
Appendix for the Report

Dosimetric Assessment of the NCX1 from 4G Systems (FCC ID: T9WXSCC3)

According to the FCC Requirements

SAR Distribution Plots

November 15, 2006
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The test results only relate to the items tested.
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1 SAR Distribution Plots, GPRS 850 Body

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [HP_bahm_1_0mm.da4](#)

DUT: 4G Systems; Type: 4G NCX 1; Serial: 359649000055112

Program Name: Body Worn

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

Medium parameters used: $f = 836.6$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 53.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(6.33, 6.33, 6.33); Calibrated: 15.02.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

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

Maximum value of SAR (measured) = 0.681 mW/g

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

Reference Value = 24.3 V/m; Power Drift = 0.030 dB

Peak SAR (extrapolated) = 0.915 W/kg

SAR(1 g) = 0.634 mW/g; SAR(10 g) = 0.433 mW/g

Maximum value of SAR (measured) = 0.683 mW/g

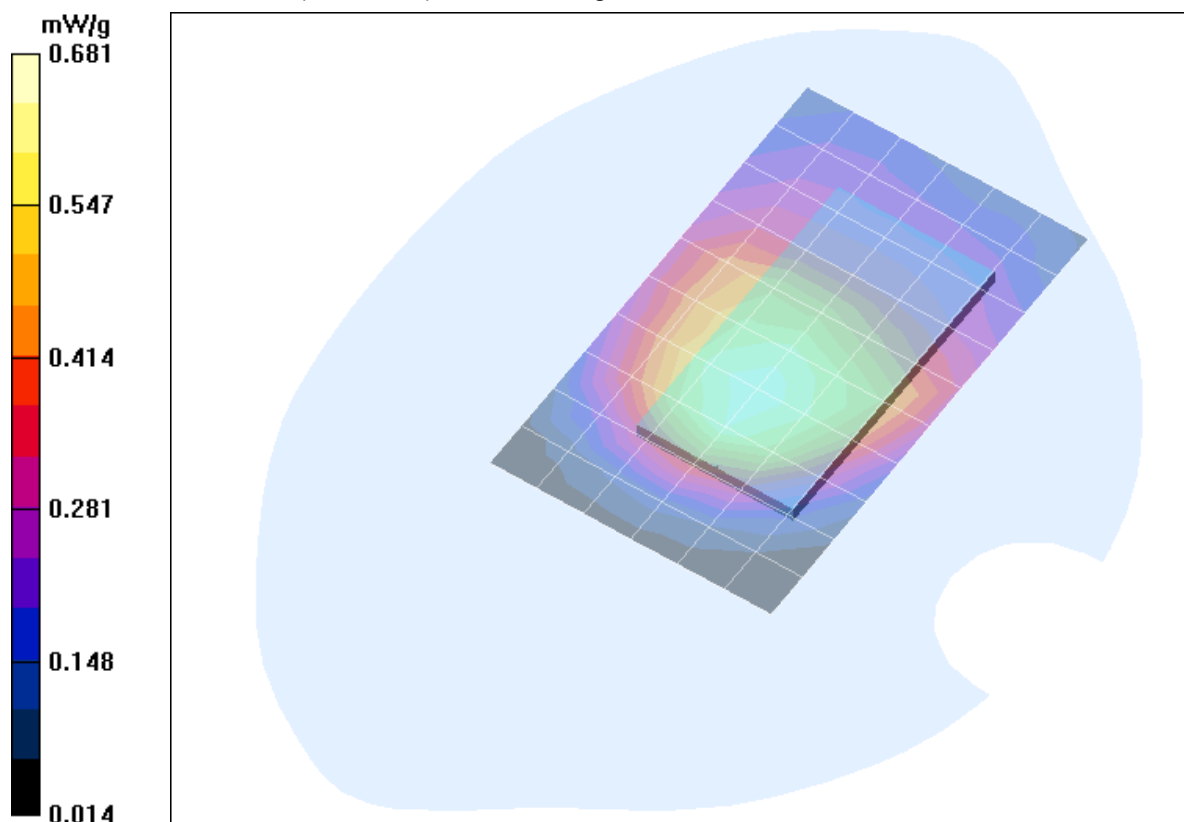


Fig. 1: SAR distribution for GPRS 850, channel 190, Lap Held Position (HP Compaq nx9110, November 14, 2006; Ambient Temperature: 21.6°C; Liquid Temperature: 20.8°C).

