

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 Selex Elsag S.p.A. PUMA T3 plus (FCC ID: X5Y774-0788)**

### **According to the FCC Requirements SAR Distribution Plots**

August 02, 2012

**IMST GmbH**  
Carl-Friedrich-Gauß-Str. 2  
D-47475 Kamp-Lintfort

**Customer**  
Selex Elsag S.p.A.  
Via Giacomo Puccini  
16154 Genova  
Italy

The test results only relate to the items tested. This report shall not be reproduced except in full without the written approval of the testing laboratory.

## Table of Contents

1	SAR DISTRIBUTION PLOTS, TETRA HEAD .....	3
2	SAR DISTRIBUTION PLOTS, TETRA HEAD, PTT CONFIGURATION.....	13
3	SAR DISTRIBUTION PLOTS, TETRA BODY .....	17
4	SAR Z-AXIS SCANS (VALIDATION) .....	21
5	SAR Z-AXIS SCANS (MEASUREMENTS).....	22

# 1 SAR Distribution Plots, TETRA, Head

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [080\\_ytlm\\_1\\_group2.da4](#)

DUT: SELEX; Type: PUMA T3 Plus; Serial: 870080

Program Name: TETRA

Communication System: Tetra; Frequency: 817.013 MHz; Duty Cycle: 1:4

Medium parameters used (extrapolated):  $f = 817.013 \text{ MHz}$ ;  $\sigma = 0.904 \text{ mho/m}$ ;  $\epsilon_r = 42.1$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(6.34, 6.34, 6.34); Calibrated: 25.01.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 20.02.2012
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Cheek Left/Area Scan (7x18x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) =  $1.22 \text{ mW/g}$

**Cheek Left/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $37.9 \text{ V/m}$ ; Power Drift =  $-0.066 \text{ dB}$

Peak SAR (extrapolated) =  $2.27 \text{ W/kg}$

**SAR(1 g) =  $1.3 \text{ mW/g}$ ; SAR(10 g) =  $0.815 \text{ mW/g}$**

Maximum value of SAR (measured) =  $1.50 \text{ mW/g}$

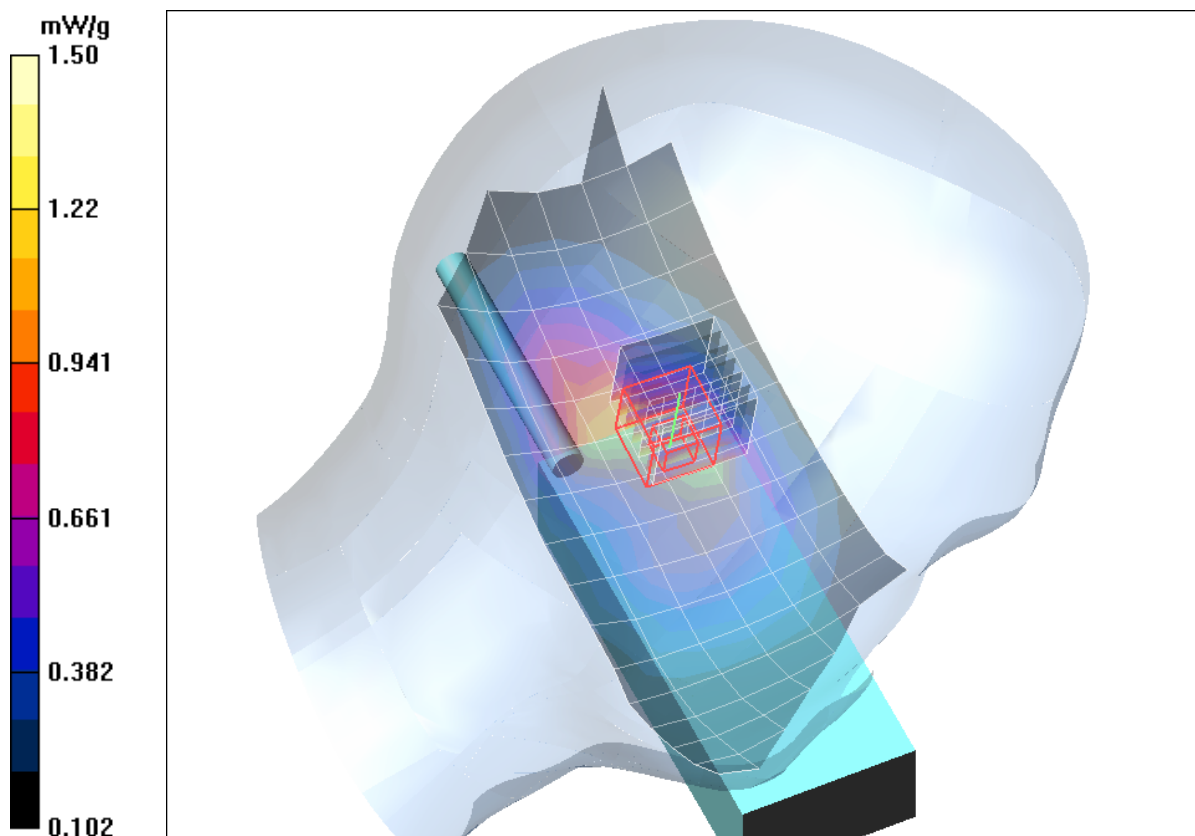


Fig. 1: SAR distribution for Tetra, 817.0125 MHz, cheek position, left side of head (July 25, 2012; Ambient Temperature:  $22.6^\circ \text{ C}$ ; Liquid Temperature:  $22.4^\circ \text{ C}$ ).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [080\\_ytlm\\_1\\_group3.da4](#)

DUT: SELEX; Type: PUMA T3 Plus; Serial: 870080

Program Name: TETRA

Communication System: Tetra; Frequency: 823.987 MHz; Duty Cycle: 1:4

Medium parameters used (extrapolated):  $f = 823.987$  MHz;  $\sigma = 0.91$  mho/m;  $\epsilon_r = 42$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(6.34, 6.34, 6.34); Calibrated: 25.01.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 20.02.2012
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Cheek Left/Area Scan (7x18x1):** Measurement grid:  $dx=15$ mm,  $dy=15$ mm

Maximum value of SAR (measured) = 1.38 mW/g

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

Reference Value = 37.9 V/m; Power Drift = -0.011 dB

Peak SAR (extrapolated) = 2.34 W/kg

**SAR(1 g) = 1.3 mW/g; SAR(10 g) = 0.825 mW/g**

Maximum value of SAR (measured) = 1.45 mW/g

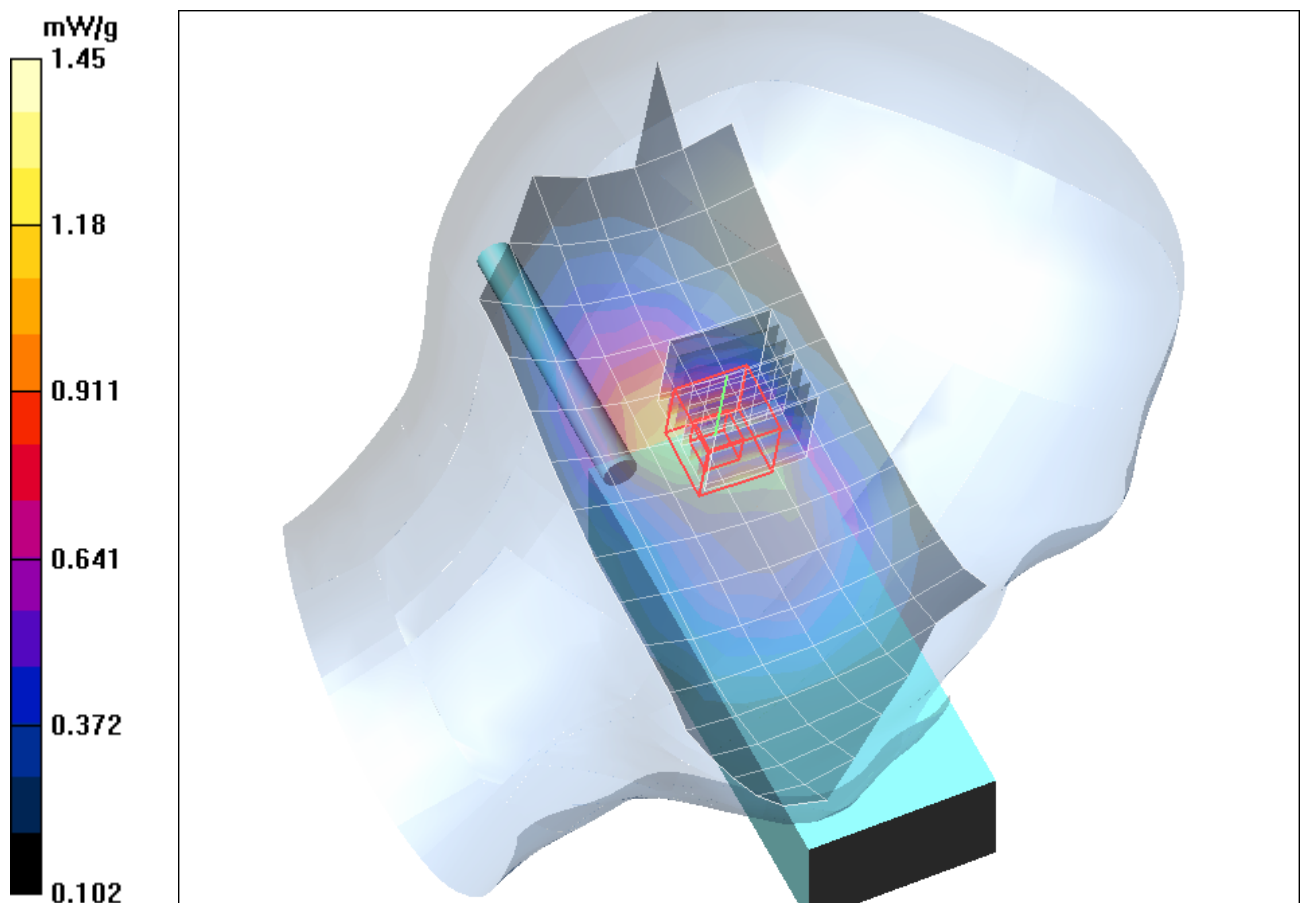


Fig. 2: SAR distribution for Tetra, 823.9875 MHz, cheek position, left side of head (July 25, 2012; Ambient Temperature: 22.6° C; Liquid Temperature: 22.4° C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [080\\_ytlm\\_1\\_group5.da4](#)

DUT: SELEX; Type: PUMA T3 Plus; Serial: 870080

Program Name: TETRA

Communication System: Tetra; Frequency: 862.013 MHz; Duty Cycle: 1:4

Medium parameters used (extrapolated):  $f = 862.013$  MHz;  $\sigma = 0.941$  mho/m;  $\epsilon_r = 41.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(6.34, 6.34, 6.34); Calibrated: 25.01.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 20.02.2012
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Cheek Left/Area Scan (7x18x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.07 mW/g

