

## **Appendix B**

### **Measurement Plots**

Test Laboratory: ELECTRONIC TECHNOLOGY SYSTEMS DR. GENZ GMBH

## Dipol Valid.900(m)\_250mW\_07.05.2004

**DUT: Dipole 900 MHz; Type: D900V2; Serial: 164**

Communication System: CW; Frequency: 900 MHz; Duty Cycle: 1:1

Medium: Muscle 900 MHz Medium parameters used:  $f = 900 \text{ MHz}$ ;  $\sigma = 1.04 \text{ mho/m}$ ;  $\epsilon_r = 54.4$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1711; ConvF(6, 6, 6); Calibrated: 12/16/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn522; Calibrated: 1/12/2004
- Phantom: SAM 12; Type: TP-1217; Serial: QD000P40CA
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

**Dipol 900 (250mW)/Area Scan (81x121x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Reference Value = 58 V/m; Power Drift = -0.0 dB

Maximum value of SAR (interpolated) = 3.18 mW/g

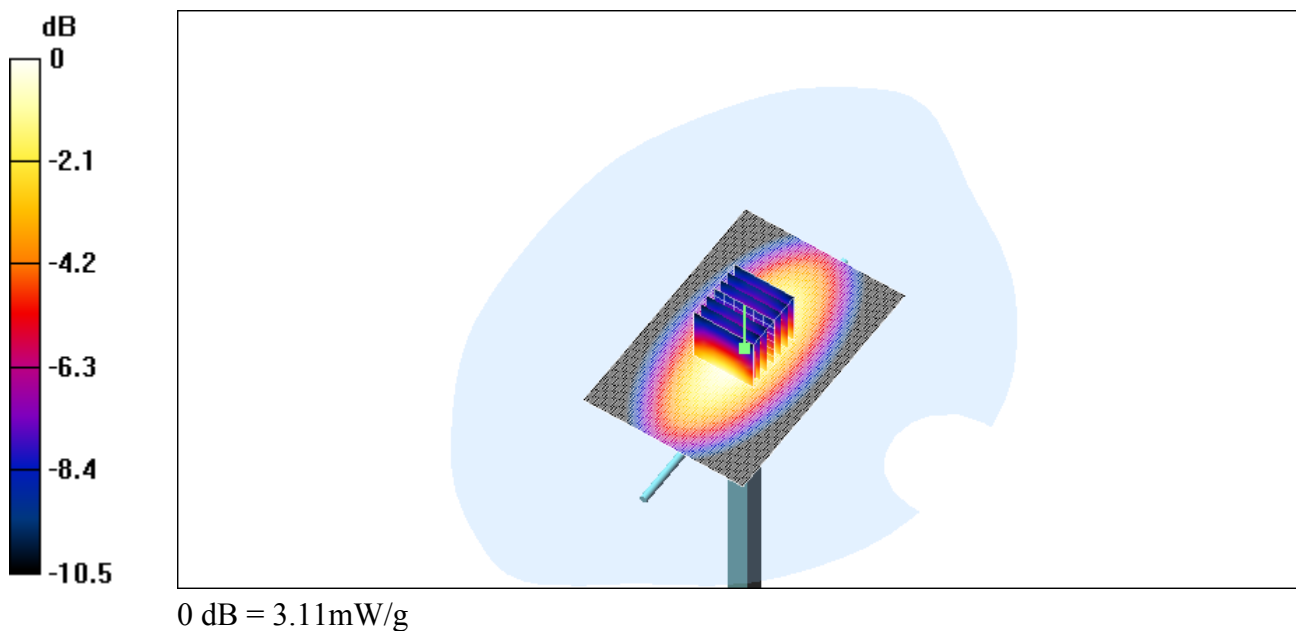
**Dipol 900 (250mW)/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 58 V/m; Power Drift = -0.0 dB

Maximum value of SAR (measured) = 3.11 mW/g

Peak SAR (extrapolated) = 4.19 W/kg

**SAR(1 g) = 2.56 mW/g; SAR(10 g) = 1.72 mW/g**



Test Laboratory: ELECTRONIC TECHNOLOGY SYSTEMS DR. GENZ GMBH

## Dipol Valid.1900(m)\_250mW\_07.05.2004

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d025**

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: Muscle 1900 MHz Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.58 \text{ mho/m}$ ;  $\epsilon_r = 51.9$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1711; ConvF(4.6, 4.6, 4.6); Calibrated: 12/16/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn522; Calibrated: 1/12/2004
- Phantom: SAM 12; Type: TP-1217; Serial: QD000P40CA
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

**Dipol 1900 (250mW)/Area Scan (81x81x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Reference Value = 92.3 V/m; Power Drift = -0.1 dB

Maximum value of SAR (interpolated) = 12.7 mW/g

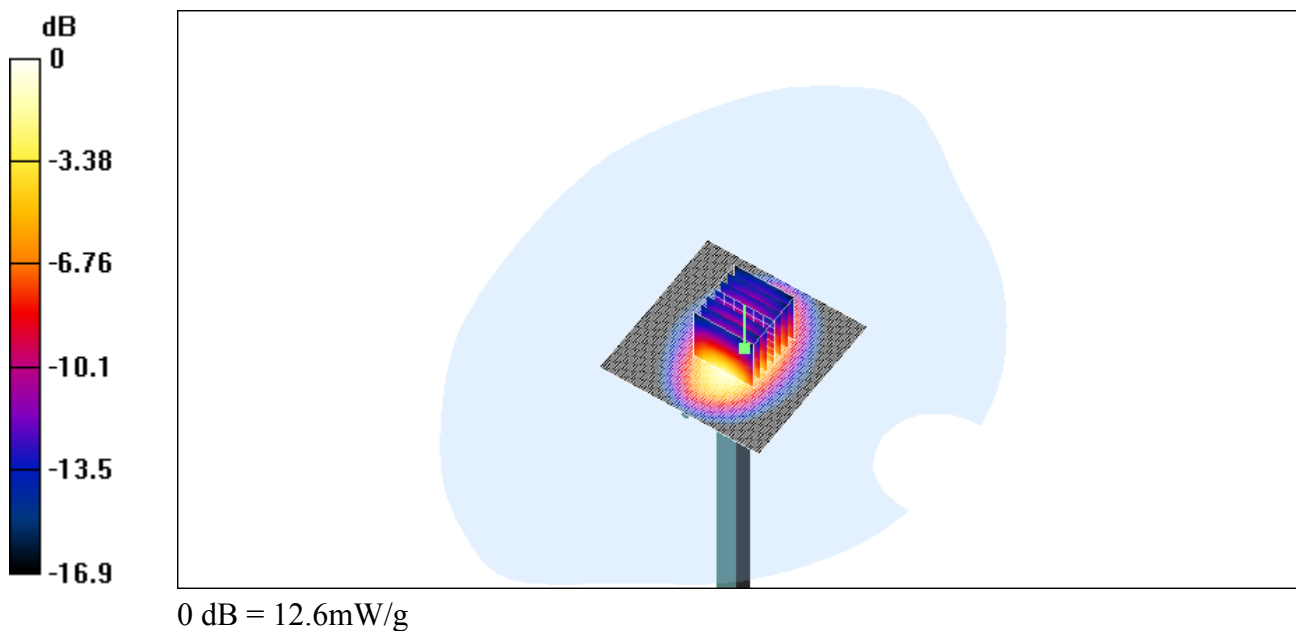
**Dipol 1900 (250mW)/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 92.3 V/m; Power Drift = -0.1 dB

