

Fig. 118 Z-Scan at power reference point (1900MHz CH661)

1900 Left Tilt Low

Date/Time: 2008-6-16 9:39:50

Electronics: DAE4 Sn777

Medium: Head 1900 MHz

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.32$ mho/m; $\epsilon_r = 39.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3142 ConvF(4.87, 4.87, 4.87)

Tilt Low/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.626 mW/g

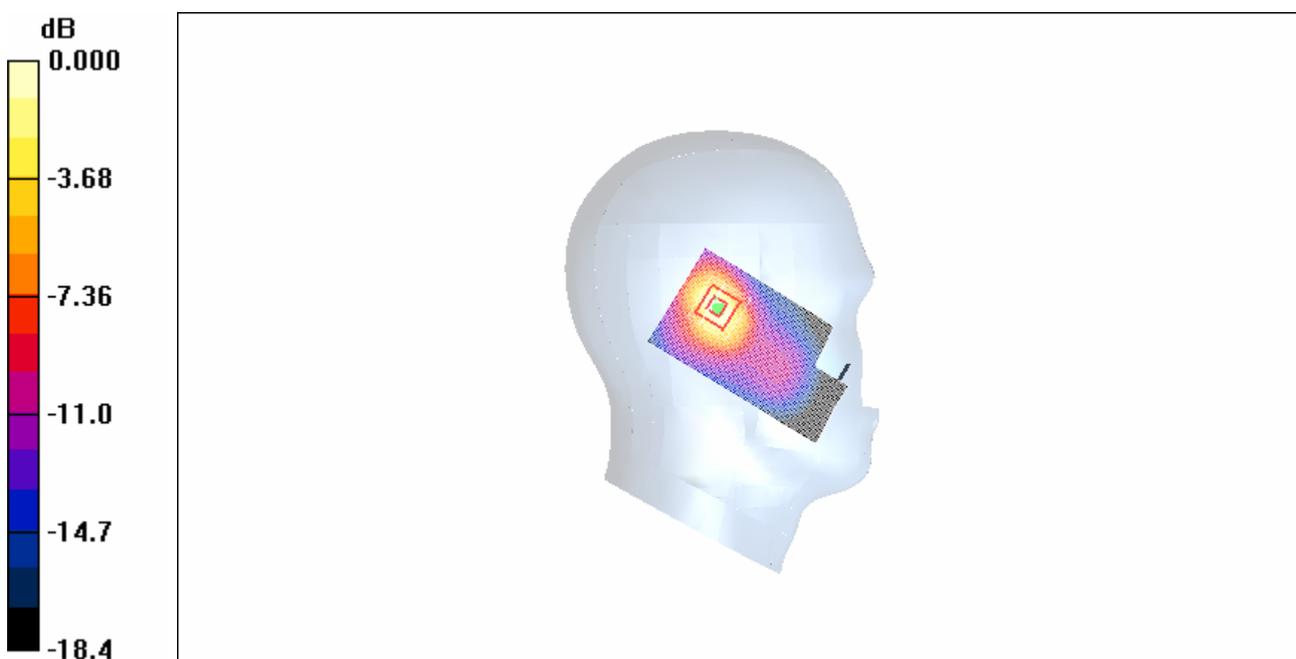
Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.9 V/m; Power Drift = -0.022 dB

Peak SAR (extrapolated) = 1.06 W/kg

SAR(1 g) = 0.560 mW/g; SAR(10 g) = 0.278 mW/g

Maximum value of SAR (measured) = 0.585 mW/g



0 dB = 0.585mW/g

Fig. 119 Left Hand Tilt 15° 1900MHz CH512

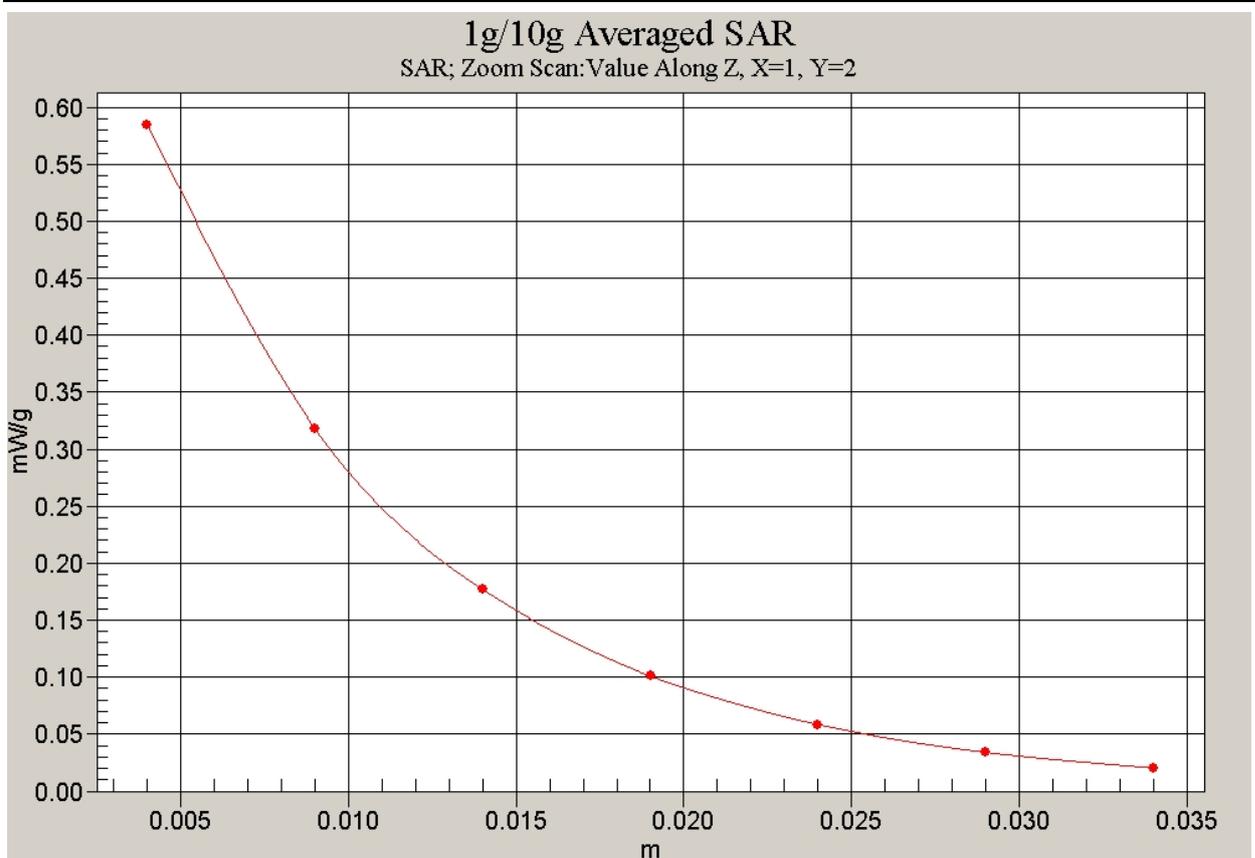


Fig. 120 Z-Scan at power reference point (1900MHz CH512)

1900 Right Cheek High

Date/Time: 2008-6-16 10:23:31

Electronics: DAE4 Sn777

Medium: Head 1900 MHz

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.38$ mho/m; $\epsilon_r = 39.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3142 ConvF(4.87, 4.87, 4.87)

Cheek High/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.275 mW/g

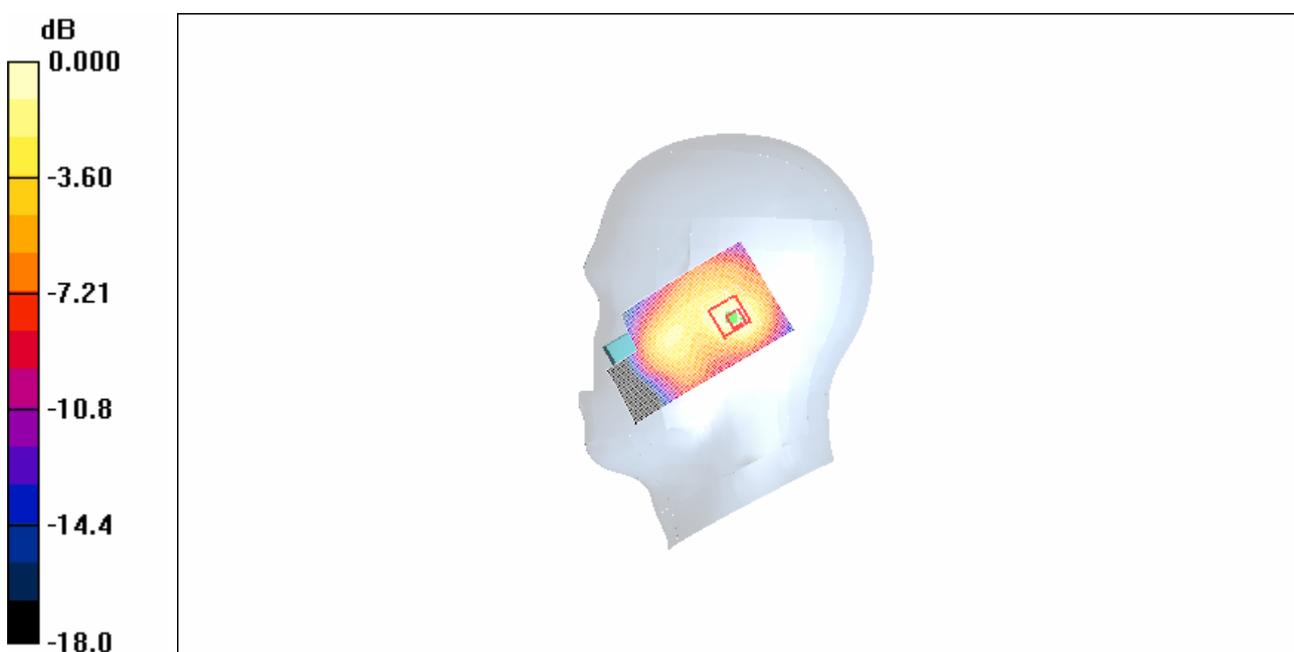
Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.8 V/m; Power Drift = -0.054 dB

Peak SAR (extrapolated) = 0.463 W/kg

SAR(1 g) = 0.248 mW/g; SAR(10 g) = 0.133 mW/g

Maximum value of SAR (measured) = 0.272 mW/g



0 dB = 0.272mW/g

Fig. 121 Right Hand Touch Cheek 1900MHz CH810

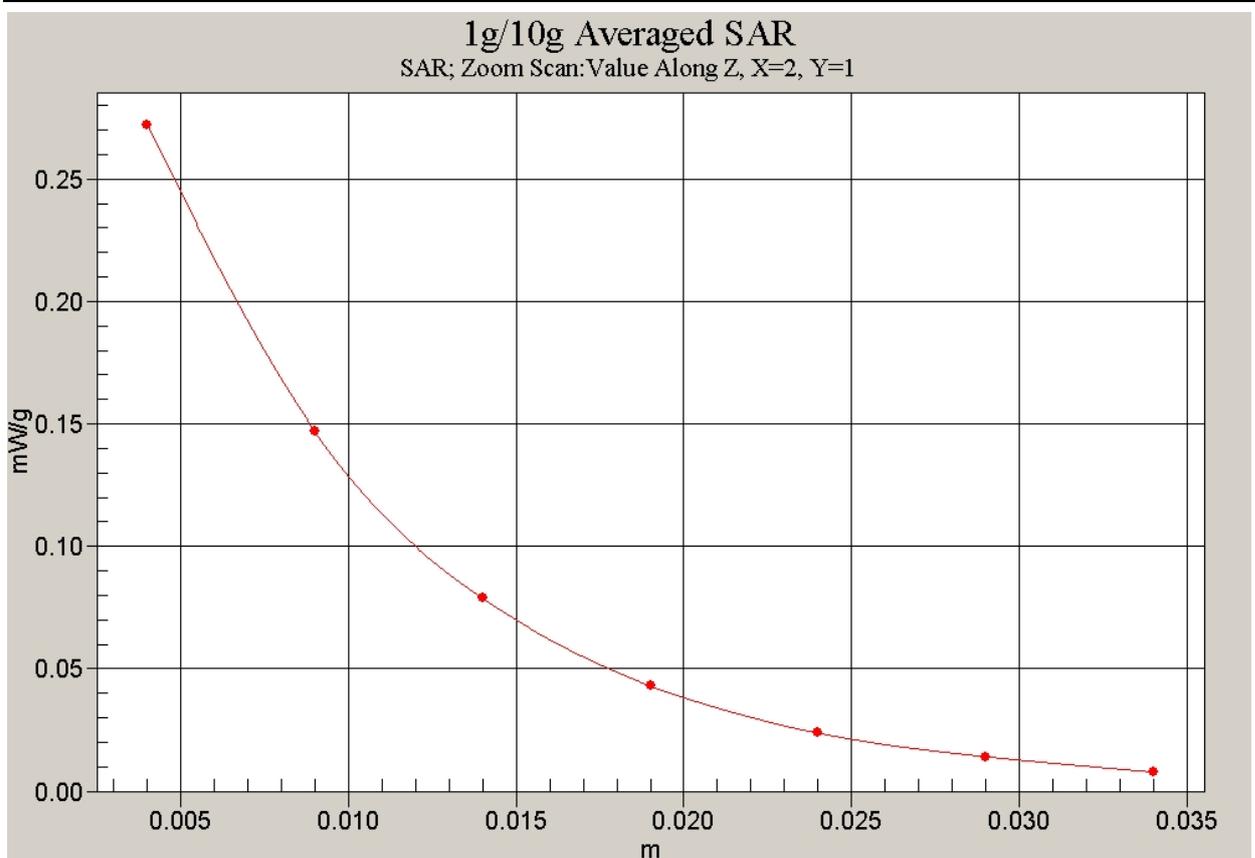


Fig. 122 Z-Scan at power reference point (1900MHz CH810)