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

Reference Value = 32.9 V/m; Power Drift = 0.024 dB

Peak SAR (extrapolated) = 2.01 W/kg

**SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.697 mW/g**

Maximum value of SAR (measured) = 1.17 mW/g

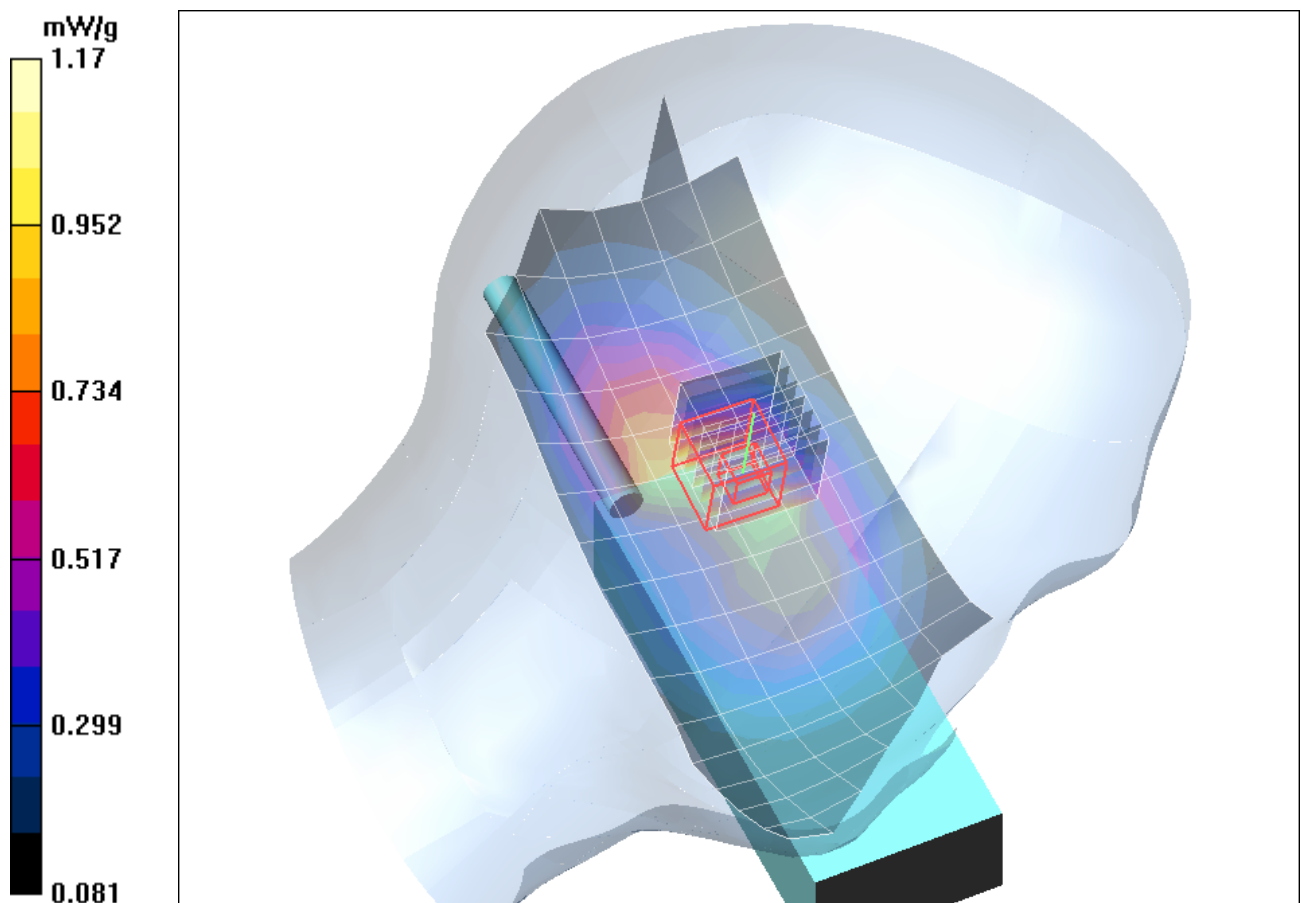


Fig. 3: SAR distribution for Tetra, 862.0125 MHz, cheek position, left side of head (July 25, 2012; Ambient Temperature: 22.6° C; Liquid Temperature: 22.4° C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [080\\_yt1m\\_1\\_group6.da4](#)

DUT: SELEX; Type: PUMA T3 Plus; Serial: 870080

Program Name: TETRA

Communication System: Tetra; Frequency: 868.987 MHz; Duty Cycle: 1:4

Medium parameters used (extrapolated):  $f = 868.987$  MHz;  $\sigma = 0.946$  mho/m;  $\epsilon_r = 41.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(6.34, 6.34, 6.34); Calibrated: 25.01.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 20.02.2012
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Cheek Left/Area Scan (7x18x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.01 mW/g

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

Reference Value = 33.4 V/m; Power Drift = -0.073 dB

Peak SAR (extrapolated) = 2.01 W/kg

**SAR(1 g) = 1.09 mW/g; SAR(10 g) = 0.673 mW/g**

Maximum value of SAR (measured) = 1.20 mW/g

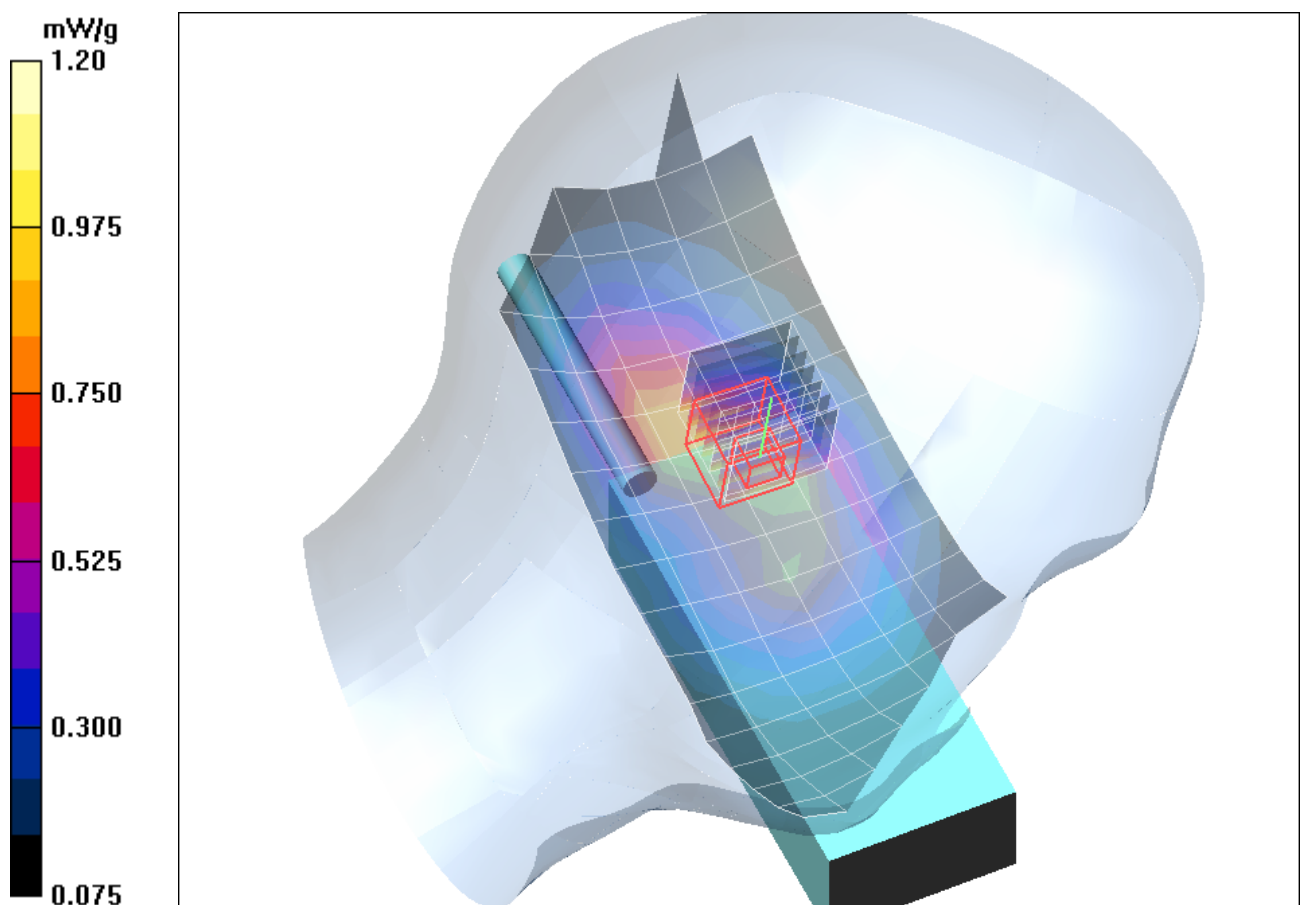


Fig. 4: SAR distribution for Tetra, 868.9875 MHz, cheek position, left side of head (July 25, 2012; Ambient Temperature: 22.6° C; Liquid Temperature: 22.4° C).

**Test Laboratory:** Imst GmbH, DASY Yellow (II); **File Name:** [080\\_yt1m\\_2\\_group3.da4](#)

**DUT: SELEX; Type: PUMA T3 Plus; Serial: 870080**

**Program Name: TETRA**

Communication System: Tetra; Frequency: 823.987 MHz; Duty Cycle: 1:4

Medium parameters used (extrapolated):  $f = 823.987$  MHz;  $\sigma = 0.91$  mho/m;  $\epsilon_r = 42$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(6.34, 6.34, 6.34); Calibrated: 25.01.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 20.02.2012
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Tilted Left/Area Scan (7x18x1):** Measurement grid:  $dx=15$ mm,  $dy=15$ mm