Maximum value of SAR (measured) = 12.6 mW/g

Peak SAR (extrapolated) = 18.5 W/kg

**SAR(1 g) = 11 mW/g; SAR(10 g) = 5.89 mW/g**



Test Laboratory: ELECTRONIC TECHNOLOGY SYSTEMS DR. GENZ GMBH

## Dipol Valid.1900(m)\_250mW\_10.05.2004

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d025**

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: Muscle 1900 MHz Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.58 \text{ mho/m}$ ;  $\epsilon_r = 51.9$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1711; ConvF(4.6, 4.6, 4.6); Calibrated: 12/16/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn522; Calibrated: 1/12/2004
- Phantom: SAM 12; Type: TP-1217; Serial: QD000P40CA
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

**Dipol 1900 (250mW)/Area Scan (81x81x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Reference Value = 93.4 V/m; Power Drift = -0.0 dB

Maximum value of SAR (interpolated) = 12.2 mW/g

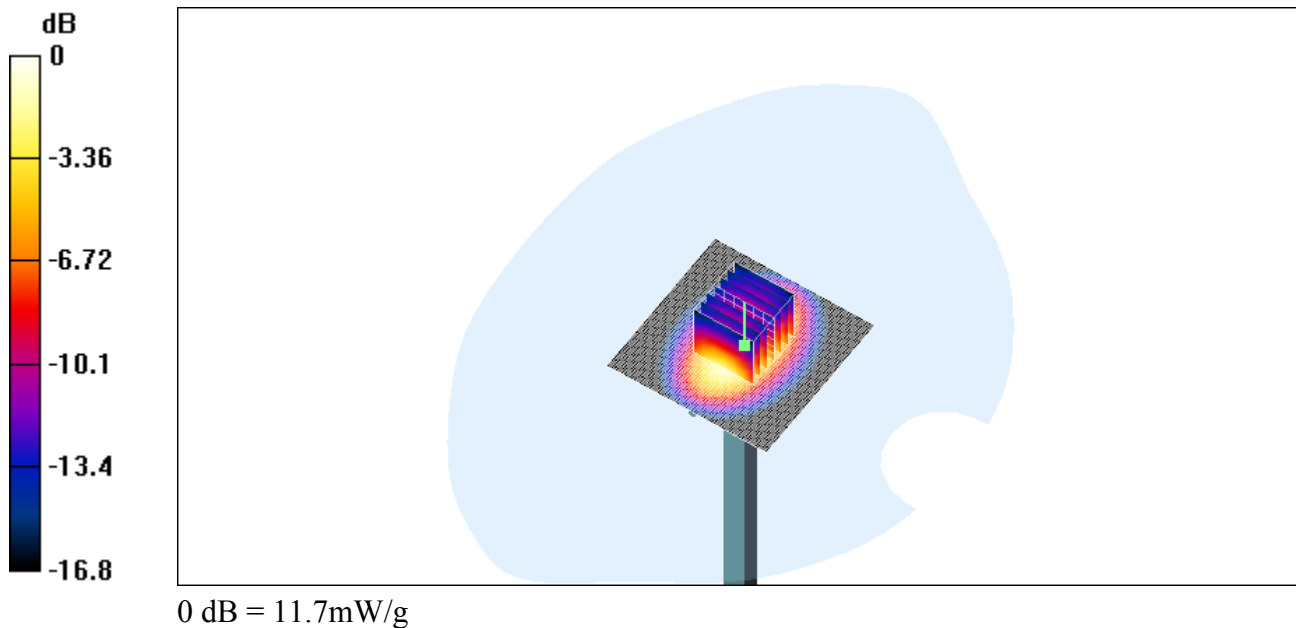
**Dipol 1900 (250mW)/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 93.4 V/m; Power Drift = -0.0 dB

Maximum value of SAR (measured) = 11.7 mW/g

Peak SAR (extrapolated) = 16.9 W/kg

**SAR(1 g) = 11.3 mW/g; SAR(10 g) = 6.04 mW/g**



Test Laboratory: ELECTRONIC TECHNOLOGY SYSTEMS DR. GENZ GMBH

## 850\_flat\_ch128\_back

**DUT: GSM/GPRS-Stick-Phone; Type: SAMBA 56; Serial: ---**

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3

Medium: Muscle 850 MHz Medium parameters used (interpolated):  $f = 824.2$  MHz;  $\sigma = 0.966$  mho/m;  $\epsilon_r = 55.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1711; ConvF(6, 6, 6); Calibrated: 12/16/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn522; Calibrated: 1/12/2004
- Phantom: SAM 12; Type: TP-1217; Serial: QD000P40CA
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

**SAMBA 56/Area Scan (81x161x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 29.5 V/m; Power Drift = 0.0 dB

Maximum value of SAR (interpolated) = 0.999 mW/g

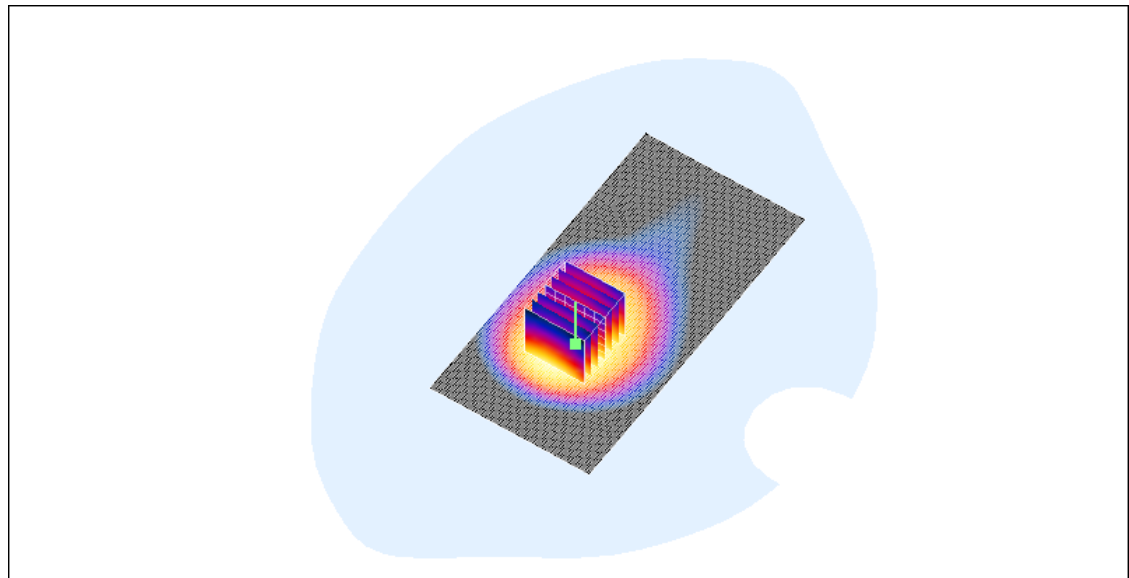
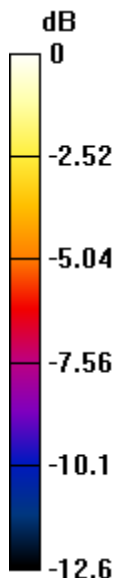
**SAMBA 56/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 29.5 V/m; Power Drift = 0.0 dB