1900 Right Cheek Middle

Date/Time: 2008-6-16 10:34:10

Electronics: DAE4 Sn777

Medium: Head 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.35$ mho/m; $\epsilon_r = 39.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3142 ConvF(4.87, 4.87, 4.87)

Cheek Middle/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.336 mW/g

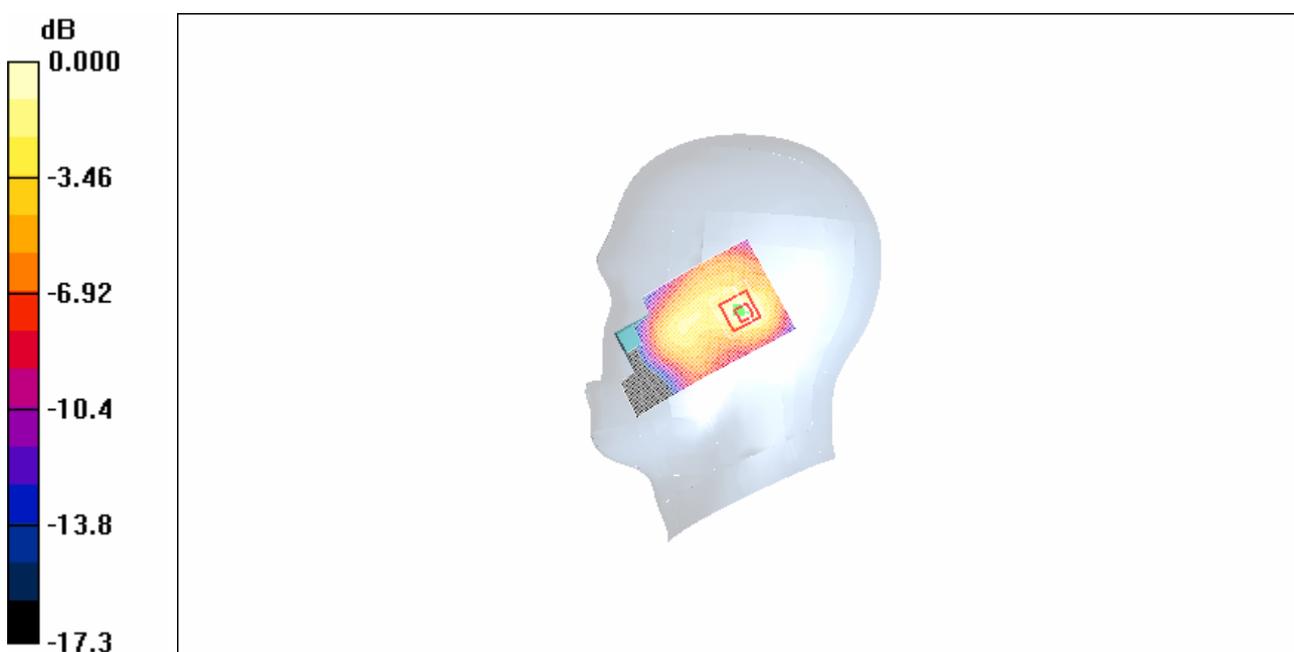
Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.8 V/m; Power Drift = -0.059 dB

Peak SAR (extrapolated) = 0.551 W/kg

SAR(1 g) = 0.301 mW/g; SAR(10 g) = 0.161 mW/g

Maximum value of SAR (measured) = 0.336 mW/g



0 dB = 0.336mW/g

Fig.123 Right Hand Touch Cheek 1900MHz CH661

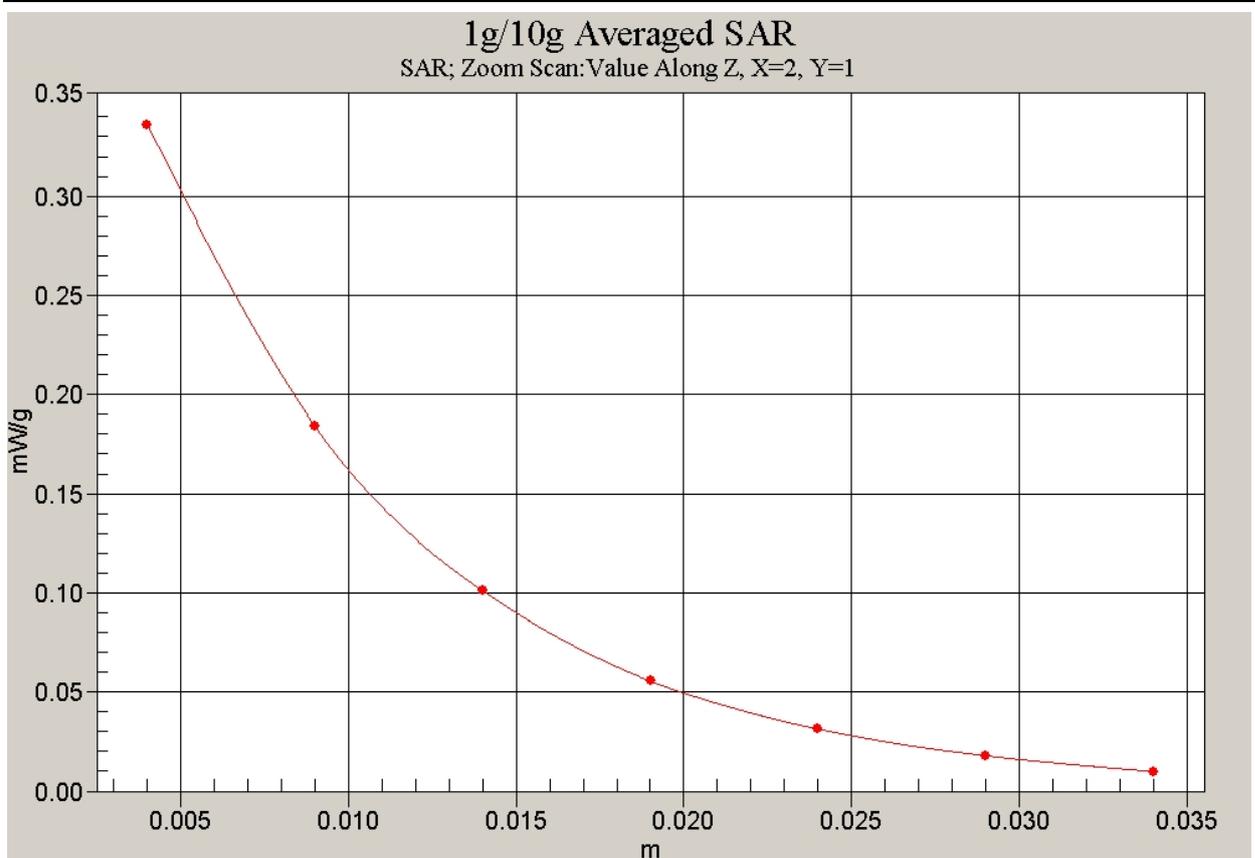


Fig. 124 Z-Scan at power reference point (1900MHz CH661)

1900 Right Cheek Low

Date/Time: 2008-6-16 10:48:27

Electronics: DAE4 Sn777

Medium: Head 1900 MHz

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.32$ mho/m; $\epsilon_r = 39.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3142 ConvF(4.87, 4.87, 4.87)