Test Laboratory: IMST GmbH, DASY Blue (I); **File Name:** [Dell_bahm_1_0mm.da4](#)

DUT: 4G Systems; **Type:** 4G NCX 1; **Serial:** 359649000055112

Program Name: Body Worn

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

Medium parameters used: $f = 836.6$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 53.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(6.33, 6.33, 6.33); Calibrated: 15.02.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

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

Maximum value of SAR (measured) = 0.650 mW/g

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

Reference Value = 12.9 V/m; Power Drift = 0.162 dB

Peak SAR (extrapolated) = 0.804 W/kg

SAR(1 g) = 0.509 mW/g; SAR(10 g) = 0.351 mW/g

Maximum value of SAR (measured) = 0.609 mW/g

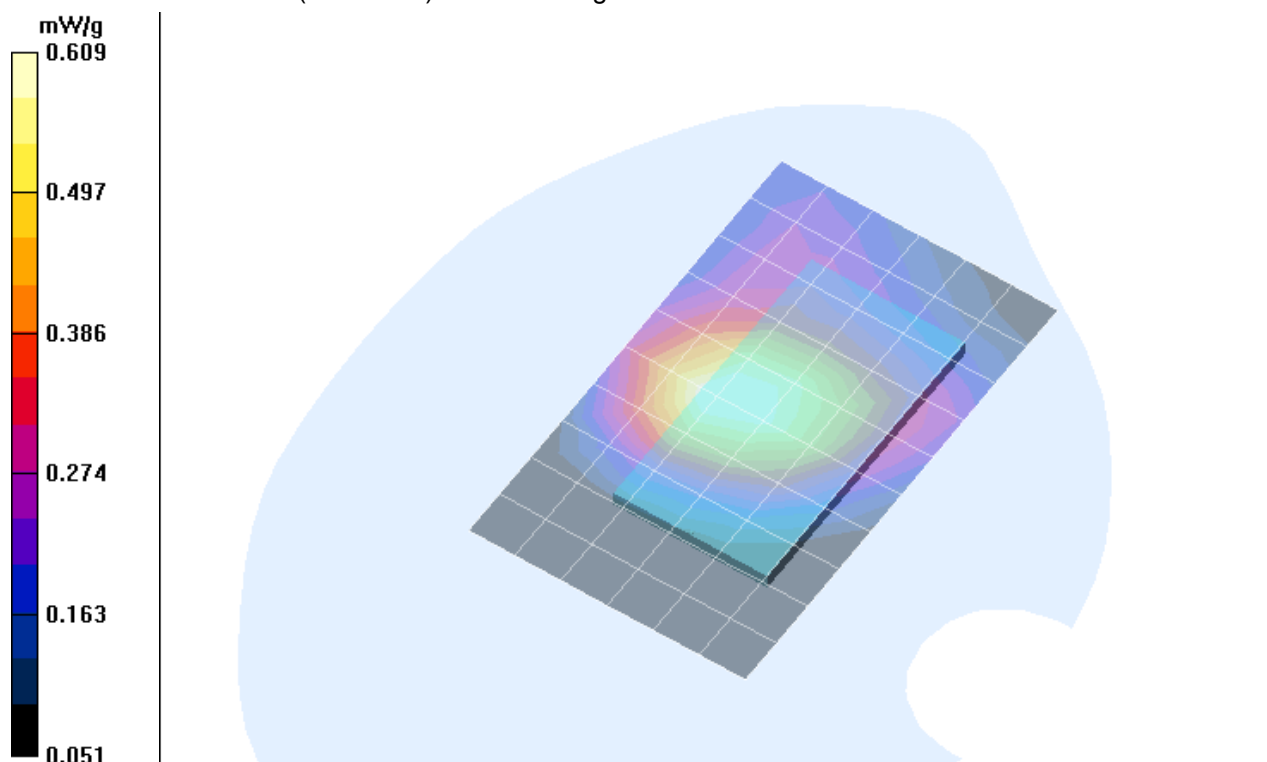


Fig. 2: SAR distribution for GPRS 850, channel 190, Lap Held Position (DELL Latitude C810, November 14, 2006; Ambient Temperature: 21.6°C; Liquid Temperature: 20.8°C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [Toshiba_bahh_1_0mm.da4](#)

DUT: 4G Systems; Type: 4G NCX 1; Serial: 359649000055112

Program Name: Body Worn

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

Medium parameters used: $f = 848.8$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 53.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(6.33, 6.33, 6.33); Calibrated: 15.02.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