Maximum value of SAR (measured) = 1.47 mW/g

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

Reference Value = 40.9 V/m; Power Drift = -0.075 dB

Peak SAR (extrapolated) = 2.72 W/kg

**SAR(1 g) = 1.54 mW/g; SAR(10 g) = 1.01 mW/g**

Maximum value of SAR (measured) = 1.74 mW/g

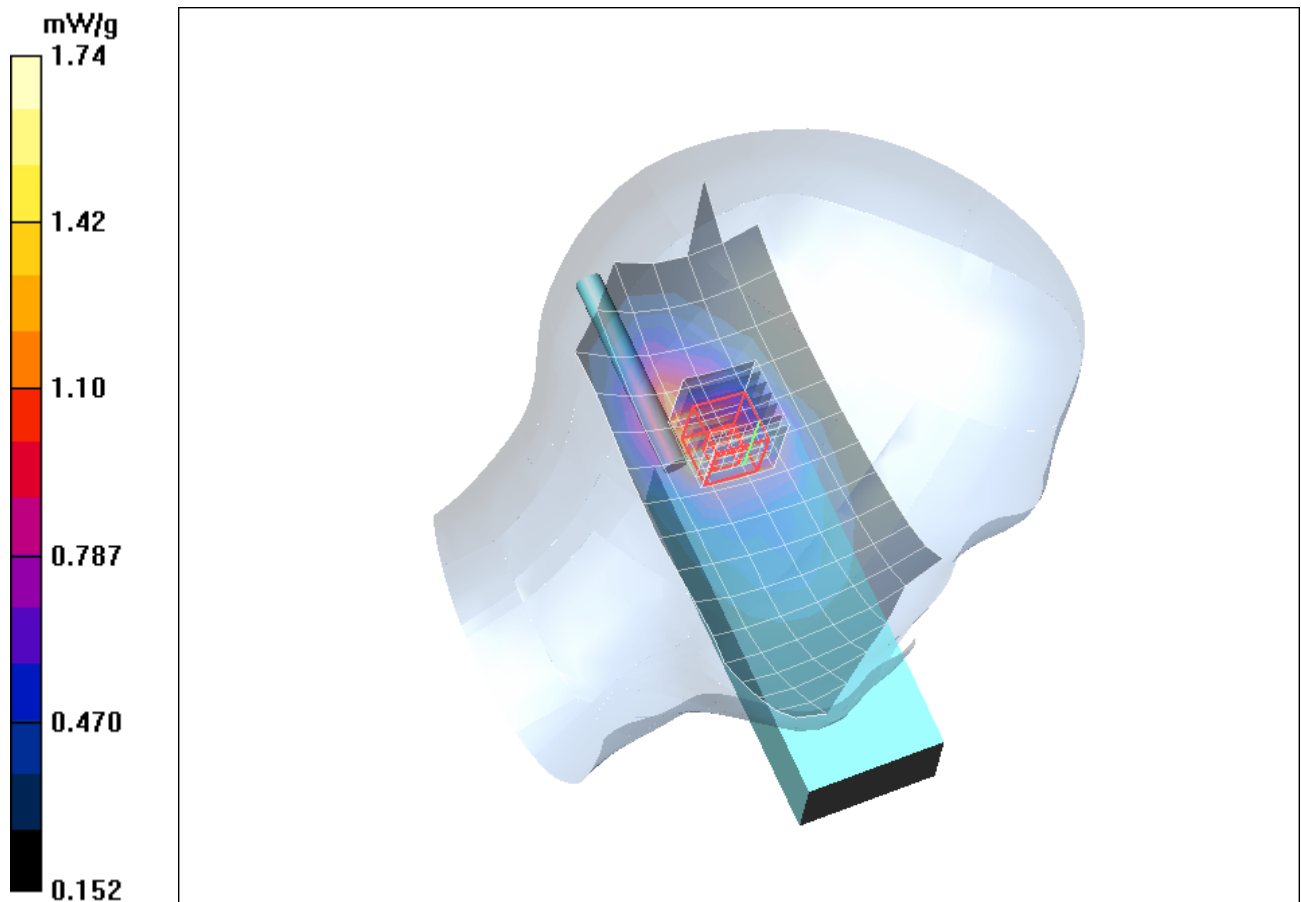


Fig. 5: SAR distribution for Tetra, 823.9875 MHz, tilted position, left side of head (July 25, 2012; Ambient Temperature: 22.6° C; Liquid Temperature: 22.4° C).



**Test Laboratory:** Imst GmbH, DASY Yellow (II); **File Name:** [080\\_ytrm\\_1\\_group2.da4](#)

**DUT:** SELEX; **Type:** PUMA T3 Plus; **Serial:** 870080

**Program Name:** Cheek Right

Communication System: Tetra; Frequency: 817.013 MHz; Duty Cycle: 1:4

Medium parameters used (extrapolated):  $f = 817.013$  MHz;  $\sigma = 0.904$  mho/m;  $\epsilon_r = 42.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(6.34, 6.34, 6.34); Calibrated: 25.01.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 20.02.2012
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Cheek Right/Area Scan (7x18x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.38 mW/g

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

Reference Value = 39.4 V/m; Power Drift = -0.134 dB

Peak SAR (extrapolated) = 2.32 W/kg

**SAR(1 g) = 1.43 mW/g; SAR(10 g) = 0.895 mW/g**

Maximum value of SAR (measured) = 1.65 mW/g

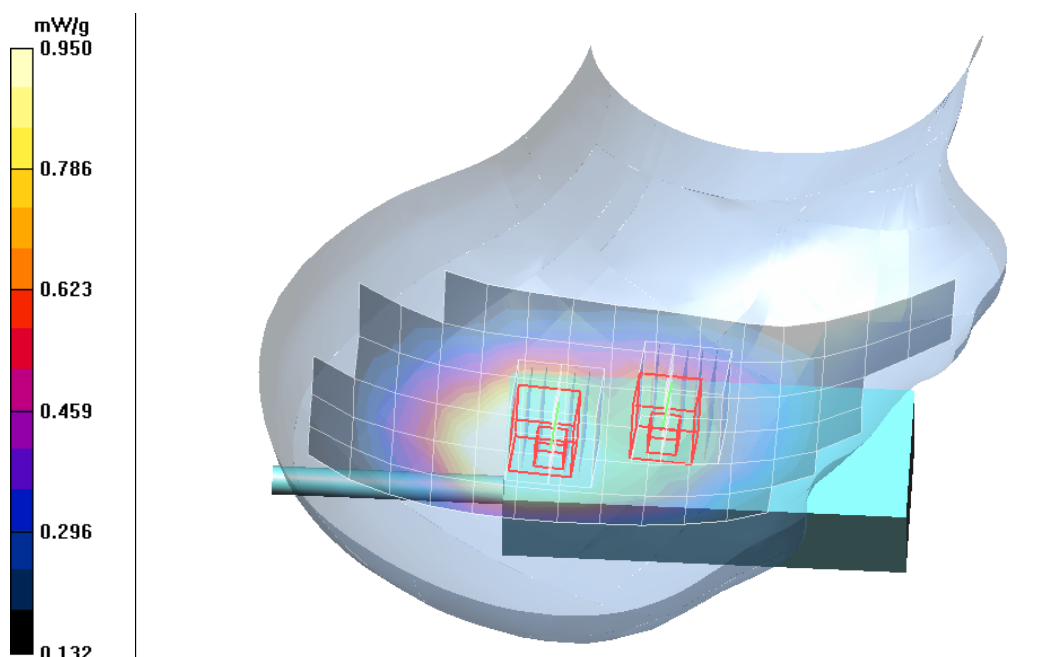
**Cheek Right/Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 39.4 V/m; Power Drift = -0.134 dB

Peak SAR (extrapolated) = 1.26 W/kg

**SAR(1 g) = 0.878 mW/g; SAR(10 g) = 0.655 mW/g**

Maximum value of SAR (measured) = 0.950 mW/g



**Fig. 6:** SAR distribution for Tetra, 817.0125 MHz, cheek position, right side of head (July 25, 2012; Ambient Temperature: 22.6° C; Liquid Temperature: 22.4° C).



**Test Laboratory:** Imst GmbH, DASY Yellow (II); **File Name:** [080\\_ytrm\\_1\\_group3.da4](#)

**DUT:** SELEX; **Type:** PUMA T3 Plus; **Serial:** 870080

**Program Name:** Cheek Right

Communication System: Tetra; Frequency: 823.987 MHz; Duty Cycle: 1:4

Medium parameters used (extrapolated):  $f = 823.987$  MHz;  $\sigma = 0.91$  mho/m;  $\epsilon_r = 42$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(6.34, 6.34, 6.34); Calibrated: 25.01.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 20.02.2012
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Cheek Right/Area Scan (7x18x1):** Measurement grid:  $dx=15$ mm,  $dy=15$ mm

Maximum value of SAR (measured) = 1.52 mW/g

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

Reference Value = 40.0 V/m; Power Drift = -0.157 dB

Peak SAR (extrapolated) = 2.76 W/kg

**SAR(1 g) = 1.44 mW/g; SAR(10 g) = 0.911 mW/g**

Maximum value of SAR (measured) = 1.59 mW/g

**Cheek Right/Zoom Scan (7x7x7)/Cube 1:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 40.0 V/m; Power Drift = -0.157 dB

Peak SAR (extrapolated) = 1.10 W/kg

**SAR(1 g) = 0.849 mW/g; SAR(10 g) = 0.644 mW/g**

Maximum value of SAR (measured) = 0.943 mW/g

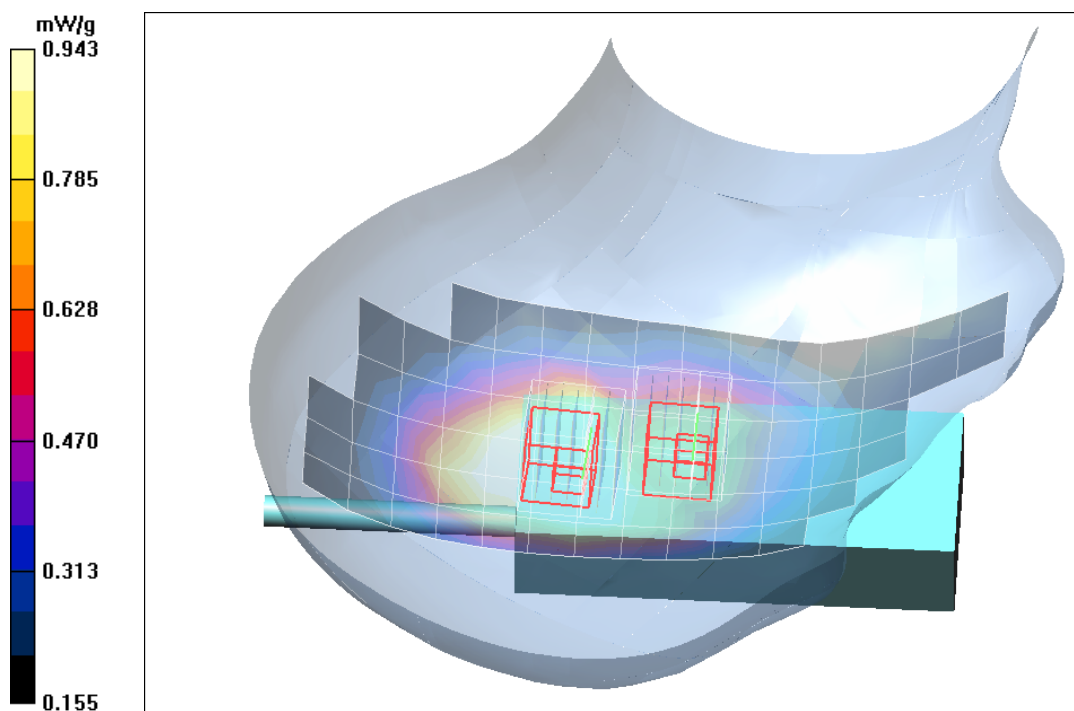


Fig. 7: SAR distribution for Tetra, 823.9875 MHz, cheek position, right side of head (July 25, 2012; Ambient Temperature: 22.6° C; Liquid Temperature: 22.4° C).