Cheek Low/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.332 mW/g

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

Reference Value = 12.5 V/m; Power Drift = -0.200 dB

Peak SAR (extrapolated) = 0.553 W/kg

SAR(1 g) = 0.300 mW/g; SAR(10 g) = 0.160 mW/g

Maximum value of SAR (measured) = 0.329 mW/g

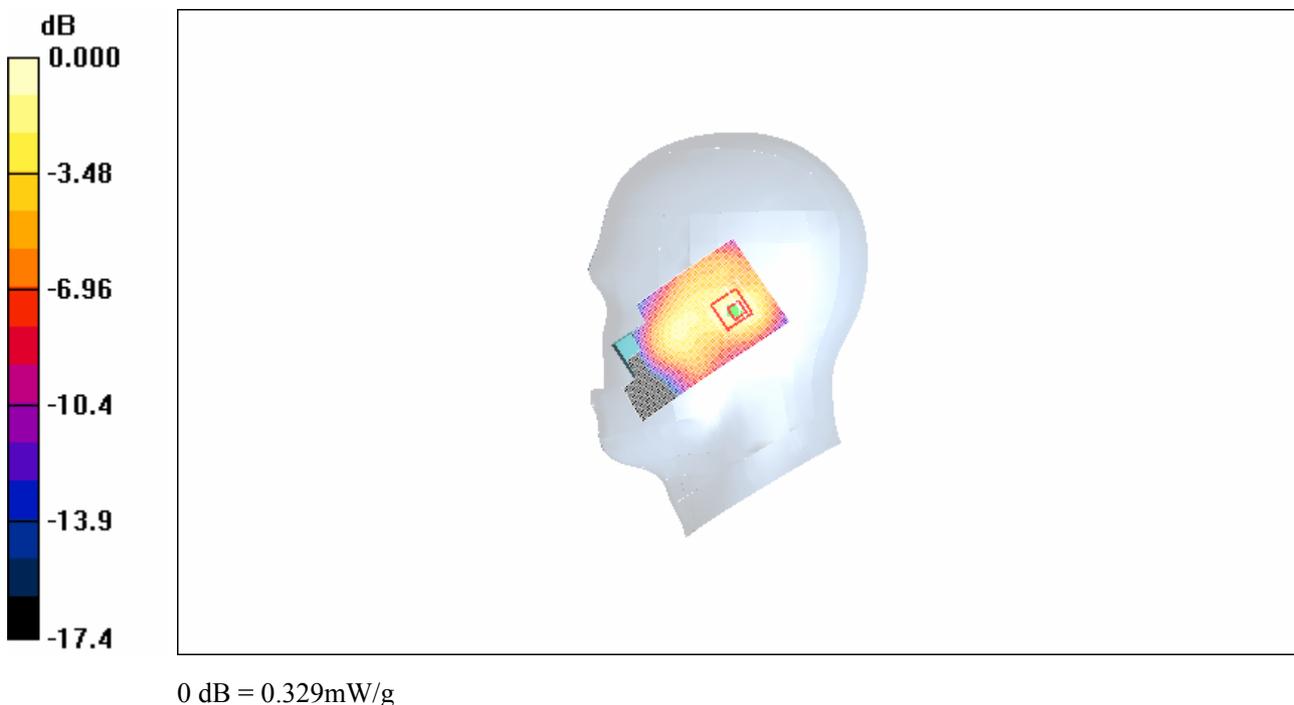


Fig. 125 Right Hand Touch Cheek 1900MHz CH512

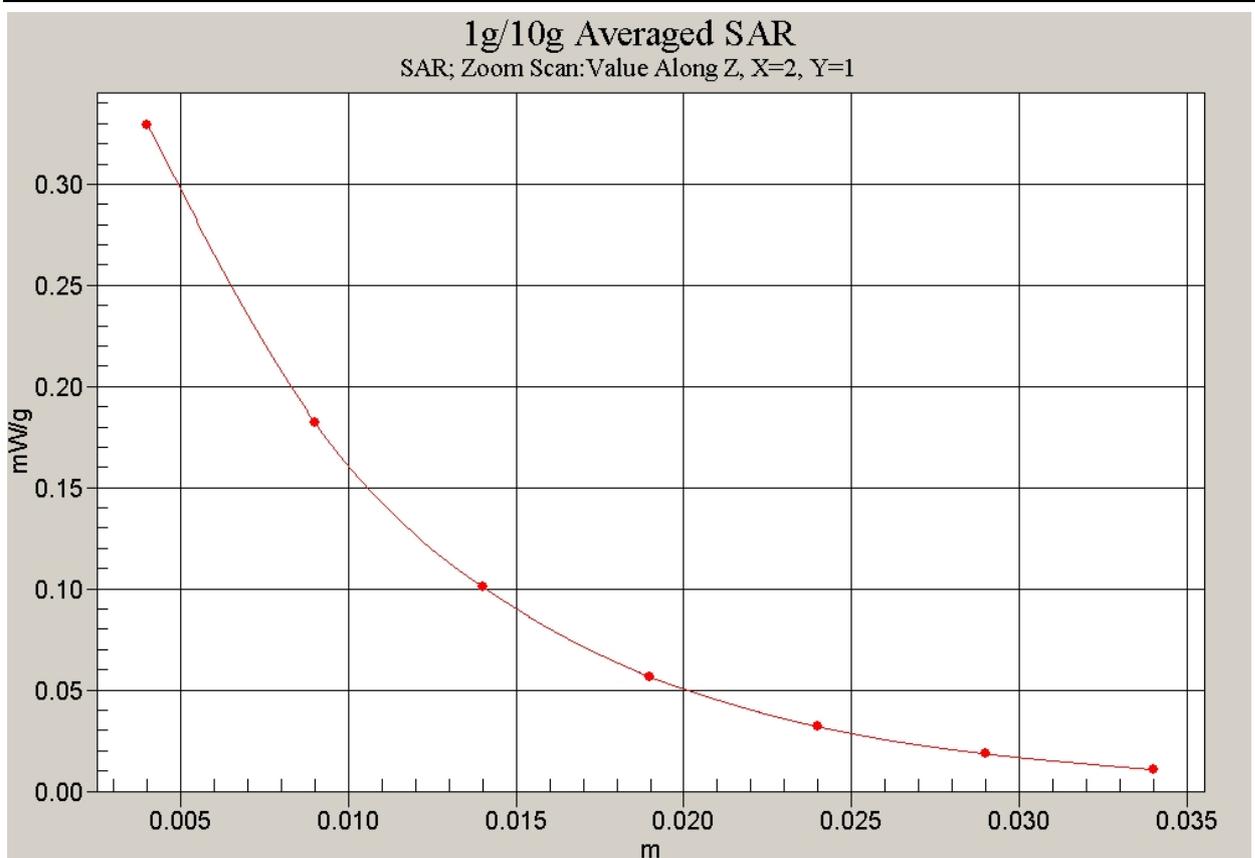


Fig. 126 Z-Scan at power reference point (1900MHz CH512)

1900 Right Tilt High

Date/Time: 2008-6-16 11:19:37

Electronics: DAE4 Sn777

Medium: Head 1900 MHz

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.38$ mho/m; $\epsilon_r = 39.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3142 ConvF(4.87, 4.87, 4.87)

Tilt High/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.326 mW/g

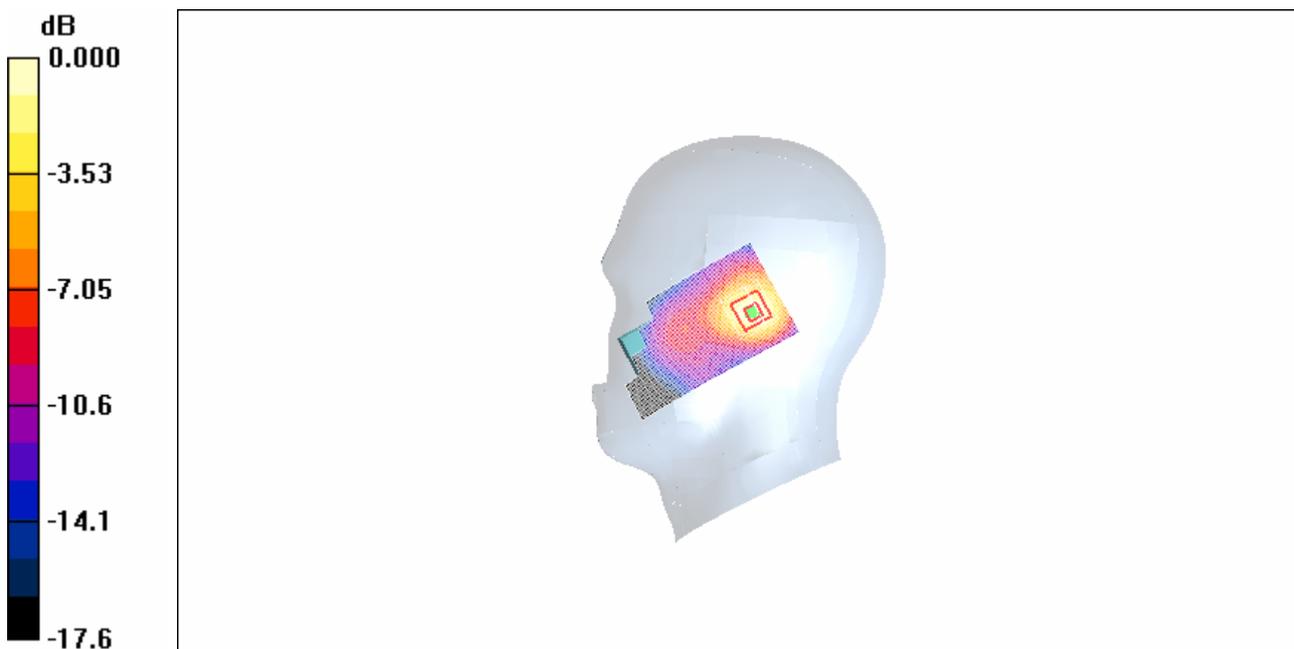
Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.0 V/m; Power Drift = 0.024 dB

Peak SAR (extrapolated) = 0.553 W/kg

SAR(1 g) = 0.299 mW/g; SAR(10 g) = 0.156 mW/g

Maximum value of SAR (measured) = 0.325 mW/g



0 dB = 0.325mW/g

Fig. 127 Right Hand Tilt 15° 1900MHz CH810

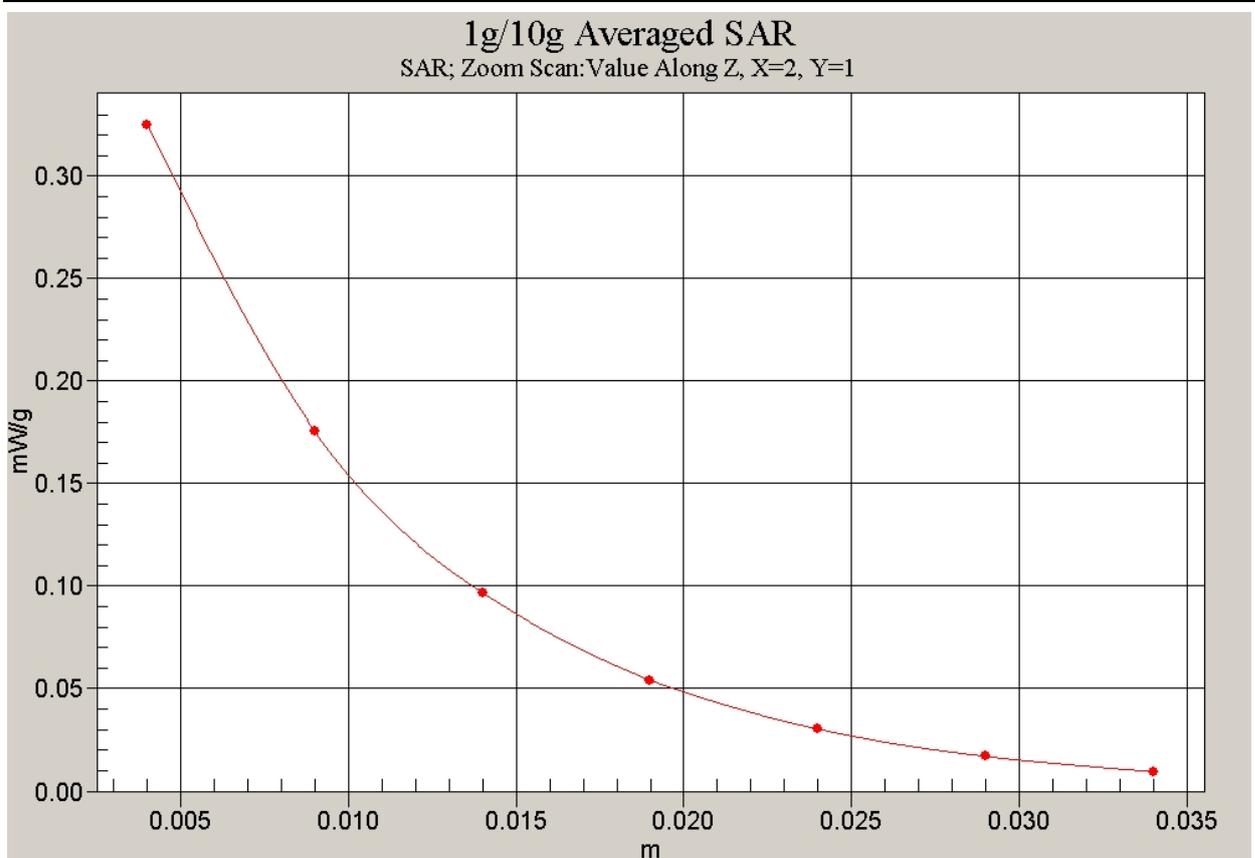


Fig. 128 Z-Scan at power reference point (1900MHz CH810)

1900 Right Tilt Middle

Date/Time: 2008-6-16 11:09:23

Electronics: DAE4 Sn777

Medium: Head 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.35$ mho/m; $\epsilon_r = 39.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3142 ConvF(4.87, 4.87, 4.87)

Tilt Middle/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.401 mW/g

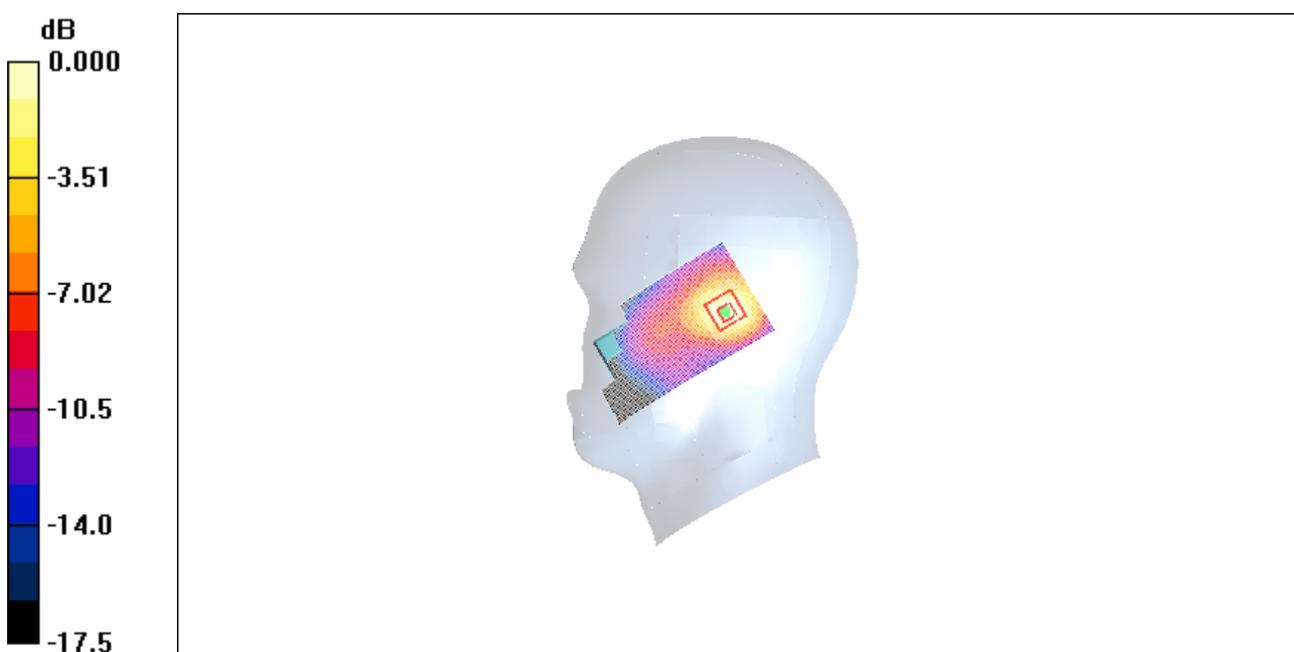
Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.7 V/m; Power Drift = -0.014 dB

