



## FCC SAR

# TEST REPORT

of

### Wireless Fixed Phone

Model Name: AGP-V800R  
Brand Name: ATEL  
Trade Name.: ATEL  
Report No.: SH11020023S01  
FCC ID: XYOAGP-V800R

*prepared for*

### AsiaTelco Technologies Co.

#289 Bisheng Road, Building-8, 3F, Zhangjiang Hi-Tech Park, Pudong, Shanghai China 201204



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Report No: SH11020023S01

## GENERAL SUMMARY

Product Name	Wireless Fixed Phone	Model	AGP-V800R
Trade Name	ATEL	Carrier	Doris Wu
Quantity of EUT	One	Manufacturer	AsiaTelco Technologies Co.
Standard(s)	<b>ANSI C95.1-1999:</b> IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fieldst. <b>IEEE 1528-2003:</b> Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques. <b>OET Bulletin 65 (Edition 97-01) and Supplement C(Edition 01-01):</b> Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits.		
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 5.2 of this test report. Maximum localized SAR is below exposure limits specified in the relevant standards cited in Clause 5.1 of this test report.  General Judgment: Pass  Date of issue: Mar. 30. 2011		
Comment	TX Freq. Band:824.20-848.80MHz(GSM850) 1850.20-1909.80MHz(GSM1900) RX Freq. Band:869.20-893.80MHz(GSM850) 1930.20-1989.80MHz(GSM1900)  Antenna: build outside  The test result only responds to the measured sample.		

Tested by: Shi Feng, Date: 2011. 3. 30Checked by: Zhang Jun, Date: 2011. 3. 30Approved by: Wei Ben, Date: 2011. 3. 30



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## 1 GENERAL CONDITIONS

This report only refers to the item that has undergone the test. This report standalone does not constitute or imply by its own an approval of the product by the certification Bodies or competent Authorities.

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## 2 Administrative Data

### 2.1 Identification of the Responsible Testing Laboratory

**Company Name:** Shenzhen Morlab Communications Technology Co.,Ltd.  
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**Responsible Test Lab  
Managers:** Mr. Shu Luan

### 2.2 Identification of the Responsible Testing Location(s)

**Company Name:** Shenzhen Electronic Product Quality Testing Center Morlab  
Laboratory  
**Address:** 3Fl, Electronic Testing Building, ShaHe Road, NanShan District,  
Shenzhen, P. R. China

### 2.3 Organization Item

**Morlab Report No.:** SH11020023S01  
**Morlab Project Leader:** Mr. Zhang Jun  
**Morlab Responsible for  
Accreditation scope:** Mrs. Wei Bei  
**Start of Testing:** 2011-3-30  
**End of Testing:** 2011-3-30

### 2.4 Identification of Applicant

**Company Name:** AsiaTelco Technologies Co.  
**Address:** #289 Bisheng Road, Building-8, 3F. Zhangjiang Hi-Tech  
Park, Pudong, Shanghai China 201204  
**Contact person:** Doris Wu  
**Telephone:** 13817163802  
**Fax:** +86-21-33932400

### 2.5. Identification of Manufacture

**Company Name:** AsiaTelco Technologies Co.  
**Address:** #289 Bisheng Road, Building-8, 3F. Zhangjiang Hi-Tech  
Park, Pudong, Shanghai China 201204

**Notes:** This data is based on the information offered by the applicant.

### 3 Equipment Under Test (EUT)

#### 3.1. Identification of the Equipment under Test

<b>Product Name:</b>	Wireless Fixed Phone		
<b>Brand name:</b>	ATEL		
<b>Model No:</b>	AGP-V800R		
<b>General description:</b>	Test frequency	GSM850/1900 GPRS850/1900	
	Accessories	Battery,Charger,	
	Battery Model	ABN-1200A-1	
	Battery specification	3.6V 1200mAh	
	Battery Manufacture	SHENZHEN EPT BATTERY CO.,LTD	
		No.31/33 Building,Tong Fu Village,Da Lang	
		Conuntry,Longhua Town,Shenzhen City,China	
	Charger Model	DY-5W01A	
	Charger specification	AC 100~240V 0.15A 50-60Hz	
		DC 5.3V 800mA	
	Charger Manufacture	Fuzhou Deye Electronics Co.,LTD	
		Jinshan Industrial Zone in Fuzhou City,Cangshan	
		Ju Yuan Zhou,A Standard Factory of West 64	
	Antenna type	GSM/GPRS	
	Modulation mode	GMSK	

#### 3.2. Identification of all used Test Sample of the Equipment under Test

EUT Code	Serial Number	Hardware Version	Software Version	IMEI
#1	N.A	725-0044-002-7	08RM1V_F_01_00_AR	/

#### NOTE:

1. The EUT is production unit. The EUT consists of Hand-Held Terminal Set and normal options: Charger, Lithium Battery as listed above.
2. Please refer to Appendix C for the photographs of the EUT. For a more detailed features description of the EUT, please refer to its User's Manual.
3. Testing for General Population/Uncontrolled limits.

## 4 OPERATIONAL CONDITIONS DURING TEST

### 4.1 Schematic Test Configuration

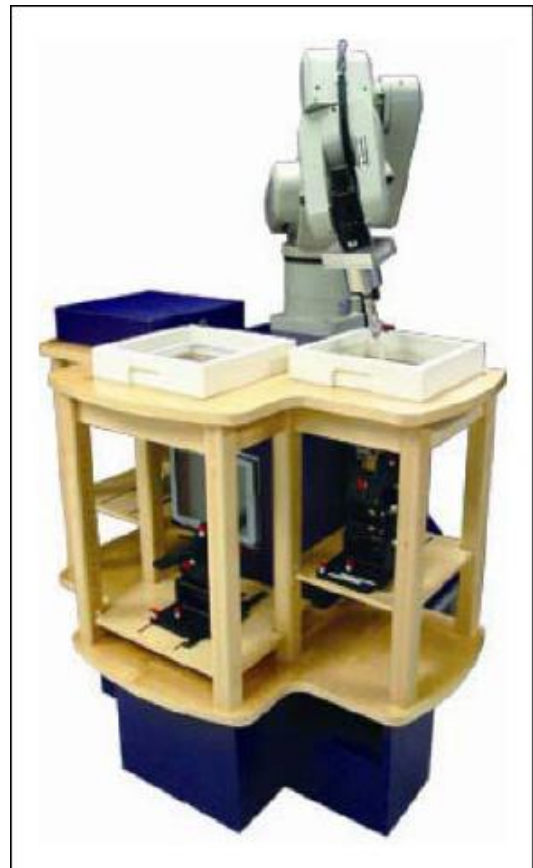
During SAR test, EUT is in Traffic Mode (Channel Allocated) at Normal Voltage Condition. A communication link is set up with a System Simulator (SS) by air link, and a call is established. The TCH is allocated to is allocated to 125, 190 and 251 respectively in the case of GSM 850 MHz, or to 512, 661 and 810 respectively in the case of PCS 1900 MHz. The EUT is commanded to operate at maximum transmitting power.

The EUT shall use its internal transmitter. The antenna(s), battery and accessories shall be those specified by the manufacturer. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output. If a wireless link is used, the antenna connected to the output of the base station simulator shall be placed at least 50 cm away from the handset. The signal transmitted by the simulator to the antenna feeding point shall be lower than the output power level of the handset by at least 35 dB.

### 4.2 SAR Measurement System

ALSAS-10-U is fully compliant with the technical and scientific requirements of IEEE 1528, IEC 62209, CENELEC, ARIB, ACA, and the Federal Communications Commission. The system comprises of a six axes articulated robot which utilizes a dedicated controller. ALSAS-10U uses the latest methodologies and FDTD order to provide a platform which is repeatable with minimum uncertainty.

Applications Predefined measurement procedures compliant with the guidelines of CENELEC, IEEE, IEC, FCC, etc are utilized during the assessment for the device. Automatic detection for all SAR maxima are embedded within the core architecture for the system, ensuring that peak locations used for centering the zoom scan are within a 1mm resolution and a 0.05mm repeatable position. System operation range currently is available up to 6 GHz in simulated tissue.



#### 4.2.1 Robot system specification

ALSAS-10U utilizes a six articulated robot, which is controlled using a Pentium based real-time movement controller. The movement kinematics engine utilizes proprietary (Thermo CRS) interpolation and extrapolation algorithms, which allow full freedom of movement for each of the six joints within the working envelop. Utilization of joint 6 allows for full probe rotation with a tolerance better than 0.05mm around the central axis.



<b>Robot/Controller Manufacturer</b>	Thermo CRS
<b>Number of Axis</b>	Six independently controlled axis
<b>Positioning Repeatability</b>	0.05mm
<b>Controller Type</b>	Single phase Pentium based C500C
<b>Robot Reach</b>	710mm
<b>Communication</b>	RS232 and LAN compatible

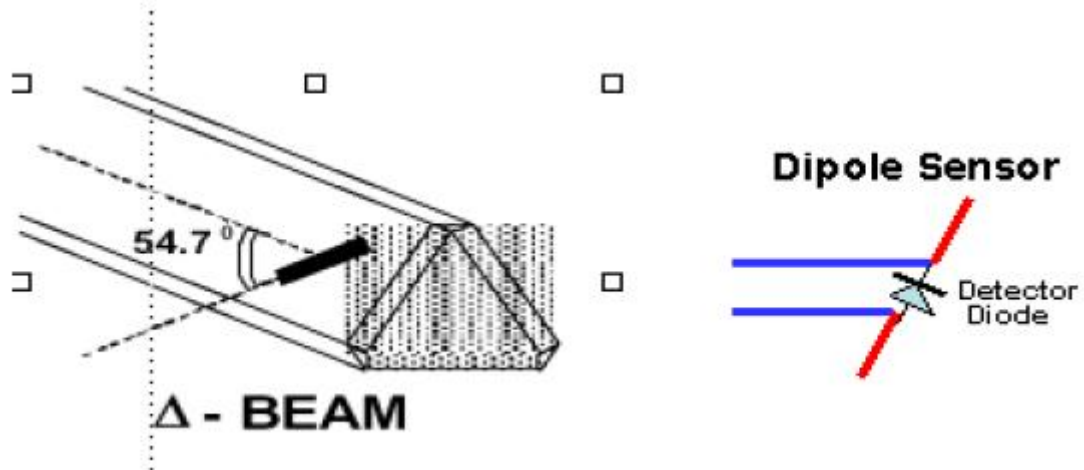
#### 4.2.2 Probe Specification

The isotropic E-Field probe has been fully calibrated and assessed for isotropic, and boundary effect within a controlled environment. Depending on the frequency for which the probe is calibrated the method utilized for calibration will change. A number of methods is used for calibrating probes, and these are outlined in the table below:

<b>Calibration Frequency</b>	<b>Air Calibration</b>	<b>Tissue Calibration</b>
<b>850MHZ</b>	<b>TEM Cell</b>	<b>Temperature</b>
<b>1900MHZ</b>	<b>TEM Cell</b>	<b>Temperature</b>

The E-Field probe utilizes a triangular sensor arrangement as detailed in the diagram below:





SAR is assessed with a calibrated probe which moves at a default height of 5mm from the center of the diode, which is mounted to the sensor, to the phantom surface (in the Z Axis). The 5mm offset height has been selected so as to minimize any resultant boundary effect due to the probe being in close proximity to the phantom surface.

The following algorithm is an example of the function used by the system for linearization of the output from the probe when measuring complex modulation schemes.

$$V_i = U_i + U_i^2 \cdot \frac{cf}{dcp_i}$$

## Isotropic E-Field Probe Specification

<b>Calibration in Air</b>	Frequency Dependent Below 2GHz Calibration in air performed in a TEM Cell Above 2GHz Calibration in air performed in waveguide
<b>Sensitivity</b>	0.70 $\mu\text{V}/(\text{V}/\text{m})^2$ to 0.85 $\mu\text{V}/(\text{V}/\text{m})^2$
<b>Dynamic Range</b>	0.0005 W/kg to 100W/kg
<b>Isotropic Response</b>	Better than 0.2dB
<b>Diode Compression point (DCP)</b>	Calibration for Specific Frequency
<b>Probe Tip Radius</b>	< 5mm
<b>Sensor Offset</b>	1.56 (+/- 0.02mm)
<b>Probe Length</b>	290mm
<b>Video Bandwidth</b>	@ 500 Hz: 1dB @1.02 KHz: 3dB
<b>Boundary Effect</b>	Less than 2% for distance greater than 2.4mm
<b>Spatial Resolution</b>	Diameter less than 5mm Compliant with Standards

### Boundary detection Unit and Probe Mounting Device

ALSAS-10U incorporates a boundary detection unit with a sensitivity of 0.05mm for detecting all types of surfaces. The robust design allows for detecting during probe tilt (probe normalize) exercises, and utilizes a second stage emergency stop. The signal electronics are directly into the robot controller for high accuracy surface detection in lateral and axial detection modes (X, Y, &Z). The probe is mounted directly onto the Boundary Detection unit for accurate tooling and displacement calculations controlled by the robot kinematics. The probe is connected to an isolated probe interconnect where the output stage of the probe is fed directly into the amplifier stage of the Daq-Paq.



**Daq-Paq (Analog to Digital Electronics)**

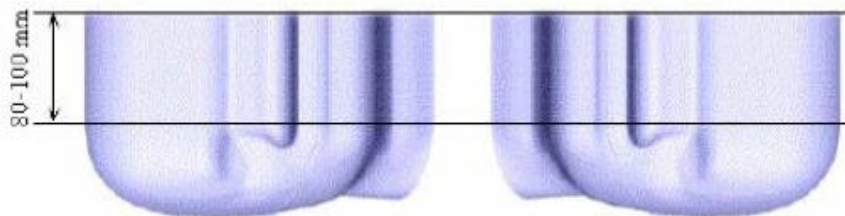
ALSAS-10U incorporates a fully calibrated Daq-Paq (analog to digital conversion system) which has a 4 channel input stage, sent via a 2 stage auto-set amplifier module. The input signal is amplified accordingly so as to offer a dynamic range from  $5\mu$  V to 800mV. Integration of the fields measured is carried out at board level utilizing a Co-Processor which then sends the measured fields down into the main computational module in digitized form via a RS232 communications port. Probe linearity and duty cycle compensation is carried out within the main Daq-Paq module.

<b>ADC</b>	12 Bit
Amplifier Range	20mV to 200mV and 150mV to 800mV
Field Integration	Local Co-Processor utilizing proprietary integration algorithms
Number of Input Channels	4 in total 3 dedicated and 1 spare
Communication	Packet data via RS232

### 4.2.3 Phantoms, Device Holder and Simulant Liquid

#### 4.2.3.1 Sam Phantom

The SAM phantoms developed using the IEEE SAM CAD file. They are fully compliant with the requirements for both IEEE 1528 and FCC Supplement C. Both the left and right SAM phantoms are interchangeable, transparent and include the IEEE 1528 grid with visible NF and MB lines.



#### APREL Laboratories Universal Phantom

The Universal Phantom is used on the ALSAS-10U as a system validation phantom. The Universal Phantom has been fully validated both experimentally from 800MHz to 6GHz and numerically using XFDTD numerical software. The shell thickness is 2mm overall, with a 4mm spacer located at the NF/MB intersection providing an overall thickness of 6mm in line with the requirements of IEEE-1528.

The design allows for fast and accurate measurements, of handsets, by allowing the conservative SAR to be evaluated at on frequency for both left and right head experiments in one measurement.





## Device and Dipole Holder

### ALSAS Universal Workstation

ALSAS Universal workstation allows for repeatability and fast adaptability. It allows users to do calibration, testing and measurement using different types of phantoms with one set up, which significantly speeds up the measurement process.

### Universal Device Positioner

The universal device positioner allows complete freedom of movement of the EUT. Developed to hold a EUT in a free-space scenario any additional loading attributable to the material used in the construction of the positioner has been eliminated. Repeatability has been enhanced through the linear scales which form the design used to indicate positioning for any given test scenario in all major axes. A  $15^\circ$  tilt movements for head SAR analysis. Overall uncertainty for measurements has been reduced due to the design of the Universal device positioner, which allows positioning of a device in as near to a free-space scenario as possible, and by providing the means for complete repeatability.



#### 4.2.3.2 Tissue Simulating Liquids

There is no simulating liquids that can cover all frequency bands. Therefore, our system is using different liquids for the measured band as explained bellows.

The parameters of the simulating solution strongly influence the SAR values. The different normalization organizations have defined adapted solutions for the each mobile system.

GSM liquid: is made of Sugar, de-ionized water and NaCl, reconstituting the electric properties of human tissues at 850MHz.