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

Maximum value of SAR (measured) = 0.962 mW/g

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

Reference Value = 22.3 V/m; Power Drift = 0.079 dB

Peak SAR (extrapolated) = 1.45 W/kg

SAR(1 g) = 0.938 mW/g; SAR(10 g) = 0.644 mW/g

Maximum value of SAR (measured) = 1.00 mW/g

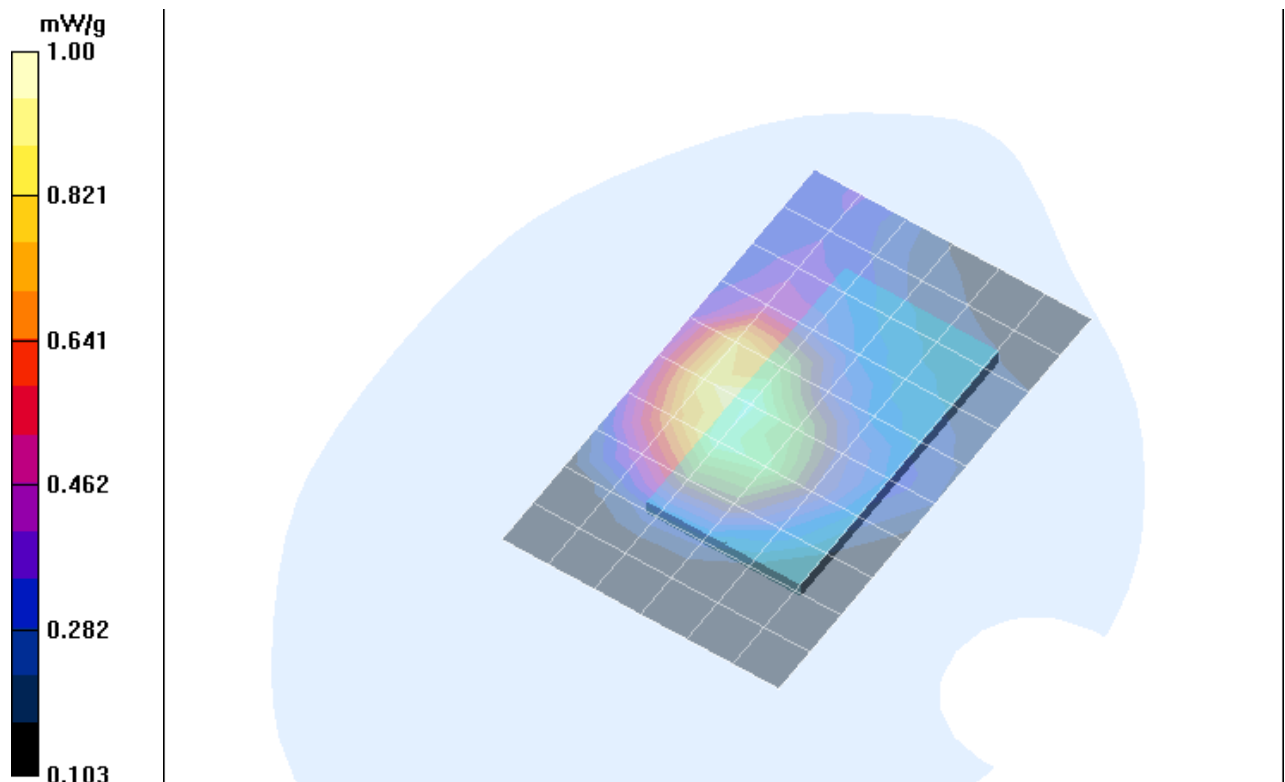


Fig. 3: SAR distribution for GPRS 850, channel 251, Lap Held Position (Toshiba SA50-110, November 14, 2006; Ambient Temperature: 21.7°C; Liquid Temperature: 20.8°C).