Peak SAR (extrapolated) = 0.675 W/kg

SAR(1 g) = 0.367 mW/g; SAR(10 g) = 0.193 mW/g

Maximum value of SAR (measured) = 0.397 mW/g



0 dB = 0.397mW/g

Fig. 129 Right Hand Tilt 15° 1900MHz CH661

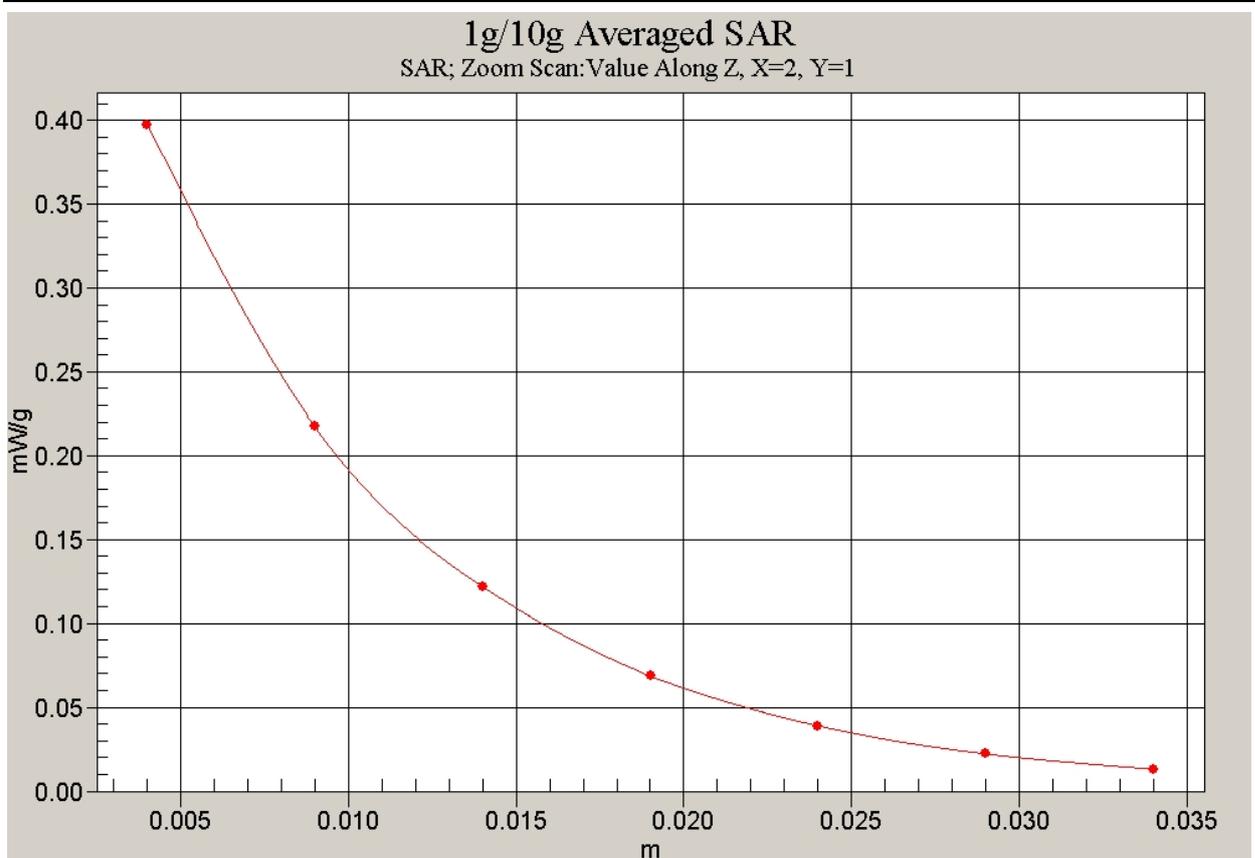


Fig. 130 Z-Scan at power reference point (1900MHz CH661)

1900 Right Tilt Low

Date/Time: 2008-6-16 10:58:53

Electronics: DAE4 Sn777

Medium: Head 1900 MHz

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.32$ mho/m; $\epsilon_r = 39.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3142 ConvF(4.87, 4.87, 4.87)

Tilt Low/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.390 mW/g

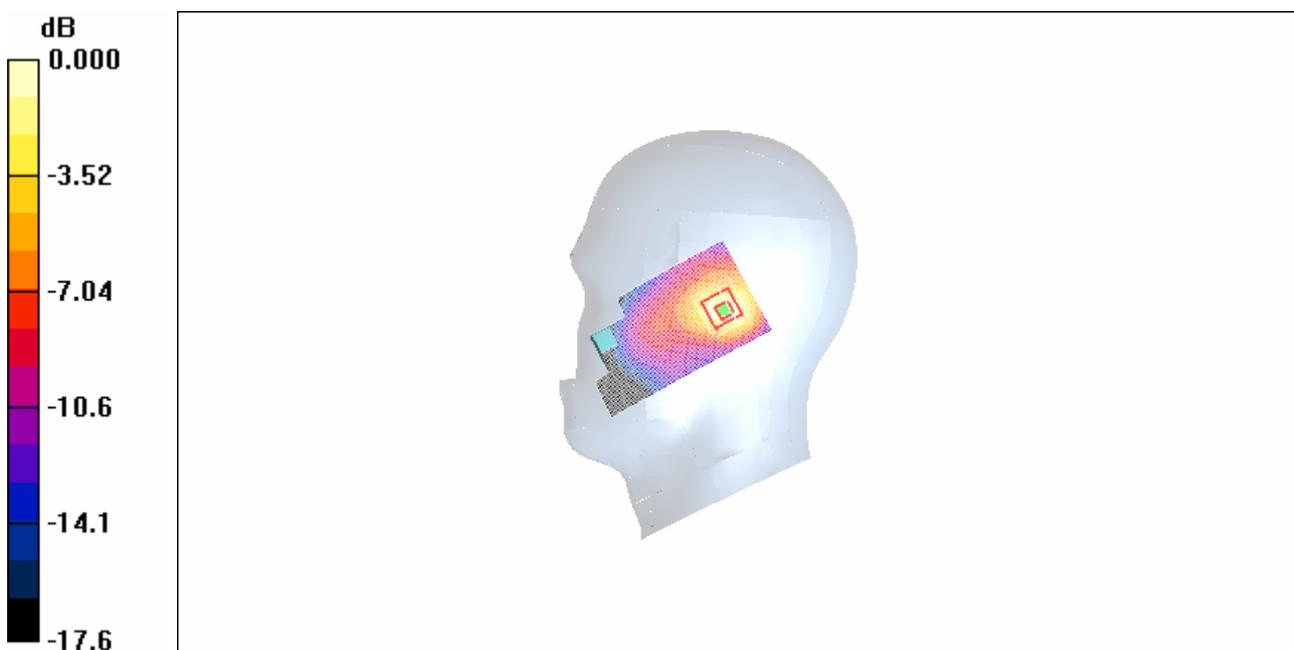
Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.6 V/m; Power Drift = -0.033 dB

Peak SAR (extrapolated) = 0.653 W/kg

SAR(1 g) = 0.360 mW/g; SAR(10 g) = 0.189 mW/g

Maximum value of SAR (measured) = 0.391 mW/g



0 dB = 0.391mW/g

Fig. 131 Right Hand Tilt 15° 1900MHz CH512

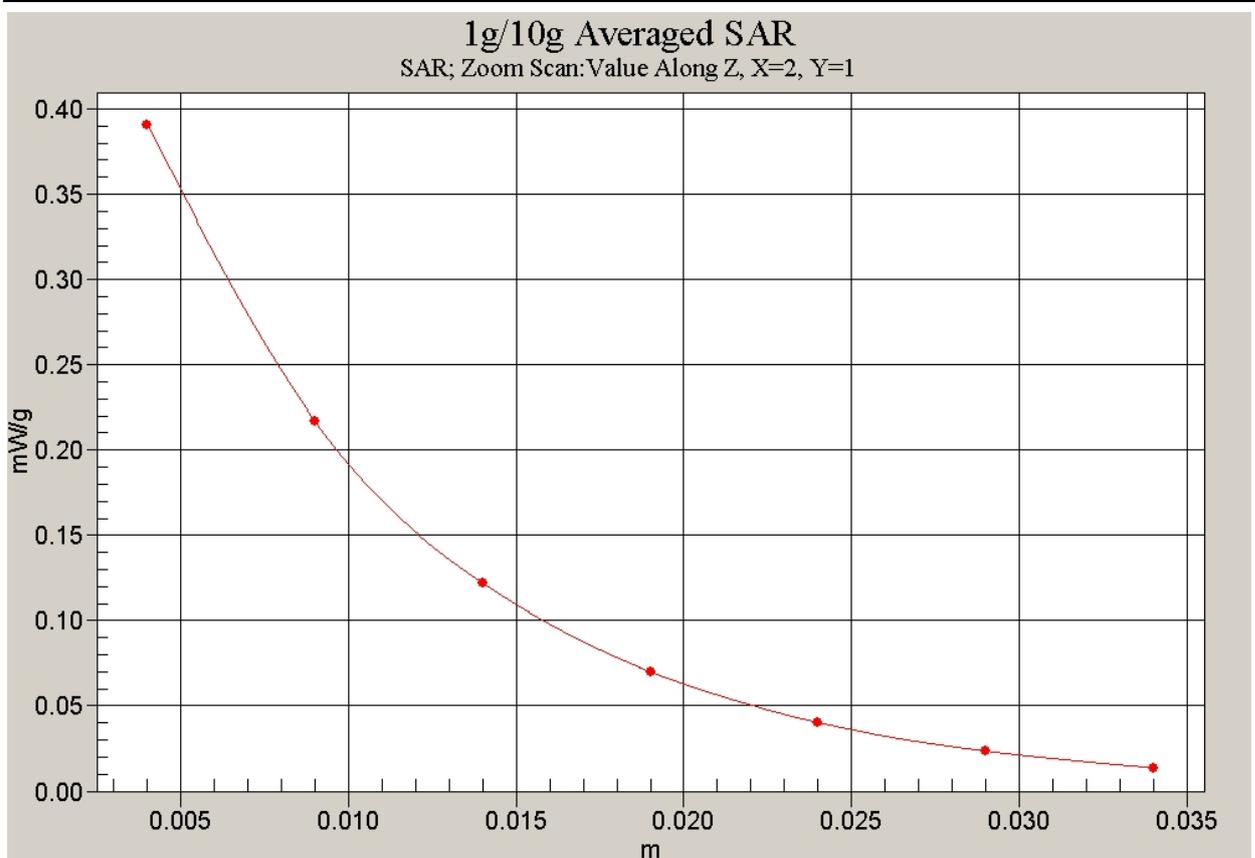


Fig. 132 Z-Scan at power reference point (1900MHz CH512)

1900 Body Toward Ground High with GPRS

Date/Time: 2008-6-16 13:32:21

Electronics: DAE4 Sn777

Medium: Body 1900 MHz

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3142 ConvF(4.61, 4.61, 4.61)

Toward Ground High/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
 Maximum value of SAR (interpolated) = 0.367 mW/g