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

Peak SAR (extrapolated) = 1.31 W/kg

**SAR(1 g) = 0.915 mW/g; SAR(10 g) = 0.608 mW/g**



0 dB = 1.01mW/g

Test Laboratory: ELECTRONIC TECHNOLOGY SYSTEMS DR. GENZ GMBH

## 850\_flat\_ch189\_front

**DUT: GSM/GPRS-Stick-Phone; Type: SAMBA 56; Serial: ---**

Communication System: GSM 850; Frequency: 836.4 MHz; Duty Cycle: 1:8.3

Medium: Muscle 850 MHz Medium parameters used (interpolated):  $f = 836.4$  MHz;  $\sigma = 0.975$  mho/m;  $\epsilon_r = 55.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1711; ConvF(6, 6, 6); Calibrated: 12/16/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn522; Calibrated: 1/12/2004
- Phantom: SAM 12; Type: TP-1217; Serial: QD000P40CA
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

**SAMBA 56/Area Scan (81x161x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 23.6 V/m; Power Drift = -0.1 dB

Maximum value of SAR (interpolated) = 0.568 mW/g

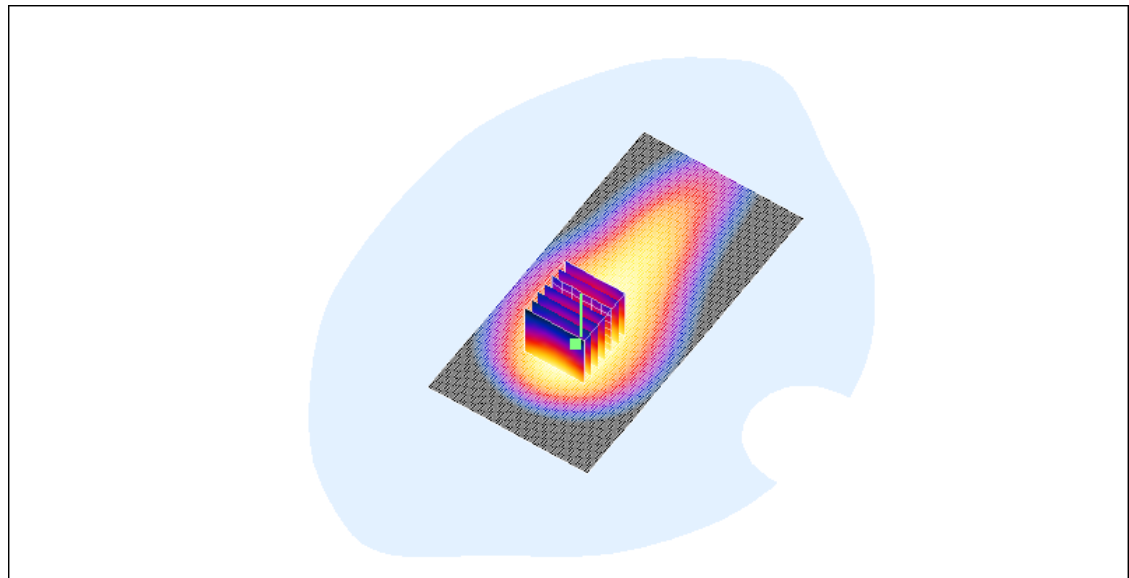
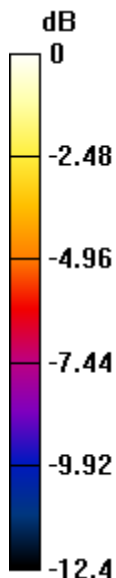
**SAMBA 56/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 23.6 V/m; Power Drift = -0.1 dB

Maximum value of SAR (measured) = 0.566 mW/g

Peak SAR (extrapolated) = 0.750 W/kg

**SAR(1 g) = 0.521 mW/g; SAR(10 g) = 0.349 mW/g**



0 dB = 0.566mW/g

Test Laboratory: ELECTRONIC TECHNOLOGY SYSTEMS DR. GENZ GMBH

## 850\_flat\_ch189\_back

**DUT: GSM/GPRS-Stick-Phone; Type: SAMBA 56; Serial: ---**

Communication System: GSM 850; Frequency: 836.4 MHz; Duty Cycle: 1:8.3

Medium: Muscle 850 MHz Medium parameters used (interpolated):  $f = 836.4$  MHz;  $\sigma = 0.975$  mho/m;  $\epsilon_r = 55.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1711; ConvF(6, 6, 6); Calibrated: 12/16/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn522; Calibrated: 1/12/2004
- Phantom: SAM 12; Type: TP-1217; Serial: QD000P40CA
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

**SAMBA 56/Area Scan (81x161x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 27.5 V/m; Power Drift = 0.1 dB

Maximum value of SAR (interpolated) = 0.901 mW/g

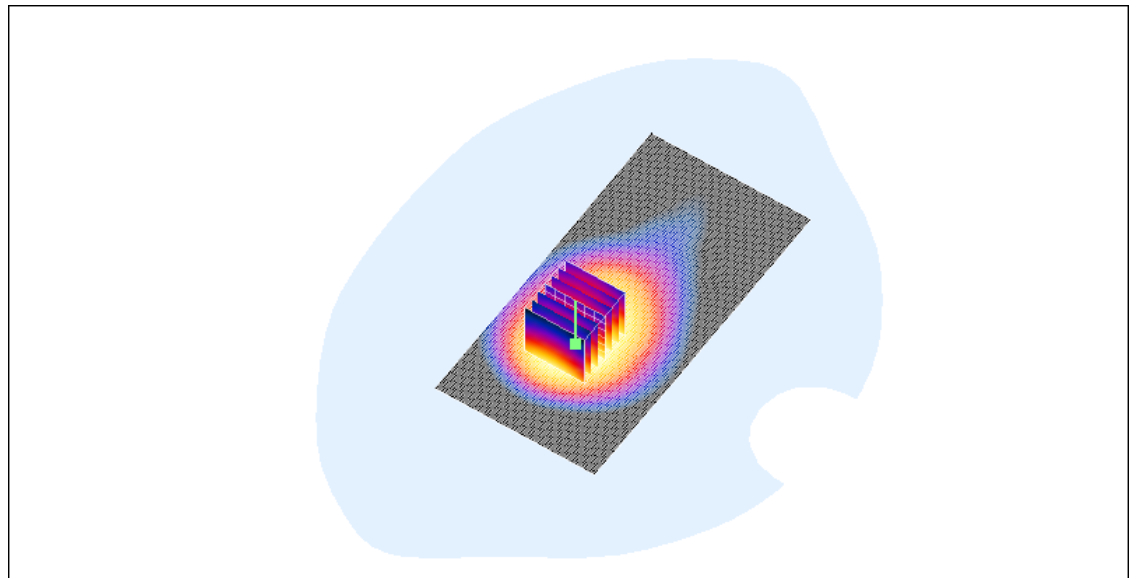
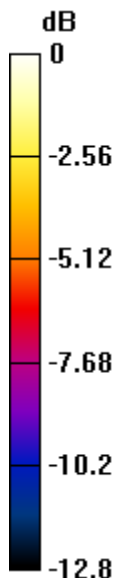
**SAMBA 56/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 27.5 V/m; Power Drift = 0.1 dB