**Test Laboratory:** Imst GmbH, DASY Yellow (II); **File Name:** [080\\_ytrm\\_1\\_group5.da4](#)

**DUT:** SELEX; **Type:** PUMA T3 Plus; **Serial:** 870080

**Program Name:** Cheek Right

Communication System: Tetra; Frequency: 862.013 MHz; Duty Cycle: 1:4

Medium parameters used (extrapolated):  $f = 862.013$  MHz;  $\sigma = 0.941$  mho/m;  $\epsilon_r = 41.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(6.34, 6.34, 6.34); Calibrated: 25.01.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 20.02.2012
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Cheek Right/Area Scan (7x18x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.36 mW/g

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

Reference Value = 40.3 V/m; Power Drift = -0.180 dB

Peak SAR (extrapolated) = 2.03 W/kg

**SAR(1 g) = 1.21 mW/g; SAR(10 g) = 0.791 mW/g**

Maximum value of SAR (measured) = 1.32 mW/g

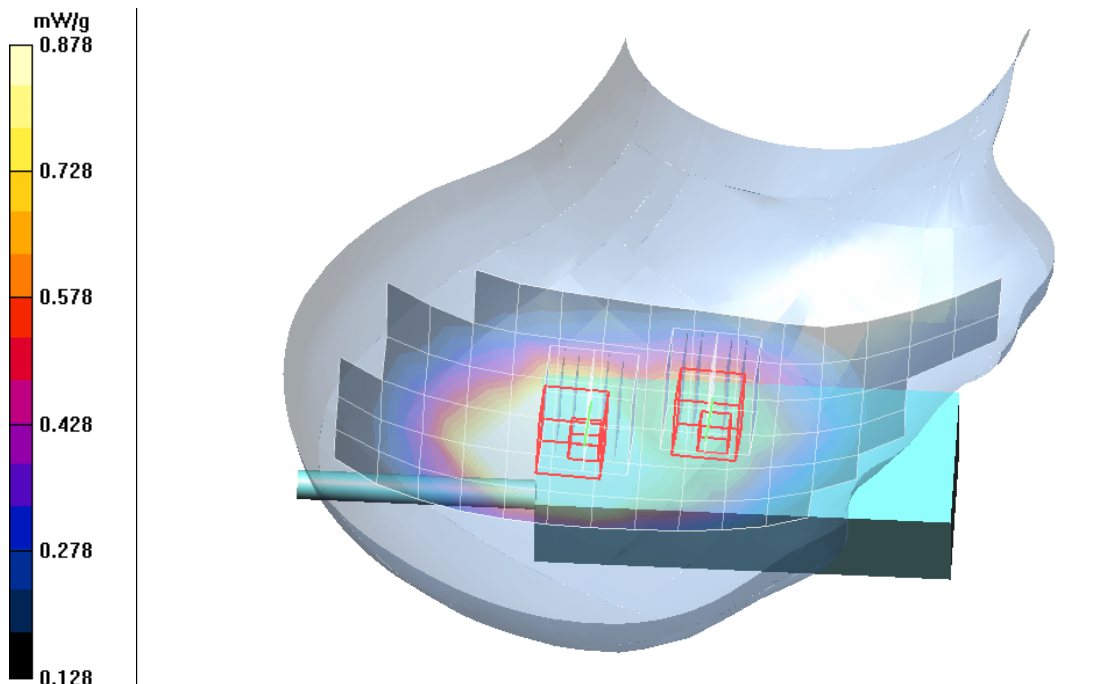
**Cheek Right/Zoom Scan (7x7x7)/Cube 1:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 40.3 V/m; Power Drift = -0.180 dB

Peak SAR (extrapolated) = 1.01 W/kg

**SAR(1 g) = 0.825 mW/g; SAR(10 g) = 0.610 mW/g**

Maximum value of SAR (measured) = 0.878 mW/g



**Fig. 8:** SAR distribution for Tetra, 862.0125 MHz, cheek position, right side of head (July 25, 2012; Ambient Temperature: 22.6° C; Liquid Temperature: 22.4° C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [080\\_ytrm\\_1\\_group6.da4](#)

DUT: SELEX; Type: PUMA T3 Plus; Serial: 870080

Program Name: Cheek Right

Communication System: Tetra; Frequency: 868.987 MHz; Duty Cycle: 1:4

Medium parameters used (extrapolated):  $f = 868.987$  MHz;  $\sigma = 0.946$  mho/m;  $\epsilon_r = 41.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(6.34, 6.34, 6.34); Calibrated: 25.01.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 20.02.2012
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Cheek Right/Area Scan (7x18x1):** Measurement grid:  $dx=15$ mm,  $dy=15$ mm

Maximum value of SAR (measured) = 1.17 mW/g

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

Reference Value = 36.2 V/m; Power Drift = -0.177 dB

Peak SAR (extrapolated) = 2.02 W/kg

**SAR(1 g) = 1.17 mW/g; SAR(10 g) = 0.743 mW/g**

Maximum value of SAR (measured) = 1.32 mW/g

**Cheek Right/Zoom Scan (7x7x7)/Cube 1:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 36.2 V/m; Power Drift = -0.177 dB

Peak SAR (extrapolated) = 1.02 W/kg

**SAR(1 g) = 0.825 mW/g; SAR(10 g) = 0.625 mW/g**

Maximum value of SAR (measured) = 0.885 mW/g

**Cheek Right/Zoom Scan (7x7x7)/Cube 2:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 36.2 V/m; Power Drift = -0.177 dB

Peak SAR (extrapolated) = 1.11 W/kg

**SAR(1 g) = 0.741 mW/g; SAR(10 g) = 0.538 mW/g**

Maximum value of SAR (measured) = 0.820 mW/g

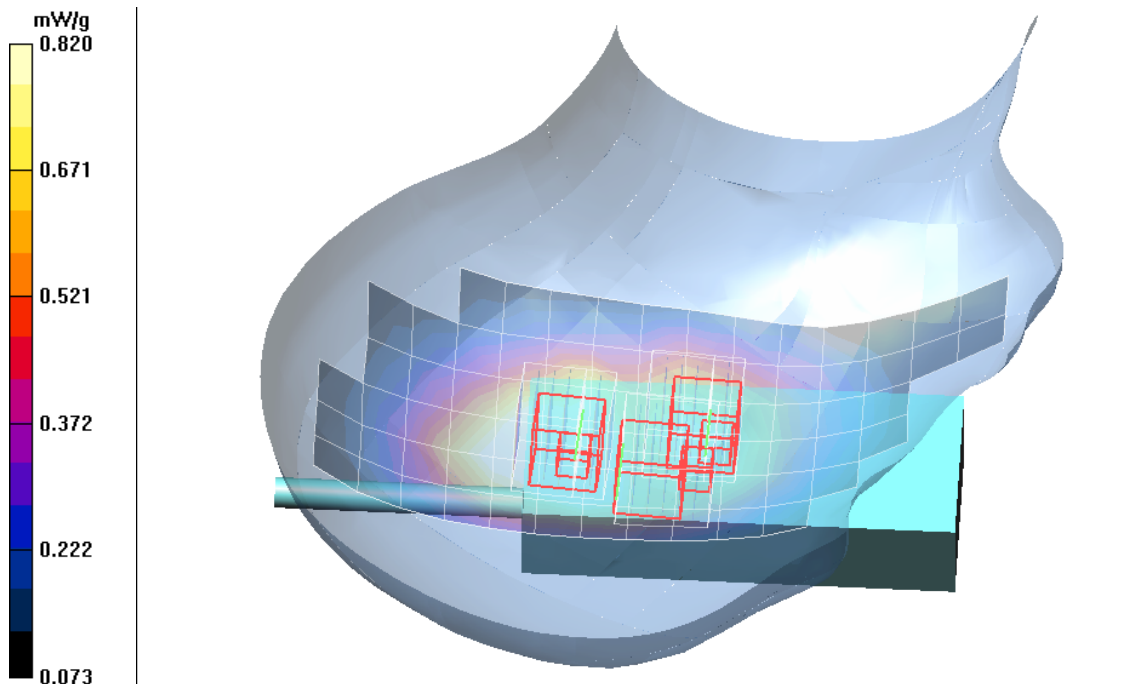


Fig. 9: SAR distribution for Tetra, 868.9875 MHz, cheek position, right side of head (July 25, 2012; Ambient Temperature: 22.6° C; Liquid Temperature: 22.4° C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [080\\_ytrm\\_2\\_group3.da4](#)

DUT: SELEX; Type: PUMA T3 Plus; Serial: 870080

Program Name: Tilted Right

Communication System: Tetra; Frequency: 823.987 MHz; Duty Cycle: 1:4

Medium parameters used (extrapolated):  $f = 823.987$  MHz;  $\sigma = 0.91$  mho/m;  $\epsilon_r = 42$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(6.34, 6.34, 6.34); Calibrated: 25.01.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 20.02.2012
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Tilted Right/Area Scan (7x18x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 2.17 mW/g

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

Reference Value = 44.0 V/m; Power Drift = 0.041 dB

Peak SAR (extrapolated) = 3.63 W/kg

**SAR(1 g) = 1.99 mW/g; SAR(10 g) = 1.3 mW/g**

Maximum value of SAR (measured) = 2.31 mW/g

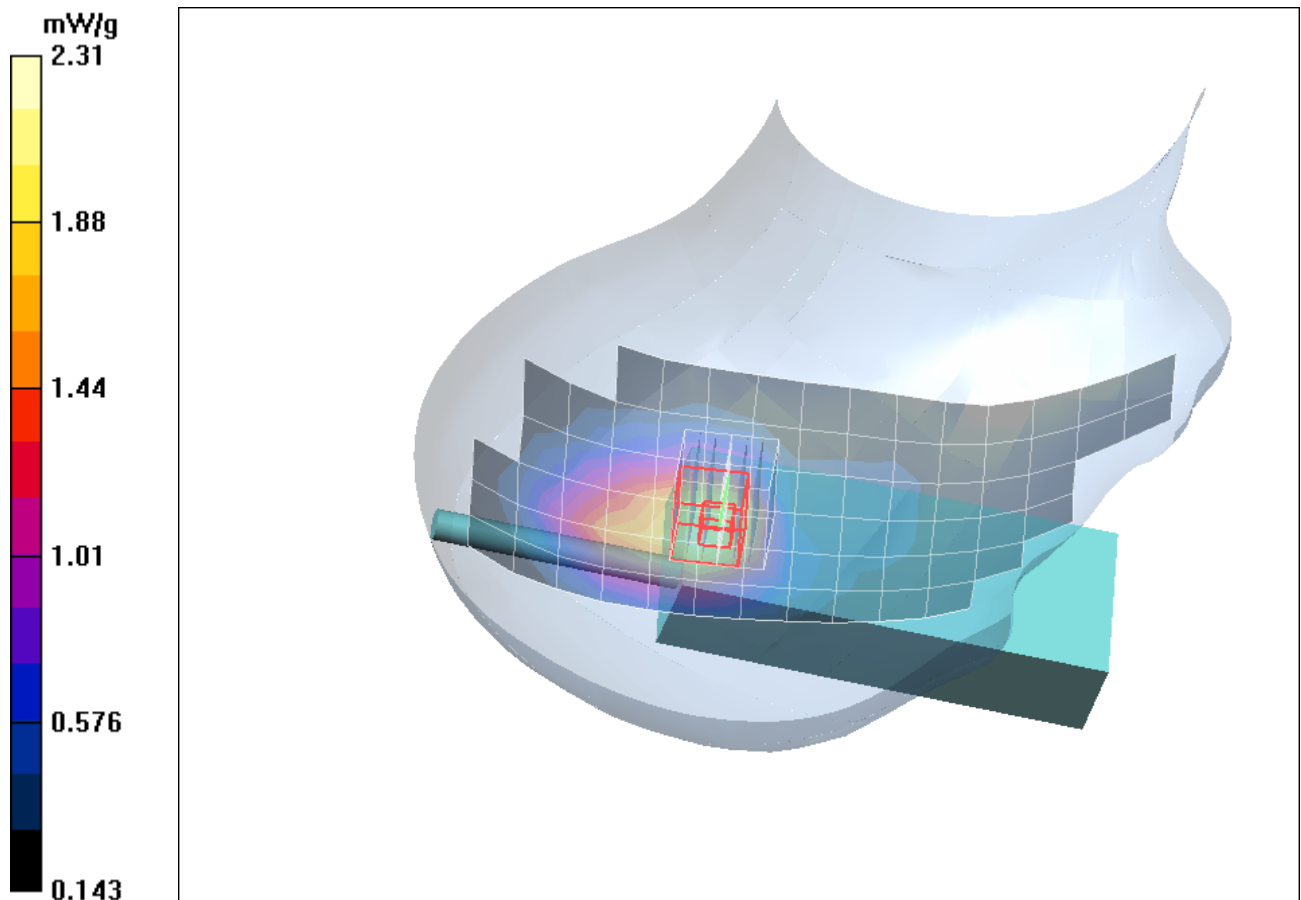


Fig. 10: SAR distribution for Tetra, 823.9875 MHz, tilted position, right side of head (July 25, 2012; Ambient Temperature: 22.6° C; Liquid Temperature: 22.4° C).

