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The Testcenter facility 'Dosimetric Test Lab' within IMST GmbH is accredited by the German National Deutsche Akkreditierungsstelle GmbH (DAkkS)' for testing according to the scope as listed in the accreditation certificate: D-PL-12139-01-01.

# Appendix for the Report

# Dosimetric Assessment of the Portable Device Cognex MD9500 (Contains FCC ID: TXH-DM9500) (IC: 6315A-DM9500)

# According to the FCC and IC Requirements

# SAR Distribution Plots

June 28, 2012

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**Customer**
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# 2 SAR Distribution Plots, IEEE 802.11 b/g Body worst case position

**Test Laboratory: Imst GmbH, DASY Yellow (II); File Name:**
**DM9500_ywhm_CH6_g_holster_pos1_ls_0mm_ant1.da4**

**DUT: COGNEX; Type: DM9500;**
**Program Name: IEEE 802.11 g**

Communication System: WLAN 2450; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2437 MHz; $\sigma$ = 1.97 mho/m; $\varepsilon_r$ = 53.5; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3536; ConvF(7.42, 7.42, 7.42); Calibrated: 26.09.2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 21.09.2011
- 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 Worn/Area Scan (8x15x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.010 mW/g
**Body Worn/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.22 V/m; Power Drift = -0.102 dB
Peak SAR (extrapolated) = 0.018 W/kg
**SAR(1 g) = 0.0097 mW/g; SAR(10 g) = 0.00509 mW/g**
Maximum value of SAR (measured) = 0.011 mW/g