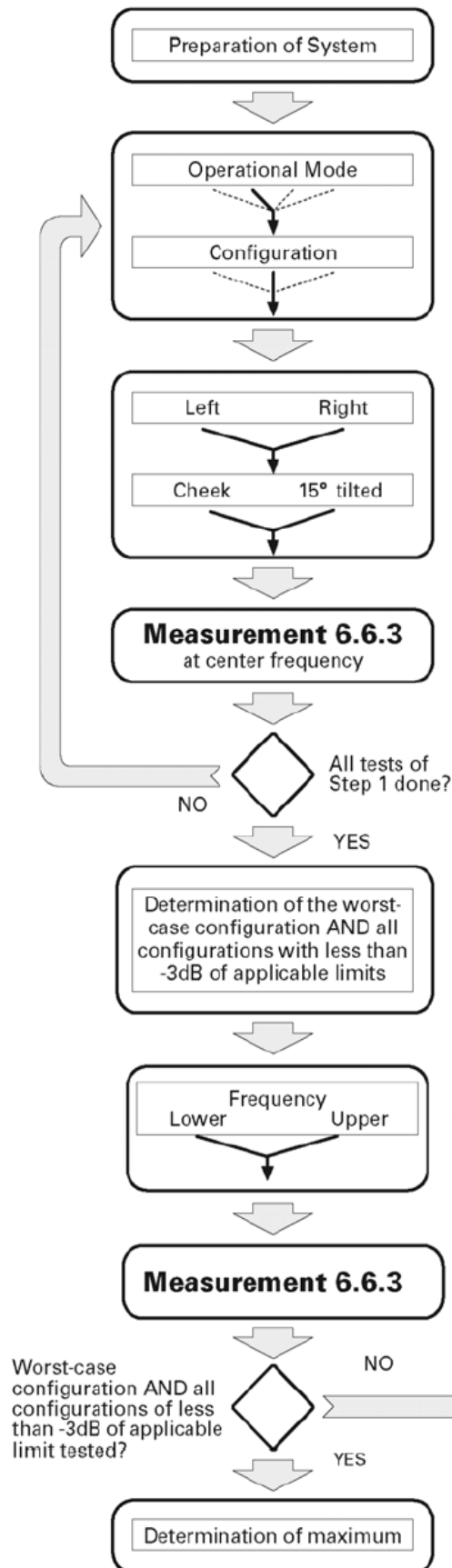
PCS Liquid: is made of de-ionized water, Glycol monobutyl and NaCl, reconstituting the electric properties of human tissues at 1900MHz.

Several measurement systems are available for measuring the dielectric parameters.

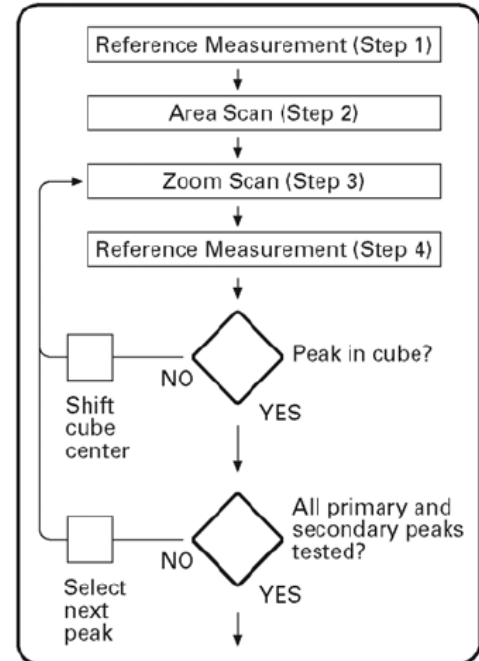
Antennessa has developed its own software, based on a coaxial probe. This method allows measurement of liquid permittivity between 300 MHz and 6GHz.



#### 4.2.4 SAR measurement procedure



#### Measurement 6.6.3



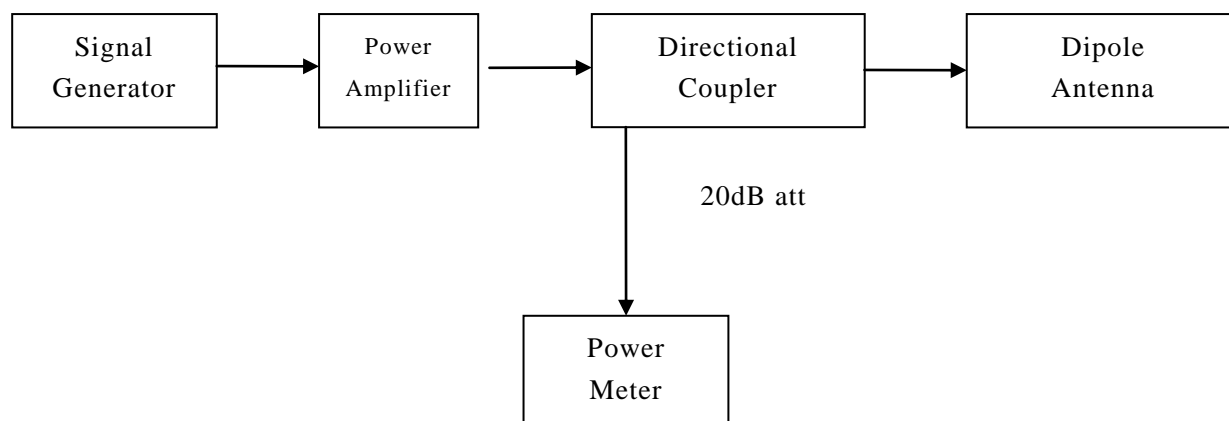
Channel	Left				Right			
	Cheek		Tilt		Cheek		Tilt	
	Retracted	Extended	Retracted	Extended	Retracted	Extended	Retracted	Extended
Mode 1:								
High			S2(-1.4dB)	S2(-0.4dB)			S2(-2.2dB)	S2(-1.4dB)
Middle	S1(-4dB)	S1(-4dB)	S1(-1.5dB)	S1(-0.5dB)	S1(-5dB)	S1(-5dB)	S1(-2.5dB)	S1(-1.5dB)
Low			S2(-1.3dB)	S2(-0.7dB)			S2(-2.7dB)	S2(-0.6dB)
Mode 2:								
High			S2(-2.7dB)	S2(-1.1dB)				
Middle	S1(-5dB)	S1(-5dB)	S1(-2.5dB)	S1(-1dB)	S1(-6dB)	S1(-6dB)	S1(-5dB)	S1(-5dB)
Low			S2(-2.2dB)	S2(-0.8dB)				

After an area scan has been done at a fixed distance of 8mm from the surface of the phantom on the source side, a 3D scan is set up around the location of the maximum spot SAR. First, a point within the scan area is visited by the probe and a SAR reading taken at the start of testing. At the end of testing, the probe is returned to the same point and a second reading is taken. Comparison between these start and end readings enables the power drift during measurement to be assessed.

Above is the scanning procedure flow chart and table from the IEEE P1528 standard. This is the procedure for which all compliant testing should be carried out to ensure that all variations of the device position and transmission behavior are tested.

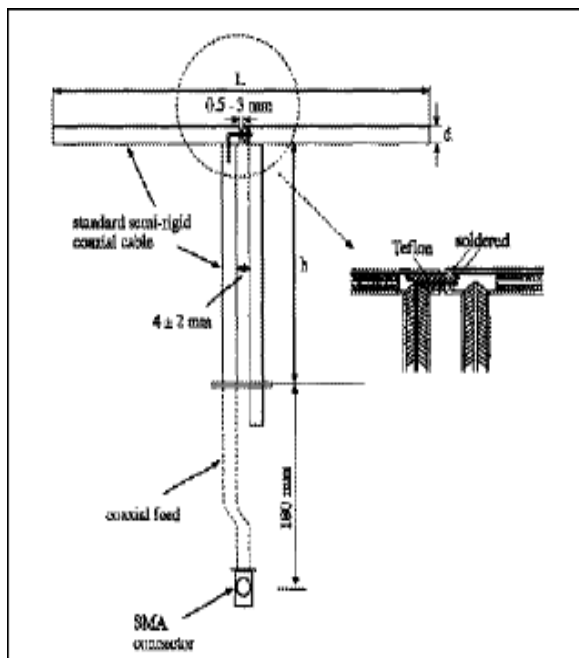
#### 4.2.5 Validation Test Using Flat Phantom

The following procedure, recommended for performing validation tests using flat phantom is based on the procedures described in the IEEE standard P1528. Setup according to the setup diagram below:



### 4.2.5.1 Setting up the Box Phantom for Validation Testing

#### Validation Dipoles



The dipoles used are based on the IEEE-1528 standard, and is complied with mechanical and electrical specifications in line with the requirements of both IEEE and FCC Supplement C. The table below provides details for the mechanical and electrical specifications for the dipoles.

Frequency	L(mm)	h(mm)	d(mm)
850MHZ	161.0	89.8	3.6
1900MHZ	67.1	38.9	3.6



## Validation Result

System Performance Check at 850MHz & 1900MHz

Validation Kit: ASL-D-850-S-2

Frequency(MHz)	Description	SAR(W/Kg) 1g	SAR(W/Kg) 10g	Tissue Temp.(°C)
835MHz body	Reference result	9.5	6.2	N/A
	Value(1W) 2011-3-30	9.692	6.008	20.7
	Value(0.25W) 2011-3-30	2.423	1.502	20.7

Validation Kit: ASL-D-1900-S-2

Frequency(MHz)	Description	SAR(W/Kg) 1g	SAR(W/Kg) 10g	Tissue Temp.(°C)
1900MHz body	Reference result	39.7	20.5	N/A
	Value(1W) 2011-3-30	38.748	19.724	20.7
	Value(0.25W) 2011-3-30	9.687	4.931	20.7

Note: Validation SAR values are normalized to 1W forward power

### 4.2.6 Measurement Procedure

The following steps are used for each test position

Establish a call with the maximum output power with a base station simulator. The connection between the mobile phone and the base station simulator is established via air interface.

Measurement of the local E-field distribution is done with a grid of 8 to 16mm\*8 to 16mm and a constant distance to the inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolating scheme.

Around this point, a cube of 30\*30\*30mm or 32\*32\*32mm is assessed by measuring 5 or 8\*5 or 8\*4 or 5mm. With these data, the peak spatial-average SAR value can be calculated.

### 4.2.7 Description of Interpolation/Extrapolation Scheme

The local SAR inside the phantom is measured using small dipole sensing elements inside a probe

body. The probe tip must not be in contact with the phantom surface in order to minimise measurements errors, but the highest local SAR will occur at the surface of the phantom.

An extrapolation is using to determinate this highest local SAR values. The extrapolation is base on a fourth-order least square polynomial fit of measured data. The local SAR value is then extrapolated from the liquid surface with a 1mm step.

The measurements have to be performed over a limited (due to the duration of the battery) so the step of measurement is high. It could vary between 5 and 8mm. to obtain an accurate assessment of the maximum SAR averaged over 10 grams and 1gram requires a very fine resolution in the three-dimensional scanned data array.

## **5 CHARACTERISTICS OF THE TEST**

### **5.1 Applicable Limit Regulations**

**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 within 20 cm of the user in the uncontrolled environment.

### **5.2 Applicable Measurement Standards**

**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.

**OET Bulletin 65 (Edition 97-01) and Supplement C(Edition 01-01):** Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits.

## 6 LABORATORY ENVIRONMENT

**Table: The Ambient Conditions during SAR Test**

Temperature	Min. =15 °C, Max. =30 °C
Relative humidity	Min. =30%, Max. =70%
Ground system resistance	<0.5Ω
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.	



## 7 TEST RESULTS

### 7.1 Explain

The EUT has been tested under the operating conditions.

### 7.2 Dielectric Performance

For body-worn measurements, the device was tested against flat phantom representing the user body.

Under measurement phone was put on in the belt holder.

**Table: Dielectric Performance of Body Tissue Simulating Liquid**

Temperature: 23.0~23.8 °C, humidity: 54~60%.			
/	Frequency	Permittivity $\epsilon$	Conductivity $\sigma$ (S/m)
<b>Target value</b>	835 MHz	55.2	0.97
<b>Validation value</b> (Mar 30)	835 MHz	55.31	0.99
<b>Target value</b>	1900 MHz	53.30	1.52
<b>Validation value</b> (Mar 30)	1900 MHz	53.33	1.54

### 7.3 Conducted Power

The conducted power for GSM 850/1900 is as following:

GSM 850MHz	Conducted Power (dBm)		
	128	190	251
	32.81	33.14	33.45
GSM 1900MHz	Conducted Power (dBm)		
	512	661	810
	29.58	29.63	29.62

The conducted power for GPRS 850/1900 is as following:

GSM 850 GPRS	Conducted Power (dBm)				Averaged Power (dBm)		
	128	190	251		128	190	251
1 Txslot	32.77	33.09	33.42	-9.03 dBm	23.74	24.06	24.39
2 Txslots	32.72	33.03	33.39	-6.02 dBm	26.70	27.01	27.37
GSM 1900 GPRS	Conducted Power (dBm)				Averaged Power (dBm)		
	512	661	810		512	661	810
1 Txslot	29.58	29.57	29.55	-9.03 dBm	20.55	20.54	20.52
2 Txslots	29.56	29.54	29.52	-6.02 dBm	23.54	23.52	23.50

NOTES:

### 1) Division Factors

To average the power, the division factor is as follows:

1TX-slot = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

3TX-slots = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB

4TX-slots = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB

**According to the conducted power as above, the body measurements are performed with 2 Txslots for GPRS.**

## 7.4 Summary of Measurement Results

**Table1: SAR Values (GSM850 Body)**

**Temperature: 21.0~23.5 °C, Relative Humidity: 60~65%.**

Limit of SAR (W/kg)	1 g Average			
	1.6			
	Measurement Result (W/kg)		Scaling Factor	Scaled SAR (W/kg)
Test Configuration	1 g Average (W/kg)	Power Drift(%)		
Back Side with antenna position 1 Low Channel (with battery)	0.532	1.247	1.172	0.624
Back Side with antenna position 1 Middle Channel (with battery)	1.070	-1.372	1.086	1.162
Back Side with antenna position 1 High Channel (with battery)	1.094	-1.372	1.012	1.107
Back Side with antenna position 2 Low Channel (with battery)	0.545	-2.311	1.172	0.639
Back Side with antenna position 2 Middle Channel (with battery)	1.001	2.701	1.086	1.088
Back Side with antenna position 2 High Channel (with battery)	1.113	1.527	1.012	1.126
Back Side with antenna position 3 Middle Channel (with battery)	0.077	1.464	1.086	0.084
Back Side with antenna position 1 Low Channel (with adapter)	0.676	-0.329	1.172	0.792
Back Side with antenna position 1 Middle Channel (with adapter)	1.171	-3.749	1.086	1.272
Back Side with antenna position 1 High Channel (with adapter)	1.270	-1.058	1.012	1.285
Back Side with antenna position 2 Low Channel (with adapter)	0.769	-2.677	1.172	0.901
Back Side with antenna position 2 Middle Channel (with adapter)	1.201	-3.988	1.086	1.305

Back Side with antenna position 2 High Channel (with adapter)	1.266	-0.943	1.012	1.281
Back Side with antenna position 3 Middle Channel (with adapter)	0.125	0.438	1.086	0.136
GPRS850MHz Back Side with antenna position 1 High Channel (with adapter)	1.336	-1.665	1.019	1.361

**Table 2: SAR Values (GSM1900 Body)**

**Temperature: 21.0~23.5 °C, Relative Humidity: 60~65%.**

Limit of SAR (W/kg)	1 g Average			
	1.6			
Test Configuration	Measurement Result (W/kg)		Scaling Factor	Scaled SAR (W/kg)
	1 g Average (W/kg)	Power Drift(%)		
Back Side with antenna position 1 Middle Channel (with battery)	0.488	0.397	1.222	0.596
Back Side with antenna position 2 Middle Channel (with battery)	0.427	1.408	1.222	0.522
Back Side with antenna position 3 Middle Channel (with battery)	0.066	1.131	1.222	0.081
Back Side with antenna position 1 Low Channel (with adapter)	0.836	-2.247	1.236	1.033
Back Side with antenna position 1 Middle Channel (with adapter)	0.678	0.000	1.222	0.828
Back Side with antenna position 1 High Channel (with adapter)	0.409	-2.558	1.225	0.501
Back Side with antenna position 2 Middle Channel (with adapter)	0.510	-0.809	1.222	0.623
Back Side with antenna position 3 Middle Channel (with adapter)	0.076	-2.985	1.222	0.093
GPRS1900MHz Back Side with antenna position 1 Low Channel (with adapter)	0.665	-4.483	1.236	0.822

**REMARK:**

- The distance between the surface of the antenna and the bottom of the flat phantom is 15mm.
- The tune-up power tolerance is as below.  
GSM 850: 33 dBm [±0.5dB]  
GSM 1900: 30 dBm [±0.5dB]  
Scaling Factor = Tune-up Maximum Power (Watt) / Measured Maximum Power (Watt)  
Scaled SAR = Measure SAR \* Scaling Factor



## **7.5 Conclusion**

Peak Spatial-Average Specific Absorption Rate (SAR) of this portable wireless device has been measured in all configurations requested by the relevant standards cited in Clause 5.2 of this report. SAR values are below exposure limits specified in the relevant standards cited in Clause 5.1 of this test report.

## 8 Measurement Uncertainties

The following table includes the uncertainty table of the IEEE 1528. The values are determined by Antennessa.