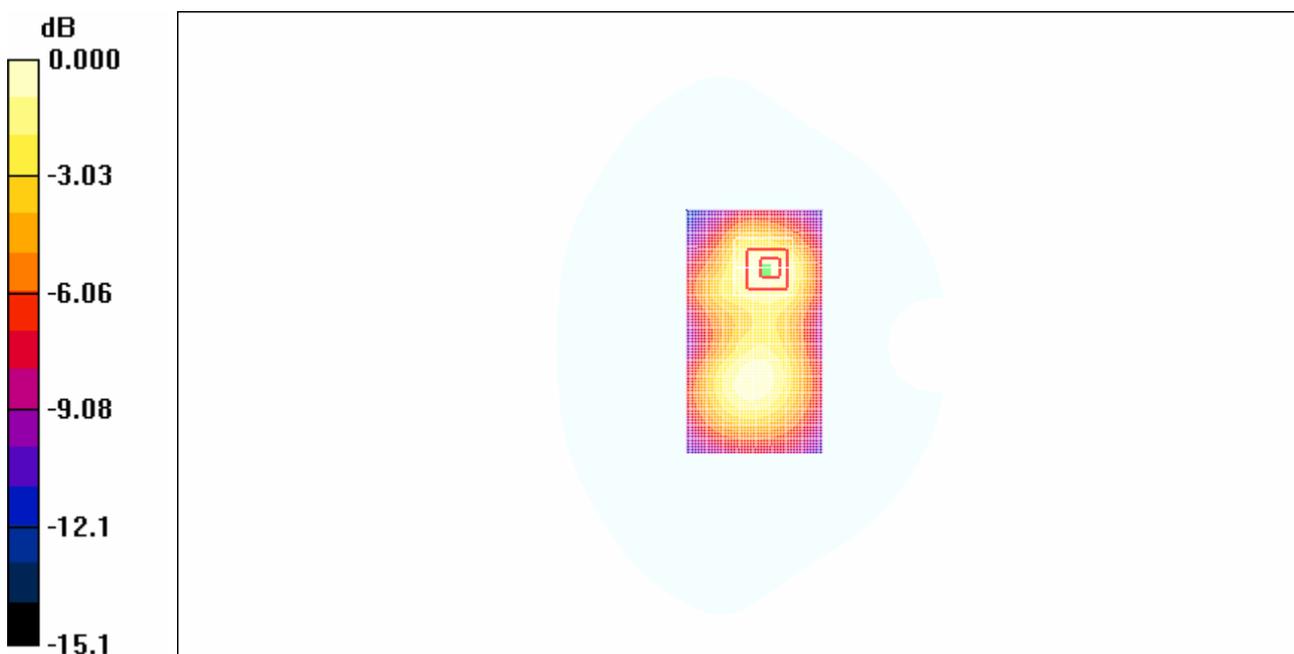
Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.1 V/m; Power Drift = -0.141 dB

Peak SAR (extrapolated) = 0.544 W/kg

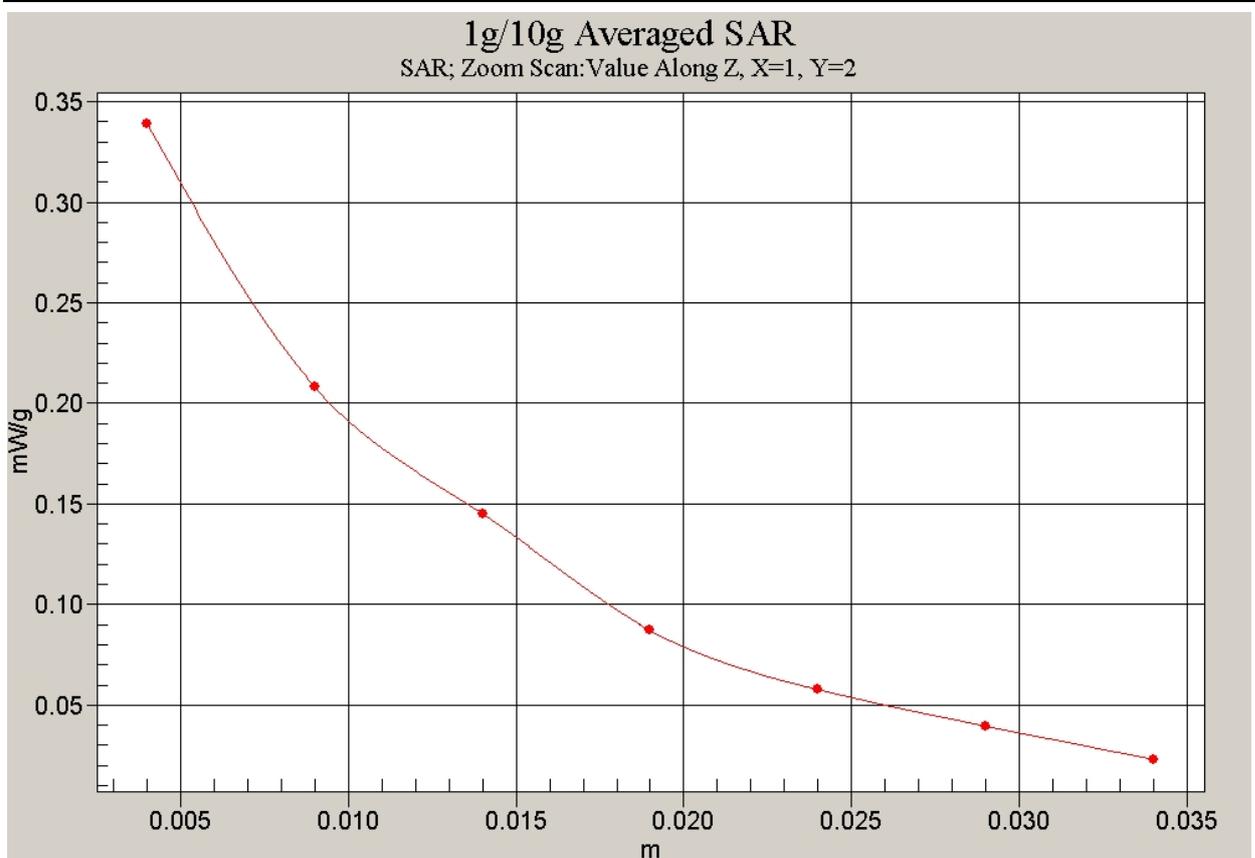
SAR(1 g) = 0.316 mW/g; SAR(10 g) = 0.188 mW/g

Maximum value of SAR (measured) = 0.339 mW/g



0 dB = 0.339mW/g

Fig. 133 1900MHz Body, Towards Ground with GPRS, CH810



**Fig. 134 Z-Scan at power reference point
(1900MHz Body, Towards Ground with GPRS, CH810)**

1900 Body Toward Ground Middle with GPRS

Date/Time: 2008-6-16 13:15:37

Electronics: DAE4 Sn777

Medium: Body 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3142 ConvF(4.61, 4.61, 4.61)

Toward Ground Middle/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.351 mW/g

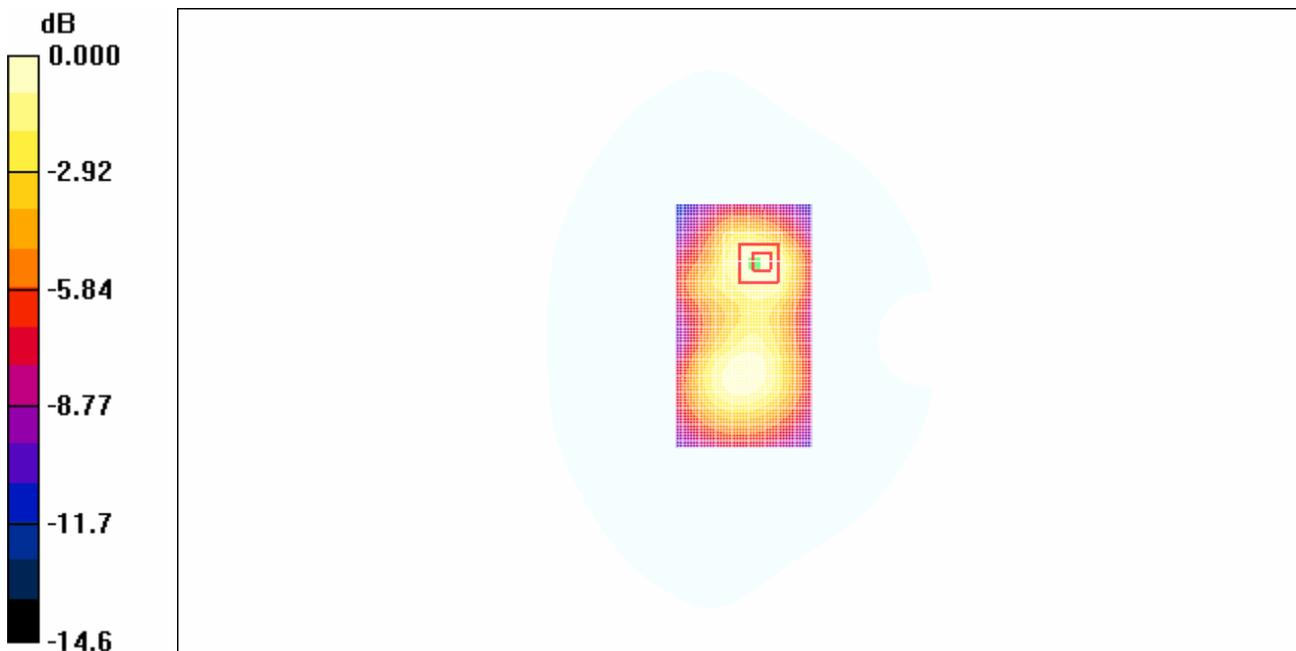
Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.4 V/m; Power Drift = -0.027 dB

Peak SAR (extrapolated) = 0.480 W/kg

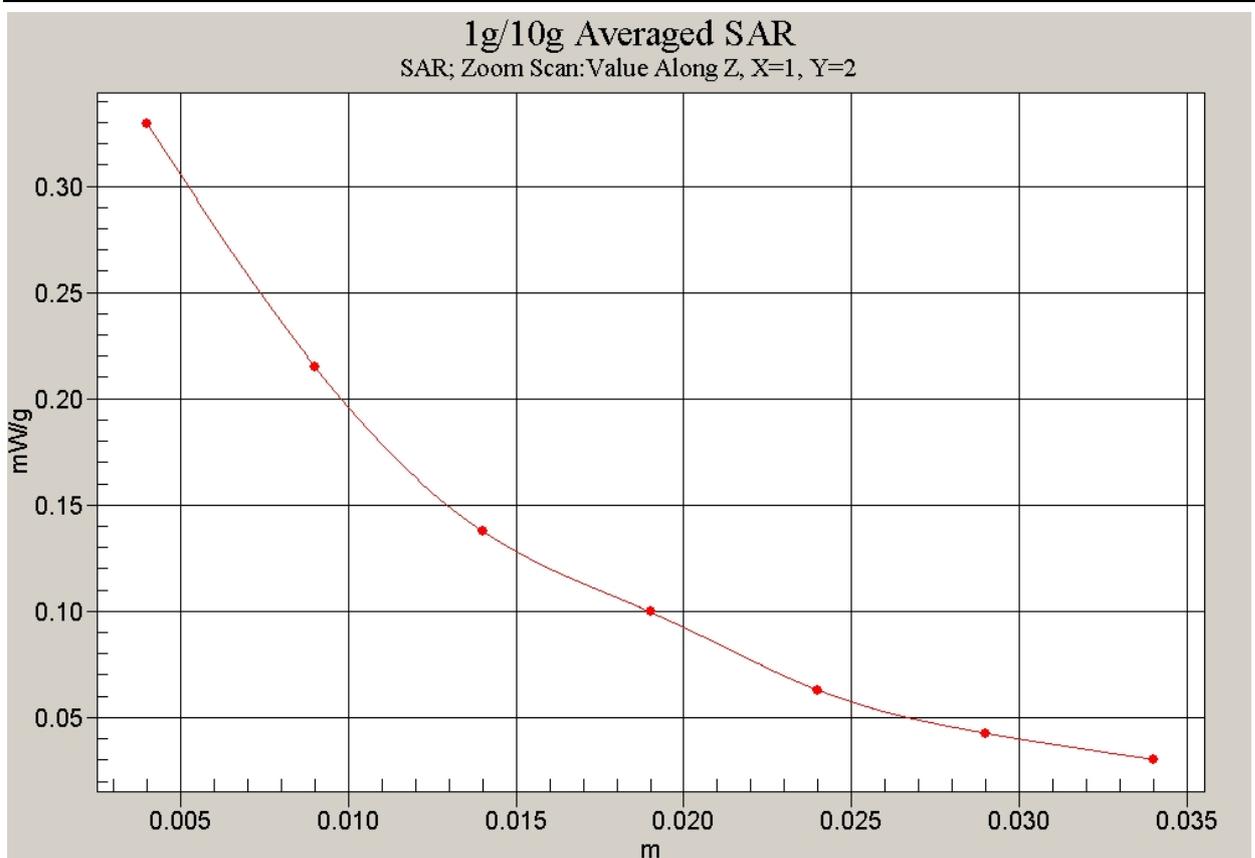
SAR(1 g) = 0.303 mW/g; SAR(10 g) = 0.182 mW/g