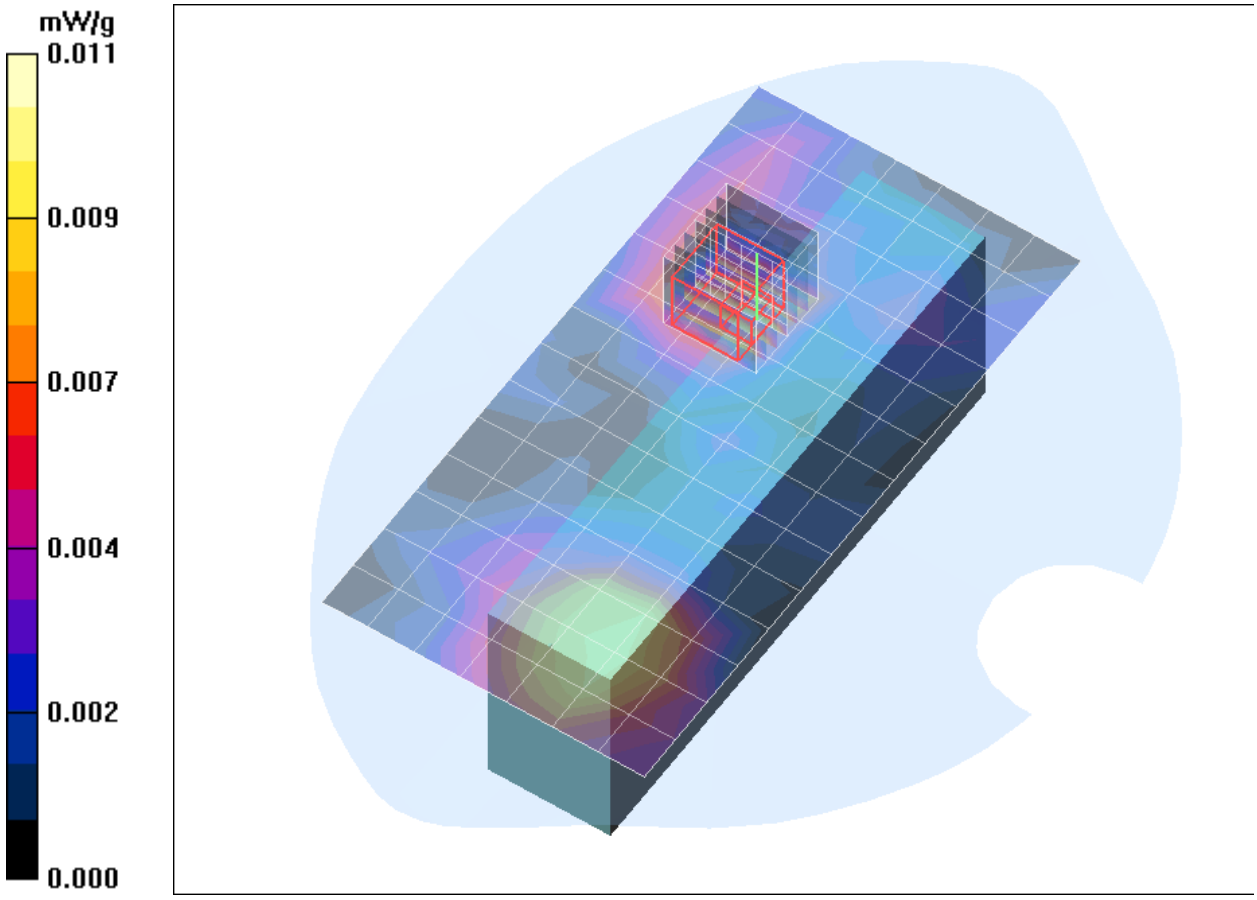


Fig. 1: SAR distribution for IEEE 802.11 g, channel 6, body worn configuration, position 1, antenna 1 (June 19, 2012; Ambient Temperature: 22.5° C; Liquid Temperature: 22.2° C).

**Test Laboratory: Imst GmbH, DASY Yellow (II); File Name:**
**DM9500_ywhl_CH1_g_holster_pos1_ls_0mm_ant1.da4**

**DUT: COGNEX; Type: DM9500;**
**Program Name: IEEE 802.11 g**

Communication System: WLAN 2450; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; $\sigma$ = 1.93 mho/m; $\varepsilon_r$ = 53.4; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3536; ConvF(7.42, 7.42, 7.42); Calibrated: 26.09.2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 21.09.2011
- 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 Worn/Area Scan (8x15x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.011 mW/g
**Body Worn/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.39 V/m; Power Drift = -0.161 dB
Peak SAR (extrapolated) = 0.045 W/kg
**SAR(1 g) = 0.011 mW/g; SAR(10 g) = 0.00509 mW/g**
Maximum value of SAR (measured) = 0.012 mW/g