**UNCERTAINTY EVALUATION FOR HANDSET SAR TEST**

Source of Uncertainty	Tolerance Value	Probability Distribution	Divisor	ci1 (1-g)	ci1 (10-g)	Standard Uncertainty (1-g) %	Standard Uncertainty (10-g) %
Measurement System							
Probe Calibration	3.5	normal	1	1	1	3.5	3.5
Axial Isotropy	3.7	rectangular	$\sqrt{3}$	$(1-cp)^{1/2}$	$(1-cp)^{1/2}$	1.5	1.5
Hemispherical Isotropy	10.9	rectangular	$\sqrt{3}$	$\sqrt{cp}$	$\sqrt{cp}$	4.4	4.4
Boundary Effect	1.0	rectangular	$\sqrt{3}$	1	1	0.6	0.6
Linearity	4.7	rectangular	$\sqrt{3}$	1	1	2.7	2.7
Detection Limit	1.0	rectangular	$\sqrt{3}$	1	1	0.6	0.6
Readout Electronics	1.0	normal	1	1	1	1.0	1.0
Response Time	0.8	rectangular	$\sqrt{3}$	1	1	0.5	0.5
Integration Time	1.7	rectangular	$\sqrt{3}$	1	1	1.0	1.0
RF Ambient Condition	3.0	rectangular	$\sqrt{3}$	1	1	1.7	1.7
Probe Positioner Mech.	0.4	rectangular	$\sqrt{3}$	1	1	0.2	0.2
Restriction							
Probe Positioning with respect to Phantom Shell	2.9	rectangular	$\sqrt{3}$	1	1	1.7	1.7
Extrapolation and Integration	3.7	rectangular	$\sqrt{3}$	1	1	2.1	2.1
Test Sample	4.0	normal	1	1	1	4.0	4.0

Positioning							
Device Holder Uncertainty	2.0	normal	1	1	1	2.0	2.0
Drift of Output Power	0.6	rectangular	$\sqrt{3}$	1	1	0.3	0.3
Phantom and Setup							
Phantom Uncertainty(shape & thickness tolerance)	3.4	rectangular	$\sqrt{3}$	1	1	2.0	2.0
Liquid Conductivity(target)	5.0	rectangular	$\sqrt{3}$	0.7	0.5	2.0	1.4
Liquid Conductivity(meas.)	0.0	normal	1	0.7	0.5	0.0	0.0
Liquid Permittivity(target)	5.0	rectangular	$\sqrt{3}$	0.6	0.5	1.7	1.4
Liquid Permittivity(meas.)	2.4	normal	1	0.6	0.5	1.4	1.2
Combined Uncertainty		RSS				9.3	9.2
Combined Uncertainty (coverage factor=2)		Normal(k=2)				18.7	18.3



## 9 MAIN TEST INSTRUMENTS

Instrument	Manufacture	Model No.	Serial No.	Last Calibration
Universal Work Station	Apriel	ALS-UWS	100-00154	Jun.2010
Data Acquisition Package	Apriel	ALS-DAQ-PAQ-3	110-00215	Jun.2010
Probe Mounting Device and Boundary Detection Sensor System	Apriel	ALS-PMDPS-3	120-00265	Jun.2010
Miniature E-Field Probe	Apriel	ALS-E-020	273-B	Sep.2010
Left ear SAM Phontom	Apriel	ALS-P-SAM-L	130-00312	N/A
Right ear SAM Phontom	Apriel	ALS-P-SAM-R	140-00362	N/A
Universal SAM Phontom	Apriel	ALS-P-SU-1	150-00410	N/A
Reference Validation Dipole 835MHz	Apriel	ALS-D-835-S-2	180-00565	18th February 2011
Reference Validation Dipole 1900MHz	Apriel	ALS-D-1900-S-2	210-00716	19th February 2011
Dielectric Probe Kit	Apriel	ALS-PR-DIEL	260-00955	N/A
Device Holder 2.0	Apriel	ALS-H-E-SET-2	170-00506	N/A
SAR software	Apriel	ALS-SAR-AL-10	Ver.2.3.6	N/A
CRS C500C Controller	Thermo	ALS-C500	RCF0504291	N/A
CRS F3 Robot	Apriel	ALS-F3-SW	N/A	N/A
Power Amplifier	Mini-Circuit	SN0974	040306	N/A
Directional Coupler	Agilent	778D-012	N/A	N/A
Universal Radio Communication Tester	Rohde&Schwarz	CMU200	104845	Jan.10
Vector Network	Anritsu	MS4623B	N/A	Nov.10
Signal Generator	Agilent	E8257D	N/A	Jan.10
Power Meter	Rohde&Schwarz	NRP	N/A	Jan.10



Report No: SH11020023S01

## **ANNEX A- Accreditation Certificate**

of

Shenzhen Morlab Communications Technology Co.,Ltd.

### **CONFORMANCE TEST REPORT FOR HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS**

Wireless Fixed Phone

REPORT NO: SH11020023S01

Type Name: AGP-V800R

Hardware Version: 725-0044-002-7

Software Version: 08RM1V\_F\_01\_00\_AR

Accreditation Certificate





**China National Accreditation Service for Conformity Assessment**

**LABORATORY ACCREDITATION CERTIFICATE**

(No. CNAS L1659 )

*China National Accreditation Service for Conformity Assessment has accredited*

**Shenzhen Electronic Product Quality Testing Center**

Electronic Testing Building, Shahe Road, Xili, Nanshan District,

Shenzhen, Guangdong, China

*to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing and calibration.*

*The scope of accreditation is detailed in the attached schedule bearing the same accreditation number as above. The schedule forms an integral part of this certificate.*

Date of Issue: 2009-09-29

Date of Expiry: 2012-09-28

Date of Initial Accreditation: 1999-08-03



Signed on behalf of China National Accreditation Service  
for Conformity Assessment

China National Accreditation Service for Conformity Assessment(CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation systems for conformity assessment. CNAS is the signatory to International Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (ILAC MRA), and the signatory to Asia Pacific Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (APLAC MRA).

## ANNEX B- Test Layout

of

Shenzhen Morlab Communications Technology Co.,Ltd.

### CONFORMANCE TEST REPORT FOR HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS

Wireless Fixed Phone

REPORT NO: SH11020023S01

Type Name: AGP-V800R

Hardware Version: 725-0044-002-7

Software Version: 08RM1V\_F\_01\_00\_AR

Test Layout

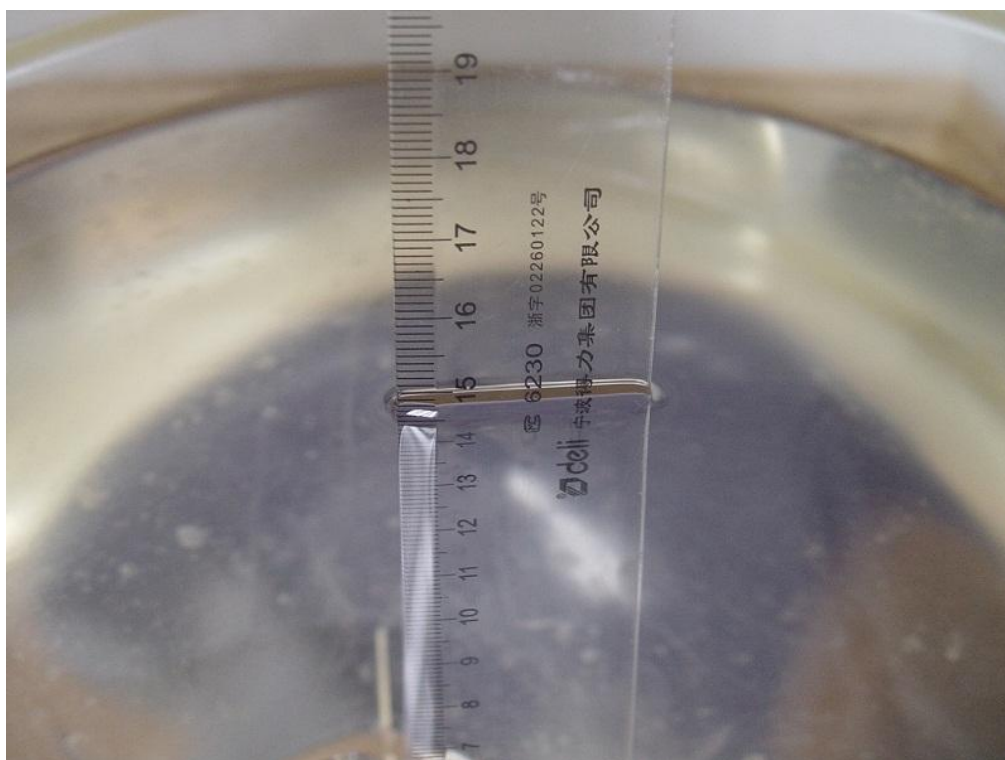


Figure B.1 Depth of Simulating Liquid in SAM Head Phantom





Figure B.2 EUT Back Side with antenna position 1(with battery)



Figure B.3 EUT Back Side with antenna position 2(with battery)



Figure B.4 EUT Back Side with antenna position 3(with battery)



Figure B.5 EUT Back Side with antenna position 1(with adapter)



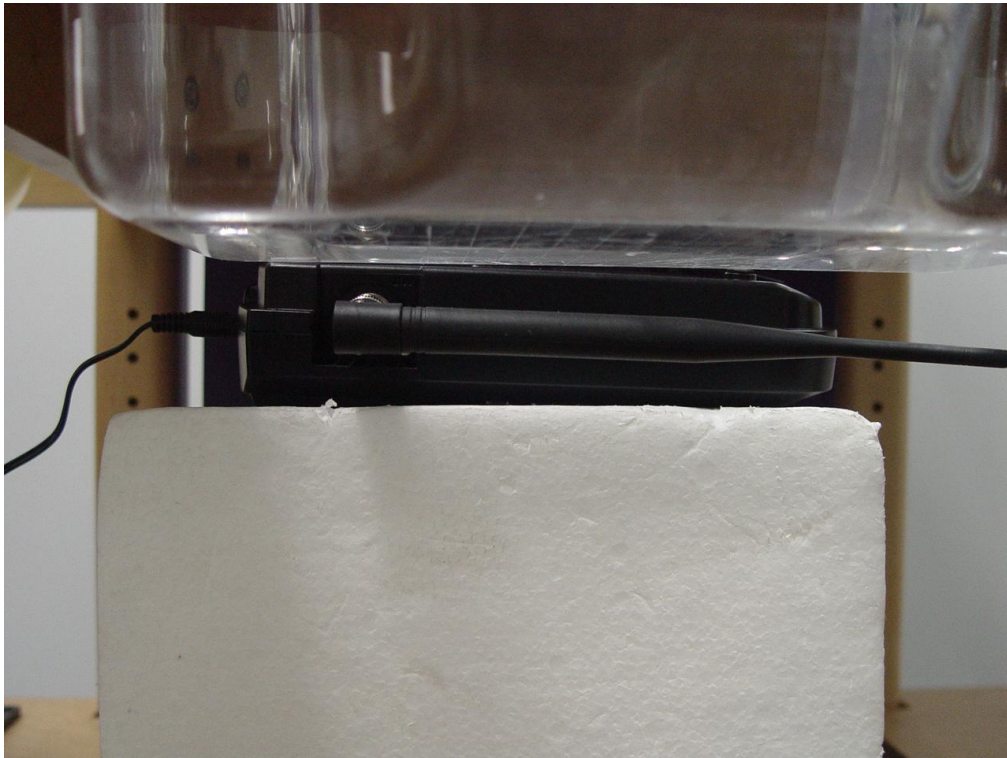


Figure B.6 EUT Back Side with antenna position 2(with adapter)



Figure B.7 EUT Back Side with antenna position 3(with adapter)

## ANNEX C- Sample Photographs

of

Shenzhen Morlab Communications Technology Co.,Ltd.

### CONFORMANCE TEST REPORT FOR HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS

Wireless Fixed Phone

REPORT NO: SH11020023S01

Type Name: AGP-V800R

Hardware Version: 725-0044-002-7

Software Version: 08RM1V\_F\_01\_00\_AR



Photograph of the Equipment under Test



## **ANNEX D- Graph Test Results**

of

Shenzhen Morlab Communications Technology Co.,Ltd.

### **CONFORMANCE TEST REPORT FOR HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS**

Wireless Fixed Phone

REPORT NO: SH11020023S01

Type Name: AGP-V800R

Hardware Version: 725-0044-002-7

Software Version: 08RM1V\_F\_01\_00\_AR

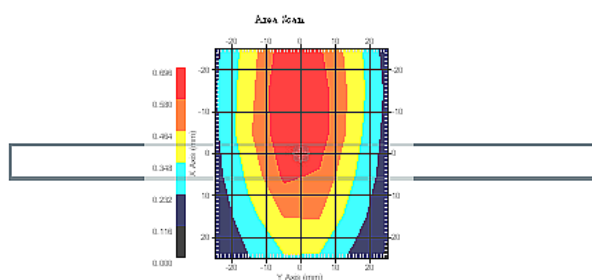
#### **Graph Test Results**



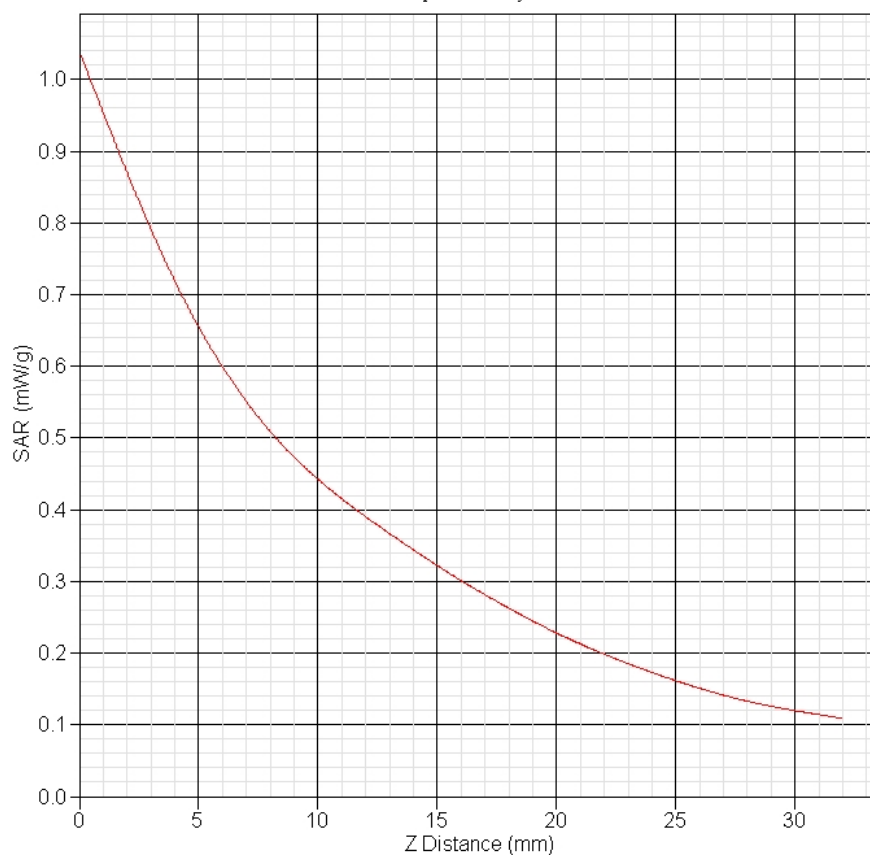


# GSM850 Back Side with antenna position 1 Low(128ch) (with battery)

Frequency (MHz)	824.200014
Relative permittivity (real part)	55.40
Conductivity (S/m)	0.98
Variation (%)	1.247
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	6
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30



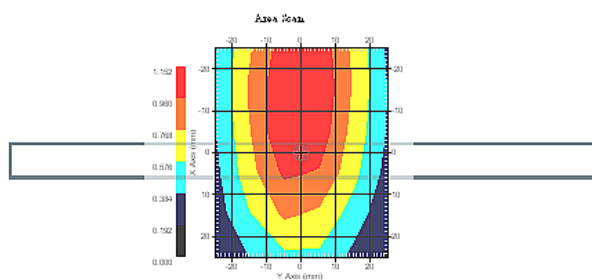
SAR-Z Axis  
at Hotspot x:-14.97 y:2.89



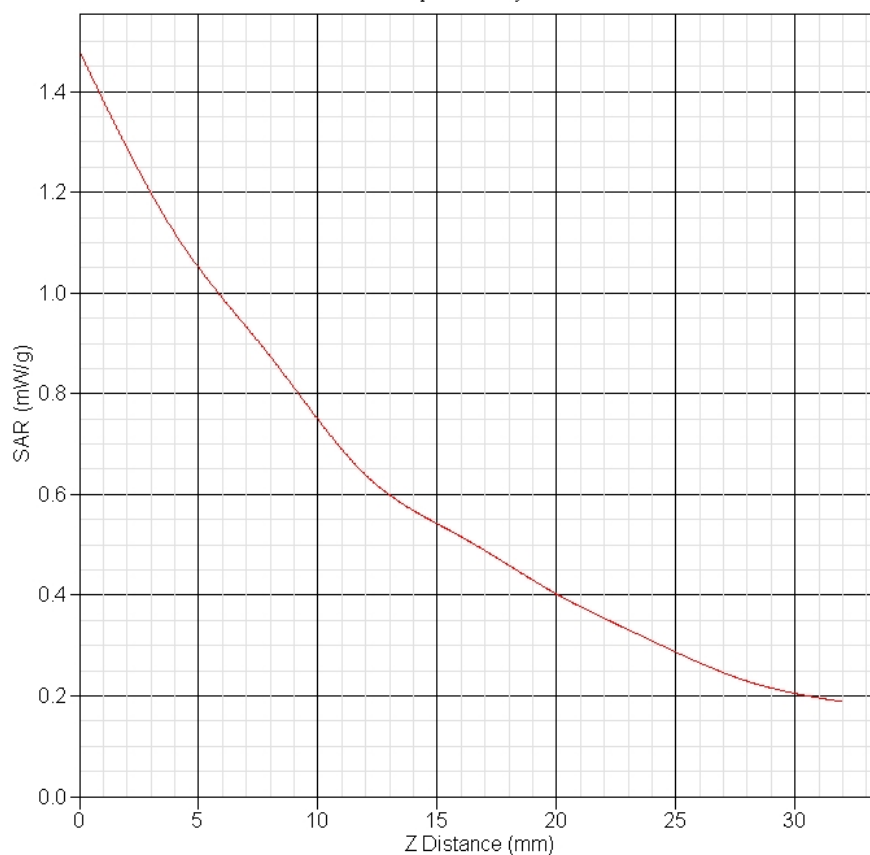
SAR 10g (W/Kg)	0.341
SAR 1g (W/Kg)	0.532