Maximum value of SAR (measured) = 0.329 mW/g



0 dB = 0.329mW/g

Fig. 135 1900MHz Body, Towards Ground with GPRS, CH661



**Fig. 136 Z-Scan at power reference point
(1900MHz Body, Towards Ground with GPRS, CH661)**

1900 Body Toward Ground Low with GPRS

Date/Time: 2008-6-16 13:01:45

Electronics: DAE4 Sn777

Medium: Body 1900 MHz

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3142 ConvF(4.61, 4.61, 4.61)

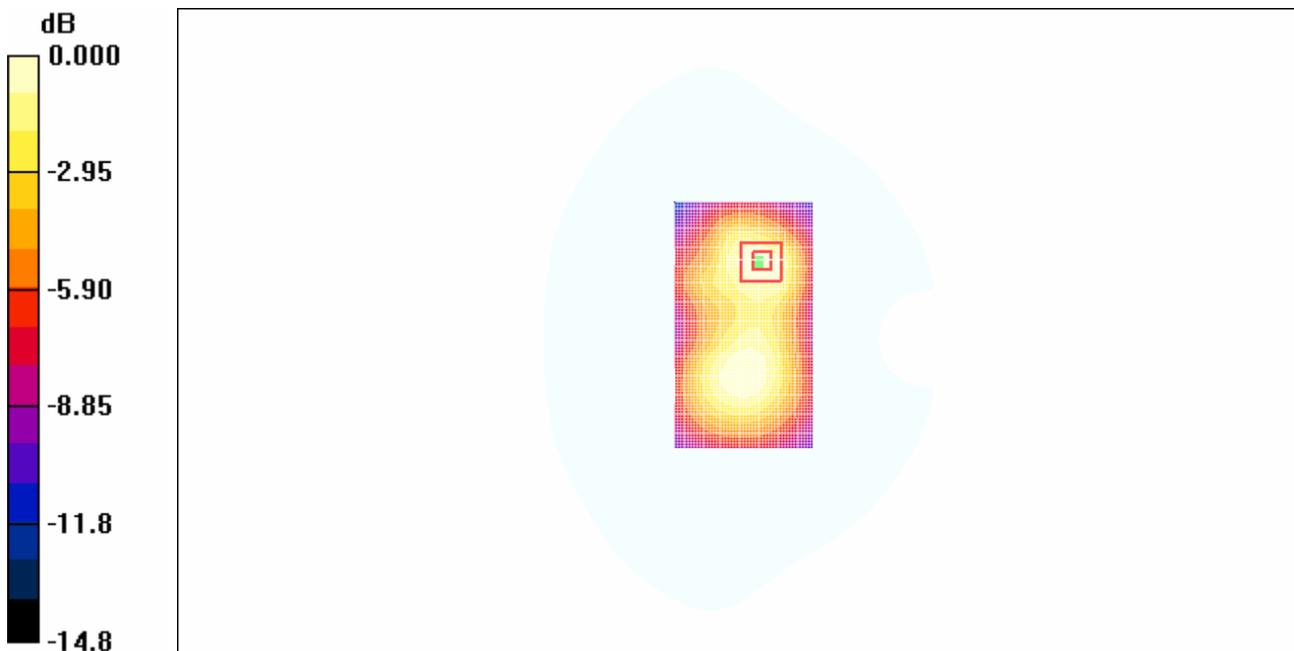
Toward Ground Low/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.300 mW/g**Toward Ground Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.0 V/m; Power Drift = -0.047 dB

Peak SAR (extrapolated) = 0.419 W/kg

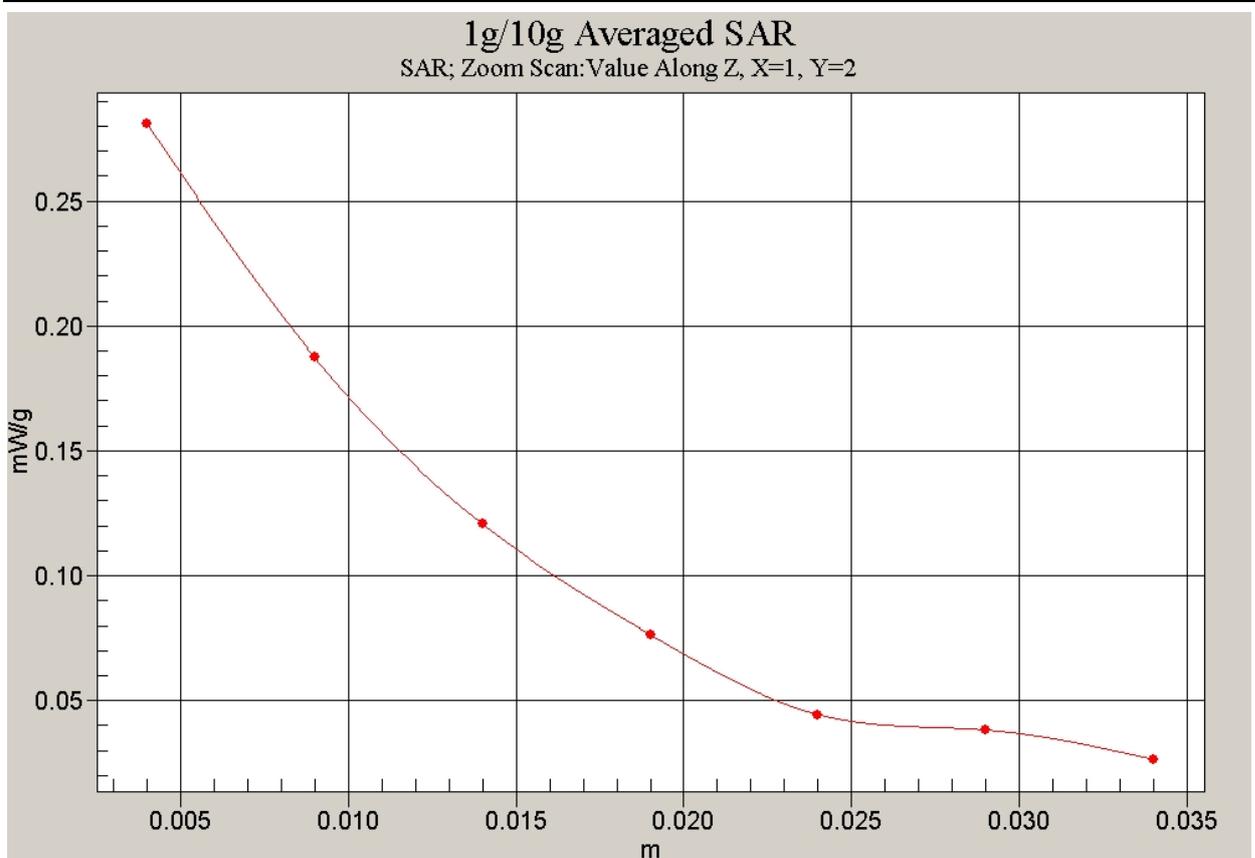
SAR(1 g) = 0.264 mW/g; SAR(10 g) = 0.158 mW/g

Maximum value of SAR (measured) = 0.281 mW/g



0 dB = 0.281mW/g

Fig. 137 1900MHz Body, Towards Ground with GPRS, CH512



**Fig. 138 Z-Scan at power reference point
(1900MHz Body, Towards Ground with GPRS, CH512)**

1900 Body Toward Phantom High with GPRS

Date/Time: 2008-6-16 11:40:36

Electronics: DAE4 Sn777

Medium: Body 1900 MHz

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3142 ConvF(4.61, 4.61, 4.61)

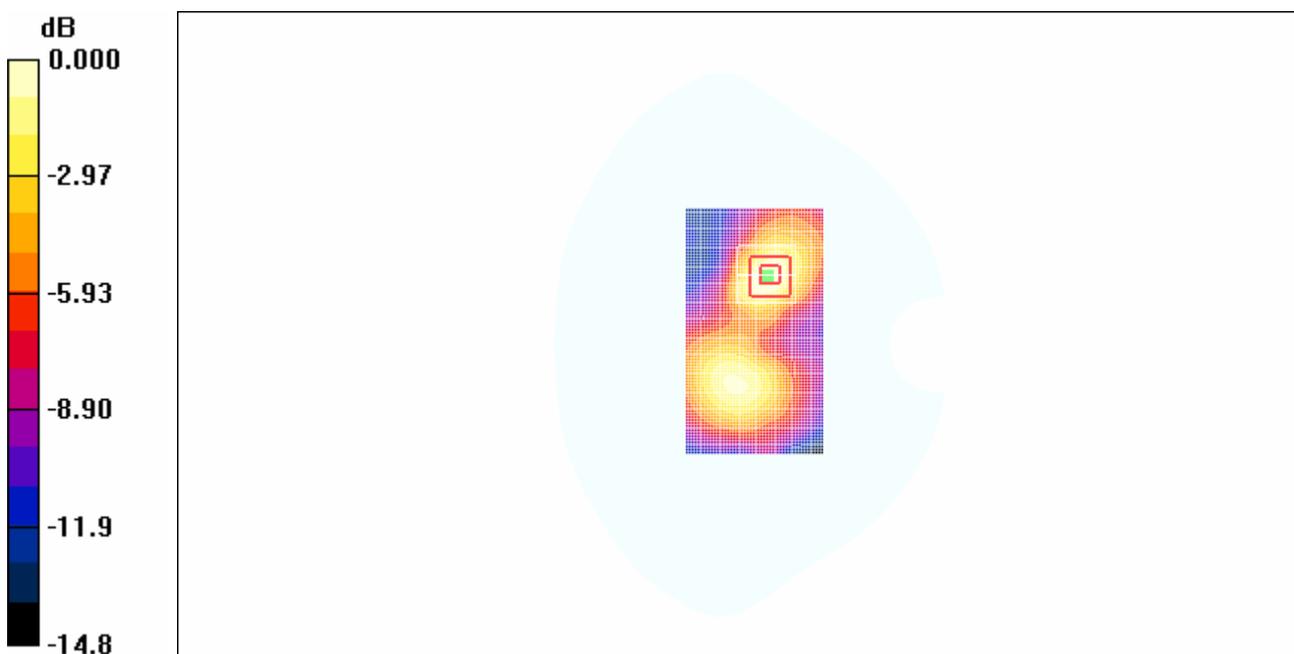
Toward Phantom High/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.144 mW/g**Toward Phantom High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.73 V/m; Power Drift = 0.021 dB

Peak SAR (extrapolated) = 0.203 W/kg

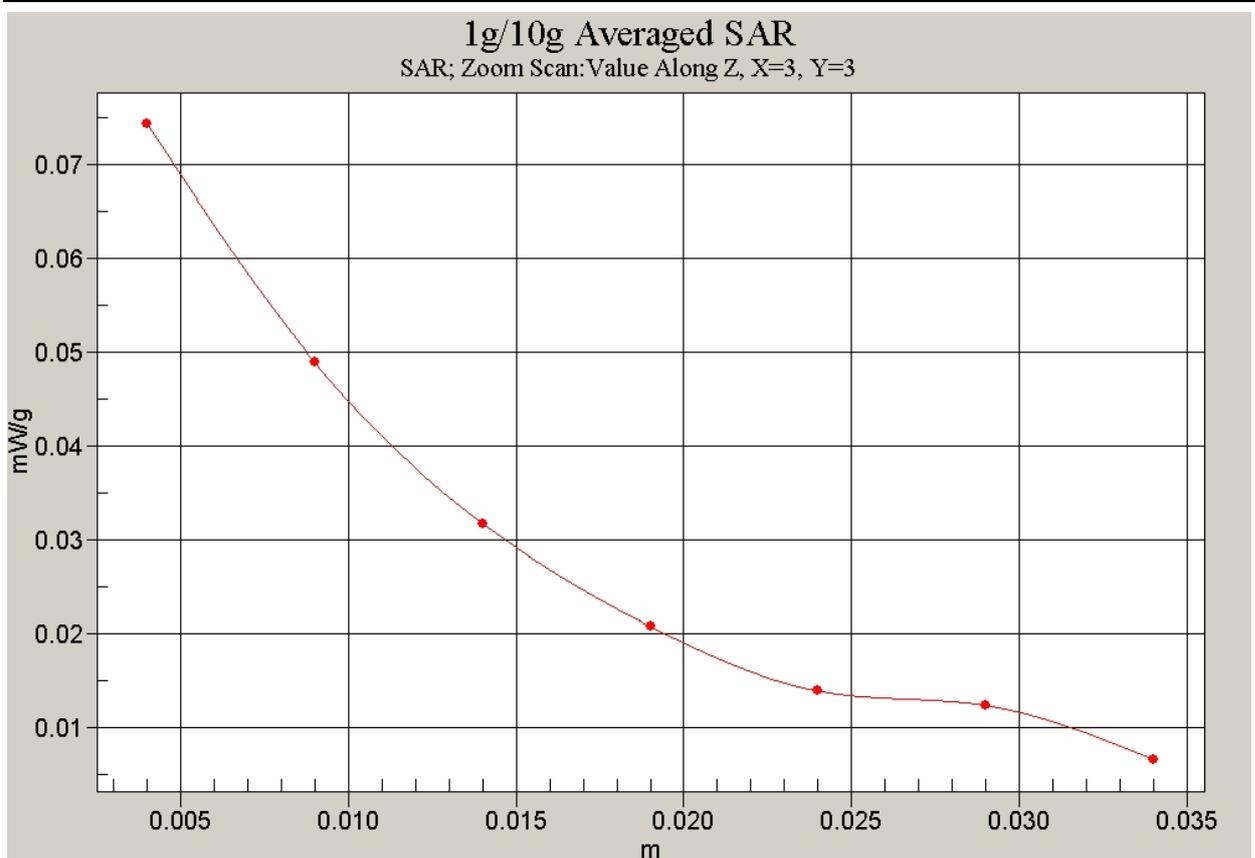
SAR(1 g) = 0.123 mW/g; SAR(10 g) = 0.072 mW/g