Maximum value of SAR (measured) = 0.894 mW/g

Peak SAR (extrapolated) = 1.19 W/kg

**SAR(1 g) = 0.827 mW/g; SAR(10 g) = 0.547 mW/g**



0 dB = 0.894mW/g

Test Laboratory: ELECTRONIC TECHNOLOGY SYSTEMS DR. GENZ GMBH

## 850\_flat\_ch251\_back

**DUT: GSM/GPRS-Stick-Phone; Type: SAMBA 56; Serial: ---**

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: Muscle 850 MHz Medium parameters used (interpolated):  $f = 848.8$  MHz;  $\sigma = 0.985$  mho/m;  $\epsilon_r = 55$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1711; ConvF(6, 6, 6); Calibrated: 12/16/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn522; Calibrated: 1/12/2004
- Phantom: SAM 12; Type: TP-1217; Serial: QD000P40CA
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

**SAMBA 56/Area Scan (81x161x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 22.8 V/m; Power Drift = -0.0 dB

Maximum value of SAR (interpolated) = 0.623 mW/g

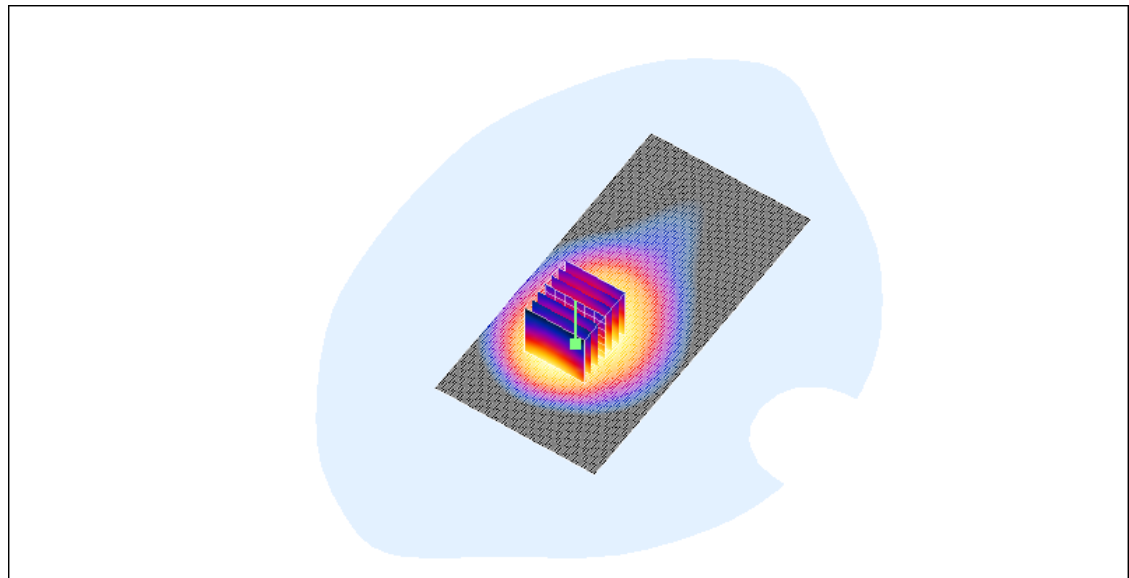
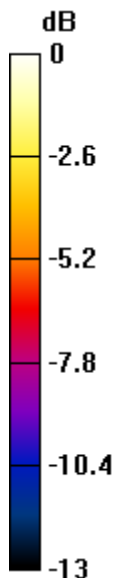
**SAMBA 56/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 22.8 V/m; Power Drift = -0.0 dB

Maximum value of SAR (measured) = 0.618 mW/g

Peak SAR (extrapolated) = 0.821 W/kg

**SAR(1 g) = 0.567 mW/g; SAR(10 g) = 0.372 mW/g**



0 dB = 0.618mW/g

Test Laboratory: ELECTRONIC TECHNOLOGY SYSTEMS DR. GENZ GMBH

## 1900\_flat\_ch512\_back

**DUT: GSM/GPRS-Stick-Phone; Type: SAMBA 56; Serial: ---**

Communication System: GSM 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium: Muscle 1900 MHz Medium parameters used (interpolated):  $f = 1850.2$  MHz;  $\sigma = 1.52$  mho/m;  $\epsilon_r = 51.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1711; ConvF(4.6, 4.6, 4.6); Calibrated: 12/16/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn522; Calibrated: 1/12/2004
- Phantom: SAM 12; Type: TP-1217; Serial: QD000P40CA
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

**SAMBA 56/Area Scan (81x161x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 20.5 V/m; Power Drift = 0.0 dB

Maximum value of SAR (interpolated) = 0.741 mW/g

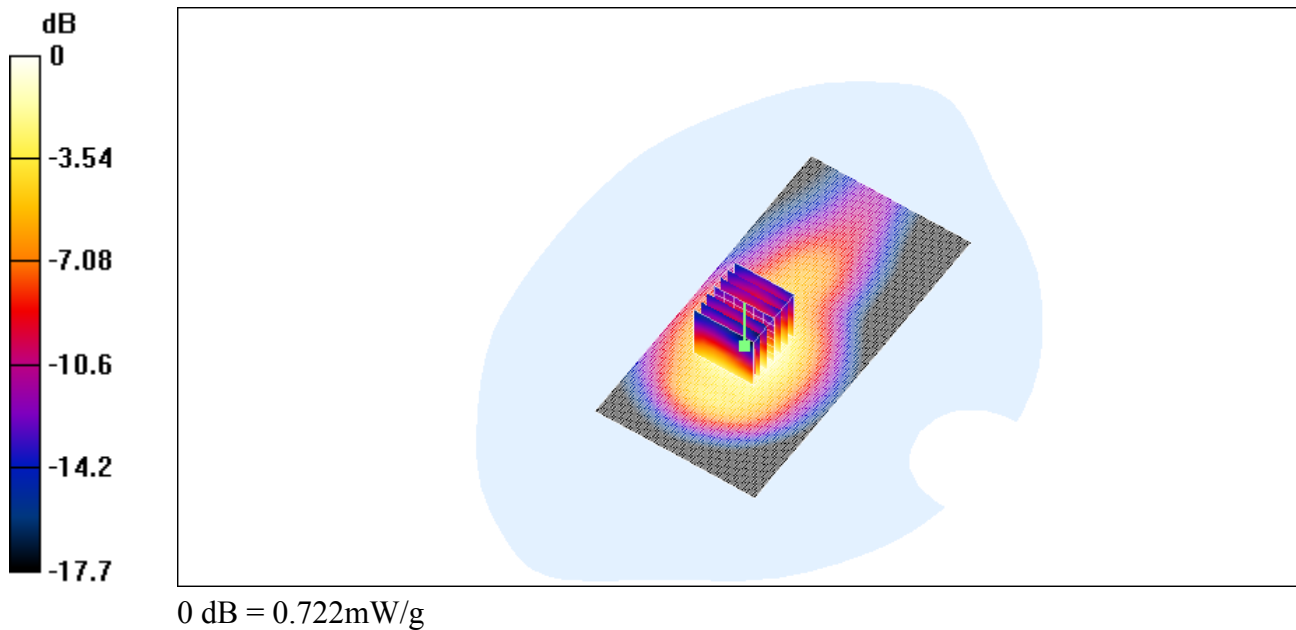
**SAMBA 56/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 20.5 V/m; Power Drift = 0.0 dB