# GSM850 Back Side with antenna position 1 Middle(190ch) (with battery)

Frequency (MHz)	836.600021
Relative permittivity (real part)	55.31
Conductivity (S/m)	0.99
Variation (%)	-1.864
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	6
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30



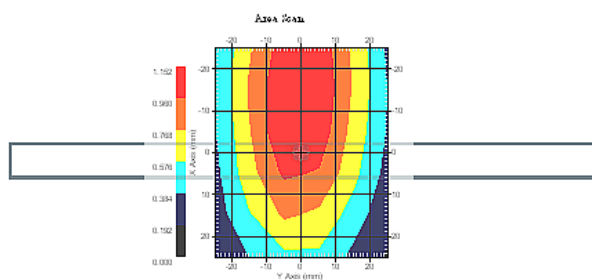
SAR-Z Axis  
at Hotspot x:-14.94 y:-3.14



SAR 10g (W/Kg)	0.704
SAR 1g (W/Kg)	1.070

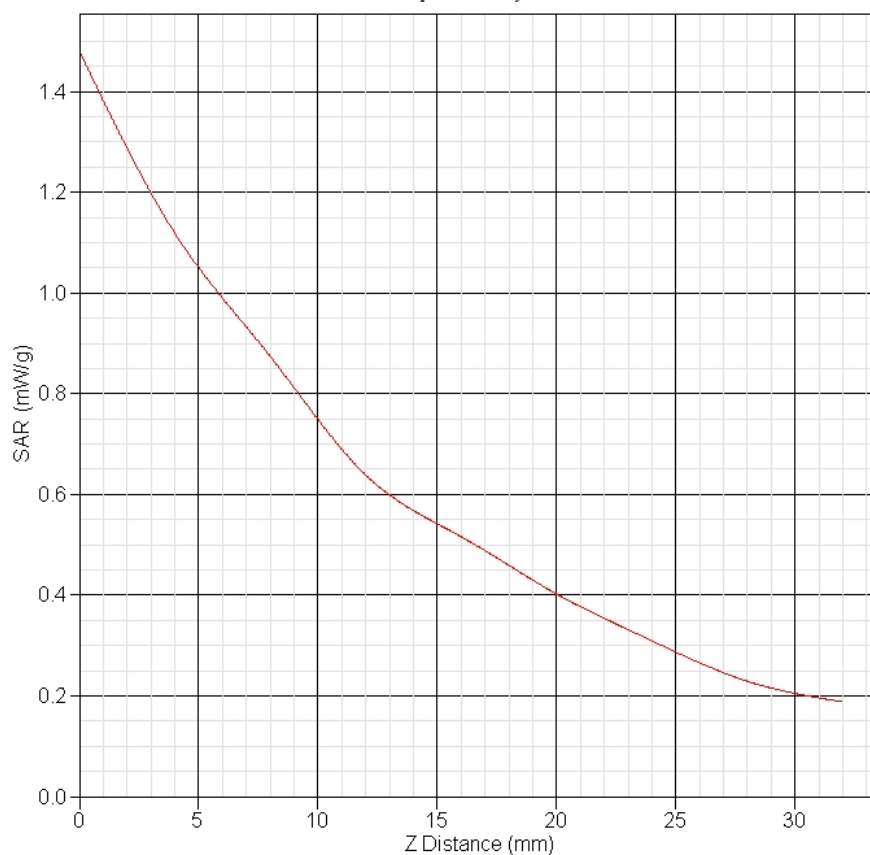
# GSM850 Back Side with antenna position 1 High(251ch) (with battery)

Frequency (MHz)	848.800210
Relative permittivity (real part)	55.21
Conductivity (S/m)	1.01
Variation (%)	-1.372
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	6
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30





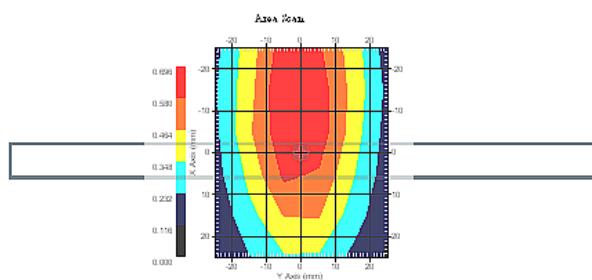
SAR-Z Axis  
at Hotspot x:-14.94 y:-3.14



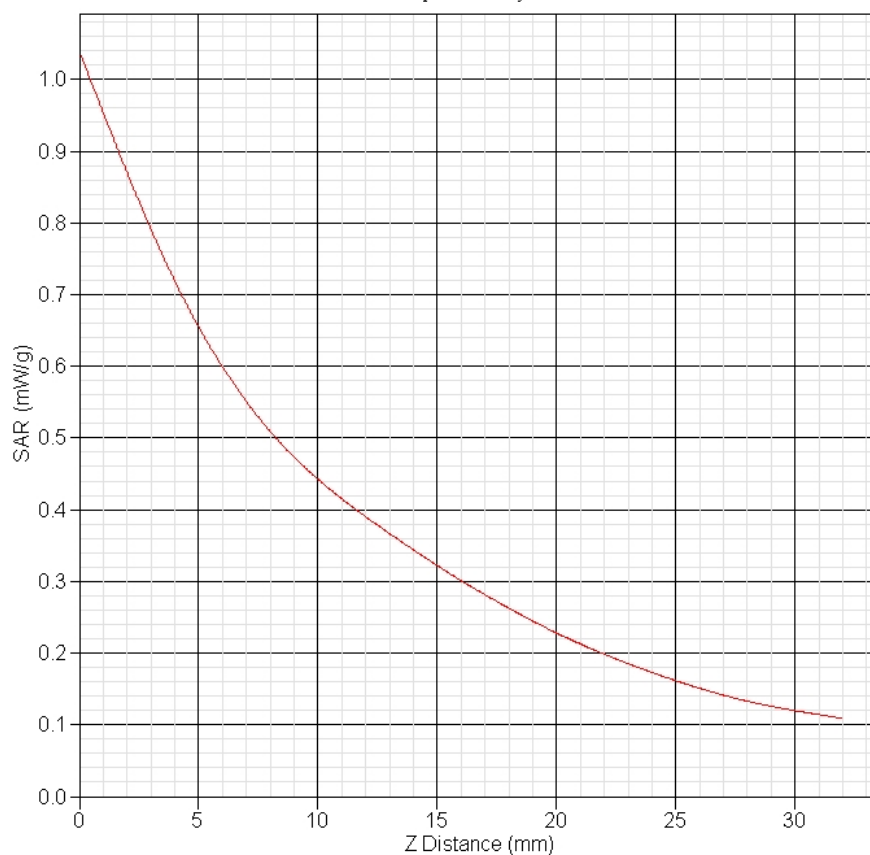
SAR 10g (W/Kg)	0.779
SAR 1g (W/Kg)	1.094

# GSM850 Back Side with antenna position 2 Low(128ch) (with battery)

Frequency (MHz)	824.200014
Relative permittivity (real part)	55.40
Conductivity (S/m)	0.98
Variation (%)	-2.311
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	6
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30



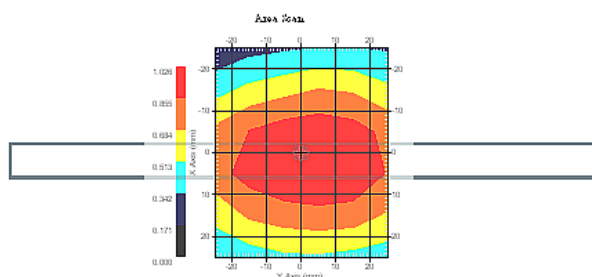
SAR-Z Axis  
at Hotspot x:-14.97 y:2.89



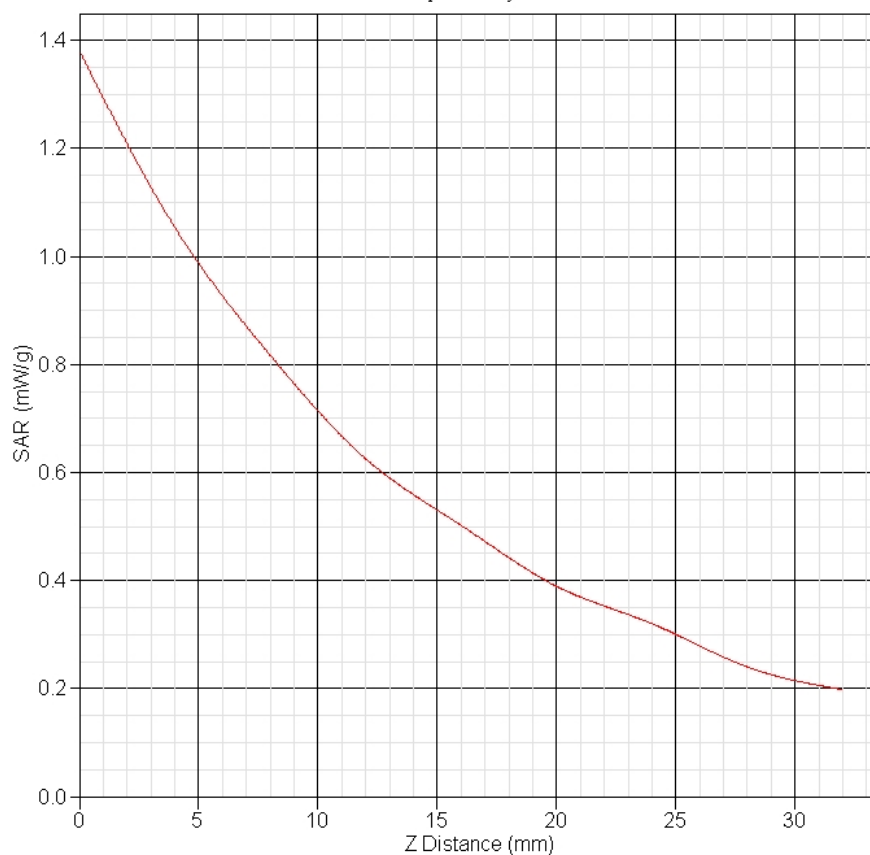
SAR 10g (W/Kg)	0.447
SAR 1g (W/Kg)	0.545

# GSM850 Back Side with antenna position 2 Middle(190ch) (with battery)

Frequency (MHz)	836.600021
Relative permittivity (real part)	55.31
Conductivity (S/m)	0.99
Variation (%)	2.701
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	6
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30



SAR-Z Axis  
at Hotspot x:5.07 y:-3.14

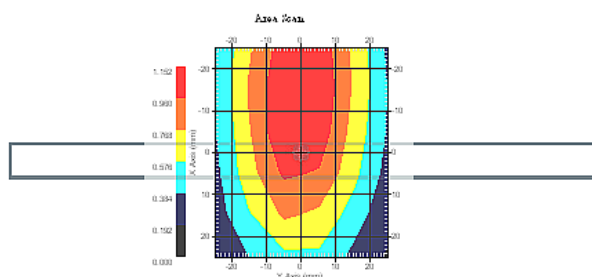


SAR 10g (W/Kg)	0.684
SAR 1g (W/Kg)	1.001

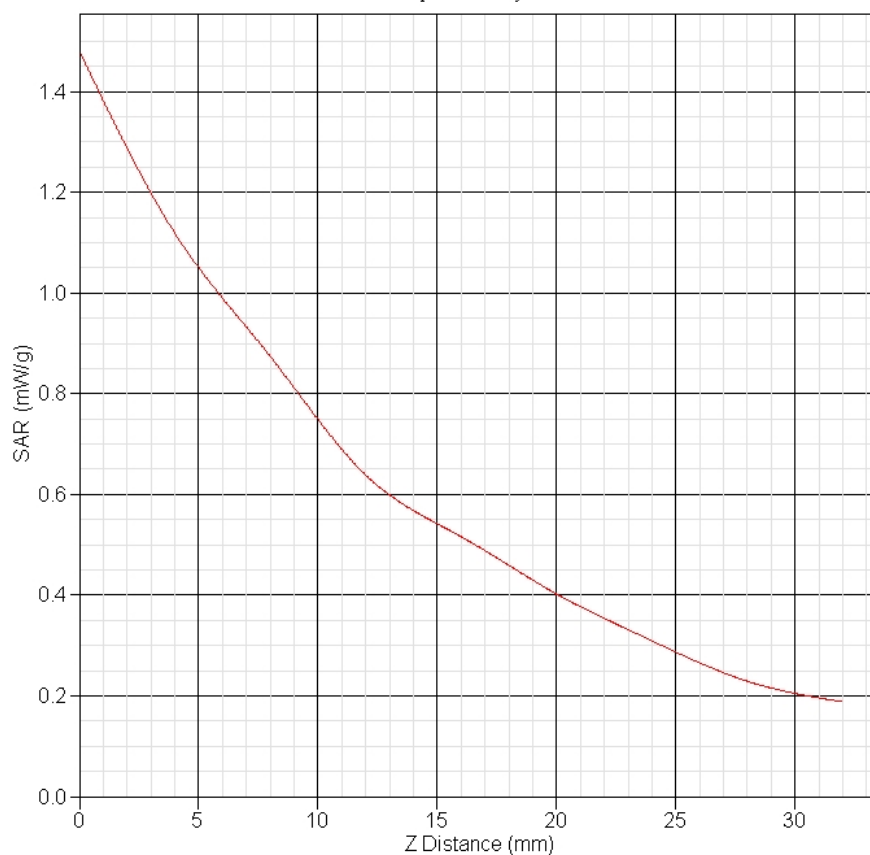


# GSM850 Back Side with antenna position 2 High(251ch) (with battery)

Frequency (MHz)	848.800210
Relative permittivity (real part)	55.21
Conductivity (S/m)	1.01
Variation (%)	1.527
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	6
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30



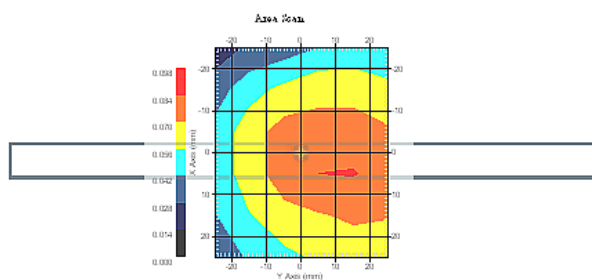
SAR-Z Axis  
at Hotspot x:-14.94 y:-3.14



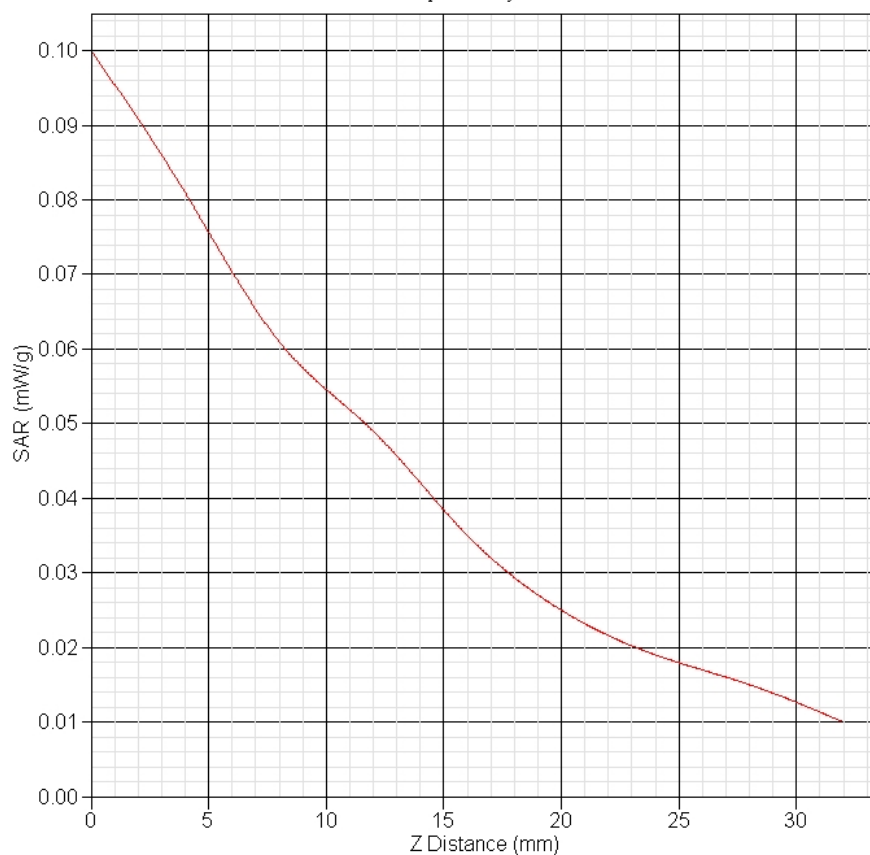
SAR 10g (W/Kg)	0.653
SAR 1g (W/Kg)	1.113

