NO.: RZA2008-0528FCC

(No. CNAS L2264)

OET 65

TEST REPORT

Test name	Electromagnetic Field (Specific Absorption Rate)
Product	HSPA Rotate USB Stick
Model	E180
FCC ID	QISE180
Client	HUAWEI Technologies Co., Ltd.

TA Technology (Shanghai) Co., Ltd.

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GENERAL SUMMARY

Product	HSPA Rotate USB Stick	**Model**	E180
Client	HUAWEI Technologies Co., Ltd.	**Type of test**	Entrusted
Manufacturer	HUAWEI Technologies Co., Ltd.	**Arrival Date of sample**	April.2nd, 2008
Place of sampling	(Blank)	**Carrier of the samples**	Ting Zhang
Quantity of the samples	One	**Date of product**	(Blank)
Base of the samples	(Blank)	**Items of test**	SAR
Series number	LV7NAA17A2840355		
Standard(s)	**EN 50360–2001:** Product standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones. **EN 50361–2001:** Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones. **ANSI C95.1–1999:** IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz **IEEE 1528–2003:** Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques. **OET65C revision2002 DA 09-1948, June 19.2002:** Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits. **IEC 62209-2 (Draft):** Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures –Part 2: Procedure to determine the Specific Absorption Rate (SAR)in the head and body for 30MHz to 6GHz Handheld and Body-Mounted Devices used in close proximity to the body. **Vodafone SAR_Data_cards_V1.1:** Global Test Specification for Terminals for Performance Measurements –Performance TST- Specific Absorption Rate (SAR) for Data Cards and External Antennas.		
Conclusion	Localized Specific Absorption Rate (SAR) of this portable wireless equipment has been measured in all cases requested by the relevant standards cited in Clause 6.2 of this test report. Maximum localized SAR is below exposure limits specified in the relevant standards cited in Clause 6.1 of this test report. General Judgment: **Pass** (Stamp) **Date of issue: April.11th,2008**		
Comment	The test result only responds to the measured sample.		

Approved by chenguang zheng **Revised by** weizhong yang **Performed by** minbao ling

TABLE OF CONTENT

1. COMPETENCE AND WARRANTIES

TA Technology (Shanghai) Co., Ltd. is a test laboratory competent to carry out the tests described in this test report.

TA Technology (Shanghai) Co., Ltd. guarantees the reliability of the data presented in this test report, which is the results of measurements and tests performed for the items under test on the date and under the conditions stated in this test report and is based on the knowledge and technical facilities available at TA Technology (Shanghai) Co., Ltd. at the time of execution of the test.

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This report only refers to the item that has undergone the test.

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3. DESCRIPTION OF EUT

3.1. Addressing Information Related to EUT

Table 1: Applicant (The Client)

Name or Company	HUAWEI Technologies Co., Ltd.
Address/Post	Bantian, Longgang District
City	Shenzhen
Postal Code	518129
Country	P.R. China
Telephone	0755-28780808
Fax	0755-28780808

Table 2: Manufacturer

Name or Company	HUAWEI Technologies Co., Ltd.
Address/Post	Bantian, Longgang District
City	Shenzhen
Postal Code	518129
Country	P.R. China
Telephone	0755-28780808
Fax	0755-28780808

3.2. Constituents of EUT

Table 3: Constituents of Samples

Description	Model	Serial Number	Manufacturer
HSPA Rotate USB Stick	E180	LV7NAA17A2840355	HUAWEI Technologies Co., Ltd.

Note:
The EUT appearances see ANNEX H.

3.3. General Description

Equipment Under Test (EUT) is a HSPA Rotate USB Stick with internal antenna. During SAR test of the EUT, it was connected to three different portable computers. SAR is tested for the EUT respectively for GSM 850 and GSM1900.The EUT have GPRS (class 12) and EGPRS (class 12) functions.

Since the EUT only has the data transfer function, but does not have the voice transfer function, the tests in the band of GSM 850 and GSM 1900 are performed in the mode of GPRS and EGPRS. The measurements were performed in combination with three different host products [BenQ Joy book S72, Acer ZH1and BenQ Joybook R55V (118)]. BenQ Joy book S72 and Acer ZH1 laptop have horizontal USB slots, BenQ Joybook R55V (118) laptop has vertical USB slot

The sample under test was selected by the Client.

Components list please refer to documents of the manufacturer.

4. OPERATIONAL CONDITIONS DURING TEST

4.1. Schematic Test Configuration

For the SAR body tests for GSM 850 and GSM 1900, a communication link is set up with a System Simulator (SS) by air link. The EUT is commanded to operate at maximum transmitting power.

Since the EUT only has the data transfer function, but does not have the voice transfer function. The tests in the band of GSM 850 and GSM1900 are performed in the mode of GPRS and EGPRS. And since the GPRS class is 12 for this EUT, it has at most 4 timeslots in uplink. According to specification 3GPP TS 51.010, the maximum power of the GSM can do the power reduction for the multi-slot. The allowed power reduction in the multi-slot configuration is as following:

Number of timeslots in uplink assignment	Permissible nominal reduction of maximum output power,(dB)
1	0
2	0 to 3.0
3	1.8 to 4.8
4	3.0 to 6.0

For this EUT, the tests for GSM 850 GPRS and GSM 1900 GPRS band will be performed under the following 4 setups at one same test position:

1) Using 1 timeslot in uplink with the power of 33 dBm for GSM850 and 30 dBm for GSM1900
2) Using 2 timeslots in uplink with the power reduced 2dB
3) Using 3 timeslots in uplink with the power reduced 4dB
4) Using 4 timeslots in uplink with the power reduced 6dB

After drawn the worst case, the tests will be continued to perform with the same EUT setup for the whole tests for GSM850 GPRS and GSM1900 GPRS.

And according to the "3 dB rule" OET65C revision2002 DA 09-1948, June 19.2002, **"If the SAR measured at the middle channel for each test configuration (Left, right, Cheek/Touch, Tile/Ear, extended and retracted) is at least 3.0 dB lower than the SAR limit, testing at the high and low channels is optional for such test configuration(s)"**.

Then The Absolute Radio Frequency Channel Number (ARFCN) is firstly allocated to 190 and 661 respectively in the case of GSM 850 and GSM 1900 then to low and high if necessary.

4.2. Position of module in Portable devices

The EUT is tested at the following 17 test positions:

- Test Position 1: The EUT is connected to the portable computer with horizontal USB slot. The back side of the EUT and the back side of the portable computer toward the bottom of the flat phantom. (ANNEX H Picture 6-a）
- Test Position 2: The EUT is connected to the portable computer with horizontal USB slot. The top side of the EUT and the back side of the portable computer toward the bottom of the flat phantom. (ANNEX H Picture 6-b）
- Test Position 3: The EUT is connected to the portable computer with horizontal USB slot. The bottom side of the EUT and the back side of the portable computer toward the bottom of the flat phantom. (ANNEX H Picture 6-c）
- Test Position 4: The EUT is connected to the portable computer with horizontal USB slot. The top side of the EUT and the front side of the portable computer toward the bottom of the flat phantom. (ANNEX H Picture 6-d）
- Test Position 5: The EUT is connected to the portable computer with horizontal USB slot. The front side of the EUT and the front side of the portable computer toward the bottom of the flat phantom. (ANNEX H Picture 6-e）
- Test Position 6: The EUT is connected to the portable computer with horizontal USB slot. The bottom side of the EUT and the front side of the portable computer toward the bottom of the flat phantom. (ANNEX H Picture 6-f）
- Test Position 7: The EUT is connected to the portable computer with horizontal USB slot. The top side of the EUT and the left side of the portable computer toward the bottom of the flat phantom. (ANNEX H Picture 6-g）
- Test Position 8: The EUT is connected to the portable computer with horizontal USB slot. The back side of the EUT towards the bottom of the flat phantom with a distance of 1.5 cm, and the left side of the portable computer towards the bottom of the flat phantom. (ANNEX H Picture 6-h）
- Test Position 9: The EUT is connected to the portable computer with horizontal USB slot. The front side of the EUT towards the bottom of the flat phantom with a distance of 1.5 cm, and the left side of the portable computer towards the bottom of the flat phantom. (ANNEX H Picture 6-i）
- Test Position 10: The EUT is connected to the portable computer with vertical USB slot. The left side of the EUT and the back side of the portable computer toward the bottom of the flat phantom.（ANNEX H Picture 6-j）

- Test Position 11: The EUT is connected to the portable computer with vertical USB slot. The right side of the EUT and the back side of the portable computer toward the bottom of the flat phantom.（ANNEX H Picture 6-k）

- Test Position 12: The EUT is connected to the portable computer with vertical USB slot. The top side of the EUT and the top side of the portable computer toward the bottom of the flat phantom.（ANNEX H Picture 6-l）

- Test Position 13: The EUT is connected to the portable computer with vertical USB slot. The front side of the EUT and the top side of the portable computer toward the bottom of the flat phantom.（ANNEX H Picture 6-m）

- Test Position 14: The EUT is connected to the portable computer with vertical USB slot. The bottom side of the EUT and the top side of the portable computer toward the bottom of the flat phantom.（ANNEX H Picture 6-n）

- Test Position 15: The EUT is connected to the portable computer with vertical USB slot. The top side of the EUT and the right side of the portable computer toward the bottom of the flat phantom.（ANNEX H Picture 6-o）

- Test Position 16: The EUT is connected to the portable computer with vertical USB slot. The front side of the EUT towards the bottom of the flat phantom with a distance of 1.5 cm , and the right side of the portable computer towards the bottom of the flat phantom.（ANNEX H Picture 6-p）

- Test Position 17: The EUT is connected to the portable computer with vertical USB slot. The back side of the EUT towards the bottom of the flat phantom with a distance of 1.5 cm , and the right side of the portable computer towards the bottom of the flat phantom.（ANNEX H Picture 6-q）

Show the distance that the back side of the EUT with different computer（back side towards the bottom of the Phantom）towards the bottom of the Phantom. Please see ANNEX H Picture 7.

4.3. Picture of host product

During the test, The BenQ Joy book S72 laptop, BenQ Joy book R55V laptop and Acer ZH1 laptop are used as an assistant to help to setup communication. (See Picture 1)

Picture 1-a: BenQ Joy book S72 Close

Picture 1-b: BenQ Joy book S72 Open

Picture 1-c: Acer ZH1 Close

Picture 1-d: Acer ZH1 Open

Picture 1-e: BenQ Joybook R55V(118) Close

Picture 1-f: BenQ Joybook R55V(118) Open

Picture 1-g: BenQ Joybook S72 with horizontal USB slot

Picture 1-h: Acer ZH1 with horizontal USB slot

Picture 1-i: BenQ Joybook R55V(118) with Vertical USB slot

Picture 1: Computer as a test assistant

5. SAR MEASUREMENTS SYSTEM CONFIGURATION

5.1. SAR Measurement Set-up

These measurements were performed with the automated near-field scanning system DASY4 from Schmid & Partner Engineering AG (SPEAG). The system is based on a high precision robot (working range greater than 0.9m) which positions the probes with a positional repeatability of better than ± 0.02mm. Special E- and H-field probes have been developed for measurements close to material discontinuity, the sensors of which are directly loaded with a Schottky diode and connected via highly resistive lines (length =300mm) to the data acquisition unit.

A cell controller system contains the power supply, robot controller, teaches pendant (Joystick) and remote control, is used to drive the robot motors. The PC consists of the Micron Pentium III 800 MHz computer with Windows 2000 system and SAR Measurement Software DASY4, A/D interface card, monitor, mouse, and keyboard. The Stäubli Robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the PC plug-in card.

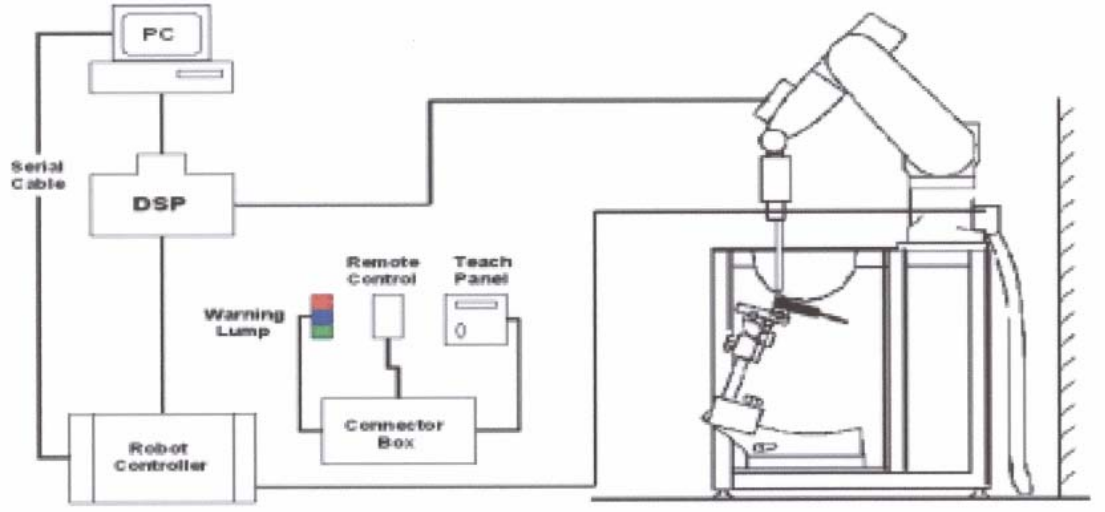


Figure 1.SAR Lab Test Measurement Set-up

The DAE3 consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the PC-card is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer.

5.2. Dasy4 E-field Probe System

The SAR measurements were conducted with the dosimetric probe ET3DV6 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation. The probe has been calibrated according to the standard procedure with an accuracy of better than ± 10%. The spherical isotropy was evaluated and found to be better than ± 0.25dB.

ET3DV6 Probe Specification

Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection System (ET3DV6 only) Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.q., glycol)
Calibration	In air from 10 MHz to 2.5 GHz In brain and muscle simulating tissue at frequencies of 900MHz, 1750GHz, 1950MHz and 2450MHz (accuracy±8%) Calibration for other liquids and frequencies upon request
Frequency	I 0 MHz to > 6 GHz; Linearity: ±0.2 dB (30 MHz to 3 GHz)
Directivity	±0.2 dB in brain tissue (rotation around probe axis) ±0.4 dB in brain tissue (rotation around probe axis)
Dynamic Range	5u W/g to > 100mW/g; Linearity: ±0.2dB
Surface Detection	±0.2 mm repeatability in air and clear liquids over diffuse reflecting surface (ET3DV6 only)
Dimensions	Overall length: 330mm Tip length: 16mm Body diameter: 12mm Tip diarneter: 6.8mm Distance from probe tip to dipole centers: 2.7mm
Application	General dosimetry up to 3GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms

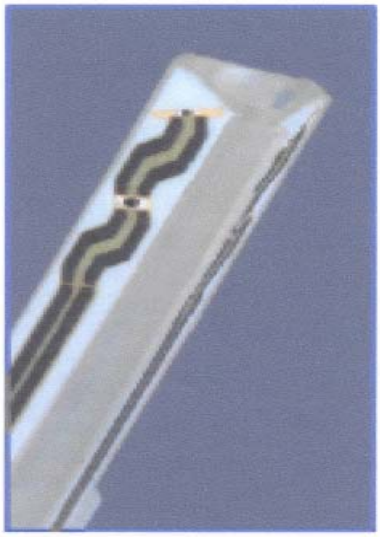


Figure 2.ET3DV6 E-field Probe

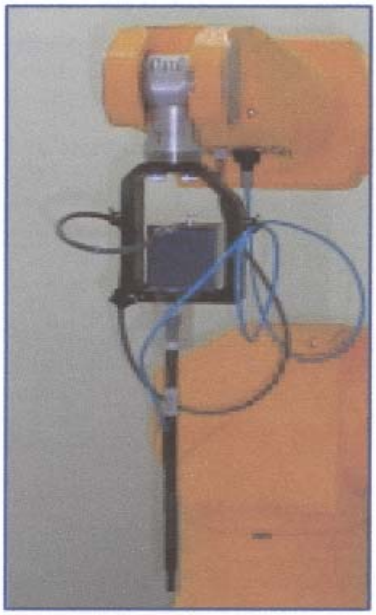


Figure3. ET3DV6 E-field probe

5.3. E-field Probe Calibration

Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than ± 10%. The spherical isotropy was evaluated and found to be better than ± 0.25dB. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested.

The free space E-field from amplified probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies bellow 1 GHz, and in a wave guide above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees.
E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The measured free space E-field in the medium correlates to temperature rise in a dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

$$\mathbf{SAR} = \mathbf{C}\frac{\Delta T}{\Delta t}$$

Where: Δt = Exposure time (30 seconds),
C = Heat capacity of tissue (brain or muscle),
ΔT = Temperature increase due to RF exposure.
Or

$$\mathbf{SAR} = \frac{|E|^2 \sigma}{\rho}$$

Where:
σ = Simulated tissue conductivity,
ρ = Tissue density (kg/m3).

5.4. Other Test Equipment

5.4.1. Device Holder for Transmitters

In combination with the Generic Twin Phantom V3.0, the Mounting Device (POM) enables the rotation of the mounted transmitter in spherical coordinates whereby the rotation points is the ear opening. The devices can be easily, accurately, and repeat ably positioned according to the FCC and CENELEC specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).

Figure 4.Device Holder

5.4.2. Phantom

The Generic Twin Phantom is constructed of a fiberglass shell integrated in a wooden table. The shape of the shell is based on data from an anatomical study designed to determine the maximum exposure in at least 90% of all users. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents the evaporation of the liquid. Reference markings on the Phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot.

Shell Thickness	2±0.1 mm
Filling Volume	Approx. 20 liters
Dimensions	810 x l000 x 500 mm (H x L x W)
Aailable	Special

Figure5.Generic Twin Phantom

5.5. Equivalent Tissues

The liquid used for the frequency range of 800-2000 MHz consisted of water, sugar, salt, Preventol, Glycol and Cellulose. The liquid has previously been proven to be suited for worst-case. The Table 4 and Table 5 show the detail solution. It's satisfying the latest tissue dielectric parameters requirements proposed by the IEEE 1528.

Table 4: Composition of the Body Tissue Equivalent Matter

MIXTURE%	FREQUENCY 835MHz
Water	52.5
Sugar	45
Salt	1.4
Preventol	0.1
Cellulose	1.0
Dielectric Parameters Target Value	f=835MHz ε=55.2 σ=0.97

Table 5: Composition of the Body Tissue Equivalent Matter

MIXTURE%	FREQUENCY 1900MHz
Water	69.91
Glycol	29.96
Salt	0.13
Dielectric Parameters Target Value	f=1900MHz ε=53.3 σ=1.52

5.6. System Specifications

5.6.1 Robotic System Specifications

Specifications

Positioner: Stäubli Unimation Corp. Robot Model: RX90L

Repeatability: ±0.02 mm

No. of Axis: 6

Data Acquisition Electronic (DAE) System

Cell Controller

Processor: Pentium III

Clock Speed: 800 MHz

Operating System: Windows 2000

Data Converter

Features: Signal Amplifier, multiplexer, A/D converter, and control logic

Software: DASY4 software

Connecting Lines: Optical downlink for data and status info. Optical uplink for commands and clock.

6. CHARACTERISTICS OF THE TEST

6.1. Applicable Limit Regulations

EN 50360–2001: Product standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones.
It specifies the maximum exposure limit of **2.0 W/kg** as averaged over any 10 gram of tissue for portable devices being used with in 20 cm of the user in the uncontrolled environment.

ANSI C95.1–1999: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.
It specifies the maximum exposure limit of **1.6 W/kg** as averaged over any 1 gram of tissue for portable devices being used with in 20 cm of the user in the uncontrolled environment.

6.2. Applicable Measurement Standards

EN 50361–2001: Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones.
It specifies the measurement method for demonstration of compliance with the SAR limits for such equipments.

IEEE 1528–2003: Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques.

OET65C revision2002 DA 09-1948, June 19.2002: Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits.

IEC 62209-1: Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures –Part 1: Procedure to determine the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)

Vodafone SAR_Data_cards_V1.1: Global Test Specification for Terminals for Performance Measurements –Performance TST- Specific Absorption Rate (SAR) for Data Cards and External Antennas.

7. LABORATORY ENVIRONMENT

Table 6: The Ambient Conditions during Test

Temperature	Min. = 20°C, Max. = 25 °C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

8. CONDUCTED OUTPUT POWER MEASUREMENT

8.1. Summary

During the process of testing, the EUT was controlled via Digital Radio Communication tester to ensure the maximum power transmission and proper modulation. This result contains conducted output power and ERP for the EUT. In all cases, the measured peak output power should be greater and with in 5% than EMI measurement.

8.2. Power Drift

To control the output power stability during the SAR test, DASY4 system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. These drift values can be found in Table 10 to Table 19 labeled as: (Power Drift [dB]). This ensures that the power drift during one measurement is with in 5%.

8.3. Conducted Power

8.3.1. Measurement Methods

The EUT was set up for the maximum output power. The channel power was measured .The measurements were done both before and after SAR tests for each test band.

8.3.2. Measurement result

Table 7: Conducted Power Measurement Results

GSM 850	**Conducted Power**		
	Channel 128 (824.2MHz)	Channel 190 (836.6MHz)	Channel 251 (848.8MHz)
Before Test (dBm)	31.75	31.62	31.61
After Test (dBm)	31.78	31.68	31.57
GSM 850+GPRS	**Conducted Power**		
	Channel 128 (824.2MHz)	Channel 190 (836.6MHz)	Channel 251 (848.8MHz)
Before Test (dBm)	31.77	31.69	31.62
After Test (dBm)	31.73	31.72	31.55
GSM 1900	**Conducted Power**		
	Channel 512 (1850.2MHz)	Channel 661 (1880MHz)	Channel 810 (1909.8MHz)
Before Test (dBm)	28.97	28.92	28.83
After Test (dBm)	28.95	28.94	28.88
GSM 1900+GPRS	**Conducted Power**		
	Channel 512 (1850.2MHz)	Channel 661 (1880MHz)	Channel 810 (1909.8MHz)
Before Test (dBm)	28.99	28.93	28.84
After Test (dBm)	28.93	28.91	28.89

9. TEST RESULTS

9.1. Dielectric Performance

Table 8: Dielectric Performance of Body Tissue Simulating Liquid

Measurement is made at temperature 22.5 ℃ and relative humidity 51%. Liquid temperature during the test: 22.3℃					
Frequency (MHz)		**Target value**	**Measurement value**	**Difference percentage**	
835 (Body)	Permittivity ε_r	55.20	55.10	-0.18	%
	Conductivity σ	0.97	0.99	2.06	%
1900 (Body)	Permittivity ε_r	53.30	53.19	-0.21	%
	Conductivity σ	1.52	1.55	1.97	%

9.2. System Validation

Table 9: System Validation

Measurement is made at temperature 23.2 ℃, relative humidity 50%, and input power 250 mW. Liquid temperature during the test: 22.3℃							
Liquid parameters	**Frequency**	**Permittivity ε**		**Conductivity σ (S/m)**			
	835MHz	41.94		0.92			
	1900MHz	40.09		1.43			
Verification results	**Frequency**	**Target value (W/kg)**		**Measurement value (W/kg)**		**Difference percentage**	
		10 g Average	**1 g Average**	**10 g Average**	**1 g Average**	**10 g Average**	**1g Average**
	835MHz	1.56	2.43	1.53	2.34	-1.92%	-3.70%
	1900MHz	4.98	9.45	4.93	9.36	-1.00%	-1.06%

Note：

a. Target Values used derive from the SPEAG calibration certificate and 250 mW is used as feeding power to the validation dipole (SPEAG using).

b. The graph results see ANNEX D.

9.3. Summary of Measurement Results

Table 10: SAR Values [GSM 850 GPRS (4 timeslots in uplink) at Test Position 1]

Liquid Temperature: 22.4℃					
Limit of SAR (W/kg)		**10g Average**	**1g Average**	**Power Drift (dB)**	**Graph Results**
		2.0	**1.6**	**± 0.2**	
Test Case Of Body		**Measurement Result (W/kg)**		**Power Drift (dB)**	
Different Model Computer	**Channel**	**10g Average**	**1g Average**		
BenQ Joy book S72	Middle	0.175	0.265	-0.130	Figure 7
Acer ZH1	Middle	0.095	0.141	0.093	Figure 9

Table 11: SAR Values [GSM 850 GPRS (different timeslots in uplink) at Test Position 1 with BenQ Joy book S72]

Liquid Temperature: 22.4℃					
Limit of SAR (W/kg)		**10g Average**	**1g Average**	**Power Drift (dB)**	**Graph Results**
		2.0	**1.6**	**± 0.2**	
Test Case Of Body		**Measurement Result (W/kg)**		**Power Drift (dB)**	
Different Timeslots	**Channel**	**10g Average**	**1g Average**		
4 timeslots in uplink	Middle	0.175	0.265	-0.130	Figure 7
3 timeslots in uplink	Middle	0.199	0.310	-0.008	Figure 11
2 timeslots in uplink	Middle	0.211	0.324	0.013	Figure 13
1 timeslot in uplink	Middle	0.175	0.265	0.006	Figure 15

Table 12: SAR Values [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72]

Liquid Temperature: 22.4℃					
Limit of SAR (W/kg)		**10g Average**	**1g Average**	**Power Drift (dB)**	**Graph Results**
		2.0	**1.6**	**± 0.2**	
Test Case Of Body		**Measurement Result (W/kg)**		**Power Drift (dB)**	
Different Test Position	**Channel**	**10g Average**	**1g Average**		
Test Position 1	Middle	0.211	0.324	0.013	Figure 13
Test Position 2	Middle	0.044	0.152	0.004	Figure 17
Test Position 3	Middle	0.048	0.076	-0.060	Figure 19
Test Position 4	Middle	0.062	0.216	-0.049	Figure 21
Test Position 5	Middle	0.097	0.145	0.035	Figure 23
Test Position 6	Middle	0.045	0.069	-0.073	Figure 25
Test Position 7	Middle	0.061	0.228	-0.037	Figure 27
Test Position 8	Middle	0.062	0.087	-0.017	Figure 29
Test Position 9	Middle	0.068	0.096	-0.077	Figure 31

Table 13: SAR Values [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V]

Liquid Temperature: 22.4℃					
Limit of SAR (W/kg)		**10g Average**	**1g Average**	**Power Drift (dB)**	**Graph Results**
		2.0	**1.6**	**± 0.2**	
Test Case Of Body		**Measurement Result (W/kg)**		**Power Drift (dB)**	
Different Test Position	**Channel**	**10g Average**	**1g Average**		
Test Position 10	Middle	0.098	0.149	0.150	Figure 33
Test Position 11	Middle	0.109	0.205	-0.194	Figure 35
Test Position 12	Middle	0.131	0.458	0.043	Figure 37
Test Position 13	Middle	0.115	0.170	-0.197	Figure 39
Test Position 14	Middle	0.060	0.091	-0.080	Figure 41
Test Position 15	Middle	0.134	0.481	-0.031	Figure 43
Test Position 16	Middle	0.069	0.109	-0.099	Figure 45
Test Position 17	Middle	0.060	0.093	-0.060	Figure 47

Remark: The value with blue color is the maximum SAR Value of each test band.

Table 14: SAR Values [GSM850 EGPRS (2 timeslots in uplink) with BenQ Joy book R55V]

Liquid Temperature: 22.4℃					
Limit of SAR (W/kg)		**10g Average**	**1g Average**	**Power Drift (dB)**	**Graph Results**
		2.0	**1.6**	**± 0.2**	
Test Case Of Body		**Measurement Result (W/kg)**		**Power Drift (dB)**	
Different Test Position	**Channel**	**10g Average**	**1g Average**		
Test Position 15	Middle	0.034	0.118	0.012	Figure 49

Table 15: SAR Values [GSM1900 GPRS (4 timeslots in uplink) at Test Position 1]

Liquid Temperature: 22.4℃					
Limit of SAR (W/kg)		**10g Average**	**1g Average**	**Power Drift (dB)**	**Graph Results**
		2.0	**1.6**	**± 0.2**	
Test Case Of Body		**Measurement Result (W/kg)**		**Power Drift (dB)**	
Different Model Computer	**Channel**	**10g Average**	**1g Average**		
BenQ Joy book S72	Middle	0.358	0.597	0.073	Figure 51
Acer ZH1	Middle	0.209	0.338	0.140	Figure 53

Table 16: SAR Values (GSM1900 GPRS at Test Position 1 with BenQ Joy book S72)

Liquid Temperature: 22.4℃					
Limit of SAR (W/kg)		**10g Average**	**1g Average**	**Power Drift (dB)**	**Graph Results**
		2.0	**1.6**	**± 0.2**	
Test Case Of Body		**Measurement Result (W/kg)**		**Power Drift (dB)**	
Different Timeslots	**Channel**	**10g Average**	**1g Average**		
4 timeslots in uplink	Middle	0.358	0.597	0.073	Figure 51
3 timeslots in uplink	Middle	0.387	0.646	0.003	Figure 55
2 timeslots in uplink	Middle	0.417	0.700	-0.078	Figure 57
1 timeslot in uplink	Middle	0.387	0.647	0.104	Figure 59

Table 17: SAR Values [GSM1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72]

Liquid Temperature: 22.4℃					
Limit of SAR (W/kg)		**10 g Average**	**1g Average**	**Power Drift (dB)**	**Graph Results**
		2.0	**1.6**	**± 0.2**	
Test Case Of Body		**Measurement Result (W/kg)**		**Power Drift (dB)**	
Different Test Position	**Channel**	**10 g Average**	**1 g Average**		
Test Position 1	Middle	0.417	0.700	-0.078	Figure 57
Test Position 2	Middle	0.125	0.312	-0.073	Figure 61
Test Position 3	Middle	0.032	0.056	-0.165	Figure 63
Test Position 4	Middle	0.118	0.270	0.029	Figure 65
Test Position 5	Middle	0.403	0.773	0.195	Figure 67
Test Position 6	Middle	0.022	0.041	0.006	Figure 69
Test Position 7	Middle	0.162	0.399	-0.163	Figure 71
Test Position 8	Middle	0.226	0.366	0.016	Figure 73
Test Position 9	Middle	0.321	0.521	-0.150	Figure 75

Table 18: SAR Values [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book R55V]

Liquid Temperature: 22.4℃					
Limit of SAR (W/kg)		**10 g Average**	**1g Average**	**Power Drift (dB)**	**Graph Results**
		2.0	**1.6**	**± 0.2**	
Test Case Of Body		**Measurement Result (W/kg)**		**Power Drift (dB)**	
Different Test Position	**Channel**	**10 g Average**	**1 g Average**		
Test Position 10	Middle	0.307	0.504	-0.025	Figure 77
Test Position 11	High	0.589	1.030	-0.069	Figure 79
	Middle	0.570	0.994	0.040	Figure 81
	Low	0.501	0.869	0.009	Figure 83
Test Position 12	Middle	0.118	0.294	-0.089	Figure 85
Test Position 13	Middle	0.269	0.432	-0.015	Figure 87
Test Position 14	Middle	0.054	0.097	0.015	Figure 89
Test Position 15	Middle	0.146	0.367	-0.083	Figure 91
Test Position 16	Middle	0.362	0.588	-0.142	Figure 93
Test Position 17	Middle	0.391	0.639	-0.037	Figure 95

Remark: The value with blue color is the maximum SAR Value of each test band.

Table 19: SAR Values [GSM1900 EGPRS (2 timeslots in uplink) with BenQ Joy book R55V]

Liquid Temperature: 22.4℃					
Limit of SAR (W/kg)		**10g Average**	**1g Average**	**Power Drift (dB)**	**Graph Results**
		2.0	**1.6**	**± 0.2**	
Test Case Of Body		**Measurement Result (W/kg)**		**Power Drift (dB)**	
Different Test Position	**Channel**	**10 g Average**	**1 g Average**		
Test Position 11	Middle	0.271	0.469	0.052	Figure 97

9.4. Conclusion

Localized Specific Absorption Rate (SAR) of this portable wireless device has been measured in all cases requested by the relevant standards cited in Clause 6.2 of this report. Maximum localized SAR is below exposure limits specified in the relevant standards cited in Clause 6.1 of this test report.

10. MEASUREMENT UNCERTAINTY

No.	a	Type	c	d	e=f(d、k)	f	h=c×f / e	k
	Uncertainty Component		Tol. (±%)	Prob. Dist	Div.	c_1(1g)	1g u (± %)	v_1
1	System repetivity	A	0.5	N	1	1	0.5	9
	Measurement system							
2	Probe Calibration	B	5	N	2	1	2.5	∞
3	Axial isotropy	B	4.7	R	$\sqrt{3}$	$(1\text{-cp})^{1/2}$	4.3	∞
4	Hemisphere Isotropy	B	9.4	R	$\sqrt{3}$	$\sqrt{C_P}$		∞
5	Boundary Effect	B	0.4	R	$\sqrt{3}$	1	0.23	∞
6	Linearity	B	4.7	R	$\sqrt{3}$	1	2.7	∞
7	System Detection Limits	B	1.0	R	$\sqrt{3}$	1	0.6	∞
8	Readout Electronics	B	1.0	N	1	1	1.0	∞
9	RF Ambient Conditions	B	3.0	R	$\sqrt{3}$	1	1.73	∞
10	Probe Positioner Mechanical Tolerance	B	0.4	R	$\sqrt{3}$	1	0.2	∞
11	Probe Positioning with respect to Phantom Shell	B	2.9	R	$\sqrt{3}$	1	1.7	∞
12	Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	B	3.9	R	$\sqrt{3}$	1	2.3	∞
	Test Sample Related							
13	Test Sample Positioning	A	4.9	N	1	1	4.9	N-1
14	Device Holder Uncertainty	A	6.1	N	1	1	6.1	N-1
15	Output Power Variation-SAR drift measurement	B	5.0	R	$\sqrt{3}$	1	2.9	∞
	Phantom and Tissue Parameters							
16	Phantom Uncertainty(shape and thickness tolerances)	B	1.0	R	$\sqrt{3}$	1	0.6	∞
17	Liquid Conductivity-deviation from target values	B	5.0	R	$\sqrt{3}$	0.64	1.7	∞
18	Liquid Conductivity-measurement uncertainty	B	5.0	N	1	0.64	1.7	M
19	Liquid Permittivity-deviation from target values	B	5.0	R	$\sqrt{3}$	0.6	1.7	∞
20	Liquid Permittivity- measurement uncertainty	B	5.0	N	1	0.6	1.7	M
Combined Standard Uncertainty				RSS			11.25	
Expanded Uncertainty (95 % CONFIDENCE INTERVAL)				K=2			22.5	

11. MAIN TEST INSTRUMENTS

Table 20: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	Agilent 8753E	US37390326	September 15, 2007	One year
02	Dielectric Probe Kit	Agilent 85070E	US44020115	No Calibration Requested	
03	Power meter	Agilent E4417A	GB41291714	March 14, 2008	One year
04	Power sensor	Agilent 8481H	MY41091316	March 14, 2008	One year
05	Signal Generator	HP 8341B	2730A00804	September 15, 2007	One year
06	Amplifier	IXA-020	0401	No Calibration Requested	
07	Validation Kit 835MHz	SPEAG D835V2	443	December 9, 2007	One year
08	Validation Kit 1900MHz	SPEAG D1900V2	5d018	March 21, 2008	One year
09	BTS	E5515C	GB46490218	September 15, 2007	One year
10	E-field Probe	ET3DV6	1531	January 29, 2008	One year
11	DAE	DAE3	452	September 6, 2007	One year

12. TEST PERIOD

The test is performed from April 3rd, 2008 to April 9th, 2008

13. TEST LOCATION

The test is performed at TA Technology (Shanghai) Co., Ltd.