Maximum value of SAR (measured) = 0.722 mW/g

Peak SAR (extrapolated) = 1.08 W/kg

**SAR(1 g) = 0.661 mW/g; SAR(10 g) = 0.385 mW/g**



Test Laboratory: ELECTRONIC TECHNOLOGY SYSTEMS DR. GENZ GMBH

## 1900\_flat\_ch661\_front

**DUT: GSM/GPRS-Stick-Phone; Type: SAMBA 56; Serial: ---**

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Muscle 1900 MHz Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.55 \text{ mho/m}$ ;  $\epsilon_r = 51.9$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1711; ConvF(4.6, 4.6, 4.6); Calibrated: 12/16/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn522; Calibrated: 1/12/2004
- Phantom: SAM 12; Type: TP-1217; Serial: QD000P40CA
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

**SAMBA 56/Area Scan (81x161x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$

Reference Value = 19.8 V/m; Power Drift = 0.1 dB

Maximum value of SAR (interpolated) = 0.665 mW/g

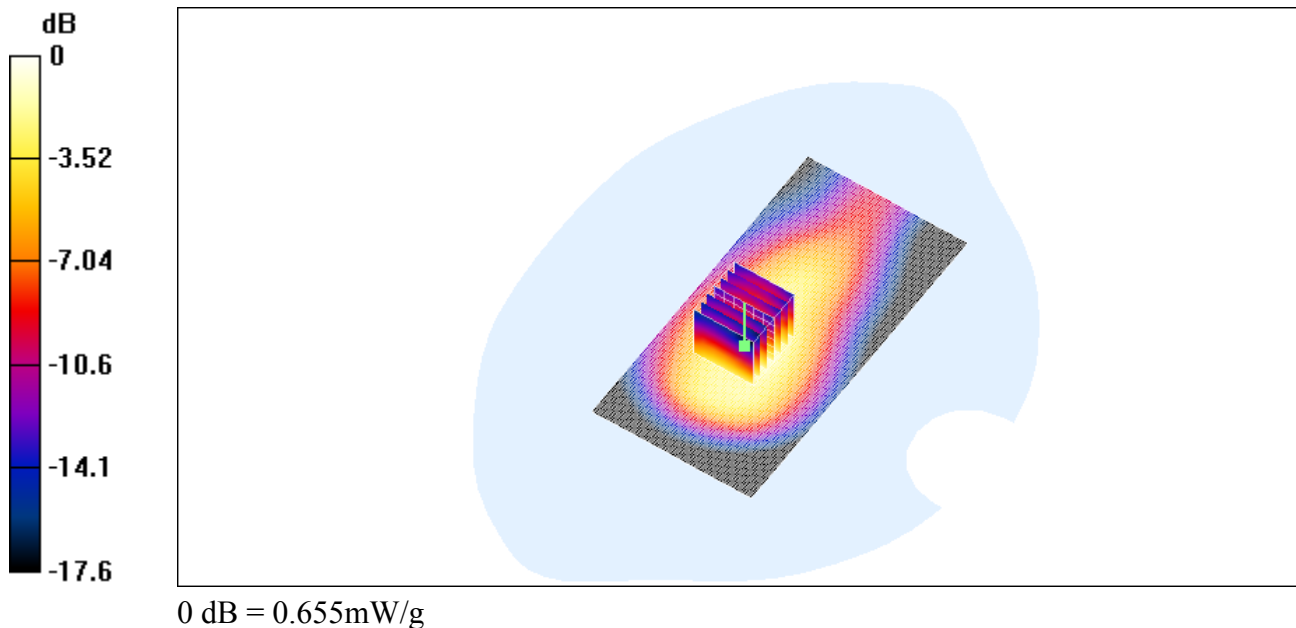
**SAMBA 56/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 19.8 V/m; Power Drift = 0.1 dB

Maximum value of SAR (measured) = 0.655 mW/g

Peak SAR (extrapolated) = 0.961 W/kg

**SAR(1 g) = 0.598 mW/g; SAR(10 g) = 0.352 mW/g**



Test Laboratory: ELECTRONIC TECHNOLOGY SYSTEMS DR. GENZ GMBH

## 1900\_flat\_ch661\_back

**DUT: GSM/GPRS-Stick-Phone; Type: SAMBA 56; Serial: ---**

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Muscle 1900 MHz Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.55$  mho/m;  $\epsilon_r = 51.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1711; ConvF(4.6, 4.6, 4.6); Calibrated: 12/16/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn522; Calibrated: 1/12/2004
- Phantom: SAM 12; Type: TP-1217; Serial: QD000P40CA
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

**SAMBA 56/Area Scan (81x161x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 23.9 V/m; Power Drift = 0.0001 dB

Maximum value of SAR (interpolated) = 0.869 mW/g

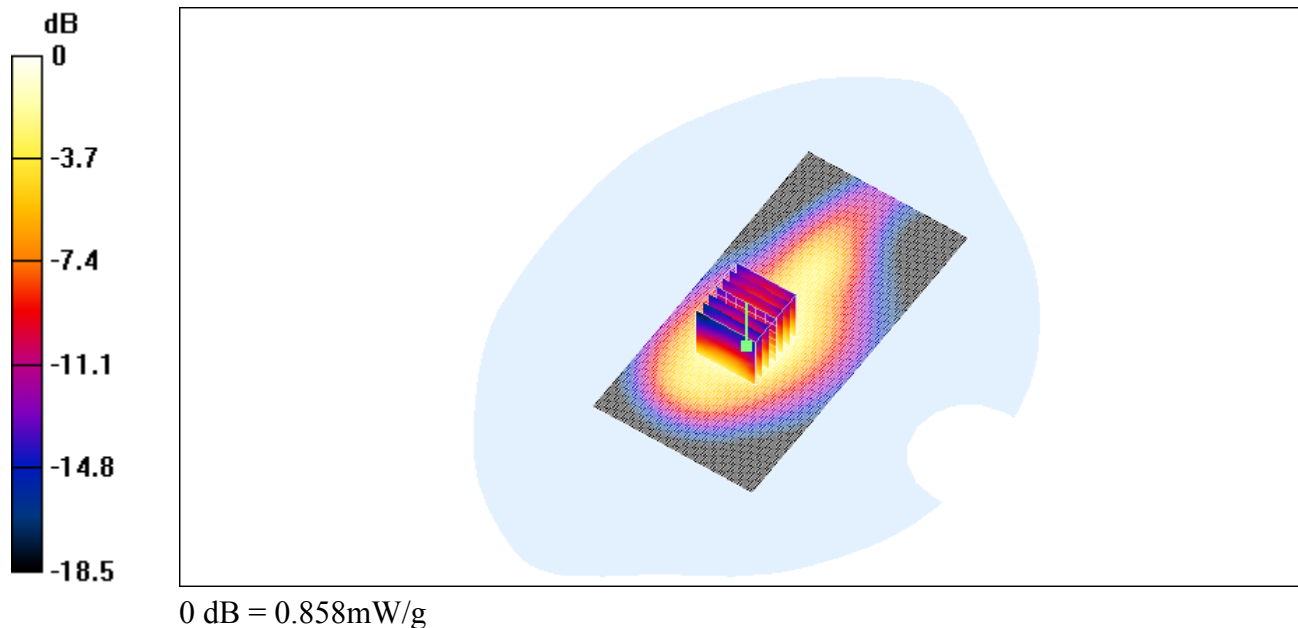
**SAMBA 56/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 23.9 V/m; Power Drift = 0.0001 dB