# GSM850 Back Side with antenna position 3 Middle(190ch) (with battery)

Frequency (MHz)	836.600021
Relative permittivity (real part)	55.31
Conductivity (S/m)	0.99
Variation (%)	1.464
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	6
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30



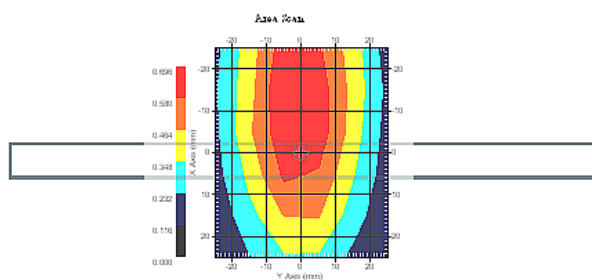
SAR-Z Axis  
at Hotspot x:5.01 y:-1.08



SAR 10g (W/Kg)	0.053
SAR 1g (W/Kg)	0.077

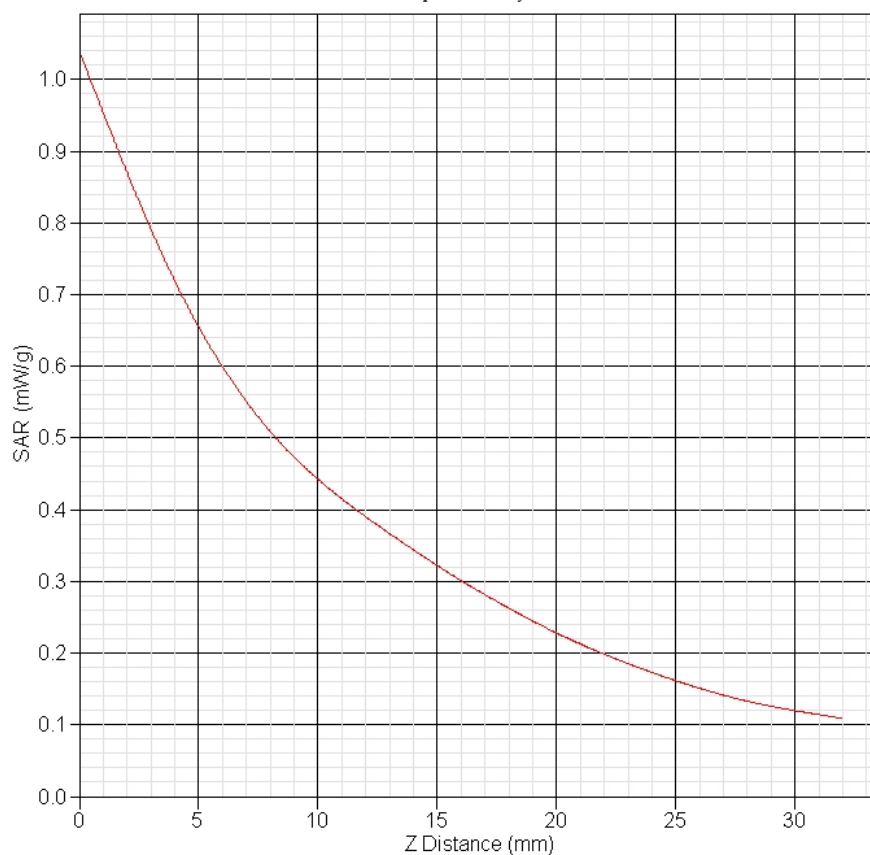
# GSM850 Back Side with antenna position 1 Low(128ch) (with adapter)

Frequency (MHz)	824.200014
Relative permittivity (real part)	55.40
Conductivity (S/m)	0.98
Variation (%)	-0.329
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	6
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30





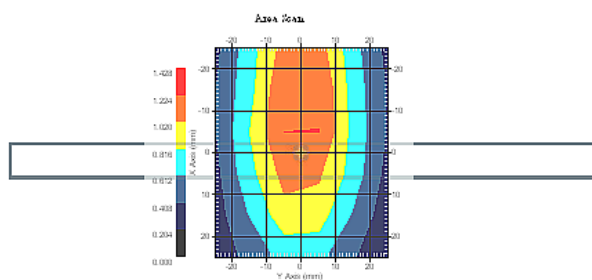
SAR-Z Axis  
at Hotspot x:-14.97 y:2.89



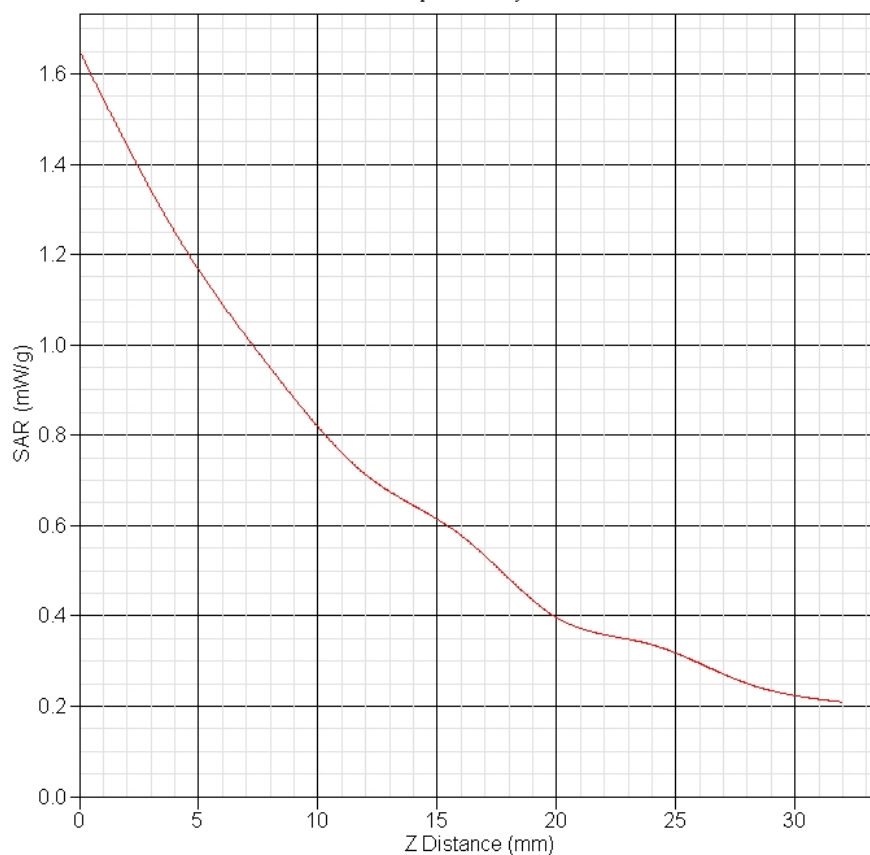
<b>SAR 10g (W/Kg)</b>	<b>0.429</b>
<b>SAR 1g (W/Kg)</b>	<b>0.676</b>

# GSM850 Back Side with antenna position 1 Middle(190ch) (with adapter)

Frequency (MHz)	836.600021
Relative permittivity (real part)	55.31
Conductivity (S/m)	0.99
Variation (%)	-3.749
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	6
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30



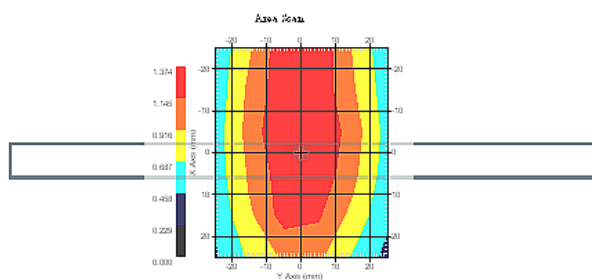
SAR-Z Axis  
at Hotspot x:-12.93 y:-3.16



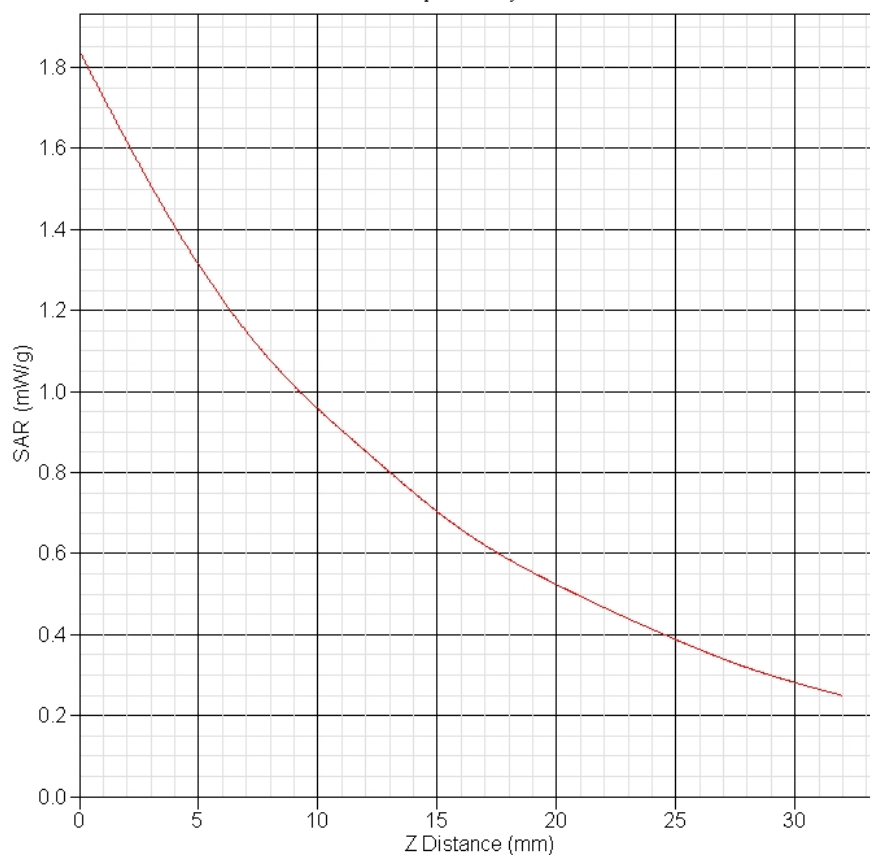
SAR 10g (W/Kg)	0.772
SAR 1g (W/Kg)	1.171

# GSM850 Back Side with antenna position 1 High(251ch) (with adapter)

Frequency (MHz)	848.800210
Relative permittivity (real part)	55.21
Conductivity (S/m)	1.01
Variation (%)	-1.058
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	6
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30



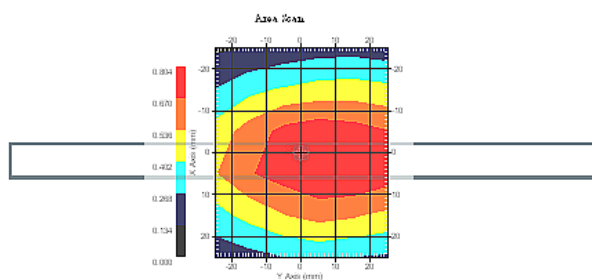
SAR-Z Axis  
at Hotspot x:-4.87 y:-3.16



<b>SAR 10g (W/Kg)</b>	<b>0.872</b>
<b>SAR 1g (W/Kg)</b>	<b>1.270</b>

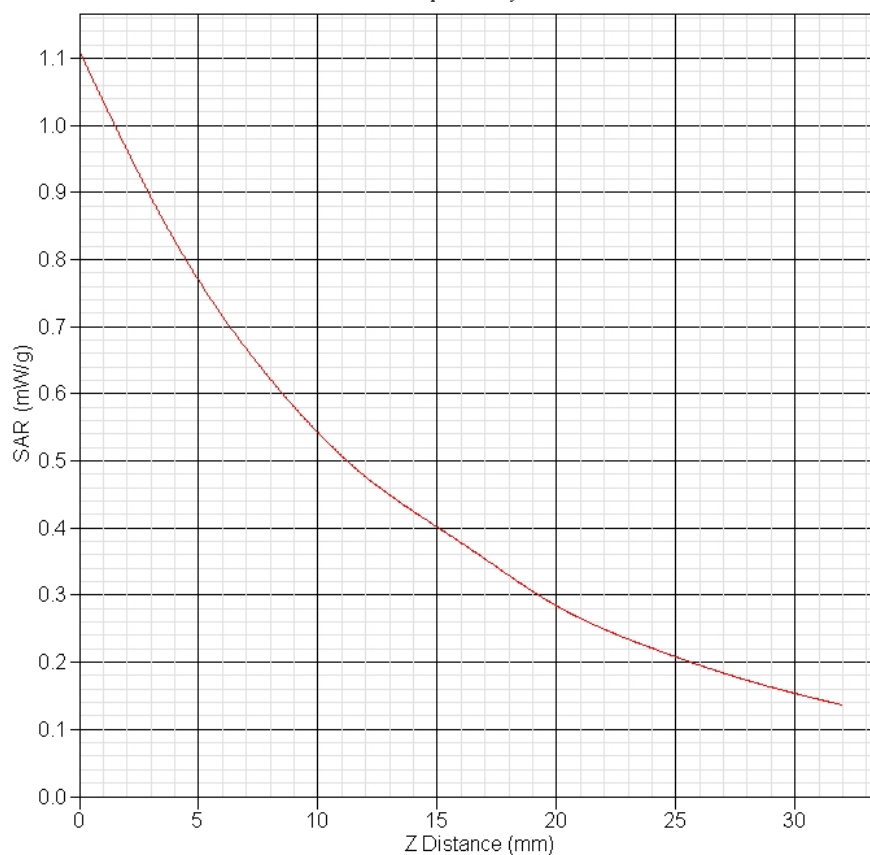
# GSM850 Back Side with antenna position 2 Low(128ch) (with adapter)

Frequency (MHz)	824.200014
Relative permittivity (real part)	55.40
Conductivity (S/m)	0.98
Variation (%)	-2.677
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	6
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V/m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30





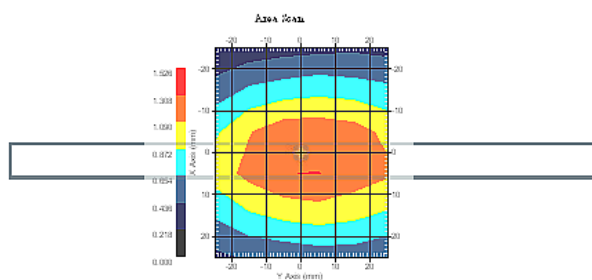
**SAR-Z Axis**  
at Hotspot x:5.09 y:6.83



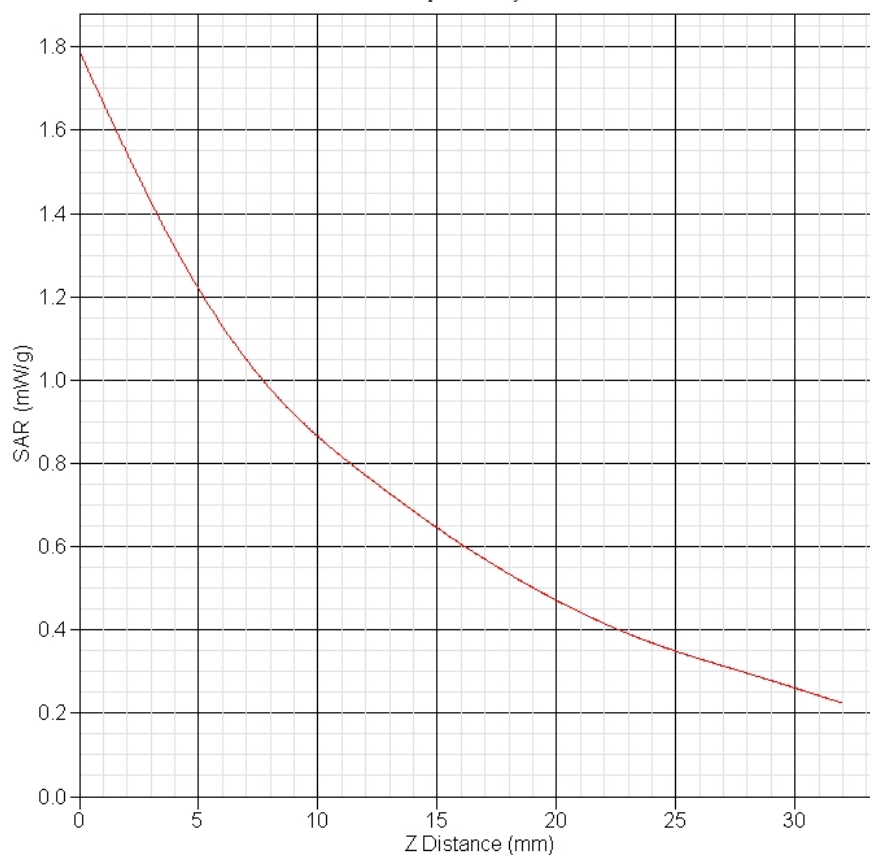
<b>SAR 10g (W/Kg)</b>	<b>0.769</b>
<b>SAR 1g (W/Kg)</b>	<b>0.545</b>