2 SAR Distribution Plots, GPRS 1900 Body

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [HP_bphm_1_0mm.da4](#)

DUT: 4G Systems; Type: 4G NCX 1; Serial: 359649000055112

Program Name: Body Worn

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

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 53.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.47, 4.47, 4.47); Calibrated: 15.02.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body Worn/Area Scan (8x11x1): Measurement grid: $dx=15$ mm, $dy=15$ mm

Maximum value of SAR (measured) = 0.265 mW/g

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

Reference Value = 6.92 V/m; Power Drift = -0.015 dB

Peak SAR (extrapolated) = 0.425 W/kg

SAR(1 g) = 0.277 mW/g; SAR(10 g) = 0.175 mW/g

Maximum value of SAR (measured) = 0.302 mW/g

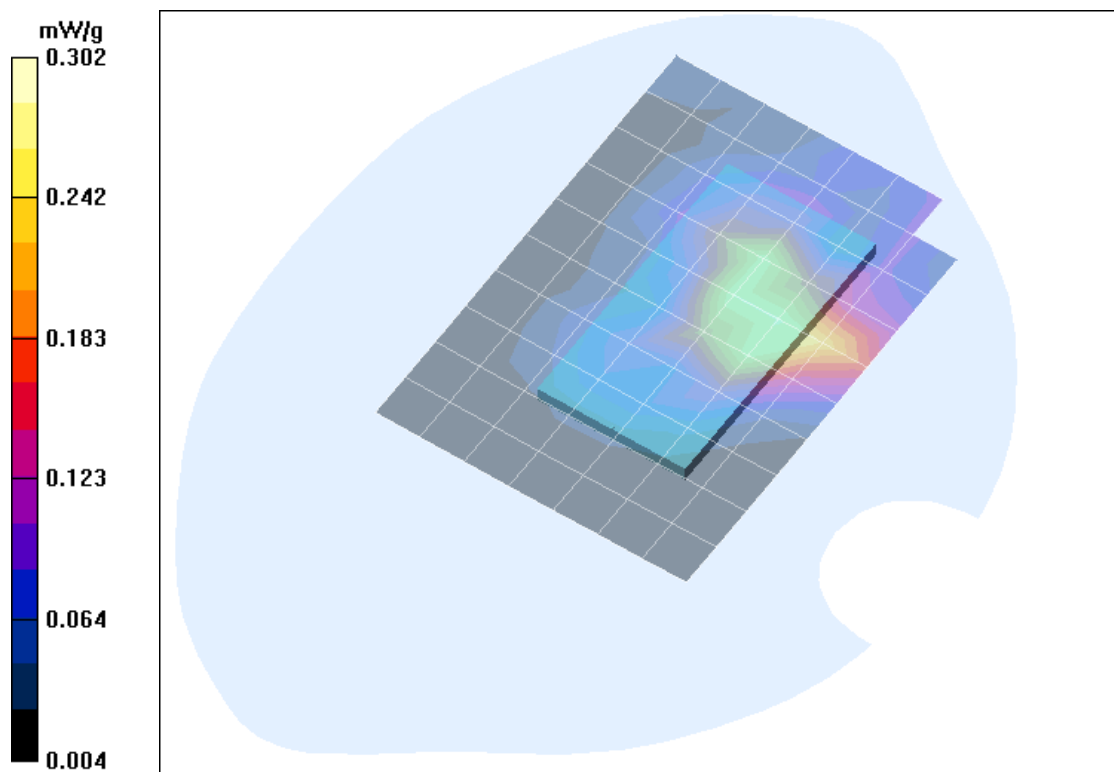


Fig. 4: SAR distribution for GPRS 1900, channel 661, Lap Held Position (HP Compaq nx9110, November 14, 2006; Ambient Temperature: 22.0° C; Liquid Temperature: 21.1).

Test Laboratory: IMST GmbH, DASY Blue (I); **File Name:** [Dell bphm 1 0mm.da4](#)

DUT: 4G Systems; **Type:** 4G NCX 1; **Serial:** 359649000055112

Program Name: Body Worn

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

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 53.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.47, 4.47, 4.47); Calibrated: 15.02.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