Maximum value of SAR (measured) = 0.858 mW/g

Peak SAR (extrapolated) = 1.23 W/kg

**SAR(1 g) = 0.785 mW/g; SAR(10 g) = 0.461 mW/g**



Test Laboratory: ELECTRONIC TECHNOLOGY SYSTEMS DR. GENZ GMBH

## 1900\_flat\_ch810\_back

**DUT: GSM/GPRS-Stick-Phone; Type: SAMBA 56; Serial: ---**

Communication System: GSM 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: Muscle 1900 MHz Medium parameters used (interpolated):  $f = 1909.8$  MHz;  $\sigma = 1.59$  mho/m;  $\epsilon_r = 51.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1711; ConvF(4.6, 4.6, 4.6); Calibrated: 12/16/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn522; Calibrated: 1/12/2004
- Phantom: SAM 12; Type: TP-1217; Serial: QD000P40CA
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

**SAMBA 56/Area Scan (81x161x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 20.6 V/m; Power Drift = -0.1 dB

Maximum value of SAR (interpolated) = 0.776 mW/g

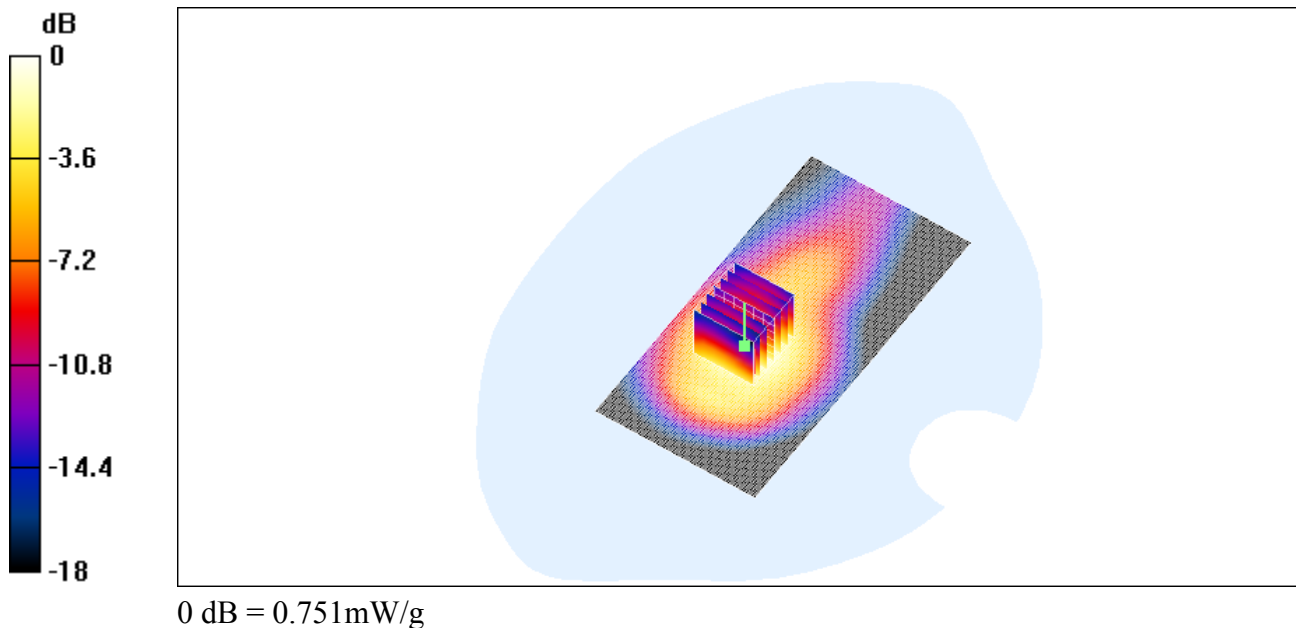
**SAMBA 56/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 20.6 V/m; Power Drift = -0.1 dB

Maximum value of SAR (measured) = 0.751 mW/g

Peak SAR (extrapolated) = 1.13 W/kg

**SAR(1 g) = 0.686 mW/g; SAR(10 g) = 0.400 mW/g**



Test Laboratory: ELECTRONIC TECHNOLOGY SYSTEMS DR. GENZ GMBH

## Z-axis scan

**DUT: GSM/GPRS-Stick-Phone; Type: SAMBA 56; Serial: ---**

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3

Medium: Muscle 850 MHz Medium parameters used (interpolated):  $f = 824.2$  MHz;  $\sigma = 0.966$  mho/m;  $\epsilon_r = 55.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1711; ConvF(6, 6, 6); Calibrated: 12/16/2003
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn522; Calibrated: 1/12/2004
- Phantom: SAM 12; Type: TP-1217; Serial: QD000P40CA
- Measurement SW: DASY4, V4.2 Build 44; Postprocessing SW: SEMCAD, V1.8 Build 112