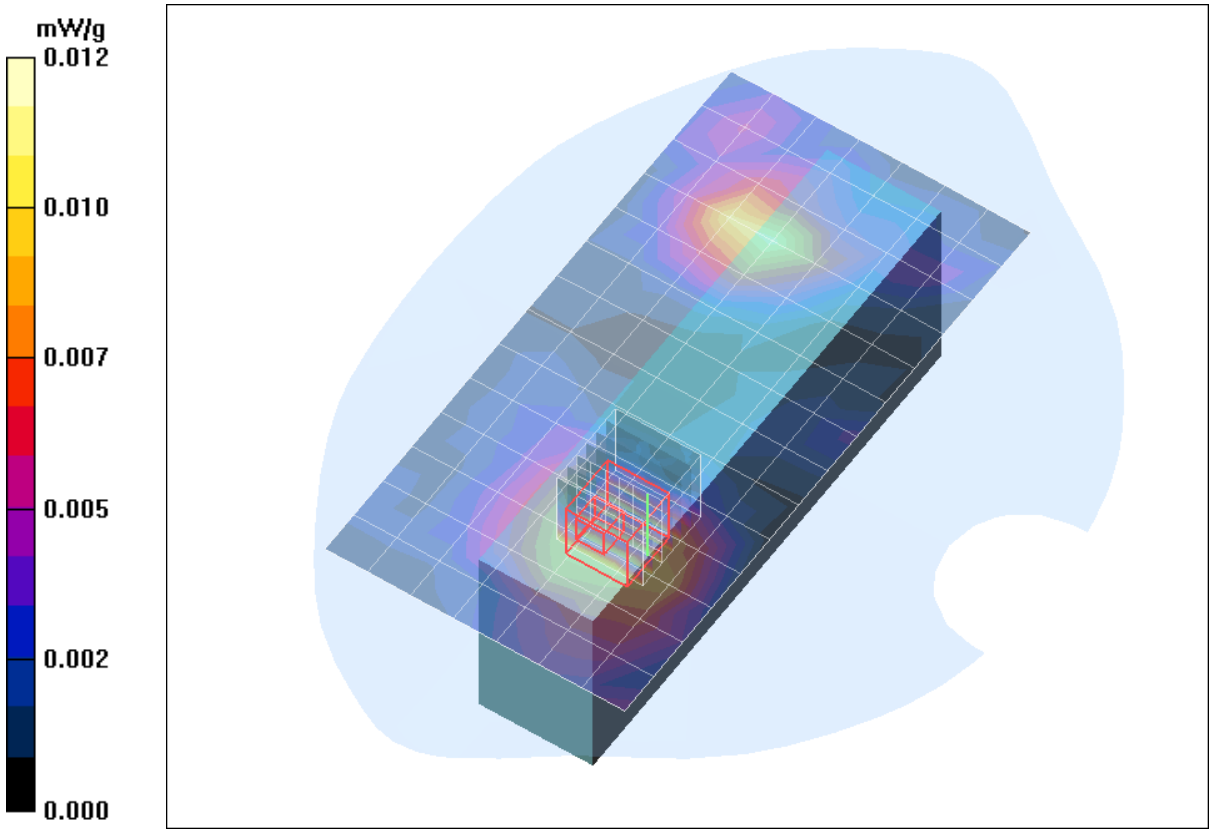


Fig. 2: SAR distribution for IEEE 802.11 g, channel 1, body worn configuration, position 1, antenna 1 (June 19, 2012; Ambient Temperature: 22.5° C; Liquid Temperature: 22.2° C).

**Test Laboratory: Imst GmbH, DASY Yellow (II); File Name:**
**DM9500_ywhh_CH11_g_holster_pos1_ls_0mm_ant1.da4**

**DUT: COGNEX; Type: DM9500;**
**Program Name: IEEE 802.11 g**

Communication System: WLAN 2450; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; $\sigma$ = 2.02 mho/m; $\varepsilon_r$ = 53.6; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3536; ConvF(7.42, 7.42, 7.42); Calibrated: 26.09.2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 21.09.2011
- 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 Worn/Area Scan (8x15x1):** Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.007 mW/g
**Body Worn/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.50 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 0.025 W/kg
**SAR(1 g) = 0.00566 mW/g; SAR(10 g) = 0.00253 mW/g**