# GSM850 Back Side with antenna position 2 Middle(190ch) (with adapter)

Frequency (MHz)	836.600021
Relative permittivity (real part)	55.31
Conductivity (S/m)	0.99
Variation (%)	-3.988
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	6
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30



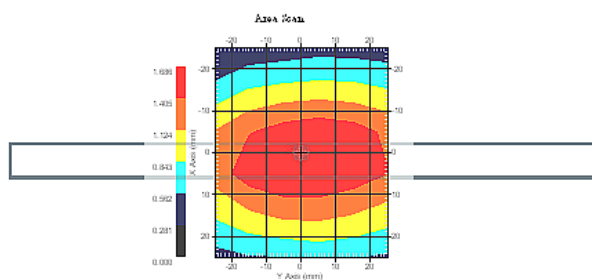
SAR-Z Axis  
at Hotspot x:-3.01 y:4.90



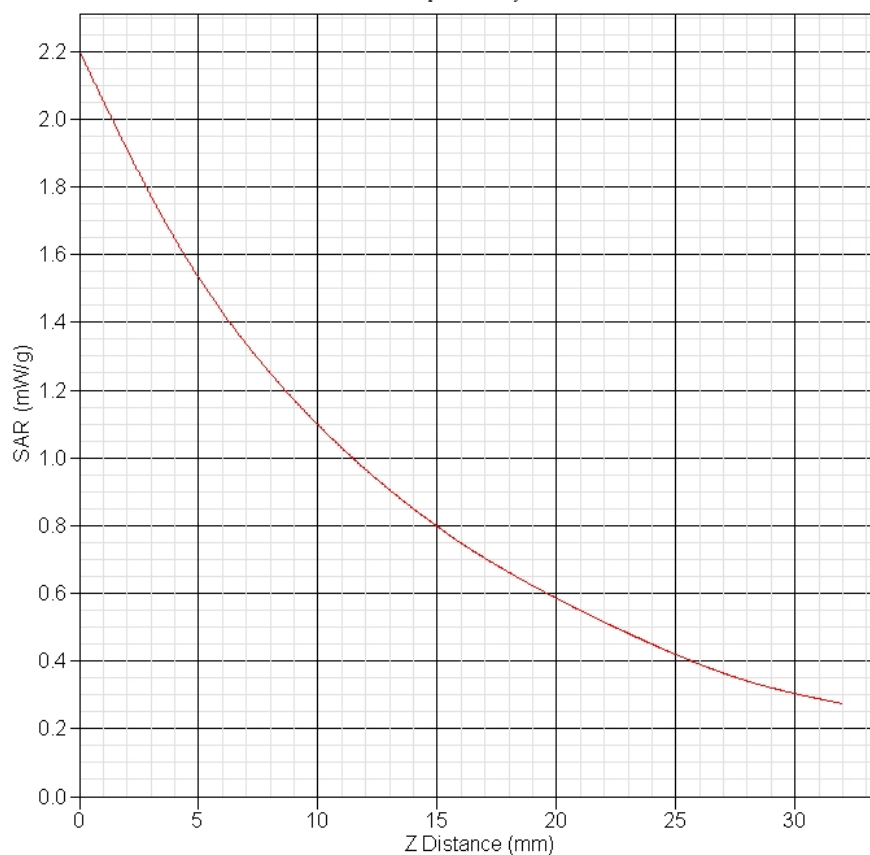
SAR 10g (W/Kg)	0.808
SAR 1g (W/Kg)	1.201

# GSM850 Back Side with antenna position 2 High(251ch) (with adapter)

Frequency (MHz)	848.800210
Relative permittivity (real part)	55.21
Conductivity (S/m)	1.01
Variation (%)	-0.943
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	6
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30



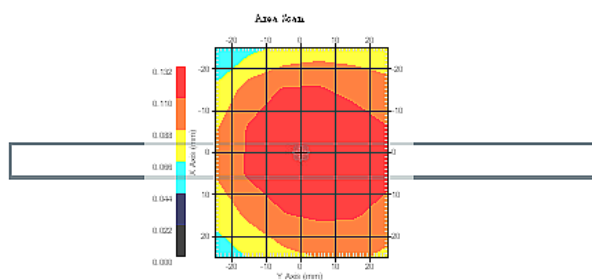
SAR-Z Axis  
at Hotspot x:-3.00 y:2.90



<b>SAR 10g (W/Kg)</b>	<b>0.689</b>
<b>SAR 1g (W/Kg)</b>	<b>1.266</b>

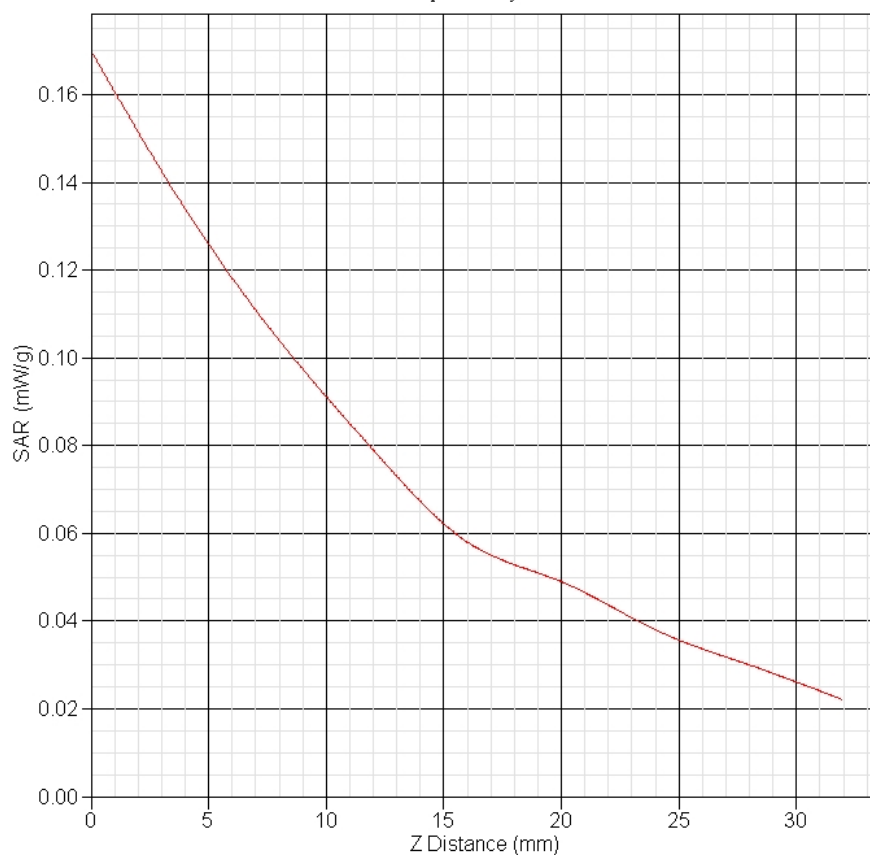
# GSM850 Back Side with antenna position 3 Middle(190ch) (with adapter)

Frequency (MHz)	836.600021
Relative permittivity (real part)	55.31
Conductivity (S/m)	0.99
Variation (%)	0.438
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	6
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30





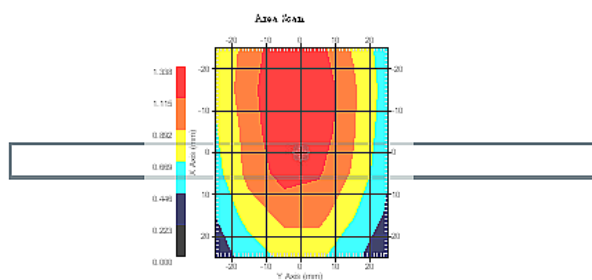
SAR-Z Axis  
at Hotspot x:3.14 y:4.78



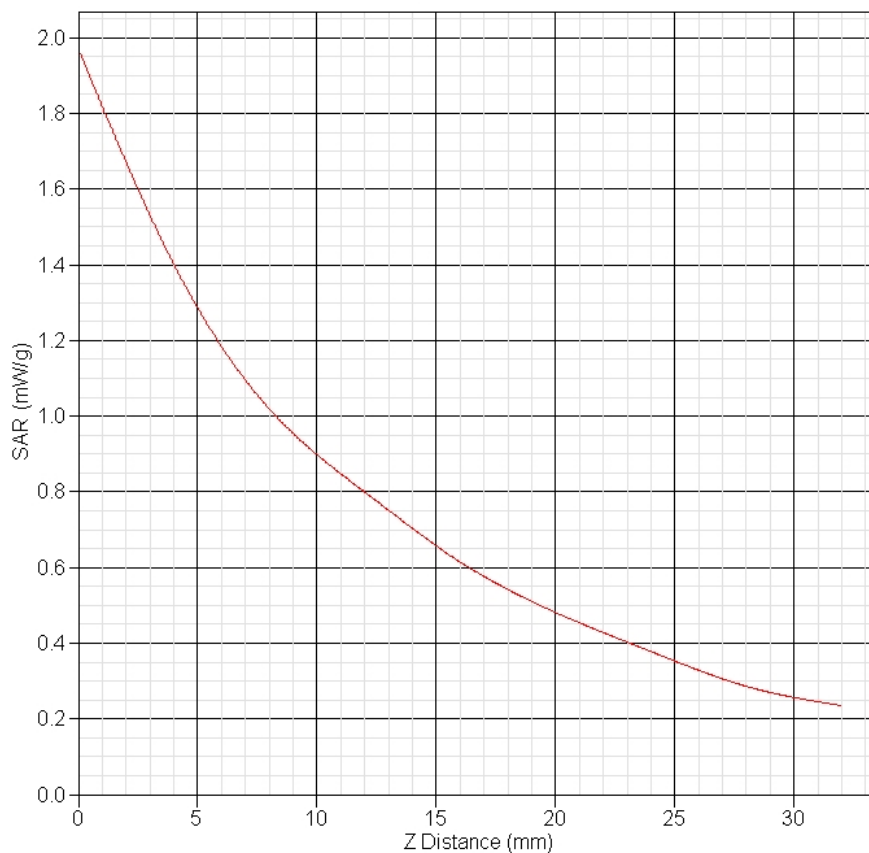
SAR 10g (W/Kg)	0.086
SAR 1g (W/Kg)	0.125

# GPRS850 Back Side with antenna position 1 High(251ch) (with adapter)

Frequency (MHz)	848.800210
Relative permittivity (real part)	55.21
Conductivity (S/m)	1.01
Variation (%)	-1.665
Duty Cycle Factor	1
Crest Factor	4
Conversion Factor	6
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30



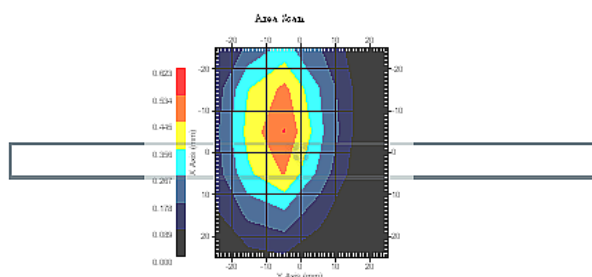
SAR-Z Axis  
at Hotspot x:-13.00 y:-5.11



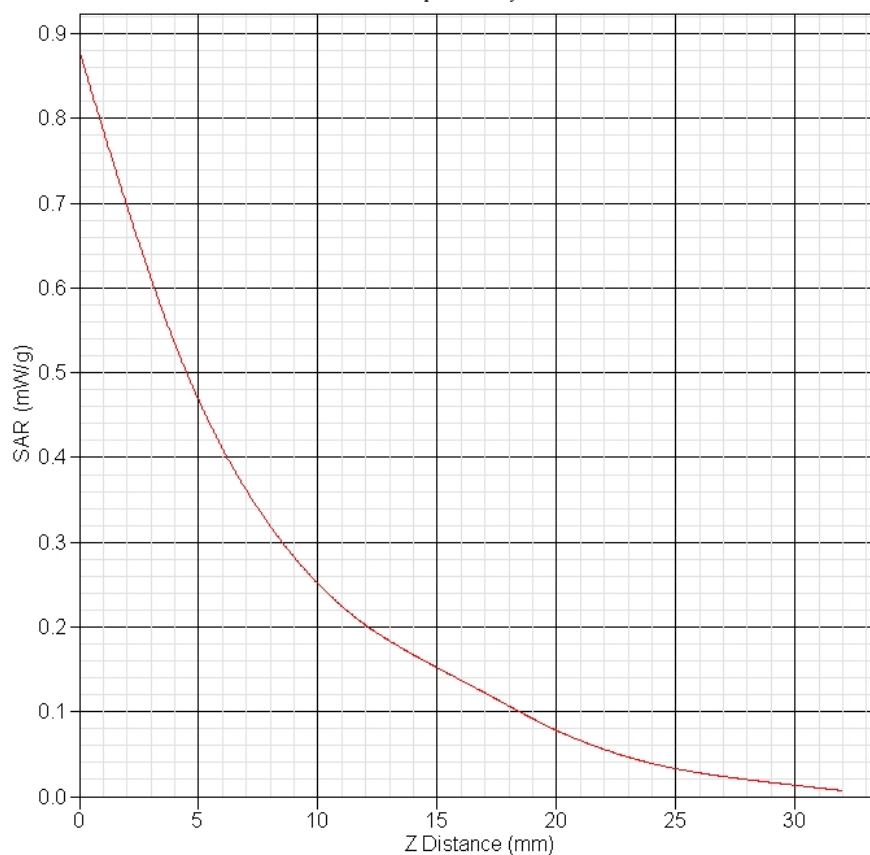
SAR 10g (W/Kg)	0.887
SAR 1g (W/Kg)	1.336

# GSM1900 Back Side with antenna position 1 Middle(661ch) (with battery)

Frequency (MHz)	1880.000002
Relative permittivity (real part)	53.33
Conductivity (S/m)	1.54
Variation (%)	0.397
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	4.7
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30



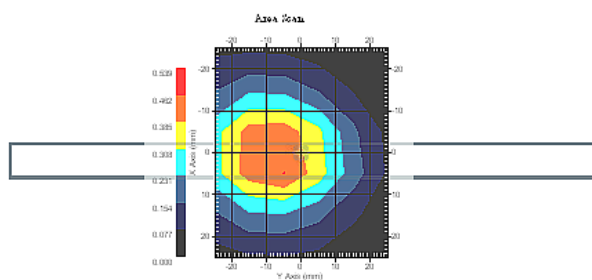
SAR-Z Axis  
at Hotspot x:-4.97 y:-5.13



<b>SAR 10g (W/Kg)</b>	<b>0.252</b>
<b>SAR 1g (W/Kg)</b>	<b>0.488</b>

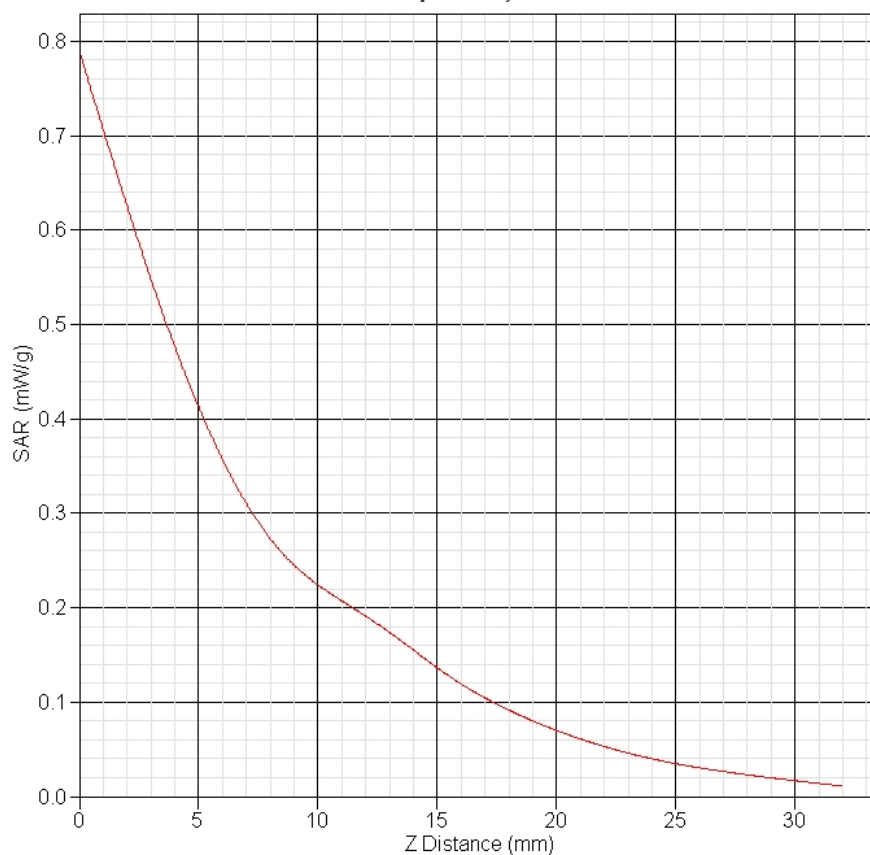
# GSM1900 Back Side with antenna position 2 Middle(661ch) (with battery)