*****END OF REPORT BODY*****

ANNEX A： MEASUREMENT PROCESS

The evaluation was performed with the following procedure:

Step 1: Measurement of the SAR value at a fixed location above the ear point was measured and was used as a reference value for assessing the power drop.

Step 2: The SAR distribution at the exposed side of the head was measured at a distance of 3.9 mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 20 mm x 20 mm. Based on this data, the area of the maximum absorption was determined by spline interpolation.

Step 3: Around this point, a volume of 32 mm x 32 mm x 34 mm was assessed by measuring 7 x 7x 7 points. On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

a. The data at the surface were extrapolated, since the center of the dipoles is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.

b. The maximum interpolated value was searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) were computed using the 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot"-condition (in x ~ y and z-directions). The volume was integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.

c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

Step 4: Re-measurement the SAR value at the same location as in Step 1. If the value changed by more than 5%, the evaluation is repeated.

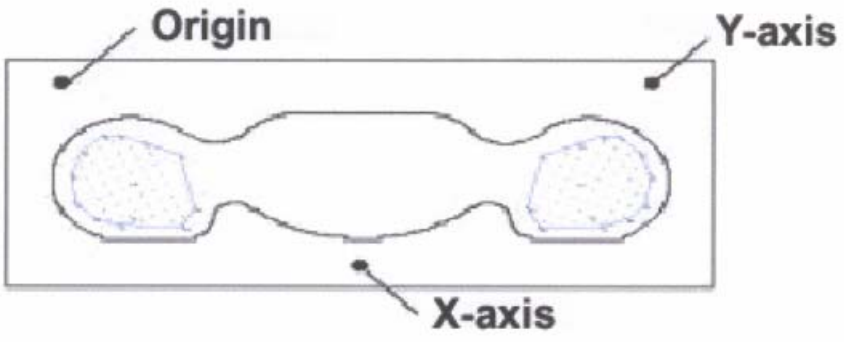
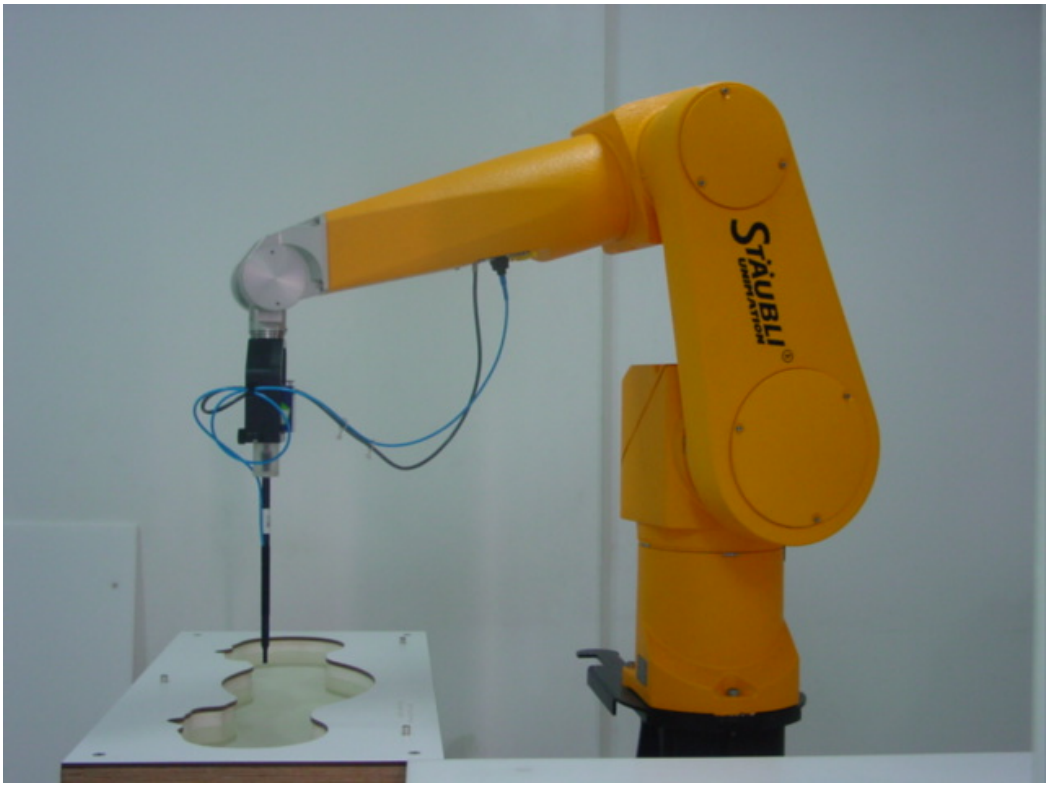
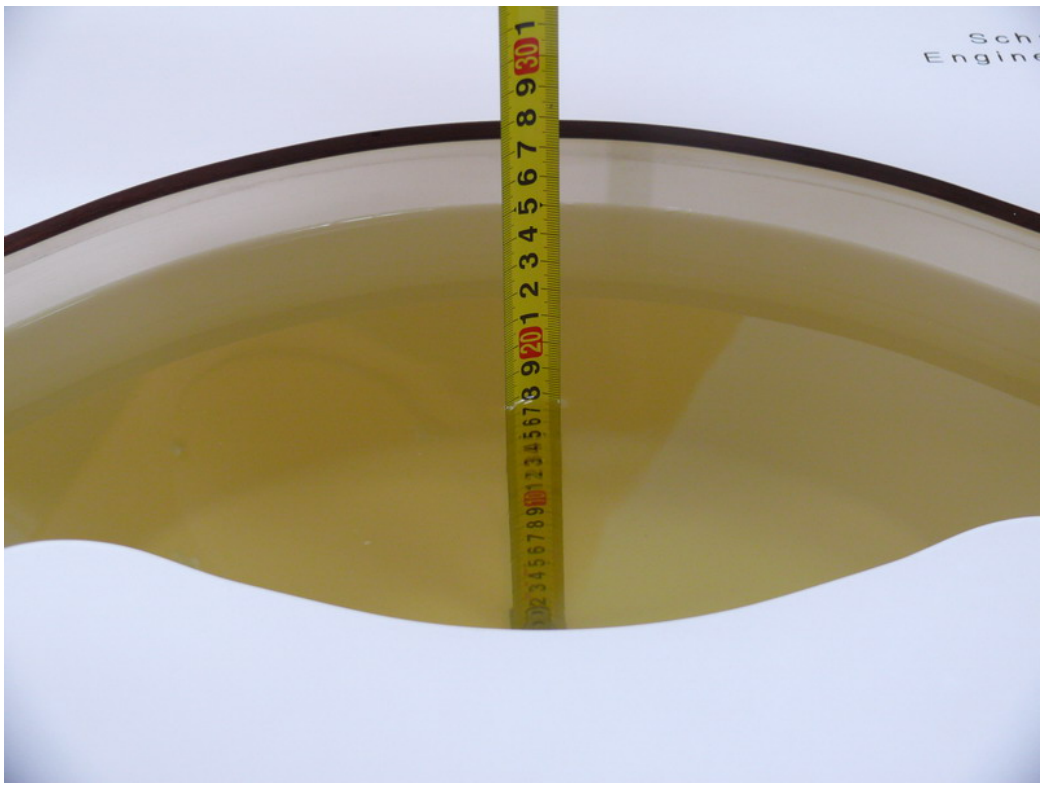


Figure 6.SAR Measurement Points in Area Scan

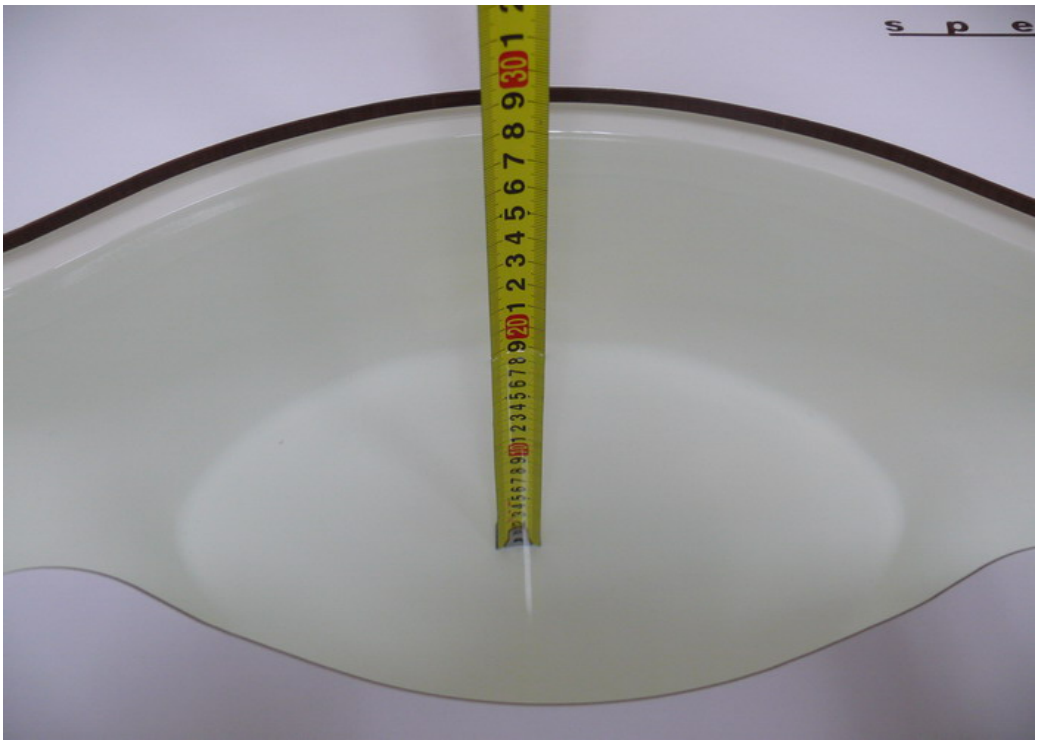
ANNEX B： TEST LAYOUT



Picture 2 Specific Absorption Rate Test Layout



Picture 3 Liquid depth in the Flat Phantom (GSM850)



Picture 4 Liquid depth in the Flat Phantom (GSM1900)

ANNEX C： GRAPH RESULTS

GSM 850 GPRS (4 timeslots in uplink) with BenQ Joy book S72 Test Position 1 Middle Frequency

Communication System: GSM 850+GPRS(4Up); Frequency: 836.6 MHz;Duty Cycle: 1:2
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 1 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.294 mW/g

Test Position 1 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.3 V/m; Power Drift = -0.130 dB
Peak SAR (extrapolated) = 0.379 W/kg
SAR(1 g) = 0.265 mW/g; SAR(10 g) = 0.175 mW/g
Maximum value of SAR (measured) = 0.286 mW/g

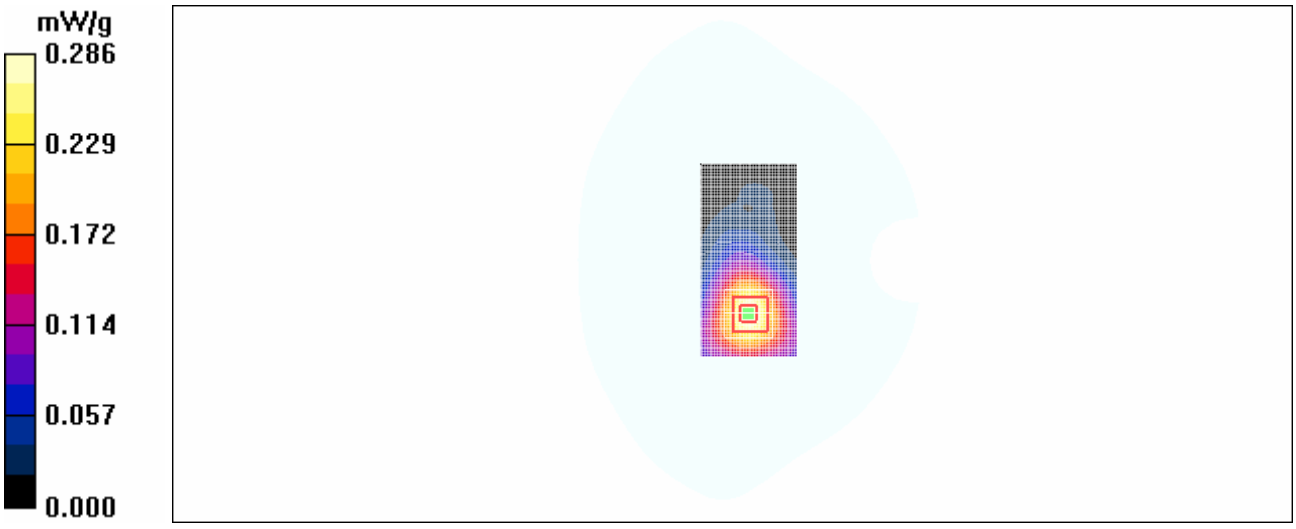


Figure 7 GSM 850 GPRS (4 timeslots in uplink) with BenQ Joy book S72 Test Position 1 Channel 190

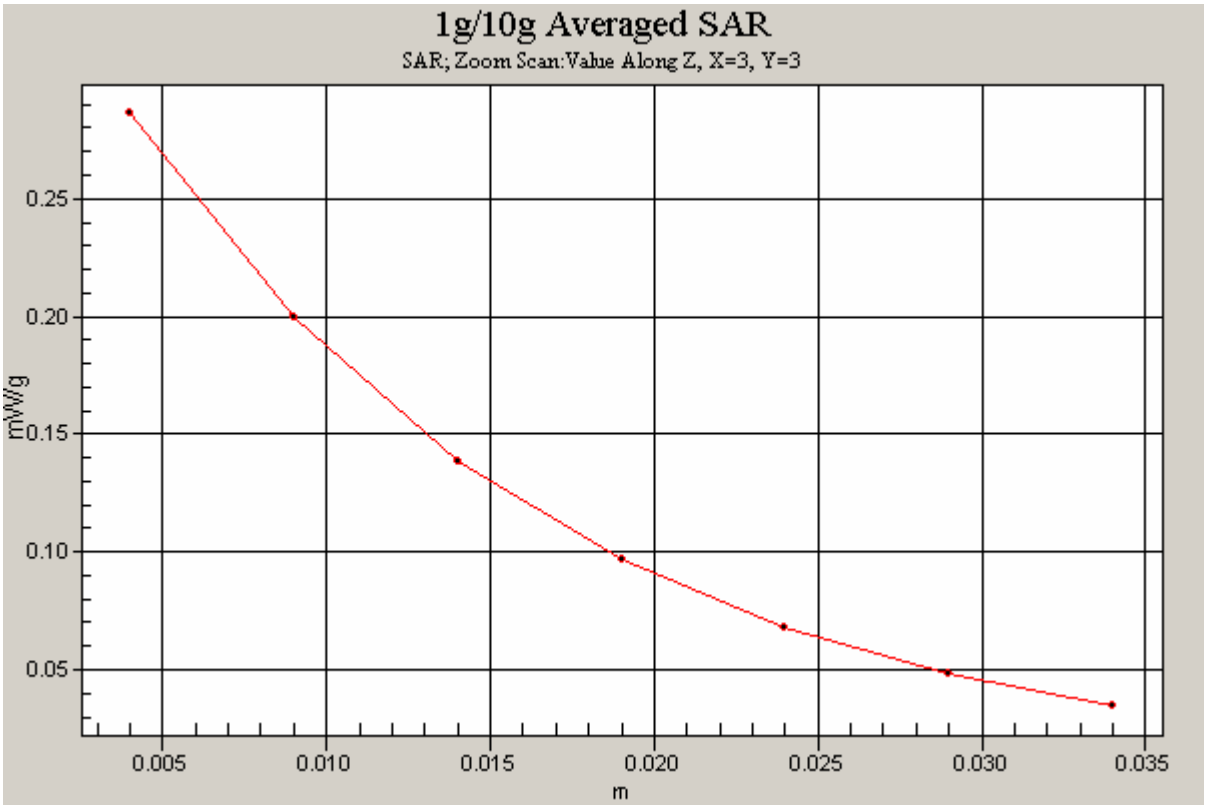


Figure 8 Z-Scan at power reference point [GSM 850 GPRS(4 timeslots in uplink) with BenQ Joy book S72 Test Position 1 Channel 190]

GSM 850 GPRS (4 timeslots in uplink) with Acer ZH1 Test Position 1 Middle Frequency

Communication System: GSM 850+GPRS(4Up); Frequency: 836.6 MHz;Duty Cycle: 1:2
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 1 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.159 mW/g

Test Position 1 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.16 V/m; Power Drift = 0.093 dB
Peak SAR (extrapolated) = 0.194 W/kg
SAR(1 g) = 0.141 mW/g; SAR(10 g) = 0.095 mW/g
Maximum value of SAR (measured) = 0.151 mW/g

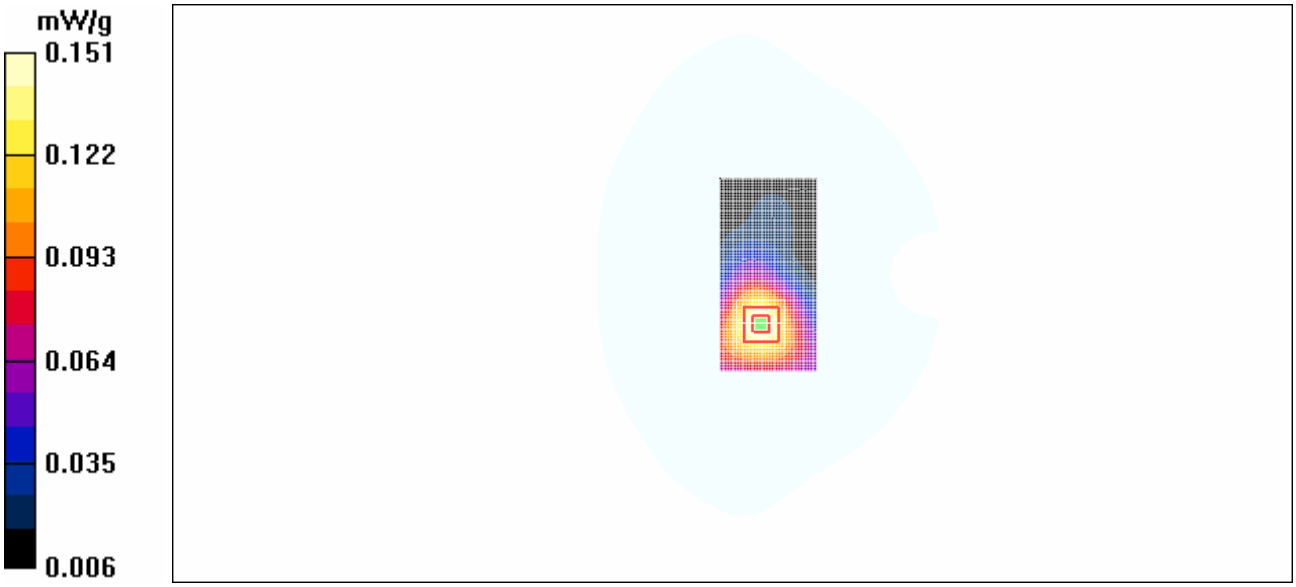


Figure 9 GSM 850 GPRS (4 timeslots in uplink) with Acer ZH1 Test Position 1 Channel 190

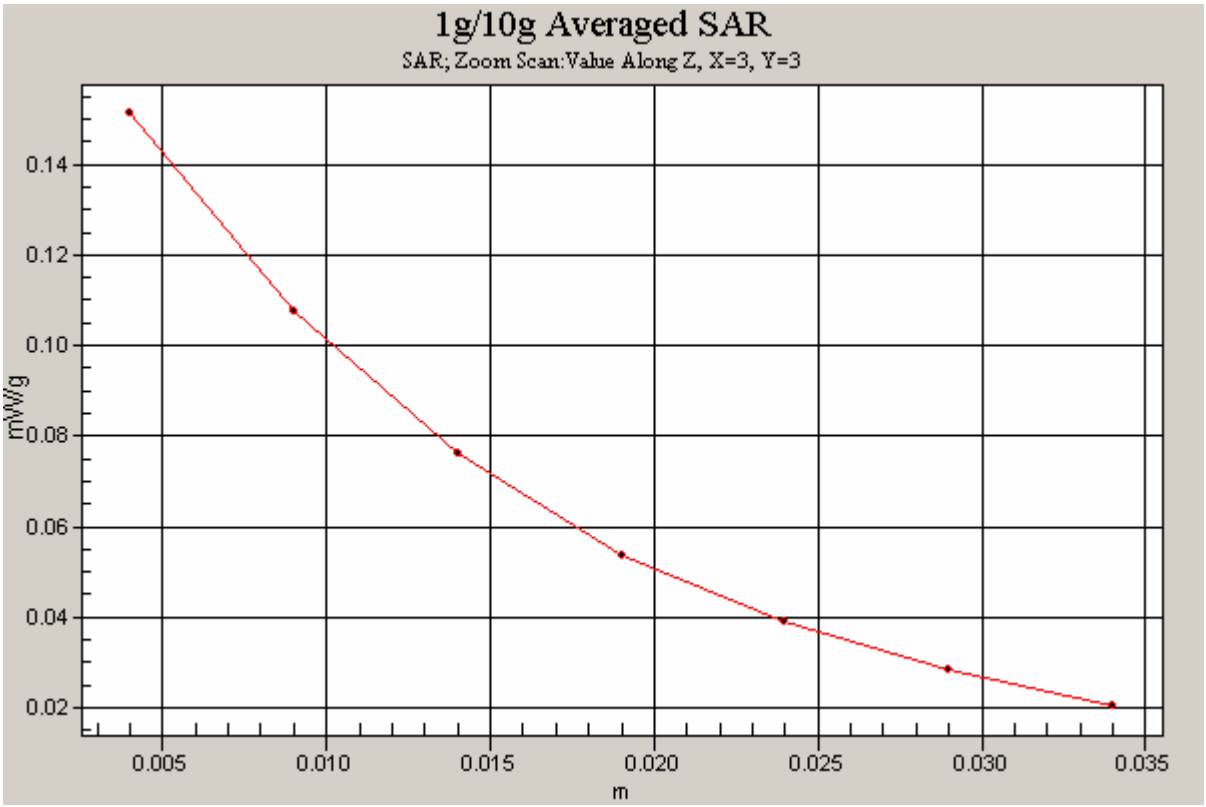


Figure 10 Z-Scan at power reference point [GSM 850 GPRS (4 timeslots in uplink) with Acer ZH1 Test Position 1 Channel 190]

GSM 850 GPRS (3 timeslots in uplink) with BenQ Joy book S72 Test Position 1 Middle Frequency

Communication System: GSM850 + GPRS(3Up); Frequency: 836.6 MHz;Duty Cycle: 1:2.67
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 1 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.335 mW/g

Test Position 1 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.9 V/m; Power Drift = -0.008 dB
Peak SAR (extrapolated) = 0.449 W/kg
SAR(1 g) = 0.310 mW/g; SAR(10 g) = 0.199 mW/g
Maximum value of SAR (measured) = 0.336 mW/g

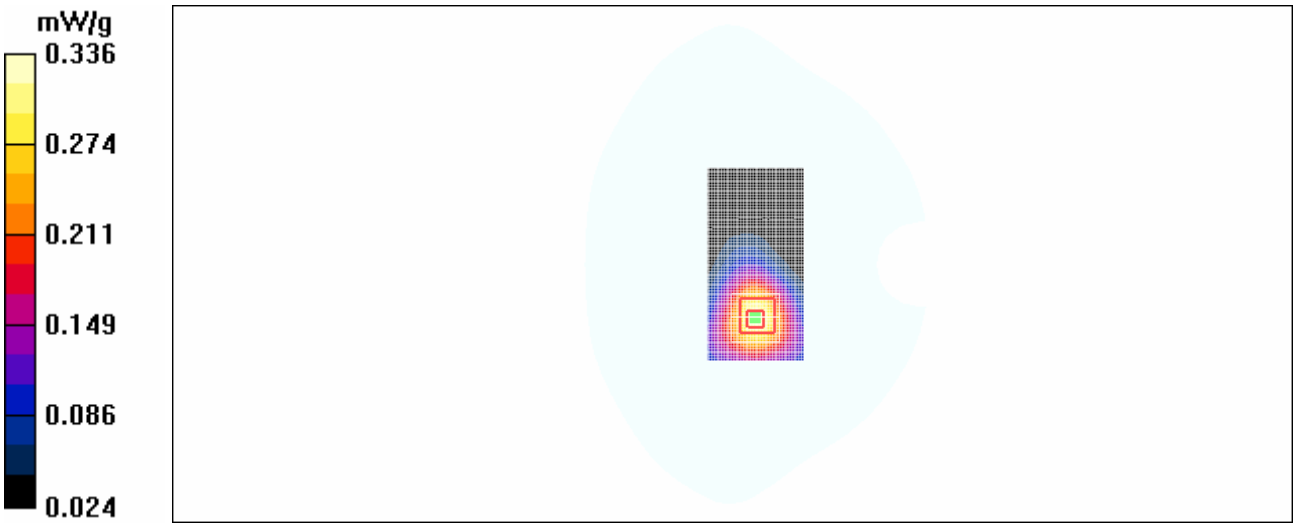


Figure 11 GSM 850 GPRS (3 timeslots in uplink) with BenQ Joy book S72 Test Position 1 Channel 190

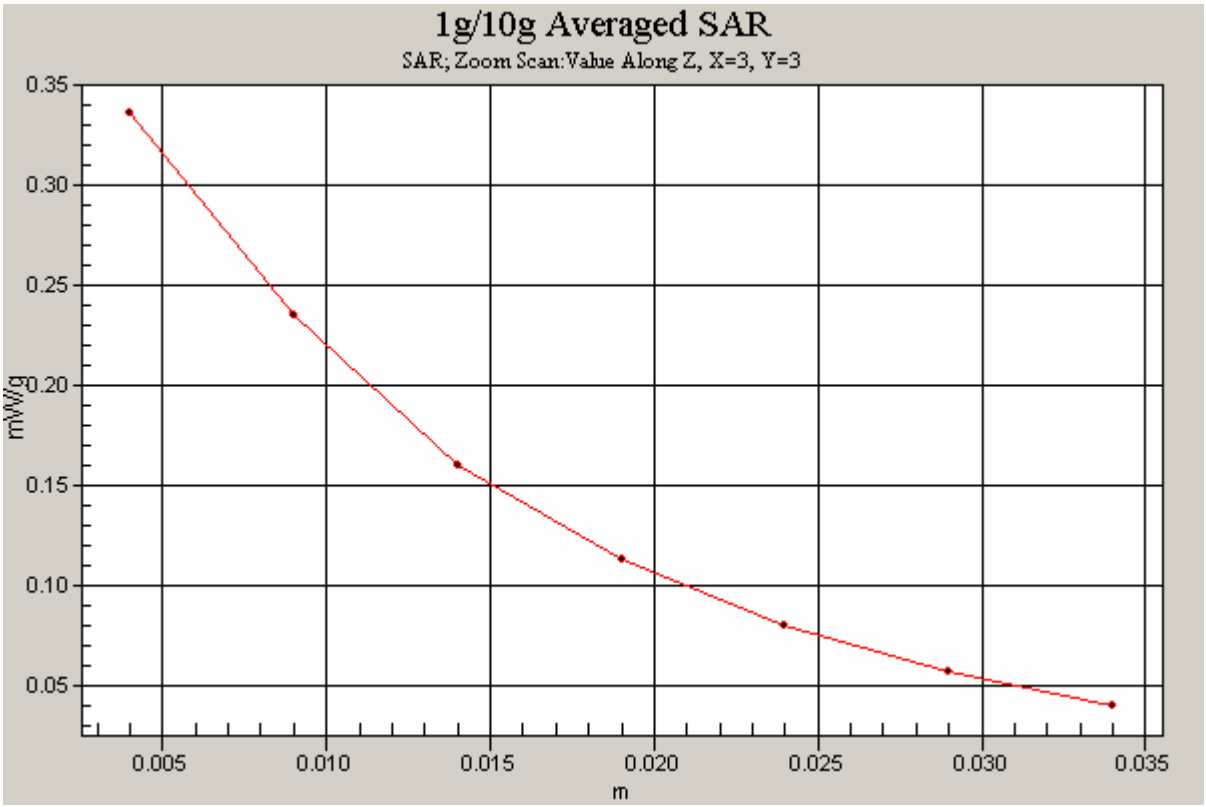


Figure 12 Z-Scan at power reference point [GSM 850 GPRS (3 timeslots in uplink) with BenQ Joy book S72 Test Position 1 Channel 190]

GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 1 Middle Frequency

Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 1 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.352 mW/g

Test Position 1 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.1 V/m; Power Drift = 0.013 dB
Peak SAR (extrapolated) = 0.447 W/kg
SAR(1 g) = 0.324 mW/g; SAR(10 g) = 0.211 mW/g
Maximum value of SAR (measured) = 0.352 mW/g

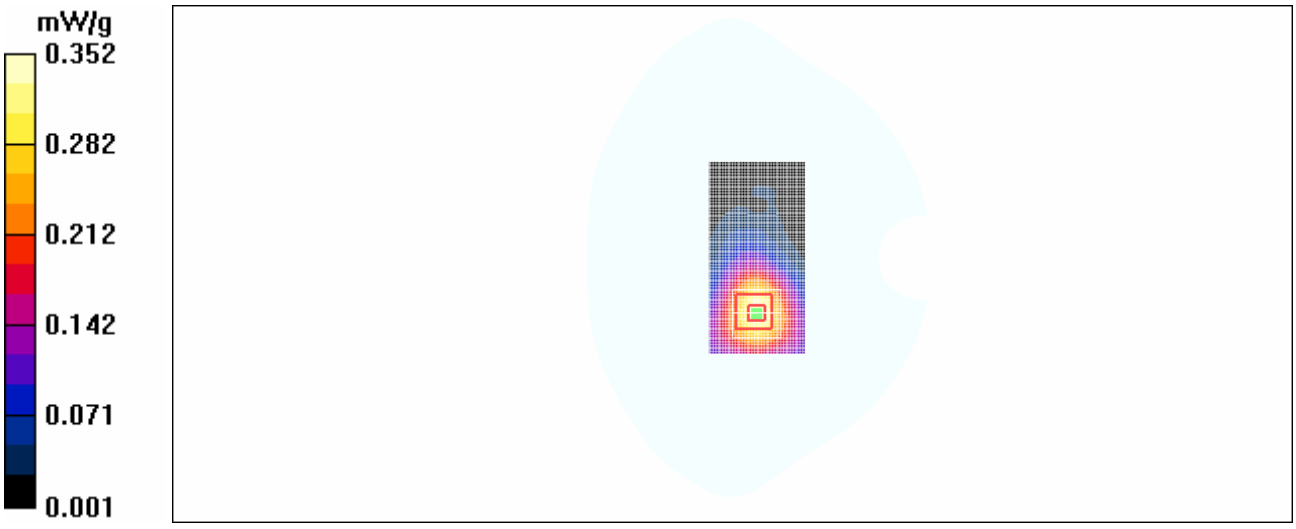


Figure 13 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 1 Channel 190

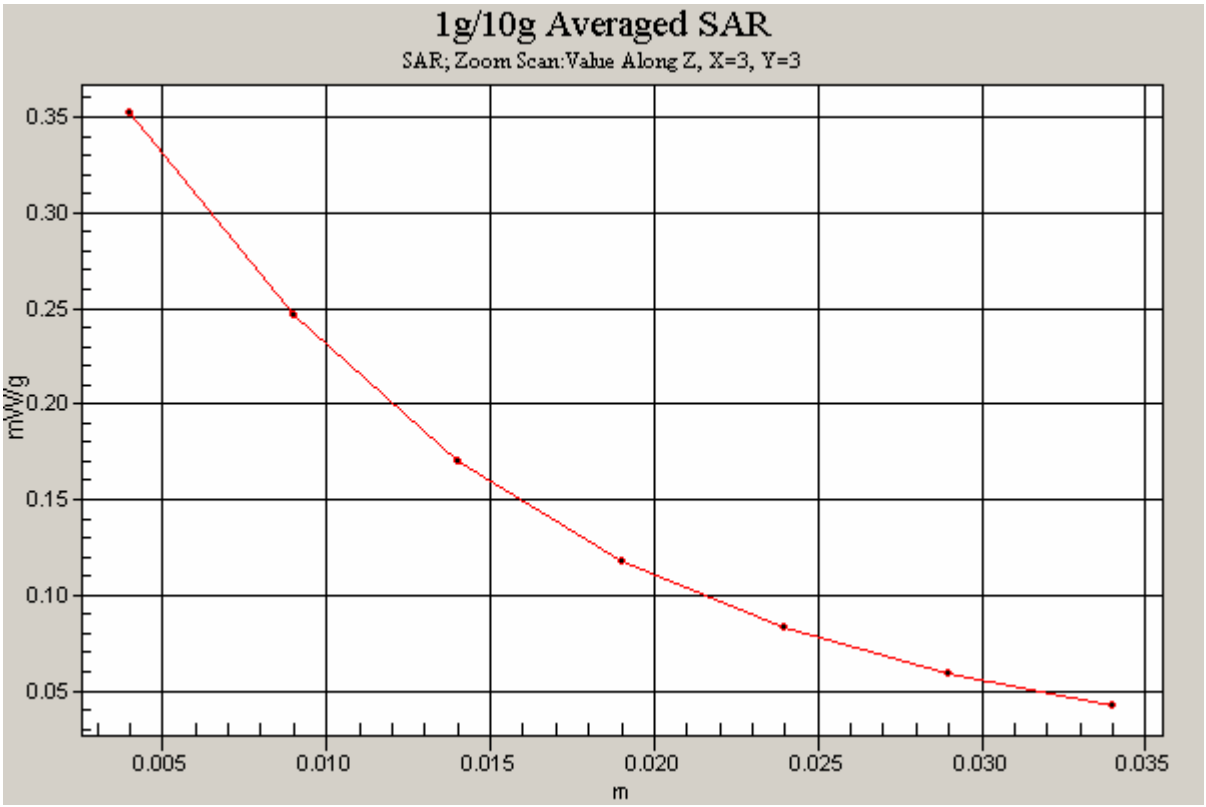


Figure 14 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 1 Channel 190]