## 2 SAR Distribution Plots, TETRA, PTT Configuration

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [080\\_ytptt\\_1\\_group2.da4](#)

DUT: SELEX; Type: PUMA T3 Plus; Serial: 870080

Program Name: PTT

Communication System: Tetra; Frequency: 817.013 MHz; Duty Cycle: 1:4

Medium parameters used (extrapolated):  $f = 817.013$  MHz;  $\sigma = 0.904$  mho/m;  $\epsilon_r = 42.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(6.34, 6.34, 6.34); Calibrated: 25.01.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 20.02.2012
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**PTT/Area Scan (8x18x1):** Measurement grid:  $dx=15$ mm,  $dy=15$ mm

Maximum value of SAR (measured) = 0.468 mW/g

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

Reference Value = 16.4 V/m; Power Drift = -0.065 dB

Peak SAR (extrapolated) = 0.561 W/kg

**SAR(1 g) = 0.403 mW/g; SAR(10 g) = 0.303 mW/g**

Maximum value of SAR (measured) = 0.454 mW/g

**PTT/Zoom Scan (7x7x7)/Cube 1:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm

Reference Value = 16.4 V/m; Power Drift = -0.065 dB

Peak SAR (extrapolated) = 0.537 W/kg

**SAR(1 g) = 0.394 mW/g; SAR(10 g) = 0.284 mW/g**

Maximum value of SAR (measured) = 0.433 mW/g

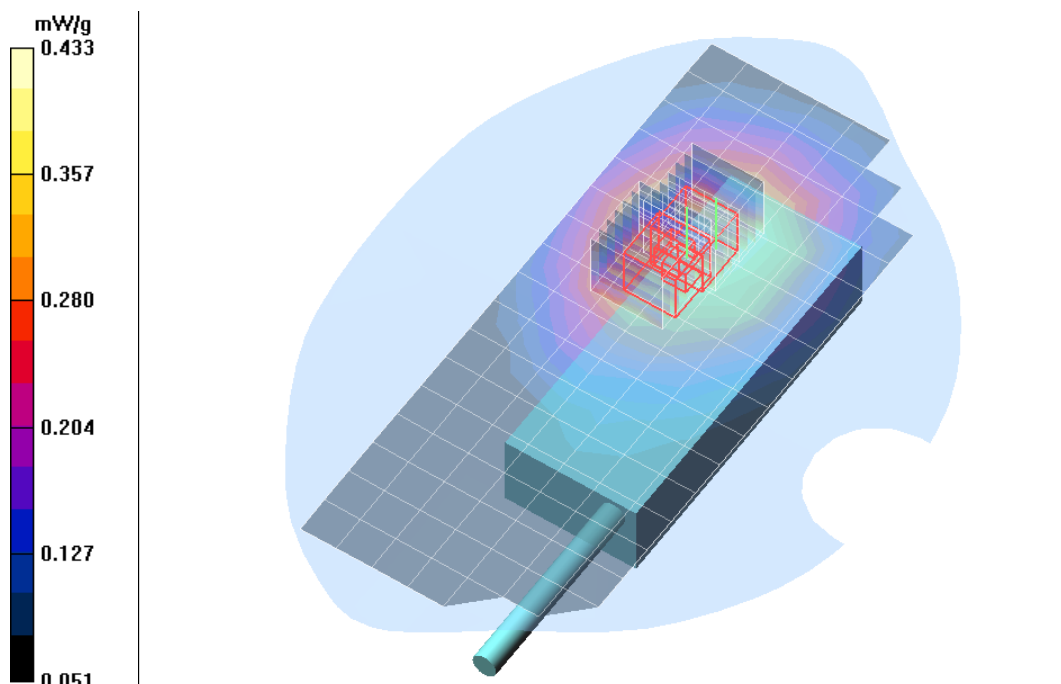


Fig. 11: SAR distribution for Tetra, 817.0125 MHz, PTT (July 25, 2012; Ambient Temperature: 22.6° C; Liquid Temperature: 22.4° C).

Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [080\\_ytptt\\_1\\_group3.da4](#)

DUT: SELEX; Type: PUMA T3 Plus; Serial: 870080

Program Name: PTT

Communication System: Tetra; Frequency: 823.987 MHz; Duty Cycle: 1:4

Medium parameters used (extrapolated):  $f = 823.987$  MHz;  $\sigma = 0.91$  mho/m;  $\epsilon_r = 42$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(6.34, 6.34, 6.34); Calibrated: 25.01.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 20.02.2012
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**PTT/Area Scan (8x18x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.480 mW/g

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

Reference Value = 18.6 V/m; Power Drift = 0.182 dB

Peak SAR (extrapolated) = 0.740 W/kg

**SAR(1 g) = 0.467 mW/g; SAR(10 g) = 0.340 mW/g**

Maximum value of SAR (measured) = 0.514 mW/g

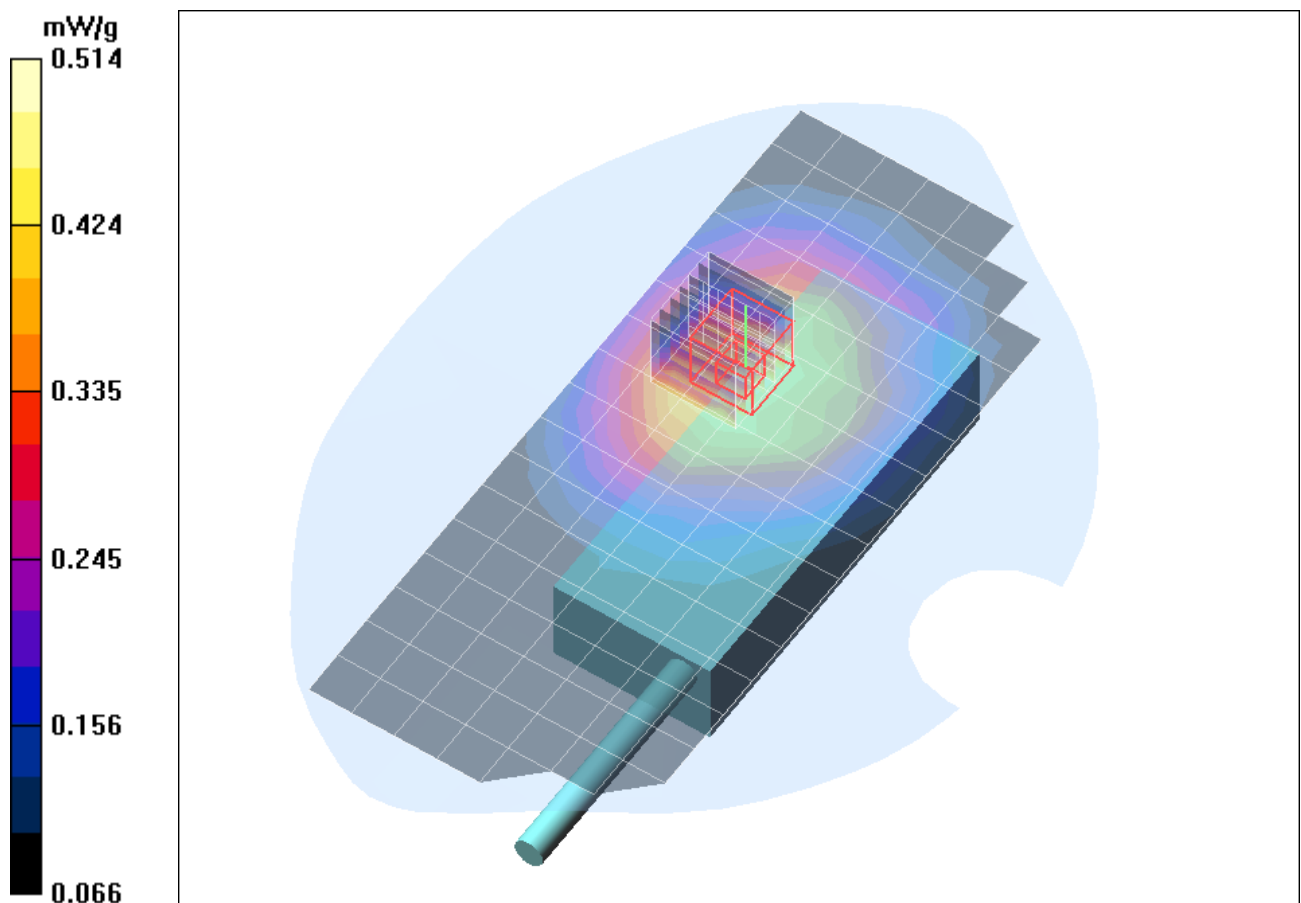


Fig. 12: SAR distribution for Tetra, 823.9875 MHz, PTT (July 25, 2012; Ambient Temperature: 22.6° C; Liquid Temperature: 22.4° C).



Test Laboratory: Imst GmbH, DASY Yellow (II); File Name: [080\\_ytptt\\_1\\_group5.da4](#)

DUT: SELEX; Type: PUMA T3 Plus; Serial: 870080

Program Name: PTT

Communication System: Tetra; Frequency: 862.013 MHz; Duty Cycle: 1:4

Medium parameters used (extrapolated):  $f = 862.013$  MHz;  $\sigma = 0.941$  mho/m;  $\epsilon_r = 41.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(6.34, 6.34, 6.34); Calibrated: 25.01.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 20.02.2012
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**PTT/Area Scan (8x18x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.514 mW/g