Frequency (MHz)	1880.000002
Relative permittivity (real part)	53.33
Conductivity (S/m)	1.54
Variation (%)	1.408
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	4.7
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V/m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30





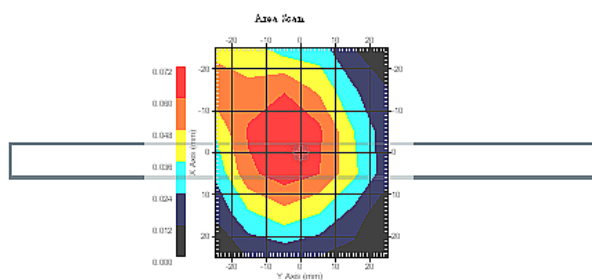
SAR-Z Axis  
at Hotspot x:-2.93 y:-13.16



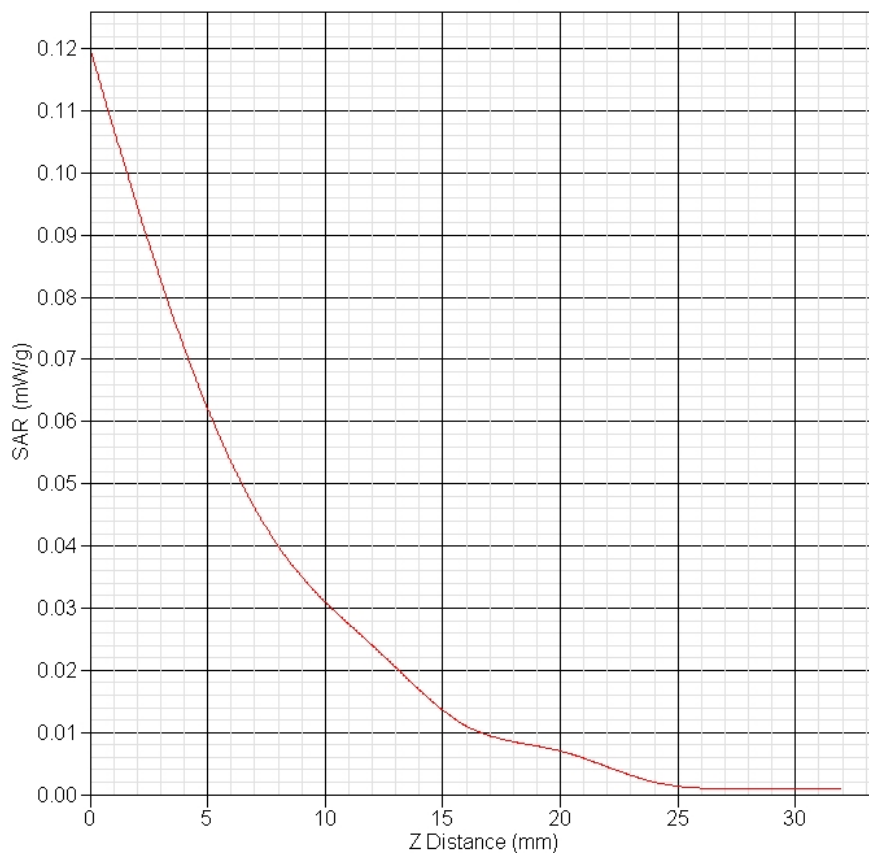
SAR 10g (W/Kg)	0.225
SAR 1g (W/Kg)	0.427

# GSM1900 Back Side with antenna position 3 Middle(661ch) (with battery)

Frequency (MHz)	1880.000002
Relative permittivity (real part)	53.33
Conductivity (S/m)	1.54
Variation (%)	1.131
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	4.7
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30



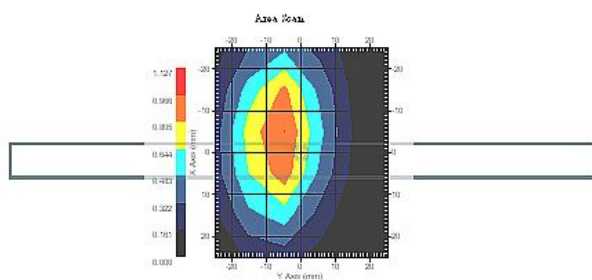
SAR-Z Axis  
at Hotspot x:-5.00 y:-5.11



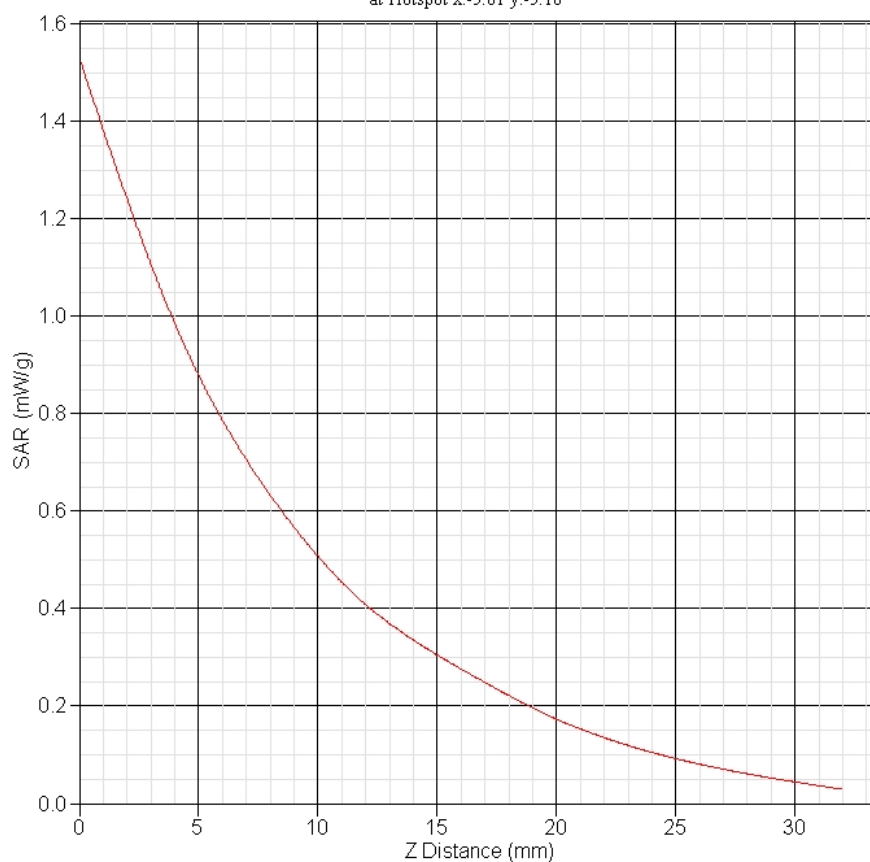
SAR 10g (W/Kg)	0.034
SAR 1g (W/Kg)	0.066

# GSM1900 Back Side with antenna position 1 Low(512ch) (with adapter)

Frequency (MHz)	1850.200010
Relative permittivity (real part)	53.41
Conductivity (S/m)	1.53
Variation (%)	-2.247
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	4.7
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V/m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30



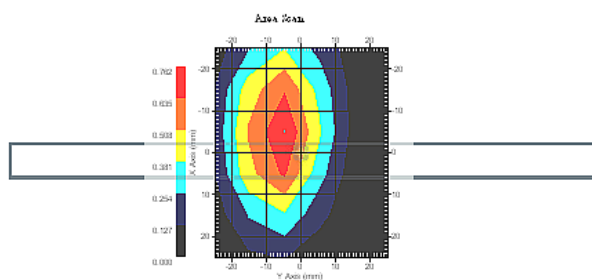
**SAR-Z Axis**  
at Hotspot x:-5.01 y:-5.10



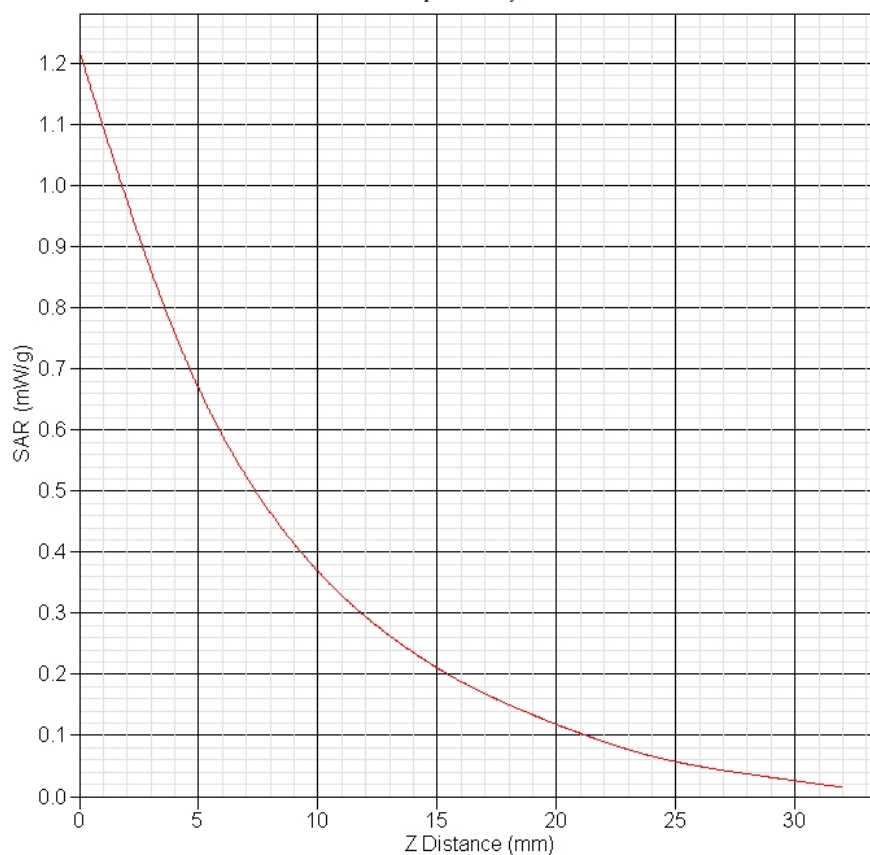
<b>SAR 10g (W/Kg)</b>	<b>0.429</b>
<b>SAR 1g (W/Kg)</b>	<b>0.836</b>

# GSM1900 Back Side with antenna position 1 Middle(661ch) (with adapter)

Frequency (MHz)	1880.000002
Relative permittivity (real part)	53.33
Conductivity (S/m)	1.54
Variation (%)	0.000
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	4.7
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30



**SAR-Z Axis**  
at Hotspot x:-4.96 y:-5.17

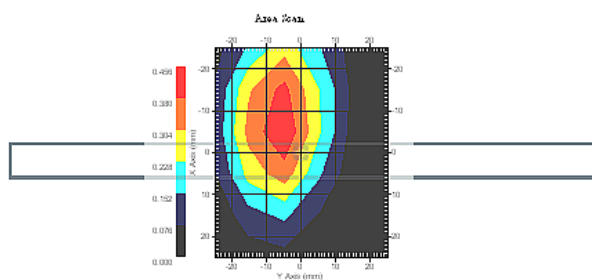


<b>SAR 10g (W/Kg)</b>	<b>0.345</b>
<b>SAR 1g (W/Kg)</b>	<b>0.678</b>

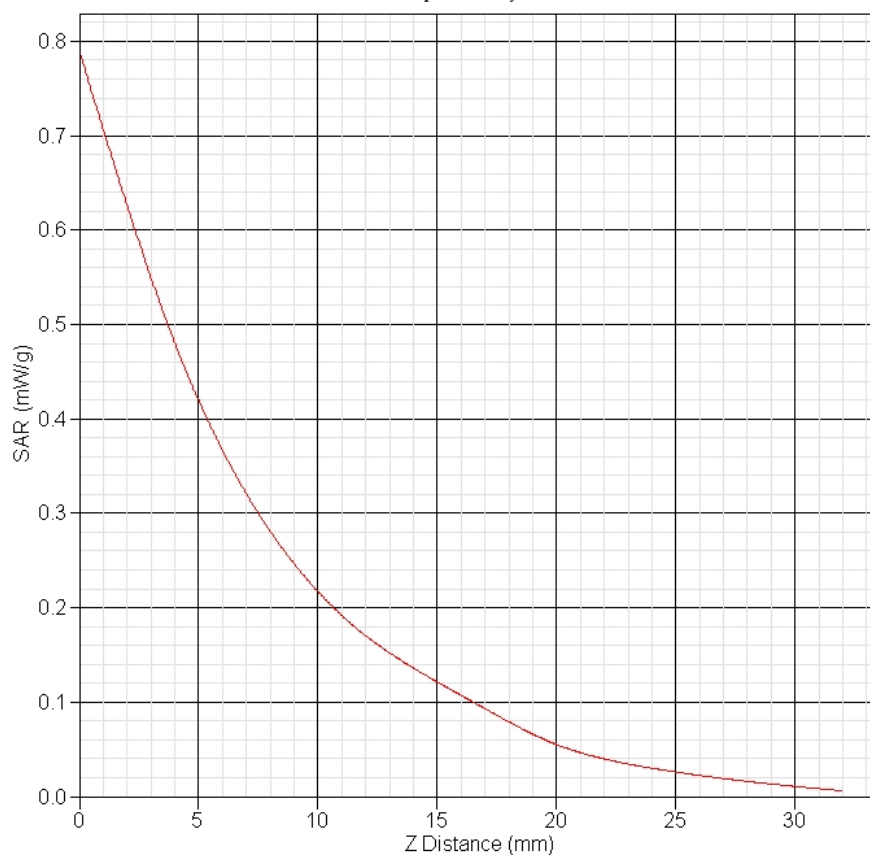


# GSM1900 Back Side with antenna position 1 High(810ch) (with adapter)

Frequency (MHz)	1909.800002
Relative permittivity (real part)	53.21
Conductivity (S/m)	1.56
Variation (%)	-2.558
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	4.7
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30



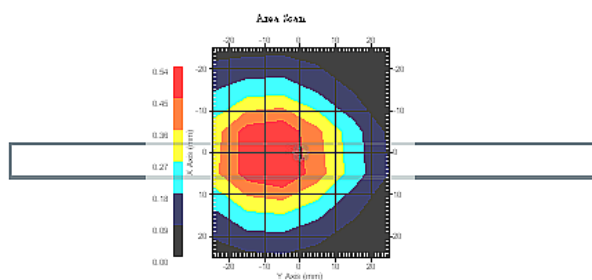
SAR-Z Axis  
at Hotspot x:-4.98 y:-5.11



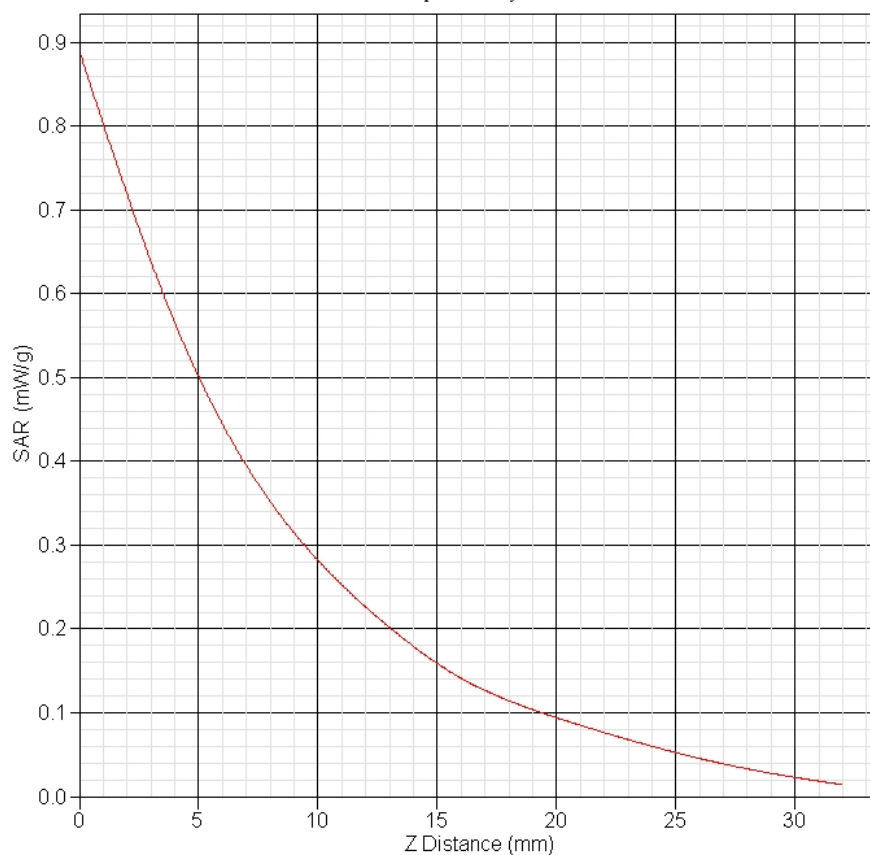
SAR 10g (W/Kg)	0.198
SAR 1g (W/Kg)	0.409

# GSM1900 Back Side with antenna position 2 Middle(661ch) (with adapter)

Frequency (MHz)	1880.000002
Relative permittivity (real part)	53.33
Conductivity (S/m)	1.54
Variation (%)	-0.809
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	4.7
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30