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

Maximum value of SAR (measured) = 0.555 mW/g

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

Reference Value = 7.20 V/m; Power Drift = -0.175 dB

Peak SAR (extrapolated) = 0.935 W/kg

SAR(1 g) = 0.573 mW/g; SAR(10 g) = 0.306 mW/g

Maximum value of SAR (measured) = 0.641 mW/g

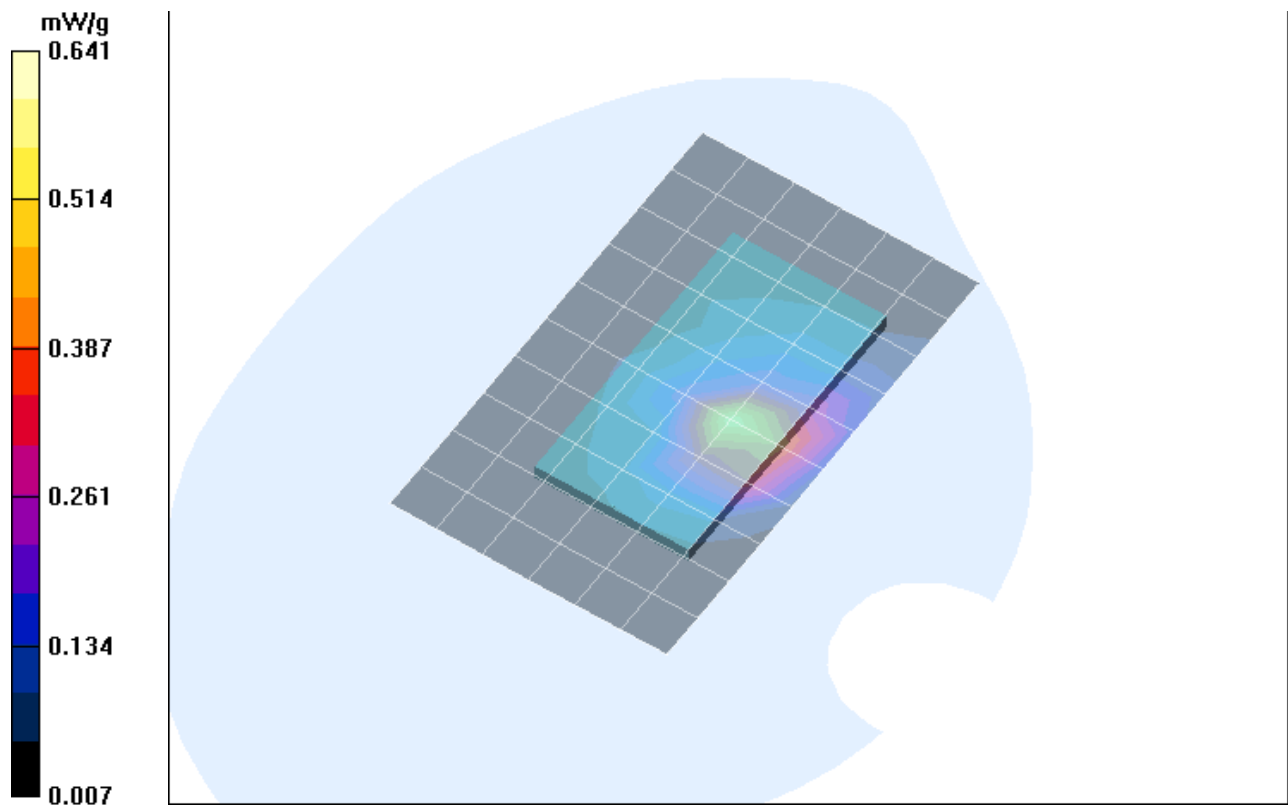


Fig. 5: SAR distribution for GPRS 1900, channel 661, Lap Held Position (DELL Latitude C810, November 14, 2006; Ambient Temperature: 21.9° C; Liquid Temperature: 21.1 C).

Test Laboratory: IMST GmbH, DASY Blue (I); File Name: [Toshiba bphm 1 0mm.da4](#)

DUT: 4G Systems; Type: 4G NCX 1; Serial: 359649000055112

Program Name: Body Worn

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

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 53.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1669; ConvF(4.47, 4.47, 4.47); Calibrated: 15.02.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 09.03.2006
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 171

Body Worn/Area Scan (8x11x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.340 mW/g