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

Reference Value = 17.7 V/m; Power Drift = -0.037 dB

Peak SAR (extrapolated) = 0.796 W/kg

**SAR(1 g) = 0.498 mW/g; SAR(10 g) = 0.368 mW/g**

Maximum value of SAR (measured) = 0.560 mW/g

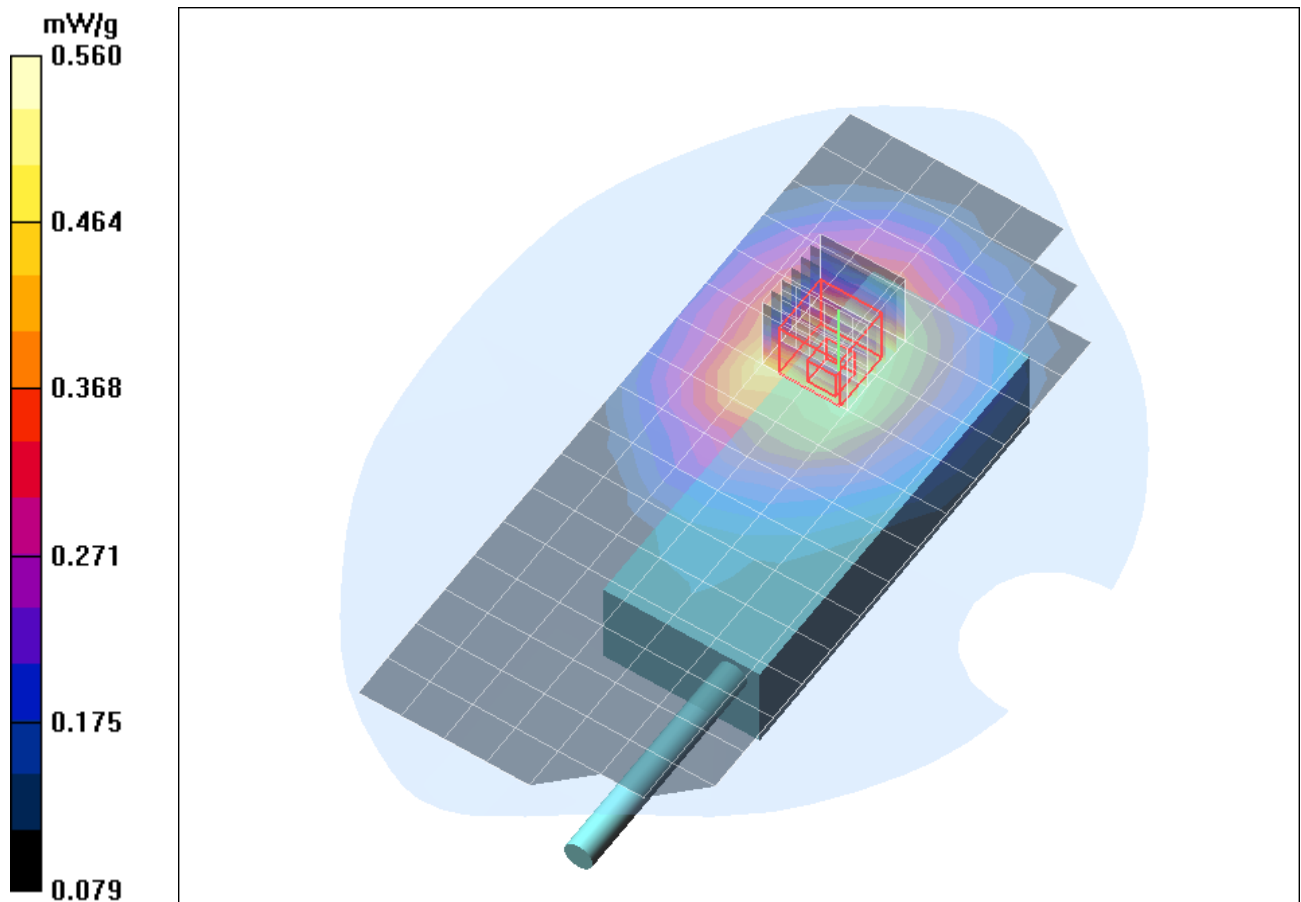


Fig. 13: SAR distribution for Tetra, 862.0125 MHz, PTT (July 25, 2012; Ambient Temperature: 22.6° C; Liquid Temperature: 22.4° C).



**Test Laboratory:** Imst GmbH, DASY Yellow (II); **File Name:** [080\\_ytpptt\\_1\\_group6.da4](#)

**DUT: SELEX; Type: PUMA T3 Plus; Serial: 870080**

**Program Name: PTT**

Communication System: Tetra; Frequency: 868.987 MHz; Duty Cycle: 1:4

Medium parameters used (extrapolated):  $f = 868.987$  MHz;  $\sigma = 0.946$  mho/m;  $\epsilon_r = 41.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(6.34, 6.34, 6.34); Calibrated: 25.01.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 20.02.2012
- Phantom: SAM Sugar 1341; Type: QD 000 P40 CB; Serial: TP-1341
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**PTT/Area Scan (8x18x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.483 mW/g

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

Reference Value = 16.6 V/m; Power Drift = 0.043 dB

Peak SAR (extrapolated) = 0.719 W/kg

**SAR(1 g) = 0.481 mW/g; SAR(10 g) = 0.354 mW/g**

Maximum value of SAR (measured) = 0.533 mW/g

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

Reference Value = 16.6 V/m; Power Drift = 0.043 dB

Peak SAR (extrapolated) = 0.619 W/kg

**SAR(1 g) = 0.492 mW/g; SAR(10 g) = 0.339 mW/g**

Maximum value of SAR (measured) = 0.537 mW/g

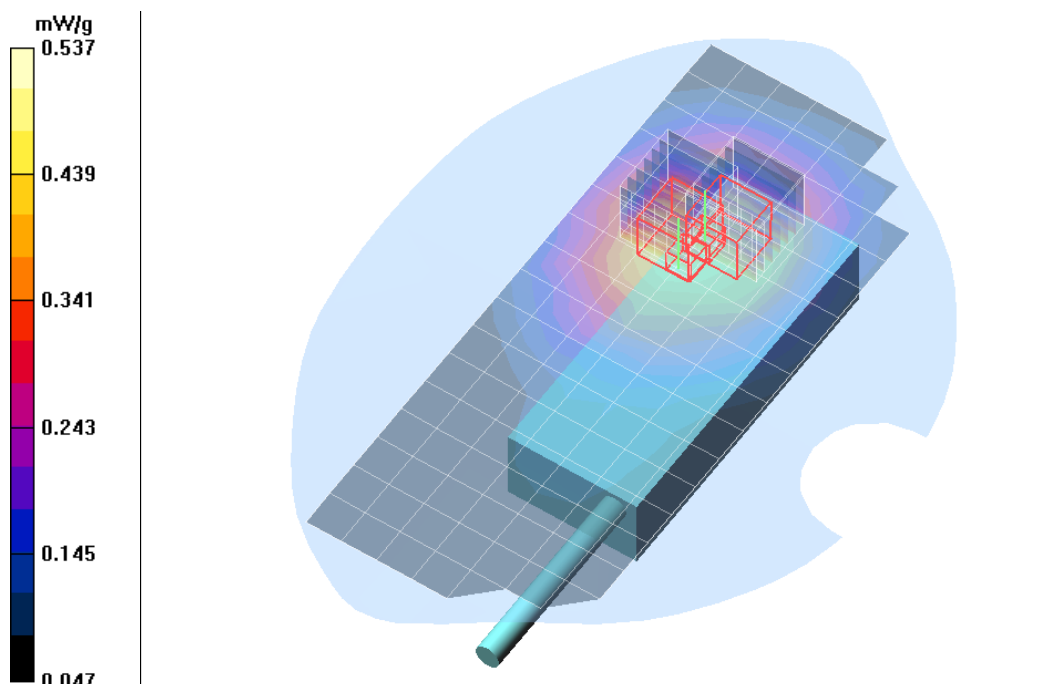


Fig. 14: SAR distribution for Tetra, 868.9875 MHz, PTT (July 25, 2012; Ambient Temperature: 22.6° C; Liquid Temperature: 22.4° C).

### 3 SAR Distribution Plots, Tetra, Body Worn Configuration

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

[080\\_bthm\\_1\\_down\\_case+belt\\_Group2.da4](#)

DUT: SELEX; Type: PUMA T3 Plus; Serial: 870080

Program Name: Tetra

Communication System: Tetra; Frequency: 817.013 MHz; Duty Cycle: 1:4

Medium parameters used:  $f = 817.013$  MHz;  $\sigma = 0.96$  mho/m;  $\epsilon_r = 53.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(6.24, 6.24, 6.24); Calibrated: 25.01.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 20.02.2012
- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Body Worn/Area Scan (8x17x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.728 mW/g

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

Reference Value = 17.4 V/m; Power Drift = 0.069 dB

Peak SAR (extrapolated) = 0.991 W/kg

**SAR(1 g) = 0.693 mW/g; SAR(10 g) = 0.507 mW/g**

Maximum value of SAR (measured) = 0.749 mW/g

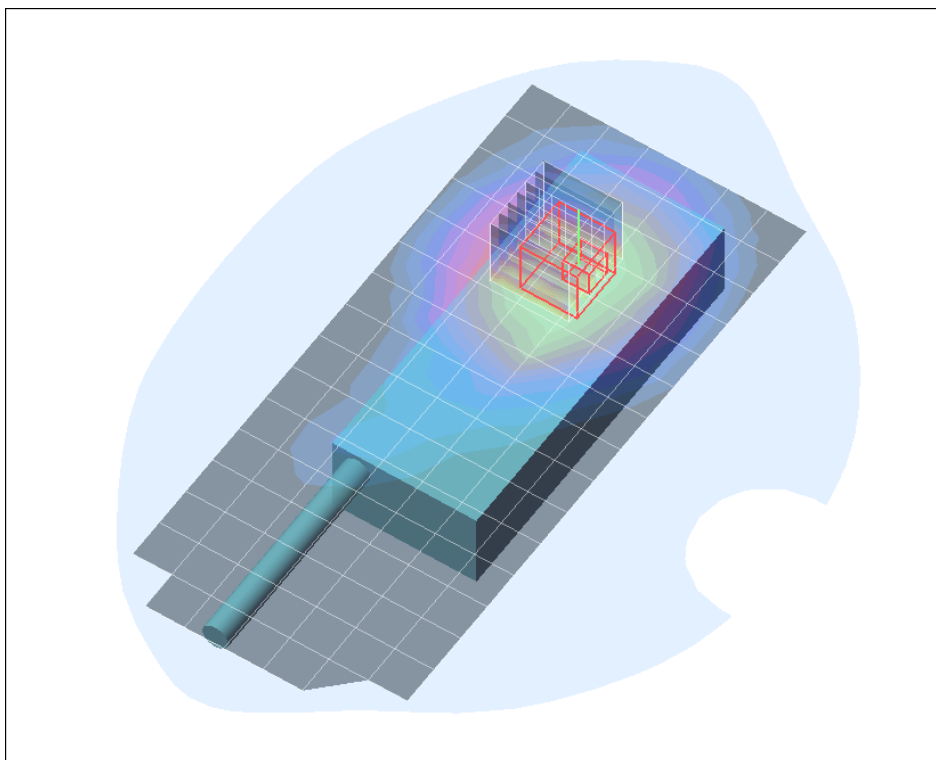


Fig. 15: SAR distribution for Tetra, 817.0125 MHz, body worn configuration, with shoulder belt case (July 31, 2012; Ambient Temperature: 22.8° C; Liquid Temperature: 22.4° C).