GSM 850 GPRS (1 timeslot in uplink) with BenQ Joy book S72 Test Position 1 Middle Frequency

Communication System: GSM850 + GPRS(1Up); Frequency: 836.6 MHz;Duty Cycle: 1:8
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 1 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.286 mW/g

Test Position 1 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.0 V/m; Power Drift = 0.006 dB
Peak SAR (extrapolated) = 0.369 W/kg
SAR(1 g) = 0.265 mW/g; SAR(10 g) = 0.175 mW/g
Maximum value of SAR (measured) = 0.285 mW/g

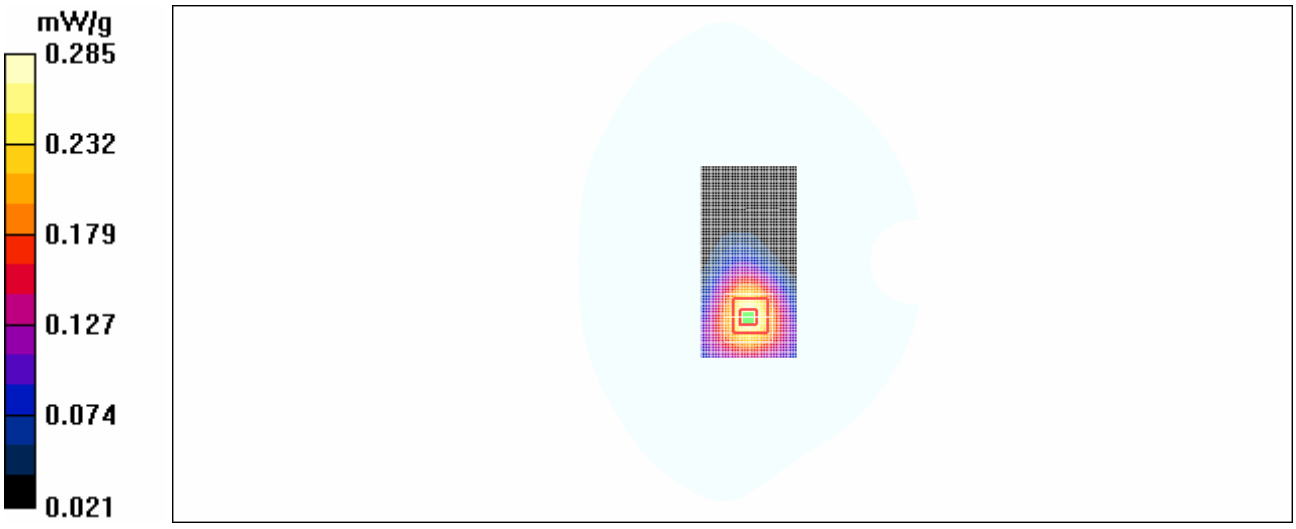


Figure 15 GSM 850 GPRS (1 timeslot in uplink) with BenQ Joy book S72 Test Position 1 Channel 190

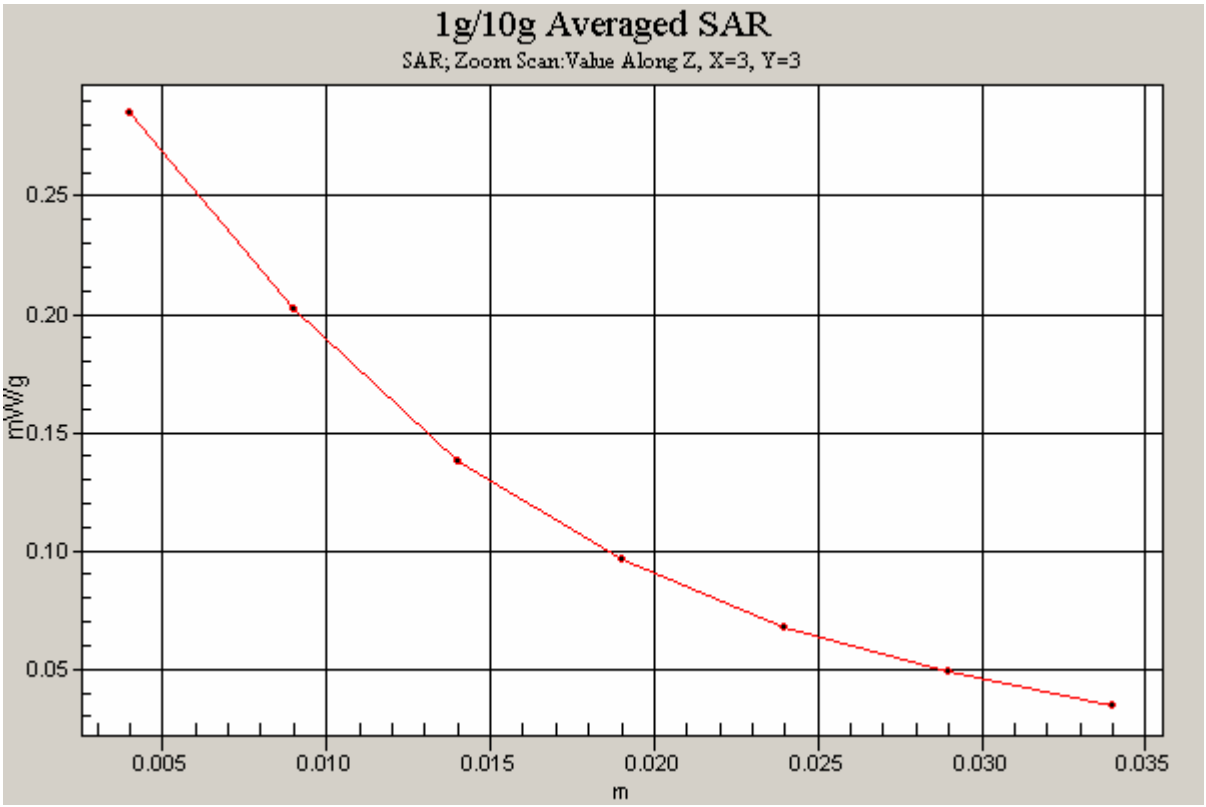


Figure 16 Z-Scan at power reference point [GSM 850 GPRS (1 timeslot in uplink) with BenQ Joy book S72 Test Position 1 Channel 190]

GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 2 Middle Frequency

Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 2 Middle/Area Scan (51x51x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.098 mW/g

Test Position 2 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.3 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 0.829 W/kg
SAR(1 g) = 0.152 mW/g; SAR(10 g) = 0.044 mW/g
Maximum value of SAR (measured) = 0.178 mW/g

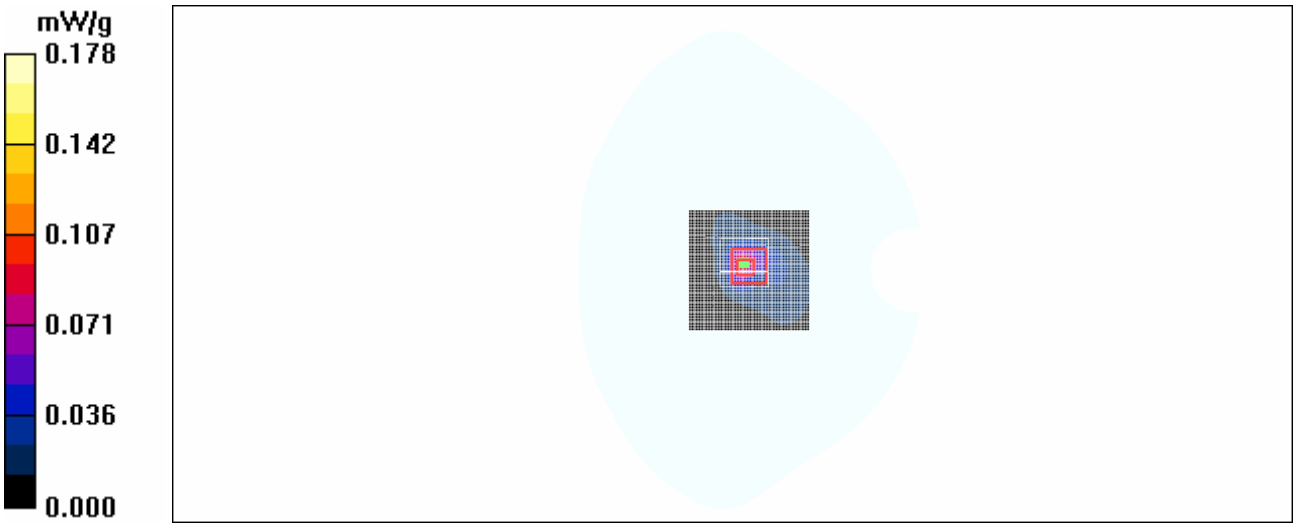


Figure 17 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 2 Channel 190

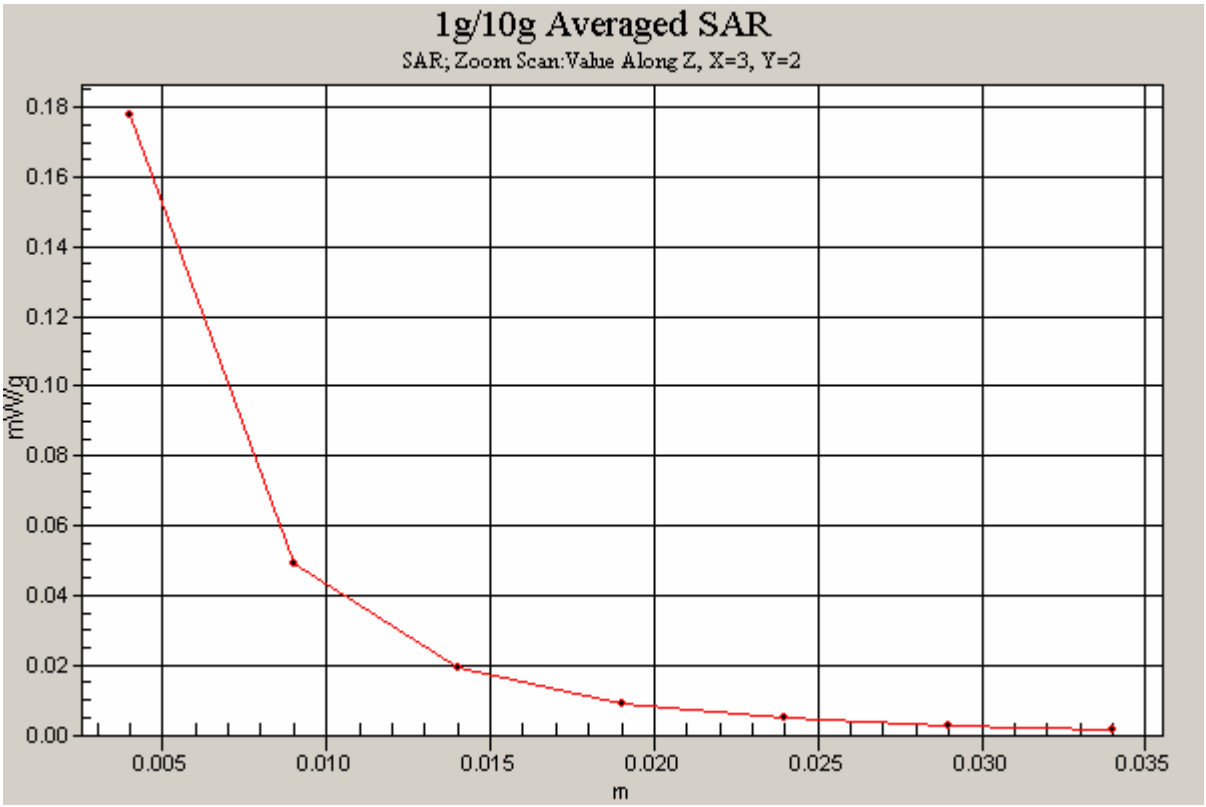


Figure 18 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 2 Channel 190]

GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 3 Middle Frequency

Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 3 Middle/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.083 mW/g

Test Position 3 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.47 V/m; Power Drift = -0.060 dB
Peak SAR (extrapolated) = 0.116 W/kg
SAR(1 g) = 0.076 mW/g; SAR(10 g) = 0.048 mW/g
Maximum value of SAR (measured) = 0.082 mW/g

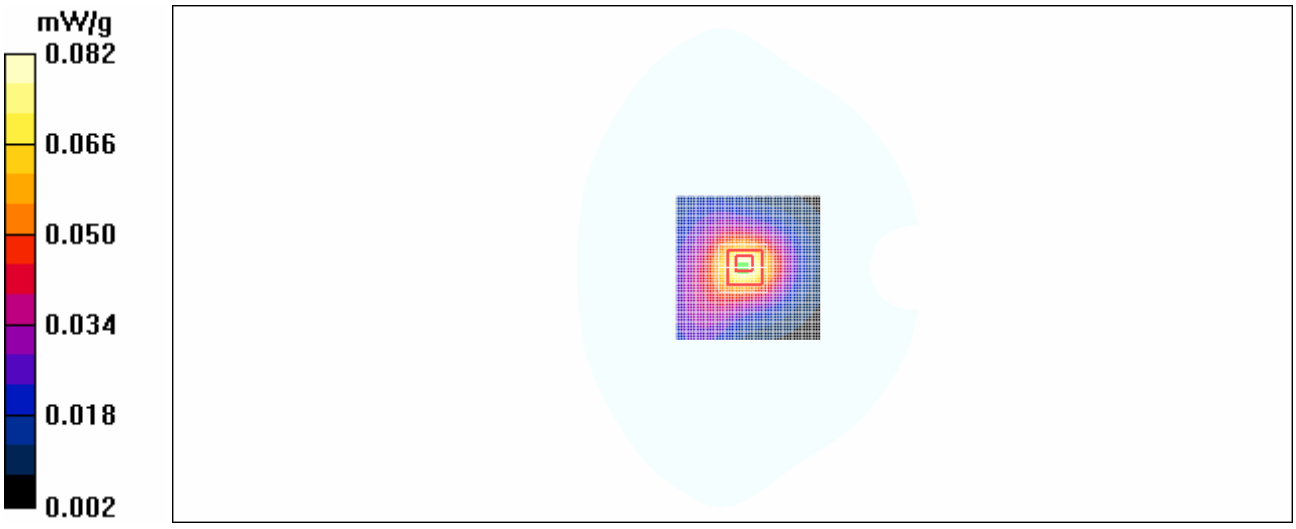


Figure 19 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 3 Channel 190

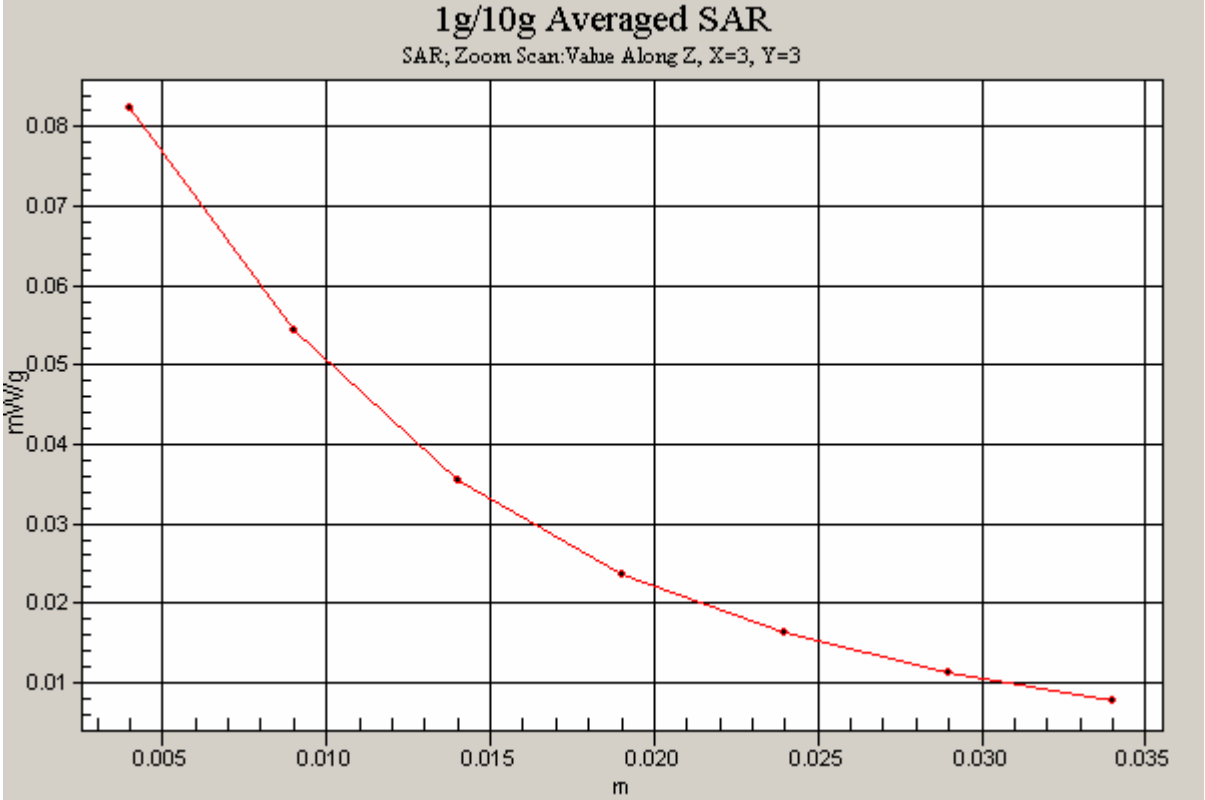


Figure 20 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 3 Channel 190]

GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 4 Middle Frequency

Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 4 Middle/Area Scan (51x51x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.132 mW/g

Test Position 4 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.9 V/m; Power Drift = -0.049 dB
Peak SAR (extrapolated) = 1.26 W/kg
SAR(1 g) = 0.216 mW/g; SAR(10 g) = 0.062 mW/g
Maximum value of SAR (measured) = 0.224 mW/g

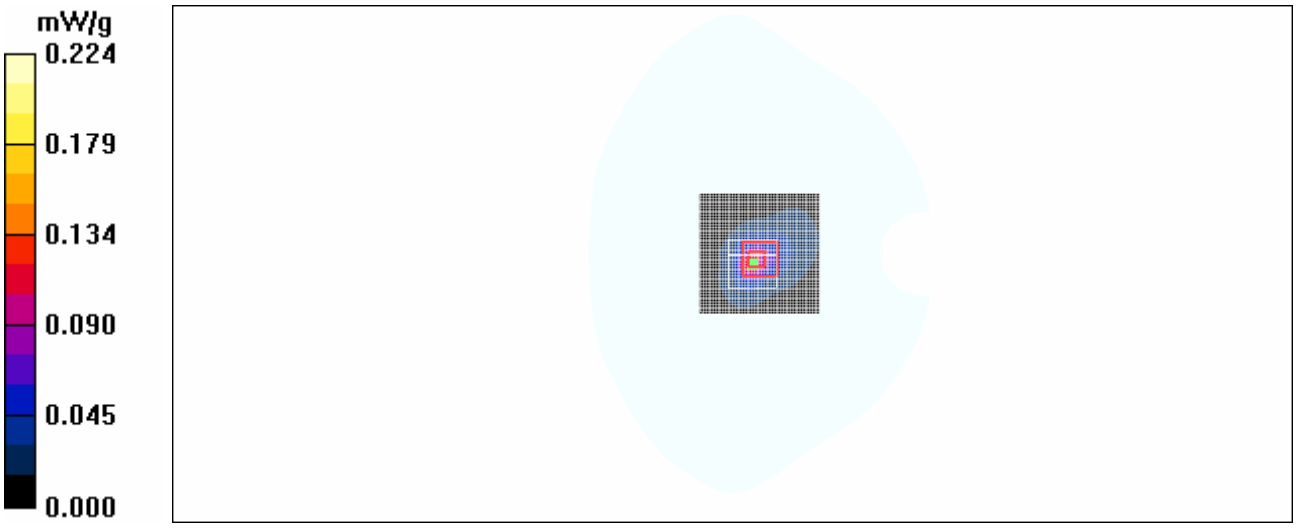


Figure 21 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 4 Channel 190

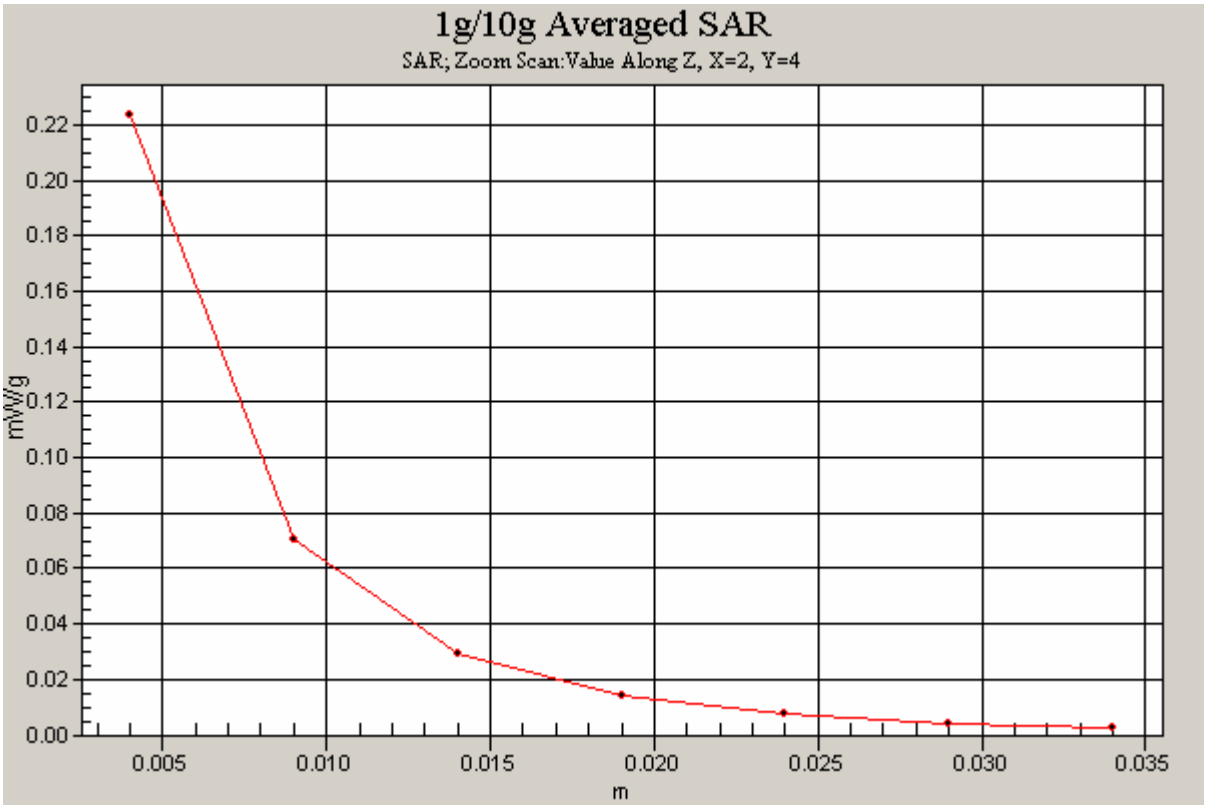


Figure 22 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 4 Channel 190]

GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 5 Middle Frequency

Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 5 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.158 mW/g

Test Position 5 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.38 V/m; Power Drift = 0.035 dB
Peak SAR (extrapolated) = 0.193 W/kg
SAR(1 g) = 0.145 mW/g; SAR(10 g) = 0.097 mW/g
Maximum value of SAR (measured) = 0.160 mW/g

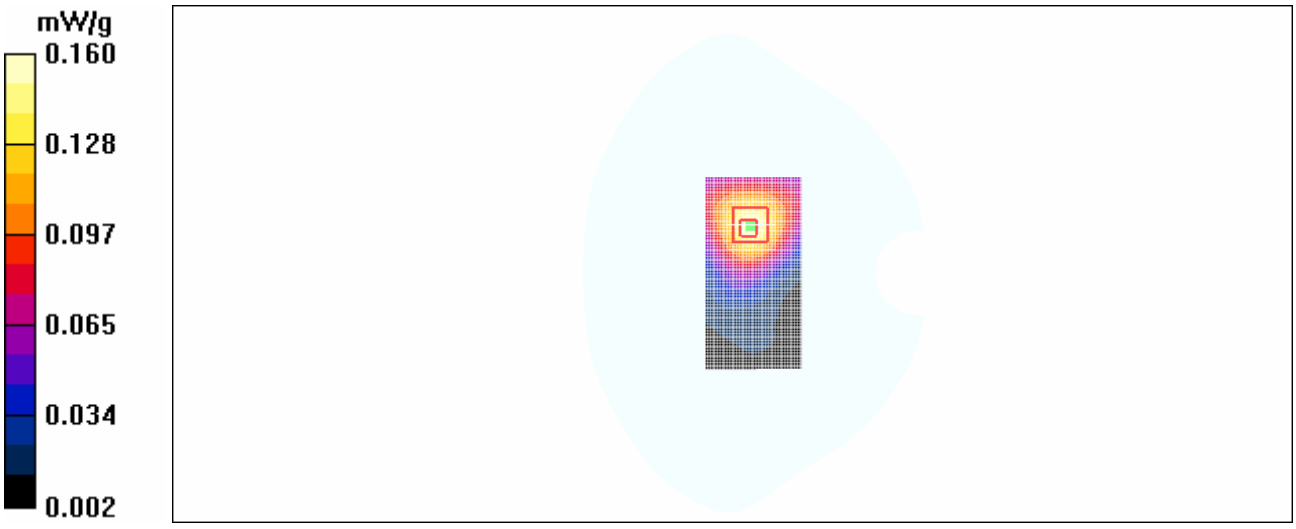


Figure 23 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 5 Channel 190

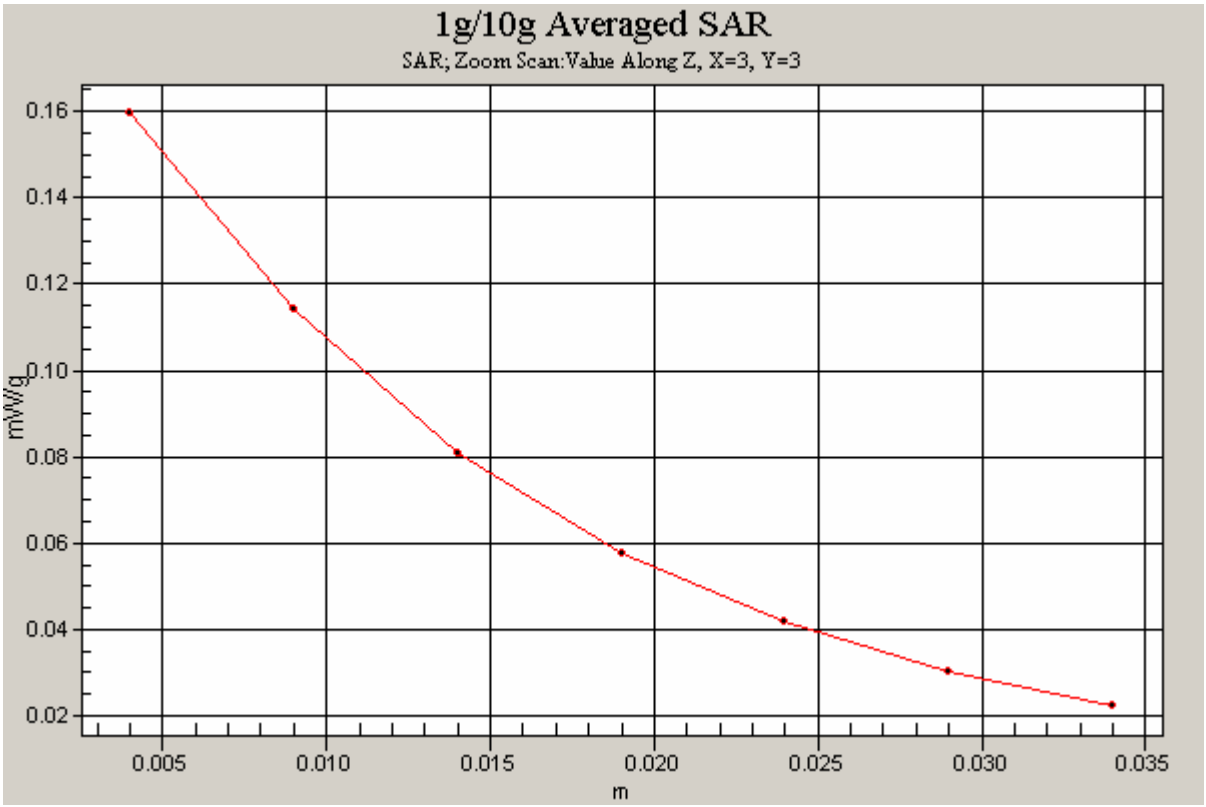


Figure 24 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 5 Channel 190]

GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 6 Middle Frequency

Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 6 Middle/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.078 mW/g

Test Position 6 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.18 V/m; Power Drift = -0.073 dB
Peak SAR (extrapolated) = 0.097 W/kg
SAR(1 g) = 0.069 mW/g; SAR(10 g) = 0.045 mW/g
Maximum value of SAR (measured) = 0.075 mW/g

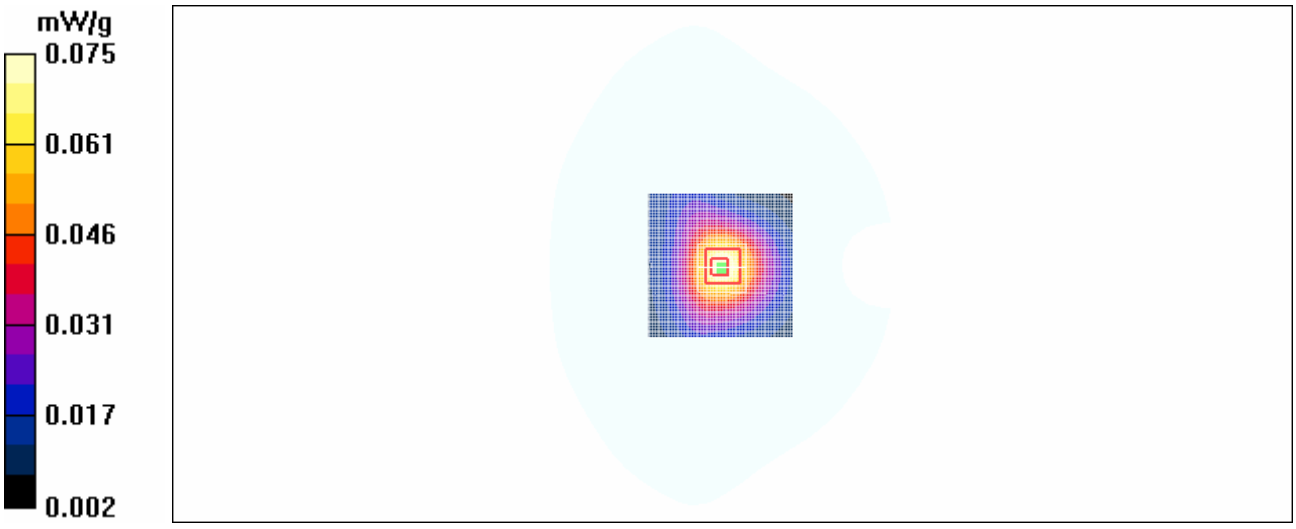


Figure 25 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 6 Channel 190

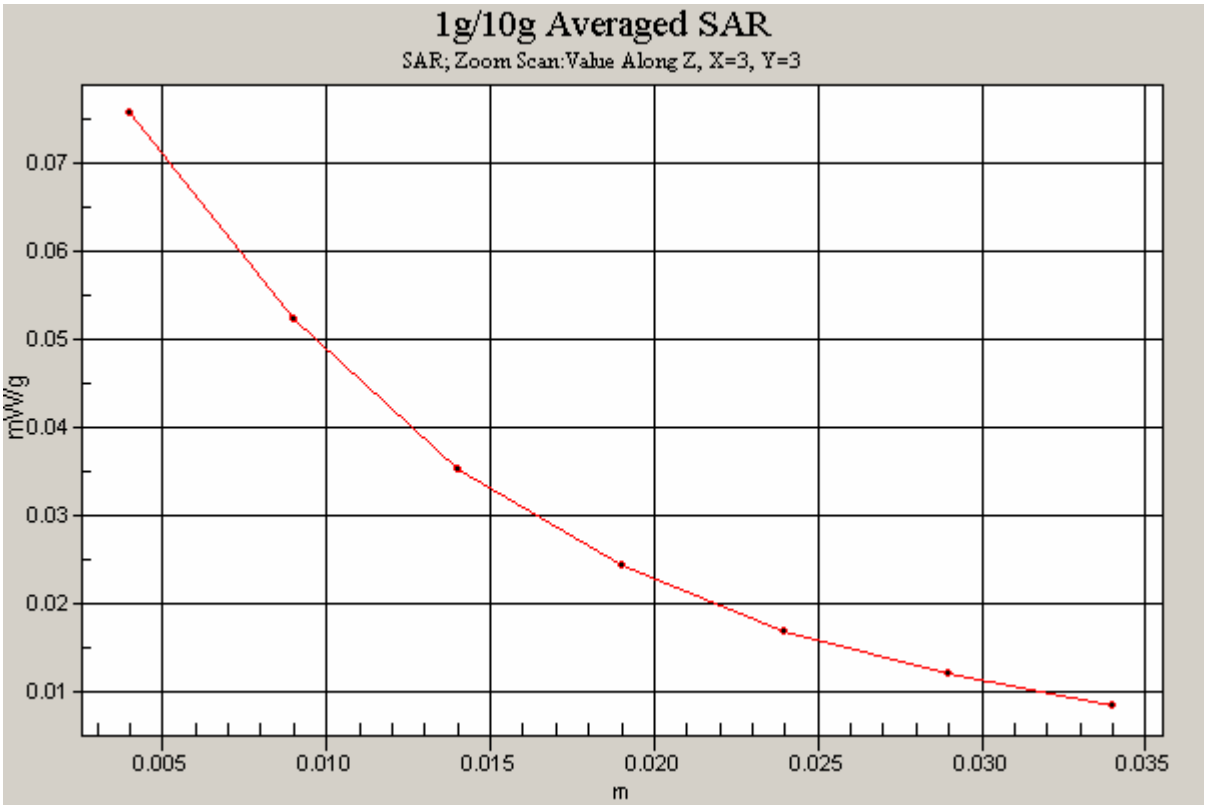


Figure 26 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 6 Channel 190]

GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 7 Middle Frequency

Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 7 Middle/Area Scan (51x51x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.149 mW/g

Test Position 7 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.6 V/m; Power Drift = -0.037 dB
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 0.228 mW/g; SAR(10 g) = 0.061 mW/g
Maximum value of SAR (measured) = 0.257 mW/g

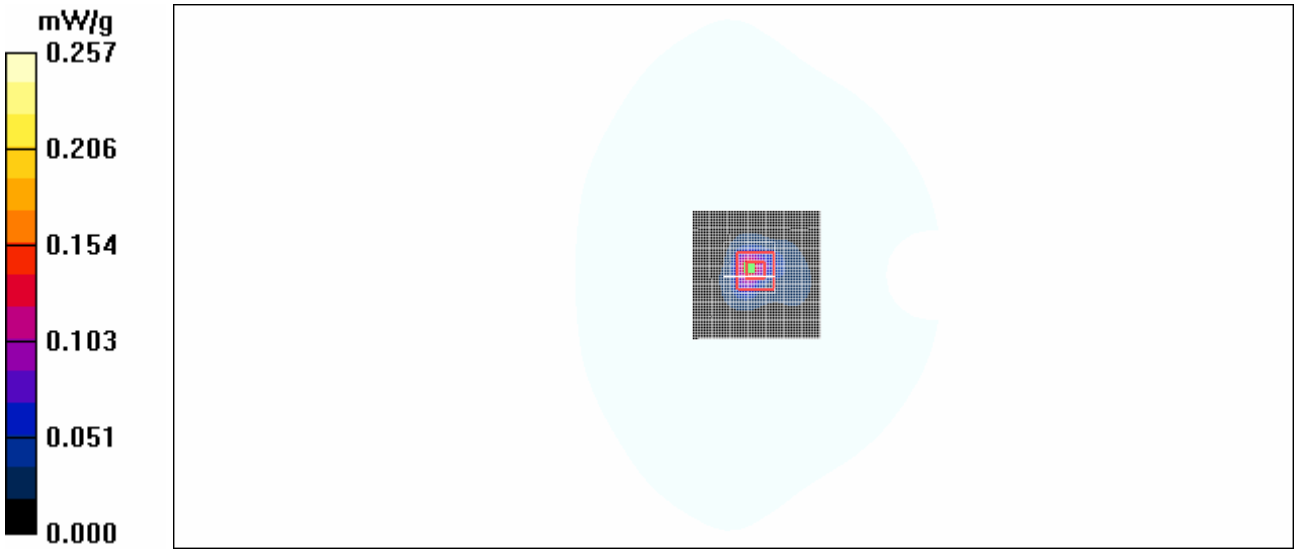


Figure 27 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 7 Channel 190

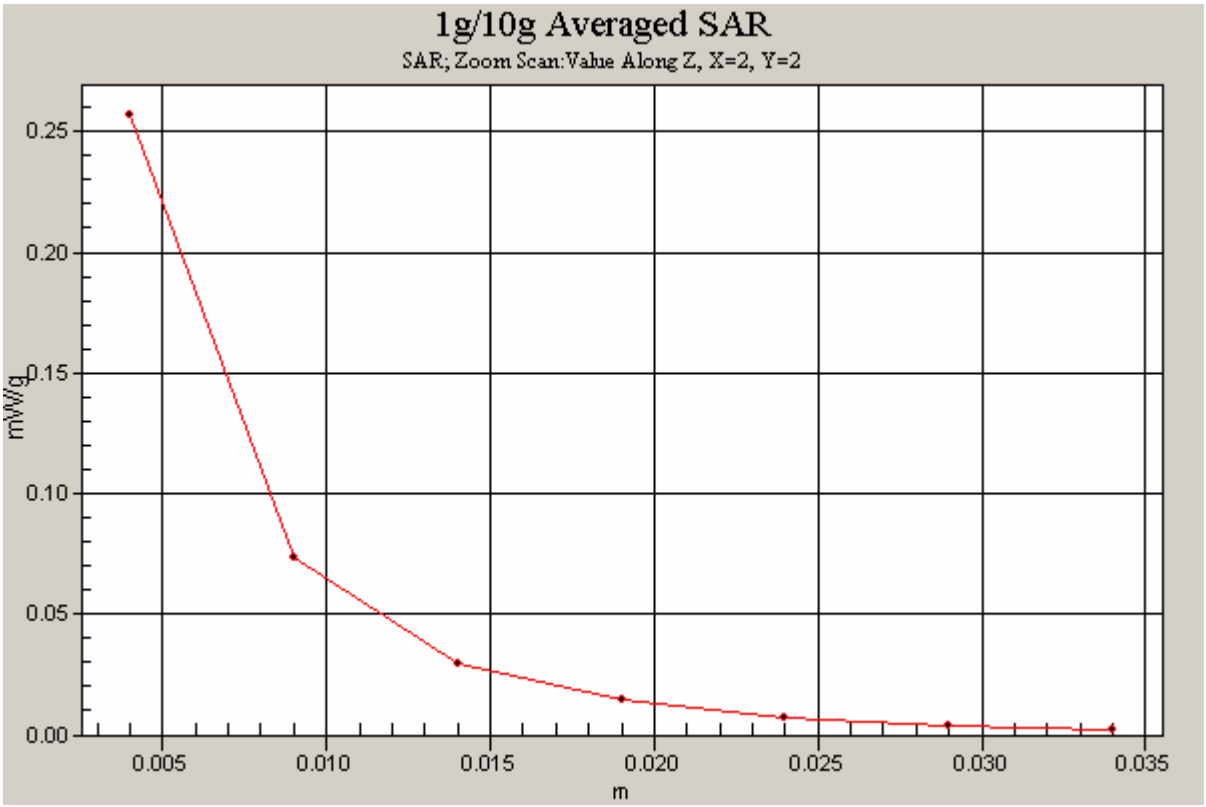


Figure 28 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 7 Channel 190]

GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 8 Middle Frequency

Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 8 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.093 mW/g

Test Position 8 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.40 V/m; Power Drift = -0.017 dB
Peak SAR (extrapolated) = 0.121 W/kg
SAR(1 g) = 0.087 mW/g; SAR(10 g) = 0.062 mW/g
Maximum value of SAR (measured) = 0.092 mW/g

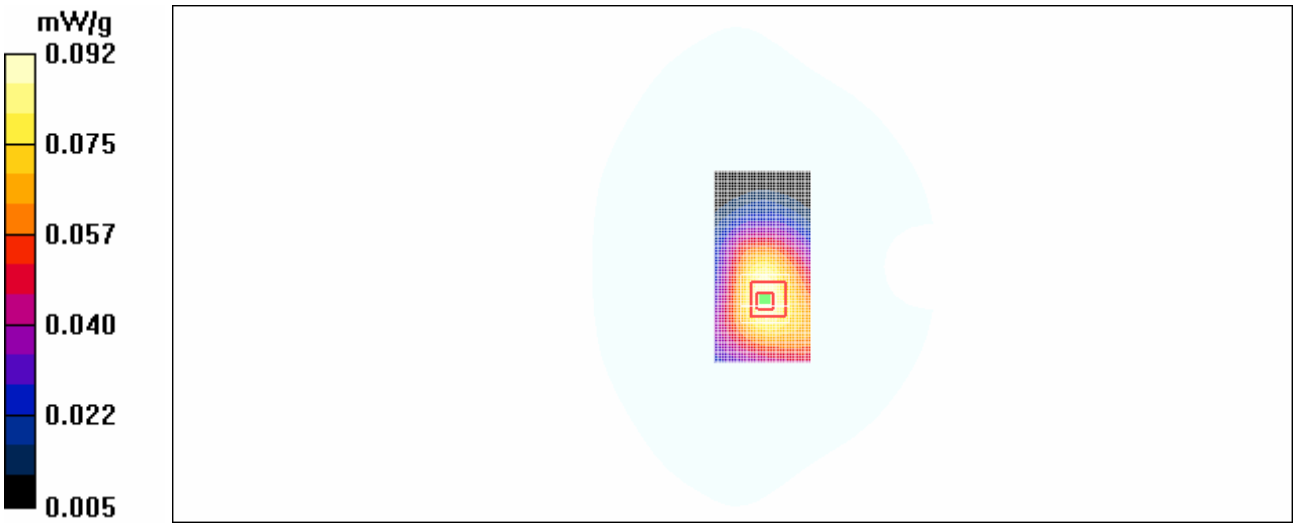


Figure 29 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 8 Channel 190

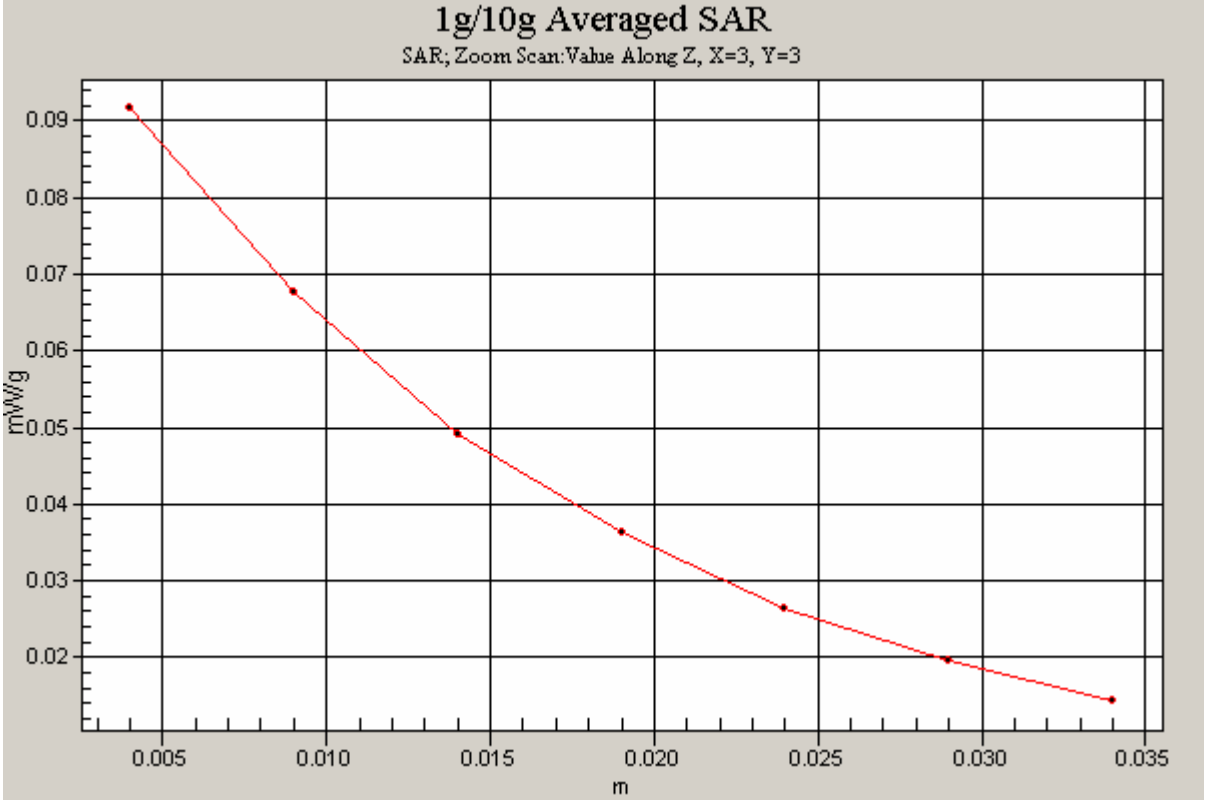


Figure 30 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 8 Channel 190]

GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 9 Middle Frequency

Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 9 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.102 mW/g

Test Position 9 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.5 V/m; Power Drift = -0.077 dB
Peak SAR (extrapolated) = 0.178 W/kg
SAR(1 g) = 0.096 mW/g; SAR(10 g) = 0.068 mW/g
Maximum value of SAR (measured) = 0.102 mW/g

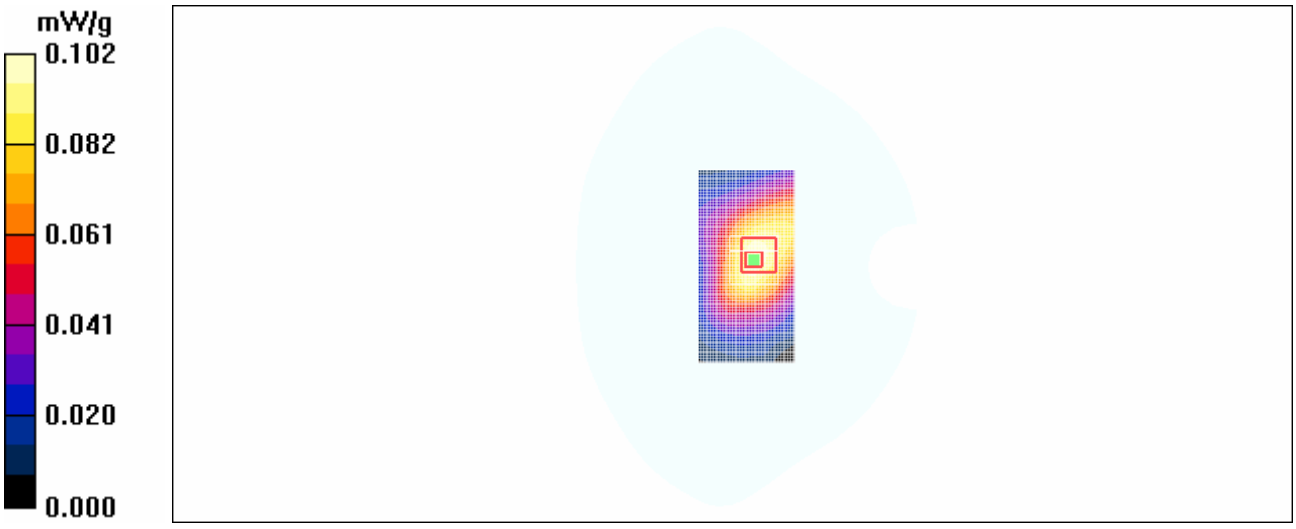


Figure 31 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 9 Channel 190

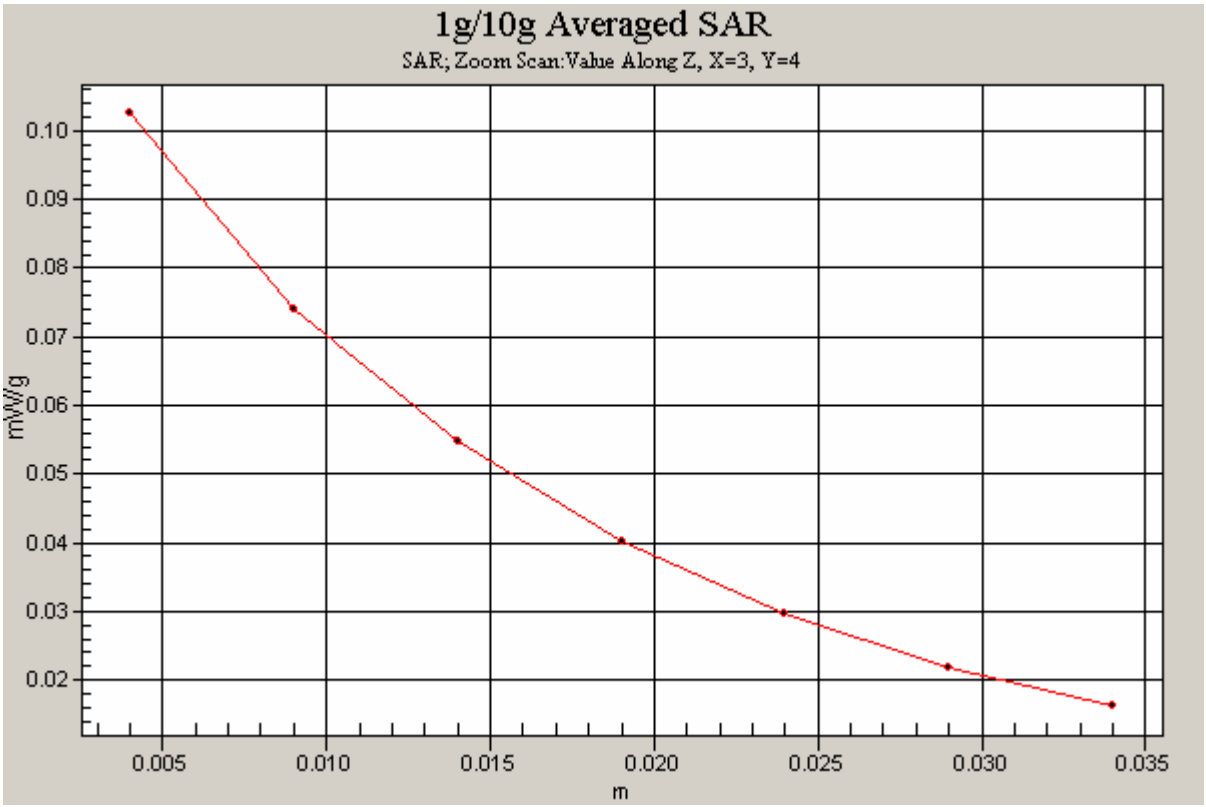


Figure 32 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 9 Channel 190]

GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 10 Middle Frequency

Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 10 Middle/Area Scan (41x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.164 mW/g

Test Position 10 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.99 V/m; Power Drift = 0.150 dB
Peak SAR (extrapolated) = 0.218 W/kg
SAR(1 g) = 0.149 mW/g; SAR(10 g) = 0.098 mW/g
Maximum value of SAR (measured) = 0.162 mW/g

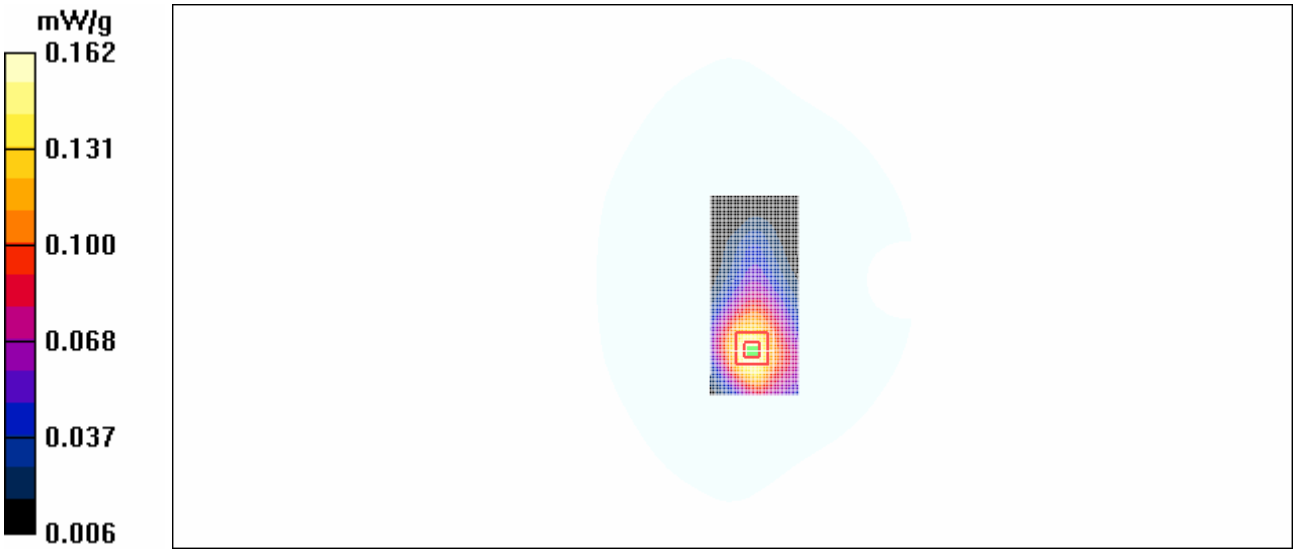


Figure 33 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 10 Channel 190

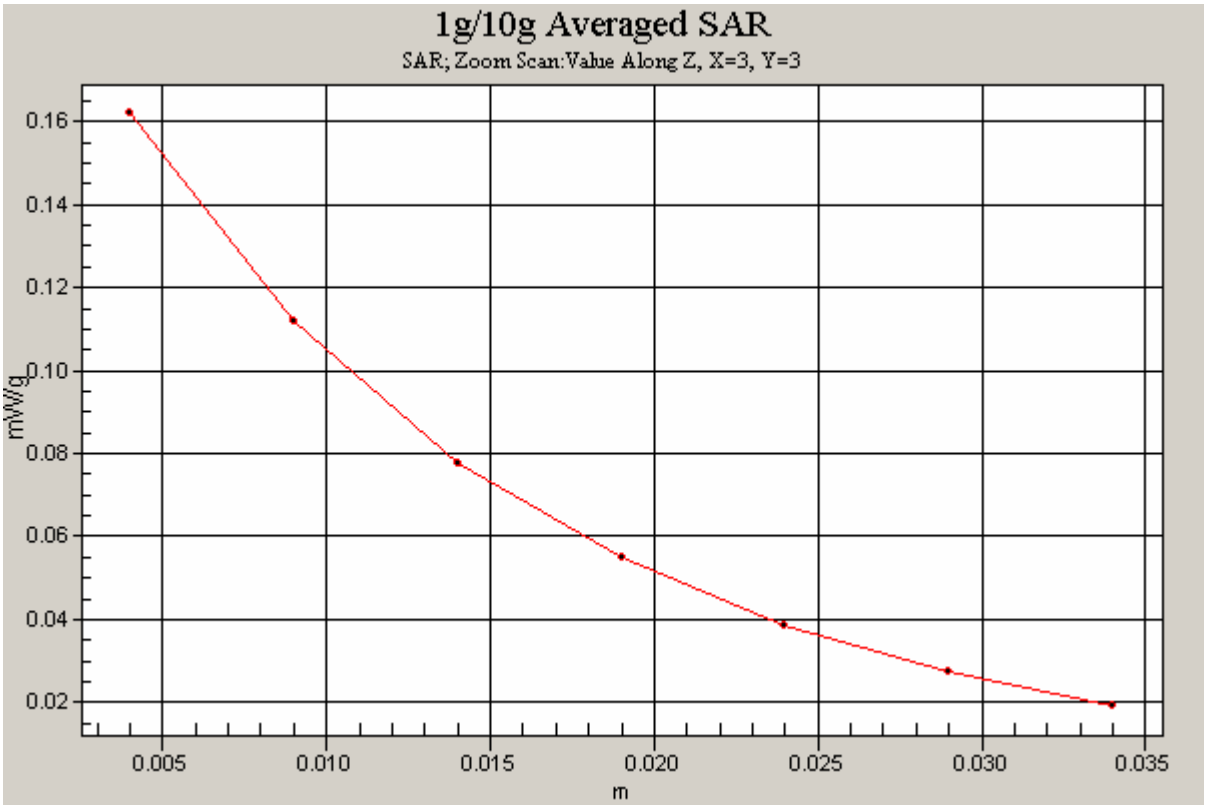


Figure 34 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 10 Channel 190]

GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 11 Middle Frequency

Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 11 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.230 mW/g

Test Position 11 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.6 V/m; Power Drift = -0.194 dB
Peak SAR (extrapolated) = 0.408 W/kg
SAR(1 g) = 0.205 mW/g; SAR(10 g) = 0.109 mW/g
Maximum value of SAR (measured) = 0.212 mW/g

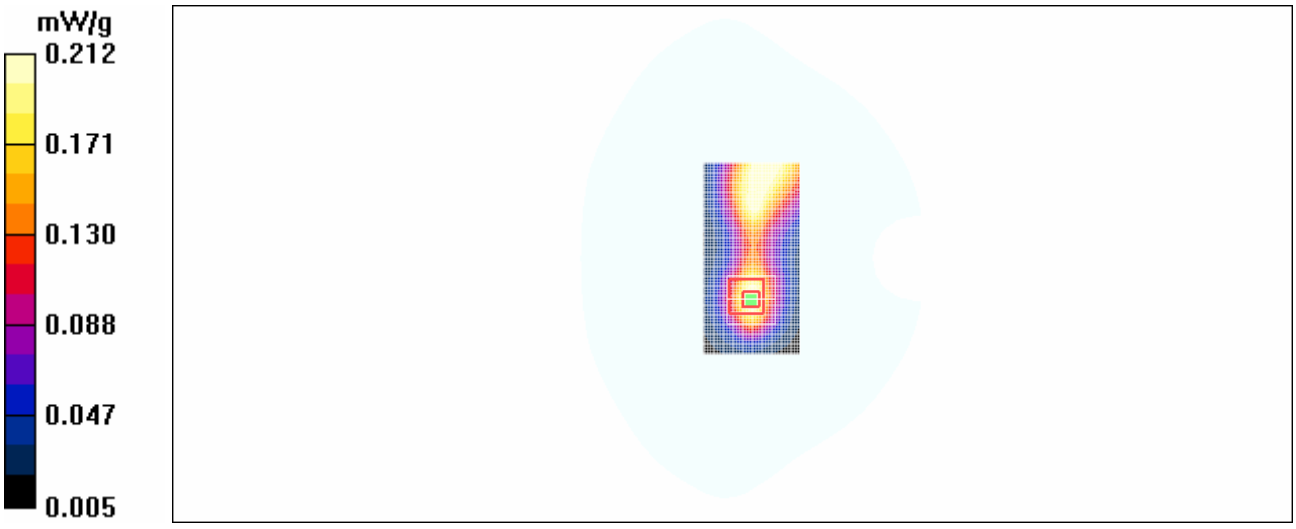


Figure 35 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 11 Channel 190

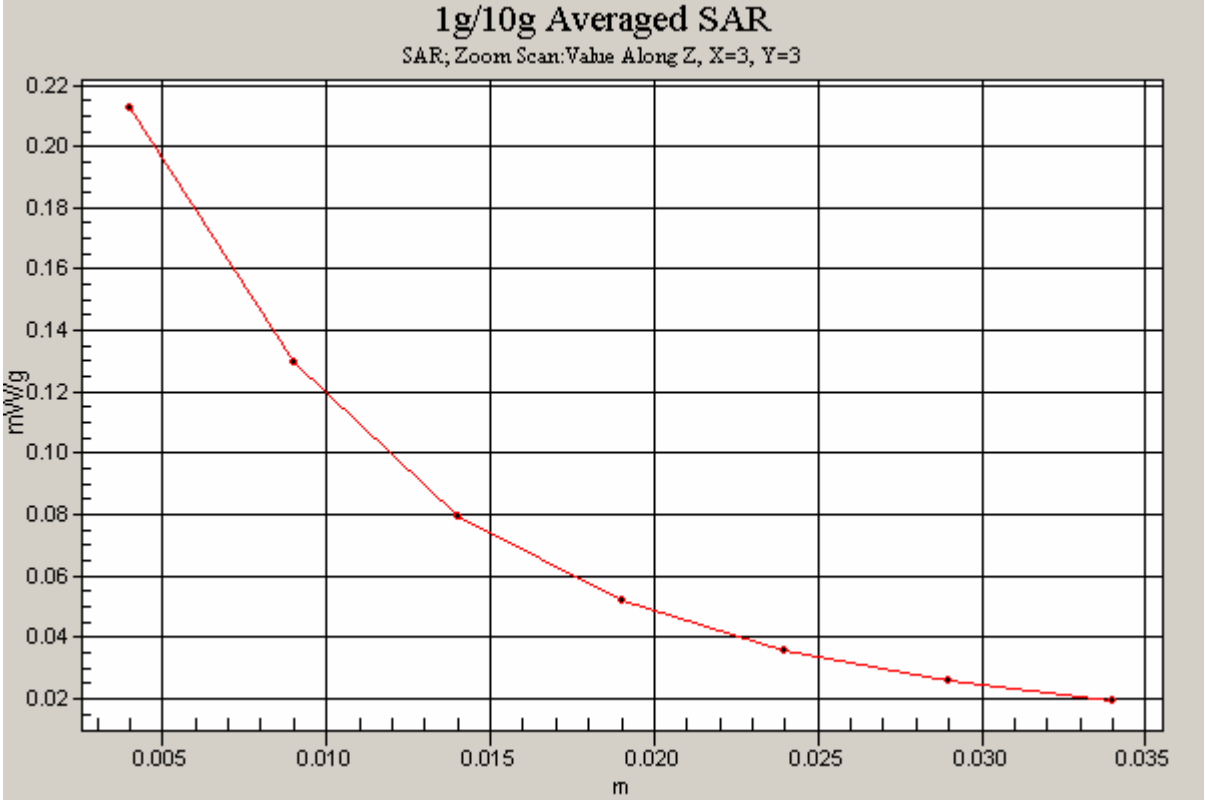


Figure 36 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 11 Channel 190]

GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 12 Middle Frequency

Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);)
Electronics: DAE3 Sn452;
Test Position 12 Middle/Area Scan (51x51x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.286 mW/g

Test Position 12 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.2 V/m; Power Drift = 0.043 dB
Peak SAR (extrapolated) = 2.69 W/kg
SAR(1 g) = 0.458 mW/g; SAR(10 g) = 0.131 mW/g
Maximum value of SAR (measured) = 0.473 mW/g

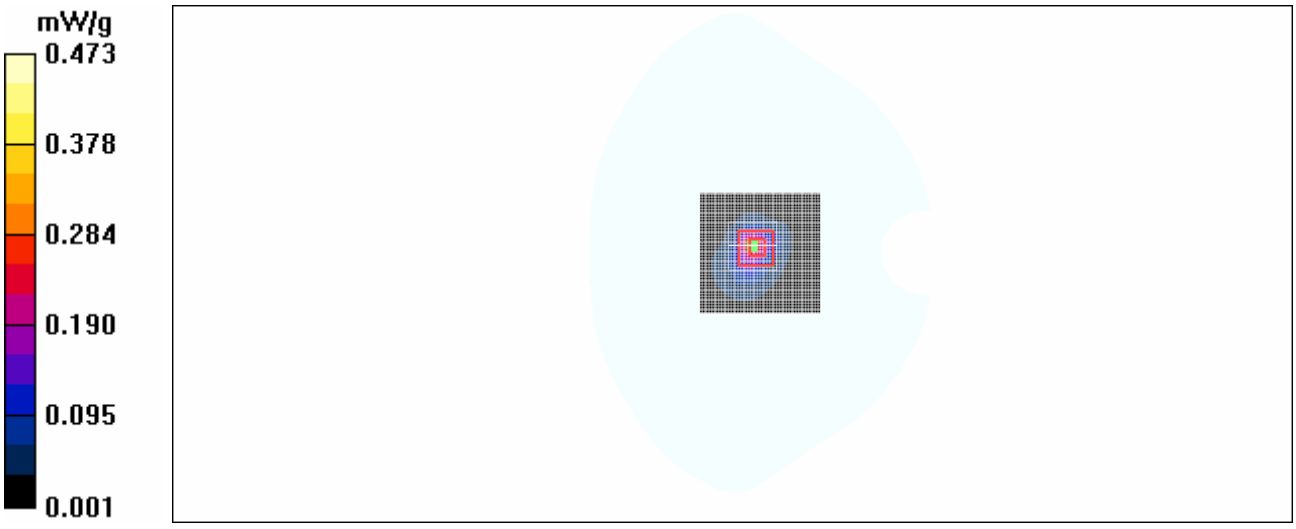


Figure 37 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 12 Channel 190

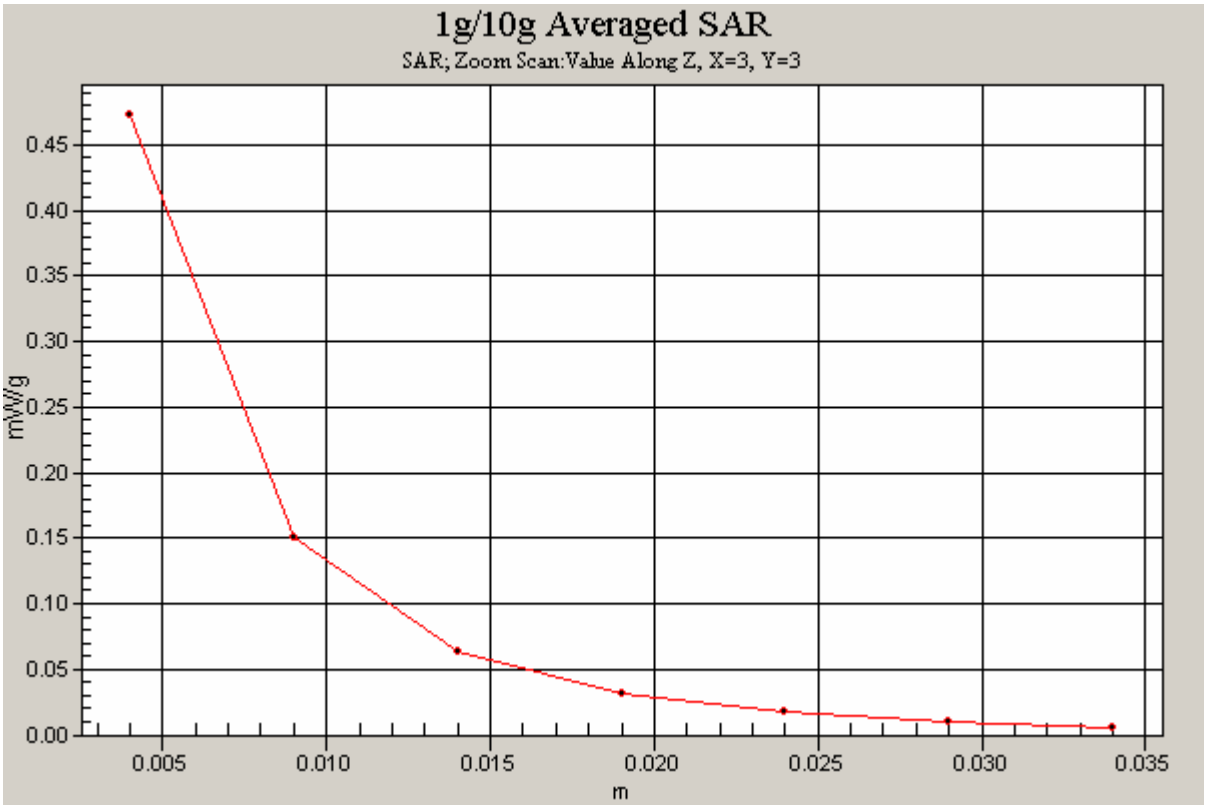


Figure 38 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 12 Channel 190]

GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 13 Middle Frequency

Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 13 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.195 mW/g

Test Position 13 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.33 V/m; Power Drift = -0.197 dB
Peak SAR (extrapolated) = 0.270 W/kg
SAR(1 g) = 0.170 mW/g; SAR(10 g) = 0.115 mW/g
Maximum value of SAR (measured) = 0.198 mW/g

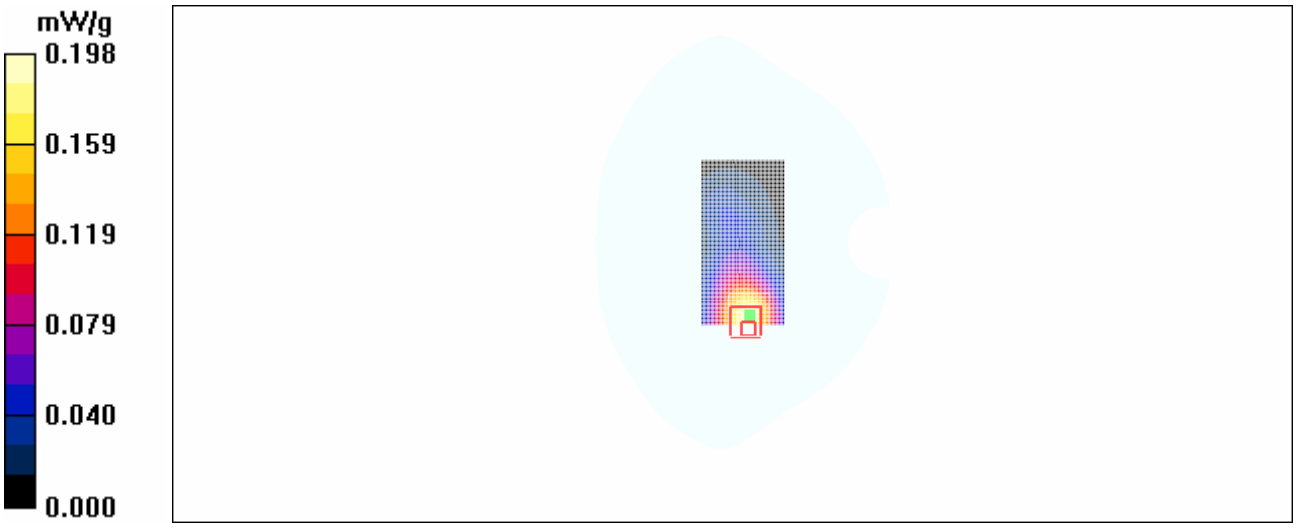


Figure 39 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 13 Channel 190

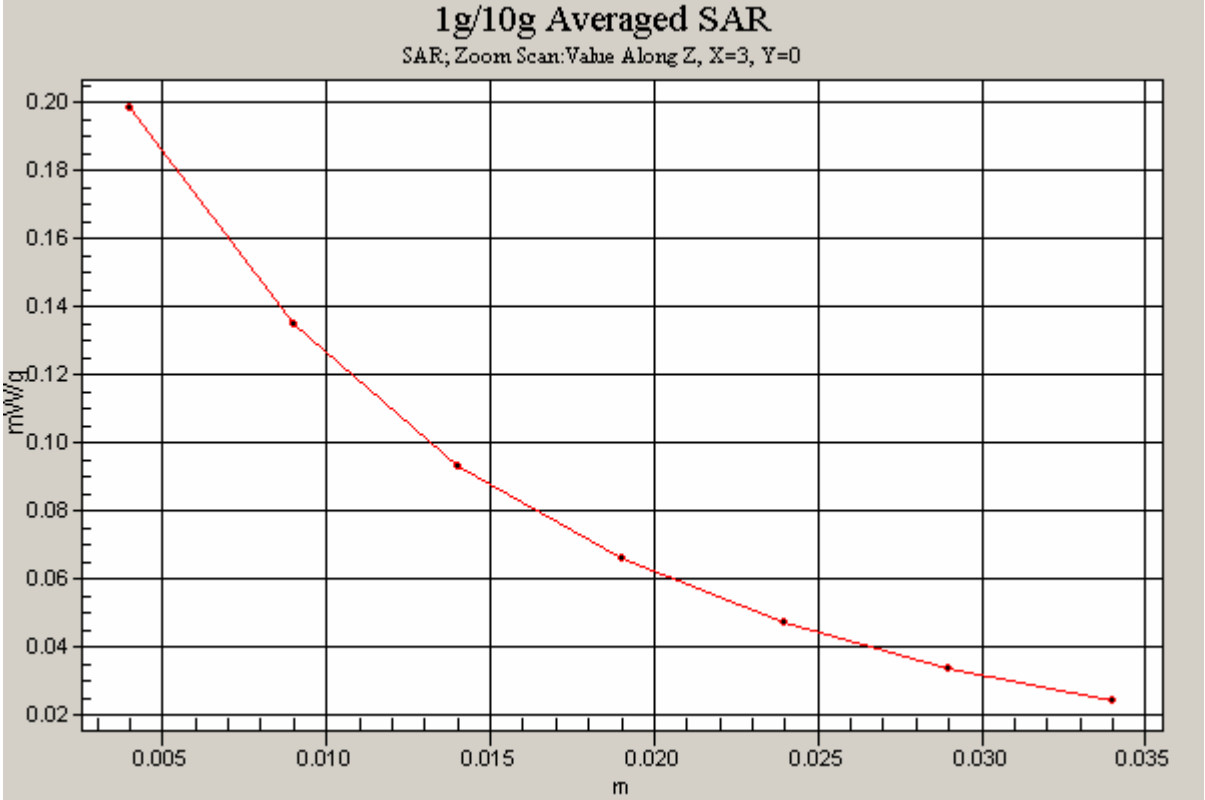


Figure 40 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 13 Channel 190]

GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 14 Middle Frequency

Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 14 Middle/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.102 mW/g

Test Position 14 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.21 V/m; Power Drift = -0.080 dB
Peak SAR (extrapolated) = 0.164 W/kg
SAR(1 g) = 0.091 mW/g; SAR(10 g) = 0.060 mW/g
Maximum value of SAR (measured) = 0.103 mW/g

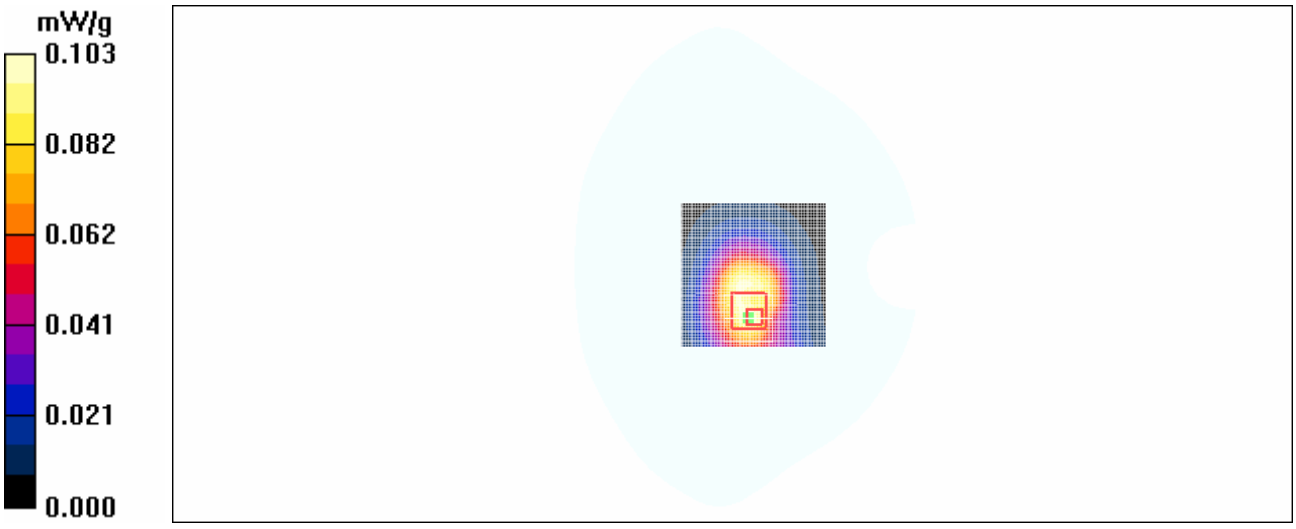


Figure 41 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 14 Channel 190

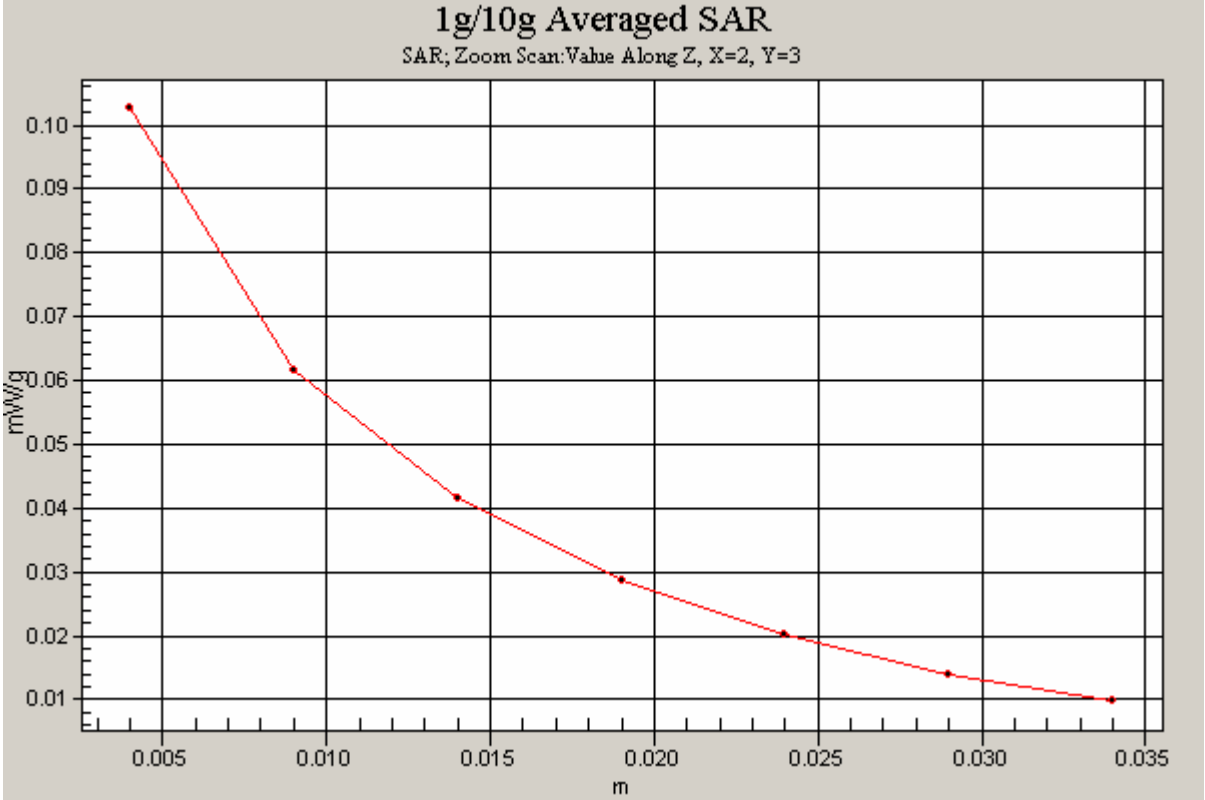


Figure 42 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 14 Channel 190]

GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 15 Middle Frequency

Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 15 Middle/Area Scan (51x51x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.255 mW/g

Test Position 15 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.4 V/m; Power Drift = -0.031 dB
Peak SAR (extrapolated) = 2.99 W/kg
SAR(1 g) = 0.481 mW/g; SAR(10 g) = 0.134 mW/g
Maximum value of SAR (measured) = 0.527 mW/g

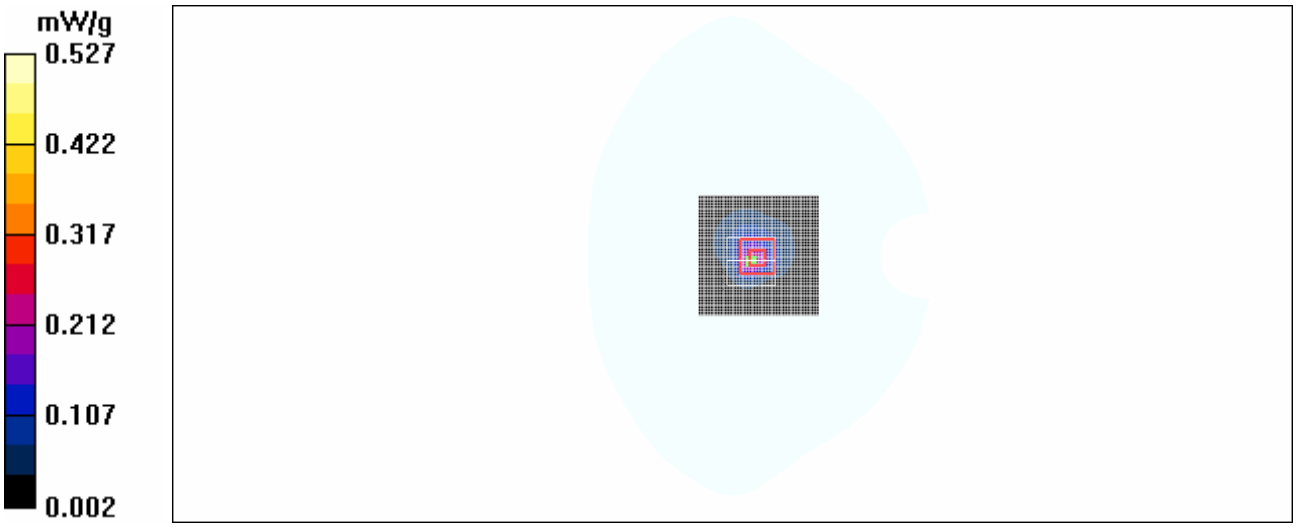


Figure 43 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 15 Channel 190

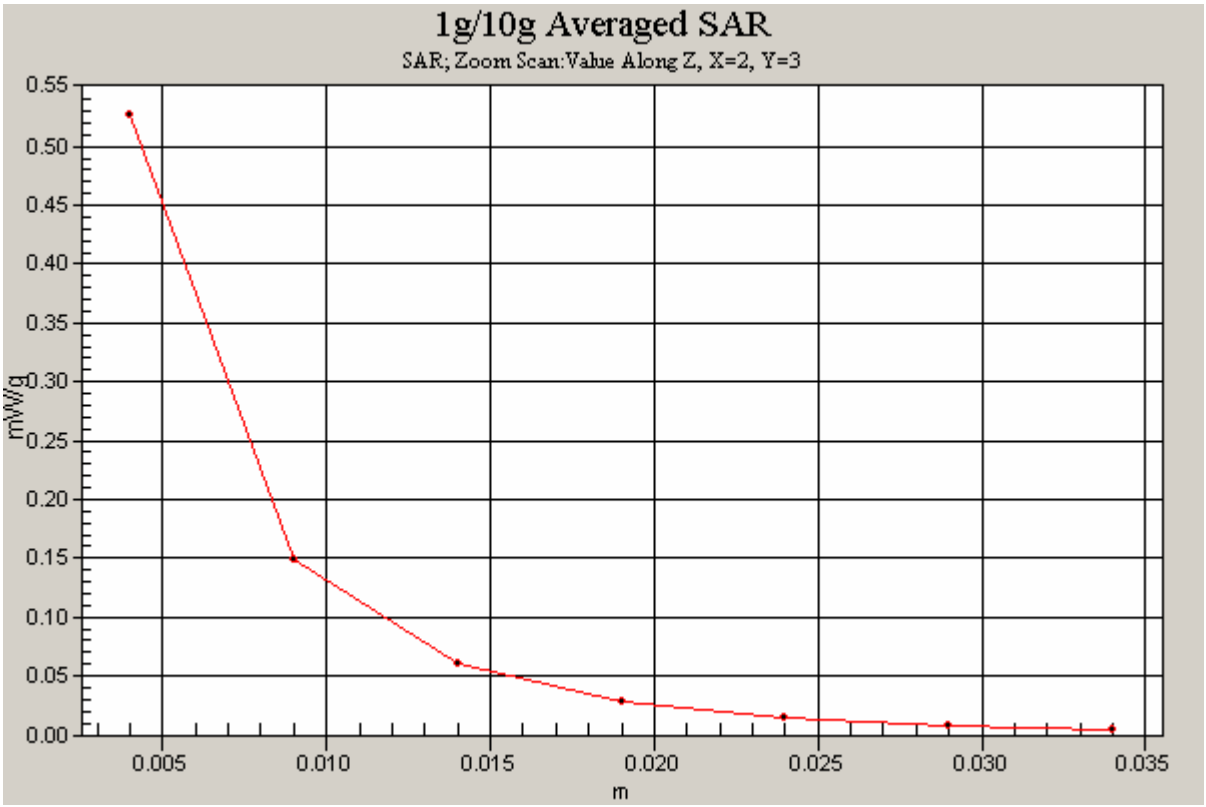


Figure 44 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 15 Channel 190]

GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 16 Middle Frequency

Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 16 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.117 mW/g

Test Position 16 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.39 V/m; Power Drift = -0.099 dB
Peak SAR (extrapolated) = 0.283 W/kg
SAR(1 g) = 0.109 mW/g; SAR(10 g) = 0.069 mW/g
Maximum value of SAR (measured) = 0.115 mW/g

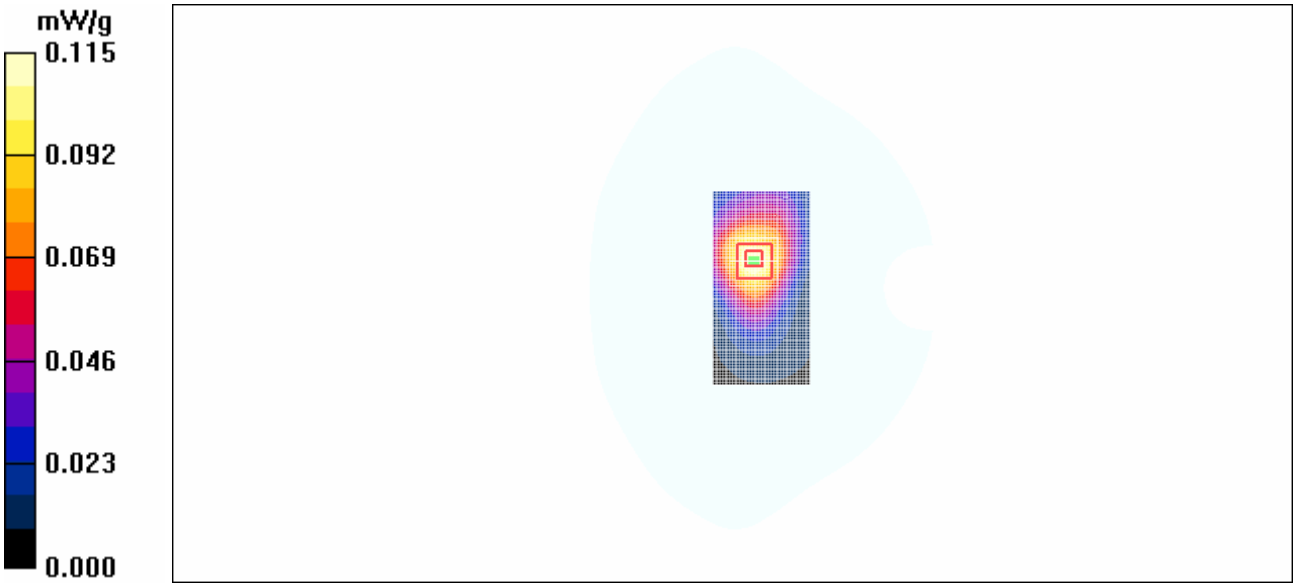


Figure 45 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 16 Channel 190

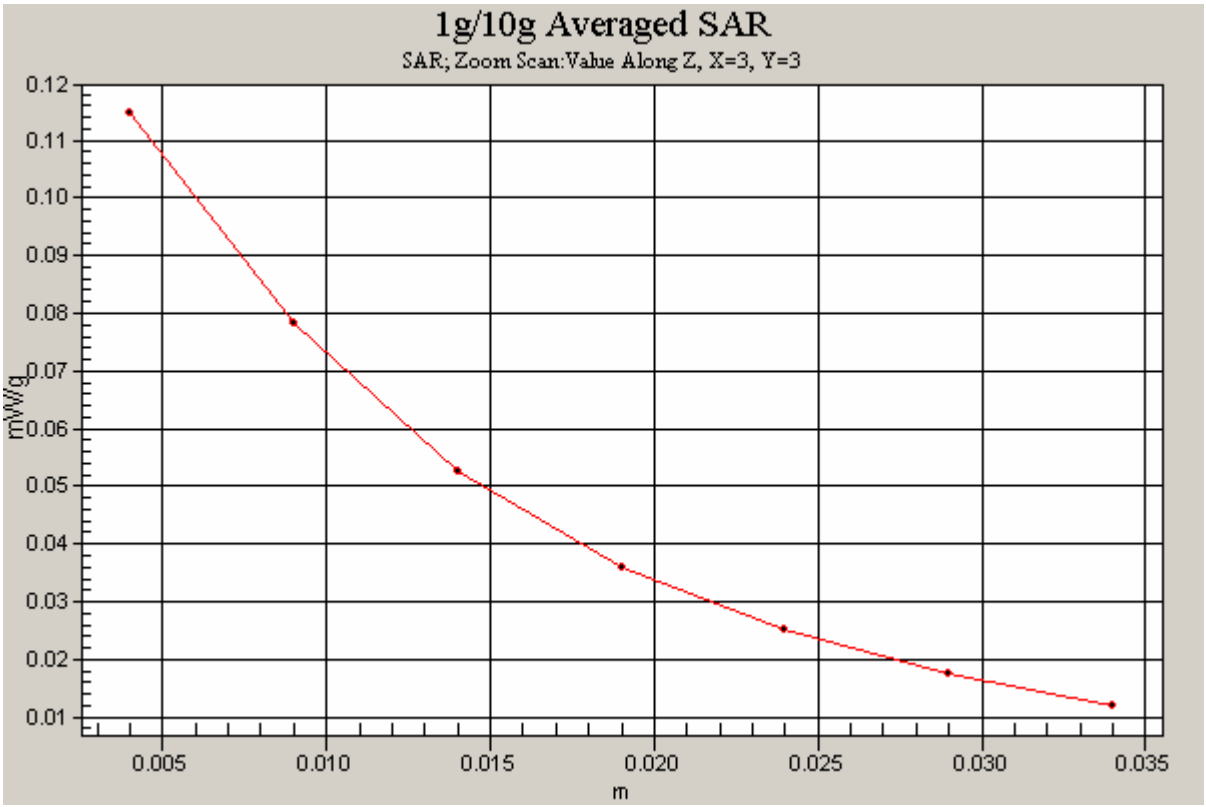


Figure 46 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 16 Channel 190]

GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 17 Middle Frequency

Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 17 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.101 mW/g

Test Position 17 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.88 V/m; Power Drift = -0.060 dB
Peak SAR (extrapolated) = 0.137 W/kg
SAR(1 g) = 0.093 mW/g; SAR(10 g) = 0.060 mW/g
Maximum value of SAR (measured) = 0.101 mW/g

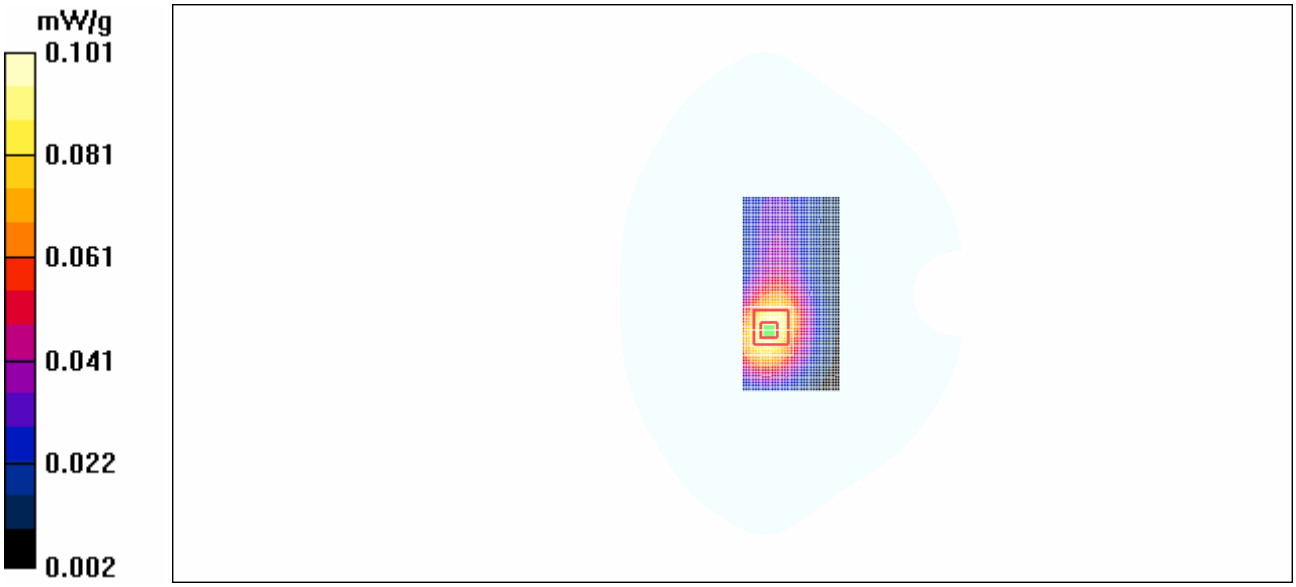


Figure 47 GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 17 Channel 190

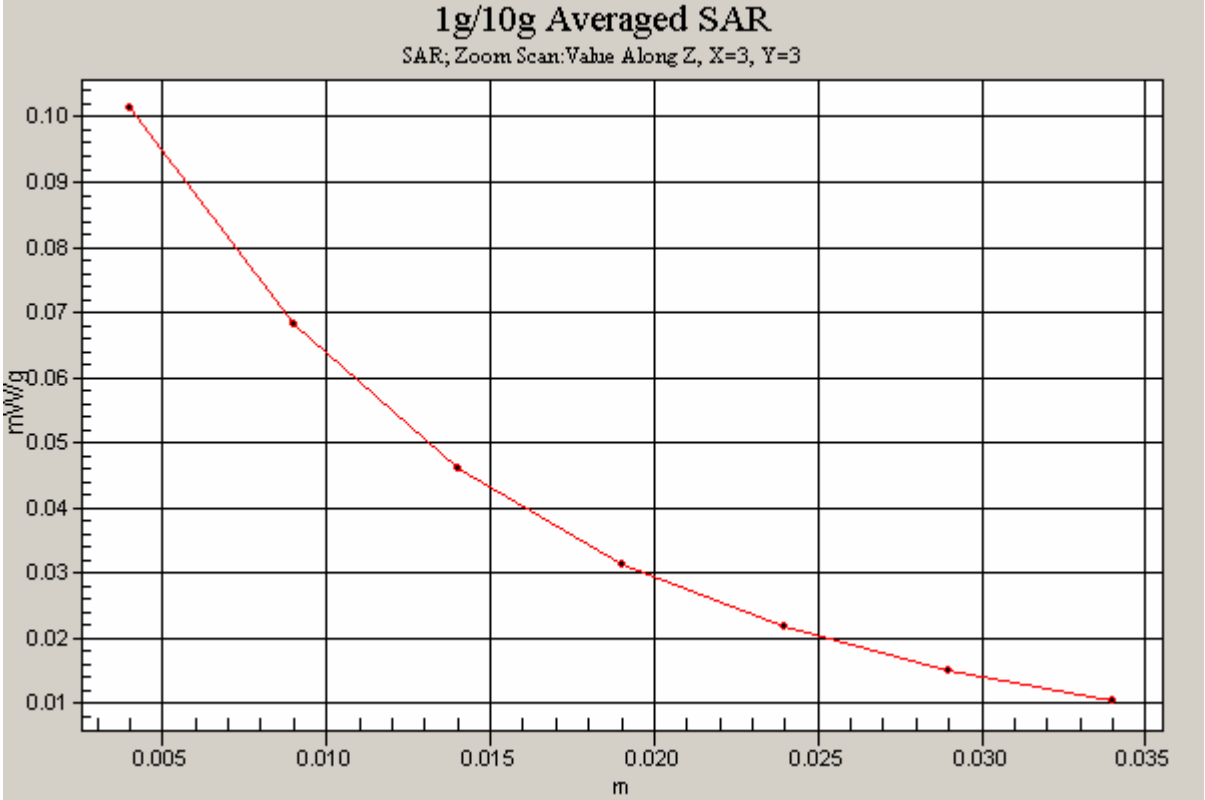


Figure 48 Z-Scan at power reference point [GSM 850 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 17 Channel 190]

GSM 850 EGPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 15 Middle Frequency

Communication System: GSM850 + EGPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.993 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(6.52, 6.52, 6.52);
Electronics: DAE3 Sn452;
Test Position 15 Middle/Area Scan (51x51x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.088 mW/g

Test Position 15 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.1 V/m; Power Drift = 0.012 dB
Peak SAR (extrapolated) = 0.575 W/kg
SAR(1 g) = 0.118 mW/g; SAR(10 g) = 0.034 mW/g
Maximum value of SAR (measured) = 0.135 mW/g

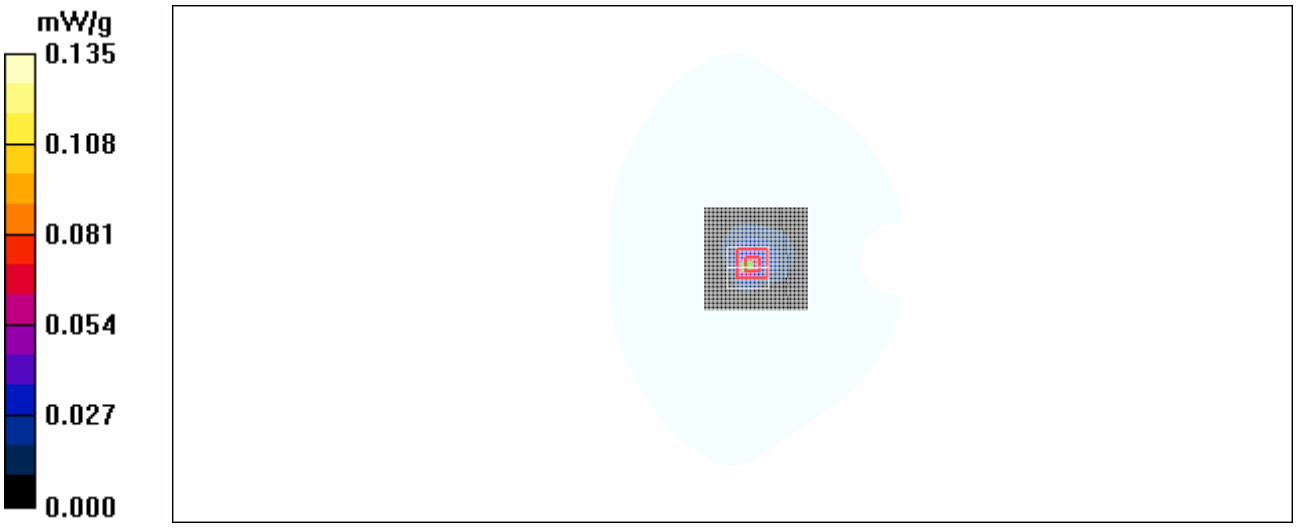


Figure 49 GSM 850 EGPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 15 Channel 190

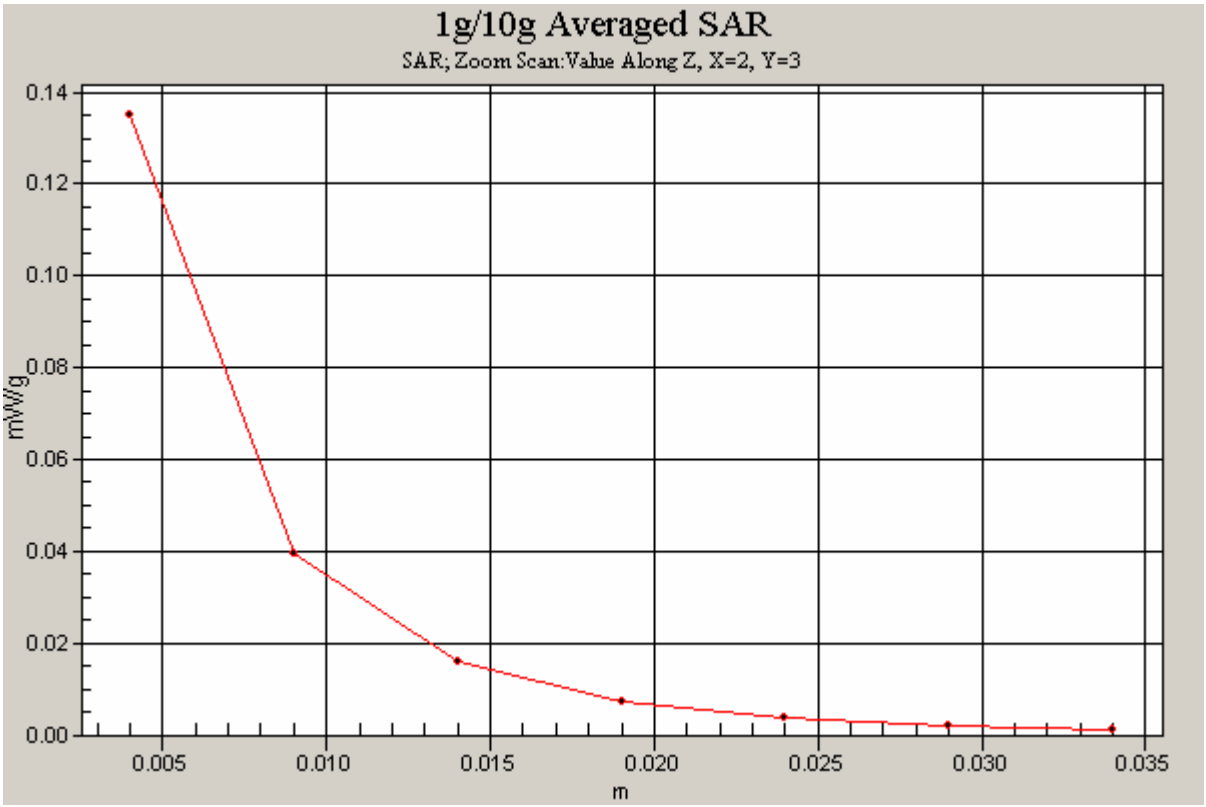


Figure 50 Z-Scan at power reference point [GSM 850 EGPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 15 Channel 190]

