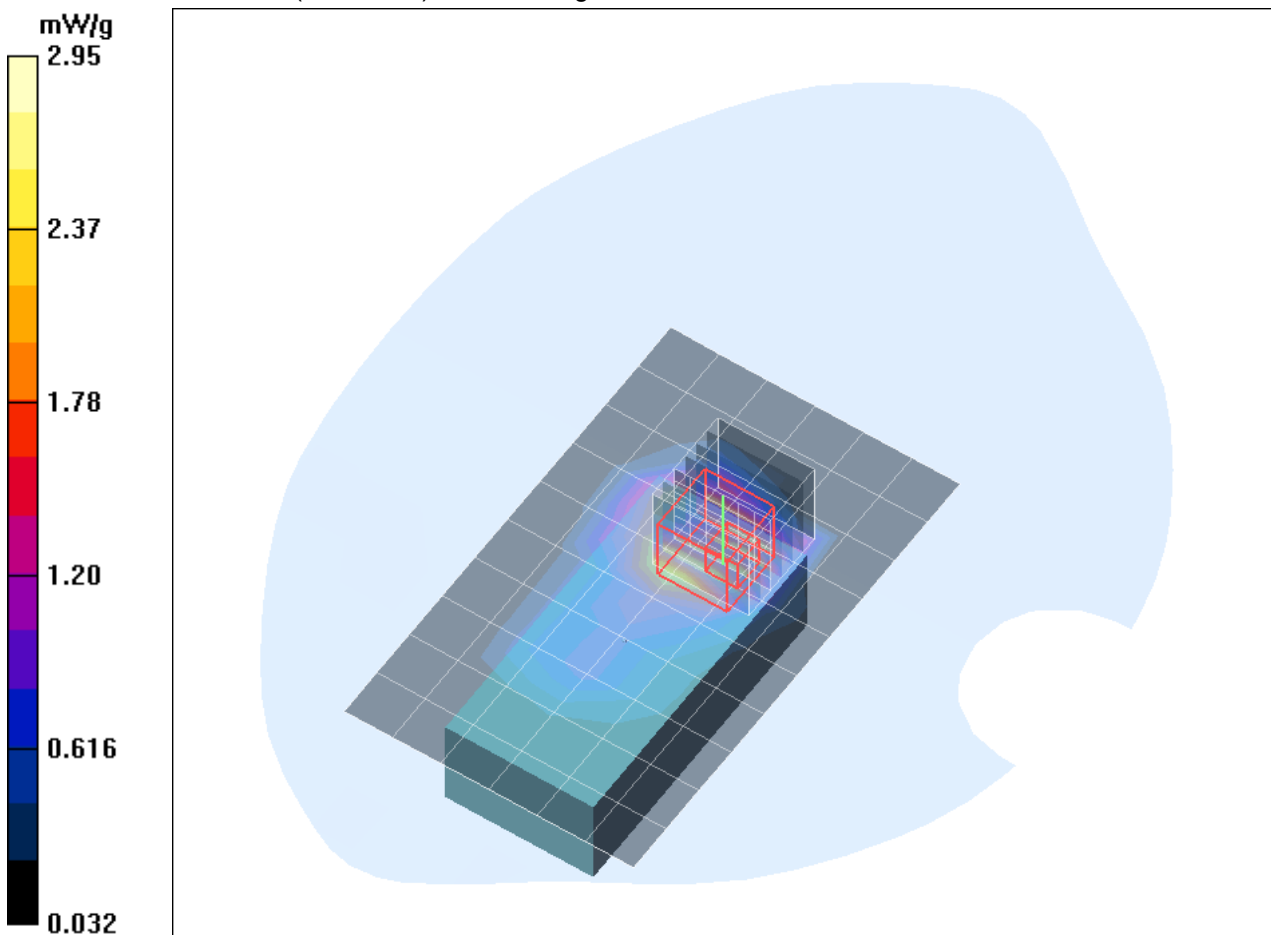
Maximum value of SAR (measured) = 2.95 mW/g

Fig. 10: SAR distribution for GPRS 1900 (2TX), channel 512, front side, 0 mm (March 19, 2015)

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: Solo_yphh_1_front.da4

DUT: G4S; Type: Solo;

Program Name: GPRS1900 (2TX)

Communication System: GPRS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:4

Medium parameters used: f = 1909.8 MHz; σ = 1.54 mho/m; ε_r = 52; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.05, 8.05, 8.05); Calibrated: 24.07.2014

- Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn631; Calibrated: 23.07.2014

- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340

- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (measured) = 2.09 mW/g

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

Reference Value = 35.9 V/m; Power Drift = 0.190 dB

Peak SAR (extrapolated) = 5.47 W/kg

SAR(1 g) = 2.49 mW/g; SAR(10 g) = 1.29 mW/g

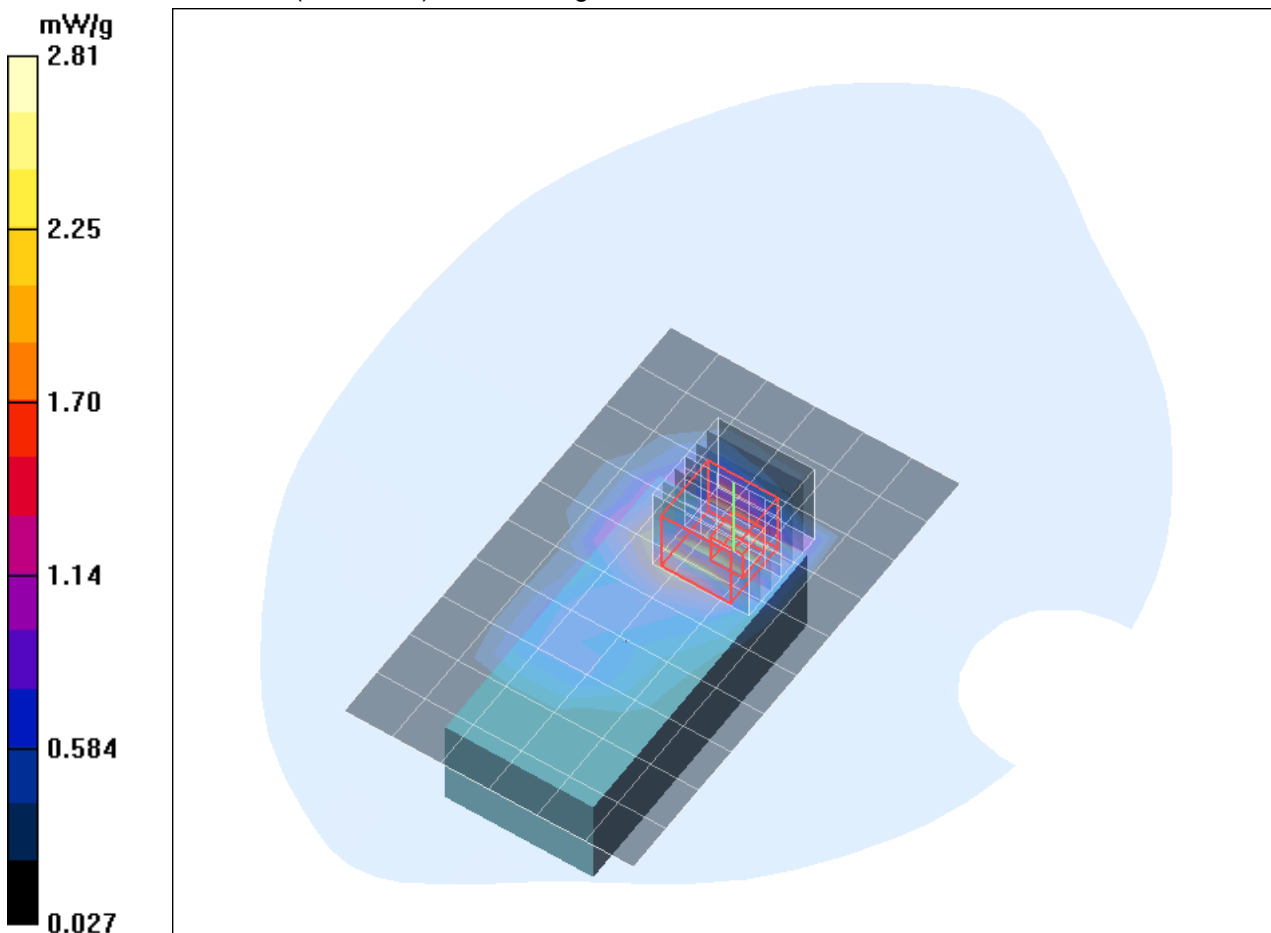Maximum value of SAR (measured) = 2.81 mW/g

Fig. 11:   SAR distribution for GPRS 1900 (2TX), channel 810, front side, 0 mm (March 19, 2015)

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: Solo_yphm_1_front_mv.da4

DUT: G4S; Type: Solo;
Program Name: GPRS1900 (2TX)