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

[080\\_bthm\\_1\\_down\\_case+belt\\_Group3.da4](#)

DUT: SELEX; Type: PUMA T3 Plus; Serial: 870080

Program Name: Tetra

Communication System: Tetra; Frequency: 823.987 MHz; Duty Cycle: 1:4

Medium parameters used:  $f = 823.987$  MHz;  $\sigma = 0.97$  mho/m;  $\epsilon_r = 53.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(6.24, 6.24, 6.24); Calibrated: 25.01.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 20.02.2012
- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Body Worn/Area Scan (8x17x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.702 mW/g

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

Reference Value = 16.7 V/m; Power Drift = 0.058 dB

Peak SAR (extrapolated) = 1.04 W/kg

**SAR(1 g) = 0.680 mW/g; SAR(10 g) = 0.496 mW/g**

Maximum value of SAR (measured) = 0.734 mW/g

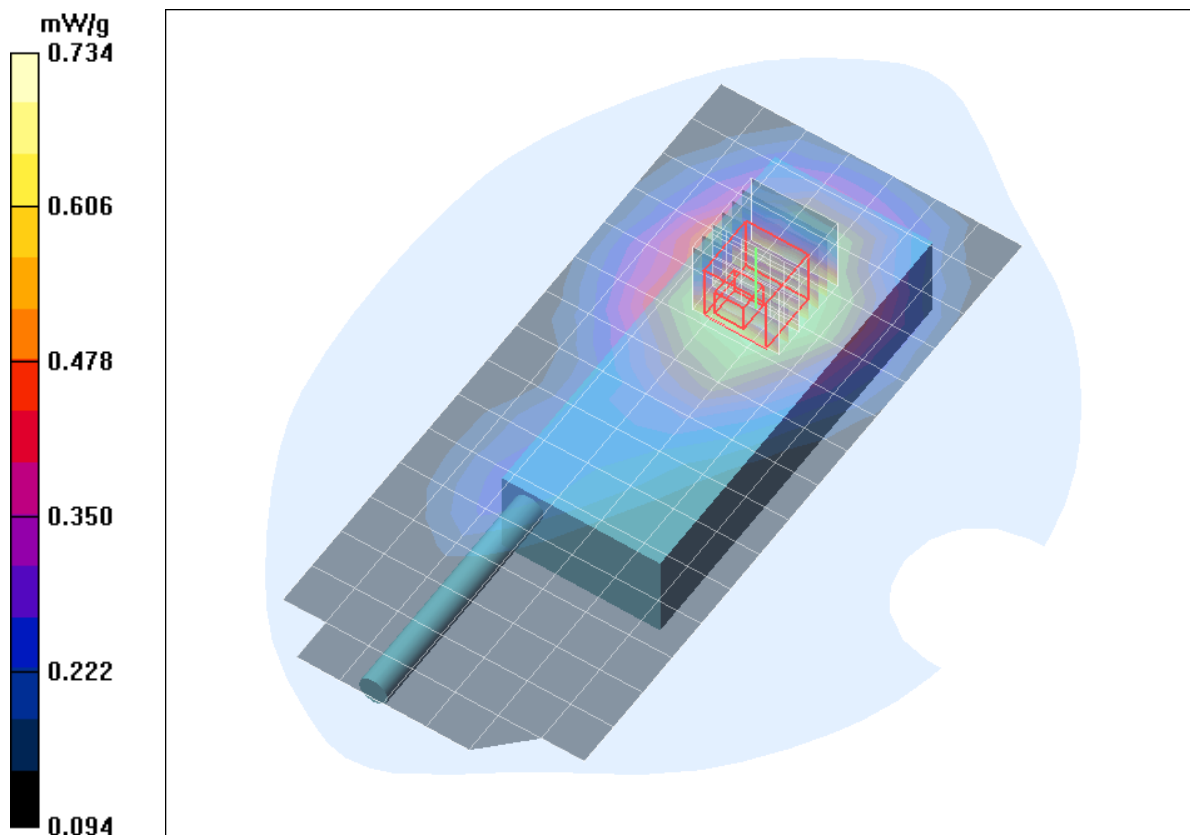


Fig. 16: SAR distribution for Tetra, 823.9875 MHz, body worn configuration, with shoulder belt case (July 31, 2012; Ambient Temperature: 22.8° C; Liquid Temperature: 22.4° C).

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

[080\\_bthm\\_1\\_down\\_case+belt\\_Group5.da4](#)

DUT: SELEX; Type: PUMA T3 Plus; Serial: 870080

Program Name: Tetra

Communication System: Tetra; Frequency: 862.013 MHz; Duty Cycle: 1:4

Medium parameters used:  $f = 862.013$  MHz;  $\sigma = 0.98$  mho/m;  $\epsilon_r = 53.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(6.24, 6.24, 6.24); Calibrated: 25.01.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 20.02.2012
- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Body Worn/Area Scan (8x17x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.656 mW/g

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

Reference Value = 15.8 V/m; Power Drift = 0.047 dB

Peak SAR (extrapolated) = 0.832 W/kg

**SAR(1 g) = 0.610 mW/g; SAR(10 g) = 0.452 mW/g**

Maximum value of SAR (measured) = 0.676 mW/g

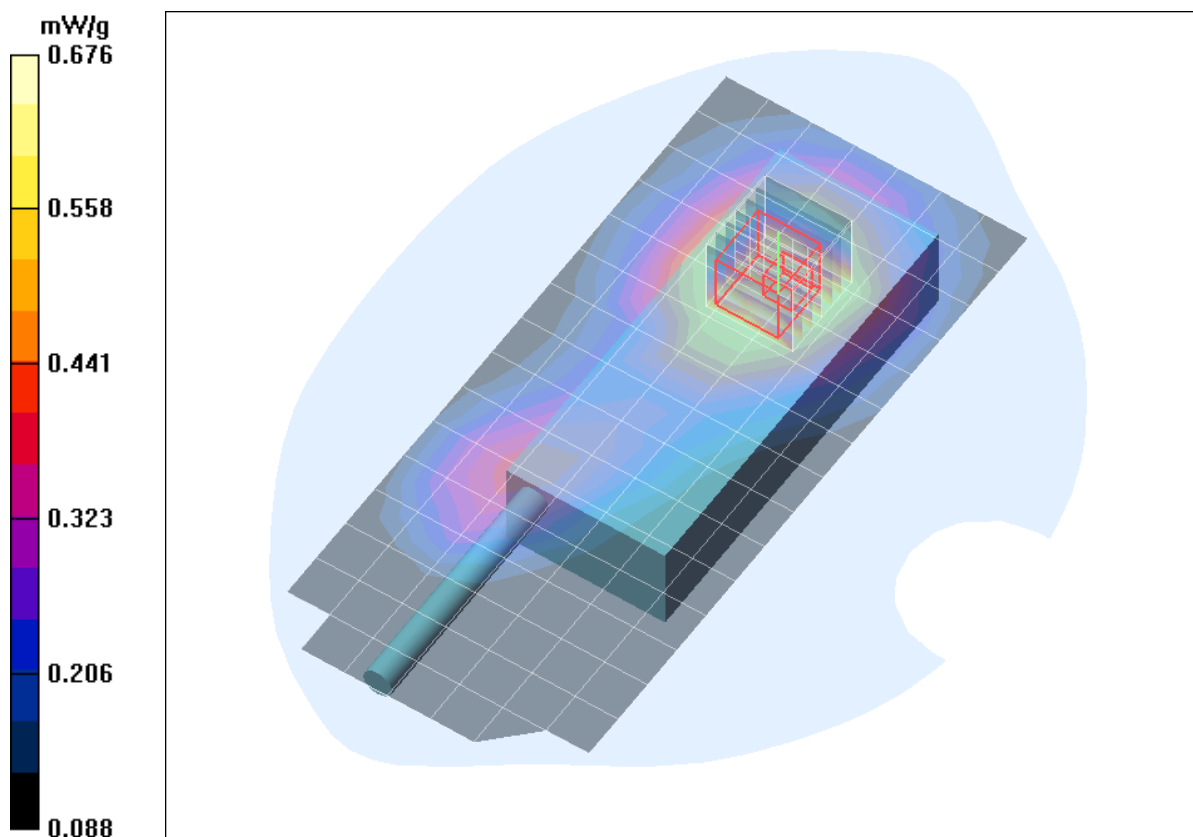


Fig. 17: SAR distribution for Tetra, 862.0125 MHz, body worn configuration, with shoulder belt case (July 31, 2012; Ambient Temperature: 22.8° C; Liquid Temperature: 22.4° C).

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

[080\\_bthm\\_1\\_down\\_case+belt\\_Group6.da4](#)

DUT: SELEX; Type: PUMA T3 Plus; Serial: 870080

Program Name: Tetra

Communication System: Tetra; Frequency: 868.987 MHz; Duty Cycle: 1:4

Medium parameters used:  $f = 868.987$  MHz;  $\sigma = 0.98$  mho/m;  $\epsilon_r = 53.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6R - SN1579; ConvF(6.24, 6.24, 6.24); Calibrated: 25.01.2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn335; Calibrated: 20.02.2012
- Phantom: SAM Sugar 1059; Type: Speag; Serial: 1059
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

**Body Worn/Area Scan (8x17x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.535 mW/g

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

Reference Value = 15.7 V/m; Power Drift = -0.148 dB

Peak SAR (extrapolated) = 0.764 W/kg

**SAR(1 g) = 0.536 mW/g; SAR(10 g) = 0.400 mW/g**

Maximum value of SAR (measured) = 0.602 mW/g

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

Reference Value = 15.7 V/m; Power Drift = -0.148 dB

Peak SAR (extrapolated) = 0.595 W/kg

**SAR(1 g) = 0.366 mW/g; SAR(10 g) = 0.253 mW/g**

Maximum value of SAR (measured) = 0.416 mW/g

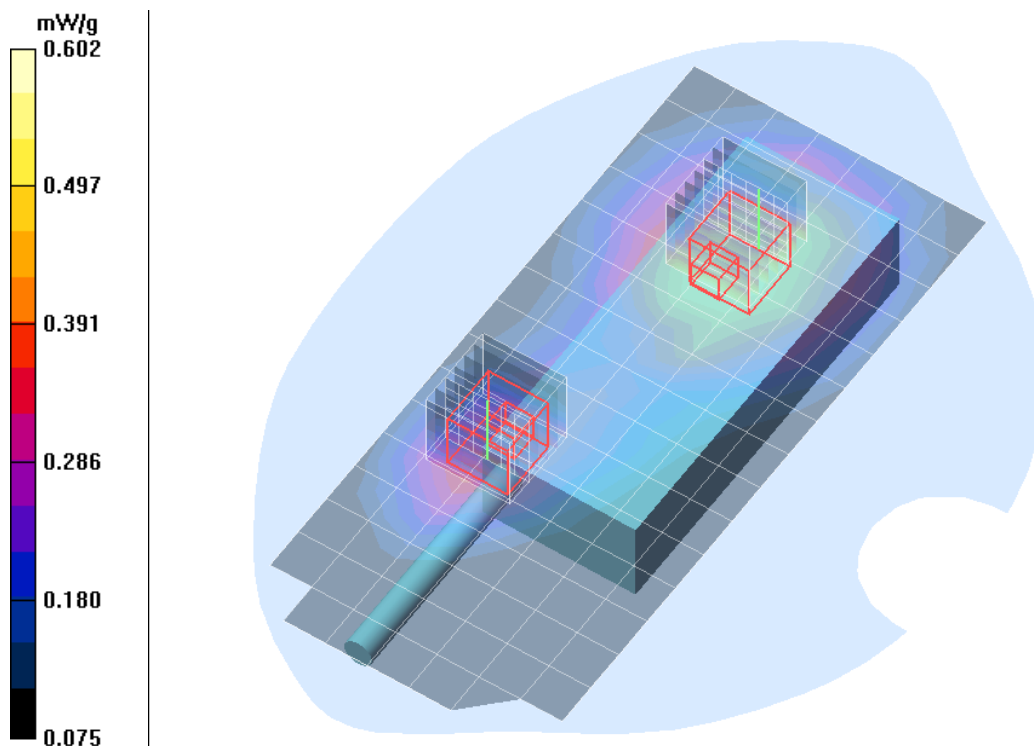


Fig. 18: SAR distribution for Tetra, 868.9875 MHz, body worn configuration, with shoulder belt case (July 31, 2012; Ambient Temperature: 22.8° C; Liquid Temperature: 22.4° C).