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

Reference Value = 10.2 V/m; Power Drift = -0.105 dB

Peak SAR (extrapolated) = 0.445 W/kg

SAR(1 g) = 0.309 mW/g; SAR(10 g) = 0.201 mW/g

Maximum value of SAR (measured) = 0.337 mW/g

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

Reference Value = 10.2 V/m; Power Drift = -0.105 dB

Peak SAR (extrapolated) = 0.422 W/kg

SAR(1 g) = 0.288 mW/g; SAR(10 g) = 0.184 mW/g

Maximum value of SAR (measured) = 0.315 mW/g

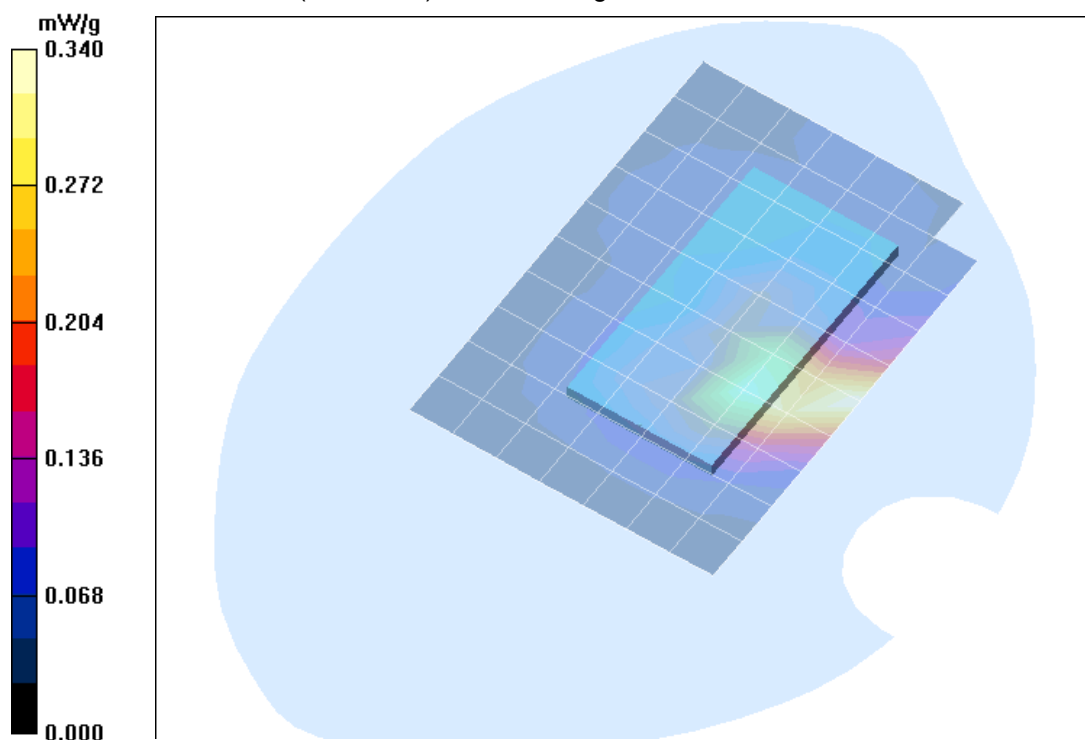


Fig. 6: SAR distribution for GPRS 1900, channel 661, Lap Held Position (Toshiba SA50-110, November 14, 2006; Ambient Temperature: 21.9° C; Liquid Temperature: 21.0 C).