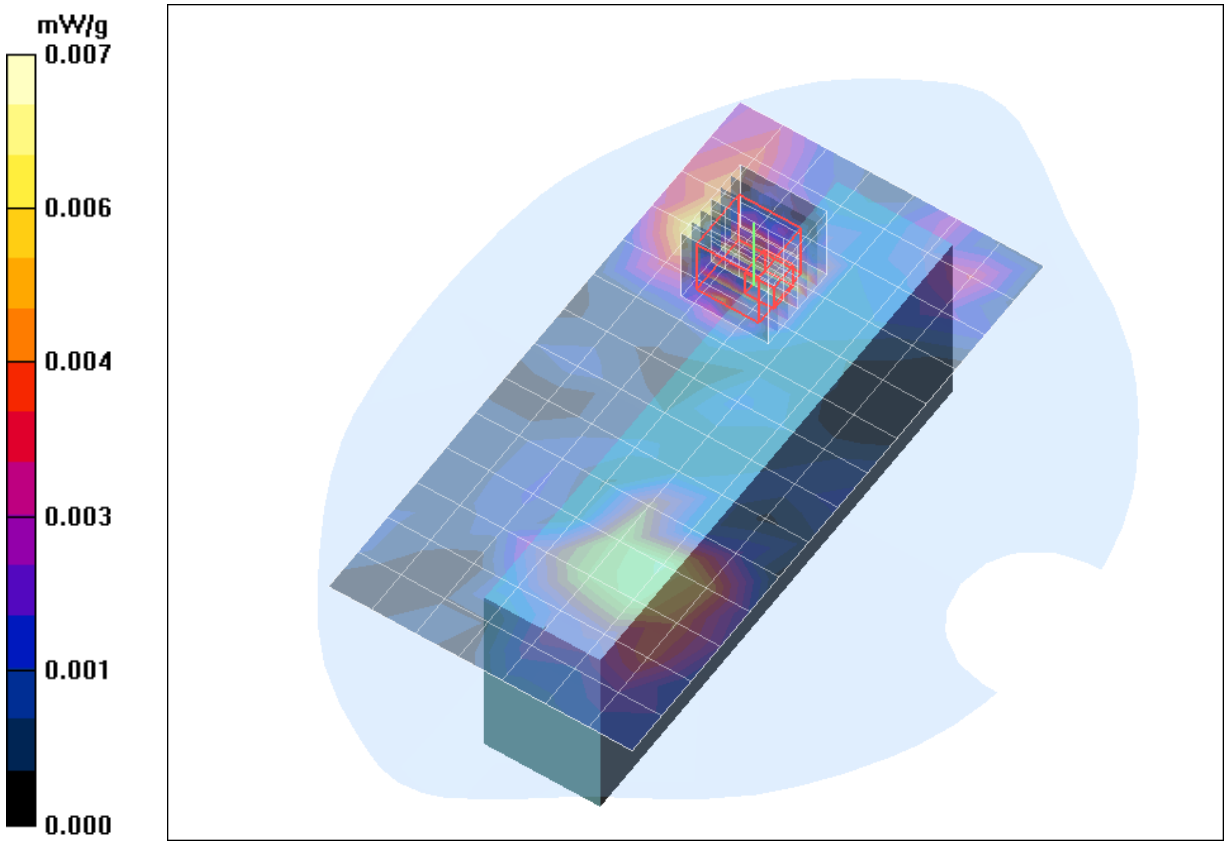


Fig. 3: SAR distribution for IEEE 802.11 g, channel 11, body worn configuration, position 1, antenna 1 (June 19, 2012; Ambient Temperature: 22.5° C; Liquid Temperature: 22.2° C).

# 3 SAR Distribution Plots, IEEE 802.11 a Body

**Test Laboratory: IMST GmbH, DASY Blue (I); File Name:**
**DM9500_bwhm_CH36_a_holster_pos2_rs_0mm_ant2.da4**

**DUT: COGNEX; Type: DM9500;**
**Program Name: IEEE 802.11 a**

Communication System: 5 GHz ; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5180 MHz; $\sigma$ = 5.13 mho/m; $\varepsilon_r$ = 49.5; $\rho$ = 1000 kg/m$^3$
Phantom section: Flat Section

DASY4 Configuration:
- Probe: EX3DV4 - SN3536; ConvF(4.43, 4.43, 4.43); Calibrated: 26.09.2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn631; Calibrated: 21.09.2011
- Phantom: SAM Glycol 1176; Type: Speag; Serial: 1176
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Body Worn/Area Scan (11x22x1):** Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.042 mW/g
**Body Worn/Zoom Scan (8x8x8)/Cube 0:** Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 2.22 V/m; Power Drift = -0.190 dB
Peak SAR (extrapolated) = 0.114 W/kg
**SAR(1 g) = 0.014 mW/g; SAR(10 g) = 0.00353 mW/g**
Maximum value of SAR (measured) = 0.035 mW/g
**Body Worn/Zoom Scan 2 (8x8x8)/Cube 0:** Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 2.22 V/m; Power Drift = -0.190 dB
Peak SAR (extrapolated) = 0.159 W/kg
**SAR(1 g) = 0.022 mW/g; SAR(10 g) = 0.00473 mW/g**
Maximum value of SAR (measured) = 0.056 mW/g