#### 4 SAR z-axis scans (Validation)

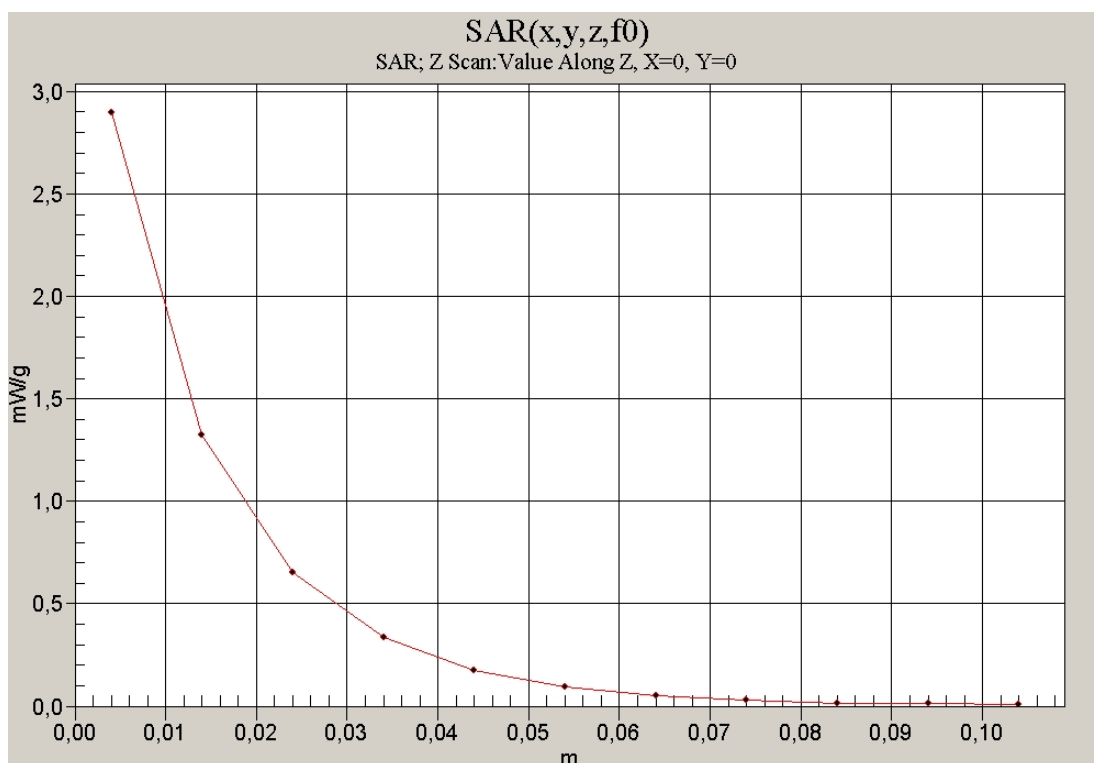


Fig. 19: SAR versus liquid depth, 835 MHz, head (July 24, 2012; Ambient Temperature: 22.7° C; Liquid Temperature : 22.5° C).

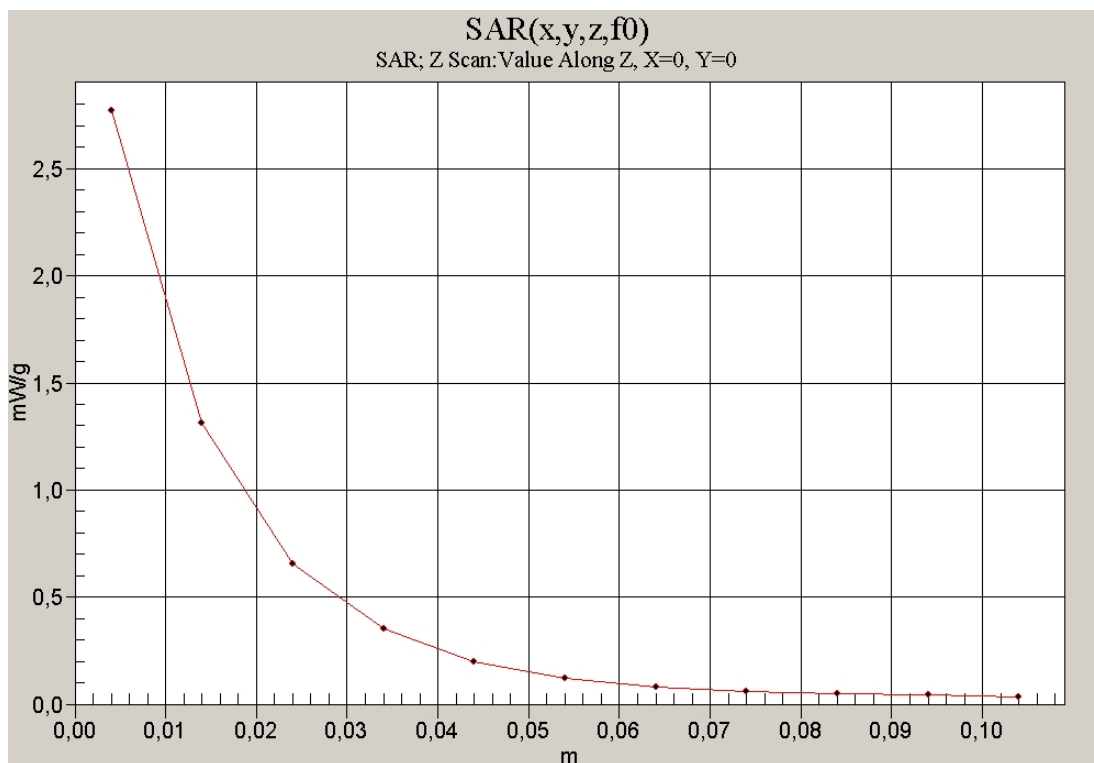


Fig. 20: SAR versus liquid depth, 835 MHz, body (July 31, 2012; Ambient Temperature: 22.7° C; Liquid Temperature : 22.4° C).

## 5 SAR z-axis scans (Measurements)

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

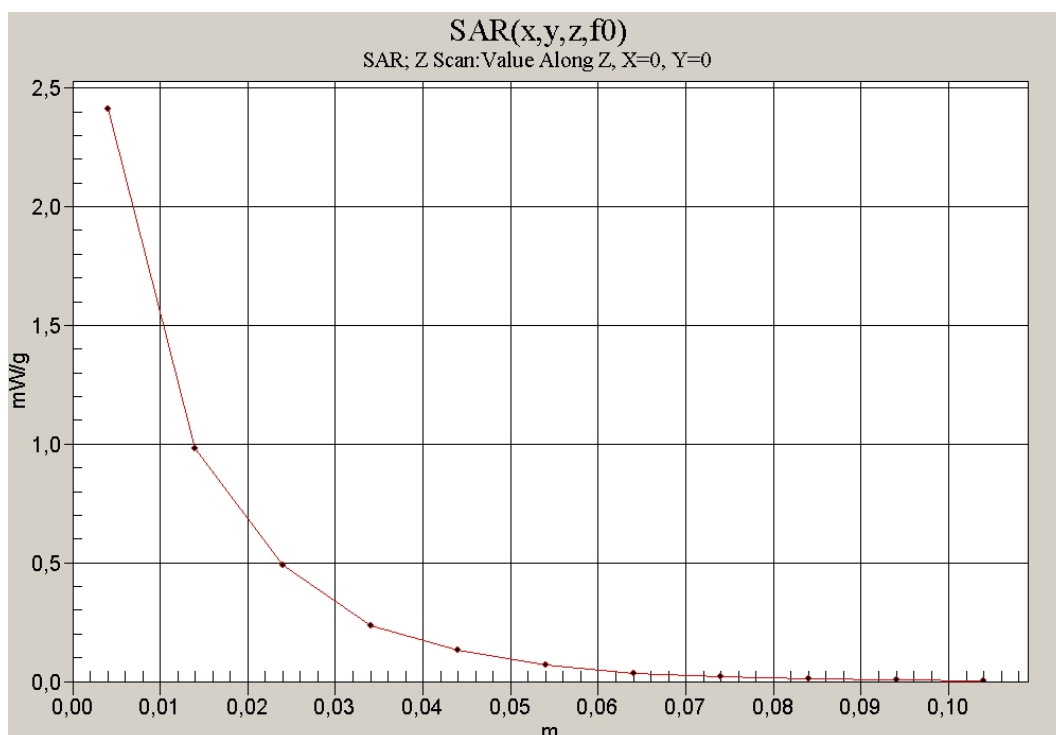


Fig. 21: SAR versus liquid depth, head: Tetra, 823.9875 MHz, tilted position, right side of head (July 25, 2012; Ambient Temperature: 22.6° C; Liquid Temperature: 22.4° C).

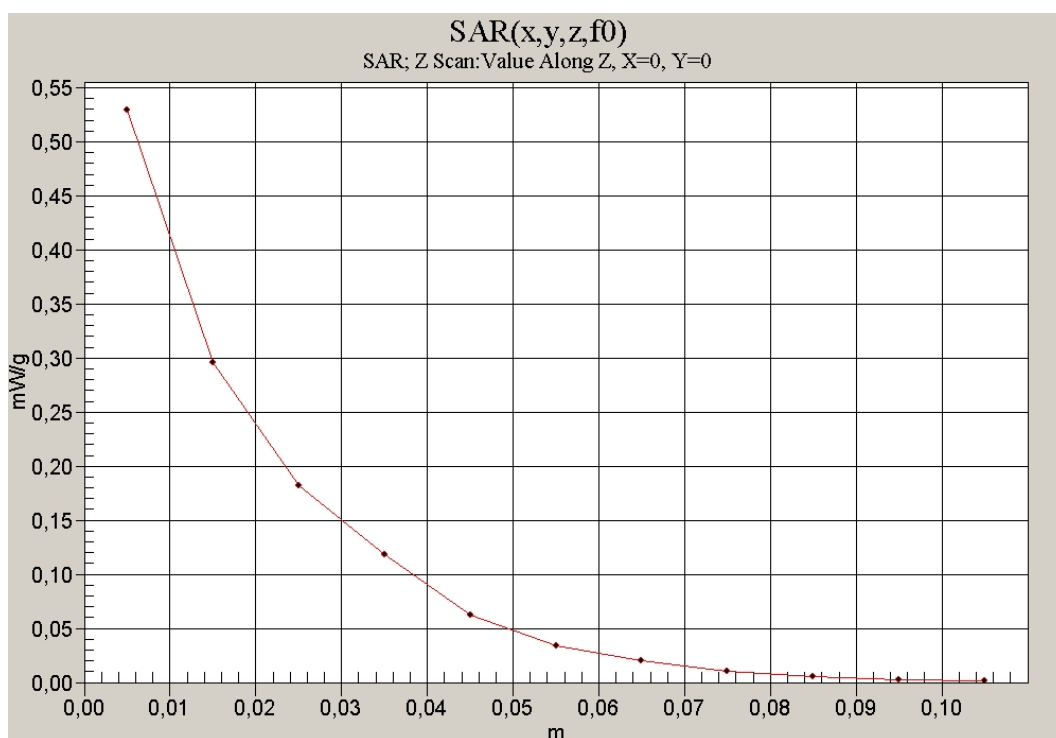


Fig. 22: SAR versus liquid depth, body: Tetra, 817.0125 MHz, shoulder belt case (July 31, 2012; Ambient Temperature: 22.8° C; Liquid Temperature: 22.4° C).