3 SAR z-axis scans (Validation)

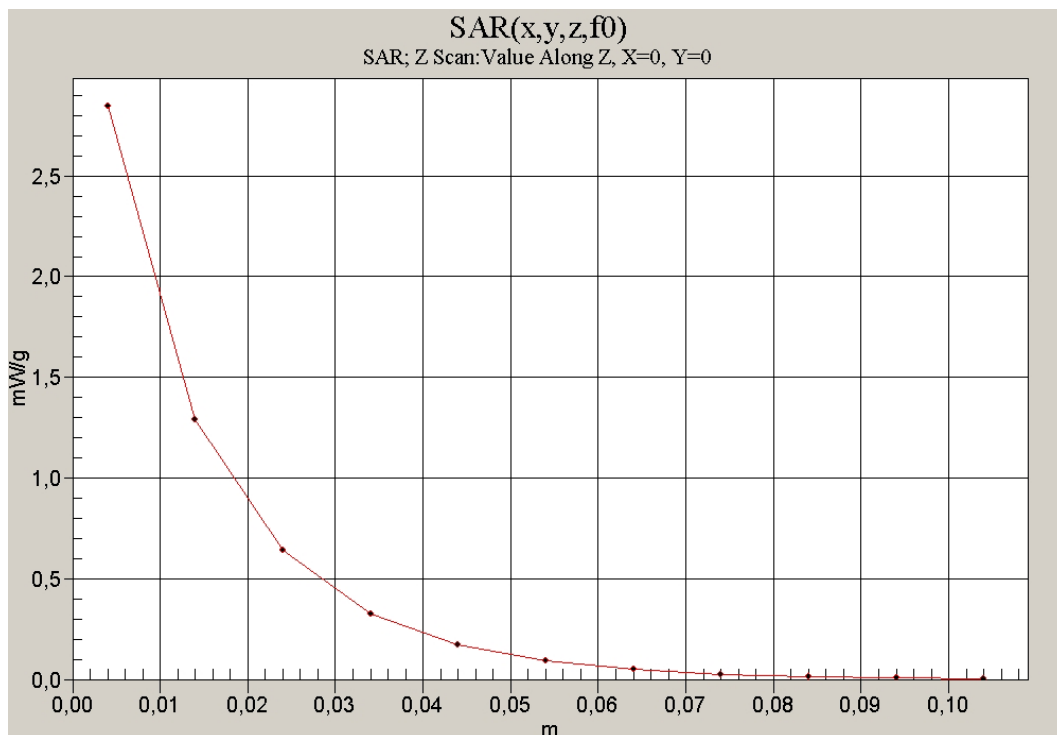


Fig. 7: SAR versus liquid depth, 835 MHz body (November 14, 2006; Ambient Temperature: 21.5° C; Liquid Temperature : 20.7° C).

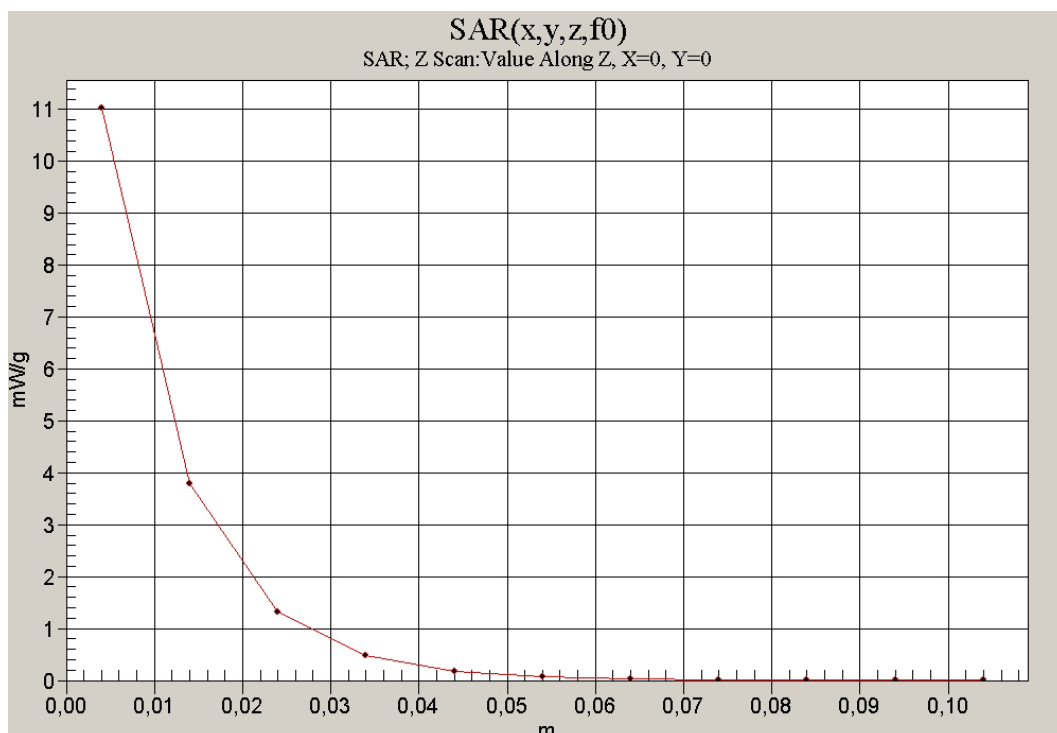


Fig. 8: SAR versus liquid depth, 1900 MHz body (November 14, 2006; Ambient Temperature: 22.0° C; Liquid Temperature : 21.1° C).

4 SAR z-axis scans (Measurements)

The following pictures show the plots of SAR versus liquid depth for the worst case values.