GSM 1900 GPRS (4 timeslots in uplink) with BenQ Joy book S72 Test Position 1 Middle Frequency

Communication System: GSM 1900+GPRS(4Up); Frequency: 1880 MHz;Duty Cycle: 1:2
Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);
Electronics: DAE3 Sn452;
Test Position 1 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.709 mW/g

Test Position 1 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.8 V/m; Power Drift = 0.073 dB
Peak SAR (extrapolated) = 0.901 W/kg
SAR(1 g) = 0.597 mW/g; SAR(10 g) = 0.358 mW/g
Maximum value of SAR (measured) = 0.646 mW/g

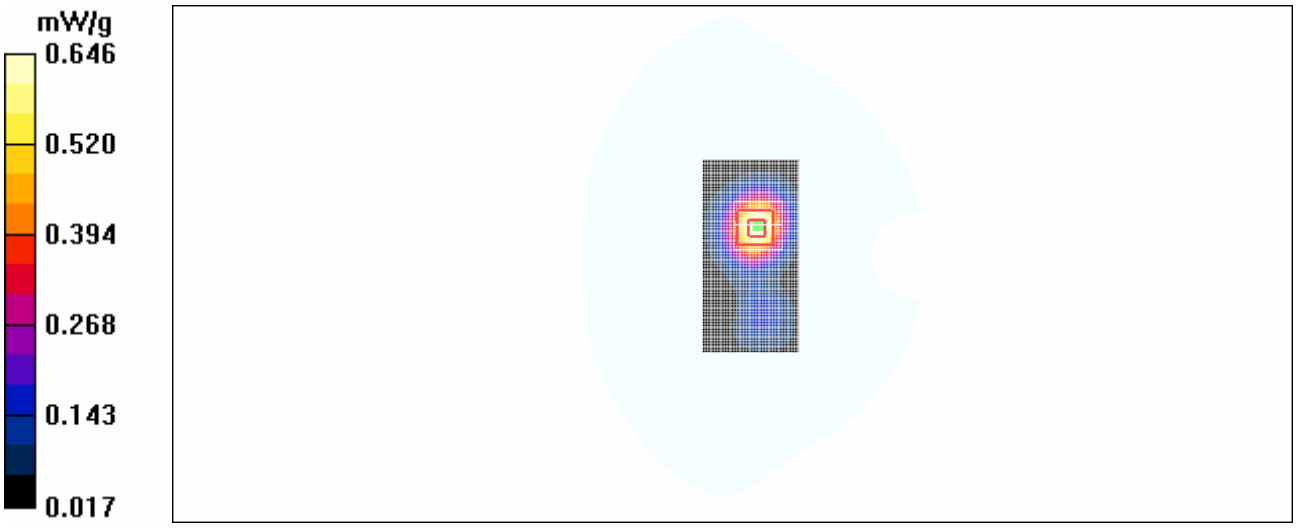


Figure 51 GSM 1900 GPRS (4 timeslots in uplink) with BenQ Joy book S72 Test Position 1 Channel 661

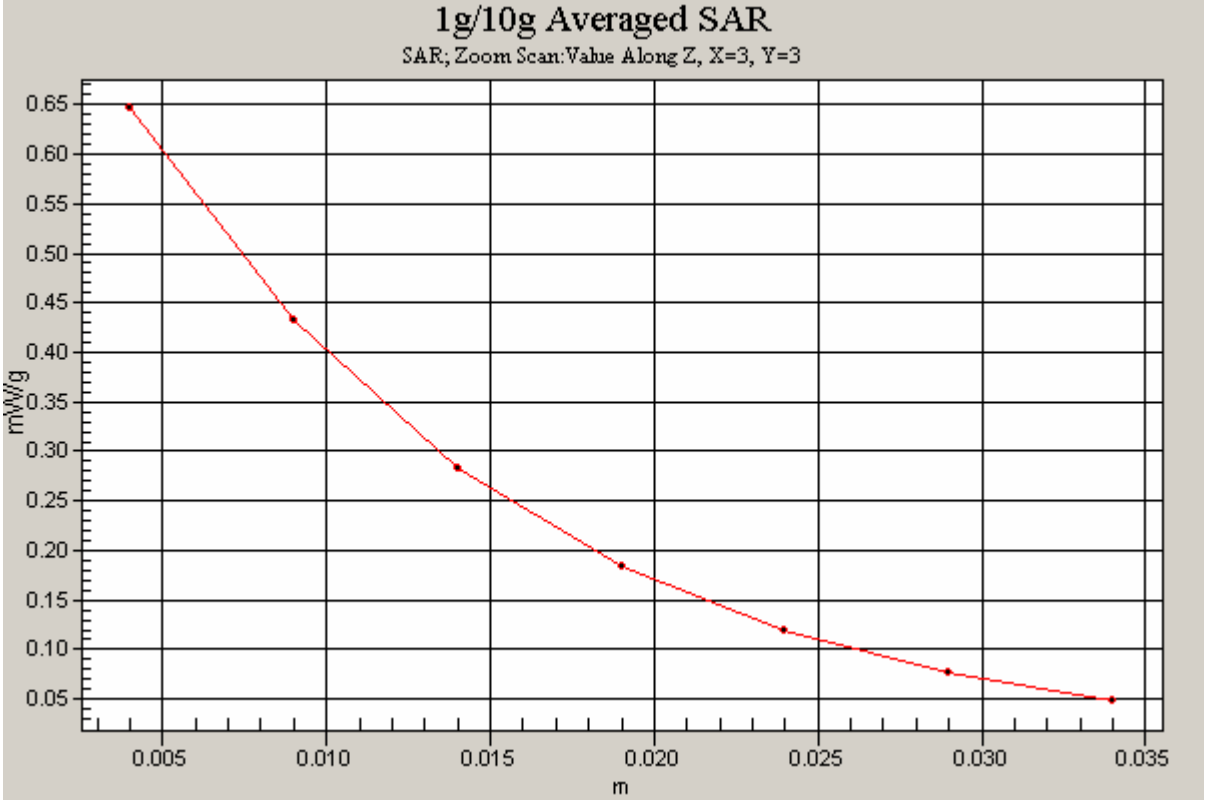


Figure 52 Z-Scan at power reference point [GSM 1900 GPRS(4 timeslots in uplink) with BenQ Joy book S72 Test Position 1 Channel 661]

GSM 1900 GPRS (4 timeslots in uplink) with Acer ZH1 Test Position 1 Middle Frequency

Communication System: GSM 1900+GPRS(4Up); Frequency: 1880 MHz;Duty Cycle: 1:2
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 53.2; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);
Electronics: DAE3 Sn452;
Test Position 1 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.396 mW/g

Test Position 1 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.8 V/m; Power Drift = 0.140 dB
Peak SAR (extrapolated) = 0.517 W/kg
SAR(1 g) = 0.338 mW/g; SAR(10 g) = 0.209 mW/g
Maximum value of SAR (measured) = 0.367 mW/g

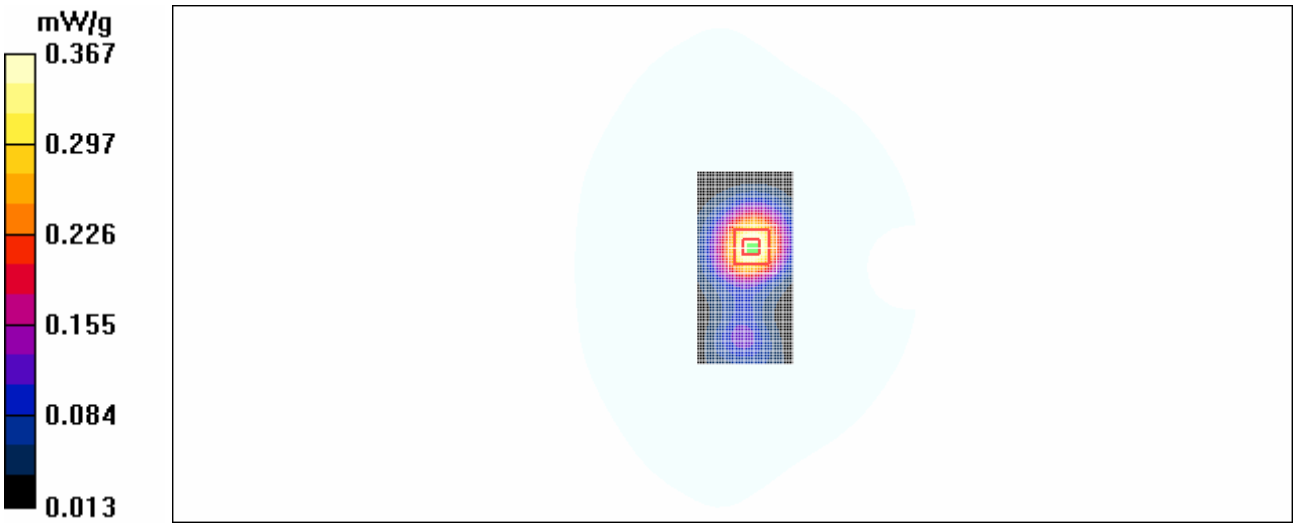


Figure 53 GSM 1900 GPRS (4 timeslots in uplink) with Acer ZH1 Test Position 1 Channel 661

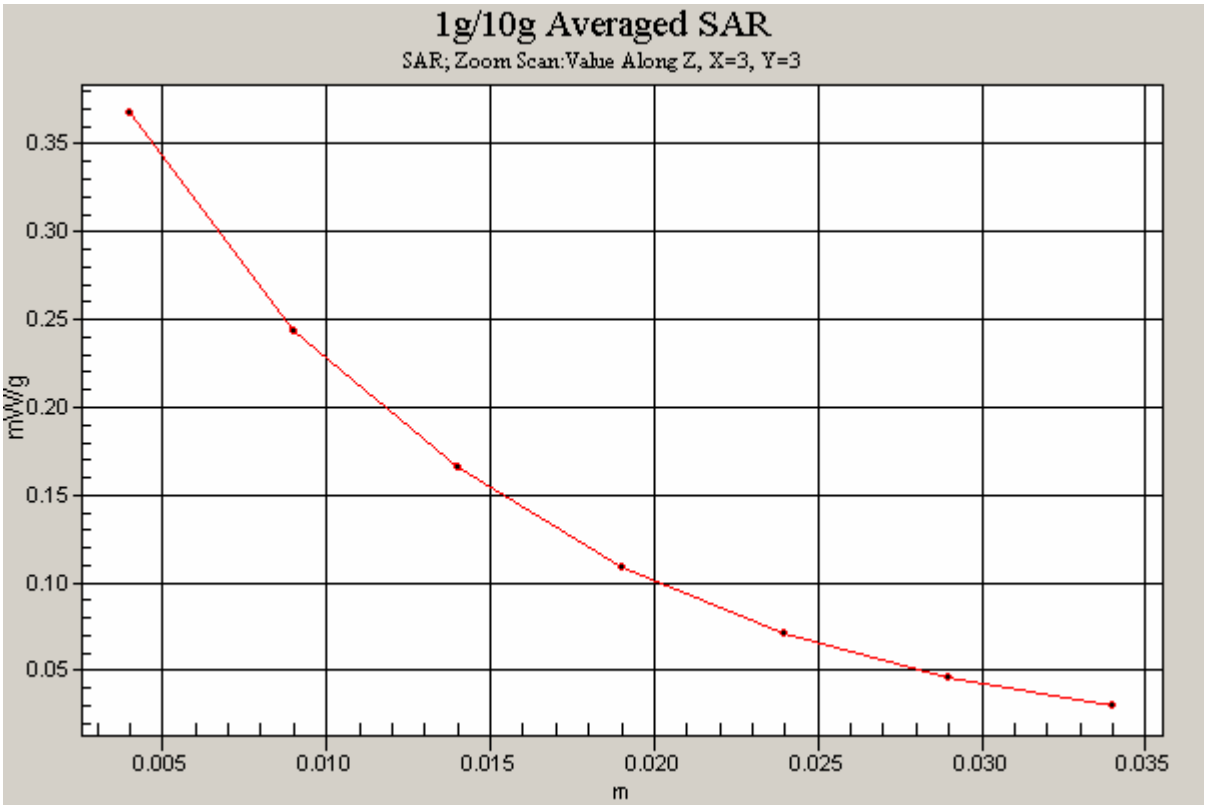


Figure 54 Z-Scan at power reference point [GSM 1900 GPRS (4 timeslots in uplink) with Acer ZH1 Test Position 1 Channel 661]

GSM 1900 GPRS (3 timeslots in uplink) with BenQ Joy book S72 Test Position 1 Middle Frequency

Communication System: GSM 1900+GPRS(3Up); Frequency: 1880 MHz;Duty Cycle: 1:2.67
Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);
Electronics: DAE3 Sn452;
Test Position 1 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.749 mW/g

Test Position 1 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.9 V/m; Power Drift = 0.003 dB
Peak SAR (extrapolated) = 0.979 W/kg
SAR(1 g) = 0.646 mW/g; SAR(10 g) = 0.387 mW/g
Maximum value of SAR (measured) = 0.701 mW/g

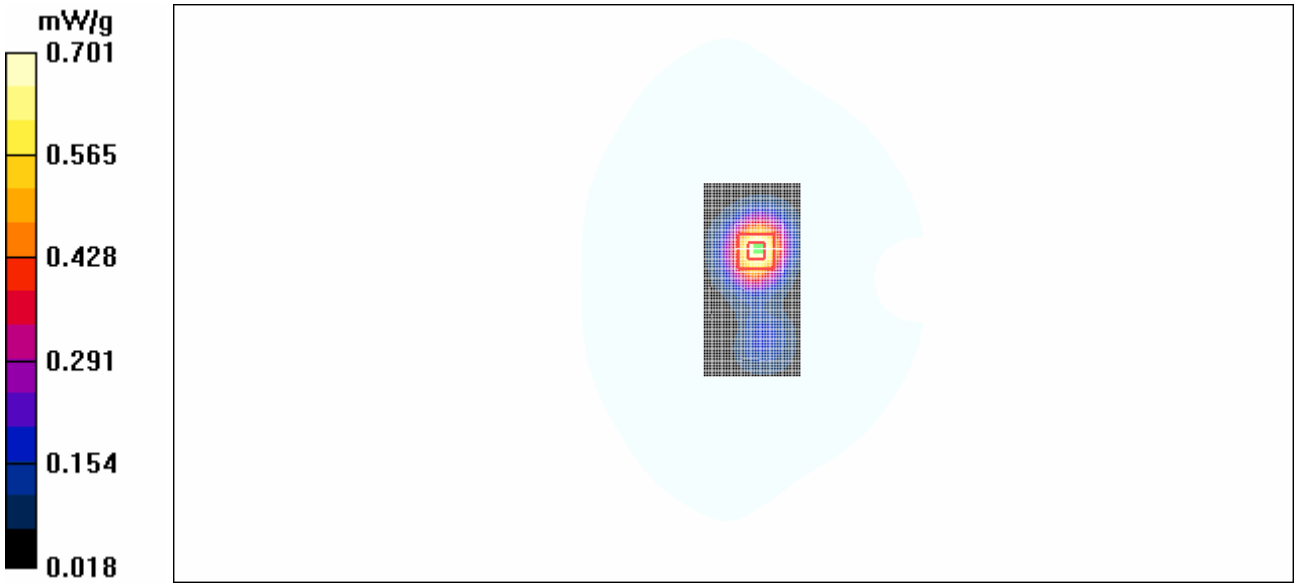


Figure 55 GSM 1900 GPRS (3 timeslots in uplink) with BenQ Joy book S72 Test Position 1 Channel 661

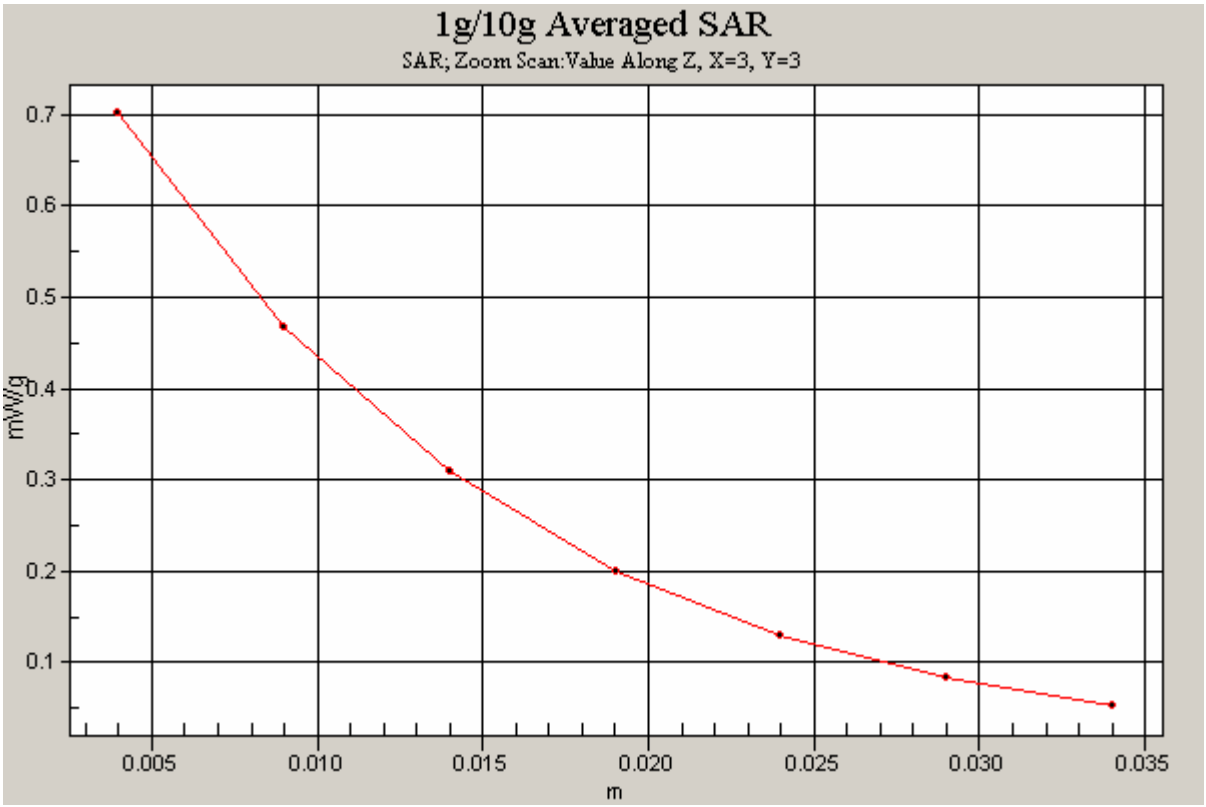


Figure 56 Z-Scan at power reference point [GSM 1900 GPRS (3 timeslots in uplink) with BenQ Joy book S72 Test Position 1 Channel 661]

GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 1 Middle Frequency

Communication System: GSM 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);
Electronics: DAE3 Sn452;
Test Position 1 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.824 mW/g

Test Position 1 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.2 V/m; Power Drift = -0.078 dB
Peak SAR (extrapolated) = 1.08 W/kg
SAR(1 g) = 0.700 mW/g; SAR(10 g) = 0.417 mW/g
Maximum value of SAR (measured) = 0.766 mW/g

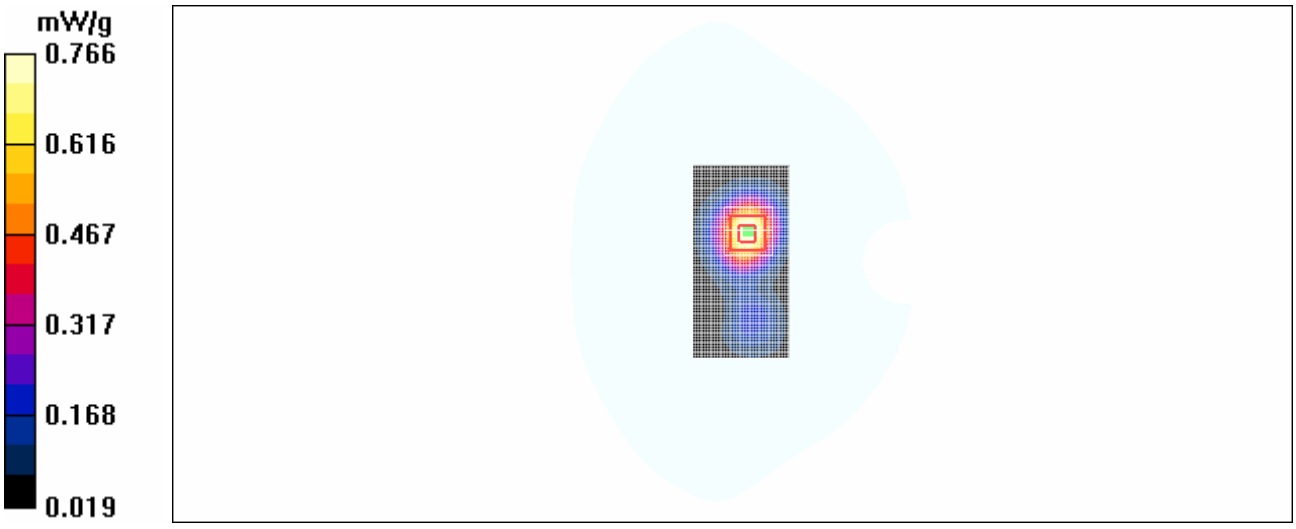


Figure 57 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 1 Channel 661

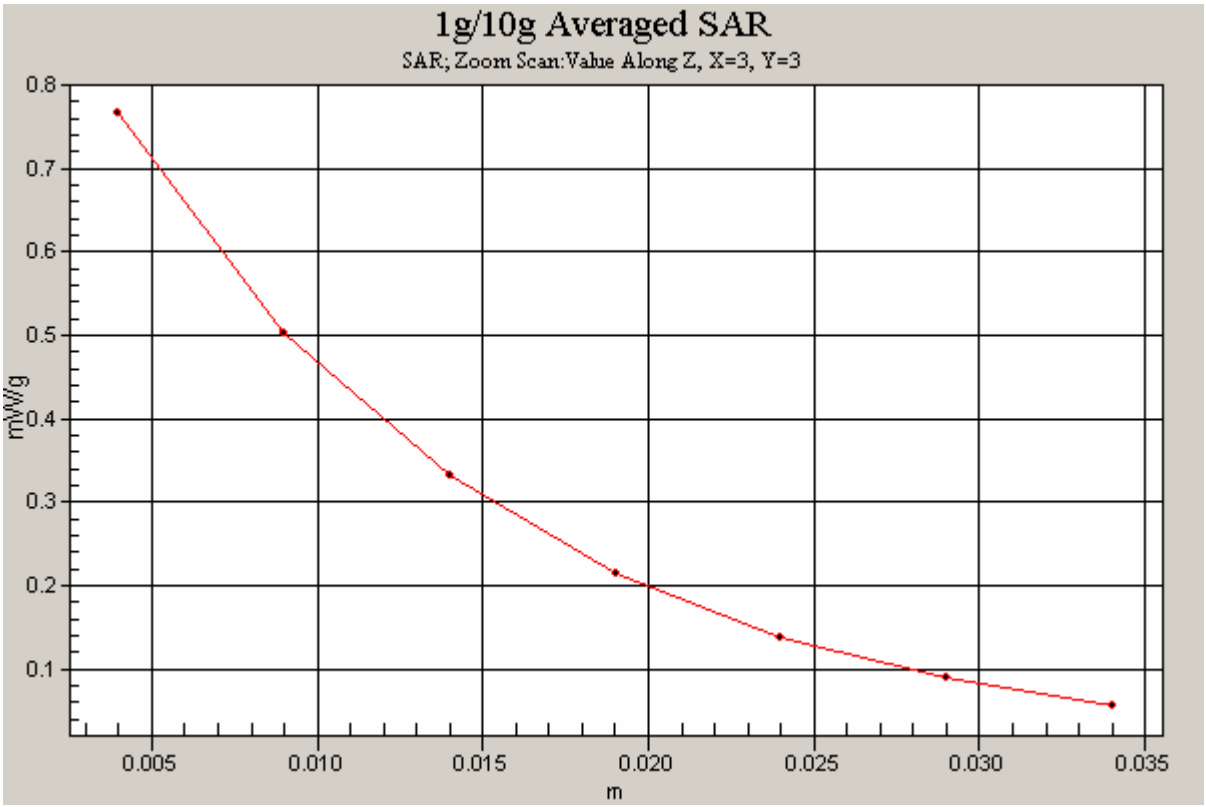


Figure 58 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 1 Channel 661]

GSM 1900 GPRS (1 timeslot in uplink) with BenQ Joy book S72 Test Position 1 Middle Frequency

Communication System: GSM 1900+GPRS(1Up); Frequency: 1880 MHz;Duty Cycle: 1:8
Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);
Electronics: DAE3 Sn452;
Test Position 1 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.729 mW/g

Test Position 1 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.6 V/m; Power Drift = 0.104 dB
Peak SAR (extrapolated) = 0.983 W/kg
SAR(1 g) = 0.647 mW/g; SAR(10 g) = 0.387 mW/g
Maximum value of SAR (measured) = 0.702 mW/g

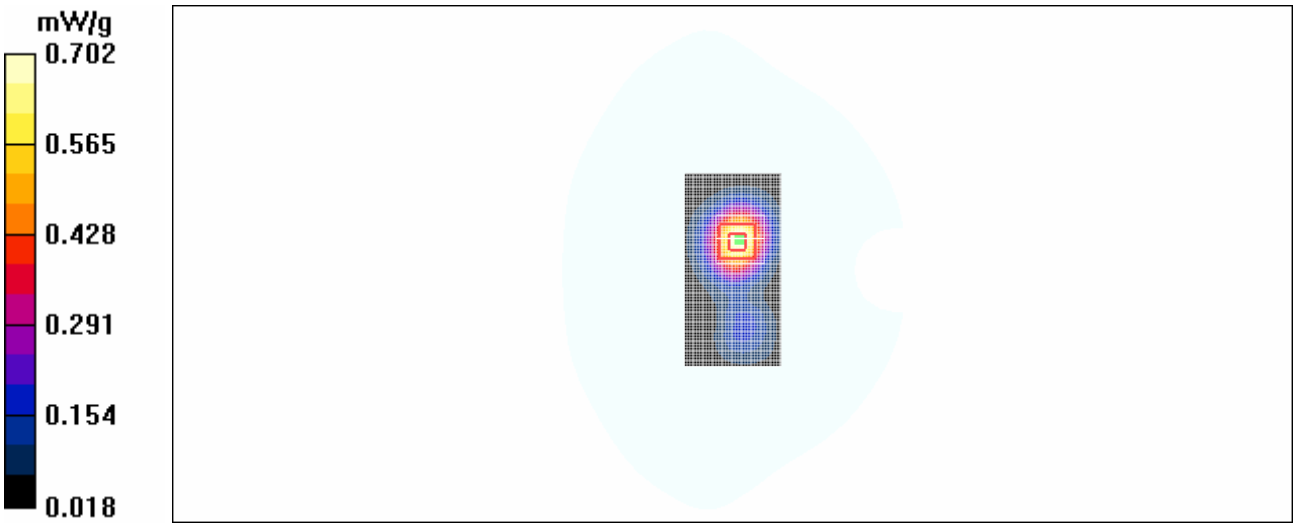


Figure 59 GSM 1900 GPRS (1 timeslot in uplink) with BenQ Joy book S72 Test Position 1 Channel 661

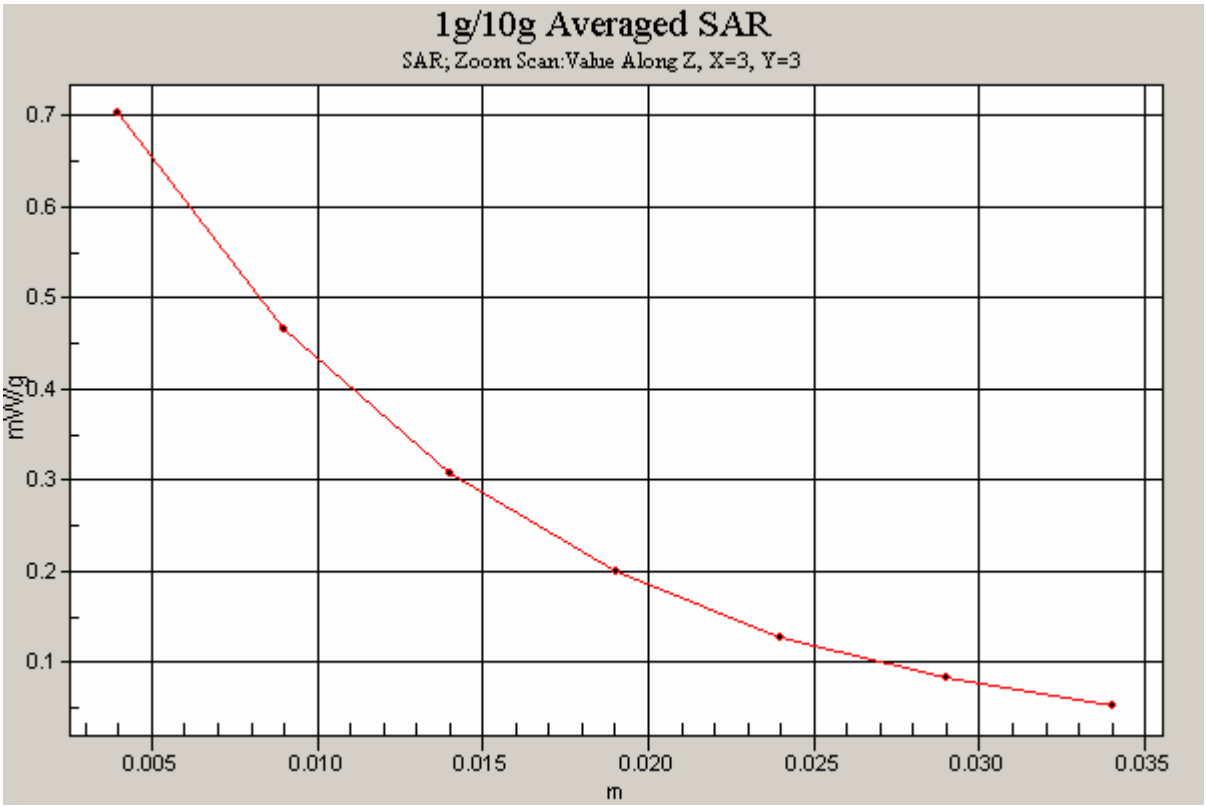


Figure 60 Z-Scan at power reference point [GSM 1900 GPRS (1 timeslot in uplink) with BenQ Joy book S72 Test Position 1 Channel 661]

GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 2 Middle Frequency

Communication System: GSM 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);
Electronics: DAE3 Sn452;
Test Position 2 Middle/Area Scan (51x51x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.211 mW/g

Test Position 2 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.4 V/m; Power Drift = -0.073 dB
Peak SAR (extrapolated) = 1.40 W/kg
SAR(1 g) = 0.312 mW/g; SAR(10 g) = 0.125 mW/g
Maximum value of SAR (measured) = 0.370 mW/g