**SAMBA 56/Area Scan (81x161x1):** Measurement grid: dx=10mm, dy=10mm

Reference Value = 29.5 V/m; Power Drift = 0.0 dB

Maximum value of SAR (interpolated) = 0.999 mW/g

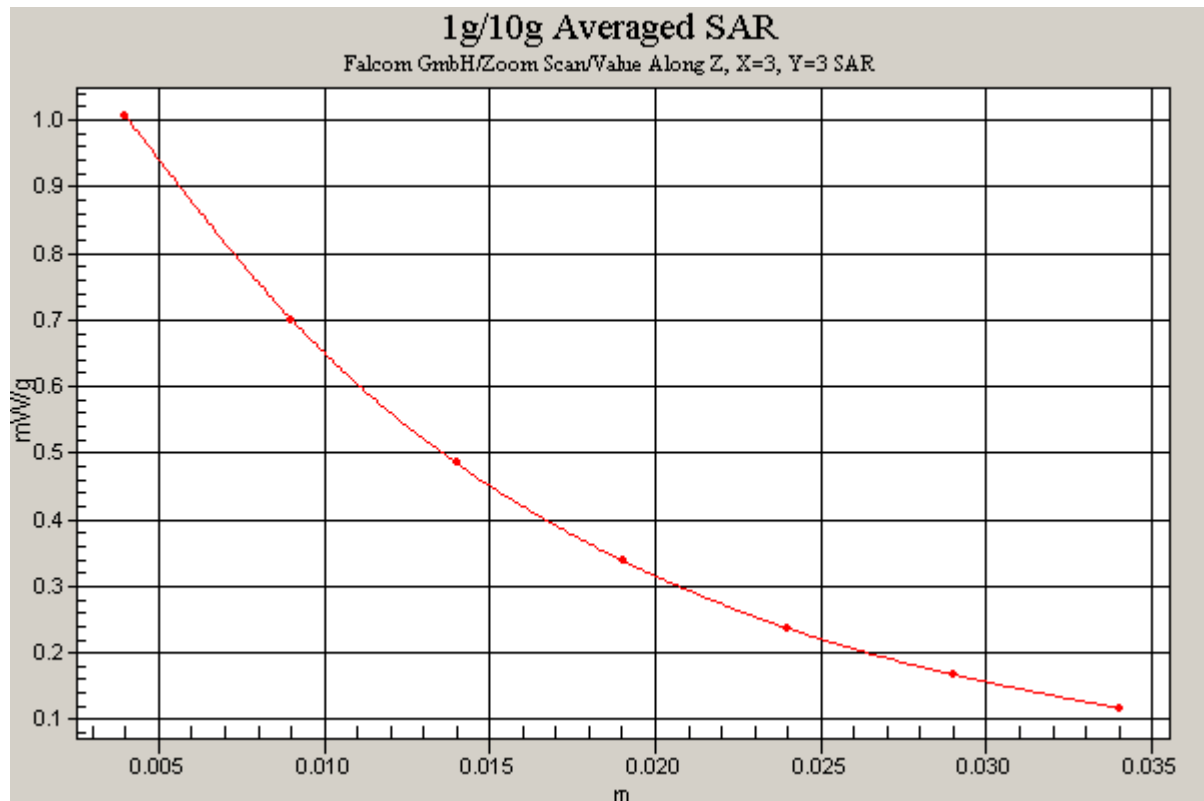
**SAMBA 56/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 29.5 V/m; Power Drift = 0.0 dB