Maximum value of SAR (measured) = 0.135 mW/g



0 dB = 0.135mW/g

Fig. 139 1900MHz Body, Towards Phantom with GPRS, CH810



**Fig. 140 Z-Scan at power reference point
(1900MHz Body, Towards Phantom with GPRS, CH810)**

1900 Body Toward Phantom Middle with GPRS

Date/Time: 2008-6-16 11:53:37

Electronics: DAE4 Sn777

Medium: Body 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3142 ConvF(4.61, 4.61, 4.61)

Toward Phantom Middle/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.144 mW/g

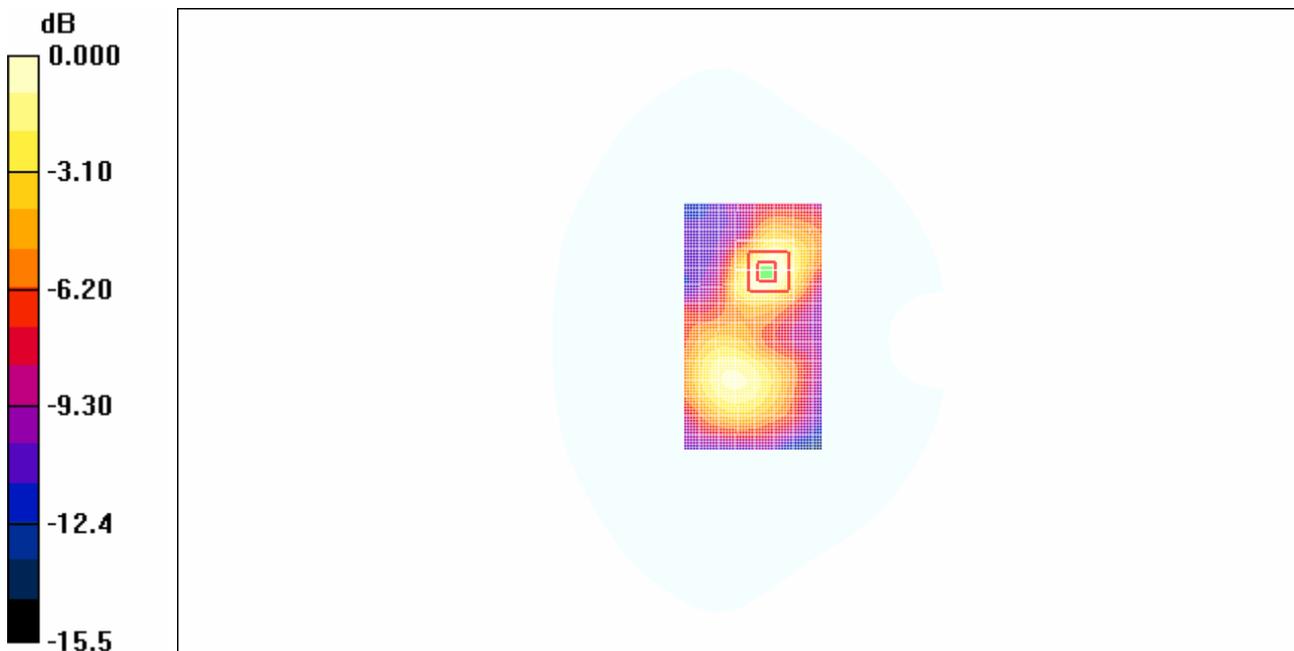
Toward Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.89 V/m; Power Drift = -0.104 dB

Peak SAR (extrapolated) = 0.204 W/kg

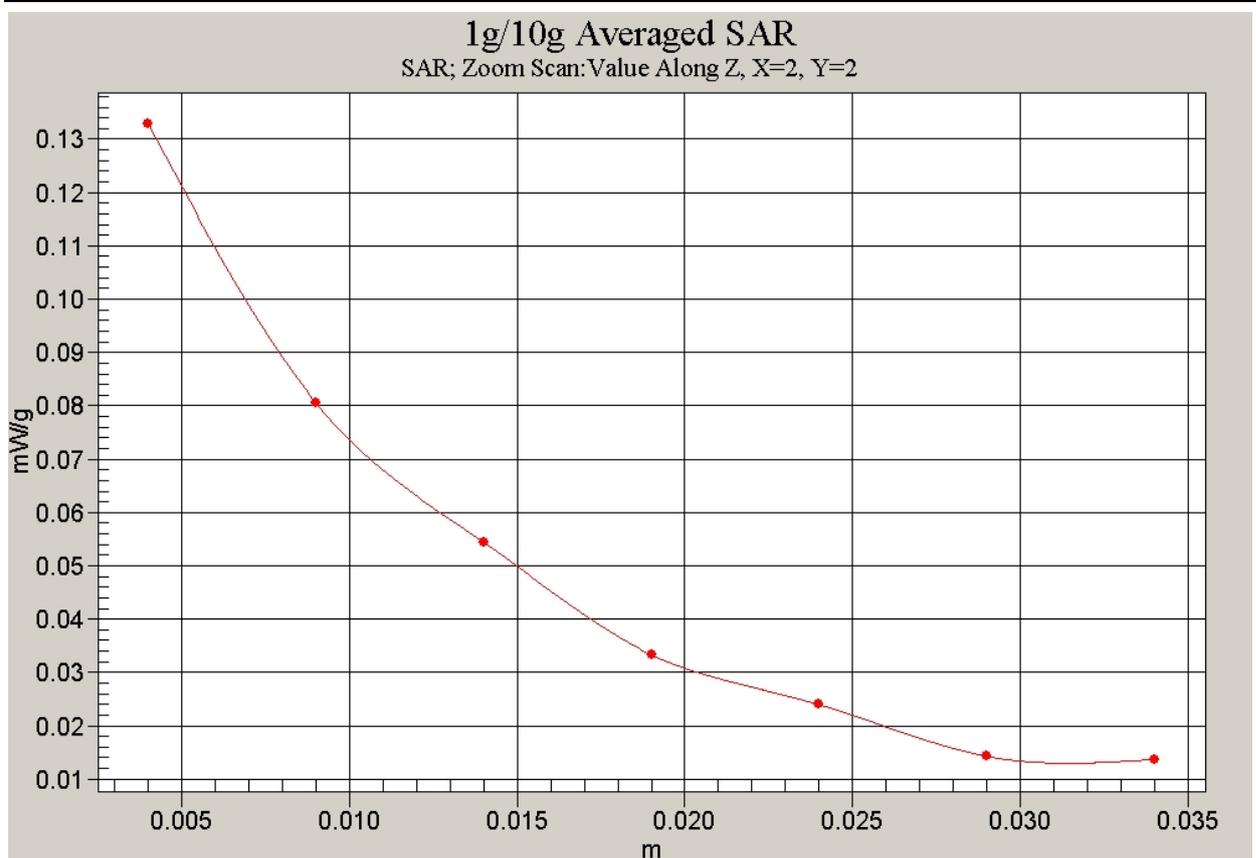
SAR(1 g) = 0.122 mW/g; SAR(10 g) = 0.071 mW/g

Maximum value of SAR (measured) = 0.133 mW/g



0 dB = 0.133mW/g

Fig.141 1900MHz Body, Towards Phantom with GPRS, CH661



**Fig. 142 Z-Scan at power reference point
(1900MHz Body, Towards Phantom with GPRS, CH661)**

1900 Body Toward Phantom Low with GPRS

Date/Time: 2008-6-16 12:45:43

Electronics: DAE4 Sn777

Medium: Body 1900 MHz

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.3°C Liquid Temperature: 22.5°C

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

Probe: ES3DV3 - SN3142 ConvF(4.61, 4.61, 4.61)

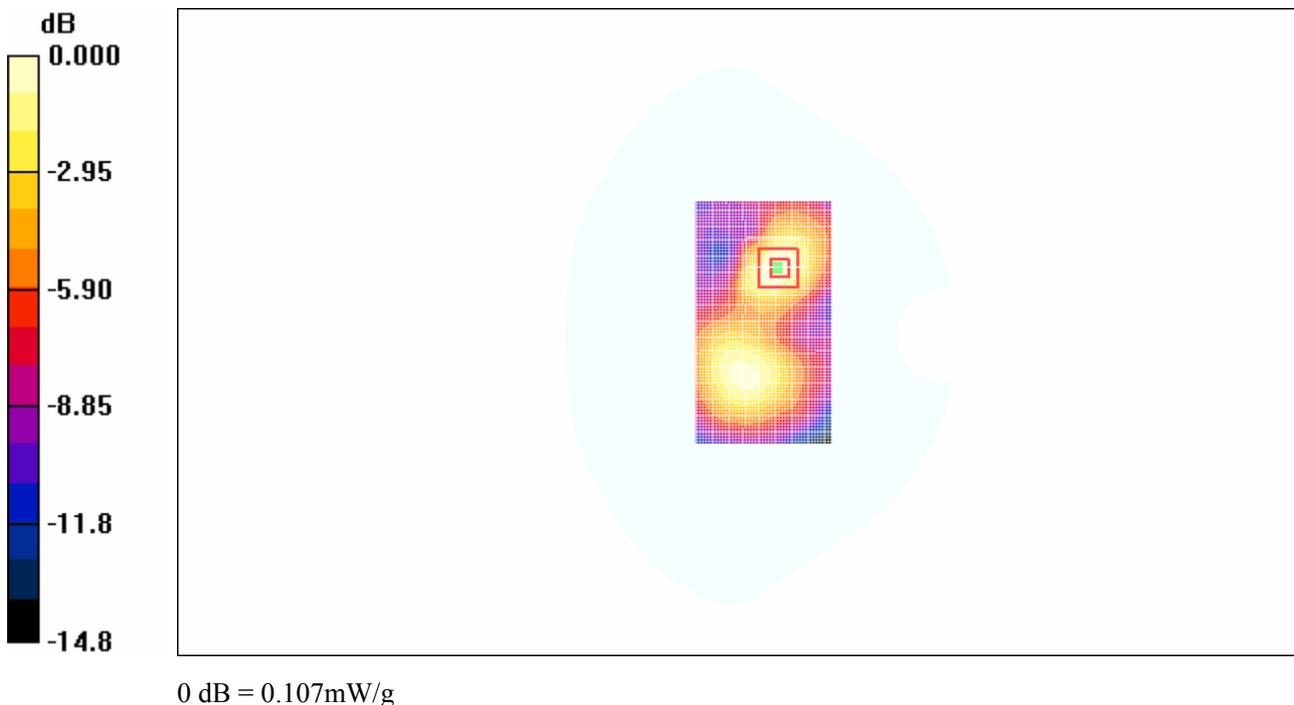
Toward Phantom Low/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.113 mW/g**Toward Phantom Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