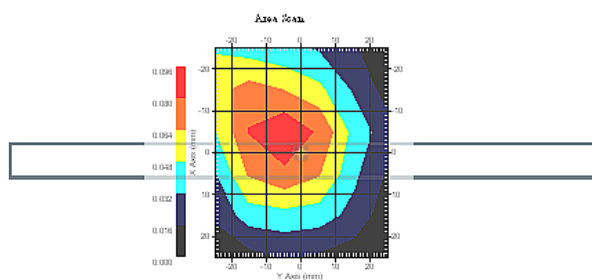
SAR-Z Axis  
at Hotspot x:-2.99 y:-5.08



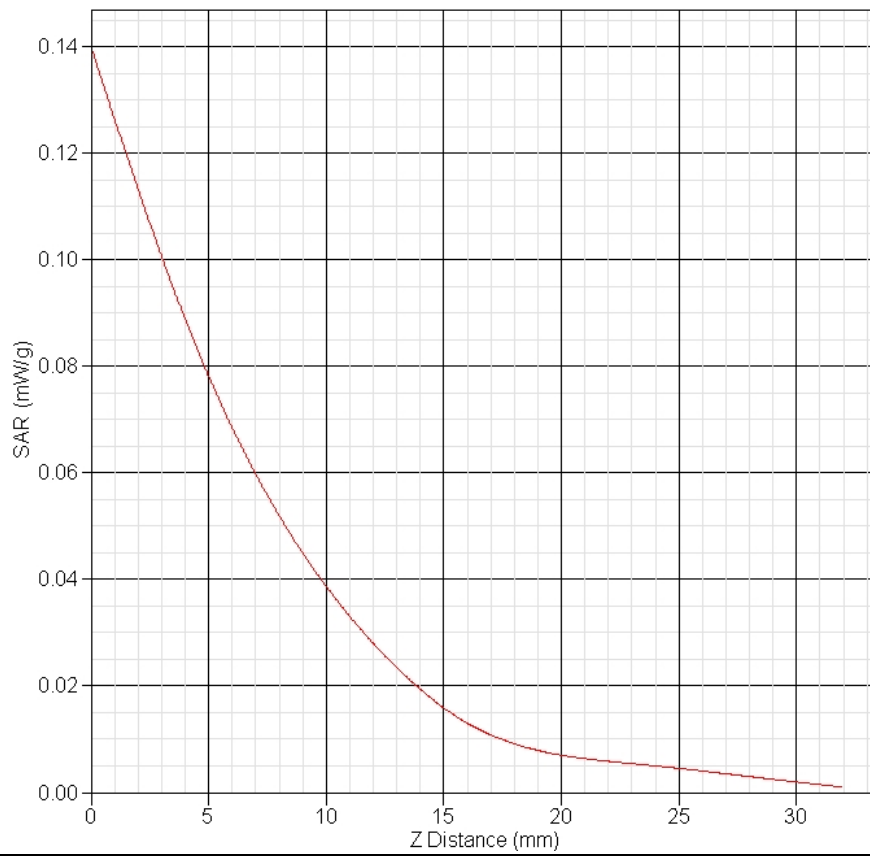
SAR 10g (W/Kg)	0.270
SAR 1g (W/Kg)	0.510

# GSM1900 Back Side with antenna position 3 Middle(661ch) (with adapter)

Frequency (MHz)	1880.000002
Relative permittivity (real part)	53.33
Conductivity (S/m)	1.54
Variation (%)	-2.985
Duty Cycle Factor	1
Crest Factor	8.3
Conversion Factor	4.7
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30



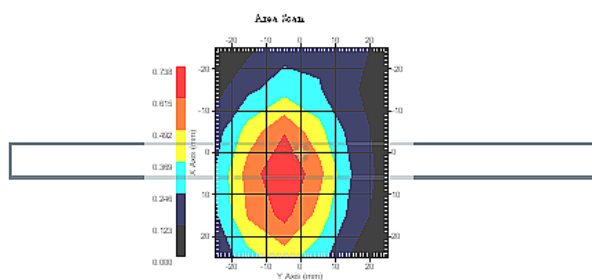
SAR-Z Axis  
at Hotspot x:-4.99 y:-5.14



SAR 10g (W/Kg)	0.038
SAR 1g (W/Kg)	0.076

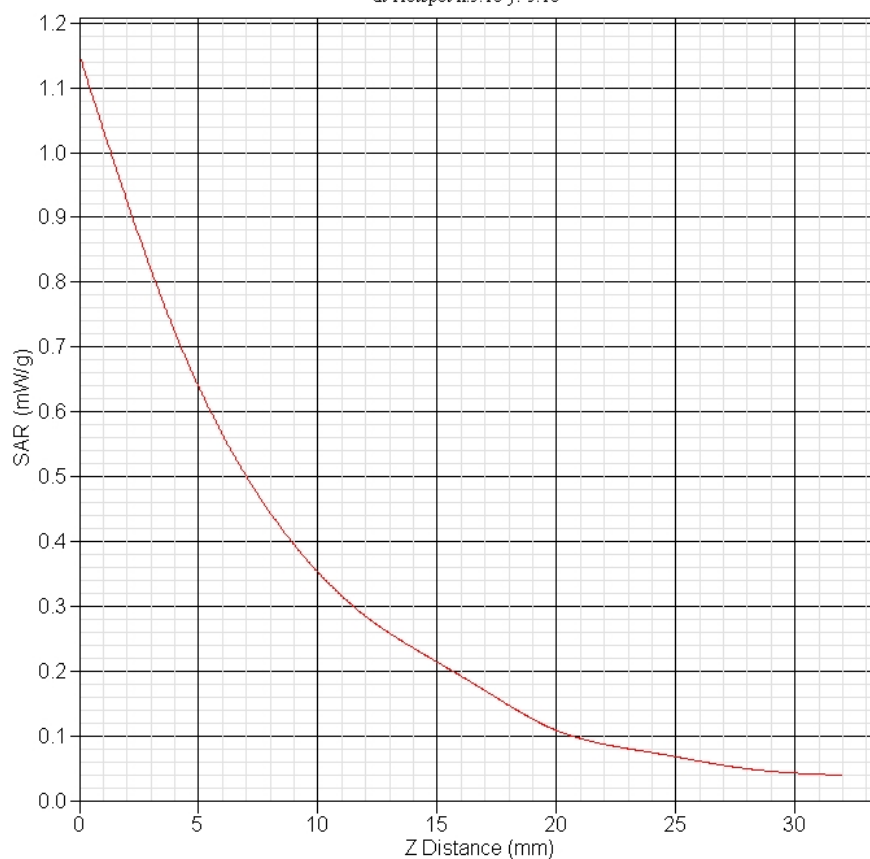
# GPRS1900 Back Side with antenna position 1 Low(512ch) (with adapter)

Frequency (MHz)	1850.200010
Relative permittivity (real part)	53.41
Conductivity (S/m)	1.53
Variation (%)	-4.483
Duty Cycle Factor	1
Crest Factor	4
Conversion Factor	4.7
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V}/\text{m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Data	2011-3-30





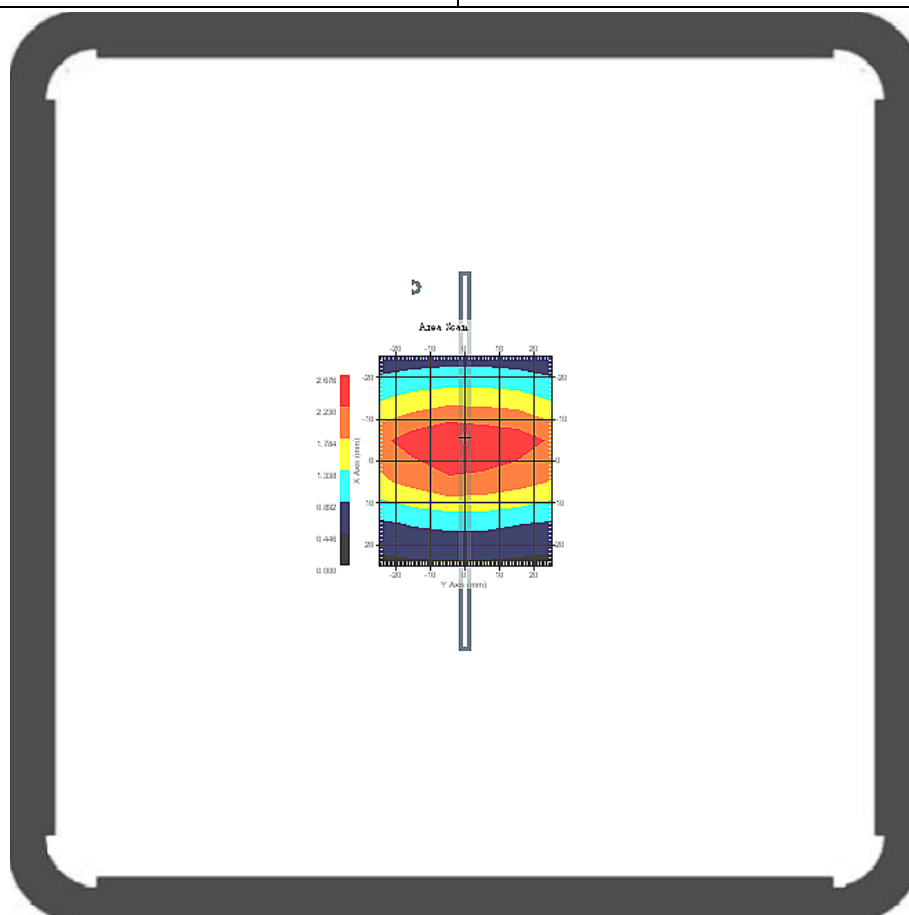
SAR-Z Axis  
at Hotspot x:5.10 y:-5.16



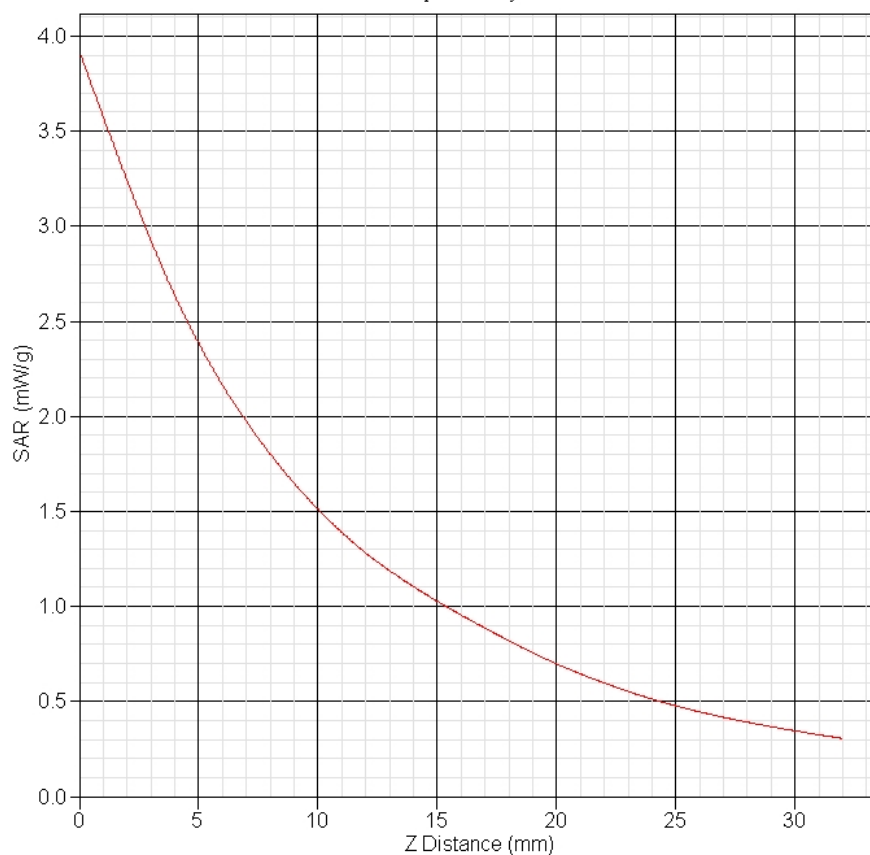
SAR 10g (W/Kg)	0.358
SAR 1g (W/Kg)	0.665

### System Performance Check at 835MHz Body

Frequency (MHz)	835
Relative permittivity (real part)	55.31
Conductivity (S/m)	0.99
Variation (%)	-1.54
Duty Cycle Factor	1
Crest Factor	1
Conversion Factor	6.
Probe Sensitivity	1.20 1.20 1.20 $\mu\text{V}/(\text{V/m})^2$
Temperature	Ambient:22.1°C Liquid:20.7°C
Date	2011-3-30



SAR-Z Axis  
at Hotspot x:-4.94 y:-5.14



**SAR 10g (W/Kg)**

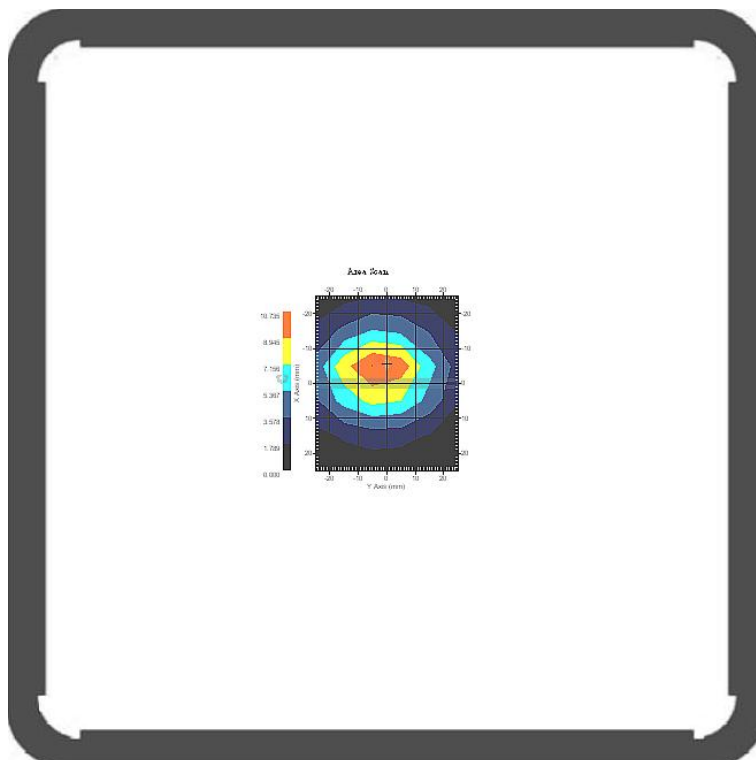
**1.502**

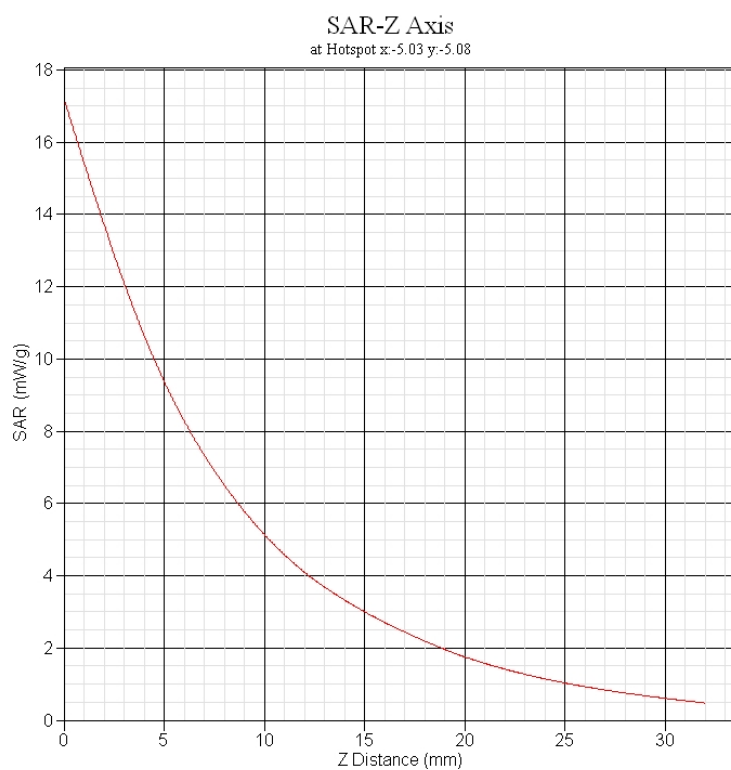
**SAR 1g (W/Kg)**

**2.423**

### System Performance Check at 1900MHz Body

<b>Frequency (MHz)</b>	<b>1900</b>
<b>Relative permittivity (real part)</b>	<b>53.33</b>
<b>Conductivity (S/m)</b>	<b>1.54</b>
<b>Variation (%)</b>	<b>-1.23</b>
<b>Duty Cycle Factor</b>	<b>1</b>
<b>Crest Factor</b>	<b>1</b>
<b>Conversion Factor</b>	<b>4.7</b>
<b>Probe Sensitivity</b>	<b>1.20 1.20 1.20 <math>\mu\text{V}/(\text{V/m})^2</math></b>
<b>Temperature</b>	<b>Ambient:22.1°C Liquid:20.7°C</b>
<b>Date</b>	<b>2011-3-30</b>





<b>SAR 10g (W/Kg)</b>	<b>4.931</b>
<b>SAR 1g (W/Kg)</b>	<b>9.687</b>

\*\* END OF REPORT \*\*