Communication System: GPRS 1900; Frequency: 1880 MHz;Duty Cycle: 1:4

Medium parameters used: f = 1880 MHz; σ = 1.49 mho/m; $ε_r$ = 52.1; ρ = 1000 kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV4 - SN3536; ConvF(8.05, 8.05, 8.05); Calibrated: 24.07.2014
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 23.07.2014
- Phantom: SAM Glycol 1340; Type: QD 000 P40 CB; Serial: TP-1340
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (measured) = 2.93 mW/g

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

Reference Value = 36.1 V/m; Power Drift = 0.018 dB

Peak SAR (extrapolated) = 5.30 W/kg

SAR(1 g) = 2.71 mW/g; SAR(10 g) = 1.46 mW/g

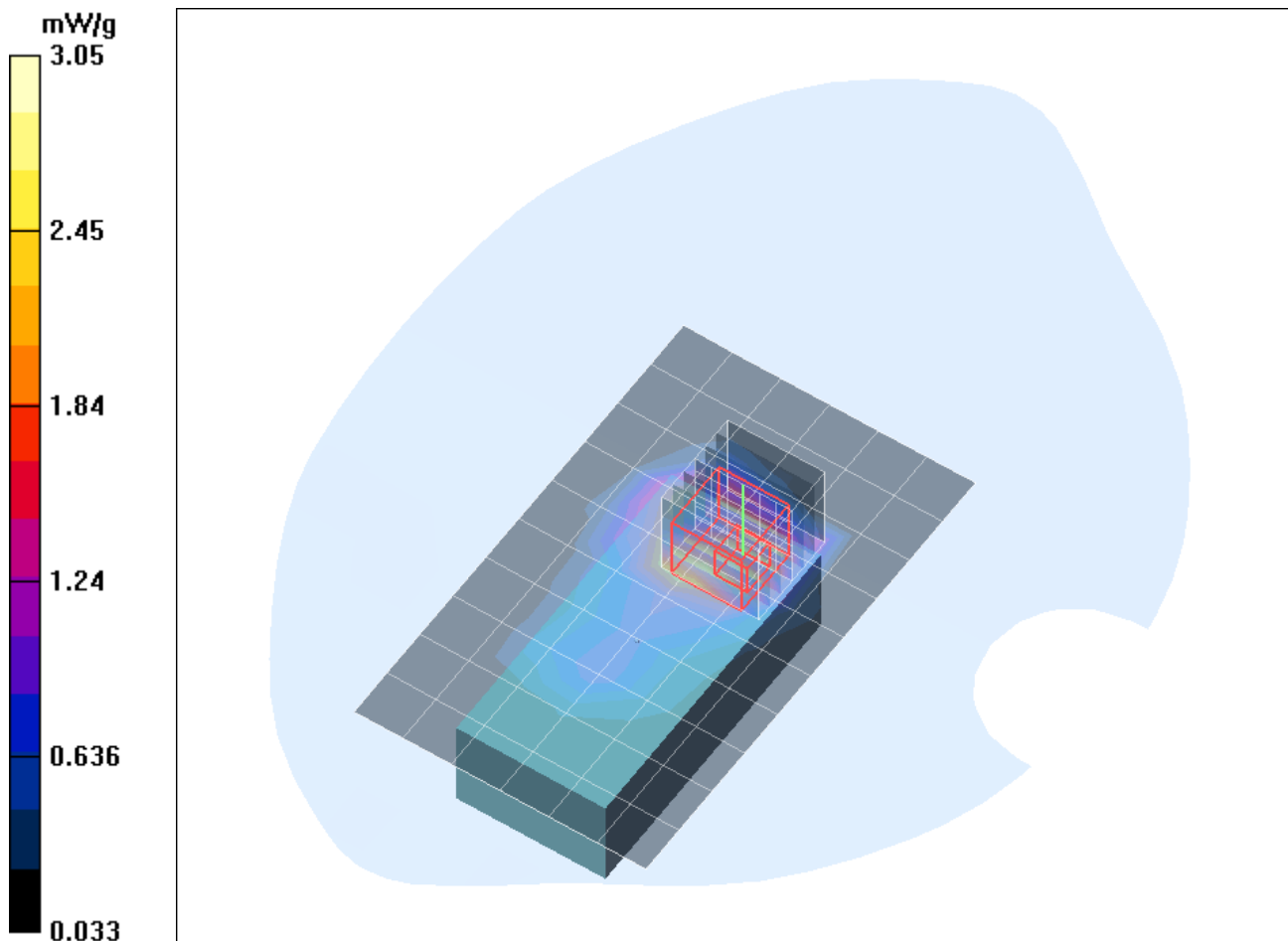Maximum value of SAR (measured) = 3.05 mW/g

Fig. 12:   Measurement variability for GPRS 1900 (2TX), channel 661, front side, 0 mm (March 19, 2015)