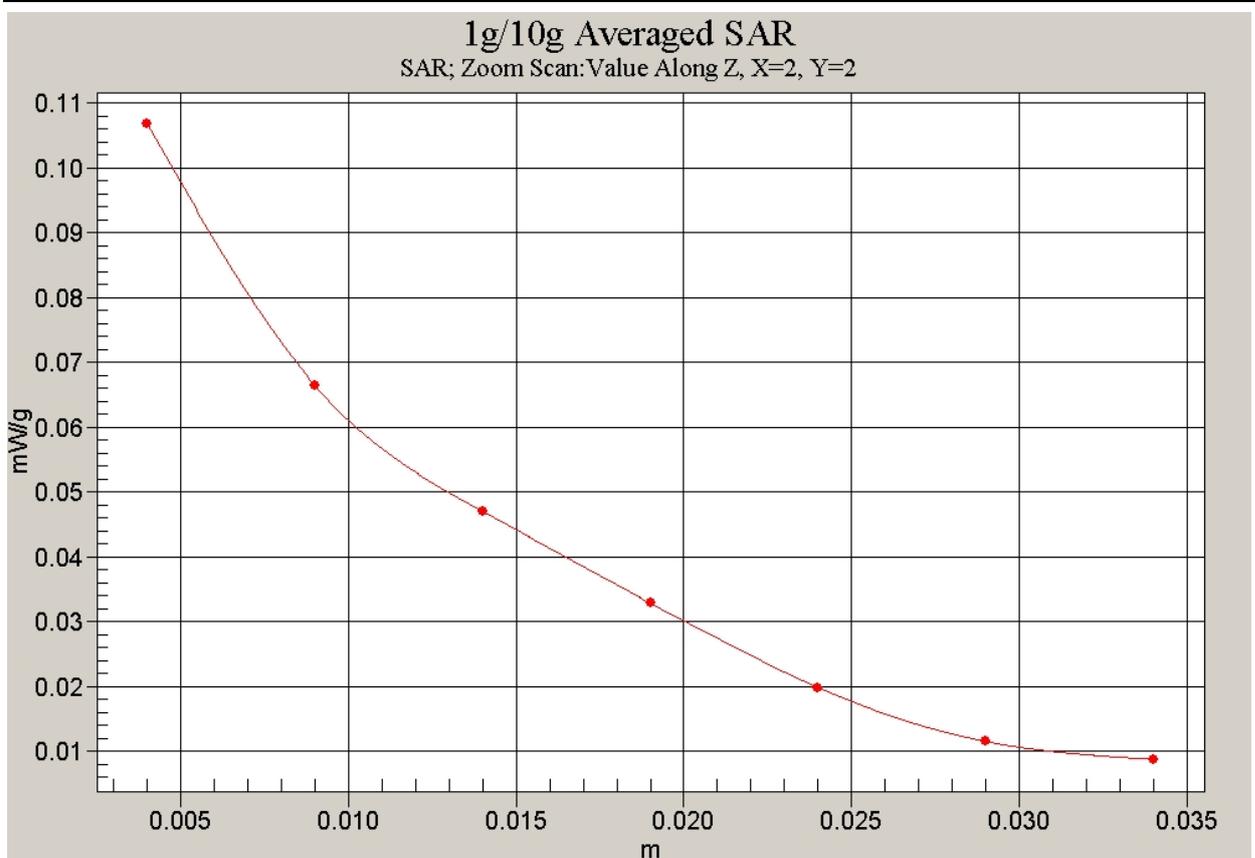
Reference Value = 5.58 V/m; Power Drift = 0.120 dB

Peak SAR (extrapolated) = 0.155 W/kg

SAR(1 g) = 0.096 mW/g; SAR(10 g) = 0.058 mW/g

Maximum value of SAR (measured) = 0.107 mW/g

**Fig. 143 1900MHz Body, Towards Phantom with GPRS, CH512**



**Fig. 144 Z-Scan at power reference point
(1900MHz Body, Towards Phantom with GPRS, CH512)**

ANNEX D SYSTEM VALIDATION RESULTS**835MHzDAE777Probe3142**

Date/Time: 2008-6-13 7:41:23

Electronics: DAE4 Sn777

Medium: 835 Head

Medium parameters used: $f = 835$ MHz; $\sigma = 0.93$ mho/m; $\epsilon_r = 42.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 24.5°C Liquid Temperature: 24.0°C

Communication System: CW Frequency: 835 MHz Duty Cycle: 1:1

Probe: ES3DV3 – SN3142 ConvF(5.97, 5.97, 5.97)

835MHz/Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 2.68 mW/g

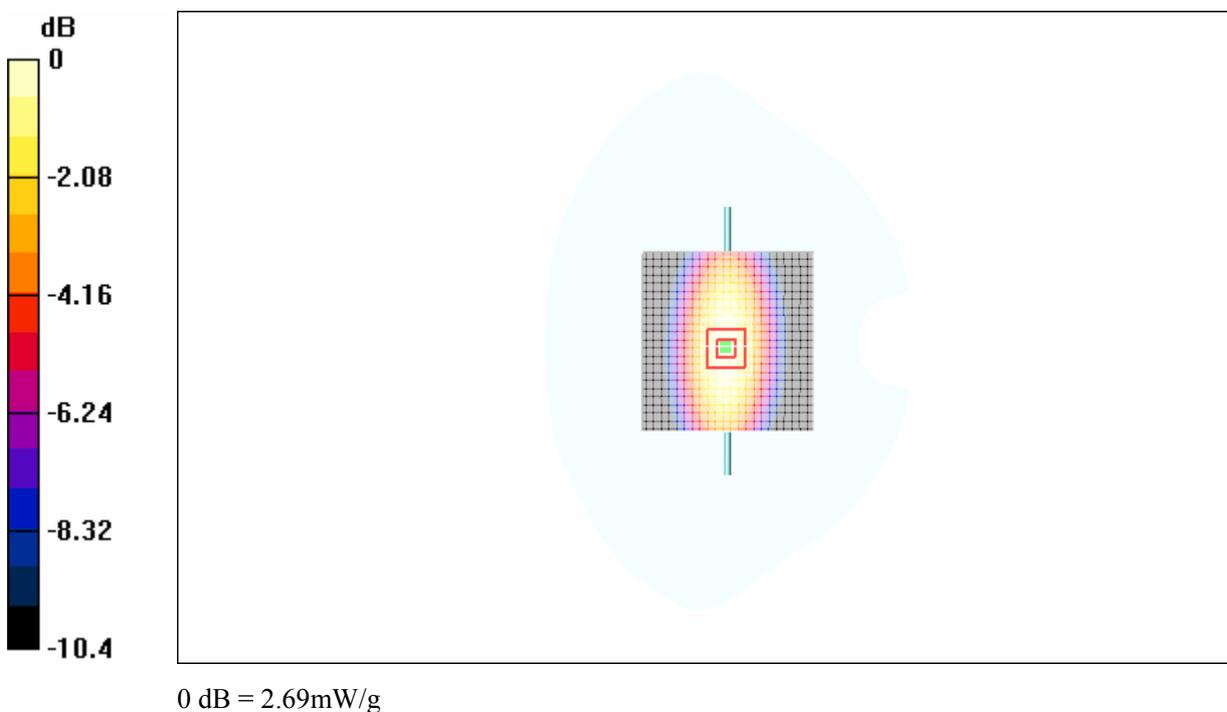
835MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56.8 V/m; Power Drift = -0.0 dB

Peak SAR (extrapolated) = 3.67 W/kg

SAR(1 g) = 2.50 mW/g; SAR(10 g) = 1.62 mW/g

Maximum value of SAR (measured) = 2.69 mW/g

**Fig.145 validation 835MHz 250mW**

1900MHz DAE777Probe3142

Date/Time: 2008-6-16 7:39:26

Electronics: DAE4 Sn777

Medium: Head 1900 MHz

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 39.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 24.5°C Liquid Temperature: 24.0°C

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

Probe: ES3DV3 – SN3142 ConvF(5.66, 5.66, 5.66)

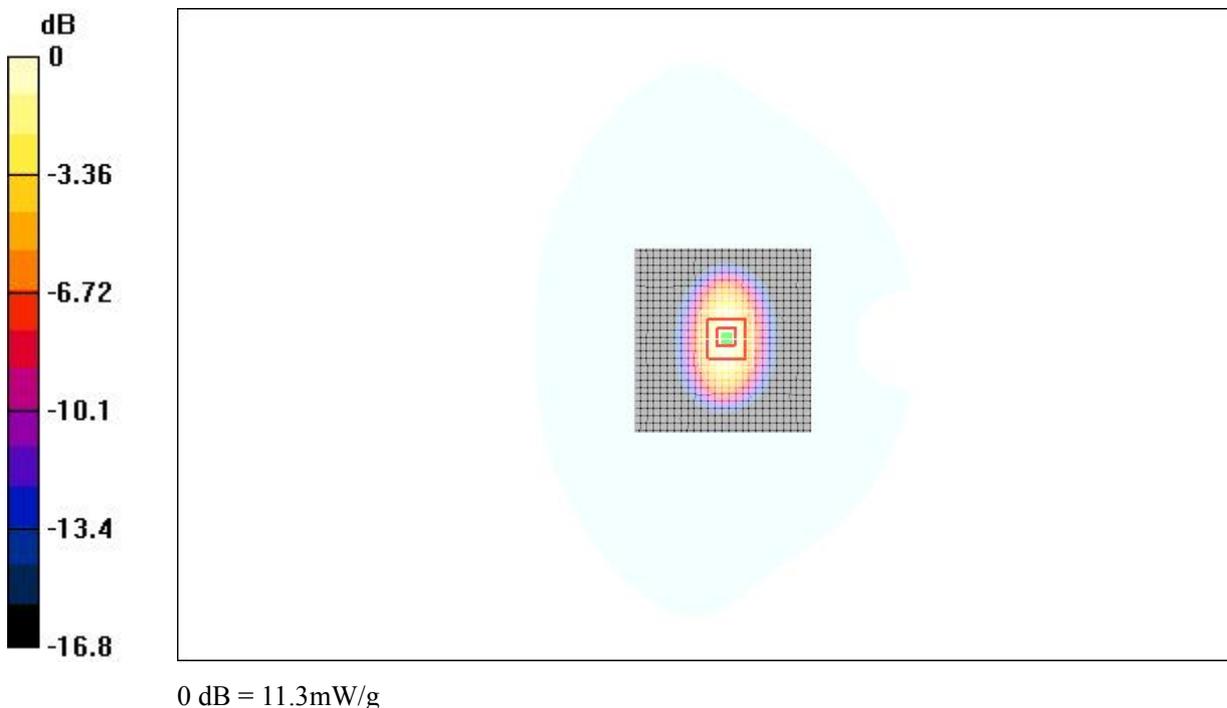
System Validation/Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 11.2 mW/g**System Validation/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm,
dz=5mm

Reference Value = 92.1 V/m; Power Drift = 0.1 dB

Peak SAR (extrapolated) = 16.9 W/kg

SAR(1 g) = 9.91 mW/g; SAR(10 g) = 5.27 mW/g

Maximum value of SAR (measured) = 11.3 mW/g

**Fig.146 validation 1900MHz 250mW**

ANNEX E PROBE CALIBRATION CERTIFICATE

Calibration Laboratory of
Schmid & Partner
Engineering AG
 Zeughausstrasse 43, 8004 Zurich, Switzerland



S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Federal Office of Metrology and Accreditation
 The Swiss Accreditation Service is one of the signatories to the EA
 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **TMC Beijing**

Certificate No: **ES3-3142_Sep07**

CALIBRATION CERTIFICATE

Object **ES3DV3 - SN:3142**

Calibration procedure(s) **QA CAL-01.v6 and QA CAL-12.v5
 Calibration procedure for dosimetric E-field probes**

Calibration date: **September 7, 2007**

Condition of the calibrated item **In Tolerance**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	29-Mar-07 (METAS, No. 217-00670)	Mar-08
Power sensor E4412A	MY41495277	29-Mar-07 (METAS, No. 217-00670)	Mar-08
Power sensor E4412A	MY41498087	29-Mar-07 (METAS, No. 217-00670)	Mar-08
Reference 3 dB Attenuator	SN: S5054 (3c)	8-Aug-07 (METAS, No. 217-00719)	Aug-08
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-07 (METAS, No. 217-00671)	Mar-08
Reference 30 dB Attenuator	SN: S5129 (30b)	8-Aug-07 (METAS, No. 217-00720)	Aug-08
Reference Probe ES3DV2	SN: 3013	4-Jan-07 (SPEAG, No. ES3-3013_Jan07)	Jan-08
DAE4	SN: 654	20-Apr-07 (SPEAG, No. DAE4-654_Apr07)	Apr-08

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (SPEAG, in house check Nov-05)	In house check: Nov-07
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Oct-06)	In house check: Oct-07

	Name	Function	Signature
Calibrated by:	Katja Pokovic	Technical Manager	
Approved by:	Niels Kuster	Quality Manager	

Issued: September 10, 2007

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.