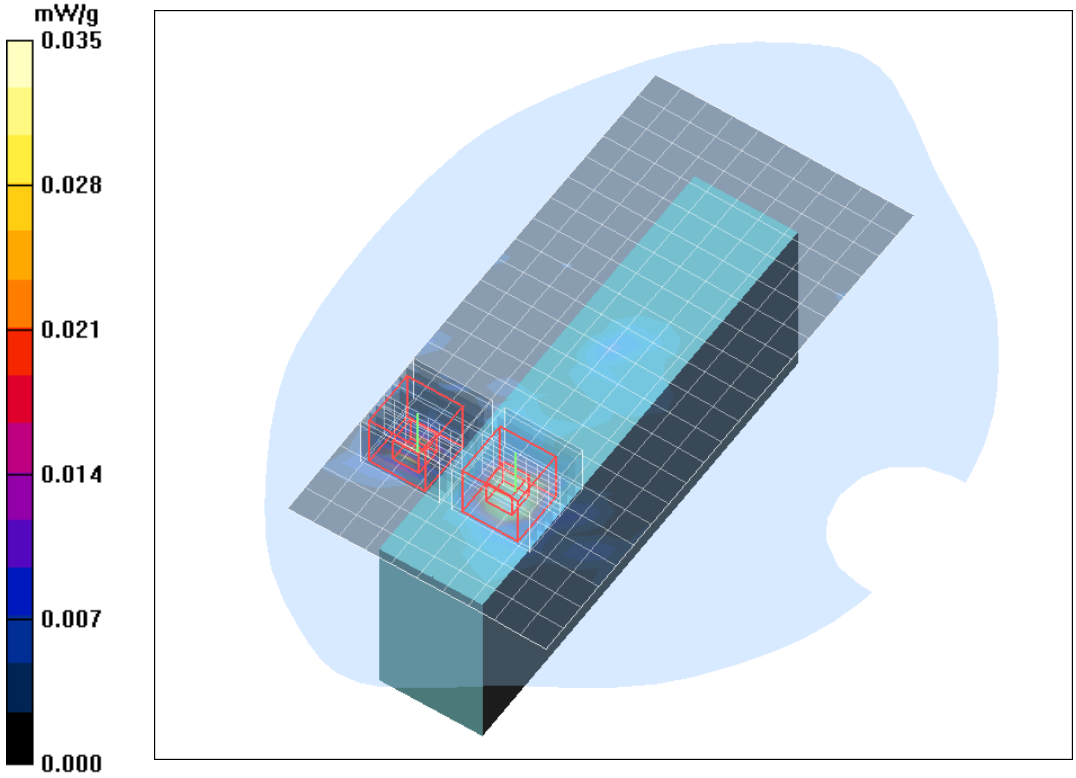


Fig. 4: SAR distribution for IEEE 802.11 a, channel 36, body worn configuration, position 2, antenna 2 (June 25, 2012; Ambient Temperature: 21.9° C; Liquid Temperature: 21.8° C).

# 4 SAR Z-axis Scans (Validation)

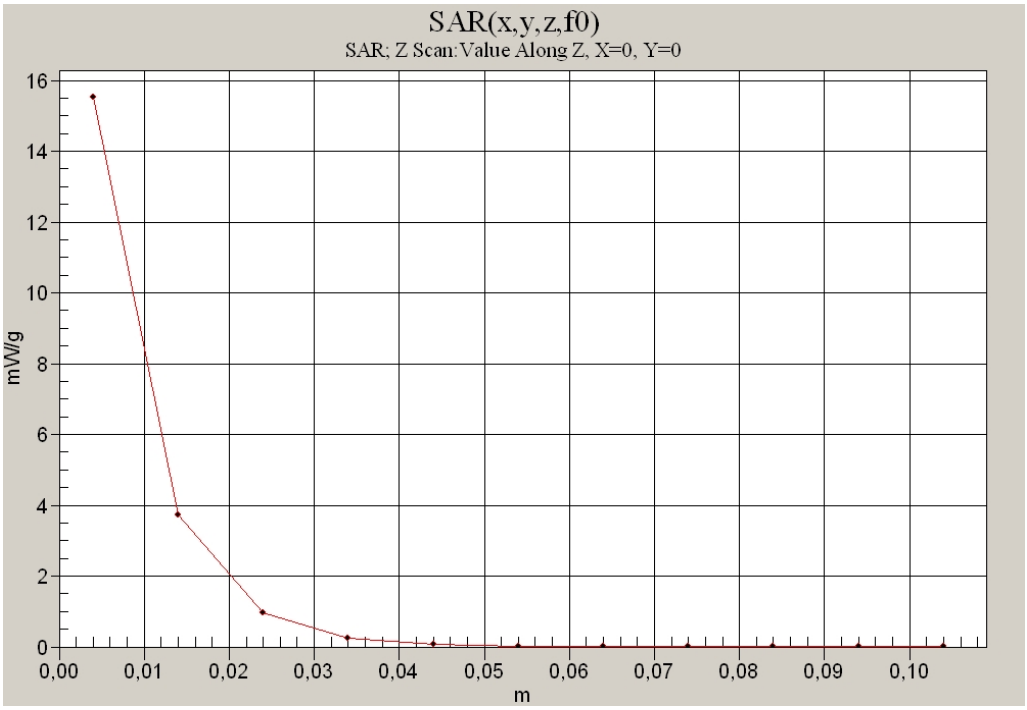


Fig. 5: SAR versus liquid depth, 2450 MHz, body (June 19, 2012; Ambient Temperature: 22.4° C; Liquid Temperature: 22.2° C).