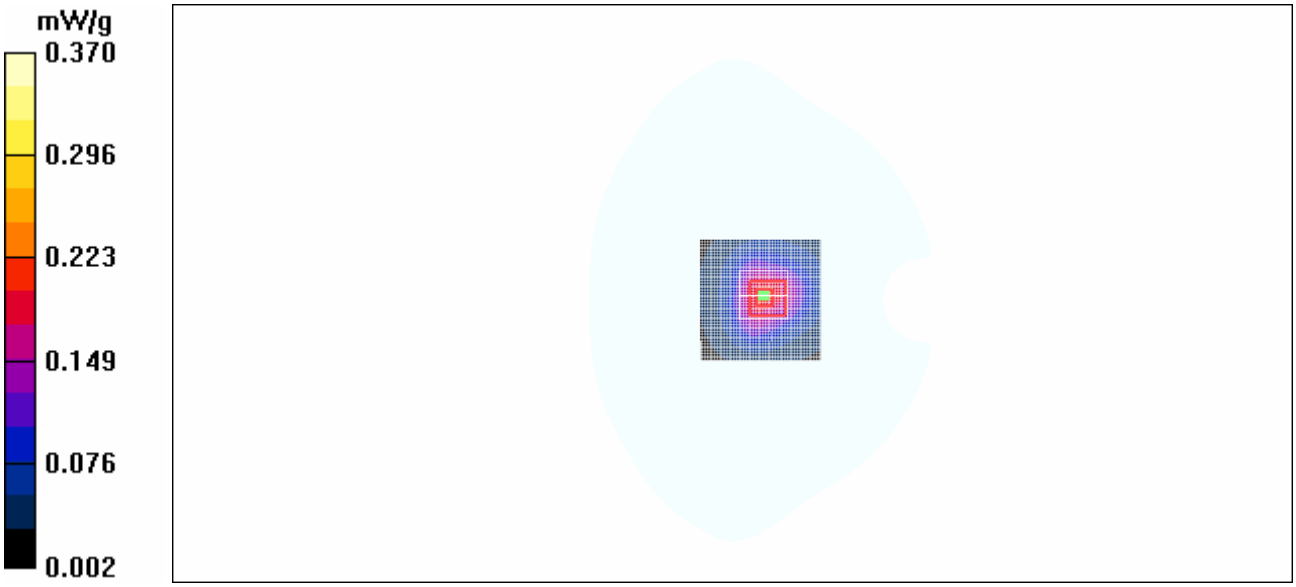


Figure 61 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 2 Channel 661

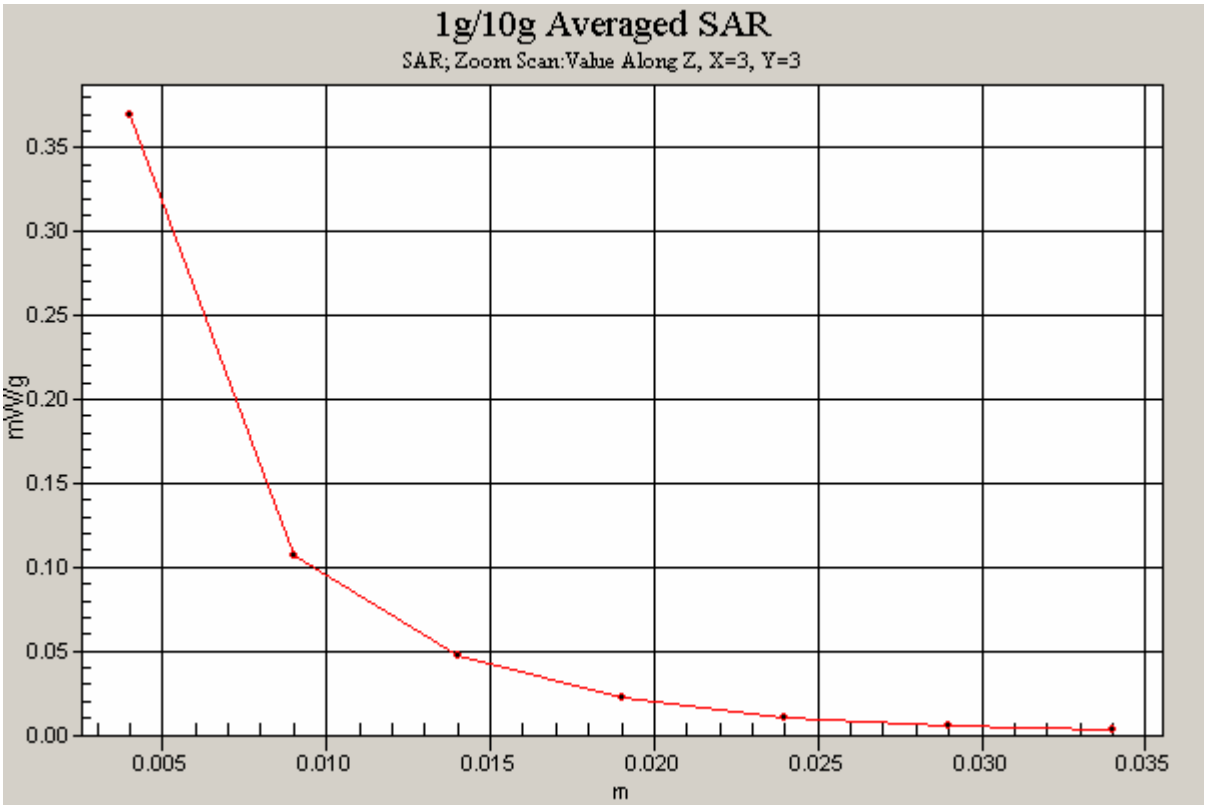


Figure 62 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 2 Channel 661]

GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 3 Middle Frequency

Communication System: GSM 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);
Electronics: DAE3 Sn452;
Test Position 3 Middle/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.063 mW/g

Test Position 3 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.70 V/m; Power Drift = -0.165 dB
Peak SAR (extrapolated) = 0.089 W/kg
SAR(1 g) = 0.056 mW/g; SAR(10 g) = 0.032 mW/g
Maximum value of SAR (measured) = 0.062 mW/g

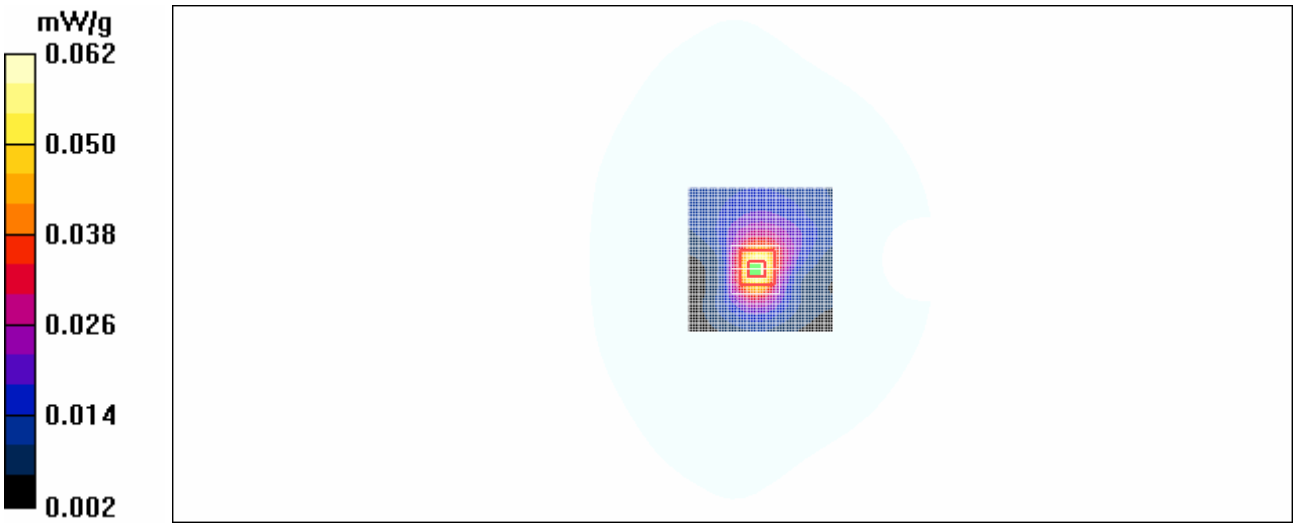


Figure 63 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 3 Channel 661

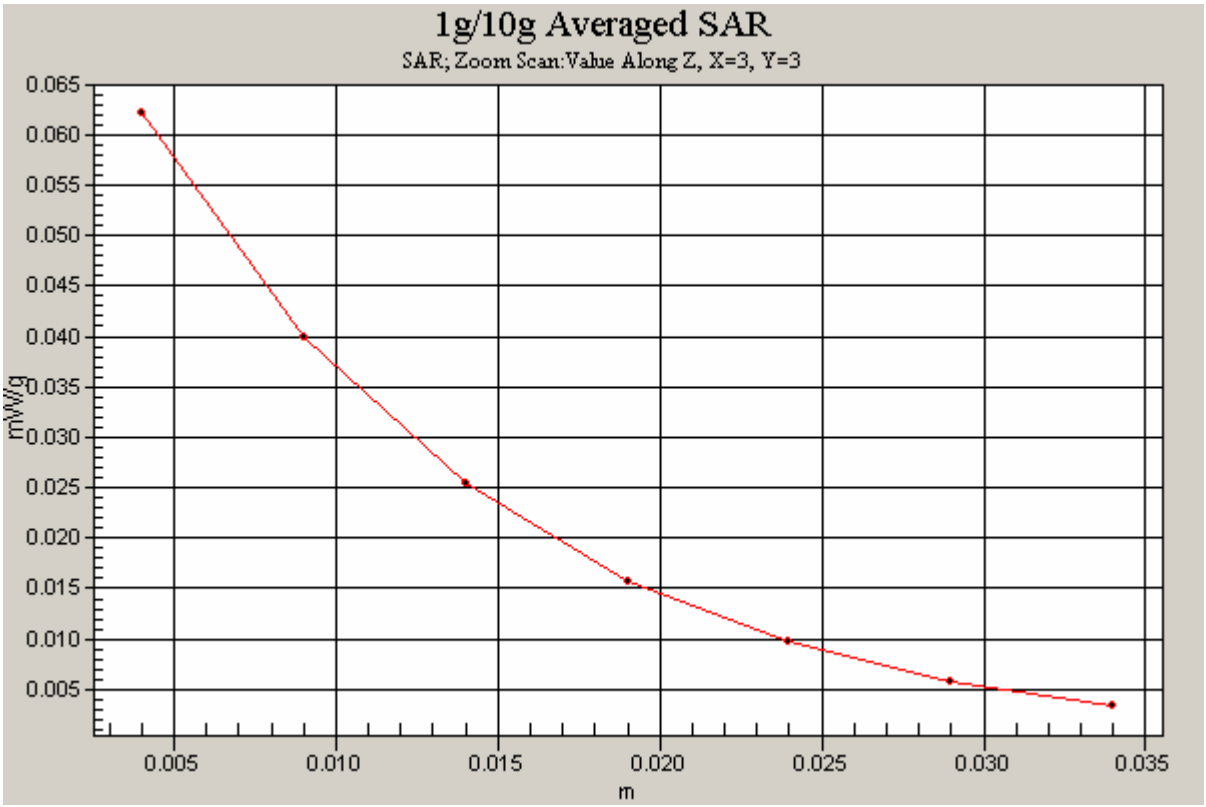


Figure 64 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 3 Channel 661]

GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 4 Middle Frequency

Communication System: GSM 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);
Electronics: DAE3 Sn452;
Test Position 4 Middle/Area Scan (51x51x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.220 mW/g

Test Position 4 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.8 V/m; Power Drift = 0.029 dB
Peak SAR (extrapolated) = 0.705 W/kg
SAR(1 g) = 0.270 mW/g; SAR(10 g) = 0.118 mW/g
Maximum value of SAR (measured) = 0.344 mW/g

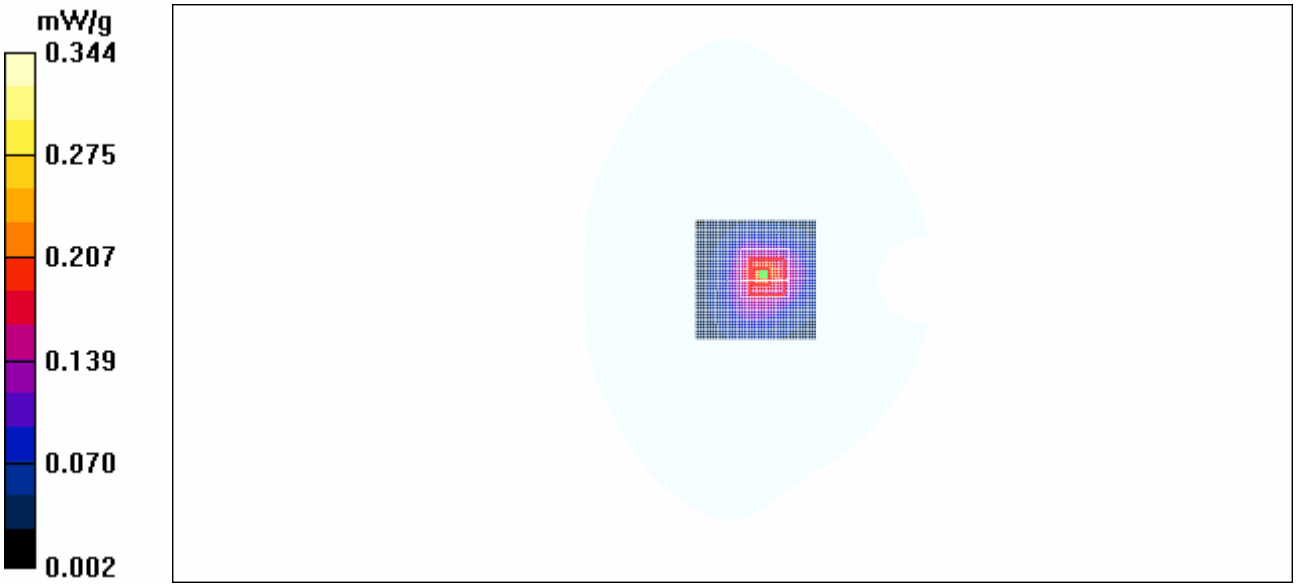


Figure 65 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 4 Channel 661

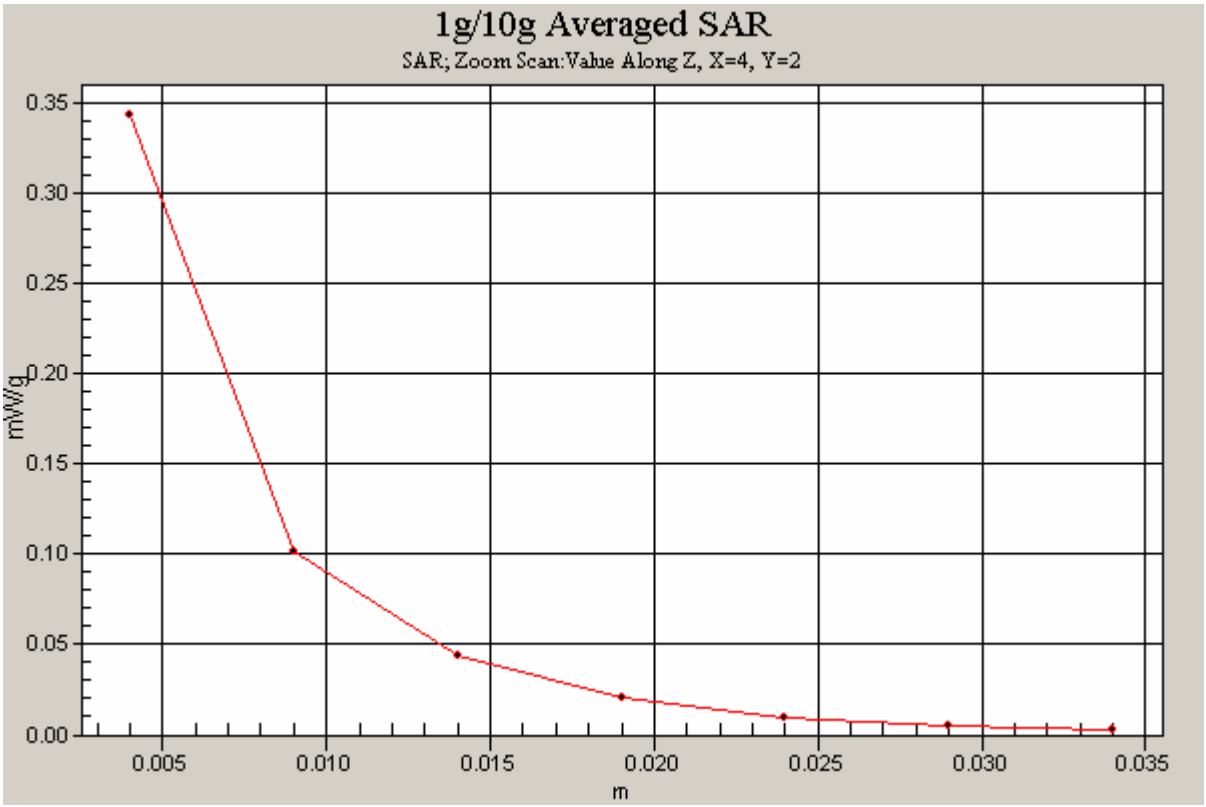


Figure 66 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 4 Channel 661]

GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 5 Middle Frequency

Communication System: GSM 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 53.2; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);
Electronics: DAE3 Sn452;
Test Position 5 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.799 mW/g

Test Position 5 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.8 V/m; Power Drift = 0.195 dB
Peak SAR (extrapolated) = 1.91 W/kg
SAR(1 g) = 0.773 mW/g; SAR(10 g) = 0.403 mW/g
Maximum value of SAR (measured) = 0.731 mW/g

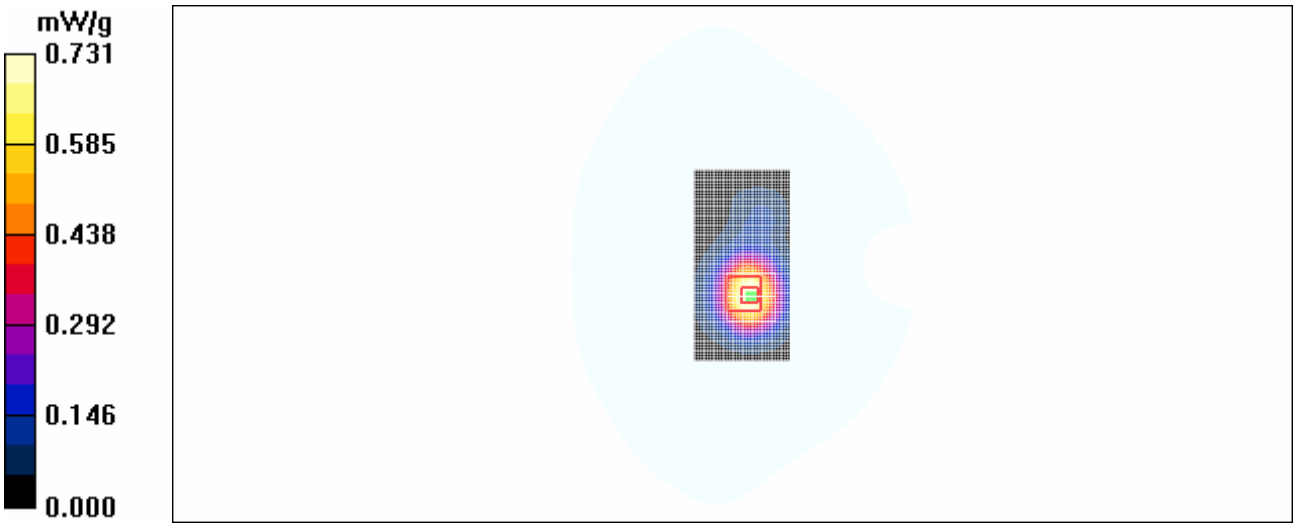


Figure 67 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 5 Channel 661

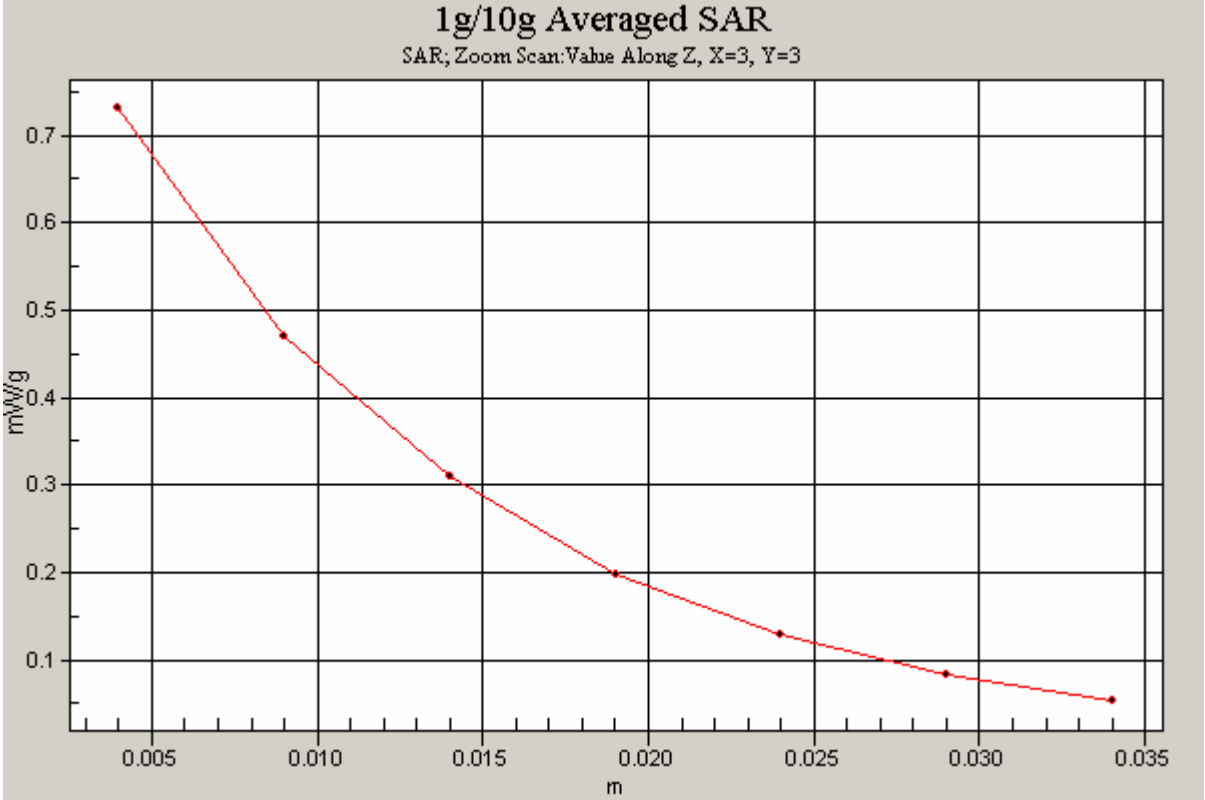


Figure 68 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 5 Channel 661]

GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 6 Middle Frequency

Communication System: GSM 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);
Electronics: DAE3 Sn452;
Test Position 6 Middle/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.045 mW/g

Test Position 6 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.70 V/m; Power Drift = 0.006 dB
Peak SAR (extrapolated) = 0.067 W/kg
SAR(1 g) = 0.041 mW/g; SAR(10 g) = 0.022 mW/g
Maximum value of SAR (measured) = 0.045 mW/g

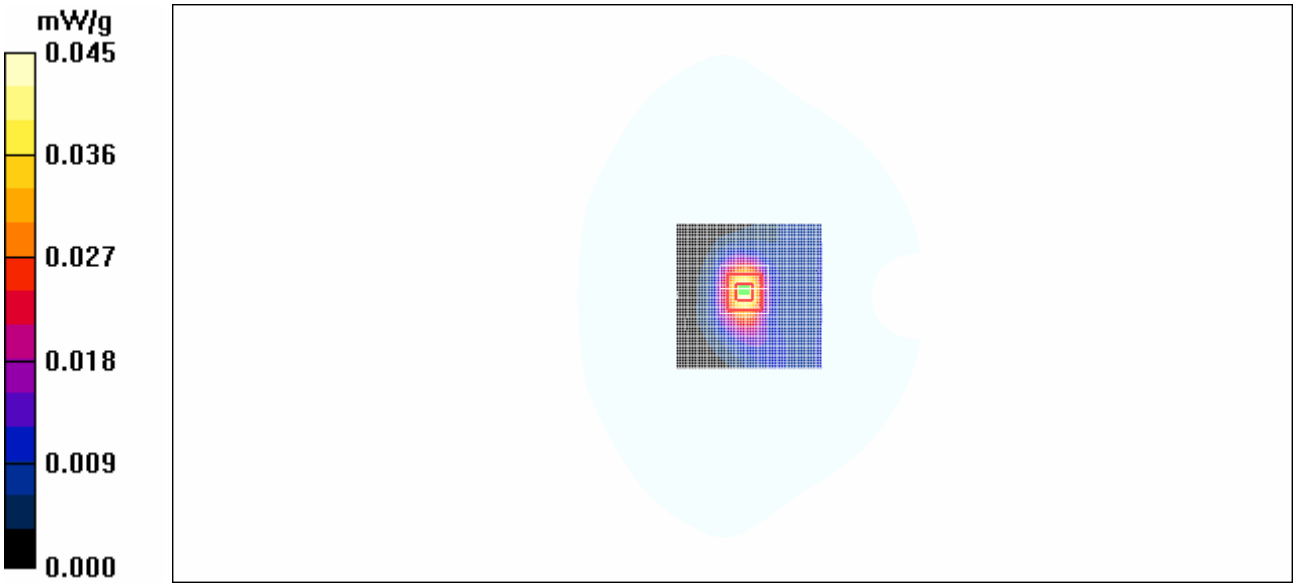


Figure 69 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 6 Channel 661

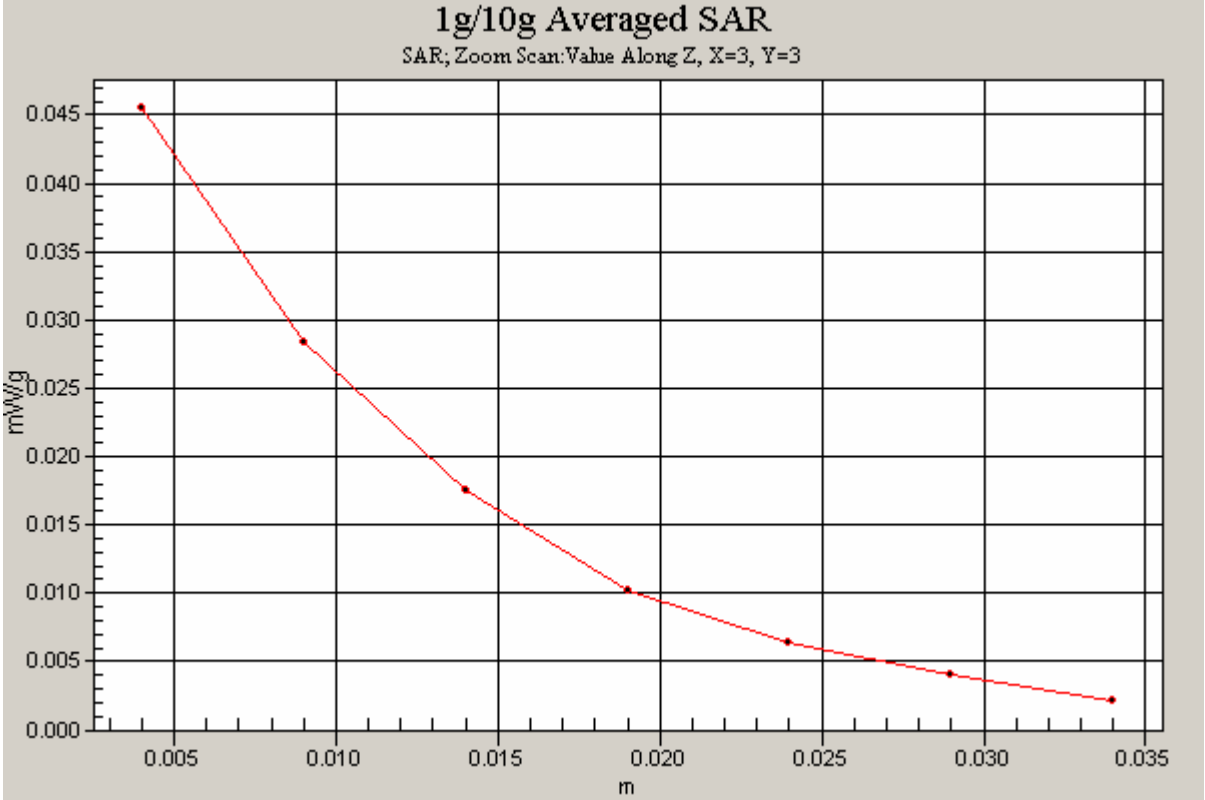


Figure 70 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 6 Channel 661]

GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 7 Middle Frequency

Communication System: GSM 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 53.2; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);
Electronics: DAE3 Sn452;
Test Position 7 Middle/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.259 mW/g

Test Position 7 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.5 V/m; Power Drift = -0.163 dB
Peak SAR (extrapolated) = 1.75 W/kg
SAR(1 g) = 0.399 mW/g; SAR(10 g) = 0.162 mW/g
Maximum value of SAR (measured) = 0.490 mW/g

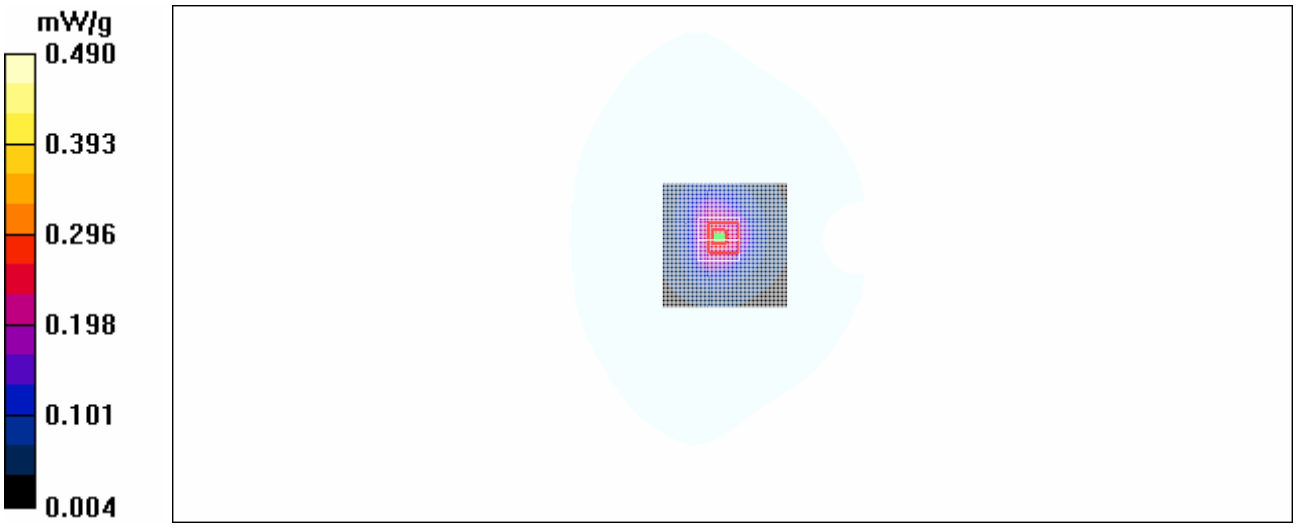


Figure 71 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 7 Channel 661

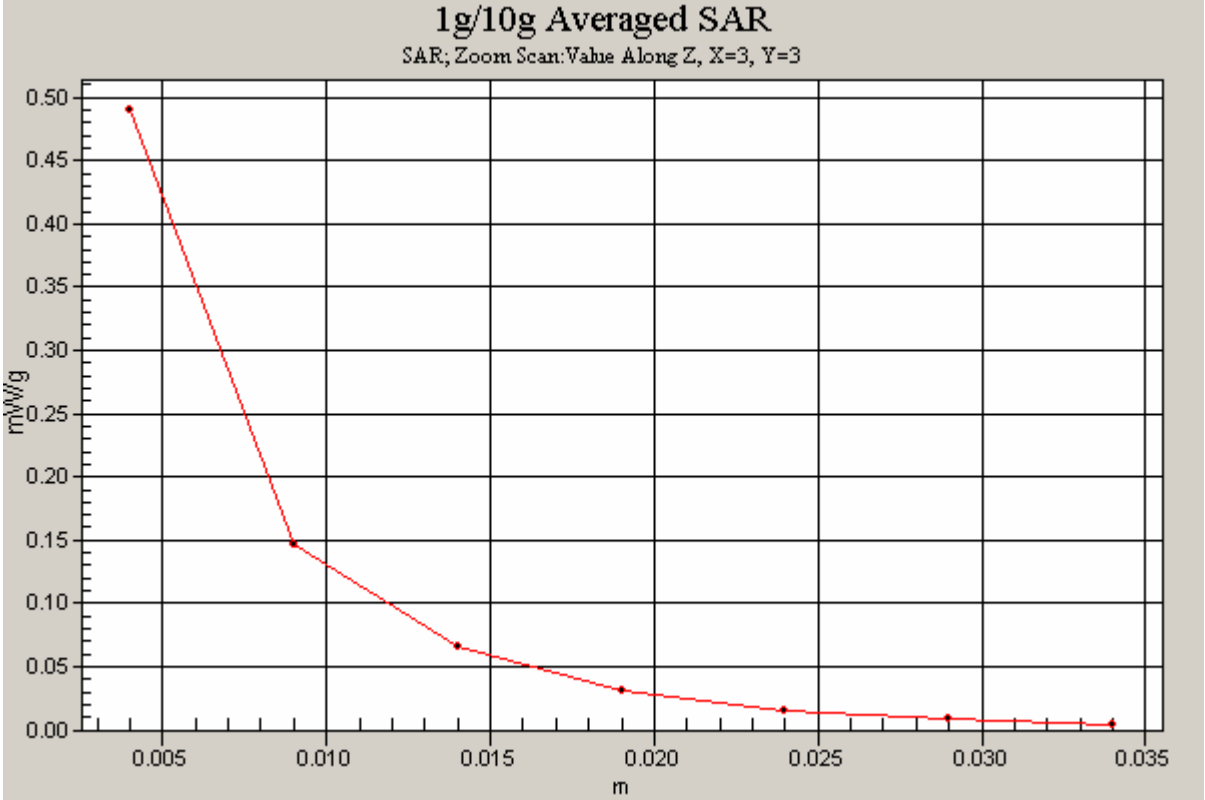


Figure 72 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 7 Channel 661]

GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 8 Middle Frequency

Communication System: GSM 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);
Electronics: DAE3 Sn452;
Test Position 8 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.411 mW/g

Test Position 8 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.9 V/m; Power Drift = 0.016 dB
Peak SAR (extrapolated) = 0.555 W/kg
SAR(1 g) = 0.366 mW/g; SAR(10 g) = 0.226 mW/g
Maximum value of SAR (measured) = 0.398 mW/g