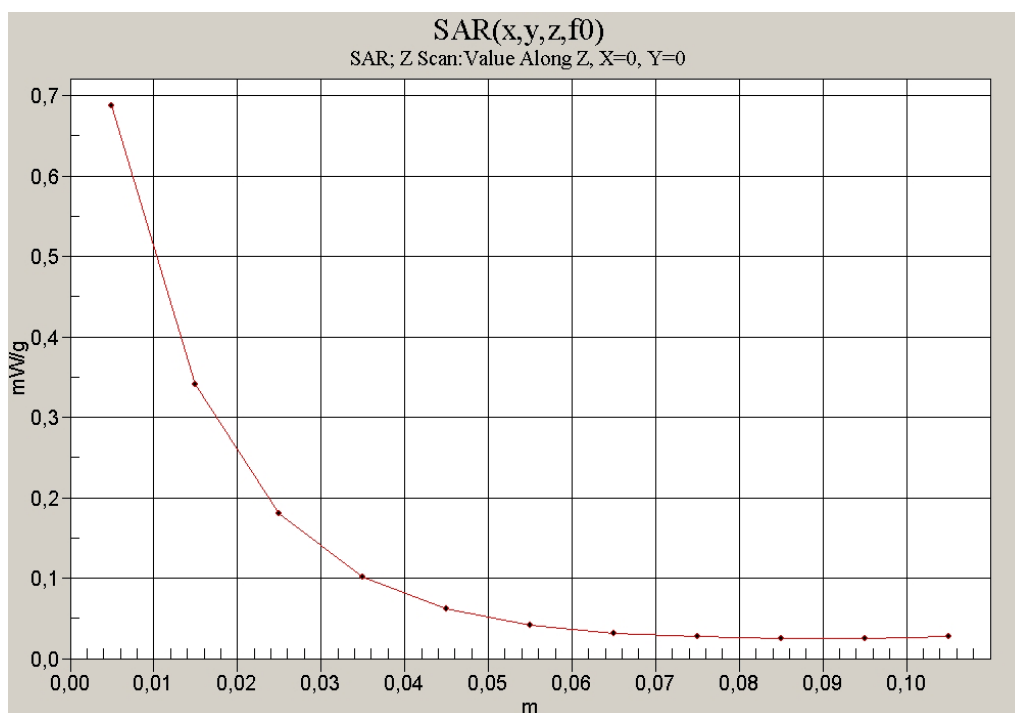


Fig. 9: SAR versus liquid depth, body: GPRS 850, channel 190 (Toshiba SA50-110, November 14, 2006; Ambient Temperature: 21.7° C; Liquid Temperature: 20.8° C).

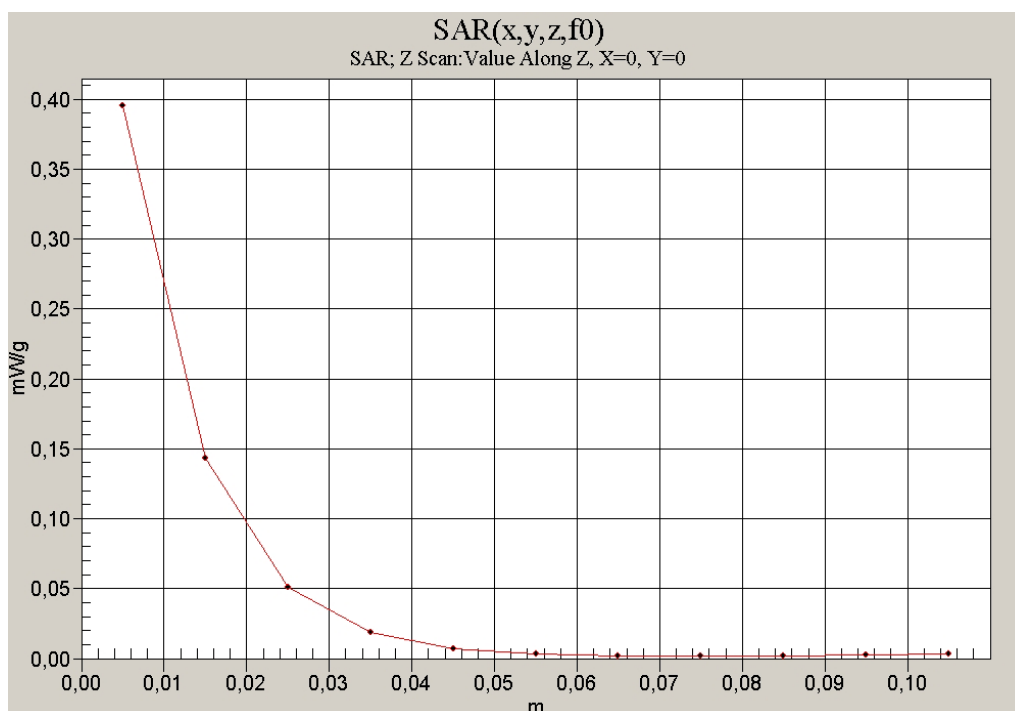


Fig. 10: SAR versus liquid depth, body: GPRS 1900, channel 661 (Dell Latitude C810, November 14, 2006; Ambient Temperature: 21.9° C; Liquid Temperature: 21.1° C).