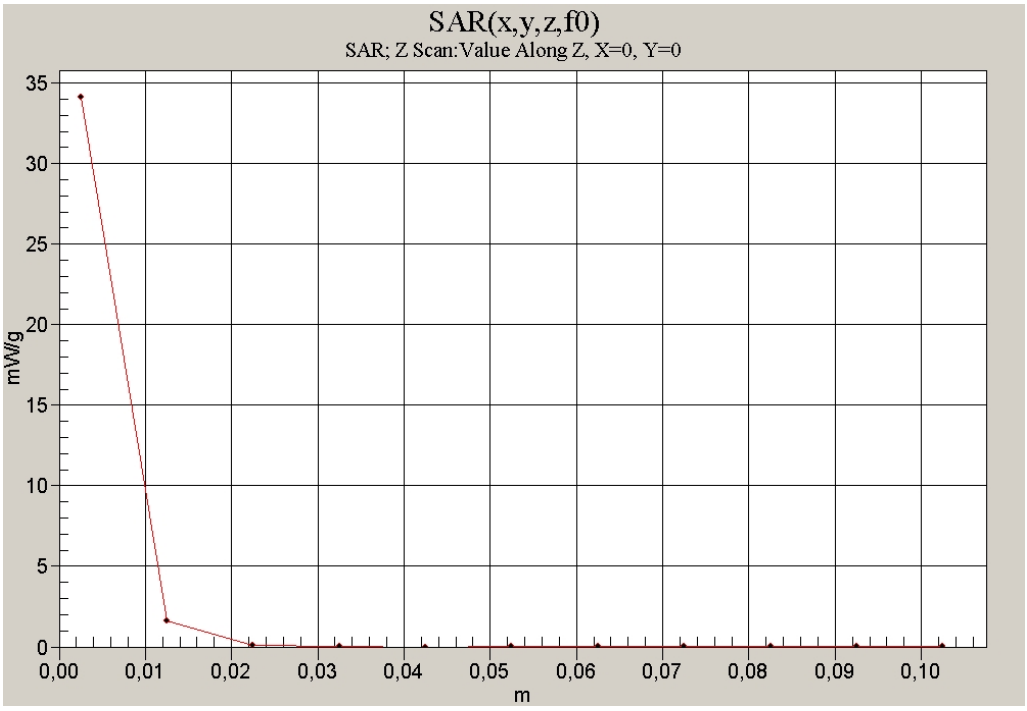


Fig. 6: SAR versus liquid depth, 5200 MHz, body (June 25, 2012; Ambient Temperature: 21.9° C; Liquid Temperature: 21.8° C).