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

Peak SAR (extrapolated) = 1.31 W/kg

**SAR(1 g) = 0.915 mW/g; SAR(10 g) = 0.608 mW/g**



## Appendix C

### Pictures

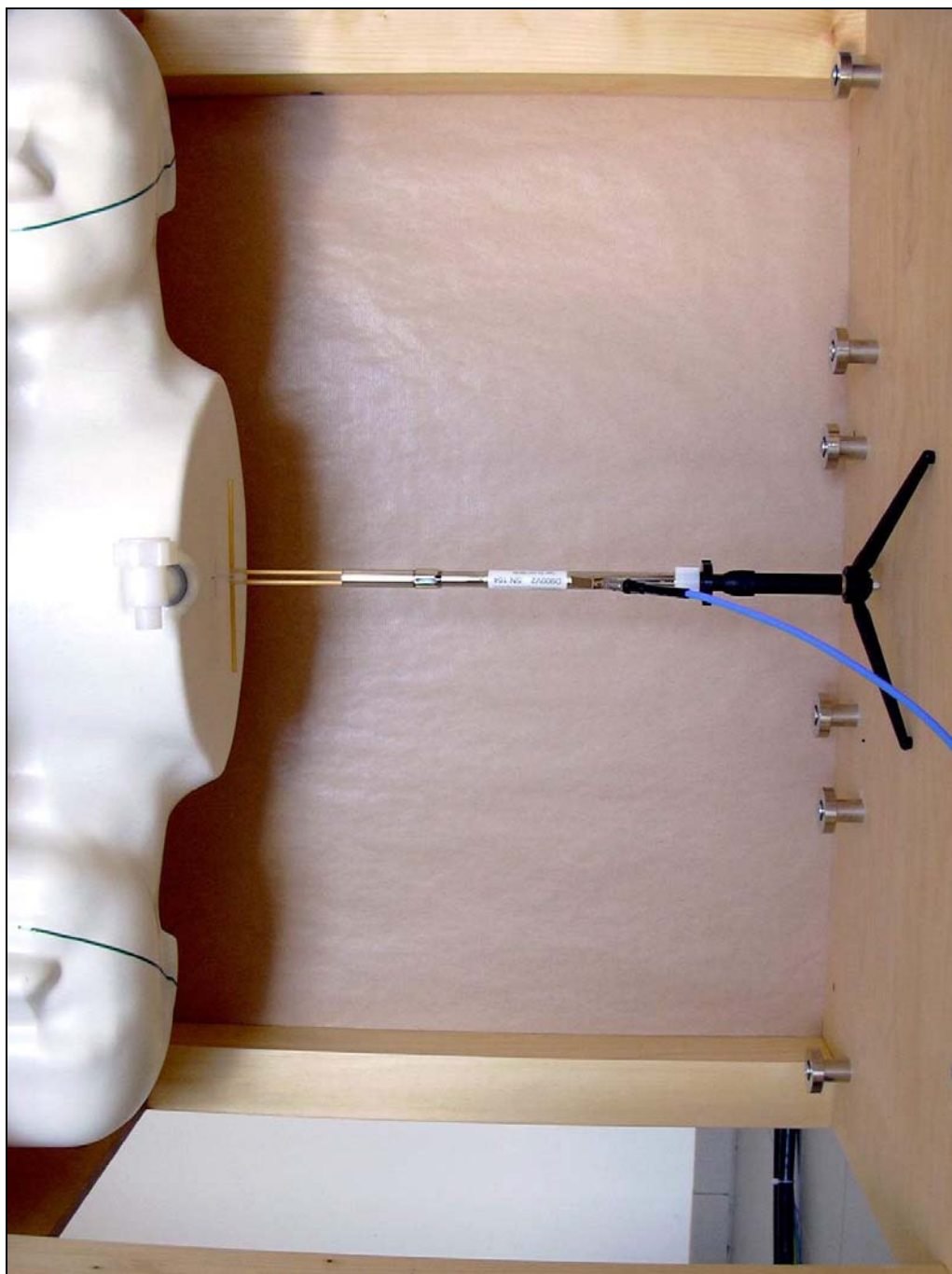
## Appendix

### A. Pictures

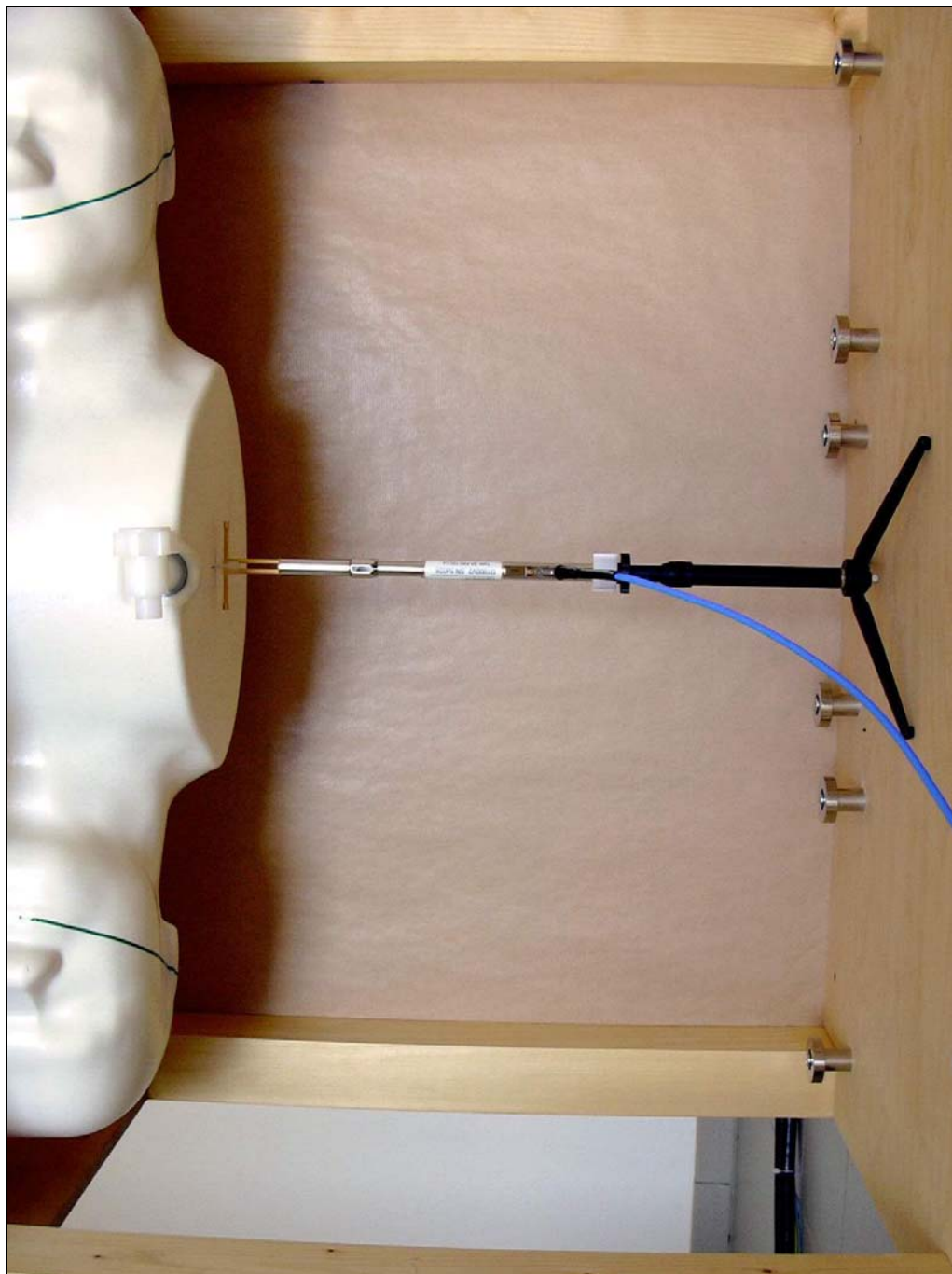




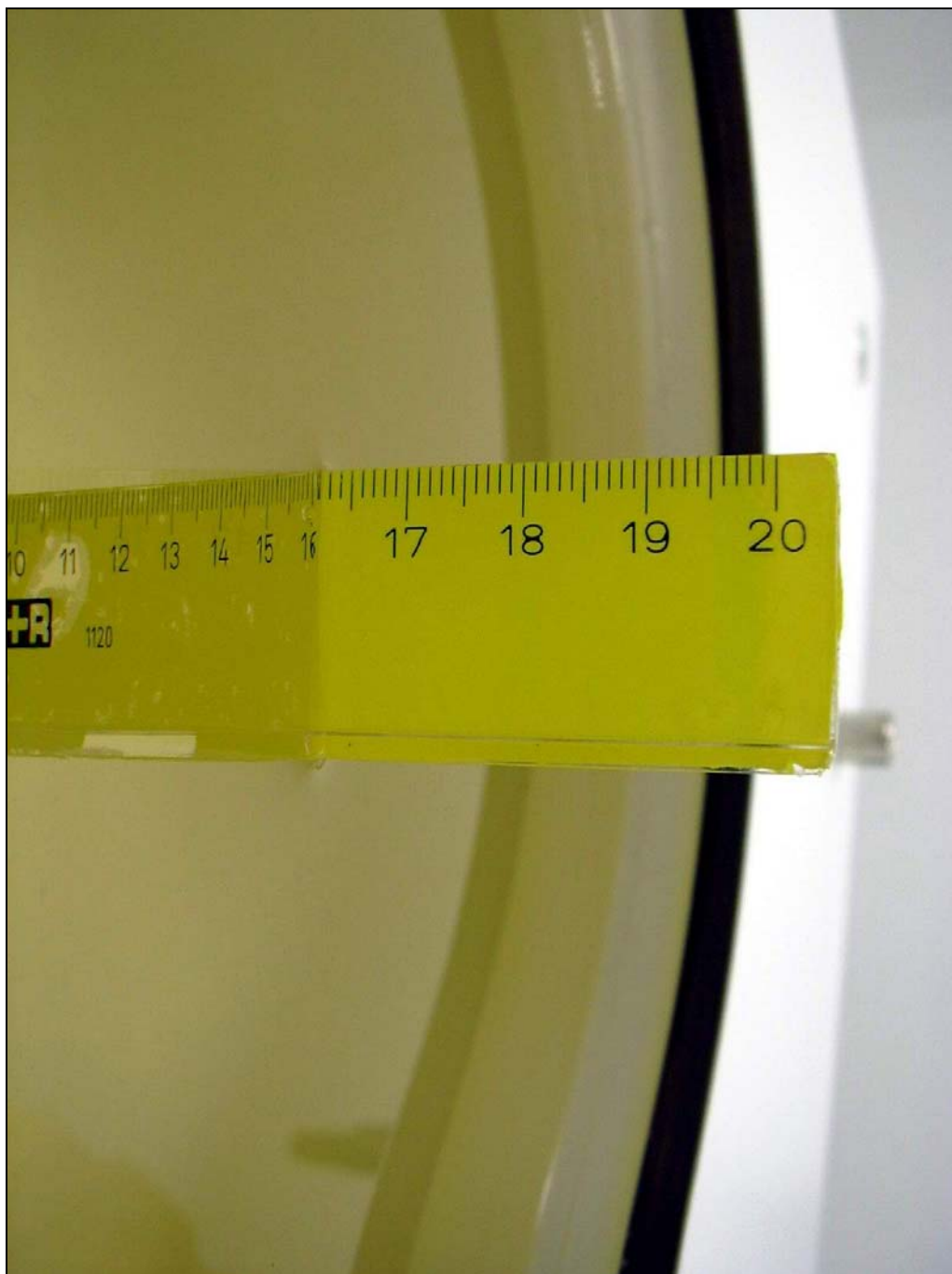
Valid 900



Valid 1900



Liquid depth 900



Liquid depth 1900