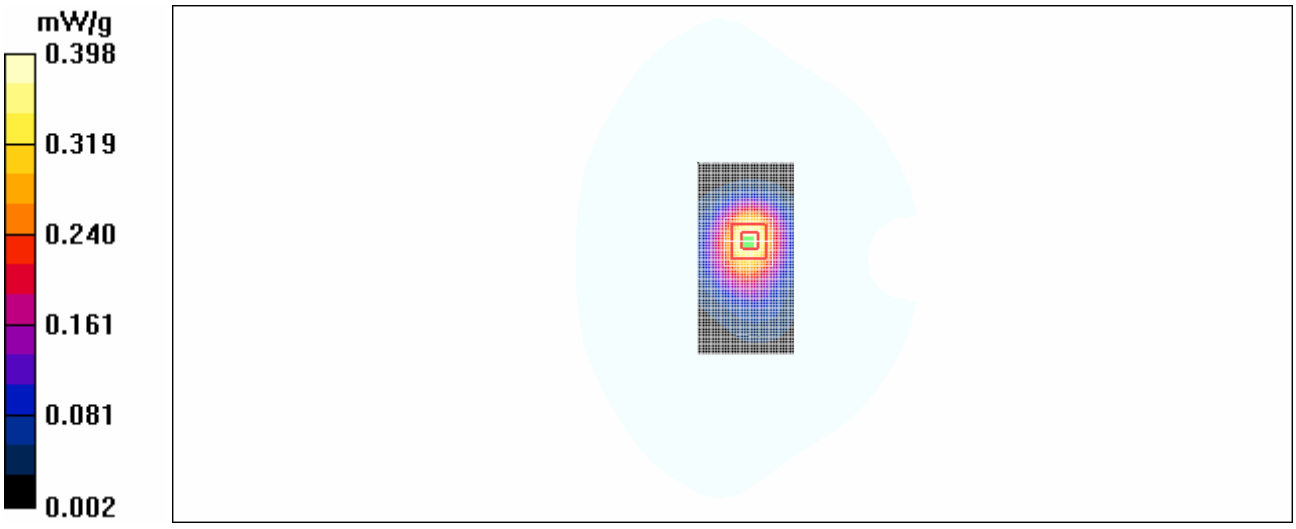


Figure 73 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 8 Channel 661

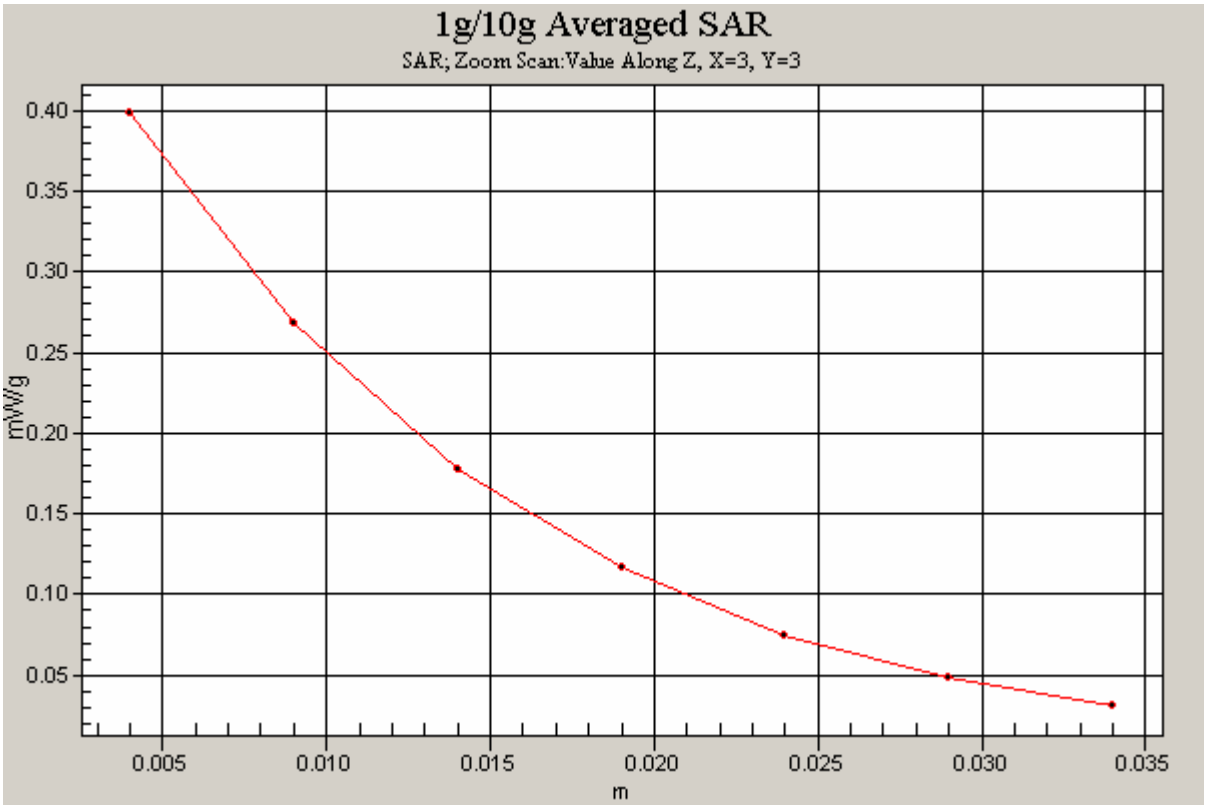


Figure 74 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 8 Channel 661]

GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 9 Middle Frequency

Communication System: GSM 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);
Electronics: DAE3 Sn452;
Test Position 9 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.584 mW/g

Test Position 9 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.9 V/m; Power Drift = -0.150 dB
Peak SAR (extrapolated) = 0.808 W/kg
SAR(1 g) = 0.521 mW/g; SAR(10 g) = 0.321 mW/g
Maximum value of SAR (measured) = 0.573 mW/g

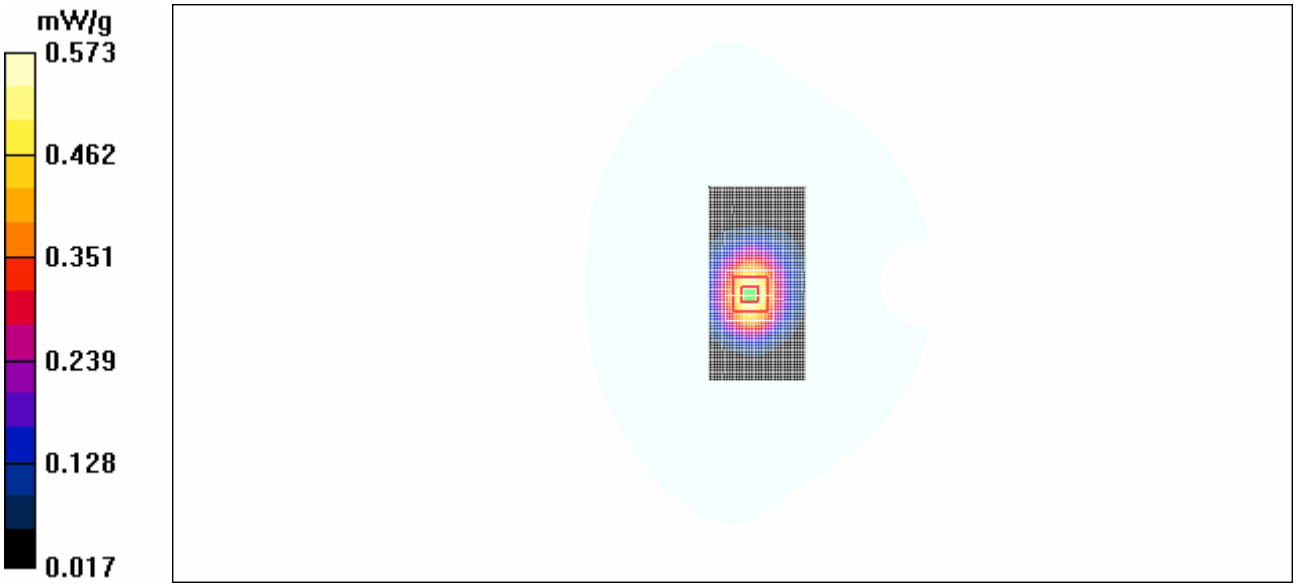


Figure 75 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 9 Channel 661

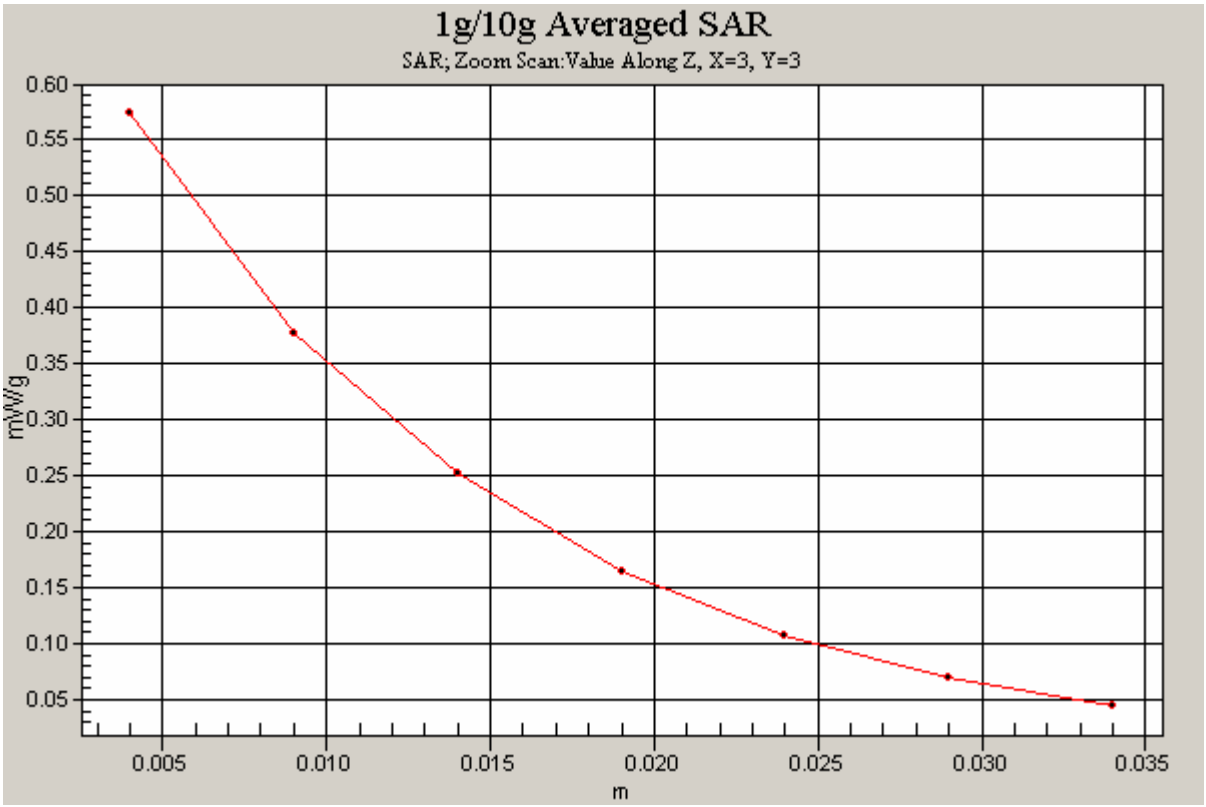


Figure 76 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book S72 Test Position 9 Channel 661]

GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 10 Middle Frequency

Communication System: GSM 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);
Electronics: DAE3 Sn452;
Test Position 10 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.550 mW/g

Test Position 10 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.2 V/m; Power Drift = -0.025 dB
Peak SAR (extrapolated) = 0.780 W/kg
SAR(1 g) = 0.504 mW/g; SAR(10 g) = 0.307 mW/g
Maximum value of SAR (measured) = 0.548 mW/g

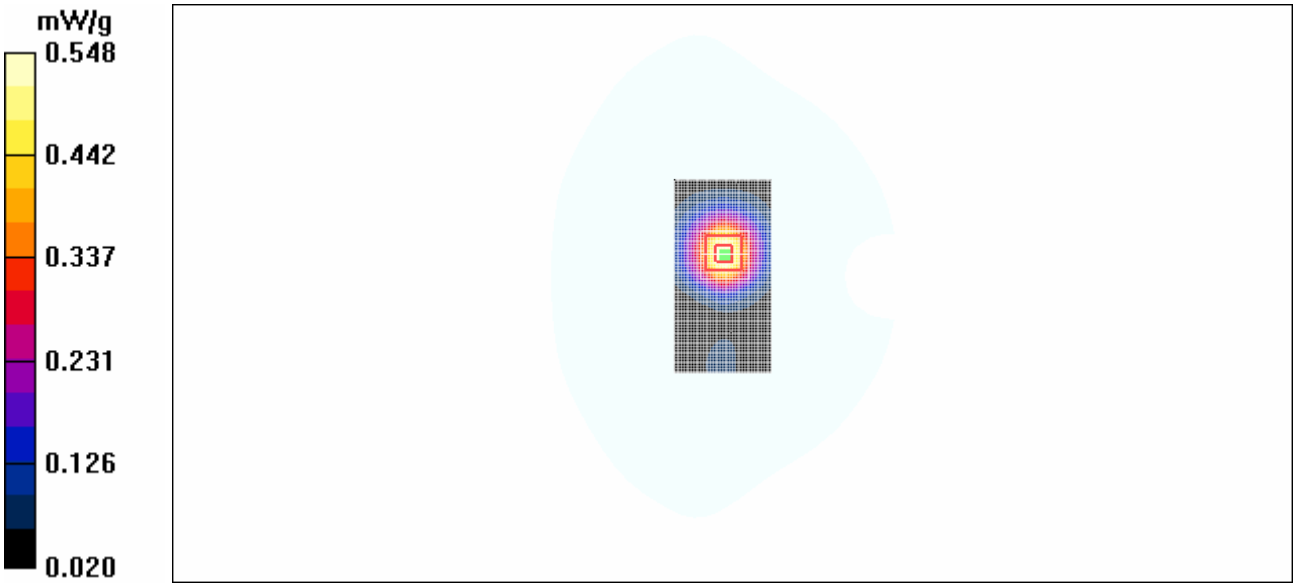


Figure 77 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 10 Channel 661

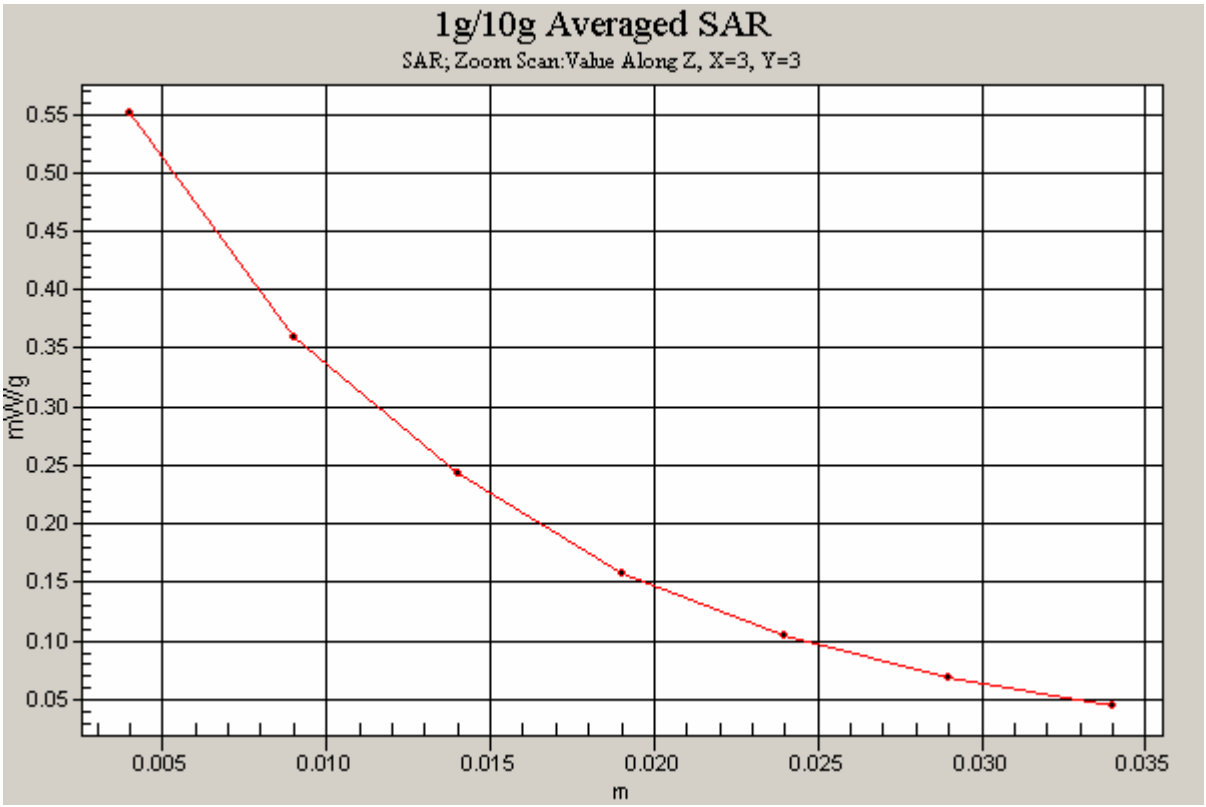


Figure78 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 10 Channel 661]

GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 11 High Frequency

Communication System: GSM 1900+GPRS(2Up); Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1910 MHz; σ = 1.54 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);
Electronics: DAE3 Sn452;
Test Position 11 High/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.22 mW/g

Test Position 11 High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 27.3 V/m; Power Drift = -0.069 dB
Peak SAR (extrapolated) = 1.65 W/kg
SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.589 mW/g
Maximum value of SAR (measured) = 1.15 mW/g

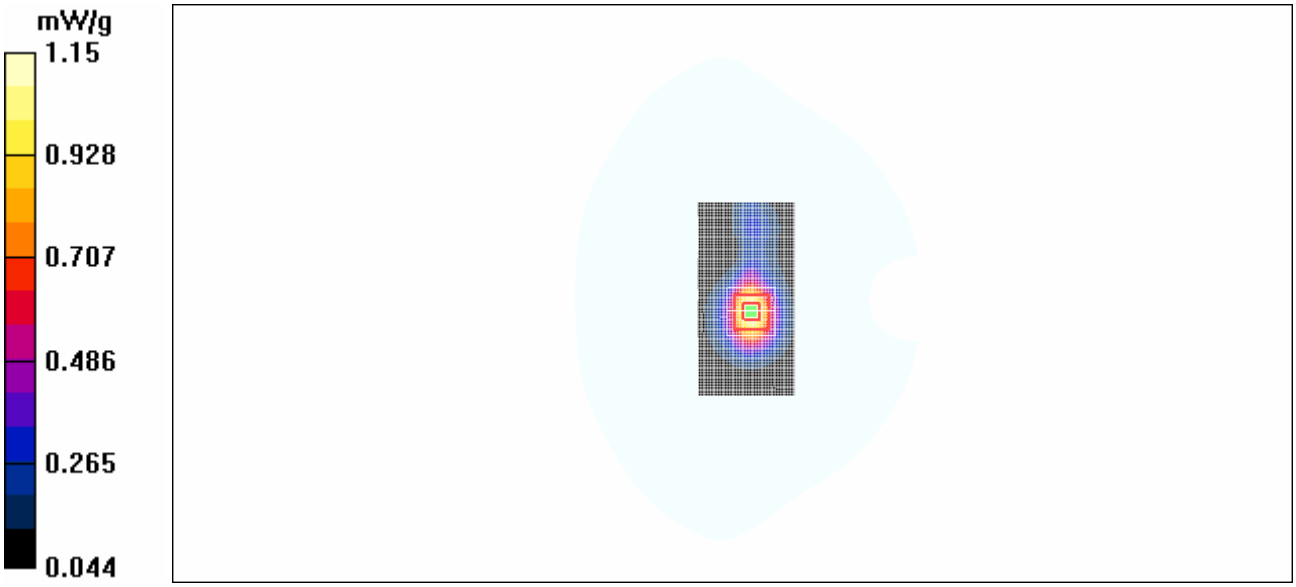


Figure 79 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 11 Channel 810

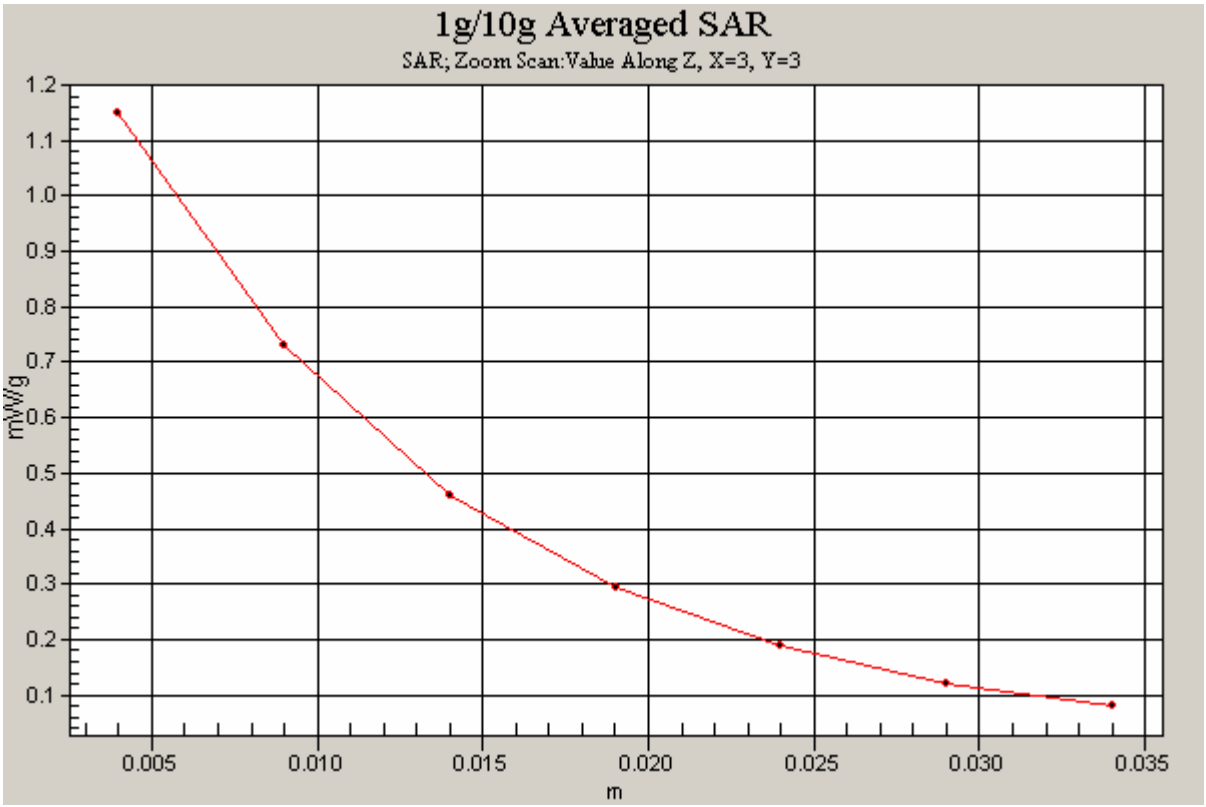


Figure 80 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 11 Channel 810]

GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 11 Middle Frequency

Communication System: GSM 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);
Electronics: DAE3 Sn452;
Test Position 11 Middle/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.23 mW/g

Test Position 11 Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 27.2 V/m; Power Drift = -0.040 dB
Peak SAR (extrapolated) = 1.60 W/kg
SAR(1 g) = 0.994 mW/g; SAR(10 g) = 0.570 mW/g
Maximum value of SAR (measured) = 1.11 mW/g

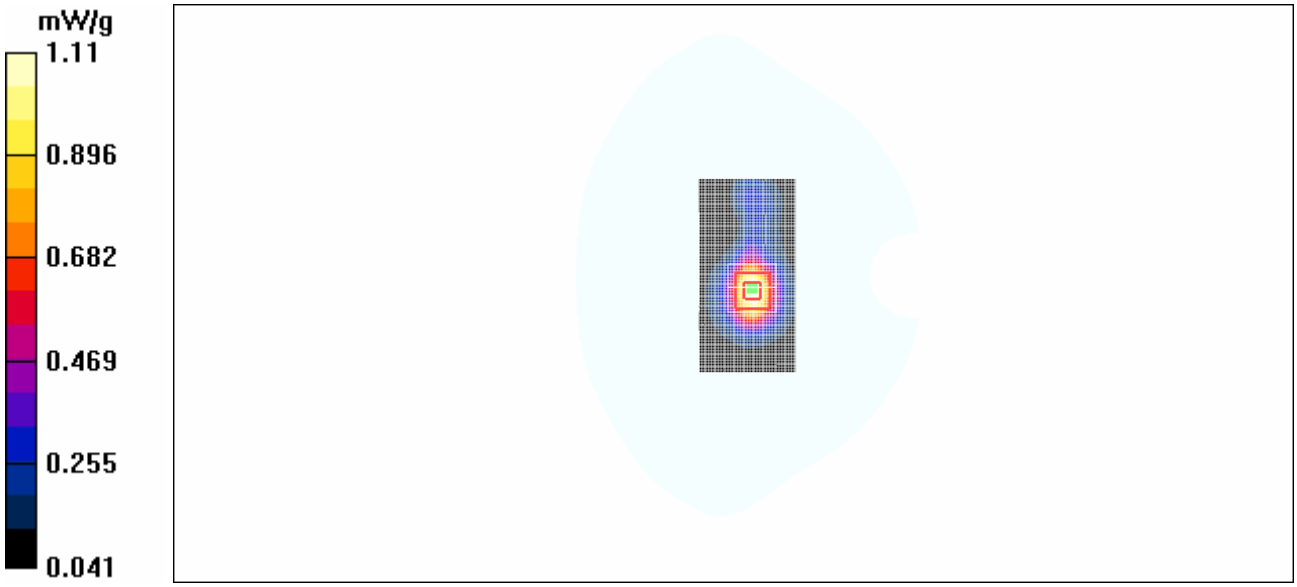


Figure 81 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 11 Channel 661

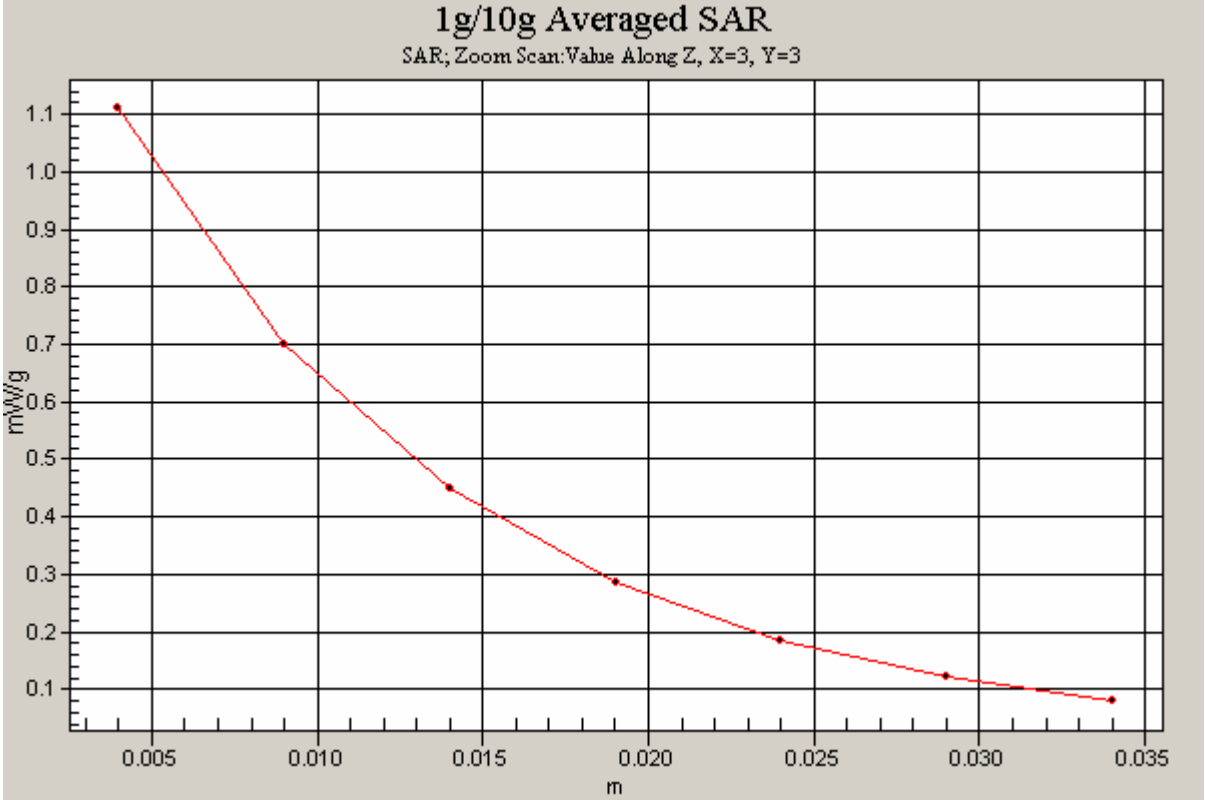


Figure 82 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 11 Channel 661]

GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 11 Low Frequency

Communication System: GSM 1900+GPRS(2Up); Frequency: 1850.2 MHz;Duty Cycle: 1:4
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.48 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);
Electronics: DAE3 Sn452;
Test Position 11 Low/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.02 mW/g

Test Position 11 Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.1 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 1.39 W/kg
SAR(1 g) = 0.869 mW/g; SAR(10 g) = 0.501 mW/g
Maximum value of SAR (measured) = 0.964 mW/g

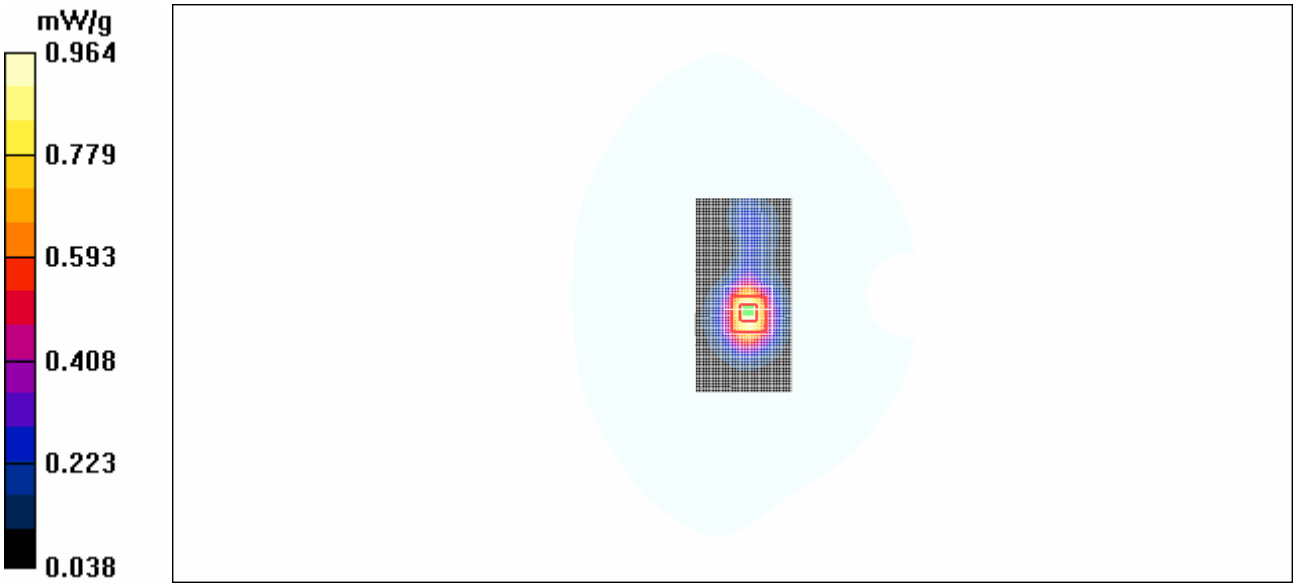


Figure 83 GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 11 Channel 512

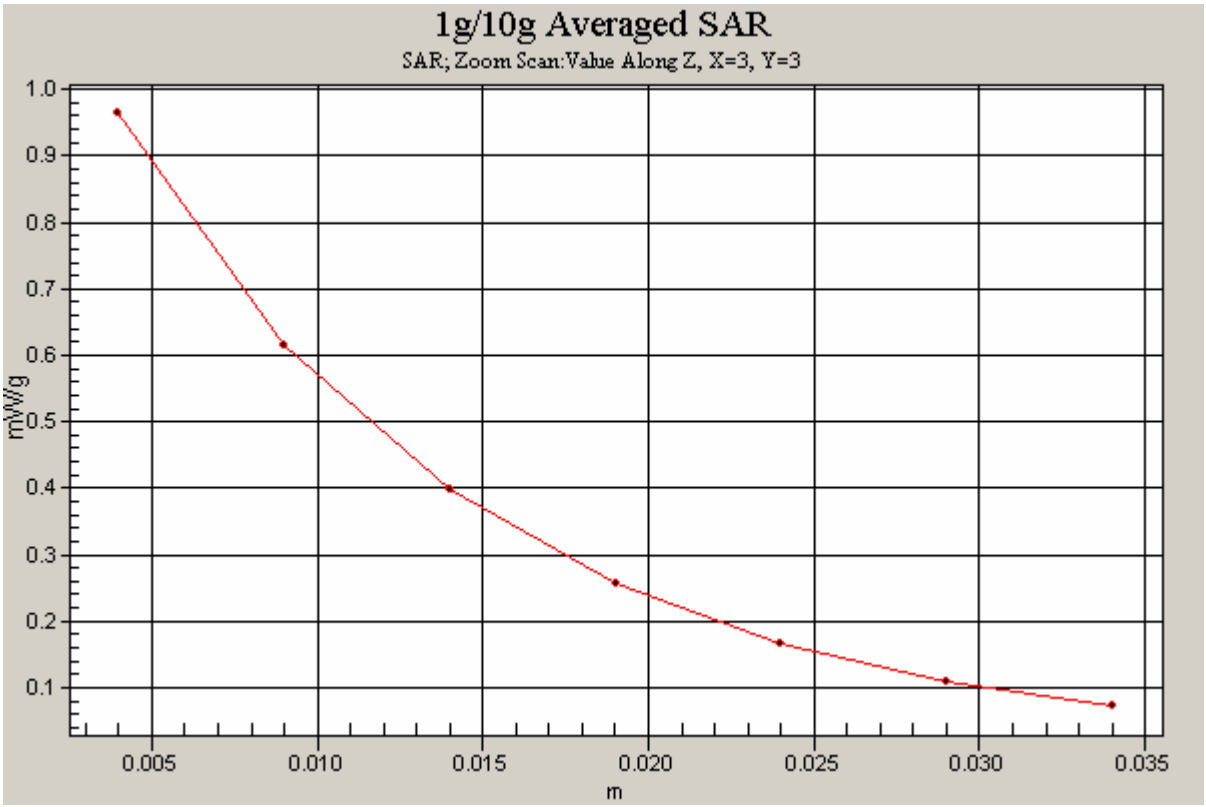


Figure 84 Z-Scan at power reference point [GSM 1900 GPRS (2 timeslots in uplink) with BenQ Joy book R55V Test Position 11 Channel 512]