# 5 SAR Z-axis Scans (Measurements)

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

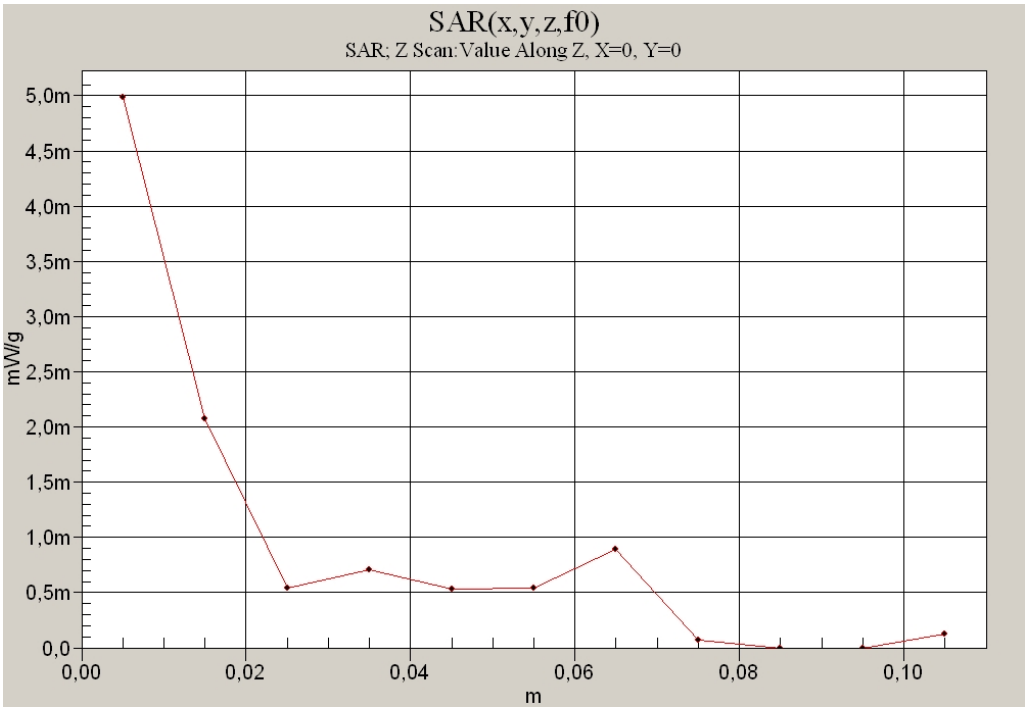


Fig. 7: SAR versus liquid depth, body: IEEE 802.11 b, channel 1, position 1, antenna 1 (June 19, 2012; Ambient Temperature: 22.7° C; Liquid Temperature: 22.3° C).

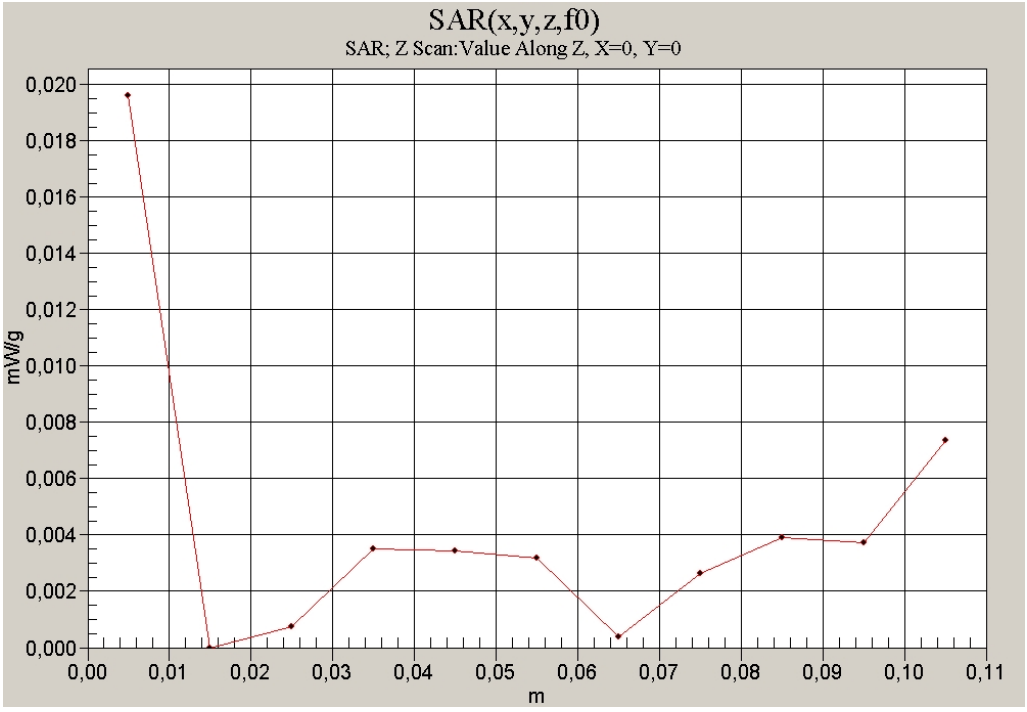


Fig. 8: SAR versus liquid depth, body: IEEE 802.11 a, channel 36, position 2, antenna 2 (June 25, 2012; Ambient Temperature: 22.7°C; Liquid Temperature: 22.3°C).